# SD-10G

2.4GHz FHSS-3
DIGITAL PROPORTIONAL SYSTEM

AIRTRONICS®
Get The Advantage™


# OPERATING MANUAL

**AIRCRAFT • HELICOPTER • SAILPLANE**

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## *PACKAGING*

The packaging of your Airtronics SD-10G 2.4GHz FHSS-3 radio control system has been specially designed for the safe transportation and storage of the radio control system's components. ***After unpacking your radio control system, do not discard the packaging materials***. Save the packaging materials for future use if you ever need to send your radio control system to us for service, or to store your radio control system if you don't plan on using it for an extended period of time.

**IMPORTANT** When you receive your SD-10G 2.4GHz FHSS-3 radio control system, the transmitter battery may be unplugged. Before attempting to charge the transmitter battery, open the battery cover by first pushing the two latches inward, then by pulling up on the bottom of the battery cover. Carefully plug the connector from the battery into the matching slot in the transmitter case. The battery connector is polarized and can therefore be plugged in only one way.

We appreciate your purchase of the new Airtronics SD-10G 2.4GHz FHSS-3 radio control system. This Operating Manual is intended to acquaint you with the many unique features of your new state of the art SD-10G 2.4GHz FHSS-3 radio control system. In designing the SD-10G 2.4GHz FHSS-3 radio control system, our engineers listened to input from our test-pilots and feedback from our users to design a radio control system that will allow you to extract the maximum performance from your model, while at the same time making the programming process as easy as possible to accomplish.

Because the SD-10G 2.4GHz FHSS-3 radio control system is highly advanced and is packed with many features for different model types, this Operating Manual is quite long. Don't be intimidated! This Operating Manual is laid out in such a way as to make it as easy as possible to find, understand, and learn to use the features you require. Please read this Operating Manual carefully so that you may obtain maximum success and enjoyment from the operation of your new SD-10G 2.4GHz FHSS-3 radio control system. The SD-10G 2.4GHz FHSS-3 radio control system has been designed for the utmost in comfort and precise control of all types of models. We wish you the best of success and fun with your new purchase.

⚠ An index is provided in the back of this Operating Manual to make it easy to find the information that you're looking for. Keep this Operating Manual in a safe place with your SD-10G transmitter so that you can use it as a reference book for any questions you might have regarding your SD-10G 2.4GHz FHSS-3 radio control system.

## *ADDITIONAL RECEIVER INFORMATION*

Additional 2.4GHz receivers can be purchased and paired with the SD-10G transmitter through the Binding operation. Please note that due to differences in the implementation of 2.4GHz technology among different manufacturers, only Airtronics brand 2.4GHz FHSS-3 and FHSS-1 aircraft receivers are compatible with your radio control system.

Compatible receivers include the 92104 10-Channel 2.4GHz FHSS-3 receiver and the 92824 8-Channel, 92674 7-Channel, and 92664 6-Channel Micro 2.4GHz FHSS-1 receivers.

## *TRANSMITTER SIGNAL RANGE*

This is a high-output full-range radio control system that should well exceed the range needed for any model. For safety, the user should perform a range check at the area of operation to ensure that the radio control system has complete control of the model a the farthest reaches of the operational area. A range check can be accomplished using Low Power Mode. For more information, see page 23 or 34.

## *FCC COMPLIANCE STATEMENT*

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the operating instructions, may cause harmful interference to radio communications, however, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced technician for help.

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1) This device may not cause harmful interference, and....
2) This device must accept any interference received, including interference that may cause undesired operation.

**WARNING:** Changes or modifications made to this equipment not expressly approved by Airtronics may void the FCC authorization to operate this equipment.

RF Exposure Statement

The SD-10G transmitter has been tested and meets the FCC RF exposure guidelines when used with the Airtronics accessories supplied or designated for this product, and provided at least 20 cm separation between the antenna the user's body is maintained. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

# SAFETY AND USAGE PRECAUTIONS

In addition to the FCC Compliance section on the previous page, please observe the following safety and usage precautions when installing and using your new Airtronics SD-10G 2.4GHz FHSS-3 radio control system.

## *SAFETY*

- Be certain to read this Operating Manual in its entirety.
- 'Safety First' for yourself, for others, and for your equipment.
- Observe all the rules of the flying site or anywhere you operate your radio control equipment.
- If at any time during the operation of your model should you feel or observe erratic operation or abnormality, end your operation as quickly and safely as possible. DO NOT operate your model again until you are certain the problem has been corrected. TAKE NO CHANCES.
- Your model can cause serious damage or injury, so please use caution and courtesy at all times.
- Do not expose the radio control system to water or excessive moisture.
- Please waterproof the receiver and servos by placing them in a water-tight radio box when operating model boats.
- If you have little to no experience operating models, we strongly recommend you seek the assistance of experienced modelers or your local hobby shop for guidance.
- The low voltage alarm will sound when the transmitter battery voltage drops to 6.7 volts. If this occurs, stop using the transmitter as soon as possible, then recharge the transmitter battery. For more information, see page 17.

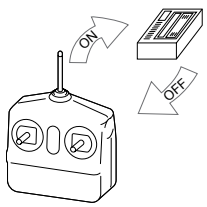
⚠ This radio control system operates on the 2.4GHz frequency band. The 2.4GHz connection is determined by the transmitter and receiver pair. Unlike ordinary crystal-based systems, your model can be used without frequency control.

## *2.4GHZ FREQUENCY BAND PRECAUTIONS*

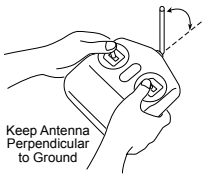
- The 2.4GHz frequency band may be used by other devices, or other devices in the immediate area may cause interference on the same frequency band. Always before use, conduct a bench test to ensure that the servos operate properly. Also, conduct a range check at the area of operation to ensure that the radio control system has complete control of the model at the farthest reaches of the operational area.
- The response speed of the receiver can be affected if used where multiple 2.4GHz radio control systems are being used, therefore, carefully check the area before use. Also, if response seems slow during use, discontinue use as quickly as possible.
- If the 2.4GHz frequency band is saturated (too many radio controllers on at once), as a safety precaution, the radio control system may not bind. This ensures that your radio control system does not get hit by interference. Once the frequencies have been cleared, or the saturation level has dropped, your radio control system should be able to bind without any problems.
- Observe any applicable laws and regulations in place at your flying site when using the 2.4GHz radio control system.
- Unlike frequency bands used with earlier radio control systems, reception with this 2.4GHz radio control system can be adversely affected by large obstructions and concrete or steel structures between your model and the transmitter. Also, wire mesh and similar barriers can adversely affect operation. Keep this mind to ensure the safety of your model.

## *TRANSMITTER PRECAUTIONS*

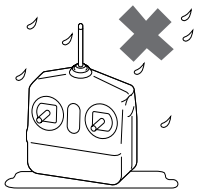
- Turn the transmitter ON first and then turn the receiver ON. After using your model, turn the receiver OFF first, then turn the transmitter OFF. It can be dangerous if you activate the components in reverse order as the servos may start up inadvertently.

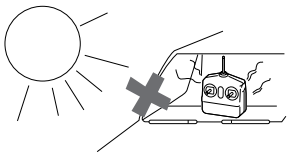



- Before use, double-check that the transmitter and receiver batteries are sufficiently charged.
- Never touch the transmitter antenna during use. Doing so may cause loss of transmitter output, making it impossible to control your model.




- Before use, the transmitter antenna should be pulled up completely and angled so that the antenna is as close to perpendicular to the ground as possible during use. After use, to prevent any chance of damaging the antenna, the antenna should be lowered and moved into the horizontal stowed position.
- Do not expose the transmitter to water or excessive moisture.



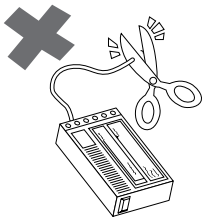


Do Not Expose to Moisture
or Direct Sunlight

- Do not expose the transmitter to excessive heat or direct sunlight. Leaving the transmitter out in direct sunlight can damage the LCD Display.

## RECEIVER PRECAUTIONS

- The receiver antenna wires consist of two coaxial cables and two reception wires (the thin tip at the end of the coaxial cables). When you mount the receiver antenna wires, do not bend the reception wires. Reception performance decreases if the reception wires are bent.



- The receiver antenna wires are delicate, therefore, handle with care. Do not pull on the receiver antenna wires with force. Do not cut or extend the receiver antenna wires.
- The coaxial cables can be bent into gentle curves, however, do not bend the coaxial cables acutely, or repeatedly bend them, or the antenna cores can be damaged.
- When installed in an electric-powered model, keep the receiver antenna wires as far away as possible from the motor, battery, and electronic speed control (ESC).
- There is a danger of runaway operation if connectors shake loose during use. Make sure that the receiver, servo(s), and switch harness connectors are securely fitted.
- The receiver is susceptible to vibration and moisture. Take appropriate measures to protect against vibration and moisture. The receiver should be wrapped in foam and the foam should be secured around the receiver to hold it in place. The foam should not be secured too tightly or the vibration dampening quality will be reduced. Failure to take appropriate measures could result in damage to the receiver.


- When installing the receiver, the antenna reception wires (the thin tip at the end of the coaxial cables) should not come into contact with any carbon or metal components (conductive components). Aircraft fuselages and helicopter frames may contain conductive components. If mounting the receiver surrounded by conductive materials (for example, a carbon fiber fuselage), mount the receiver so that the antenna reception wires can be extended outside of the model. Reception can be blocked if the antenna reception wires are shielded inside a carbon fiber fuselage.
- The manufacturer disclaims all responsibility for damages resulting from use of components other than genuine Airtronics components.

It is extremely important to install the receiver and route the receiver antenna wires correctly in your model. This will ensure that your model receives control signals no matter what its posture, attitude, or heading. For more information, see page 22.

## AMA INFORMATION

The Academy of Model Aeronautics (AMA) is a national organization representing modelers in the United States. We urge you to examine the benefits of membership, including liability protection in the event of certain injuries. The Academy has adopted simple and sane rules which are especially pertinent for radio controlled flight as the Official AMA National Model Aircraft Safety Code, which we have partially reprinted below:

- I will not fly my model aircraft in sanctioned events, airshows or model flying demonstrations until it has been proven to be airworthy by having been previously, successfully flight tested.
- I will not fly my model higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give the right-of-way and avoid flying in the proximity of full-scale aircraft. Where necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft. Where established, I will abide by the safety rules for the flying site I use, and I will not willfully and deliberately fly my models in a careless, reckless and/or dangerous manner.
- I will have completed a successful radio equipment ground range check before the first flight of a new or repaired model.
- I will not fly my model aircraft in the presence of spectators until I become a qualified flyer, unless assisted by an experienced helper.
- I will perform my initial turn after takeoff away from the pit or spectator areas, unless beyond my control.

Academy of Model Aeronautics
5151 East Memorial Drive
Muncie, IN 47302
Phone (800) 435-9262
Fax (765) 741-0057
www.modelaircraft.org

# FEATURES AND SPECIFICATIONS

## GENERAL FEATURES

- 10-Channel Digital Proportional Computer Radio with Advanced Programming for Competition Aircraft, Helicopters, and Sailplanes
- New 2.4GHz FHSS-3 Technology
- Full-Range 92104 10-Channel 2.4GHz FHSS-3 Receiver
- Compatible with Airtronics 2.4GHz FHSS-1 Aircraft Receivers
- 6 Cell 1500mAH Rechargeable Ni-MH Transmitter Battery
- Direct Model Select
- Safety Link Model / Receiver Binding (FHSS-3 Receivers Only)
- Programmable Custom Menu
- Easy-to-Read LCD Display
- Simple Wing and Model Templates
- Servo Reversing, Centering, End Point Adjustments, and Limits
- Six Digital Trim Switches
- LCD-Only Display Switch
- 3-Axis Triple Rates and Bi-Directional Exponential
- 3-Position Programmable Switches
- 2 Programmable Side Levers and Programmable Dial Knob
- Battery Monitor
- User Naming, Model Naming and Model Select
- FHSS-1, FHSS-3, and PPM-8 Modulation Selection
- Low-Power Range Check Mode
- 10-Channel Programmable Fail Safe
- Adjustable Receiver Battery Fail Safe Voltage
- Trainer System
- User-Selectable Modes
- Programmable Channel Assignments
- Stick Switch Functions
- Stop Watch, Rhythm, System, and Integral Timers
- Data Copy, Reset, and Transfer
- 20 Model Memory
- Add-On Memory Expansion Card and PC Connectivity

## AIRCRAFT-SPECIFIC FEATURES

- Servo Monitor
- Stick Monitor
- A/E/R Triple Rates
- A/E/R Bi-Directional Exponential
- 9-Point Throttle Curve
- Throttle Hold
- Throttle Cut
- Idle Down
- Aileron Differential
- A/E/R Offset
- Channel Delay
- Trim
- Trim Step Resolution
- Trim Authority
- Cross-Trim
- 2 Programmable Snap Rolls
- 10 Programmable Mixes
- 5 C-Mixes with 9-Point Curves
- Variable Resistance Lever Assign
- 5 Flight Modes
- Flight Mode Copy, Delay, and Naming

## HELICOPTER-SPECIFIC FEATURES

- Advanced Swashplate Control
- Servo Monitor
- Stick Monitor
- A/E/R Triple Rates
- A/E/R Bi-Directional Exponential
- 9-Point Throttle and Pitch Curves
- Throttle Cut
- 7-Point Hovering Throttle
- 7-Point Hovering Pitch
- A/E/R Offset
- Channel Delay
- Trim
- Trim Step Resolution
- Trim Authority
- 3 Gyro Gains
- 3 Governors
- 3 Programmable Mixes Plus Revo Mixing
- 5 C-Mixes with 9-Point Curves
- Variable Resistance Lever Assign
- 5 Flight Modes
- Flight Mode Copy, Delay, and Naming

## SAILPLANE-SPECIFIC FEATURES

- Six Servo Wing Capability
- Landing Override Mode
- Servo Monitor
- Stick Monitor
- A/E/R Triple Rates
- A/E/R Bi-Directional Exponential
- Aileron Differential
- Landing Differential
- Landing Flap Freeze Point
- Landing Crow
- Camber and Camber Point
- Channel Delay
- Trim
- Trim Step Resolution
- Trim Authority
- Cross-Trim
- 11 Programmable Mixes
- 5 C-Mixes with 9-Point Curves
- Variable Resistance Lever Assign
- 5 Flight Modes
- Flight Mode Copy, Delay, and Naming

# FEATURES AND SPECIFICATIONS



## TRANSMITTER AND RECEIVER SPECIFICATIONS

Transmitter

Model: SD-10G (90100)

Output Power: 100mW

Operating Voltage: 6.7v~10.2v

Power Supply: 7.2v 1500mAH Ni-MH (NH6N-1500S)

Current Drain: 240mA

Temperature Range: 32ºF~122ºF (0ºC~50ºC)

Pulse Width: 0.9msec~2.1msec

Weight with Battery: 32.8oz (930gr)

Frequency: 2.4GHz FHSS-3/FHSS-1 Selectable

Model Memory: 20

Memory Expansion Card: Proprietary, 20 Models

Receiver

Model: 92104

Frequency: 2.4GHz FHSS-3

Input Voltage: 4.8v~6.0v

Weight: 0.52oz (15gr)

Dimensions: 1.94 x 1.05 x 0.61in (49.5 x 26.8 x 15.5mm)

Battery Fail Safe Limit: 3.8v~4.6v Adjustable

Connector Type: Universal 'Z'

⚠ The nominal input voltage of the 92104 receiver is 4.8v to 6.0v. A 4 cell Ni-MH or Ni-Cd battery pack is 4.8v and a 5 cell Ni-MH or Ni-Cd battery pack is 6.0v. If you use a 2 cell Li-Po battery pack, you MUST use a voltage regulator. For more information, see page 18.

## SERVO SPECIFICATIONS - AVAILABLE SEPARATELY

We recommend using Airtronics brand servos with your SD-10G 2.4GHz FHSS-3 radio control system. See your local Airtronics dealer for more information and availability.

**94771Z Digital High-Speed Metal Gear Ball Bearing Servo**

Torque: 82oz/in (5.9kg/cm @ 4.8v)
103oz/in (7.4kg/cm @ 6.0v)

Speed: 0.13 sec/60º @ 4.8v
0.10 sec/60º @ 6.0v

Dimensions: 1.54 x 0.79 x 1.47in
(39.1 x 20.1 x 37.3mm)

Weight: 1.98oz (56gr)

**94772Z Digital High-Speed Precision Metal Gear Ball Bearing Servo**

Torque: 67oz/in (4.8kg/cm @ 4.8v)
83oz/in (6.0kg/cm @ 6.0v)

Speed: 0.11 sec/60º @ 4.8v
0.09 sec/60º @ 6.0v

Dimensions: 1.54 x 0.79 x 1.47in
(39.1 x 20.1 x 37.3mm)

Weight: 1.98oz (56.0gr)

**94773Z Digital High-Torque Metal Gear Ball Bearing Servo**

Torque: 156oz/in (11.2kg/cm @ 4.8v)
194oz/in (14.0kg/cm @ 6.0v)

Speed: 0.15 sec/60º @ 4.8v
0.12 sec/60º @ 6.0v

Dimensions: 1.54 x 0.79 x 1.47in
(39.1 x 20.1 x 37.3mm)

Weight: 2.01oz (57gr)

**94761Z Digital Micro High-Torque High-Speed Ball Bearing Servo**

Torque: 55oz/in (4.0kg/cm @ 4.8v)
66oz/in (4.8kg/cm @ 6.0v)

Speed: 0.15 sec/60º @ 4.8v
0.12 sec/60º @ 6.0v

Dimensions: 1.06 x 0.47 x 1.18in
(26.9 x 11.9 x 29.9mm)

Weight: 0.80oz (23gr)

**94780M Digital High-Torque Metal Gear Ball Bearing Servo**

Torque: 361oz/in (26.0kg/cm @ 4.8v)
423oz/in (30.5kg/cm @ 6.0v)

Speed: 0.19 sec/60º @ 4.8v
0.15 sec/60º @ 6.0v

Dimensions: 1.60 x 0.83 x 1.50in
(40.6 x 21.0 x 38.1mm)

Weight: 2.33oz (66gr)

**94746M Digital Low-Profile Metal Gear Ball Bearing Servo**

Torque: 80oz/in (5.1kg/cm @ 4.8v)
89oz/in (6.4kg/cm @ 6.0v)

Speed: 0.10 sec/60º @ 4.8v
0.08 sec/60º @ 6.0v

Dimensions: 1.59 x 0.83 x 1.04in
(40.3 x 21.0 x 26.4mm)

Weight: 1.77oz (50gr)

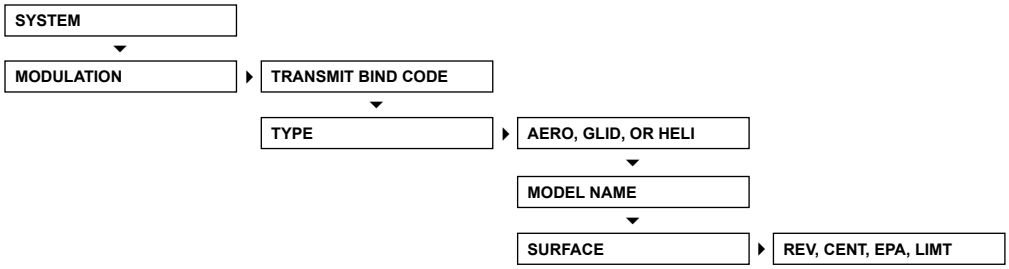
⚠ Due to the extremely high frame rate that the 92104 10-Channel receiver included with your SD-10G 2.4GHz FHSS-3 radio control system operates at, we strongly recommend the use of digital servos. If you use analog servos and experience problems, you will need to either upgrade to digital servos or use the Airtronics 92824 8-Channel, 92674 7-Channel, or 92664 6-Channel Micro 2.4GHz FHSS-1 receivers. These receivers operate at a lower frame rate, therefore, analog servos can be used with them without issue.

## OPTIONAL ITEMS - AVAILABLE SEPARATELY

| | | | | | |
|---|---|---|---|---|---|
| 978411 | Aluminum Carrying Case | 96751G | Anodized Gold Stick Tips | 97025 | USB Adapter Cable |
| 99103 | Adjustable Neck Strap | 97107 | Trainer Cable | | |
| 96750 | Stick Tip Extensions | 96817 | Memory Expansion Card | | |

# BASIC MODEL SETUP ORDER

The information on this page describes the Basic Model Setup Order that you can use to setup a new model. Regardless of the model you are flying, using the basic functions of the SD-10G transmitter for most applications is easy and will get your model setup quickly. It's a simple 5-step process.




1) Bind the Receiver to the Transmitter and Position the Receiver Antennas:

- Turn the transmitter ON and navigate to the SYSTEM>MODULATION menu.
- Hold down the Bind Button on the receiver. While holding down the Bind Button on the receiver, turn the receiver ON.
- Release the Bind Button on the receiver. The Bind LED will slowly blink.
- Scroll down to TRANSMIT BIND CODE and press the YES/+ key. The Bind LED will blink rapidly.
- After the Bind LED stops blinking rapidly, press the END key. The Bind LED will turn solid.
- Install the receiver in your model, making sure that the two receiver antenna wires are mounted 90º to each other.
- Rotate the transmitter antenna so that it is positioned at a 45º angle toward you.

2) Choose a Model Type:

- Navigate to the SYSTEM>TYPE menu. Press the YES/+ or NO/- keys to select the Model Type that matches your model, either AERO (Powered Aircraft), GLID (Sailplane), or HELI (Helicopter).

3) Make Model Type Selections:

- Scroll down to choose the various options related to the Model Type you've chosen.

  AERO - Select what type of wing (Normal or Delta), the number of aileron servos (1 or 2), the number of flap servos (1 or 2), the type of tail (Normal, V-Tail, or Dual Elevator Servos), and how many engines (1 or 2) your model features.

  GLID - Select what type of wing (Normal or Delta), the number of aileron servos (2 or 4), the number of flap servos (1, 2, or 4), and the type of tail (Normal or V-Tail) your model features.

  HELI - Select the type of swashplate your model features. Each Swashplate Type features a diagram showing where the servos are positioned on the swashplate. Choose the Swashplate Type that matches your model.

- After making your selections, press the ENTER key, then the YES/+ key. The pre-programmed model template will be loaded into the transmitter.

4) Name Your Model:

- Navigate to the SYSTEM>MODEL NAME menu and input a name for your model. This will allow you to easily choose this model again for later use. The Model Name will be displayed on the Top menu so that you know which model is currently in use.

5) Plug In Servos and Setup Control Surfaces:

- Navigate to the Surface menu (it's directly below SYSTEM on the Top menu). The upper portion of the Surface menu displays which servos plug into which channel slots in the receiver. Use this information to plug your servos into the receiver in the correct order.
- Use the Surface menu to adjust direction of travel (NOR/REV), centering (CENT) and maximum travel (EPA) in both directions for each of your servos. Adjust the settings for each servo separately to ensure that the movements are correct and that the swashplate, dual ailerons, dual elevators, etc, are moving the same amount.

# TIPS AND SUGGESTIONS



Many of the Tips and Suggestions on the following pages can be found throughout this Operating Manual, however, we have listed the most important ones here for your convenience.

- When you see ➔ in the lower right corner of a page, this indicates that the current section is continued at the top of the next page.
- For outdoor use, the antenna should be extended for maximum range. For indoor use, the antenna can be left in the retracted position.
- A voltage regulator is required if your receiver battery voltage output is higher than 6.0 volts.
- An after-market peak-detection charger and/or cycler can be used to charge the Ni-MH transmitter battery, however, the battery must first be removed from the transmitter to be charged. The circuitry within the transmitter will interfere with the peak-detection charger's normal operation, resulting in over-charging and damaging the battery and possibly the transmitter itself.
- Up to 10 servos can be plugged into the receiver separately. To utilize the Channel 9/BATT or the Channel 10/BATT slots along with a battery, you must plug a Y-Harness into the channel slot, then plug the servo into one side of the Y-Harness and the battery switch harness into the other side of the Y-Harness.
- It is extremely important that the receiver antenna wires be mounted as described. This will ensure that your model receives control signals no matter what its posture, altitude, or heading.
- All receiver channel assignments can be programmed to suit the user. For example, in the default configuration, receiver channel slot 1 controls Elevator, however, this channel slot can be programmed to control Aileron or control Rudder, etc. This allows the utmost control for nearly any custom configuration you may require.
- All switches (right- and left-hand switch arrays), auxiliary levers, auxiliary push-buttons, and the Auxiliary Dial Knob can be programmed to perform different functions depending on the user's preference. Some of these switches and buttons are pre-programmed with specific functions based on the Model Type. For default function assignments, please see those specific sections of this Operating Manual.
- The radio control system is range checked using the Low Power Mode function. Do not attempt to fly with the transmitter in Low Power Mode. You will be unable to control your model once it is a certain distance away from you.
- The SD-10G transmitter features a Type function which allows you to quickly set up the transmitter's low-level mixing based on the type of model you're flying. Common templates for AERO, GLIDER, and HELI model types are provided. For example, if your model features two aileron servos, two flap servos, and dual elevator servos, choosing these options will automatically change the transmitter's programming to accommodate this setup. This takes the guess-work out of setting up more complex models. **Model Type selection is used when setting up a new model and should be done prior to making any programming changes to your model. When the Model Type selection is changed for the currently selected model, all programming (including custom programming) for that model will be reset.**
- The SD-10G transmitter features several different safety features that will sound an audible alarm when triggered. If you turn your SD-10G transmitter ON and it beeps, this is more than likely a safety alarm.
- The Display Key activates the transmitter's LCD Display without actually turning the transmitter ON. This allows you to check and/or change programming settings without actually turning the transmitter ON. To turn only the LCD Display ON, press and hold the DISPLAY Key for ~2 seconds. To turn the LCD Display OFF, press the DISPLAY Key once.
- The SD-10G transmitter is compatible with FHSS-3 and FHSS-1 Airtronics 2.4GHz receivers. To bind the transmitter to an FHSS-1 receiver, such as the Airtronics 92824 2.4GHz receiver included with the RDS8000 2.4GHz radio control system, the transmitter modulation must first be changed to FH1.
- Pressing the YES/+ key when a System menu or an F-Mode menu selection is highlighted will add that selection to the Custom menu. Selections added to the Custom menu are denoted by a ⚙.
- Models stored on the Memory Expansion Card (if installed), are denoted with an 'M' (i.e. M21:SANWA-04).
- In the default configuration, the Model Select List contains 10 AERO model types and 10 HELI model types. The Model Type for any of the 20 models in the Model Select List can be changed using the Type menu.
- The Direct Model Select function allows you to select one of three of your most-used models from memory without going through the Model Select menu. This makes it much quicker and easier to load the programming for your three favorite models.

# TIPS AND SUGGESTIONS

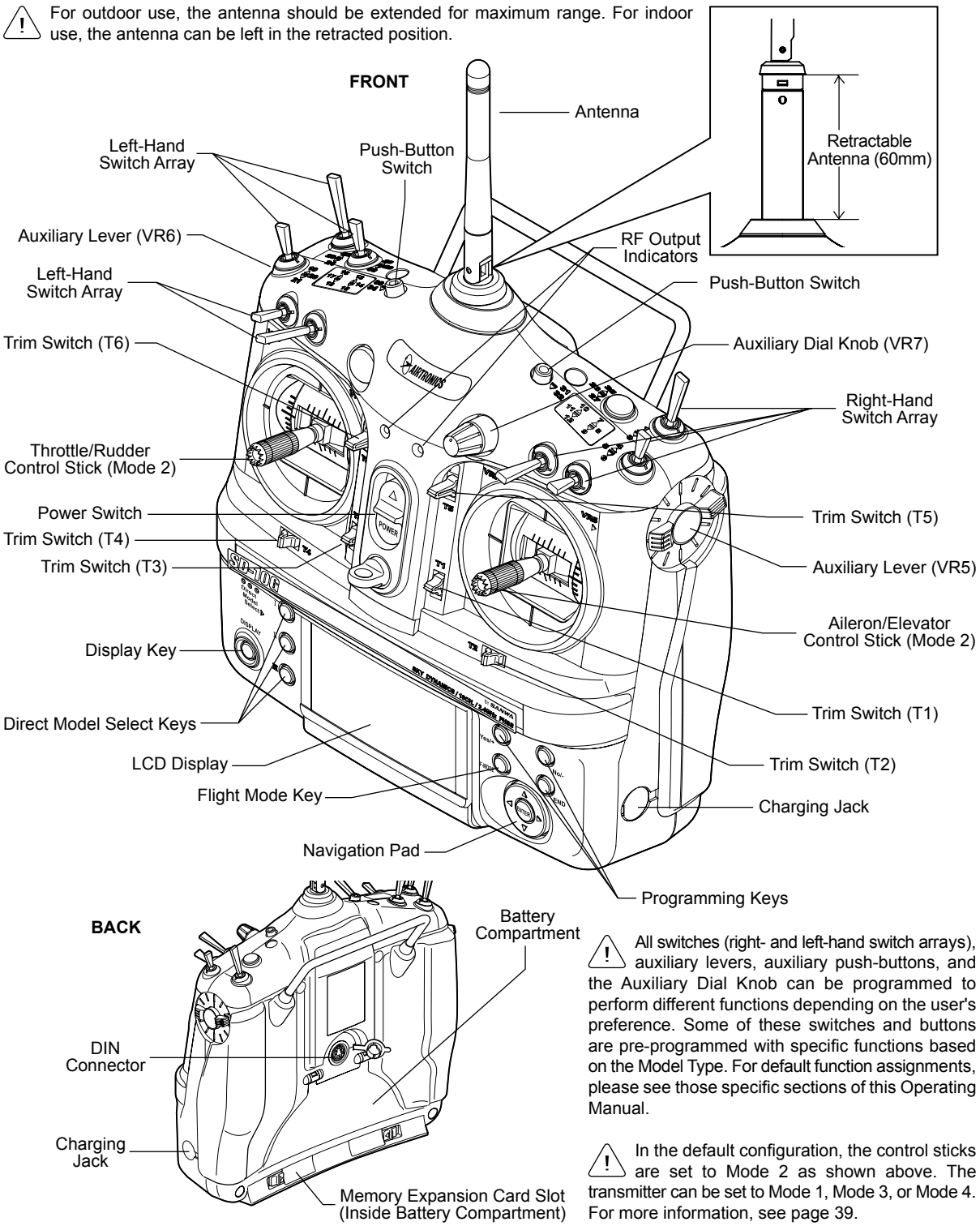
- Pressing both the YES/+ and NO/-keys together will Reset the highlighted programming selection to the Factory Default Setting.
- When the Top menu is displayed, pressing both the YES/+ and NO/- keys together will Reset the Timer display.
- You can assign multiple functions to one switch by assigning the same Switch Position Number for each function. For example, you could assign Elevator Dual Rate 2, Aileron Dual Rate 2, and Rudder Dual Rate 2 on one switch so that all three Dual Rate functions can be changed at once.
- Like many SD-10G programming features, Switch Assignments are model-specific. If you would like to keep the same Switch Assignments from model-to-model for continuity, use the Data Copy function to save the time and effort necessary to re-program the Switch Assignments for each model.
- When you use the Data Reset function, **ALL** model-specific Flight Mode data, Surface Menu data, and model-specific System programming, such as Switch Assignments, Model Name, Fail Safe settings, and Stick Switches will be Reset to the factory default settings. Model Type and Modulation settings will **NOT** be Reset.
- Increasing LCD Display Contrast can drain the battery more quickly than using a decreased (lower) setting.
- Unless otherwise noted, all programming changes take effect immediately.
- When the Memory Expansion Card is installed and Initialized, it is treated as an extension of the SD-10G transmitter's internal model memory, therefore, model-specific programming data can be created, copied, deleted, etc., directly through the various System menu selections. You do not need to enter the Memory Pack menu to make changes to models stored on the Memory Expansion Card.
- An audible tone is heard when the trim switches reach the center position. This allows you to know when the trim switches reach the center position without the need to look at the Trim Indicators on the Top menu.
- The SD-10G transmitter features Digital Trim Memory. Any amount of trim that you set during flight, using either the trim switches or the YES/+ and NO/- keys from within the Trim menu, is automatically stored in memory for that specific channel and model, and for that specific Flight Mode (if enabled). The Trim percentage values for each model will automatically be loaded when the transmitter is turned ON and your model is selected.
- There is always one Flight Mode Active at all times. In the default configuration, F-MODE N (Normal) is Active. When GLID Model Type is selected, F-MODE 4 (Land) will be Active when the flap control stick is pulled all the way back.
- The F-MODE key is used to facilitate programming the individual Flight Modes only and does not turn the Flight Modes ON or OFF.
- Prior to takeoff, check the position of the Dual Rate switches to ensure that they are in the positions you want. We recommend programming maximum control throw when the three-position dual rate switches are either all the way forward or all the way back, whichever you prefer.
- The channels displayed in the Surface menu will vary based on Model Type and Model Type selection options selected in the SYSTEM>MODEL TYPE menu. For example, if your model features dual elevator servos, LE (Left Elevator) and RE (Right Elevator) will be displayed.
- End Point Adjustment is not the same as Limits and should not be used in the same manner as Limits. Whereas Limits will Limit the maximum servo travel in either direction, End Point Adjustment does not. End Point Adjustment is designed to balance the control throw on both sides of servo travel and can be overridden by other settings, such as Dual Rate. For example, if you have your End Point Adjustment set to 100%, and you set your Dual Rate to 150%, the servo will travel more than 100% when Dual Rate is ON, however, if you have your Limits set to 100%, the servo will travel only 100%, regardless of the End Point Adjustment setting or the Dual Rate setting.
- Many F-Mode menu functions feature Common or Separate choices. When set to COM (Common), the function settings will be the same regardless of which Flight Mode the transmitter is operating in. When set to SEP (Separate), you can program different function settings separately for each Flight Mode.
- The Delay function does not affect when the servo starts to respond to control stick movement. The Delay affects only the transit time of the servo.

## TRANSMITTER CONTROL FEATURES DIAGRAMS

Use the diagrams below to familiarize yourself with the different control features of your new SD-10G transmitter. Descriptions of these features can be found on pages 12 through 13.

The features referenced below are general in nature. Features specific to the Model Type (aircraft, helicopter, or sailplane) can be found in those specific sections of this Operating Manual.

For outdoor use, the antenna should be extended for maximum range. For indoor use, the antenna can be left in the retracted position.

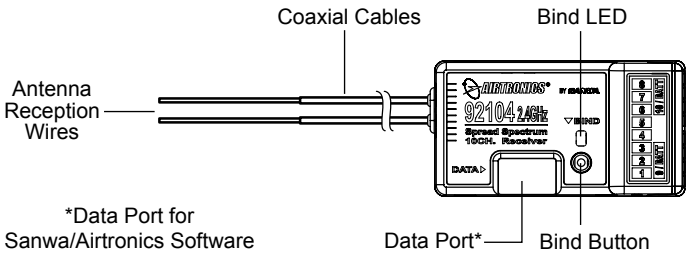



All switches (right- and left-hand switch arrays), auxiliary levers, auxiliary push-buttons, and the Auxiliary Dial Knob can be programmed to perform different functions depending on the user's preference. Some of these switches and buttons are pre-programmed with specific functions based on the Model Type. For default function assignments, please see those specific sections of this Operating Manual.

In the default configuration, the control sticks are set to Mode 2 as shown above. The transmitter can be set to Mode 1, Mode 3, or Mode 4. For more information, see page 39.

## RECEIVER FEATURES DIAGRAMS

Use the diagram below to familiarize yourself with the 92104 10-Channel receiver included with your new SD-10G 2.4GHz FHSS-3 radio control system. Descriptions of these features can be found below.




⚠ All receiver channel assignments can be programmed to suit the user. For example, in the default configuration, receiver channel slot 1 controls Elevator, however, this channel slot can be programmed to control Aileron or control Rudder, etc. This allows the utmost control for nearly any custom configuration you may require.

The default receiver channel slot configurations are shown in the table below:

| RECEIVER CHANNEL SLOT | AERO | GLIDER | HELI |
|---|---|---|---|
| Channel Slot 1 | Elevator | Elevator | Elevator (Fore/Aft Cyclic) |
| Channel Slot 2 | Aileron | Left Aileron | Aileron (Left/Right Cyclic) |
| Channel Slot 3 | Throttle | Motor | Throttle |
| Channel Slot 4 | Rudder | Rudder | Rudder (Tail Rotor) |
| Channel Slot 5 | Gear | Gear | Gyro |
| Channel Slot 6 | Flaps | Right Aileron | Pitch (Collective) |
| Channel Slot 7 | Auxiliary 4 | Flaps | Governor |
| Channel Slot 8 | Auxiliary 3 | Auxiliary 3 | Auxiliary 3 |
| Channel Slot 9/BATT** | Auxiliary 2 and Battery | Auxiliary 2 and Battery | Auxiliary 2 and Battery |
| Channel Slot 10/BATT** | Auxiliary 1 and Battery | Auxiliary 1 and Battery | Auxiliary 1 and Battery |

** To utilize this channel slot along with the battery, you must plug a Y-Harness into the channel slot, then plug the servo into one side of the Y-Harness and the battery switch harness into the other side of the Y-Harness.

## FEATURES DESCRIPTIONS

**Aileron/Elevator Control Stick:** Controls the Aileron and Elevator axes in the default Mode 2 configuration. For information on changing transmitter modes, see page 39.

**Antenna:** Transmits the signal from the transmitter to the receiver in the model. The Antenna should be extended (pulled up as shown in the diagram on the previous page) and pivoted into the vertical position during use. When not in use, the Antenna should be pushed down and collapsed into the horizontal position to prevent damage during handling and transport.

**Antenna Reception Wires:** The portion of each of the receiver antenna wires that actually receives the transmitter signal.

⚠ The Antenna Reception Wires should never be bent or they could be damaged and limit the range of the receiver.

**Auxiliary Dial Knob:** The Auxiliary Dial Knob is programmable and will perform a different function depending on what function is assigned to it. For example, the Auxiliary Dial Knob can be programmed to remotely adjust your engine's carburetor mixture.

**Auxiliary Lever:** Two Auxiliary Levers are featured, one on each side of the transmitter. Each Auxiliary Lever is programmable and will perform a different function depending on what function is assigned to it. For example, an Auxiliary Lever can be programmed to control the tow hook release on a glider.

**Battery Compartment:** Houses the 6 cell 1500mAH Ni-MH battery that powers the transmitter. The transmitter uses a 6 cell battery for lighter weight and better feel, while still providing long usage time.

**Bind Button and Bind LED:** Used in the process of Binding the transmitter and receiver. For information on Binding the transmitter and receiver, see page 21 or 33.

**Charging Jack:** Used for onboard charging of the 6 cell 1500mAH Ni-MH battery. For information on charging the transmitter battery, see page 17.

**Coaxial Cables:** The portion of each antenna wire that extends the Antenna Reception Wires. The Coaxial Cables can be bent into gentle curves, however, do not bend the Coaxial Cables acutely, or repeatedly bend them, or the antenna wire's cores can be damaged. For information on mounting the receiver and orientating the receiver antenna wires, see page 22.

**DIN Connector:** The DIN Connector is where the trainer cable (available separately) is plugged into. It is also used to plug the Airtronics USB data cable (available separately) between the transmitter and your computer. An adapter to use the transmitter with a flight simulator can also be plugged into the DIN Connector.

**Direct Model Select Keys:** The Direct Model Select Keys allow you to select one of three of your most-used models from memory without going through the Model Select menu. For information on using the Direct Model Select Function, see page 29.

**Display Key:** Activates the transmitter's LCD Display without actually turning the transmitter ON. This allows you to check and/or change programming settings without actually turning the transmitter ON. To turn only the LCD Display ON, press and hold the DISPLAY Key for ~2 seconds. To turn the LCD Display OFF, press the DISPLAY Key once.

**Flight Mode Key:** Allows you to cycle through the five different Flight Modes while in the Flight Mode Programming menu.

**LCD Display:** The heart of the programming and display features of the transmitter. All programming and transmitter display functions are shown on the LCD Display. The Navigation Pad, the three Programming Keys, and the F-MODE Key to the right of the LCD Display facilitate transmitter programming. The contrast of the LCD Display can be customized by the user to make it easily readable in multiple lighting conditions.

**Left-Hand Switch Array:** The switches grouped on the left side of the transmitter are programmable and each will perform a different function depending on what function is assigned to it. Each switch has a molded reference number next to it that corresponds to the programming function in the Switch Assignment menu (the printed label corresponds to the two switches on the front of the transmitter). Each of the five switches is a three-position toggle switch except for the switch labeled 19/20/21 which is a spring-loaded switch.

**Memory Expansion Card Slot:** Holds the Memory Expansion Card (available separately). For information on installing the Memory Expansion Card, see page 57.

**Navigation Pad:** The Navigation Pad is used in conjunction with the Programming Keys and the F-MODE Key to facilitate transmitter programming. The Navigation Pad allows you to quickly and easily move the Programming Cursor up and down, and right and left. The ENTER Key in the center of the Navigation Pad is used to open the selected menu or programming option.

**Power Switch:** Turns the transmitter ON and OFF.

**Programming Keys:** The Programming Keys are used in conjunction with the Navigation Pad and the F-MODE Key to facilitate transmitter programming. The three Programming Keys consist of the YES/+ (Increase) Key, the NO/- (Decrease) Key, and the END Key.

**Push-Button Switch:** Two Push-Button Switches are featured. Each Push-Button Switch is programmable and will perform a different function depending on what function is assigned to it. For example, a Push-Button Switch can be programmed to control the Stopwatch function.

**RF Output Indicators:** Both indicators illuminate when the transmitter is turned ON and transmitting a signal. If one or both of the RF Output Indicators fails to illuminate, RF output is limited or non-existent. In this case, you should not fly.

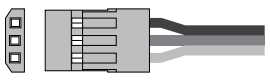
**Right-Hand Switch Array:** The switches grouped on the right side of the transmitter are programmable and each will perform a different function depending on what function is assigned to it. Each switch has a molded reference number next to it that corresponds to the programming function in the Switch Assignment menu (the printed label corresponds to the two switches on the front of the transmitter). Each of the four switches is a three-position switch.

**Throttle/Rudder Control Stick:** Controls the Throttle and Rudder axes in the default Mode 2 configuration. For information on changing transmitter modes, see page 39.

**Trim Switch:** Six separate Trim Switches (T 1, T 2, T 3, T 4, T 5, and T 6) are featured. Each Trim Switch will control a different trim axis depending on which Model Type is selected.

## *SERVO CONNECTORS*

The 92104 10-Channel receiver included with your new SD-10G 2.4GHz FHSS-3 radio control system uses universal Airtronics 'Z' connectors which are electronically compatible with the servos of other radio control system manufacturers. The connectors are rugged, but should be handled with care.




When unplugging the servo connectors, it's best not to pull on the servo wire itself. This could result in damage to the servo wire pins in the plastic plug.

# TRANSMITTER ALARMS

The SD-10G transmitter features several different safety features that will sound an audible alarm when triggered.

⚠ Safety features vary depending on the Model Type selected. Default configuration shown in parenthesis.

| ALARM DISPLAY | AERO | GLIDER | HELI |
|---|---|---|---|
| Low Voltage Alarm | ALWAYS ACTIVE | ALWAYS ACTIVE | ALWAYS ACTIVE |
| Throttle High Warning Alarm | ACT/INH (ACTIVE) | N/A | ACT/INH (ACTIVE) |
| Flight Mode Warning Alarm | ACT/INH (ACTIVE) | ACT/INH (INHIBITED) | ACT/INH (ACTIVE) |
| Trainer Mode Warning Alarm | ALWAYS ACTIVE | ALWAYS ACTIVE | ALWAYS ACTIVE |
| Power Switch Warning Alarm | ACT/INH (ACTIVE) | ACT/INH (ACTIVE) | ACT/INH (ACTIVE) |

## *AUDIO LOW VOLTAGE ALARM*

The SD-10G transmitter is equipped with a Low Voltage Alarm that will sound when the transmitter battery reaches 6.7 volts. If the Low Voltage Alarm sounds while you are flying, you should land immediately, then recharge the transmitter battery.

⚠ If the Low Voltage Alarm sounds even after the transmitter battery has been fully charged it indicates that there is a problem with either the transmitter or the transmitter battery. If this occurs, please contact Airtronics Customer Service.

## *THROTTLE HIGH WARNING ALARM*

The SD-10G transmitter is equipped with a safety feature that will not allow you to use the transmitter if the throttle control stick is not in the lowest position when you turn the transmitter ON. If the throttle control stick is not in the lowest position when you turn the transmitter ON, the Throttle High Warning alarm will sound continuously, the red RF Output Indicator will blink, and the LCD Display will read TH-STICK Hi !! To clear the Throttle High Warning, pull the throttle control stick down to the lowest position. The LCD Display will read normally, the Throttle High Warning alarm will cease, and both the red and green RF Output Indicators will be illuminated.

## *FLIGHT MODE WARNING ALARM*

The SD-10G transmitter is equipped with a safety feature that will not allow you to use the transmitter if the Flight Mode is not set to 'N' (Normal) when you turn the transmitter ON. If the Flight Mode is not set to 'N' when you turn the transmitter ON, the Flight Mode Warning alarm will sound continuously, the red RF Output Indicator will blink, and the LCD Display will read F-MODE NOT 'N' !! To clear the Flight Mode Warning, set the Flight Mode to 'N' using the Flight Mode Switch (this is different from the F-MODE Key). The LCD Display will read normally, the Flight Mode Warning alarm will cease, and both the red and green RF Output Indicators will be illuminated.

⚠ In the default AERO configuration, Flight Mode N (Normal) is switch position 10. In the default HELI configuration, Flight Mode N (Normal) is switch position 22. In the default GLID configuration, the Flight Mode Warning alarm is INHIBITED.

## *TRAINER MODE WARNING ALARM*

The SD-10G transmitter is equipped with a safety feature that will warn you when the transmitter is set to Trainer - Master or Trainer - Slave when the transmitter is turned ON. If the transmitter is set to Trainer - Master when you turn the transmitter ON, the Trainer Mode Warning alarm will sound continuously, the red RF Output Indicator will blink, and the LCD Display will read TRAINER MODE MASTER !! If the transmitter is set to Trainer - Slave when you turn the transmitter ON, the Trainer Mode Warning alarm will sound continuously, the red RF Output Indicator will blink, and the LCD Display will read TRAINER MODE SLAVE !! To clear either of the Trainer Mode Warnings, press any of the three Programming Keys, the F-MODE Key, or the ENTER Key. The LCD Display will read normally, the Trainer Mode Warning alarm will cease, and both the red and green RF Output Indicators will be illuminated (if set to Slave, only the green RF Output Indicator will blink).

⚠ Clearing the Trainer Mode Warning does not change the Trainer setting of the transmitter. When the Trainer Mode Warning is cleared, the transmitter will still be in Trainer Mode - either set to Master or set to Slave.

## *POWER SWITCH WARNING ALARM*

The SD-10G transmitter is equipped with a Power Switch Warning alarm that will warn you when the transmitter is turned ON and there has been no movement of the control sticks or switches for 15 minutes. If the transmitter is left on for 15 minutes or longer without any input the Power Switch Warning alarm will sound continuously and the LCD Display will read POWER SW ON !! To clear the Power Switch Warning, either turn the transmitter OFF or press any of the three Programming Keys, the F-MODE Key, or the ENTER Key.

# CUSTOM TRANSMITTER ADJUSTMENTS



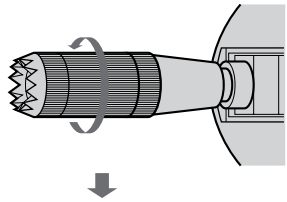
Every effort has been made to engineer the optimum transmitter weight, balance, and feel in the design of your SD-10G 2.4GHz FHSS-3 radio control system. For example, the transmitter control sticks are ball bearing-supported for smooth control and use springs that result in superior feel for most pilots. Some aspects of the transmitter are customizable though, to suit the user's particular taste.

## *CONTROL STICK LENGTH ADJUSTMENT*

The length of the control sticks can be adjusted to best suit the way you hold them. In general, pilots who place their thumbs on top of the control sticks prefer the control sticks to be shorter, and pilots who grasp the control sticks prefer the control sticks to be longer.

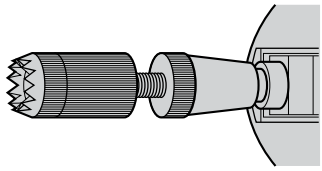
⚠ In the default configuration, the control sticks are adjusted to the shortest length.

1) While holding the base of the control stick, turn the top half of the control stick counter-clockwise to loosen it.

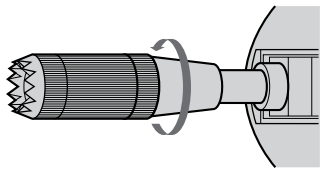


2) To lengthen the control stick, turn the top half of the control stick counter-clockwise.

⚠ When lengthening the control sticks, we strongly suggest that you leave at least four threads inside the top half of each control stick. This will ensure that the control sticks maintain optimum mechanical security. If you thread the control sticks out too far, the control sticks might come loose during use.



3) Once your are satisfied with the length of the control stick, thread the bottom half of the control stick up and tighten it gently against the top half of the control stick.



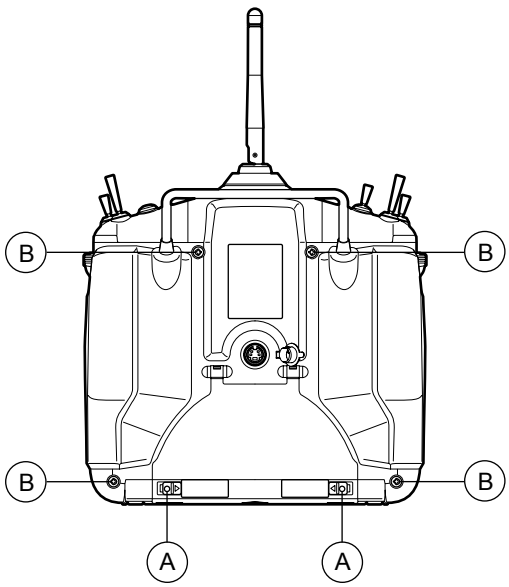
## *CONTROL STICK TENSION ADJUSTMENT*

The spring tension of the control sticks can be adjusted to suit your preference. Increasing the spring tension makes the control stick's movement firmer. Decreasing the spring tension makes the control stick's movement softer. The throttle control stick ratchet can also be adjusted. Loosening the throttle control stick ratchet will make the throttle detents less noticeable. Tightening the throttle control stick ratchet will make the throttle detents firmer. The throttle detents can even be eliminated for those helicopter pilots who prefer to have no throttle ratchet.

1) Open the battery cover by first pushing the two latches (A) inward, then by pulling up on the bottom of the battery cover.

2) Unplug the battery from the transmitter and remove it. Set the battery aside for now.

3) Remove the four Phillips head screws (B) from the back of the transmitter, then very carefully pull the back half of the transmitter off.



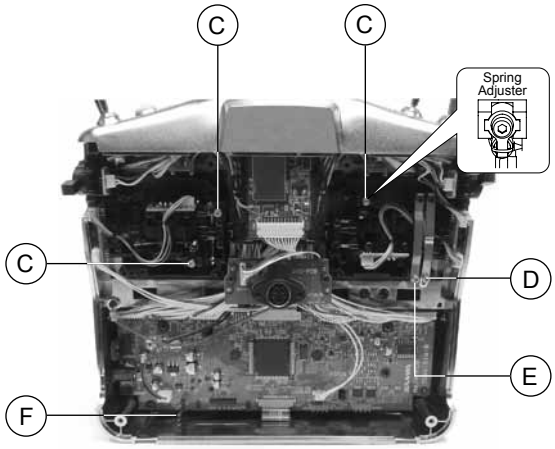

⚠ There are no wires attached between the back half of the transmitter and the circuit boards inside the transmitter. When the back half of the transmitter is removed, it can be safely set aside.

⚠ Pull the back half of the transmitter straight off to avoid bending or damaging the battery pins.

4) To increase the spring tension of the control sticks, tighten (turn clockwise) the three socket-cap screws (C), using a 1.5mm hex wrench. To decrease the spring tension of the control sticks, loosen (turn counter-clockwise) the three socket-cap screws (C), using a 1.5mm hex wrench.

5) To make the throttle control stick detents less noticeable, loosen the socket-cap screw on the outer ratchet plate (D), using a 1.5mm hex wrench. To make the throttle control stick detents firmer, tighten the socket-cap screw on the outer ratchet plate (D), using a 1.5mm socket-cap wrench.

6) Some helicopter pilots prefer to eliminate the throttle ratchet completely. To do this, loosen the socket-cap screw on the outer ratchet plate (D), using a 1.5mm hex wrench until the throttle detents can't be felt anymore. Next, tighten the socket-cap screw on the inner throttle plate (E), until you're satisfied with the throttle control stick resistance.




7) When satisfied with the results carefully reinstall the back half of the transmitter, then reinstall the transmitter battery and plug it back in. The battery connector is polarized and can therefore be plugged in only one way.

⚠ When reinstalling the back half of the transmitter, be very careful that you don't bend or otherwise damage the battery pins (F). These long battery pins should be carefully slid through the matching holes in the back half of the transmitter before pushing it down into place.

⚠ Any modifications made to the transmitter other than adjusting the control stick tension and changing Operating Modes (see below) will void any and all warranties covered by Airtronics, Inc.

## *TRANSMITTER OPERATING MODE ADJUSTMENTS*

The SD-10G transmitter has the ability to operate in four different Modes as shown in the table below. Changing Operating Modes can be done by the user and requires changing the Mode Setting in the System menu, then swapping the throttle ratchets and spring on the control sticks. For information on changing Operating Modes, see page 39.

⚠ In the default configuration, the transmitter is set to Mode 2, which is most commonly used in North America.

| CONTROL STICK | MODE 1 | MODE 2 | MODE 3 | MODE 4 |
|---|---|---|---|---|
| Left-Side Control Stick | Rudder/Elevator | Throttle/Rudder | Elevator/Aileron | Throttle/Aileron |
| Right-Side Control Stick | Throttle/Aileron | Elevator/Aileron | Throttle/Rudder | Elevator/Rudder |

## *MEMORY EXPANSION CARD*

The Memory Expansion Card allows you to store up to 40 models (20 in the SD-10G transmitter and 20 on the Memory Expansion Card). The Memory Expansion Card can be removed and installed into a different SD-10G transmitter, so that model-specific programming data can be shared with fellow SD-10G transmitter owners in the field. When the Memory Expansion Card is installed and Initialized, it is treated as an extension of the SD-10G transmitter's internal model memory, therefore, model-specific programming data can be created, copied, deleted, etc., directly through the various System menu selections. There is no need to access the Memory Expansion Card separately. For more information on installing and initializing the Memory Expansion Card, see page 57.

⚠ The Memory Expansion Card is proprietary and can be used only with SD-10G transmitters. See your local Airtronics dealer for more information and availability.

## *TRAINER SYSTEM*

The SD-10G transmitter features a Trainer System that allows you to connect two SD-10G transmitters together for the purpose of training a new pilot or for training a more experienced pilot on a new model. For information on connecting two SD-10G transmitters together, and programming and using the Trainer System, see page 37.

⚠ The Trainer System is compatible ONLY with another SD-10G transmitter. You **MUST** use the SD-10G Trainer Cable. See your local Airtronics dealer for more information and availability.

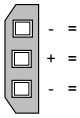
# CHARGING THE BATTERY



The SD-10G 2.4GHz FHSS-3 transmitter features a 6 cell 7.2v 1500mAH Ni-MH battery for lighter weight and longer battery life. The battery is charged directly through the SD-10G transmitter, using the charging jack located in the left side of the SD-10G transmitter. Please observe the Safety Precautions and Charging Warnings below when charging the transmitter battery.

## *PLUGGING IN THE TRANSMITTER BATTERY*

When you receive your SD-10G 2.4GHz FHSS-3 radio control system, the transmitter battery may be unplugged. Before attempting to charge the transmitter battery, open the battery cover by first pushing the two latches inward, then by pulling up on the bottom of the battery cover. Carefully plug the connector from the battery into the matching slot in the transmitter case. The battery connector is polarized and can therefore be plugged in only one way.




## *SAFETY PRECAUTIONS AND CHARGING WARNINGS*

- Always follow the charging procedures described below to ensure safe and correct use of your Ni-MH battery.
- The Ni-MH battery is not fully charged when purchased. It is necessary to charge the Ni-MH battery before operation.
- Before charging the Ni-MH battery, double-check that the transmitter power switch is in the OFF position.
- Do not plug the charger into anything other than an AC 110v power outlet. Plugging the charger into anything other than AC 110v outlet may result in smoking, sparks, or fire.
- Do not throw the Ni-MH battery or abuse it in any manner. Do not dispose of the Ni-MH battery in the fire or allow it to overheat.
- Do not short-circuit the Ni-MH battery terminals with wire or any other object.

## *CHARGING THE NI-MHTRANSMITTER BATTERY*

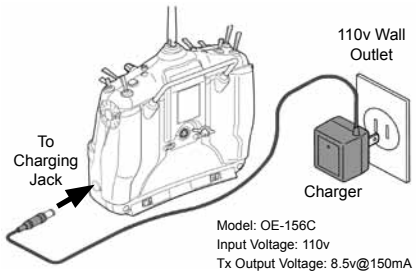
**IMPORTANT** The battery charger included with your SD-10G transmitter is a capacity-sensing charger. During the charging process, the charger will sense the battery's maximum capacity, then switch to a 20mAH trickle charge, which can be left on the transmitter for up to 72 hours after the charging light turns green.

To ensure maximum battery capacity and transmitter usage time, we suggest that the first 5 charges are 24 hour-total charges, regardless of when the charging light turns green. For the first 5 times that you charge the battery, charge for a 24 hour period, then discharge the battery under normal use until the low voltage alarm sounds. After charging the battery for the first 5 times using this method, you can subsequently charge the battery for the standard amount of time (until the charging light turns green).

1) Plug the supplied charger into a 110v AC wall socket. The charger LED will illuminate green, indicating that the charger is plugged in.

2) Plug the round connector from the charger into the charging jack in the right side of the transmitter. The charger LED will illuminate red, indicating that the charger is charging.

3) Transmitter charger output is 150mAH, therefore, it will take approximately 10 hours to recharge a fully-discharged battery. We suggest leaving the charger on overnight. Once fully-charged, the charger LED will once again illuminate green. **See IMPORTANT note above regarding the first 5 charges.**




**WARNING** An after-market peak-detection charger and/or cycler can be used to charge the Ni-MH transmitter battery, however, the battery must first be removed from the transmitter to be charged. The circuitry within the transmitter will interfere with the peak-detection charger's normal operation, resulting in over-charging and damaging the battery and possibly the transmitter itself. Damage caused by charging the battery through the transmitter using anything other than the charger included with the SD-10G transmitter will not be covered under warranty.

## *USING A TRANSMITTER LI-PO BATTERY*

An after-market Li-Po battery can be used in place of the stock 6 cell 7.2v 1500mAH Ni-MH transmitter battery. If you decide to replace the stock battery with a Li-Po battery, please observe the following:

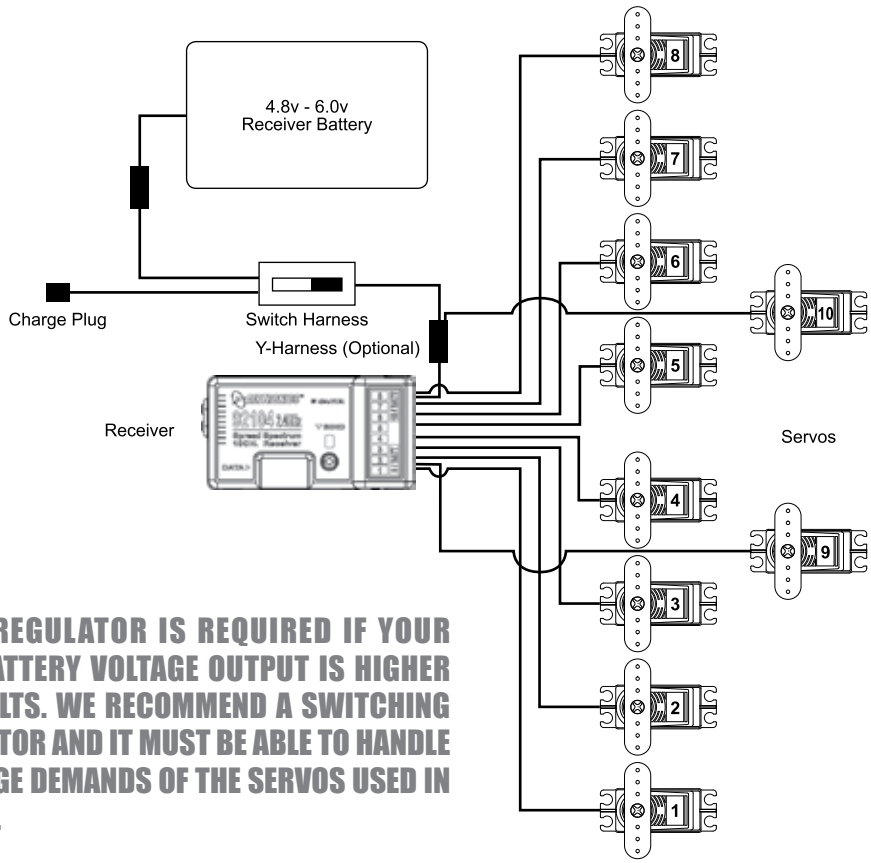
- Use ONLY a 2 Cell 7.4v Li-Po battery of desired capacity. **DO NOT USE A 3 CELL 11.1v LI-PO BATTERY.**
- You MUST remove the battery from the transmitter to charge the battery.
- When you change the connector on your Li-Po battery, please observe correct polarity. See servo plug diagram above.

# AIRBORNE SYSTEM CONNECTIONS

Use the diagram below to familiarize yourself with how to connect the switch harness, servos, and receiver battery to your 92104 10-Channel receiver.

⚠ A receiver battery is not included. The receiver can be powered by a 4.8v (4 cell Ni-MH or Ni-Cd) or a 6.0v (5 cell Ni-MH or Ni-Cd) battery pack of desired capacity.

**WARNING** Some high-capacity Ni-MH batteries can put out more than 6.0 volts when fully charged. If the battery that you're using is puts out more than 6.0 volts, a voltage regulator, plugged in between the switch harness and the battery should be used to drop the battery voltage to 6.0 volts. If you do not use a voltage regulator, damage to the receiver may result.




**A VOLTAGE REGULATOR IS REQUIRED IF YOUR RECEIVER BATTERY VOLTAGE OUTPUT IS HIGHER THAN 6.0 VOLTS. WE RECOMMEND A SWITCHING TYPE REGULATOR AND IT MUST BE ABLE TO HANDLE THE AMPERAGE DEMANDS OF THE SERVOS USED IN YOUR MODEL.**

⚠ The battery can be plugged into any of the channel slots and still power the receiver.

⚠ Up to 10 servos can be plugged into the receiver separately. To utilize the Channel 9/BATT or the Channel 10/BATT slots along with a battery, you must plug a Y-Harness into the channel slot, then plug the servo into one side of the Y-Harness and the battery switch harness into the other side of the Y-Harness.

## *USING A RECEIVER LI-PO BATTERY*

**WARNING** The receiver can use a battery pack rated from 4.8v to 6.0v. A 2 cell Li-Po battery pack is 7.4v. Because of the higher voltage, you MUST use a voltage regulator* plugged in between the switch harness and the Li-Po battery to drop the Li-Po battery voltage to 6.0 volts. If you do not use a voltage regulator, damage to the receiver will result.

An after-market Li-Po battery can be used to power the receiver instead of the standard Ni-Cd or Ni-MH battery. If you decide to use a Li-Po battery to power the receiver, please observe the following:

- Use ONLY a 2 Cell 7.4v Li-Po battery of desired capacity with a voltage regulator. **SEE WARNING ABOVE.**


- When you change the connector on your Li-Po battery, please observe correct polarity.

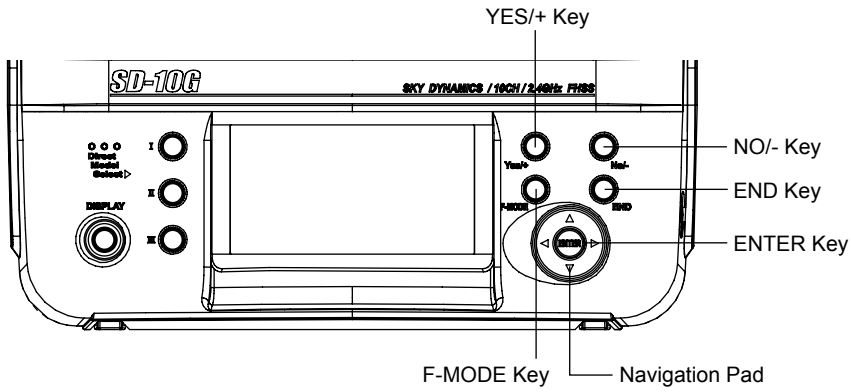
# LCD DISPLAY AND PROGRAMMING KEYS



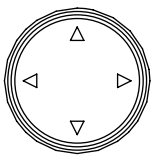
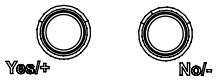
The SD-10G 2.4GHz FHSS-3 transmitter features three Programming Keys, an F-MODE key, and a Navigation Pad and ENTER Key, all used in conjunction to facilitate programming. This section summarizes the functions of these features in addition to detailing the main areas of the LCD Display.

## *PROGRAMMING KEYS OVERVIEW*

Moving around the LCD Display and programming the transmitter is accomplished using the Navigation Pad and ENTER key, the three Programming Keys, and the F-MODE key positioned on the right half of the transmitter.

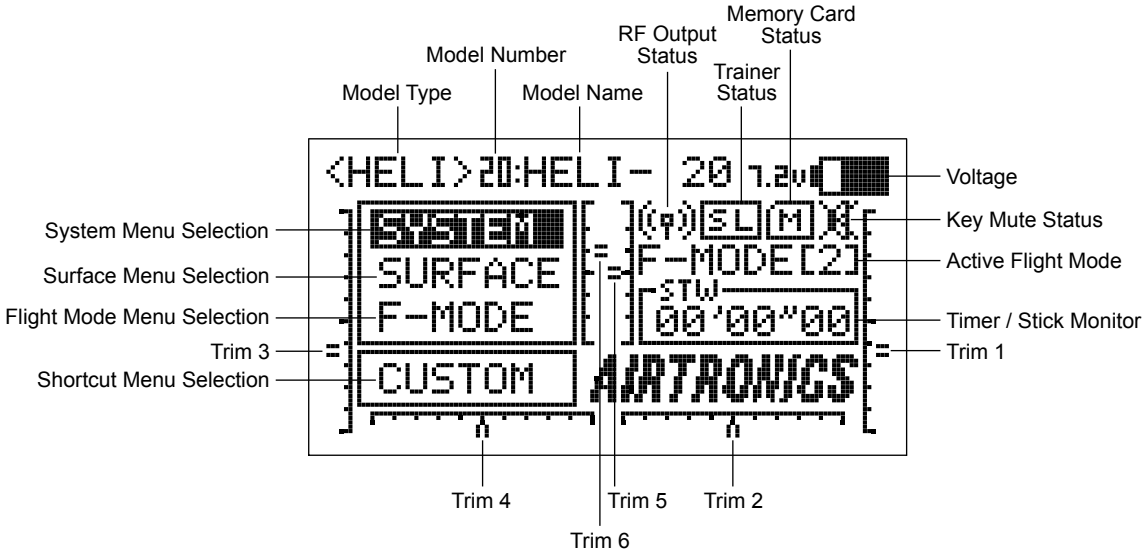



⚠ The Display Key activates the transmitter's LCD Display without actually turning the transmitter ON. This allows you to check and/or change programming settings without actually turning the transmitter ON. To turn only the LCD Display ON, press and hold the DISPLAY Key for ~2 seconds. To turn the LCD Display OFF, press the DISPLAY Key once.

| KEY | NAME | FUNCTION |
|---|---|---|
|  | YES/+ Key | Increases numerical programming values and selects ON/OFF, NOR/REV, and ACT/INH programming options. Also verifies function settings. |
|  | NO/- Key | Decreases numerical programming values and selects ON/OFF and NOR/REV programming options. |
|  | F-MODE Key | Cycles through the five Flight Modes within the Fllight Mode menu. Also locks/unlocks programming changes in the Surface menu. |
|  | END Key | Returns to the previous menu. Press several times to return to the Top menu. |
|  | Navigation Pad | Moves the Programming Cursor Up ▲, Down ▼, Right ▶, and Left ◀. |
|  | ENTER Key | Opens the selected menu or programming option. Advances the cursor in the User Name and Model Name menus. |
|  | YES/+ NO/-<br>Key Sequence (Reset) | Pressing both keys together will Reset the selection to the Factory Default Setting. Also resets the Timer display on the Top menu. |

## LCD DISPLAY OVERVIEW

Use the diagram below to familiarize yourself with the layout and different indicators that make up the LCD Display.




**Active Flight Mode:** Displays the currently active Flight Mode.

**Flight Mode Menu Selection:** Displays the Flight Mode menu programming options for each of the five programmable Flight Modes. Flight Mode menu programming options vary depending on the Model Type selected.

**Key Mute Status:** Displays the current status of the Key Mute function. When active an audible tone will sound with each key-press. When disabled the audible tone will be muted with each key-press.

**Memory Card Status:** Displays when the Memory Expansion Card is installed in the transmitter.

**Model Name:** Displays the name of the currently selected model.

**Model Number:** Displays the number (1-20) of the currently selected model. Models saved to the Memory Expansion Card are displayed with an 'M'. Models saved to the transmitter and to the Memory Expansion Card can be accessed independently.

**Model Type:** Displays the currently active Model Type loaded into memory, either AERO, GLID, or HELI.

**RF Output Status:** Displays the current RF Output Status of the transmitter. When the transmitter is turned ON and transmitting a strong signal is displayed. When the signal is low or otherwise degraded is displayed. When the transmitter is turned OFF, but the LCD Display is turned ON is displayed.

**Shortcut Menu Selection:** Displays a shortcut to any single System or F-Mode menu or to the Custom menu (default).

**Surface Menu:** Displays the Control Surface menu programming options. Surface menu programming options vary depending on the Model Type selected.

**System Menu:** Displays the System menu programming options. System menu programming options are the same for each of the three Model Types.

**Timer / Stick Monitor:** Displays the currently active Timer. Can also display the currently active Stick Monitor.

**Trainer Status:** Displays when the transmitter Trainer function is active. If the transmitter is in Master mode, MS will be displayed. If the transmitter is in Slave mode, SL will be displayed.

**Trim 1-6:** Displays the current position of the specific trim switch [T1 Elevator, T2 Aileron, T3 Throttle, T4 Rudder, T5 Hovering Throttle (HELI Model Type only), and T6 Hovering Pitch (HELI Model Type only)]. When each of the trim switches are moved to center (zero), an audible tone will sound.

**Voltage:** Displays the current voltage of the transmitter battery. When the voltage reaches 6.7 volts, a low voltage alarm will sound.

# TRANSMITTER AND RECEIVER BINDING



When new, it is necessary to pair the transmitter and receiver to prevent interference from radio controllers operated by other users. This operation is referred to as 'binding'. Once the binding process is complete, the setting is remembered even when the transmitter and receiver are turned OFF, therefore, this procedure usually only needs to be done once.

A Safety Link function is featured which can be used to program a unique bind code to each receiver/model pair, preventing the transmitter from controlling a model that it's not currently programmed for.

⚠ Although the SD-10G transmitter can be used with Airtronics FHSS-1 2.4GHz receivers, such as the Airtronics 92824 2.4GHz receiver included with the RDS8000 2.4GHz radio control system, the Safety Link feature is not supported.

**IMPORTANT** The information in this section assumes that you're binding a new SD-10G transmitter and receiver in the default configuration. For more information on Modulation and Safety Link settings, and how they're used, see page 32.

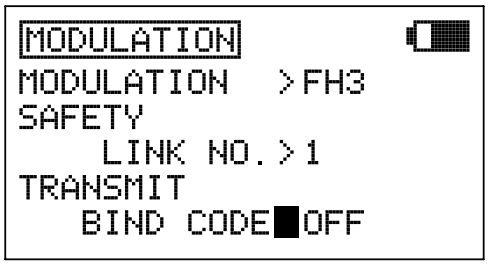
1) Turn the transmitter ON. If this is the first receiver/model pair you are binding, verify that the currently selected model number is 01:SANWA-01 (new radio default model). If it is not, select model 01 via the MODEL SELECT menu. For more information, see page 28.

2) Verify that SYSTEM is highlighted, then press the ENTER key to display the System menu. If SYSTEM is not highlighted, press the END key until SYSTEM is highlighted.

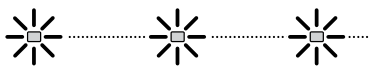
3) Press the Navigation Pad ▼ to highlight MODULATION, then press the ENTER key to display the MODULATION menu. The cursor will default to MODULATION>FH3.

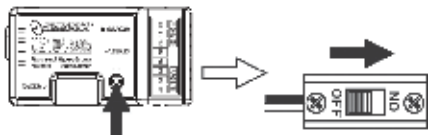
4) Press the Navigation Pad ▼ to move the cursor to SAFETY LINK NO. By default the number should be 1, which matches the currently selected default model (01:SANWA-01).

5) Press the Navigation Pad ▼ to move the cursor to TRANSMIT BIND CODE. OFF will be displayed.



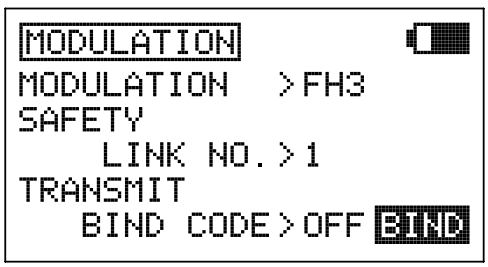

6) While holding down the Bind Button on the receiver, turn the receiver ON. The Bind LED on the receiver will blink slowly. After ~2 seconds release the Bind Button. The Bind LED on the receiver will continue to blink slowly.






⚠ Use the tip of a pencil or a 1.5mm hex wrench to reach the Bind Button in the receiver.

5) Quickly press the YES/+ key. The green RF Output Indicator will blink, the TRANSMIT BIND CODE selection will change to ON, and BINDING will blink. The Bind LED on the receiver will blink rapidly for ~3 seconds, then go out.




6) After Bind LED on the receiver goes out, press the END key. The Bind LED on the receiver, as well as the green RF Output Indicator, will turn solid and the LCD Display will revert to the System menu indicating the binding process is complete. Press the END key two times to return to the Top menu.

⚠ When the binding procedure is successful, the Bind LED on the receiver will stay solid blue when both the transmitter and receiver are turned ON. If the Bind LED on the receiver is blinking rapidly or not ON at all, the transmitter and receiver are not paired. In this case, turn both the transmitter and receiver OFF, then repeat the binding procedure.

⚠ The SD-10G transmitter is compatible with FHSS-3 and FHSS-1 Airtronics 2.4GHz receivers. To bind the transmitter to an FHSS-1 receiver, such as the Airtronics 92824 2.4GHz receiver included with the RDS8000 2.4GHz radio control system, the transmitter modulation must first be changed to FH1. For more information, see page 32.

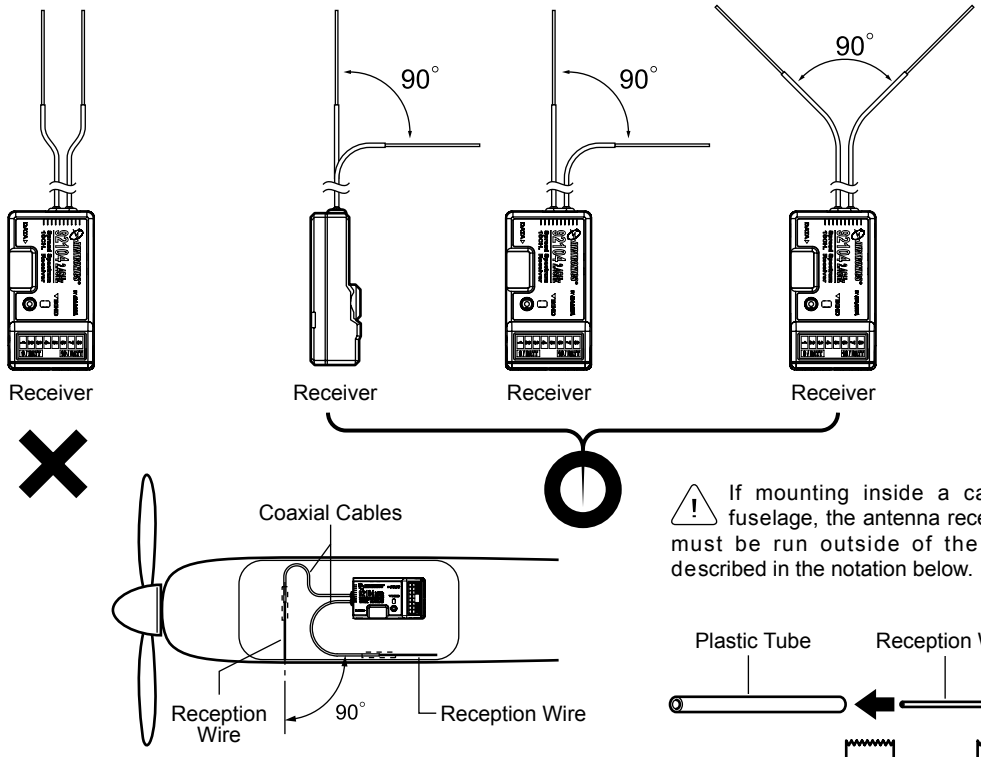
# MOUNTING THE RECEIVER

When mounting the receiver in your model, it's important to mount the receiver exactly as described. In addition, the receiver should be wrapped in foam rubber to protect it from vibration. Failure to mount the receiver antenna wires as described can result in poor reception, or in some cases, complete loss of reception.

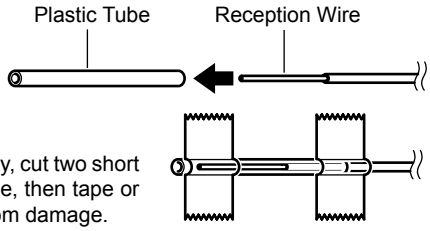
⚠ We recommend that you bind the transmitter and receiver prior to mounting the receiver into your model.

The receiver should be mounted securely in your model and the receiver antenna wires installed per the diagram below. The two receiver antenna wires should be mounted to a wood or plastic non-conductive part of your model and angled so that the reception wires are positioned 90º apart. Under no circumstances should the antenna reception wires be parallel to each other.

**WARNING** It is extremely important that the receiver antenna wires be mounted as described. This will ensure that your model receives control signals no matter what its posture, attitude, or heading.




⚠ If mounting inside a carbon fiber fuselage, the antenna reception wires must be run outside of the model as described in the notation below.




Tape can be used to secure the antenna reception wires to your model. Alternatively, cut two short pieces of plastic tube and slide one antenna reception wire into each piece of tube, then tape or glue the tube to your model. The tubes will protect the antenna reception wires from damage.

- The receiver antenna wires consists of two coaxial cables and two reception wires (the thin tip at the end of the coaxial cables). When you mount the receiver antenna wires, do not bend the reception wires. Reception performance decreases if the reception wires are bent.
- The receiver antenna wires are delicate, therefore, handle with care. Do not pull on the receiver antenna wires with force. Do not cut or extend the receiver antenna wires.
- The coaxial cables can be bent into gentle curves, however, do not bend the coaxial cables acutely, or repeatedly bend them, or the antenna cores can be damaged.
- When installed in an electric-powered model, keep the receiver antenna wires as far away from the motor, battery, and electronic speed control (ESC) as possible.
- When installing the receiver, the antenna reception wires (the thin tip at the end of the coaxial cables) should not come into contact with any carbon or metal components (conductive components). Aircraft fuselages and helicopter frames may contain conductive components. If mounting the receiver surrounded by conductive materials (for example, a carbon fiber fuselage), mount the receiver so that the antenna reception wires can be extended outside of the model. Reception can be blocked if the antenna reception wires are shielded inside a carbon fiber fuselage.

# RANGE CHECKING (LOW POWER MODE)



The Low Power Mode function lowers the transmitter's RF output level to check radio signal reception (Range Check). Use this function to check radio signal reception on the ground, prior to flight.

**IMPORTANT** The radio control system should be Range Checked prior to the day's first flight and prior to the first flight after a hard landing or after a repair. This will ensure that the transmitter and receiver are communicating properly prior to flight. This ensures the safety of your model, yourself, and the people around you.

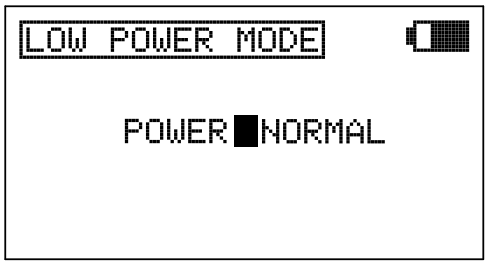
| POWER MODE | TRANSMITTER STATUS |
|---|---|
| Low Power Mode | Green RF Output Indicator Blinks, Power Selection >LOW, Audible Alarm |
| Normal Mode | Red and Green Output Indicators Solid, Power Selection >NORMAL, No Audible Alarm |

⚠ Low Power Mode can only be Activated with the transmitter turned ON. Low Power Mode cannot be Activated with only the LCD Display turned ON.

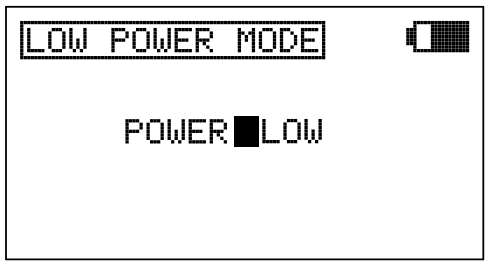
**Activating Low Power Mode**

1) Turn the transmitter ON. Verify that SYSTEM is highlighted, then press the ENTER key to display the System menu. If SYSTEM is not highlighted, press the END key until SYSTEM is highlighted.

2) Press the Navigation Pad ▼ to highlight LOW POWER MODE, then press the ENTER key to display the LOW POWER MODE menu. The cursor will default to POWER>NORMAL.




3) Press the YES/+ or NO/+ keys to place the transmitter in Low Power Mode. The green RF Output Indicator will blink, the POWER selection will change to LOW, and an audible alarm will sound. The transmitter is now in Low Power Mode and you can begin the Range Check process.




4) With the transmitter in Low Power Mode, walk approximately 30 paces from your model (approximately 90 feet) and, with the help of another person, check to make sure that the servos move without any problems. If there is a problem with servo movement, try moving to a different position while still maintaining the same distance from your model, then check servo movement again. If there is still a problem, **DO NOT FLY**. Check to make sure that all receiver, servos, switch, and onboard battery connections are correct and secure. Check to ensure that the receiver antenna wires are correctly mounted as described previously.

**Turning Off Low Power Mode**

1) After you have completed your range check, press the YES/+ or NO/- keys to place the transmitter back into NORMAL mode. In NORMAL mode, the RF Output Indicator will be solid green, the POWER selection will change to NORMAL, and the audible alarm will cease. Press the END key two times to return to the Top menu.

⚠ The transmitter will stay in Low Power Mode until you place in back into NORMAL mode.

**WARNING** Do not attempt to fly with the transmitter in Low Power Mode. You will be unable to control your model once it is a certain distance away from you.

⚠ If, after checking all airborne system components and verifying correct antenna wire mounting, your radio control system still fails the Range Check, **DO NOT FLY**. Please contact Airtronics Customer Service.

# FAIL SAFE

The Fail Safe function automatically sets the servos to a predetermined position in the event that the signal between the transmitter and the receiver is interrupted, whether due to signal degradation or to a low transmitter battery. The Fail Safe function can be set to Hold the servos in the last position they were in when the signal was lost, or each of the servos can be set to move to a custom position when the signal is lost. For example, for a model aircraft, the Fail Safe can be set so that the throttle servo returns to low, the elevator moves slightly up, and the ailerons move slightly right or left, to result in a shallow downward decent.

⚠ This section describes the Fail Safe function setup for the 92104 FHSS-3 receiver included with the SD-10G radio control system. For Fail Safe function setup for use with FHSS-1 receivers, such as the Airtronics 92824 8-Channel, 92674 7-Channel, and 92664 6-Channel Micro 2.4GHz FHSS-1 receivers, see page 36.

**IMPORTANT** In the default configuration, all Fail Safe settings are INHIBITED. In this configuration, if the signal between the transmitter and the receiver is interrupted, whether due to signal degradation or to a low transmitter battery, the servos will stay in the last position they were in when the signal was lost. The Fail Safe will not function if power to the receiver is lost.

**Changing Fail Safe Settings**

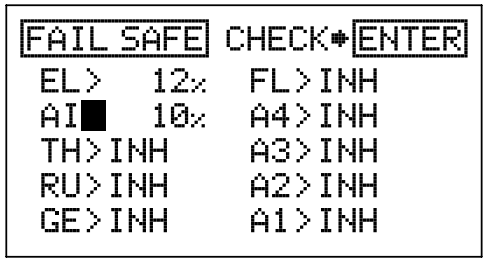
1) Turn the transmitter ON. Verify that SYSTEM is highlighted, then press the ENTER key to display the System menu. If SYSTEM is not highlighted, press the END key until SYSTEM is highlighted.

2) Press the Navigation Pad ▼ to highlight FAIL SAFE, then press the ENTER key to display the FAIL SAFE menu. The cursor will default to EL>INH.

3) With the cursor next to EL>INH move the elevator control stick in the direction and the amount you want the elevator to move to when the Fail Safe activates.

4) While holding the elevator control stick in position, press the YES/+ key to set the elevator Fail Safe position. A percentage value will be displayed.

5) Press the Navigation Pad ▼ to move the cursor to AI>INH, then follow the same procedures to set the pre-programmed aileron Fail Safe position.



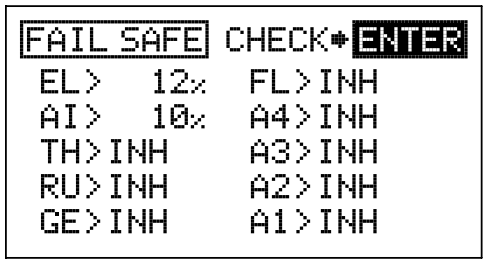

6) Repeat the same procedures to set the custom Fail Safe positions for the desired remaining channels. After setting the Fail Safe positions, check the Fail Safe settings by following the procedures in the Fail Safe Check section below.

⚠ The percentage value is the percentage the servo will move. The percentage value will be either negative or positive and is determined by the REV/NOR status of the channel. Regardless of the REV/NOR setting, the control surface will move the same direction the control stick is moved. If you change a servo direction AFTER setting the Fail Safe values, you should reset that Fail Safe value to ensure that the servo moves the correct direction.

**Fail Safe Check**

1) With the cursor anywhere in the FAIL SAFE menu, press the ENTER key to check the Fail Safe settings. The servos will move to the predetermined positions for ~5 seconds, then return to normal.

2) After verifying correct operation, press the END key two times to return to the Top menu.




**IMPORTANT** Make sure that the control surfaces are moving the correct direction when the Fail Safe function is Activated.

⚠ Fail Safe settings are specific to each model. For example, you can have certain Fail Safe settings for Model 1 and different Fail Safe settings for Model 2, and so on. The Fail Safe settings will be retained even if the transmitter loses power or if the transmitter and receiver must be paired again.

**Clearing Fail Safe Settings**

1) In the FAIL SAFE menu, press the Navigation Pad ◀ ▶ ▲ ▼ to move the cursor to the desired channel you would like to clear the Fail Safe setting from.

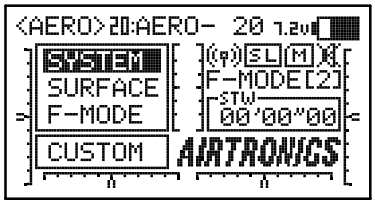
2) To reset the Fail Safe setting to INH, press the YES/+ and NO/- keys at the same time, then repeat these procedures to reset the Fail Safe setting for the desired remaining channels. Press the END key two times to return to the Top menu.

# SYSTEM MENU CONTENTS

# SYSTEM MENU

The System menu is where all transmitter-specific programming takes place. Use this menu to make changes to Model Name, Model Select, Model Type, Modulation, Switch Assignments, and much more.

⚠ System menu selections are the same for all three Model Types. A small number of sub-menu selections vary by Model Type. These are noted in the pertinent menu descriptions.



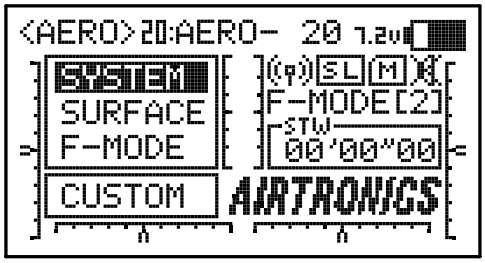

**System Menu**

## *SYSTEM MENU FLOW CHART*

Use this Flow Chart to familiarize yourself with the System menu structure. Descriptions regarding all System menu functions and programming are found on pages 27 through 59.

- 01.USER NAME
- 02.MODEL NAME
- 03.MODEL SELECT
- 04.DIRECT MODEL SELECT
- 05.TYPE → AERO → GLIDER → HELI
- 06.MODULATION → MODULATION → SAFETY LINK → BIND CODE
- 07.LOW POWER MODE
- 08.FAIL SAFE
- 09.BATTERY FAIL SAFE
- 10.TRAINER
- 11.MODE SETUP → MODE → NEUTRAL/TRAVEL
- 12.CH ASSIGN
- 13.SW ASSIGN
- 14.STICK SWITCH
- 15.TIMER → STOP WATCH → RHYTHM → INTEGRAL TIMER → SYSTEM TIMER
- 16.DATA COPY
- 17.DATA RESET
- 18.DATA TRANSFER
- 19.CONTRAST
- 20.CLICK
- 21.ALARM
- 22.TOP MENU ARRANGE → MENU → DISPLAY
- 23.CUSTOM MENU
- 24.MEMORY PACK → LIST → INITIAL
- 25.SYSTEM INFORMATION

## GENERAL INFORMATION

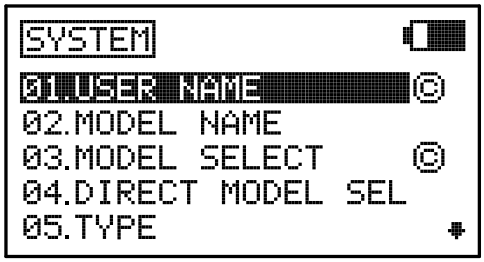



To access the System menu, turn the transmitter ON. Verify that SYSTEM is highlighted, then press the ENTER key to display the System menu.

From within any menu, press the END key continuously to return to the Top menu.

Unless otherwise noted, all programming changes take effect immediately.

⚠ If SYSTEM is not highlighted, press the END key until SYSTEM is highlighted, then press the ENTER key to display the System menu.




Pressing the YES/+ key when a System menu selection is highlighted will add that selection to the Custom menu. Selections added to the Custom menu are denoted by a ©. For more information, see page 57.

⚠ Sub-menus cannot be added to the Custom menu.

## 01.USER NAME (TRANSMITTER USER NAMING)

The User Name function allows you to input a User Name to register the transmitter. The User Name can consist of up to 8 letters, numbers, or symbols. Choose from capital letters, lower case letters, numbers, and various symbols.

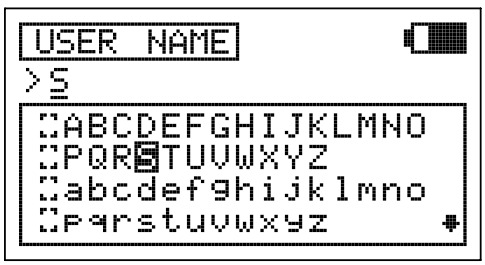
⚠ The User Name is displayed in the User Name sub-menu. It is not displayed on the Top menu.

**Entering a User Name**

1) Press the Navigation Pad ▲▼ to highlight USER NAME, then press the ENTER key to display the USER NAME menu. The cursor will default to the left side of the top row of letters.

2) Press the Navigation Pad ◀▶▲▼ to highlight a character, then press the ENTER key to select the highlighted character. That character will be displayed and the underline will move to the next space.

3) Repeat step 2 to enter the rest of the characters. Up to eight characters can be entered.




⚠ Press the Navigation Pad ▲▼ repeatedly to scroll up and down the list of characters.

**Deleting a Character**

1) Press the YES/+ or NO/- keys to move the underline under the character you want to erase.

2) Press the Navigation Pad ◀▶▲▼ to highlight the Erase Bracket ⁚, then press the ENTER key to erase the underlined character.

**Deleting a User Name**

1) Press the YES/+ and NO/- keys at the same time to move the underline under the first character.

2) Press the Navigation Pad ◀▶▲▼ to highlight the Erase Bracket ⁚, then press the ENTER key repeatedly to erase the entire User Name.

## 02.MODEL NAME (MODEL NAMING)

The Model Name function allows you to name each of your individual models. This makes it easy to keep track of multiple models. When you select a model, all of the programming for that model is loaded. The Model Name can consist of up to 8 letters, numbers, or symbols. Choose from capital letters, lower case letters, numbers, and various symbols.

**Entering a Model Name**

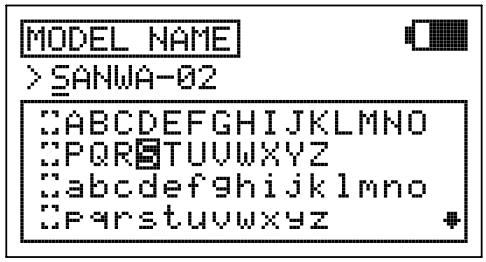
1) Press the Navigation Pad ▲▼ to highlight MODEL NAME, then press the ENTER key to display the MODEL NAME menu. The cursor will default to the left side of the top row of letters.

⚠ A model must be selected before a Model Name can be entered or modified. In the default configuration, Model:01 is selected. To enter a Model Name for another model, that model must first be selected using the Model Select menu. For more information, see the 03.MODEL SELECT section below.

2) Press the Navigation Pad ◀▶▲▼ to highlight a character, then press the ENTER key to select the highlighted character. That character will be displayed and the underline will move to the next space.

3) Repeat step 2 to enter the rest of the characters. Up to eight characters can be entered. The name of your model will be displayed on the Top menu (i.e. 01:XTra300S).

⚠ Press the Navigation Pad ▲▼ repeatedly to scroll up and down the list of characters.




**Deleting a Character**

1) Press the YES/+ or NO/- keys to move the underline under the character you want to erase.

2) Press the Navigation Pad ◀▶▲▼ to highlight the Erase Bracket ⁚, then press the ENTER key to erase the underlined character.

**Deleting a Model Name**

1) Press the YES/+ and NO/- keys at the same time to move the underline under the first character.

2) Press the Navigation Pad ◀▶▲▼ to highlight the Erase Bracket ⁚, then press the ENTER key repeatedly to erase the entire Model Name.

## 03.MODEL SELECT (MODEL SELECTION)

The Model select function allows you to load the programming for the particular model you wish to fly. The Model Select menu displays the currently selected model, along with a list of available models that can be selected. The specific Model Type is displayed for each of the models. The programming for all of your models is accessed through the Model Select menu.

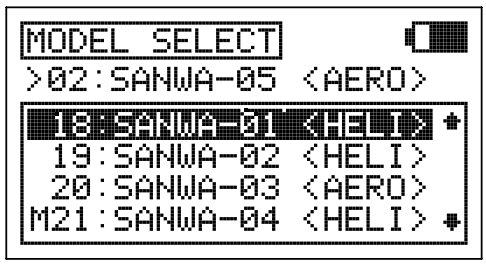
**Selecting a Model**

1) Press the Navigation Pad ▲▼ to highlight MODEL SELECT, then press the ENTER key to display the MODEL SELECT menu. The cursor will default to the currently selected model in the Model Select List.

2) Press the Navigation Pad ▲▼ to highlight the model you would like to select, then press the ENTER key to select the highlighted model. That model will be displayed above the Model Select List.

⚠ When you press the ENTER key to select a model, the programming for that model will be loaded.

⚠ Models stored on the Memory Expansion Card (if installed), are denoted with an 'M' (i.e. M21:SANWA-04).




⚠ In the default configuration, the Model Select List contains 10 AERO model types and 10 HELI model types. The Model Type for any of the 20 models in the Model Select List can be changed using the Type menu. For more Information, see page 29.

## 04.DIRECT MODEL SELECT (DIRECT MODEL SELECTION)

The Direct Model Select function allows you to select one of three of your most-used models from memory without going through the Model Select menu. This makes it much quicker and easier to load the programming for your three favorite models.

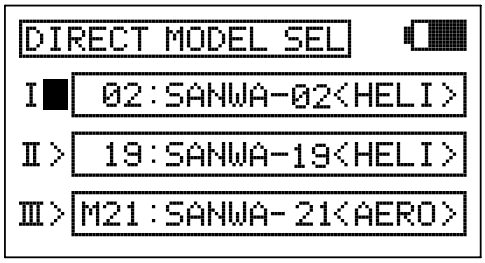
**Designating a Favorite Model**

1) Press the Navigation Pad ▲▼ to highlight DIRECT MODEL SELECT, then press the ENTER key to display the DIRECT MODEL SELECT menu. The cursor will default to the first model selection I>.

2) Press the YES/+ or NO/- keys to change the name of the model to the model you want to designate as Direct Model Select I.

3) Press the Navigation Pad ▼ to highlight II>, then press the YES/+ or NO/- keys to change the name of the model to the model you want to designate as Direct Model Select II.

4) Repeat step 3 to designate a model for Direct Model Select III.



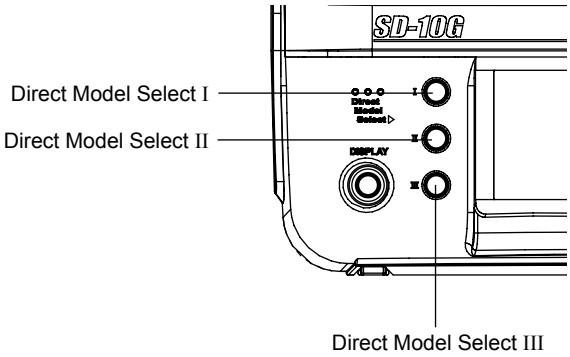

⚠ You can designate the same model to more than one Direct Model Select number if you desire.

**Using Direct Model Select**

1) Turn the transmitter OFF.

2) Press and hold the Direct Model Select key of the model you wish to fly, then turn the transmitter ON. The Model Name of the model that you designated to the Direct Model Select key that you pressed will be displayed on the Top menu and the programming for that model will be loaded.

⚠ Before flying, verify that the Model Name displayed on the Top menu is the actual model that you'll be flying.




## 05.TYPE (MODEL TYPE - AERO, GLIDER, AND HELI)

The Type function allows you to quickly set up the transmitter's low-level mixing based on the type of model you're flying. Common templates for AERO, GLIDER, and HELI model types are provided. For example, if your powered aircraft features two aileron servos, two flap servos, and dual elevator servos, choosing these options will automatically change the transmitter's programming to accommodate this setup. This takes the guess-work out of setting up more complex models.

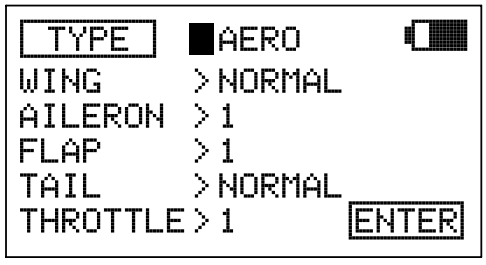
**WARNING** Model Type selection is used when setting up a new model and should be done prior to making any programming changes to your model. When the Model Type selection is changed for the currently selected model, all programming (including custom programming) for that model will be reset.

⚠ Individual TYPE selection options can be reset to the default setting by pressing the YES/+ and NO/- keys at the same time.

**Changing Model Type**

1) Press the Navigation Pad ▲▼ to highlight TYPE, then press the ENTER key to display the TYPE menu. The cursor will default to >AERO.

2) Press the YES/+ or NO/- keys to change the selection option. Choose from AERO, GLID, or HELI.



**Making AERO Selection Options**

Choose AERO selection options that suit the aircraft that you're setting up. For example, if your aircraft is a flying wing and is controlled by elevons, choose WING>DELTA. If your aircraft features separate aileron servos and split elevator halves that use one elevator servo on each elevator half, choose AILERON>2 and TAIL>2xEL, and so on.

⚠ Channel Assignments will change based on the selection options chosen. To verify which channel slots to plug your servos into, navigate to the CH ASSIGN menu after saving your Model Type selection options. For more information, see page 42.

1) Press the YES/+ or NO/- keys to change the selection option to TYPE>AERO.

| AERO SELECTION | DEFAULT | OPTION |
|---|---|---|
| WING (Type) | NORMAL | DELTA* (Elevons) |
| AILERON (Servos) | 1 | 2 |
| FLAP (Servos) | 1 | 2 |
| TAIL (Type) | NORMAL | V-TAIL or 2 x EL** |
| THROTTLE (Servos) | 1 | 2 |

*Delta mixing is sometimes referred to as Elevon mixing.

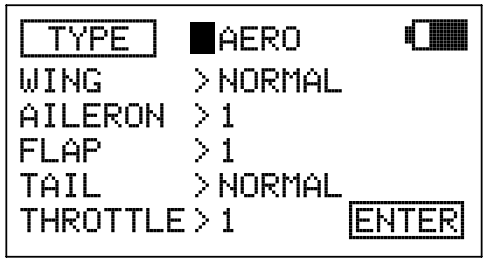
**So that both servos will move the same direction, you will need to Reverse one of the channels.

2) Press the Navigation Pad ▲▼ to highlight the AERO selection you wish to change, for example, AILERON.

3) Press the YES/+ or NO/- keys to change the selection option.

4) Repeat steps 2 and 3 to change the options for any of the other selections you wish to change to suit your model setup.

⚠ Some selection options are dependent on other selection options and may not be able to be changed.




**Making GLIDER Selection Options**

Choose GLID selection options that suit the aircraft that you're setting up. For example, if your aircraft features a six-servo wing, choose AILERON>4 and FLAP>2. If your aircraft features a V-Tail, choose TAIL>V-TAIL, and so on.

⚠ Channel Assignments will change based on the selection options chosen. To verify which channel slots to plug your servos into, navigate to the CH ASSIGN menu after saving your Model Type selection options. For more information, see page 42.

1) Press the YES/+ or NO/- keys to change the selection option to TYPE>GLID.

| GLID SELECTION | DEFAULT | OPTION |
|---|---|---|
| WING (Type) | NORMAL | DELTA* (Elevons) |
| AILERON (Servos) | 2 | 4 |
| FLAP (Servos) | 1 | 4 |
| TAIL (Type) | NORMAL | V-TAIL** |

*Delta mixing is sometimes referred to as Elevon mixing.

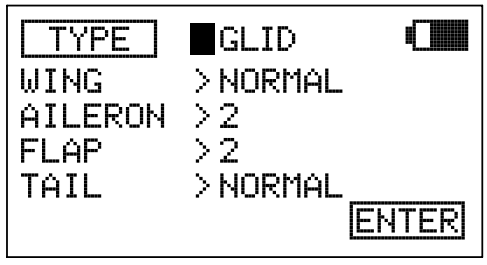
**So that both servos will move the same direction, you will need to Reverse one of the channels.

2) Press the Navigation Pad ▲▼ to highlight the GLID selection you wish to change, for example, WING.

3) Press the YES/+ or NO/- keys to change the selection option.

4) Repeat steps 2 and 3 to change the options for any of the other selections you wish to change to suit your model setup.

⚠ Some selection options are dependent on other selection options and may not be able to be changed.



**Making HELICOPTER Selection Options**

Choose the HELI Swashplate Type that suits your helicopter. There are three basic Swashplate Types available:

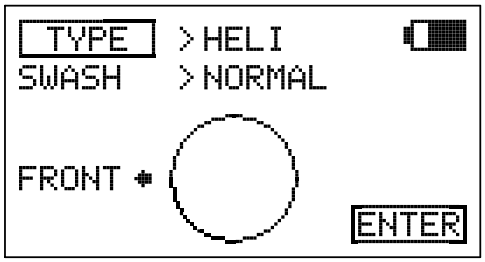
**Normal** - In this configuration the swashplate does not control pitch. It only controls right, left, fore, and aft cyclic. Usually the servos are installed 90º apart but do not mix with collective to control pitch. This configuration is generally used for fixed-pitch helicopters or helicopters that have a completely separate control system to control collective pitch.

**3-Point CCPM** - In this configuration the cyclic and collective controls are mixed. The servos that control the swashplate are installed either 120º to 140º apart, depending on the configuration.

**4-Point CCPM** - In this configuration the cyclic and collective controls are mixed. The servos that control the swashplate are installed 90º apart. A total of three or four servos can be used, depending on the configuration.

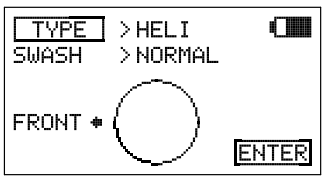
⚠ Channel Assignments will change based on the selection options chosen. To verify which channel slots to plug your servos into, navigate to the CH ASSIGN menu after saving your Model Type selection options. For more information, see page 42.

1) While in the TYPE menu and the cursor in the >AERO or >GLID position, press the YES/+ or NO/- keys to highlight >HELI.
2) Press the Navigation Pad ▲ ▼ to highlight the SWASH selection.
3) Press the YES/+ or NO/- keys to change the SWASH selection option.

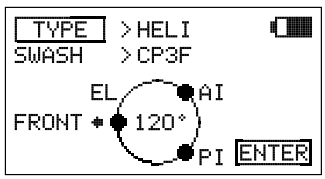



The following Swashplate Types are available for Model Type HELI. The diagrams display the swashplate geometry, the number of servos used, and the specific placement of those servos.

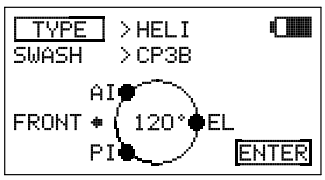
**WARNING** There are a number of different Swashplate Types available. Make sure that the Swashplate Type you choose matches exactly the Swashplate Type used by your helicopter. Refer to your helicopter's Operating Manual for more information.



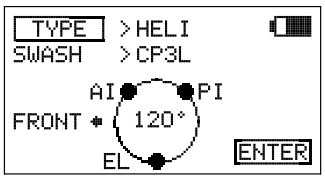

> NORMAL: Non-CCPM



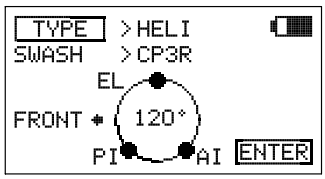

> CP3F 120º with 3 Servos



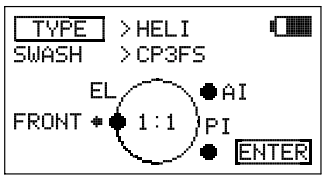

> CP3B 120º with 3 Servos



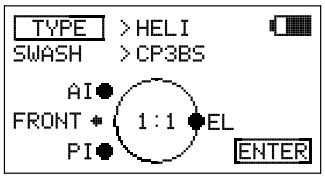

> CP3L 120º with 3 Servos



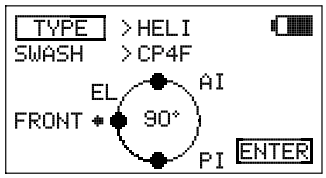

> CP3R 120º with 3 Servos



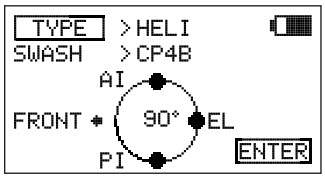

> CP3FS 1:1* with 3 Servos (2 Offset)



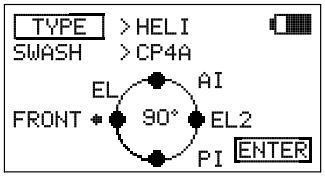

> CP3BS 1:1* with 3 Servos (2 Offset)



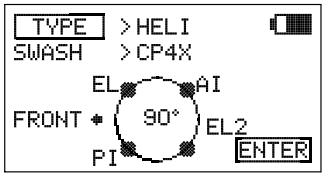

> CP4F 90º with 3 Servos




> CP4B 90º with 3 Servos




> CP4A 90º with 4 Servos




> CP4X 90º with 4 Servos

⚠ 120º, 90º, and 1:1* refers to the physical relationship and geometry of the servo placements on the swashplate.

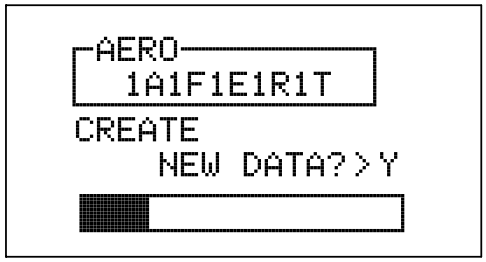
*1:1 is sometimes referred to as 140º.

**Saving Selection Options**

Once a selection option is changed, ENTER will blink in the lower right corner of the display.

1) Press the ENTER key. The screen will display the selected settings for verification. For example, 2A1F1E1R1T (2 Aileron servos, 1 Flap servo, 1 Elevator servo, 1 Rudder servo, and 1 Throttle servo).

2) After verifying that the settings are correct, press the YES/+ key to Create New Data. After ~10 seconds, the new programming data will be loaded into the transmitter as indicated by the progress bar.




⚠ If you want to go back and change the settings or you don't want to create the new settings for any reason, press the NO/- or END keys.

⚠ When the Model Type selection is saved, the Model Type is updated in both the Model Select menu and on the Top menu.

## *06.MODULATION (MODULATION TYPE, SAFETY LINK, AND BINDING)*

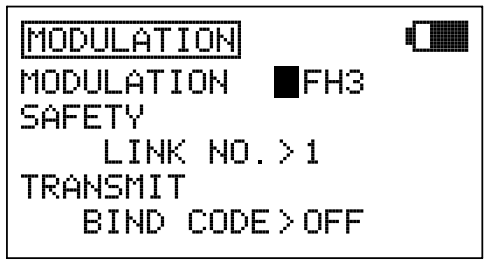
The Modulation menu consists of three different functions. You are able to change the Modulation Type, modify the Safety Link settings, and Bind the transmitter and receiver.

⚠ All Modulation menu functions are model-specific. For example, you can program Model 01 to use FH3 modulation with Safety Link No. 01, and you can program Model 02 set to use FH1 modulation, and so on.

**Changing Modulation Type**

1) Press the Navigation Pad ▲▼ to highlight MODULATION, then press the ENTER key to display the MODULATION menu. The cursor will default to MODULATION>FH3.

2) Press the YES/+ or NO/- keys to change the Modulation Type.




The following Modulation Type options are available:

**FH1** - Select this Modulation Type when using the SD-10G transmitter with Airtronics 2.4GHz FHSS-1 aircraft receivers (i.e., 92824 8-Channel, 92674 7-Channel, and the 92664 6-Channel Micro).

**FH3** - Select this Modulation Type when using the SD-10G transmitter with Airtronics 2.4GHz FHSS-3 receivers (i.e., 92104 10-Channel).

**PPM8** - Select this Modulation Type when using the SD-10G transmitter with a computer-based flight simulator.

**Safety Link**

The Safety Link function is used to program a unique bind code to each receiver/model pair, preventing the transmitter from controlling a model that it's not currently programmed for. In addition, the Safety Link Number can be changed separately from the Model Select number to allow you to bind multiple receivers to the same model. For example, you can bind two receivers to one model so that you are able to use redundant airborne components, yet still maintain the Safety Link function between models.

**WARNING** For the Safety Link feature to function correctly, the Safety Link Number **MUST** match the number of the currently selected model. For example, if the current model is 01:XTra300S, when you bind the receiver in that model to the transmitter, set the SAFETY LINK NO to 01. To bind another model using the Safety Link feature, select a new model (i.e. 02) and name it. The new model name will be displayed on the Top menu. When you bind the receiver in that model to the transmitter, set the SAFETY LINK NO to 02. In this way, the transmitter will 'talk' only to the matching receiver.

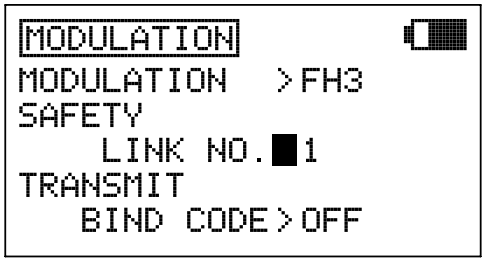
If you are using more than one receiver in one model (for redundancy purposes), set the SAFETY LINK NO to the same number for both receivers.

⚠ The Safety Link feature can be used ONLY with the Airtronics 92104 10-Channel 2.4GHz FHSS-3 receiver. Safety Link is not supported for use with Airtronics FHSS-1 receivers.

1) While in the MODULATION menu, press the Navigation Pad ▲▼ to highlight SAFETY LINK NO.

2) Press the YES/+ or NO/- keys to change the Safety Link number.

⚠ Remember, for the Safety Link feature to function correctly, the Safety Link Number **MUST** match the number of the currently selected model.



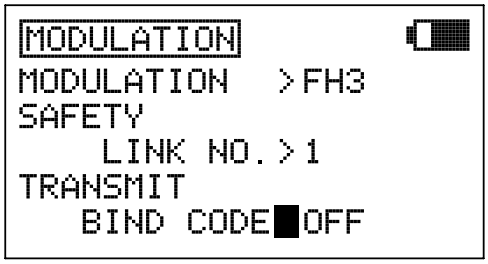

**Binding**

⚠ Before binding the transmitter and receiver, verify that the Modulation and Safety Link settings are accurate for the receiver type you're using.

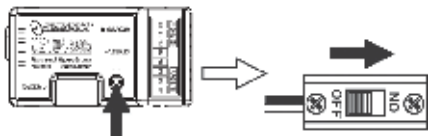
**IMPORTANT** The SD-10G transmitter is compatible with FHSS-3 and FHSS-1 Airtronics 2.4GHz receivers. To bind the transmitter to an FHSS-1 receiver, such as the Airtronics 92824 8-Channel, 92674 7-Channel, and 92664 6-Channel Micro 2.4GHz FHSS-1 receivers, the transmitter modulation must first be changed to FH1.

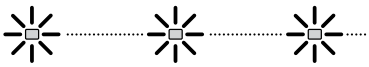
⚠ The Binding procedure is the same whether you're binding an FHSS-3 receiver or an FHSS-1 receiver. Just keep in mind that if you're binding an FHSS-1 receiver, the transmitter modulation must first be changed to FH1.

1) While in the MODULATION menu, press the Navigation Pad ▲▼ to highlight TRANSMIT BIND CODE.



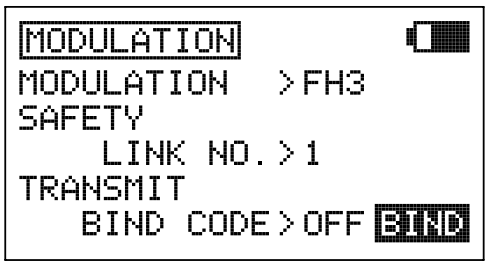

2) While holding down the Bind Button on the receiver, turn the receiver ON. The Bind LED on the receiver will blink slowly. After ~2 seconds release the Bind Button. The Bind LED on the receiver will continue to blink slowly.



⚠ Use the tip of a pencil or a 1.5mm hex wrench to reach the Bind Button in the receiver.

3) Quickly press the YES/+ key. The green RF Output Indicator will blink, the TRANSMIT BIND CODE selection will change to ON, and BINDING will blink. The Bind LED on the receiver will blink rapidly for ~3 seconds, then go out.




4) After Bind LED on the receiver goes out, press the END key. The Bind LED on the receiver, as well as the green RF Output Indicator, will turn solid and the LCD Display will revert to the System menu indicating the binding process is complete. Press the END key two times to return to the Top menu.

⚠ When the binding procedure is successful, the Bind LED on the receiver will stay solid blue when both the transmitter and receiver are turned ON. If the Bind LED on the receiver is blinking rapidly or not ON at all, the transmitter and receiver are not paired. In this case, turn both the transmitter and receiver OFF, then repeat the binding procedure.

## *07.LOW POWER MODE (RANGE CHECK MODE)*

The Low Power Mode function lowers the transmitter's RF output level to check radio signal reception (Range Check). Use this function to check radio signal reception on the ground, prior to flight.

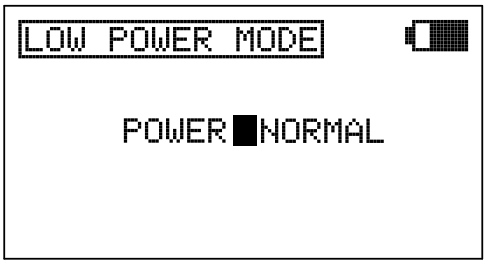
**IMPORTANT** The radio control system should be Range Checked prior to the day's first flight and prior to the first flight after a hard landing or after a repair. This will ensure that the transmitter and receiver are communicating properly prior to flight. This ensures the safety of your model, yourself, and the people around you.

| POWER MODE | TRANSMITTER STATUS |
|---|---|
| Low Power Mode | Green RF Output Indicator Blinks, Power Selection >LOW, Audible Alarm |
| Normal Mode | Red and Green Output Indicators Solid, Power Selection >NORMAL, No Audible Alarm |

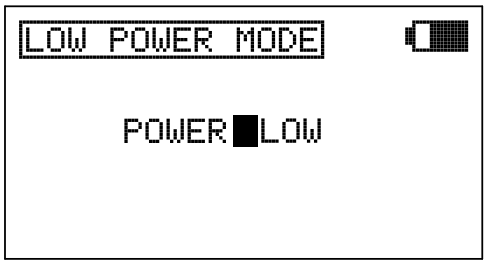
⚠ Low Power Mode can only be Activated with the transmitter turned ON. Low Power Mode cannot be Activated with only the LCD Display turned ON.

**Activating Low Power Mode**

1) Press the Navigation Pad ▲ ▼ to highlight LOW POWER MODE, then press the ENTER key to display the LOW POWER MODE menu. The cursor will default to POWER>NORMAL.




2) Press the YES/+ or NO/+ keys to place the transmitter in Low Power Mode. The green RF Output Indicator will blink, the POWER selection will change to LOW, and an audible alarm will sound. The transmitter is now in Low Power Mode and you can begin the Range Check process.




3) With the transmitter in Low Power Mode, walk approximately 30 paces from your model (approximately 90 feet) and, with the help of another person, check to make sure that the servos move without any problems. If there is a problem with servo movement, try moving to a different position while still maintaining the same distance from your model, then check servo movement again. If there is still a problem, **DO NOT FLY**. Check to make sure that all receiver, servos, switch, and onboard battery connections are correct and secure. Check to ensure that the receiver antenna wires are correctly mounted as described previously.

**Turning Off Low Power Mode**

1) After you have completed your range check, press the YES/+ or NO/- keys to place the transmitter back into NORMAL mode. In NORMAL mode, the RF Output Indicator will be solid green, the POWER selection will change to NORMAL, and the audible alarm will cease.

⚠ The transmitter will stay in Low Power Mode until you place in back into NORMAL mode.

**WARNING** Do not attempt to fly with the transmitter in Low Power Mode. You will be unable to control your model once it is a certain distance away from you.

⚠ If, after checking all airborne system components and verifying correct antenna wire mounting, your radio control system still fails the Range Check, **DO NOT FLY**. Please contact Airtronics Customer Service.

## 08.FAIL SAFE (TRANSMITTER FAIL SAFE)

The Fail Safe function automatically sets the servos to a predetermined position in the event that the signal between the transmitter and the receiver is interrupted, whether due to signal degradation or to a low transmitter battery. The Fail Safe function can be set to Hold the servos in the last position they were in when the signal was lost, or each of the servos can be set to move to a custom position when the signal is lost. For example, for a model aircraft, the Fail Safe can be set so that the throttle servo returns to low, the elevator moves slightly up, and the ailerons move slightly right or left, to result in a shallow downward decent.

⚠ This section describes the Fail Safe function setup for the 92104 FHSS-3 receiver included with the SD-10G radio control system. For Fail Safe function setup for use with FHSS-1 receivers, such as the Airtronics 92824 8-Channel, 92674 7-Channel, and 92664 6-Channel Micro 2.4GHz FHSS-1 receivers, see page 36.

**IMPORTANT** In the default configuration, all Fail Safe settings are INHIBITED. In this configuration, if the signal between the transmitter and the receiver is interrupted, whether due to signal degradation or to a low transmitter battery, the servos will stay in the last position they were in when the signal was lost. The Fail Safe will not function if power to the receiver is lost.

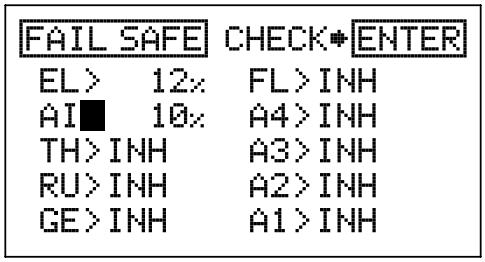
**Changing Fail Safe Settings**

1) Press the Navigation Pad ▲ ▼ to highlight FAIL SAFE, then press the ENTER key to display the FAIL SAFE menu. The cursor will default to EL>INH.

2) With the cursor next to EL>INH move the elevator control stick in the direction and the amount you want the elevator to move to when the Fail Safe activates.

3) While holding the elevator control stick in position, press the YES/+ key to set the elevator Fail Safe position. A percentage value will be displayed.

4) Press the Navigation Pad ▼ to move the cursor to AI>INH, then follow the same procedures to set the pre-programmed aileron Fail Safe position.



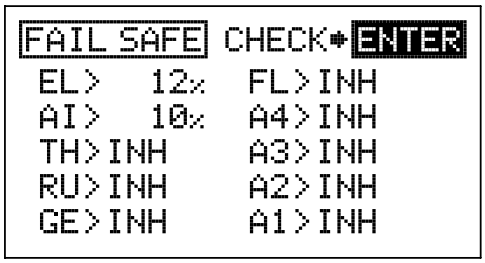

5) Repeat the same procedures to set the custom Fail Safe positions for the desired remaining channels. After setting the Fail Safe positions, check the Fail Safe settings by following the procedures in the Fail Safe Check section below.

⚠ The percentage value is the percentage the servo will move. The percentage value will be either negative or positive and is determined by the REV/NOR status of the channel. Regardless of the REV/NOR setting, the control surface will move the same direction the control stick is moved. If you change a servo direction AFTER setting the Fail Safe values, you should reset that Fail Safe value to ensure that the servo moves the correct direction.

**Fail Safe Check**

1) With the cursor anywhere in the FAIL SAFE menu, press the ENTER key to check the Fail Safe settings. The servos will move to the predetermined positions for ~5 seconds, then return to normal.

2) After verifying correct operation, press the END key two times to return to the Top menu.




**IMPORTANT** Make sure that the control surfaces are moving the correct direction when the Fail Safe function is Activated.

⚠ Fail Safe settings are specific to each model. For example, you can have certain Fail Safe settings for Model 1 and different Fail Safe settings for Model 2, and so on. The Fail Safe settings will be retained even if the transmitter loses power or if the transmitter and receiver must be paired again.

**Clearing Fail Safe Settings**

1) In the FAIL SAFE menu, press the Navigation Pad ◀ ▶ ▲ ▼ to move the cursor to the desired channel you would like to clear the Fail Safe setting from.

2) To reset the Fail Safe setting to INH, press the YES/+ and NO/- keys at the same time, then repeat these procedures to reset the Fail Safe setting for the desired remaining channels. Press the END key two times to return to the Top menu.

**Using the Fail Safe Function with FHSS-1 Receivers**

If you are using the SD-10G transmitter with an FHSS-1 receiver, the Fail Safe setup procedures described previously do not apply. Use the procedures described below to utilize the Fail Safe function with your FHSS-1 receiver.

⚠ Programmable Fail Safe is available on channels 1 through 4 only.

1) Drop the throttle control stick all the way back to the Low Throttle position, then turn the transmitter ON.

2) Turn the receiver ON. The Bind LED on the receiver should illuminate solid blue, indicating that the transmitter and receiver are paired, then move the transmitter control sticks to verify that the servos are operating.

⚠ The Fail Safe settings will be erased if you re-bind the transmitter/receiver pair. If you bind the same transmitter/receiver pair you MUST repeat these procedures to setup the Fail Safe function again.

3) Move the transmitter control sticks to the desired Fail Safe position. While holding the transmitter control sticks in those positions (generally throttle at idle and a minimal amount of elevator and/or aileron), press and hold the Bind Button on the receiver. After ~2 seconds, the Bind LED will begin to blink slowly. Continue holding the Bind Button until the Bind LED begins to blink rapidly (~2 more seconds). Once the Bind LED begins to blink rapidly, release the Bind Button.

4) Turn the transmitter OFF to test Fail Safe operation. The servos should move to the positions that you set in step 3.

## *09.BATTERY FAIL SAFE (RECEIVER BATTERY VOLTAGE ALARM)*

The Battery Fail Safe function allows you to set a custom receiver voltage, that when reached, will provide feedback to you by quickly cycling the throttle servo up and down in 1 minute intervals to indicate that the receiver battery has reached the programmed Battery Fail Safe voltage. This feedback will help prevent you from flying too long and losing receiver battery power.

⚠ The Battery Fail Safe function is not supported when used with FHSS-1 receivers.

**Activating Battery Fail Safe**

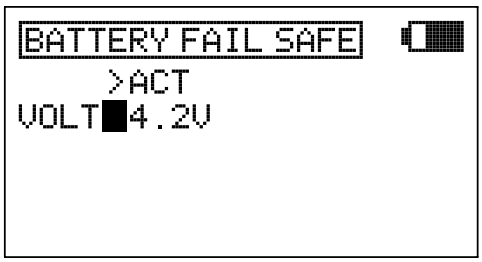
1) Press the Navigation Pad ▲▼ to highlight BATTERY FAIL SAFE, then press the ENTER key to display the BATTERY FAIL SAFE menu. The cursor will default to >INH.

2) Press the YES/+ key to Activate the Battery Fail Safe function. ACT will be displayed.


**Adjusting Battery Fail Safe Voltage**

1) Press the Navigation Pad ▼ to highlight VOLT>4.2V, then press the YES/+ or NO/- keys to increase or decrease the receiver voltage at which the Battery Fail Safe Alarm will Activate.

VOLT setting range is 3.8V to 4.6V. The default setting is 4.2V.




⚠ Use the table below to help you decide at what voltage to set the Battery Fail Safe to. The voltage should be set so that under no circumstances can the receiver battery be allowed to drop below its safe discharge level.

| BATTERY TYPE | RECOMMENDED VOLTAGE |
|---|---|
| 4 Cell Ni-Cd 4.8 Volt | 3.8 Volts |
| 5 Cell Ni-Cd 6.0 Volt | 4.6 Volts |
| 4 Cell Ni-MH 4.8 Volt | 4.0 Volts |
| 5 Cell Ni-MH 6.0 Volt | 4.6 Volts |
| 2 Cell Li-Po with 6.0 Volt Regulator | 4.6 Volts |

**IMPORTANT** When the receiver battery voltage drops to the programmed voltage setting, the throttle servo will quickly cycle up and down in 1 minute intervals. The Bind LED on the receiver will also illuminate RED. When this occurs, we strongly suggest you land as soon as possible and recharge your receiver battery.

## 10.TRAINER (TRAINER SYSTEM)

The SD-10G transmitter features a Trainer System that allows you to connect two SD-10G transmitters together for the purpose of training a new pilot or for training a more experienced pilot on a new model.

During use, one transmitter acts as the Master (Instructor) and the other transmitter acts as the Slave (Student). The Instructor controls the Student's model as long as the Trainer Switch is released. Once the Instructor maneuvers the model to a safe altitude, the Instructor holds the Trainer Switch and the Student has control of the model. The Student will have control of the model as long as the Instructor holds the Trainer Switch. Once the Trainer Switch is released, the Instructor will have control of the model once again. If at any time the Instructor feels that the Student is in a situation that endangers the model, the Instructor releases the Trainer Switch and control of the model returns instantly to the Instructor.

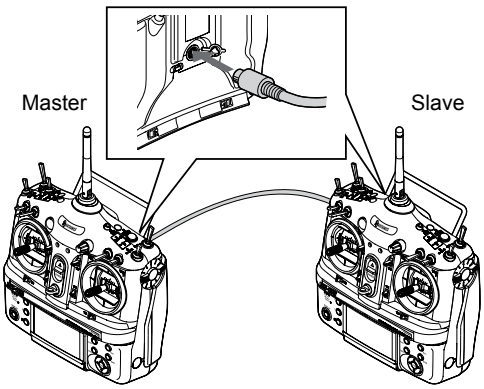
In addition, when the SD-10G transmitter is set to MASTER mode, the option of Activating or Inhibiting the four basic flight controls of the Student's transmitter can be made. When a control stick is Inhibited, that specific control surface cannot be operated by the Student. This is useful when the Instructor does not want the Student to worry about using one or more controls.

**IMPORTANT INFORMATION ABOUT THE TRAINER SYSTEM**

- The Trainer System is compatible ONLY with another SD-10G transmitter.
- You **MUST** use the SD-10G Trainer Cable. See your local Airtronics dealer for more information and availability.
- During use, the Master transmitter is turned ON and the Slave transmitter is turned OFF. Take precaution that the Slave transmitter not be turned ON during use.
- Both transmitters must be programmed identically for the Trainer System to function properly. For example, servo reversing, centering, end points, and other settings must be identical.
- In the default configuration, the Trainer function is not assigned to a switch. We strongly suggest assigning the Trainer function to the spring-loaded switch 21, or to one of the two push-button switches 32 or 34.

**Connecting the Master and Slave Transmitters**

1) Plug one end of the Trainer Cable into the back of one SD-10G transmitter, then plug the other end of the Trainer Cable into the second SD-10G transmitter.




⚠ You **MUST** use the SD-10G Trainer Cable. See your local Airtronics dealer for more information and availability.

The following Modulation configurations can be used:

Master: FH3 to Slave: FH3
Master: FH3 to Slave: FH1
Master: FH1 to Slave: FH3
Master: FH1 to Slave: FH1

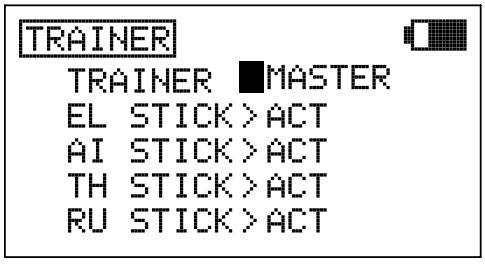
**Activating the Trainer Function (Instructor Transmitter)**

Follow the steps below to Activate the Trainer function on the Instructor's transmitter.

⚠ The Trainer function must be Activated on both transmitters separately. The Instructor's transmitter is set to Master and the Student's transmitter is set to Slave. To Activate the Student's transmitter, see page 38.

1) Press the Navigation Pad ▲▼ to highlight TRAINER, then press the ENTER key to display the TRAINER menu. The cursor will default to TRAINER>INH.

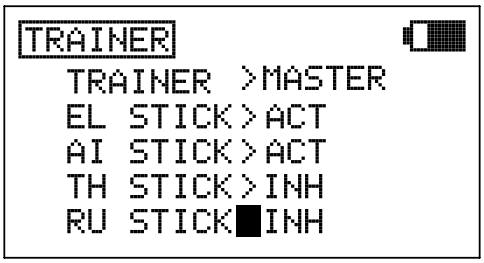
2) Press the YES/+ key to change the current transmitter's Trainer mode to MASTER. TRAINER>MASTER will be displayed and [MS] will be displayed on the Top menu, indicating that the transmitter is operating in MASTER mode.



**Inhibiting Control Sticks**

When the transmitter is set to MASTER mode, the option of Activating or Inhibiting the four basic flight controls of the Student's transmitter can be made. When a control stick is Inhibited, that specific control surface cannot be operated by the Student. This is useful when the Instructor does not want the Student to worry about using one or more controls. For example, TH STICK and RU STICK can be Inhibited so that the Student can focus on controlling only the elevator and aileron controls. In this scenario, the throttle and rudder control surfaces cannot be moved by the Student, even if the Student moves the throttle or rudder control sticks by mistake.

1) Press the Navigation Pad ▲▼ to highlight the control(s) you would like to Inhibit for the Student, then press the YES/+ or NO/- keys to select the INH option.




**IMPORTANT** Control sticks that are set to INH (Inhibited) can still be controlled by the Instructor's transmitter when the Trainer function is in use. For example, if the throttle and rudder are set to INH when the Student is flying, the Student will only be able to control the elevator and aileron controls while the Instructor will be able to control the throttle and rudder controls.

**Activating the Trainer Function (Slave Transmitter)**

Follow the steps below to Activate the Trainer function on the Student's transmitter.

1) From within the System menu, press the Navigation Pad ▲▼ to highlight TRAINER, then press the ENTER key to display the TRAINER menu. The cursor will default to TRAINER>INH.

2) Press the NO/- key to change the transmitter's Trainer mode to SLAVE. TRAINER>SLAVE will be displayed. The RED RF Indicator will go out, the GREEN RF Indicator will blink, and EL will be displayed on the Top menu, indicating that the transmitter is operating in SLAVE mode.


**Using the Trainer Function**

⚠ In the default configuration, the Trainer function is not assigned to a switch. We strongly suggest assigning the Trainer function to the spring-loaded switch 21, or to one of the two push-button switches 32 or 34. If you fly with thumbs, we suggest using one of the two push-button switches. This allows you to comfortably use your index finger to operate the push-button switch. If you fly with fingers, we suggest using the spring-loaded switch. This allows you to comfortably use your middle finger to operate the spring-loaded switch. For information on assigning the Trainer function to a switch, see page 43.

1) The Trainer Cable should be connected between the two transmitters and the Trainer function on both transmitters should be Activated as described previously. The Instructor's transmitter (Master) should be turned ON and the Student's transmitter (Slave) should be turned OFF.

2) Turn on the model you're using for training and verify that the Instructor's transmitter controls the model's control surfaces correctly.

3) Activate the Trainer function by holding the Trainer Switch continuously and verify that the Student's transmitter controls the model's control surfaces correctly.

4) When the Trainer Switch is released, the Instructor will have full control over the model. When the Trainer Switch is held continuously, the Student has control over the model. As soon as the Trainer Switch is released, the Instructor will have full control over the model once again.

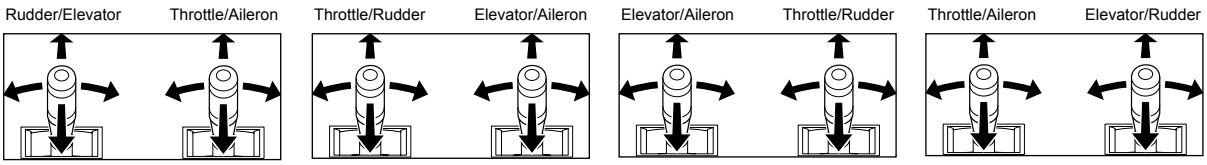
## 11.MODE SETUP (STICK MODES AND CALIBRATION)

The Mode Setup function allows you to change the SD-10G transmitter's Operating Modes. Four Operating Modes are available as shown in the table below. The Mode Setup function also includes a Neutral/Travel function that allows you to calibrate the control sticks to ensure accurate control centering, regardless of servo brand used. The Travel function allows you to adjust the servos to move 100% of their maximum travel if you choose to limit the movement of the control sticks. For example, if you limit the throttle control stick to move only 50% of it's maximum movement, the throttle servo will move only 50% of its maximum travel. The Travel function will allow you to calibrate the servo to move 100% of its maximum travel with only 50% control stick movement.

⚠ In the default configuration, the transmitter is set to Mode 2, which is most commonly used in North America.

If you fly using Mode 1, Mode 3, or Mode 4, you can change the Operating Mode without needing to send the transmitter for service. Changing the Operating Mode requires changing the Mode Setting, swapping the throttle ratchets and spring on the control sticks, then recalibrating the neutral and end-point positions of the control sticks.

| CONTROL STICK | MODE 1 | MODE 2 | MODE 3 | MODE 4 |
|---|---|---|---|---|
| Left-Side Control Stick | Rudder/Elevator | Throttle/Rudder | Elevator/Aileron | Throttle/Aileron |
| Right-Side Control Stick | Throttle/Aileron | Elevator/Aileron | Throttle/Rudder | Elevator/Rudder |



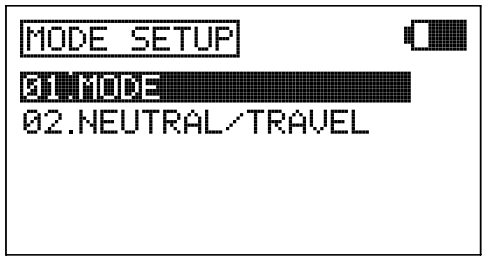

**MODE 1** **MODE 2** **MODE 3** **MODE 4**

⚠ Mode 1 and Mode 3 require swapping the throttle ratchets and spring. Mode 2 and Mode 4 do not.

**Changing Transmitter Operating Modes**

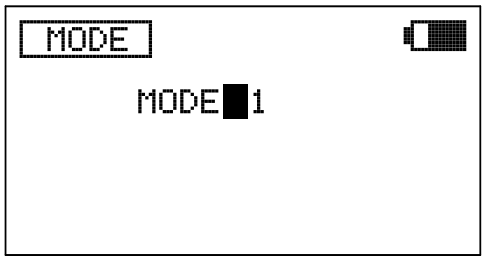
1) Press the Navigation Pad ▲▼ to highlight MODE SETUP, then press the ENTER key to display the MODE SETUP menu. The MODE sub-menu will be highlighted by default.

2) Press the ENTER key to display the MODE menu. The cursor will default to MODE>2.




3) Press the YES/+ or NO/- keys to change the transmitter Operating Mode. Use the table and diagrams above to choose the Operating Mode you desire, for example, MODE>1.

4) Press the END key to return to the MODE SETUP menu.




**Changing Throttle Ratchets and Spring for Mode 1 and Mode 3**

⚠ If you've changed your transmitter to Mode 4 from Mode 2, it's not necessary to change the throttle ratchet and spring. Skip to the Control Stick Calibration - User Option section on page 41.

If you change the transmitter Operating Mode to Mode 1 or to Mode 3, the throttle ratchet and the spring must be swapped, in addition to making the MODE programming change described above. This will ensure correct control stick behavior.

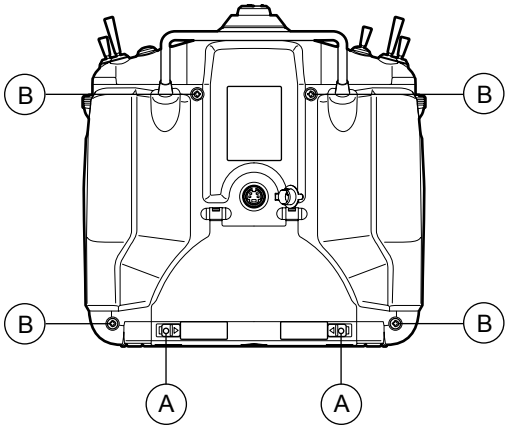
The following tools will be required: # 1 and # 2 Phillips head screwdrivers, small needle nose pliers, and a 1.5mm hex wrench.

**WARNING** Be very careful not to damage any of the components inside the transmitter. This procedure requires modification to the control stick gimbals and requires removal and reinstallation of two electrical connectors. If you do not feel comfortable making these changes, please send the transmitter to Airtronics Customer Service where this procedure can be completed for a small fee.

1) Open the battery cover by first pushing the two latches (A) inward, then by pulling up on the bottom of the battery cover.

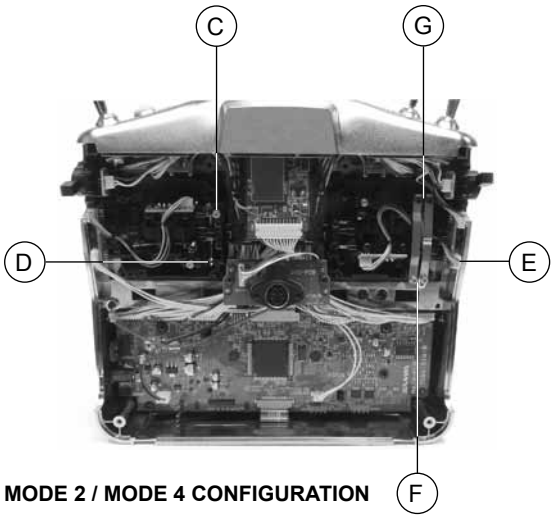
2) Unplug the battery from the transmitter and remove it. Set the battery aside for now.

3) Remove the four Phillips head screws (B) from the back of the transmitter, then very carefully pull the back half of the transmitter off.




⚠ There are no wires attached between the back half of the transmitter and the circuit boards inside the transmitter. When the back half of the transmitter is removed, it can be safely set aside.

⚠ Pull the back half of the transmitter straight off to avoid bending or damaging the battery pins.




**MODE 2 / MODE 4 CONFIGURATION**

4) Carefully pull the spring adjuster block (C) straight up and out of its mount, then carefully pull the return plate (D) up off its hinge at the bottom of the gimbal. Pull it out from under the gimbal pins, using a pair of small needle nose pliers.

5) Very carefully unplug the wire harness (E) from the circuit board.

6) Remove the two throttle ratchet plates by first unscrewing the two socket-cap adjusting screws (F), using a 1.5mm hex wrench, then by unscrewing the two mounting screws (G), using a # 1 Phillips head screwdriver.

7) Remove the throttle ratchet (located directly below the two throttle ratchet plates you just removed) by unscrewing the mounting screw, using a # 1 Phillips head screwdriver. Carefully slide the throttle ratchet off of the wire harness.

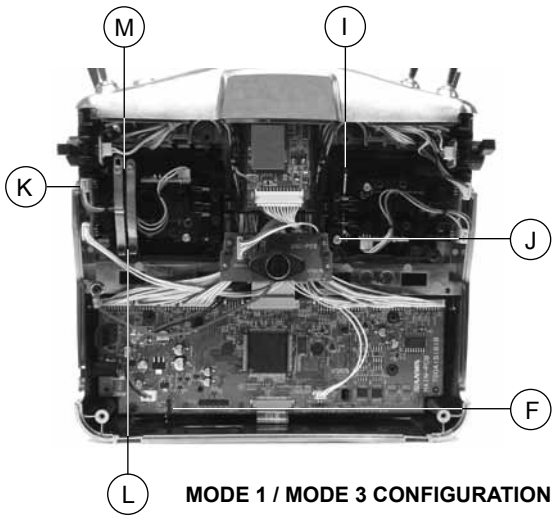
Carefully install the return plate, spring, spring adjuster block, throttle ratchet, and throttle ratchet plates onto the opposite gimbals.

8) Slide the return plate under the gimbal pins, then hook the return plate over the hinge at the top of the gimbal (I). Attach the spring and spring adjuster block assembly to the other side of the return plate, then pull the spring adjuster block up and slide it down into its mount (J).

9) Very carefully unplug the wire harness from the circuit board (K), then slide it though the throttle ratchet. Install the throttle ratchet, using one mounting screw to hold it into place.

10) Carefully plug both wire harnesses back into their circuit boards and push the wires down into the retaining clips to hold them in place.

11) Carefully install the two throttle ratchet plates over the throttle ratchet. Use two Phillips head screws (L) to secure the throttle ratchet plates to the bottom of the gimbal and use two socket-cap adjusting screws (M) to secure the throttle ratchet plates to the top of the gimbal.




**MODE 1 / MODE 3 CONFIGURATION**

⚠ The throttle ratchet plate with a V-Shape in it should be installed toward the outside of the transmitter.

12) Adjust the throttle ratchet plates to your preference. To make the throttle control stick detents less noticeable, loosen the socket-cap screw on the outer ratchet plate, using a 1.5mm hex wrench. To make the throttle control stick detents firmer, tighten the socket-cap screw on the outer ratchet plate, using a 1.5mm socket-cap wrench.

13) Some helicopter pilots prefer to eliminate the throttle ratchet completely. To do this, loosen the socket-cap screw on the outer ratchet plate , using a 1.5mm hex wrench until the throttle detents can't be felt anymore. Next, tighten the socket-cap screw on the inner throttle plate, until you're satisfied with the throttle control stick resistance.

14) Test the control sticks to ensure that they are operating smoothly and to your liking.

15) When satisfied with the results carefully reinstall the back half of the transmitter, then reinstall the transmitter battery and plug it back in. The battery connector is polarized and can therefore be plugged in only one way.

⚠ When reinstalling the back half of the transmitter, be very careful that you don't bend or otherwise damage the battery pins (F). These long battery pins should be carefully slid through the matching holes in the back half of the transmitter before pushing it down into place.

**IMPORTANT** After changing the Operating Mode, it is necessary to recalibrate the control sticks to ensure accurate control centering and maximum travel. See the Control Stick Calibration - User Option section below.

**Control Stick Calibration - User Option**

The Control Stick Calibration function serves several different purposes:

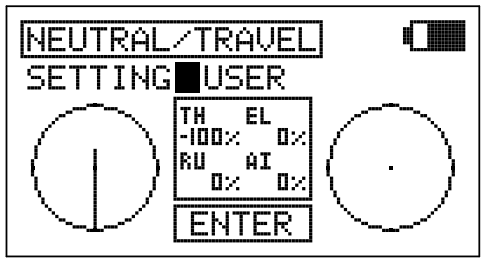
- After changing the Operating Mode, it is necessary to recalibrate the control sticks to ensure accurate control centering and maximum travel.
- Different brands of servos center differently, so if you use a different brand of servos, or mix different brands of servos with Airtronics servos, the Neutral position should be recalibrated to ensure optimum centering.
- Some pilots prefer to use Stick Stops to limit the movement of the control sticks. The Travel function allows you to adjust the servos to move 100% of their maximum travel if you choose to limit the movement of the control sticks.

⚠ Limiting the maximum movement of the control sticks while maintaining 100% servo travel will increase the sensitivity of the servos. We recommend setting negative Exponential to soften the control feel around neutral. For more information, see page 75 (AERO), page 116 (GLID), or page 159 (HELI).

1) Press the Navigation Pad ▲▼ to highlight MODE SETUP, then press the ENTER key to display the MODE SETUP menu. The MODE sub-menu will be highlighted by default.

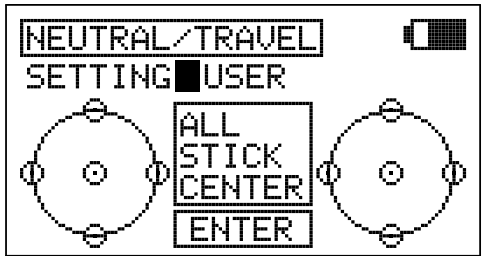
2) Press the Navigation Pad ▼ to highlight NEUTRAL/TRAVEL, then press the ENTER key to display the NEUTRAL/TRAVEL menu. The cursor will default to SETTING>FACTORY.

3) Press the YES/+ or NO/- keys to choose the SETTING>USER option.

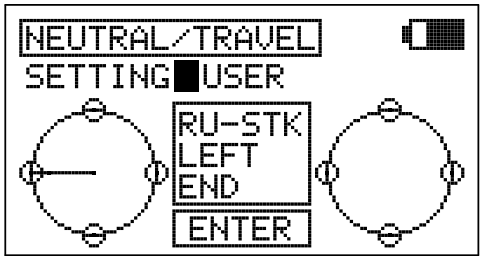



4) Press the ENTER key to begin the NEUTRAL/CALIBRATION process. ALL STICK CENTER will be displayed in the prompt window.

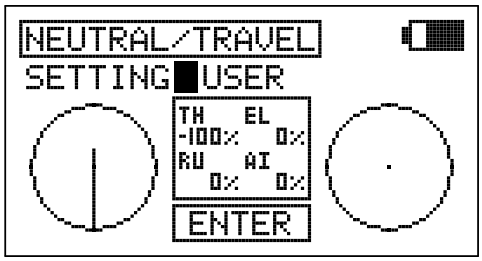
5) Center both control sticks, then press the ENTER key.



6) The RU-STK LEFT END prompt will be displayed. Move the rudder control stick completely to the left, then press the ENTER key.




7) Follow the prompts to calibrate the remaining control stick movements, making sure to press the ENTER key after each control stick movement to continue to the next prompt. When completed, the Calibration Top screen will be displayed.

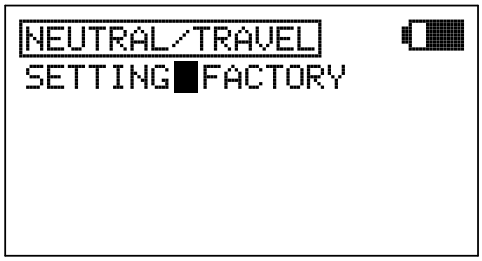



**Control Stick Calibration - Factory Option**

The Control Stick Calibration Factory Option overrides any previously programmed User calibration settings and restores the Factory default Neutral and maximum Travel positions.

1) From within the NEUTRAL/TRAVEL menu, press the YES/+ or NO/- keys to choose the SETTING>FACTORY option. This will reset the control stick calibration parameters to the default settings.

NEUTRAL/TRAVEL factory default setting is 1.5ms/Maximum travel.

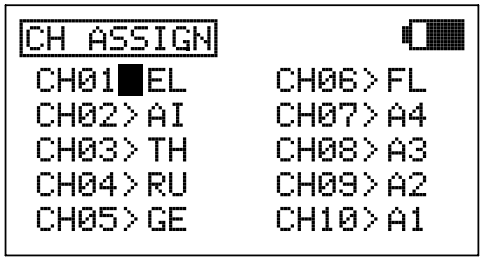



## *12.CH ASSIGN (RECEIVER CHANNEL ASSIGNMENTS)*

The Channel Assignment function allows you to assign a Control function to a different receiver channel. This is helpful if you are using a receiver that is less than 10 Channels. For example, your aircraft features two aileron servos, two elevator servos, one rudder servo, and one throttle servo, and you are using a 7-Channel receiver. In the default configuration, the Right Elevator servo would need to be plugged into receiver channel slot 8. However, since you're using a 7-Channel receiver, there is no receiver channel slot 8. Using the Channel Assignment function, you can assign the Right Elevator Control function to the unused receiver channel slot 5. This allows you to take advantage of your aircraft's advanced control setup without the need to use a 10-Channel receiver.

**Changing Channel Assignments**

1) Press the Navigation Pad ▲▼ to highlight CH ASSIGN, then press the ENTER key to display the CH ASSIGN menu. The cursor will default to CH01>EL.




⚠ If desired, you can assign the same Control function to two different channel numbers. For example, if you use two rudder servos in tandem, you can assign the rudder Control function to channels 4 and 5. Please note that you will not have independent servo adjustments, such as Reversing, Centering, End Points.

⚠ The Control functions displayed will vary depending on the Model Type and Model Type selection options you have chosen. For a complete list of available Control functions, see the tables on the next page.

2) Press the Navigation Pad ▲▼◀▶ to move the cursor to the channel number you would like to change the Control function of, for example, CH05>GE.

3) Press the YES/+ or NO/- keys to change the Control function associated with the highlighted channel number. The Control function that you choose will now be controlled by that receiver channel.

4) Repeat the same procedures to change the Control function for the desired remaining channels.


⚠ A description of each of the available Control functions is shown in the table below. Not all Control functions will be available to change. Control functions displayed in the CH ASSIGN menu will vary based on the Model Type and Model Type selection options you have programmed.

| ABBR. | FUNCTION |
|---|---|
| EL | Elevator |
| AI | Aileron |
| TH | Throttle |
| RU | Rudder |
| GE | Gear |
| FL | Flap |
| EL2 | Elevator 2 |
| LA | Left Aileron |
| RA | Right Aileron |

| ABBR. | FUNCTION |
|---|---|
| LT | Left Throttle |
| RT | Right Throttle |
| LOA | Left Outside Aileron |
| ROA | Right Outside Aileron |
| LIA | Left Inside Aileron |
| RIA | Right Inside Aileron |
| LF | Left Flap |
| RF | Right Flap |
| MT | Motor |

| ABBR. | FUNCTION |
|---|---|
| LOF | Left Outside Flap |
| ROF | Right Outside Flap |
| LIF | Left Inside Flap |
| RIF | Right Inside Flap |
| GY | Gyro |
| PI | Pitch |
| GV | Governor |
| A1~A4 | AUX1~AUX4 |

⚠ The channel numbers in the CH ASSIGN menu correspond to the receiver channel slot numbers. When you plug your servos into the receiver, plug them into the channel slot numbers using the CH ASSIGN menu as a guide. The Surface menu will indicate which servos to plug into which channel slots in the receiver, too. For example, if you set up an AERO model with 2 aileron servos and dual elevator servos, the Surface menu will show exactly which channel slots in the receiver to plug each of the servos into. For more information, see page 61.

## *13.SW ASSIGN (TRANSMITTER SWITCH ASSIGNMENTS)*

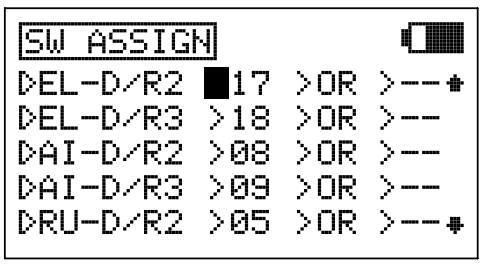
The Switch Assignment function allows you to assign a function, such as Gear, Dual Rate, F-Mode, Snap Roll, Stopwatch, etc, to any of the 9 three-position switches and the 2 push-button switches (31 positions total). Switches can be programmed to operate in the standard fashion, or they can be made to operate interdependently using the Boolean conditions OR/AND. Switches can also be programmed to always be ON.

⚠ The Switch Assignment functions and the default Switch Position Numbers displayed will vary depending on the Model Type you have chosen. For a complete list of the default Switch Assignments, including the different Switch Assignment functions available, see the tables on page 45.

**Changing or Adding Switch Assignments**

1) Press the Navigation Pad ▲▼ to highlight SW ASSIGN, then press the ENTER key to display the SW ASSIGN menu. The cursor will default to EL-D/R2>17.

⚠ The control sticks can also be programmed to function as switches (Stick Switches) and those switches can be assigned to a function. For more information, see page 46.

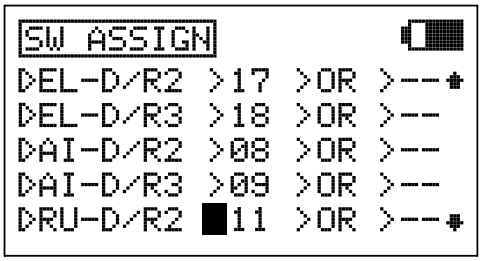



⚠ You can assign multiple functions to one switch by assigning the same Switch Position Number for each function. For example, you could assign Elevator Dual Rate 2, Aileron Dual Rate 2, and Rudder Dual Rate 2 on one switch so that all three Dual Rate functions can be changed at once.

Switches are assigned based on function and number. Notice that all transmitter switches have a number that corresponds to the switches position. This Switch Position Number is what is changed in the SW ASSIGN menu to assign the switch to a particular function. For example, in the default AERO configuration, EL-D/R2 (Elevator Dual Rate 2) is assigned to switch position 17 and EL-D/R3 (Elevator Dual Rate 3) is assigned to switch position 18. With the switch in position 16, the Default Rate (Elevator Dual Rate 1) is Active. Elevator Dual Rate 2 will Activate when the switch is moved to position 17 and Elevator Dual Rate 3 will Activate when the switch is moved to position 18.

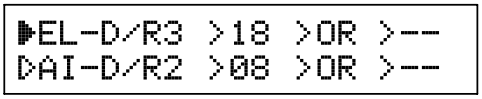
2) Press the Navigation Pad ▲▼ to highlight the function you want to assign to a switch. Functions that are assigned to a switch will display a Switch Position Number and functions that aren't assigned to a Switch Position Number will display dashes.

3) Determine the Switch Position Number on the transmitter that you want to assign the highlighted function to, then press the YES/+ or NO/- keys to change the Switch Position Number to match.




**IMPORTANT** Switch Position Numbers can be changed from -- (Unassigned), 01~34 (Three-Position Switches and Push-Button Switches), S1~S5 (Stick Switches), or ON (Always On). For information on programming Stick Switches, see page 46.

⚠ When a function is Activated by a switch, the triangle to the left of the function will become highlighted. This allows you to visually see how the different switches are operating as you assign them. For example, Elevator Dual Rate 3 is currently Active and Aileron Dual Rate 2 is currently OFF.




**Using Boolean Conditions OR/AND**

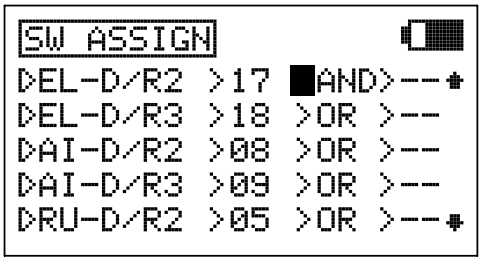
Switches can be made to operate interdependently using the Boolean conditions OR/AND.

**OR -** You can assign a function to two different switches and have them operate independently. For example, you can assign the Stopwatch function to push-button switch position 34 OR to push-button switch position 32. When either switch is depressed, the Stopwatch function will Activate.

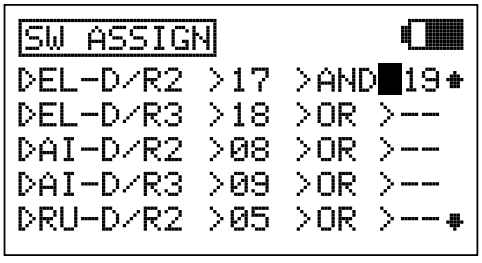
**AND -** You can assign a function to two different switches and make them dependent on one another. For example, the Snap Roll function can be assigned to switch position 21 AND to switch position 24 (Gear). Doing this will allow the Snap Roll function to work ONLY when the landing gear is retracted. This makes the operation of the Snap Roll function dependent on the landing gear being retracted. This would prevent a crash if you accidently hit the Snap Roll switch instead of the landing gear switch after takeoff.

1) Press the Navigation Pad ▲▼ to highlight the function you want to change the Boolean condition for. If a Switch Position Number isn't assigned to the function yet, do that now by following the previous procedures.

2) Press the Navigation Pad ▶ to move the cursor to >OR. To change the Boolean condition to AND, press the YES/+ or NO/- keys.




3) Press the Navigation Pad ▶ to move the cursor to >--, then press the YES/+ or NO/- keys to change the Switch Position Number to the desired switch position.



⚠ A description of each of the available Switch Assignment functions, along with the default Switch Position Numbers for the AERO, GLID, AND HELI model types are shown in the table below. Functions that are blacked out are not relevant to that Model Type and functions that are blank are available, but are not assigned to a Switch Position Number.

| FUNCTION | AERO | GLID | HELI |
|---|---|---|---|
| EL-D/R2 (Elevator Dual Rate 2) | 17 | 17 | 14 |
| EL-D/R3 (Elevator Dual Rate 3) | 18 | 18 | 15 |
| AI-D/R2 (Aileron Dual Rate 2) | 08 | 08 | 08 |
| AI-D/R3 (Aileron Dual Rate 3) | 09 | 09 | 09 |
| RU-D/R2 (Rudder Dual Rate 2) | 05 | 11 | 11 |
| RU-D/R3 (Rudder Dual Rate 3) | 06 | 12 | 12 |
| F-MODE 1 (Flight Mode 1) | 11 | 23 | 23 |
| F-MODE 2 (Flight Mode 2) | 12 | 24 | 24 |
| F-MODE 3 (Flight Mode 3) | | 30 | |
| F-MODE 4 (Flight Mode 4) | | S1 | 06 |
| SNAP RL1 (Snap Roll 1) | | | |
| SNAP RL2 (Snap Roll 2) | | | |
| AUX1L (Auxiliary 1 Low) | | | |
| AUX1H (Auxiliary 1 High) | | | |
| AUX2L (Auxiliary 2 Low) | | 13 | 01 |
| AUX2H (Auxiliary 2 High) | | 15 | 03 |
| AUX3L (Auxiliary 3 Low) | 01 | | 28 |
| AUX3H (Auxiliary 3 High) | 03 | | 30 |
| AUX4L (Auxiliary 4 Low) | | | |
| AUX4H (Auxiliary 4 High) | | | |
| GEAR (Gear) | 24 | | |
| TH-CUT (Throttle Cut) | 32 | | 32 |
| FLAP1 (Flap 1) | 14 | | |
| FLAP2 (Flap 2) | 15 | | |
| EL ▸ FL (Elevator to Flap Mixing) | | | |
| AI ▸ RU (Aileron to Rudder Mixing) | | | |
| TH ▸ EL (Throttle to Elevator Mixing) | | | |
| TH ▸ RU (Throttle to Rudder Mixing) | | | |
| RU ▸ EL (Rudder to Elevator Mixing) | | | |
| RU ▸ AI (Rudder to Aileron Mixing) | | | |
| RU ▸ TH (Rudder to Throttle Mixing) | | | |
| FL ▸ EL (Flap to Elevator Mixing) | | | |
| IDL-DOWN (Idle Down) | | | |
| TH-HOLD (Throttle Hold) | | | |
| CH-DLY1 (Channel Delay 1) | | | |
| CH-DLY2 (Channel Delay 2) | | | |

| FUNCTION | AERO | GLID | HELI |
|---|---|---|---|
| CH-DLY3 (Channel Delay 3) | | | |
| CH-DLY4 (Channel Delay 4) | | | |
| CH-DLY5 (Channel Delay 5) | | | |
| C-MIX1 (Compensation Mixing 1) | | | |
| C-MIX2 (Compensation Mixing 2) | | | |
| C-MIX3 (Compensation Mixing 3) | | | |
| C-MIX4 (Compensation Mixing 4) | | | |
| C-MIX5 (Compensation Mixing 5) | | | |
| INC (Increase Value) | | | |
| DEC (Decrease Value) | | | |
| START (Start Stopwatch) | | 19 | 19 |
| STOP (Stop Stopwatch) | | 19 | 19 |
| RHYTHM1 (Rhythm Timer 1) | | | |
| RHYTHM2 (Rhythm Timer 2) | | | |
| RHYTHM3 (Rhythm Timer 3) | | | |
| TRAINER (Trainer) | | | |
| FLAP (Flap) | | | |
| MOTOR (Motor) | | | |
| AI ▸ RU1 (Aileron to Rudder Mixing 1) | | 01 | |
| AI ▸ RU2 (Aileron to Rudder Mixing 2) | | 02 | |
| AI ▸ RU3 (Aileron to Rudder Mixing 3) | | 03 | |
| AI ▸ FL1 (Aileron to Flap Mixing 1) | | | |
| AI ▸ FL2 (Aileron to Flap Mixing 2) | | | |
| FL ▸ EL (Flap to Elevator Mixing) | | | |
| GE ▸ EL (Gear to Elevator Mixing) | | | |
| MT ▸ EL (Motor>Elevator Mixing) | | | |
| CB ▸ EL (Camber>Elevator Mixing) | | | |
| EL ▸ CB (Elevator>Camber Mixing) | | | |
| GOVER2 (Governor 2) | | | |
| GOVER3 (Governor 3) | | | |
| GYRO2 (Gyro 2) | | | 17 |
| GYRO3 (Gyro 3) | | | 18 |
| EL ▸ TH (Elevator to Throttle Mixing) | | | |
| AI ▸ TH (Aileron to Throttle Mixing) | | | |
| RU ▸ TH (Rudder>Throttle Mixing) | | | |

GLID Only | HELI Only | Not Relevant

## 14.STICK SWITCH (STICK SWITCH ASSIGNMENTS)

The Stick Switch function allows you to convert one or more control stick axes into a switch (Stick Switch), then assign a function to that Stick Switch, using the procedures in the SW ASSIGN menu section. For example, if you are flying a glider that features spoilers, you can assign the Flap function to the throttle control stick. When the throttle control stick is pushed all the way forward, the spoilers are retraced. When you pull the throttle control stick all the way down, the spoilers deploy. This is useful for making spot landings where you need to deploy the spoilers quickly and accurately to reduce lift. Being able to place this function on the throttle control stick is extremely convenient and user-friendly. Five programmable Stick Switch axes are available. Either side of the Stick Switch can be programmed ON or OFF and the Point that the Stick Switch turns ON and OFF can be adjusted. An audible tone can also be programmed to indicate when the Stick Switch turns ON and OFF.

⚠ After a Stick Switch is programmed, it must be assigned to a function as described in the SW ASSIGN menu section. Stick Switches are denoted in the SW ASSIGN menu as S1 through S5. For more information, see page 43.

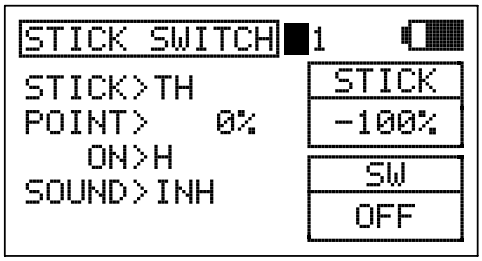
**Choosing a Stick Switch Axis**

1) Press the Navigation Pad ▲▼ to highlight STICK SWITCH, then press the ENTER key to display the STICK SWITCH menu. The cursor will default to STICK SWITCH>1.

2) Press the YES/+ or NO/- keys to choose which Stick Switch to program. You can program up to 5 different stick switches. If this is the first Stick Switch you're programming, choose STICK SWITCH>1.

3) Press the Navigation Pad ▼ to highlight STICK>EL.

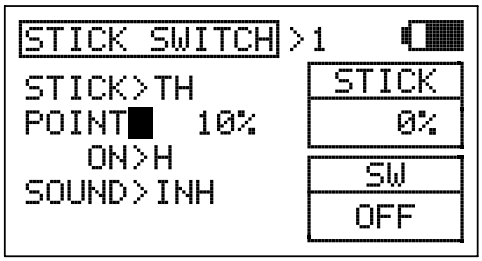
4) Press the YES/+ or NO/- keys to choose which control stick axis you would like to use as a Stick Switch. Available functions will vary based on the Model Type currently selected.




**Setting the ON/OFF Point**

1) Press the Navigation Pad ▼ to highlight POINT>0%. This is the point at which the Stick Switch will turn ON or OFF.

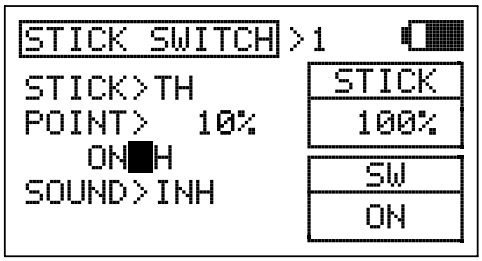
2) Move the control stick to the Point at which you want the Stick Switch to turn ON or OFF, then press the YES/+ key. The ON/OFF Point will be displayed as a percentage of control stick movement For example, POINT>10% will be displayed.




⚠ The current position of the control stick is displayed in the STICK dialog box. If you want the ON/OFF Point to be at the neutral position, press the YES/+ and NO/- keys at the same time to choose 0% regardless of control stick position.

3) Press the Navigation Pad ▼ to highlight ON>H.

4) Press the YES/+ or NO/- keys to program the side that the Stick Switch will turn ON. Choose from H (High) or L (Low). For example, if you program the Throttle control stick ON/OFF Point at 10% and ON>H, the switch function will Activate at 10% and greater movement. The switch function will be OFF at 9% and less movement. The ON and OFF status is displayed in the SW dialog box.




**Stick Switch Sound**

1) Press the Navigation Pad ▼ to highlight SOUND>INH.

2) Press the YES/+ or NO/- keys to choose which sound option you desire to use. When set to INH, no audible tone will be heard.

**ON<>OFF -** An audible tone is heard when the Stick Switch turns ON and when the Stick Switch turns OFF.

**ON>OFF -** An audible tone is heard only when the Stick Switch turns OFF.

**OFF>ON -** An audible tone is heard only when the Stick Switch turns ON.

## 15.TIMER (STOPWATCH, RHYTHM, INTEGRAL, AND SYSTEM TIMERS)

The Timer function consists of four different types of timers. A Stopwatch timer, a Rhythm timer, an Integral timer, and a System timer. The Stop Watch timer and the Rhythm timer can be programmed separately for each individual model. The Stop Watch timer, the Integral timer, and the System timer status can each be displayed on the Top menu. The Stop Watch and the three individual Rhythm timers can each be controlled by their own switch. The Stop Watch can also be controlled directly from the Top menu using the YES/+ and NO/- keys so that you don't need to enter the TIMER menu each time you need to use it.

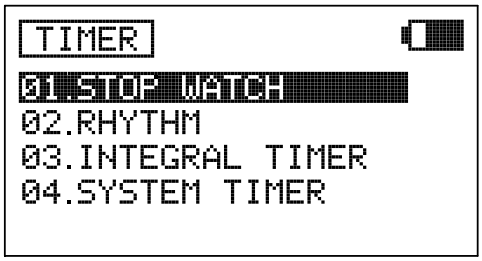


**Stop Watch Timer**

The Stop Watch timer is used to either count down from a programmed Start time (Count Down mode) or to count up from zero if no Start time is programmed (Count Up mode). In Count Down mode, an audible tone will sound in 1 second intervals when the Stop Watch reaches 10 seconds from zero. When zero is reached, a long audible tone will sound and the Stop Watch will begin to count up. In Count Up mode, an audible tone will sound at 1 minute intervals to remind you that the count down time (zero) has been surpassed. The Stop Watch timer can be utilized for a number of different uses, but one of the more popular uses is to use it as a fuel usage indicator to remind you to land within an allotted amount of time to ensure that your model doesn't run out of fuel.

1) Press the Navigation Pad ▲▼ to highlight TIMER, then press the ENTER key to display the TIMER menu. The STOP WATCH sub-menu will be highlighted by default.

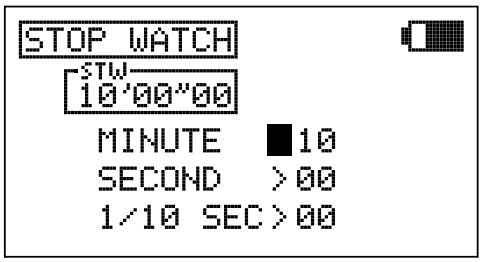
2) Press the ENTER key to display the STOP WATCH menu. The cursor will default to MINUTE>00.




**Setting the Stop Watch Timer**

1) The Minute, Second, and 1/10 Second times can be set independently. Press the Navigation Pad ▲▼ to highlight the time interval you would like to program, then press the YES/+ or NO/- keys to set the desired Start time. The Start time will be displayed in the STW dialog box.

⚠ The Stop Watch timer is displayed in Minutes, Seconds, and 1/10 Seconds. 00' (Minutes) 00" (Seconds) 00 (1/10 Seconds).



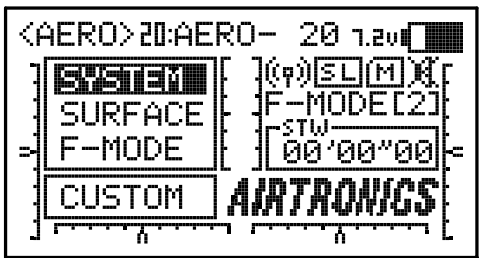

**Using the Stop Watch Timer**

1) By default, the Stop Watch timer is displayed in the Timer Display (STW) on the Top menu. In this configuration, the Stop Watch timer can be controlled using the YES/+ and NO/- keys.

   **START -** Press the YES/+ key to Start the Stop Watch timer.

   **STOP -** Press the YES/+ key again to Stop the Stop Watch timer.

   **RESET -** Press the YES/+ and NO/- keys at the same time to Reset the Stop Watch timer to the programmed Start Time.




2) The Stop Watch timer can be assigned to a switch, which can make it more convenient to control. For more information, see page 43. To turn the Stop Watch timer ON and OFF, assign the same Switch Position Number for both the START and the STOP functions in the SW ASSIGN menu. For example, assign both the START function and the STOP function to Switch Position 33. Pressing the push-button switch 33 once will Start the Stop Watch timer and pressing it again will Stop the Stop Watch timer.

⚠ In order to control the Stop Watch timer using the YES/+ and NO/- keys, the Stop Watch timer **MUST** be displayed on the Top menu as indicated by the STW dialog box. If the Stop Watch timer is assigned to a switch, the Stop Watch timer can be controlled by the switch even if it's not displayed on the Top menu. In this situation, if you need to Reset the Stop Watch timer, you would need to do so through the STOP WATCH menu.

⚠ The Stop Watch timer can be used in Count Up mode by starting the Stop Watch timer from zero.

**Rhythm Timer**

The Rhythm timer can be programmed to provided a selected sequence of audible tones, which can be used for pacing aerobatics or for practicing precision landings. Three separate Rhythm timers can be programmed and each Rhythm timer can be turned ON separately by assigning them to different switch positions. Each Rhythm timer features five programmable Types. Within each Type, the Start time, the Interval time, the Sound, and the Count can be programmed individually. This allows for a near infinite combination of audible tones to suit nearly any situation.

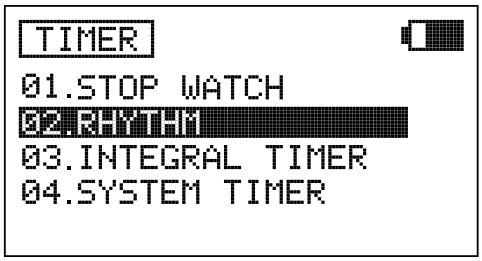
⚠ Unlike other timers, the Rhythm timers are not displayed on the Top menu. They operate strictly in the background.

⚠ After programming a RHYTHM timer (either RHYTHM 1, RHYTHM 2, OR RHYTHM 3), it must be assigned to a Switch Position Number as described in the SW ASSIGN menu section. For more information, see page 43.

**IMPORTANT** Once a Rhythm timer is started, it will continue to run until the Count finishes. If you need to stop the Rhythm timer before the Count finishes, open the Rhythm timer menu, highlight INTERVAL, then press the YES/+ and NO/- keys at the same time to Reset the INTERVAL to 00". When set to 00", the Rhythm timer will stop. To restart the Rhythm timer, set the Interval to the desired setting.

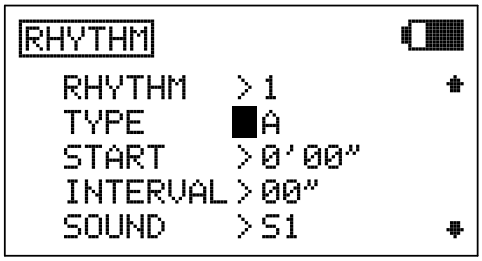
1) Press the Navigation Pad ▲▼ to highlight TIMER, then press the ENTER key to display the TIMER menu. The STOP WATCH sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight RHYTHM, then press the ENTER key to display the RHYTHM menu.




3) The cursor will default to RHYTHM>1. Press the YES/+ or NO/- keys to choose which Rhythm timer you would like to program. There are three separate Rhythm timers that can be programmed. If this is the first Rhythm timer you're programming, choose RHYTHM>1.

4) Five separate Rhythm Types can be programmed independently for each of the three Rhythm timers. Types are not pre-programmed. They consist of the Start time, the Interval time, the Sound, and the Count you program in the next few procedures. Press the Navigation Pad ▼ to highlight TYPE>A.

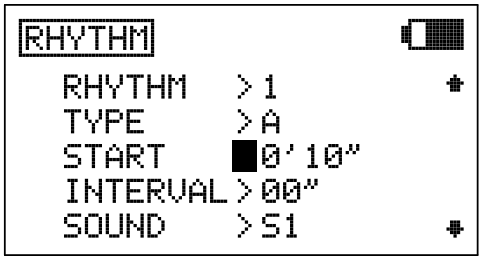



**Setting the Start Time**

The Start Time is the time (in Minutes and Seconds) that the Rhythm timer will begin after the Rhythm timer is switched ON. For example, if set to 10 Seconds, the Rhythm timer will Start 10 seconds after being turned ON.

1) Press the Navigation Pad ▼ to highlight START>0' 00", then press the YES/+ or NO/- keys to set the desired Start time.

START time setting range is 0' 00" to 9' 59".

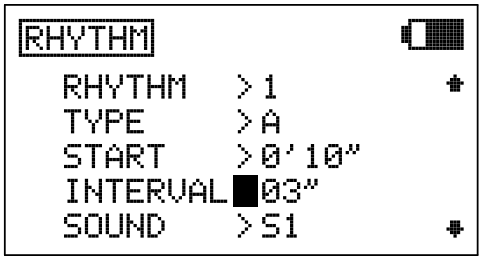



**Setting the Interval Time**

The Interval time is the time (in Seconds) that the audible tone will sound while the Rhythm timer is switched ON. For example, if set to 3 seconds, the audible tone will sound once every 3 seconds.

1) Press the Navigation Pad ▼ to highlight INTERVAL>00", then press the YES/+ or NO/- keys to set the desired Interval time.

INTERVAL time setting range is 00" to 59".

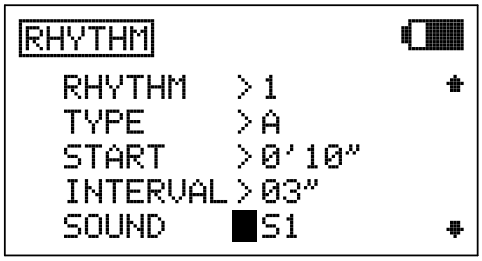


**Setting the Sound (Audible Tone)**

The Sound setting adjusts the length and type of the audible tone played at each Interval time. For example, if set to S1, a short single audible tone will be played at each Interval time.

1) Press the Navigation Pad ▼ to highlight SOUND>S1, then press the YES/+ or NO/- keys to set the desired Sound.

SOUND setting range is **S1** - Short single audible tone, **S2** - Short double audible tone, **L1** - Long single audible tone, and **L2** - Long double audible tone.



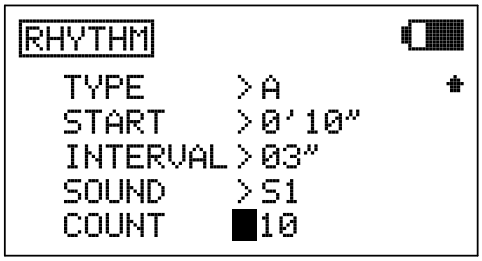

**Setting the Count**

The Count setting indicates how many times the audible tone will repeat while the Rhythm timer is ON. For example, when set to 10, the audible tone will repeat 10 times, then turn OFF.

1) Press the Navigation Pad ▼ to highlight COUNT>0, then press the YES/+ or NO/- keys to set the desired amount of times you would like the audible tone to sound while the Rhythm timer is ON.

COUNT setting range is 0 to 60.

⚠ To hear an audible tone, you **MUST** set the COUNT number to a value other than 0. If a value of 0 is selected, the Rhythm timer will not operate.




2) If it's necessary to create a more complex Rhythm timer to suit your application, choose TYPE>B, C, D, or E and repeat the previous procedures to set different Start time, Interval time, Sound, and Count options. See the example below.

**Using the Rhythm Timer**

1) The Rhythm timers operate in the background and require that each one be assigned to a Switch Position Number to be turned ON. To start a Rhythm timer, turn ON the switch you assigned the Rhythm timer to.

In this example, when the Rhythm timer is turned ON, the TYPE A options will begin 10 seconds later. A short single audible tone will sound every 3 seconds, a total of 10 times. At the same time, the TYPE B options will begin 15 seconds after the Rhythm timer is turned ON. A long double audible tone will sound every 5 seconds, a total of 5 times.

| TIMER 1 | |
|---|---|
| TYPE | A |
| START | 0' 10" |
| INTERVAL | 03" |
| SOUND | S1 |
| COUNT | 10 |

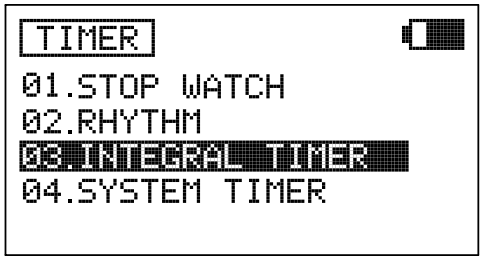
| TIMER 1 | |
|---|---|
| TYPE | B |
| START | 0' 15" |
| INTERVAL | 05" |
| SOUND | L2 |
| COUNT | 5 |

**Integral Timer**

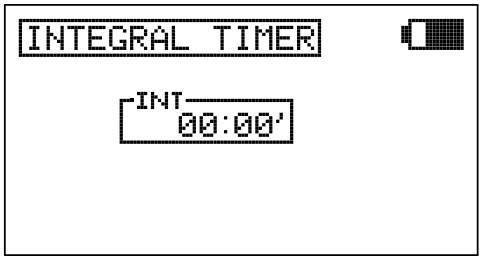
The Integral timer is a Count Up timer that displays the time that the SD-10G transmitter has been turned ON (either via the Power switch or the Display key) since the last time the Integral timer was Reset. The Integral timer is not model-specific, so, for example, it is good to use as an indicator to chart the usage time between battery charges.

1) Press the Navigation Pad ▲▼ to highlight TIMER, then press the ENTER key to display the TIMER menu. The STOP WATCH sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight INTEGRAL TIMER, then press the ENTER key to display the Integral timer.



3) The total time that the SD-10G transmitter has been turned ON since the last time the Integral timer was Reset is displayed in the INT dialog box. Press the YES/+ and NO/- keys at the same time to Reset the Integral timer to zero.




⚠ The Integral timer is displayed in Hours and Minutes. 00 (Hours) 00' (Minutes).

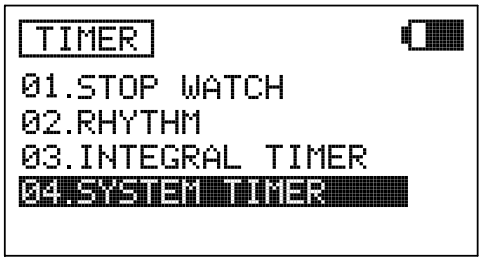
⚠ The Integral timer can be displayed in the Timer Display (INT) on the Top menu. For more information, see page 55.

**System Timer**

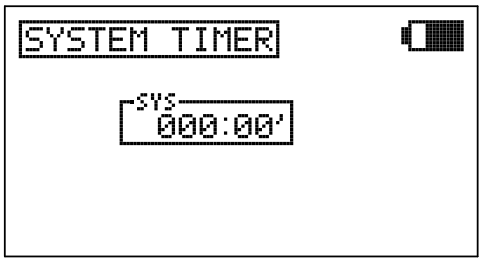
The System timer is a Count Up timer that displays the total time that the SD-10G transmitter has been turned ON (either via the Power switch or the Display key) since it was new. **The System timer cannot be Reset.**

1) Press the Navigation Pad ▲▼ to highlight TIMER, then press the ENTER key to display the TIMER menu. The STOP WATCH sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight SYSTEM TIMER, then press the ENTER key to display the System timer.




3) The total time that the SD-10G transmitter has been turned ON since it was new is displayed in the SYS dialog box.




⚠ The System timer is displayed in Hours and Minutes. 000 (Hours) 00' (Minutes).

⚠ The System timer can be displayed in the Timer Display (SYS) on the Top menu. For more information, see page 55.

## *16.DATA COPY (MODEL PROGRAMMING DATA COPY)*

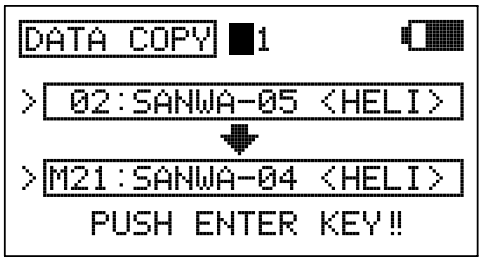
The Data Copy function allows you to copy the programming data from one model to another model. This is convenient if you have similar Model Types. For example, if you have two aerobatic aircraft that are similar, you can copy the programming data from the first model to the second model to use as a base to start fine-tuning the programming for the second model. Programming data can be copied in single-model format or in groups of ten models. Programming data can also be copied from the transmitter to the Memory Expansion Card and from the Memory Expansion Card to the transmitter* so that you can share programming data with fellow SD-10G transmitter users in the field.

*Memory Expansion Card available separately. See your local Airtronics dealer for more information.

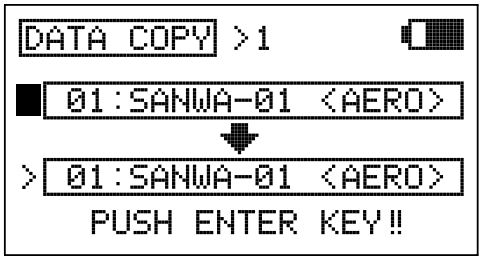
⚠ Like many SD-10G programming features, Switch Assignments are model-specific. If you would like to keep the same Switch Assignments from model-to-model for continuity, use the Data Copy function to save the time and effort necessary to re-program the Switch Assignments for each model.

**Copying Model Data (Single-Model Format)**

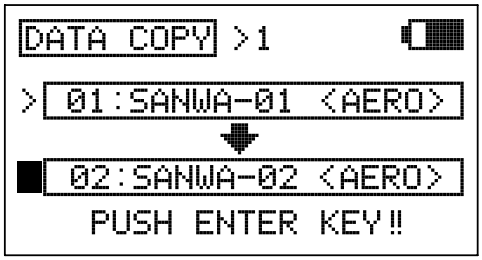
1) Press the Navigation Pad ▲▼ to highlight DATA COPY, then press the ENTER key to display the DATA COPY menu. The cursor will default to DATA COPY>1.



2) Press the Navigation Pad ▼ to highlight the upper model dialog box. The currently selected model will be displayed. Press the YES/+ or NO/- keys to select the model you would like to copy the programming data FROM.



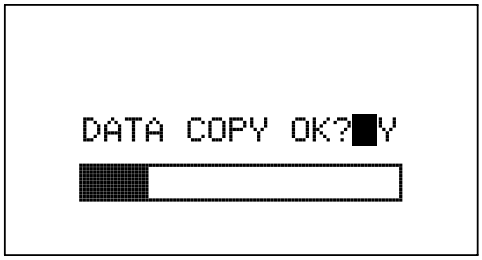

3) Press the Navigation Pad ▼ to highlight the lower model dialog box, then press the YES/+ or NO/- keys to select the model you would like to copy the programming data TO.




⚠ It's not possible to copy the programming data from one model to the same model. If you attempt to execute this, SAME MODEL?? will be displayed and the process will not execute.

4) Press then ENTER key. DATA COPY OK?>Y will be displayed.

5) Press the YES/+ key to begin the Data Copy process. When the Data Copy process is completed the DATA COPY menu will be displayed, indicating that the programming data has been copied.




⚠ All model-specific programming data, including the Model Name will be copied to the selected model.

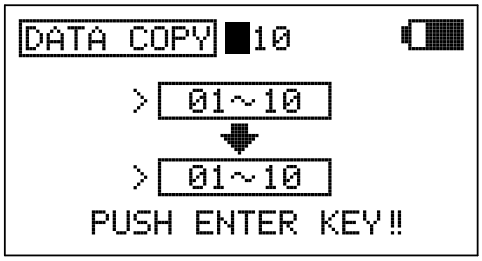
⚠ If you want to go back and change the models or you don't want to copy the model programming data for any reason, press the NO/- or END keys.

⚠ Models stored on the Memory Expansion Card (if installed), are denoted with an 'M' (i.e. M21:SANWA-04).

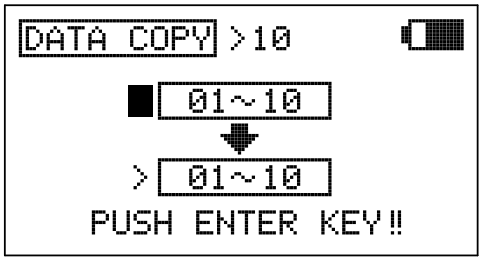
**Copying Model Data (Ten-Model Group Format)**

1) Press the Navigation Pad ▲▼ to highlight DATA COPY, then press the ENTER key to display the DATA COPY menu. The cursor will default to DATA COPY>1.

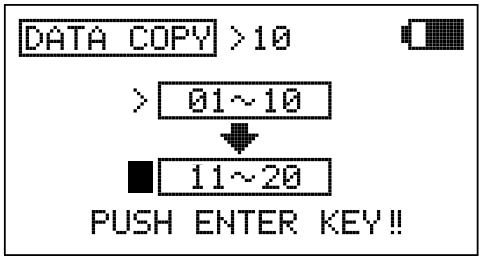
2) Press the YES/+ or NO/- keys to select DATA COPY>10.




3) Press the Navigation Pad ▼ to highlight the upper model group dialog box, then press the YES/+ or NO/- keys to select the group of ten models you would like to copy the programming data FROM.



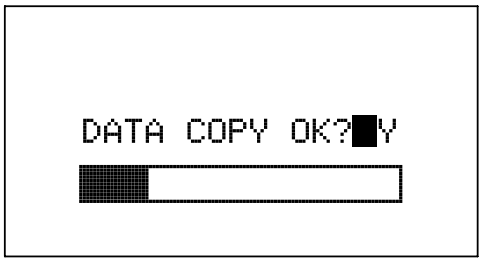
4) Press the Navigation Pad ▼ to highlight the lower model group dialog box, then press the YES/+ or NO/- keys to select the group of ten models you would like to copy the programming data TO.




⚠ It's not possible to copy the programming data from one model group to the same model group. If you attempt to execute this, SAME MODEL?? will be displayed and the process will not execute.

5) Press then ENTER key. DATA COPY OK?>Y will be displayed.

6) Press the YES/+ key to begin the Data Copy process. When the Data Copy process is completed the DATA COPY menu will be displayed, indicating that the programming data has been copied.




⚠ All model-specific programming data, including the Model Names will be copied to the selected model group.

⚠ If you want to go back and change the models or you don't want to copy the model programming data for any reason, press the NO/- or END keys.

⚠ Models stored on the Memory Expansion Card (if installed), are denoted with an 'M' (i.e. M21:SANWA-04).

## *17.DATA RESET (MODEL PROGRAMMING DATA RESET)*

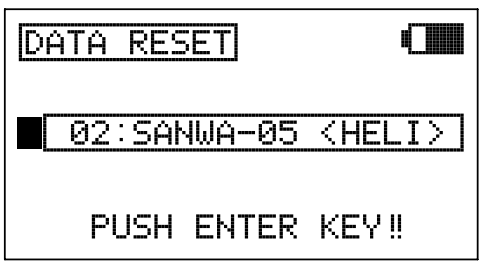
The Data Reset function allows you to Reset model-specific programming data for each model back to the factory default settings. Individual programming settings can be Reset to the factory default settings by pressing the YES/+ and NO/- keys at the same time, however, this is time consuming if you want to change all of the selected model's programming settings back to default. Using the Data Reset function makes doing this much quicker and more accurate, since nothing will be missed.

⚠ Although Model Type and Modulation are model-specific, the Data Reset function does **NOT** Reset them. This is useful if you have two similar models, but different programming needs for each. For example, if you have two similar gliders that use the same Model Type but different programming, you can copy the first model's programming data, using the Data Copy function, then use the Data Reset function to Reset the programming data except the Model Type. This saves time by not needing to re-enter the Model Type.

**Resetting Model Data**

1) Press the Navigation Pad ▲▼ to highlight DATA RESET, then press the ENTER key to display the DATA RESET menu. The cursor will default to the currently selected model.

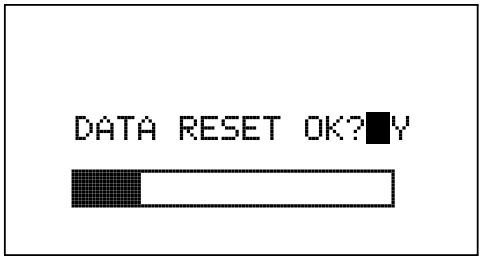
2) Press the YES/+ or NO/- keys to select the model you would like to Reset the programming data for.




**IMPORTANT** When you use the Data Reset function, **ALL** model-specific Flight Mode data, Surface Menu data, and model-specific System programming, such as Switch Assignments, Model Name, Fail Safe settings, and Stick Switches will be Reset to the factory default settings. Model Type and Modulation settings will **NOT** be Reset.

3) Press then ENTER key. DATA RESET OK?>Y will be displayed.

4) Press the YES/+ key to begin the Data Reset process. When the Data Reset process is complete the DATA RESET menu will be displayed, indicating that the programming data has been Reset.




⚠ If you want to go back and change the model or you don't want to Reset the model programming data for any reason, press the NO/- or END keys.

⚠ Models stored on the Memory Expansion Card (if installed), are denoted with an 'M' (i.e. M21:SANWA-04).



## *18.DATA TRANSFER (MODEL PROGRAMMING DATA TRANSFER)*

The Data Transfer function allows you to transfer programming data from the SD-10G transmitter to your PC and from your PC to your SD-10G transmitter*. This allows you to share programming data with fellow modelers via email or the Internet. For example, you can copy your current model's programming data to your PC, then email the data to your fellow modeler that flies the same model. He or she can then copy that programming data to their SD-10G transmitter so that it can be used with their model.

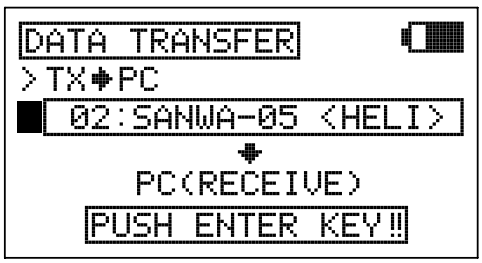
*USB adapter cable and software required available separately. See your local Airtronics dealer for more information. Visit http://www.airtronics.net to download software and check system compatibility and installation instructions.

**IMPORTANT** Prior to using the Data Transfer function, your PC must be turned ON, the Data Transfer software must be running, and the SD-10G transmitter must be connected to the PC using the USB adapter cable. One side of the USB adapter cable plugs into a USB port on your PC and the other side plugs into the DIN connector on the back of the SD-10G transmitter.

**Transferring Programming Data from TX to PC**

1) Press the Navigation Pad ▲▼ to highlight DATA TRANSFER, then press the ENTER key to display the DATA TRANSFER menu. The cursor will default to >TX ▶ PC. PC (RECEIVE) will be displayed.

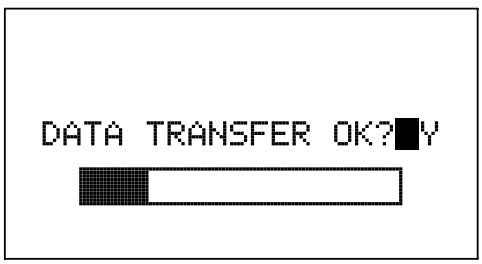
2) Press the Navigation Pad ▼ to highlight the currently selected model, then press the YES/+ or NO/- keys to select the model you would like to copy the programming data FROM to your PC.




3) Press then ENTER key. DATA TRANSFER OK?>Y will be displayed.

4) Press the YES/+ key to begin the Data Transfer process. When the Data Transfer process is completed the DATA TRANSFER menu will be displayed, indicating that the data has been transferred.

⚠ All model-specific programming data, including the Model Name will be transferred to your PC.




⚠ If there is a problem with the Data Transfer procedure, for example, if the SD-10G transmitter is not connected to your PC, TIMEOUT ERROR will be displayed. If this occurs, press the any key to return to the Data Transfer menu.

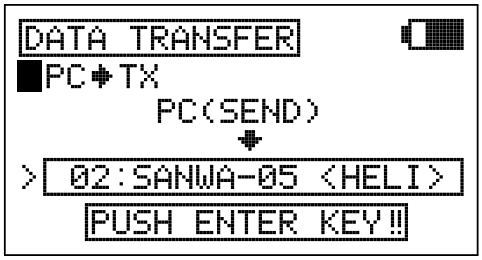
⚠ If you want to go back and change the model or you don't want to transfer the model programming data for any reason, press the NO/- or END keys.

⚠ Models stored on the Memory Expansion Card (if installed), are denoted with an 'M' (i.e. M21:SANWA-04).

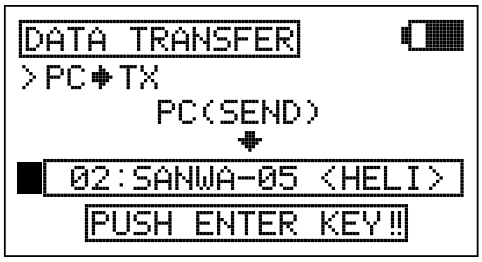
**Transferring Programming Data from PC to TX**

1) Press the Navigation Pad ▲▼ to highlight DATA TRANSFER, then press the ENTER key to display the DATA TRANSFER menu. The cursor will default to >TX ▸ PC.

2) Press the YES/+ or NO/- keys to choose >PC ▸ TX. PC (SEND) will be displayed.

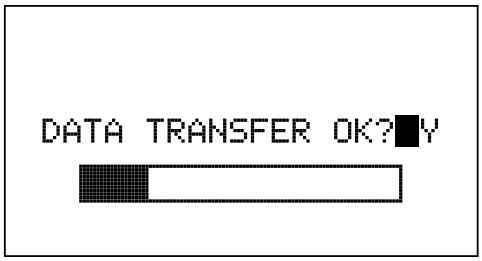



3) Press the Navigation Pad ▼ to highlight the currently selected model, then press the YES/+ or NO/- keys to select the model you would like to copy the programming data FROM to your TX.




4) Press then ENTER key. DATA TRANSFER OK?>Y will be displayed.

5) Press the YES/+ key to begin the Data Transfer process. When the Data Transfer process is completed the DATA TRANSFER menu will be displayed, indicating that the data has been transferred..




⚠ All model-specific programming data, including the Model Name will be transferred to your TX.

⚠ If there is a problem with the Data Transfer procedure, for example, if the SD-10G transmitter is not connected to your PC, TIMEOUT ERROR will be displayed. If this occurs, press the any key to return to the Data Transfer menu.

⚠ If you want to go back and change the model or you don't want to transfer the model programming data for any reason, press the NO/- or END keys.

⚠ Models transferred to the Memory Expansion Card (if installed), will be denoted with an 'M' (i.e. M21:SANWA-04).

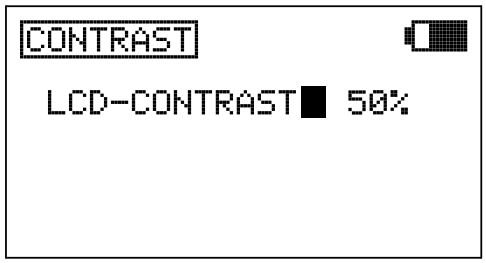
## *19.CONTRAST (LCD MENU CONTRAST)*

The Contrast function allows you to change the contrast of the LCD Display to make it easier to read in all types of lighting conditions. In general, increasing the contrast will make the LCD Display easier to read in bright sunlight and decreasing the contrast will make the LCD Display easier to read in low light levels.

**Adjusting Contrast**

1) Press the Navigation Pad ▲▼ to highlight CONTRAST, then press the ENTER key to display the CONTRAST menu. The cursor will default to LCD-CONTRAST>50%.

2) Press the YES/+ or NO/- keys to increase or decrease the LCD-CONTRAST setting in 5% increments.




CONTRAST setting range is 0% to 100%.

⚠ Increasing LCD Display Contrast can drain the battery more quickly than using a decreased (lower) setting.

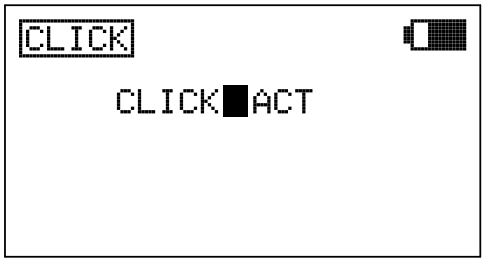
## 20.CLICK (KEY-PRESS AUDIBLE TONES)

The Click function allows you to set the audible key tones ON (ACT) or OFF (INH).

**Setting Click (Audible Key Tone)**

1) Press the Navigation Pad ▲▼ to highlight CLICK, then press the ENTER key to display the CLICK menu. The cursor will default to CLICK>ACT.

2) Press the YES/+ or NO/- keys to select INH (Inhibit) or ACT (Active). When set to ACT, an audible tone will sound with each key-press. When set to INH, no audible tone will sound with each key-press.




⚠ When set to INH, will be displayed on the Top menu.

## 21.ALARM (TRANSMITTER ALARMS)

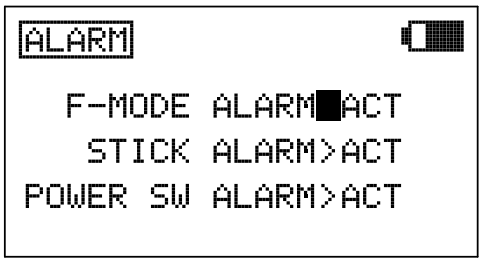
The Alarm function allows you to set a selection transmitter alarms ON (ACT) or OFF (INH).

⚠ Turning an alarm OFF will disable that particular alarm and you will no longer receive a warning that the transmitter is in a non-normal state. For a description of alarms, see page 14.

**Changing the Alarm Status**

1) Press the Navigation Pad ▲▼ to highlight ALARM, then press the ENTER key to display the ALARM menu. The cursor will default to F-MODE>ACT.

2) Press the Navigation Pad ▲▼ to highlight the specific alarm you want to change the status of, then press the YES/+ or NO/- keys to select INH (Inhibit) or ACT (Active). When set to ACT, the alarm will Activate. When set to INH, the alarm will be Deactivated.

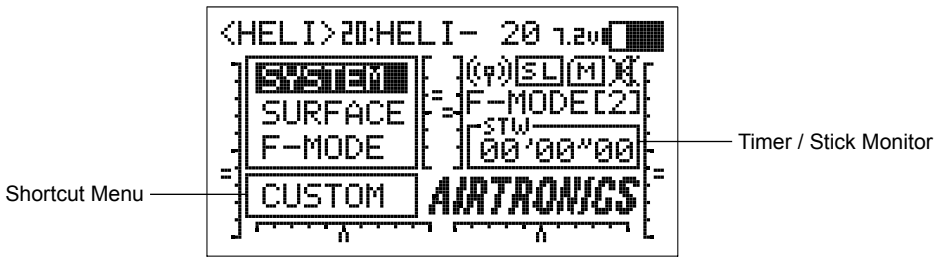



| AERO | GLIDER | HELI |
|---|---|---|
| F-MODE ALARM | F-MODE ALARM | F-MODE ALARM |
| STICK ALARM* | POWER SWITCH ALARM | STICK ALARM* |
| POWER SWITCH ALARM | | POWER SWITCH ALARM |

*Throttle control stick only.

## 22.TOP MENU ARRANGE (TOP MENU DISPLAY ARRANGE)

The Top Menu Arrange function allows you to customize several Top menu display elements. Both the Shortcut Menu and the Timer / Stick Monitor display can be changed. The Shortcut Menu can be changed to display a shortcut to any number of menus including the Custom menu. This makes it convenient to access your most-used menu without the need to scroll through the SYSTEM or F-MODE menus to access it. The Timer / Stick Monitor display can be changed to display three different timers or four different stick monitors.

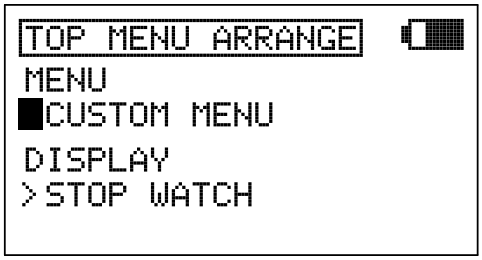



⚠ Options displayed will vary depending on the Model Type you have chosen. For a list of available options, see page 56.

**Choosing Shortcut Menu Options**

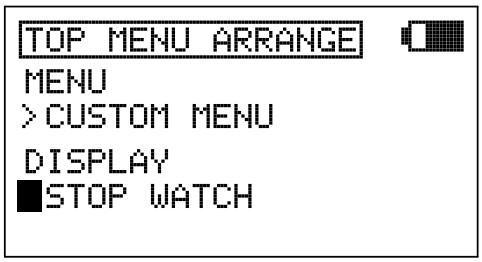
1) Press the Navigation Pad ▲▼ to highlight TOP MENU ARRANGE, then press the ENTER key to display the TOP MENU ARRANGE menu. The cursor will default to MENU>CUSTOM MENU.

2) Press the YES/+ or NO/- keys to choose which Menu shortcut option you would like to be displayed in the Shortcut menu.




**Choosing Display Options**

1) From within the TOP MENU ARRANGE menu, press the Navigation Pad ▼ to highlight DISPLAY, then press the YES/+ or NO/- keys to choose which Display option you would like to be displayed in the Timer / Stick Monitor display.




⚠ Options displayed in the Timer / Stick Monitor Display are not selectable. They are displayed only. The option displayed in the Shortcut menu is selectable. Press the Navigation Pad ▼ to highlight the Shortcut menu option, then press the ENTER key to open that menu. The Shortcut menu and Display options are shown in the tables below.

| MENU | AERO | GLID | HELI |
|---|---|---|---|
| CUSTOM MENU | X | X | X |
| MEMORY PACK | X | X | X |
| SYSTEM INFORMATION | X | X | X |
| SX MONITOR | X | X | X |
| STICK MONITOR | X | X | X |
| D/R | X | X | X |
| EXP | X | X | X |
| LANDING | | X | |
| CAMBER | | X | |
| CAMBER POINT | | X | |
| TH-CURVE | X | | X |
| PI-CURVE | | | X |
| TH-HOLD | X | | |
| TH-CUT | X | | X |
| HOV-TH | | | X |
| HOV-PI | | | X |
| IDLE DOWN | X | | |
| AI DIFFERENTIAL | X | X | |
| OFFSET | X | | X |
| CH DELAY | X | X | X |
| TRIM | X | X | X |
| TRIM STEP | X | X | X |

| MENU | AERO | GLID | HELI |
|---|---|---|---|
| TRIM AUTH | X | X | X |
| GYRO | | | X |
| GOVERNOR | | | X |
| CROSS-TRIM | X | X | |
| SNAP-ROLL | X | | |
| MIXING | X | X | X |
| C-MIX | X | X | X |
| VR ASSIGN | X | X | X |
| F-MODE COPY | X | X | X |
| F-MODE DELAY | X | X | X |
| F-MODE NAME | X | X | X |

| DISPLAY | AERO | GLID | HELI |
|---|---|---|---|
| STOP WATCH | X | X | X |
| INTEGRAL TIMER | X | X | X |
| SYSTEM TIMER | X | X | X |
| STICK MONITOR TH | X | | X |
| STICK MONITOR AI | X | X | X |
| STICK MONITOR EL | X | X | X |
| STICK MONITOR RU | X | X | X |
| STICK MONITOR FL | | X | |

## 23.CUSTOM MENU (CUSTOM MENU DISPLAY)

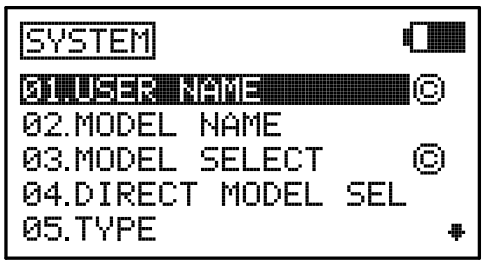
The Custom menu function allows you to store shortcuts to your most-used System menu and F-Mode menu selections. You can store up to 10 menu shortcuts. Each shortcut is denoted with a Ⓢ or a Ⓕ to indicate which menu the shortcut belongs to - either the System menu or the F-Mode menu, respectively. If desired, the Top Menu Arrange function can then be used to create a shortcut to the Custom menu, providing you with a quick and easy way to access your most-used menu functions without the need to scroll through the SYSTEM or F-MODE menus to access them.

**IMPORTANT** Custom menu shortcuts are not added or removed directly from the Custom menu. They are added or removed only from the System menu or the F-Mode menu. Sub-menus cannot be added to the Custom menu.

### Adding Custom Menu Shortcuts

1) While navigating through either the System menu or the F-Mode menu, pressing the YES/+ key when a menu selection is highlighted will add a shortcut to that menu selection to the Custom menu.

⚠ Selections added to the Custom menu are denoted by a ©.



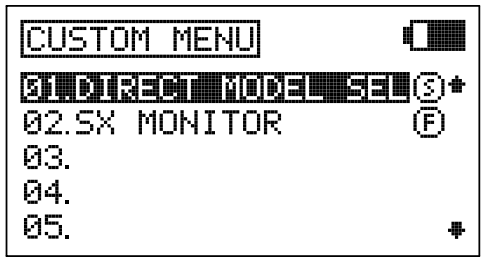

### Deleting Custom Menu Shortcuts

1) While navigating through either the System menu or the F-Mode menu, highlight the System menu or the F-Mode menu selection that is denoted with a ©, then press the YES/+ key to delete that shortcut from the Custom menu. The © icon will be removed, indicating that the menu selection shortcut will not be displayed in the Custom menu.

### Using the Custom Menu

1) Press the Navigation Pad ▲ ▼ to highlight CUSTOM MENU, then press the ENTER key to display the CUSTOM MENU menu. 01 will be highlighted by default and Custom menu shortcuts that you added will be displayed.

⚠ Each shortcut is denoted with a Ⓢ or a Ⓕ to indicate which menu the shortcut belongs to - either the System menu or the F-Mode menu, respectively.




2) Press the Navigation Pad ▲ ▼ to highlight the desired menu shortcut, then press the ENTER key to go directly to that menu.

⚠ If desired, the Top Menu Arrange function can then be used to create a shortcut to the Custom menu, providing you with a quick and easy way to access your most-used menu functions without the need to scroll through the SYSTEM or F-MODE menus to access them. For more information, see page 55.

## 24.MEMORY PACK (MEMORY EXPANSION CARD)

The Memory Pack function allows you to utilize the Memory Expansion Card* which allows you to store up to 40 models (20 in the SD-10G transmitter and 20 on the Memory Expansion Card). Use the Memory Pack function to Initialize either a new or a previously used Memory Expansion Card, and to view a List of the models currently saved to the Memory Expansion Card. The Memory Expansion Card can be removed and installed into a different SD-10G transmitter, so that model-specific programming data can be shared with fellow SD-10G transmitter owners in the field.

*Memory Expansion Card available separately. See your local Airtronics dealer for more information.

⚠ When the Memory Expansion Card is installed and Initialized, it is treated as an extension of the SD-10G transmitter's internal model memory, therefore, model-specific programming data can be created, copied, deleted, etc., directly through the various System menu selections. You do not need to enter the Memory Pack menu to make changes to models stored on the Memory Expansion Card.

**WARNING** The SD-10G transmitter must be turned OFF when installing or removing the Memory Expansion Card. Failure to do so can result in damage to the Memory Expansion Card and/or the SD-10G transmitter.

**Installing the Memory Expansion Card**

1) Open the battery cover by first pushing the two latches inward, then by pulling up on the bottom of the battery cover.

2) Carefully remove the plug that covers the Memory Expansion Card slot (adjacent to the battery connector) by firmly pulling it up and out.

3) Make sure that the SD-10G transmitter is turned OFF, then carefully install the Memory Expansion Card, making sure that the tab on the bottom of the Memory Expansion Card lines up with the groove in the Memory Expansion Card slot and that the mounting pins line up with the pin receptacle. Gently push the Memory Expansion Card down into place and verify that it's fully seated.

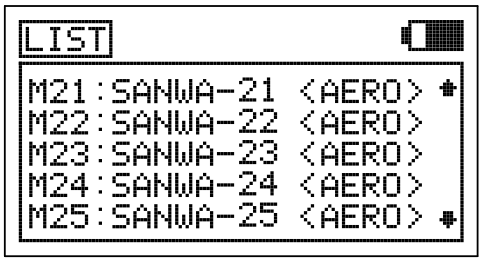
⚠ If the Memory Expansion Card is brand new or if you want to reset the programming data of the models stored on the Memory Expansion Card, see the Initializing the Memory Expansion Card section below.

**Listing Contents of the Memory Expansion Card**

1) Turn the SD-10G transmitter ON. Highlight the System menu, then press the ENTER key.

2) Press the Navigation Pad ▲ ▼ to highlight MEMORY PACK, then press the ENTER key to display the MEMORY PACK menu. The LIST sub-menu will be highlighted by default.


3) Press the ENTER key to display the models currently stored on the Memory Expansion Card. The Model Number, Model Name, and Model Type (AERO, GLID, or HELI) will be displayed for each model.




⚠ If the Memory Expansion Card is not installed, or if it is not Initialized, PACK NOT READY? will be displayed. If this occurs, press any key to return to the Memory Pack menu.

⚠ The Memory Expansion Card stores up to 20 models. Models stored on the Memory Expansion Card are denoted with an 'M'. Models stored on the Memory Expansion Card are numbered M21~M40.

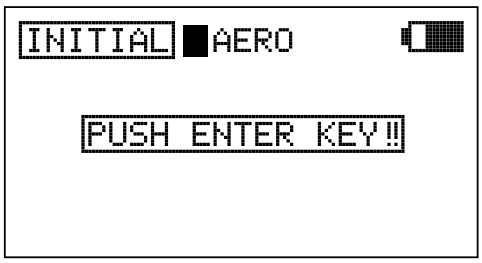
**Initializing the Memory Expansion Card**

After the Memory Expansion Card is installed, but before it can be used, it must be Initialized.

1) Turn the SD-10G transmitter ON, press the Navigation Pad ▲ ▼ to highlight the System menu, then press the ENTER key.

2) Press the Navigation Pad ▲ ▼ to highlight MEMORY PACK, then press the ENTER key to display the MEMORY PACK menu. The LIST sub-menu will be highlighted by default.

3) Press the Navigation Pad ▼ to highlight INITIAL, then press the ENTER key to display the INITIAL menu. The cursor will default to INITIAL>HELI and PUSH ENTER KEY!! will be displayed.



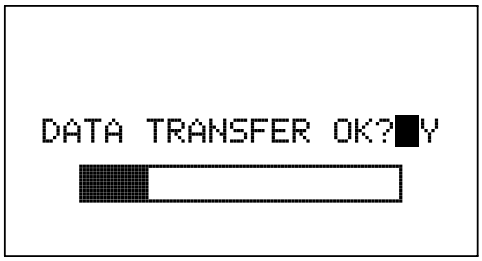

4) Press the YES/+ or NO/- keys to choose which default Model Type you would like to Initialize the Memory Expansion Card with. Choose from AERO, GLID, or HELI.

⚠ When Initialized, all 20 models will be of the same Model Type you chose to Initialize the Memory Expansion Card with. Model Types can be changed after Initialization through the Model Select and Model Type menus.

**WARNING** If there is already programming data stored on the Memory Expansion Card, Initializing the Memory Expansion Card will erase all programming data and replace it with the default programming data of the Model Type you have chosen.

5) Press then ENTER key. DATA INITIAL OK?>Y will be displayed.

6) Press the YES/+ key to begin the Initialization process. When the Initialization process is complete, COMPLETE! (20) MODEL will be displayed. Press the END key twice to return to the MEMORY PACK menu.




⚠ The Initialization process will take several minutes. Ensure that the transmitter battery is charged sufficiently, and don't turn the transmitter OFF during the Initialization process.

⚠ If there is a problem with the Initialization procedure, for example, if the Memory Expansion Card is not installed, PACK NOT READY? will be displayed. If this occurs, press any key to return to the Data Initial menu.

## *25.SYSTEM INFORMATION (SYSTEM SOFTWARE UPDATE)*

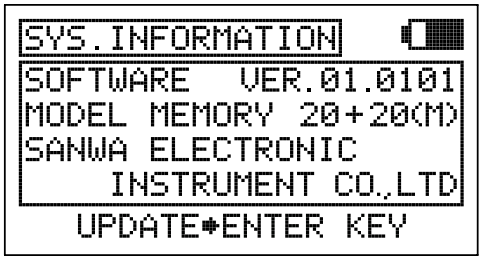
The System Information function allows you to view the current software version and the model memory capacity of your SD-10G transmitter. It also allows you to update the SD-10G transmitter operating software via your PC* to ensure that you are always running the latest software version.

*USB adapter cable required available separately. See your local Airtronics dealer for more information.

⚠ For information on obtaining software updates, please visit http://www.airtronics.net.

**Viewing System Information**

1) Press the Navigation Pad ▲▼ to highlight SYS INFORMATION, then press the ENTER key to display the SYS INFORMATION menu and UPDATE ▶ ENTER KEY will be displayed. This menu displays the software version currently in use, and the current model memory capacity, including model memory stored on the Memory Expansion Card (if installed).




**Updating Operating Software**

**IMPORTANT** Prior to updating the operating software, your PC must be turned ON, the Update software must be running, and the SD-10G transmitter must be connected to the PC using the USB adapter cable. One side of the USB adapter cable plugs into a USB port on your PC and the other side plugs into the DIN connector on the back of the SD-10G transmitter.

1) From within the SYS INFORMATION menu, press the ENTER key. READY?>Y will be displayed.

2) Press the YES/+ key. The current software version will be displayed along with the updated software version.

3) To begin the Update process, press the YES/+ key. When the Update process is completed the SYS INFORMATION menu will be displayed and the SOFTWARE VER should display the software version you updated to, indicating that the data has been transferred.

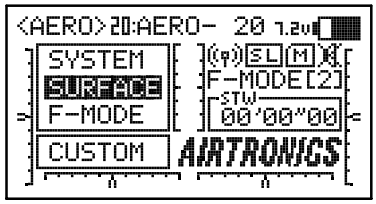

**IMPORTANT** After completing the Update process, but before using the SD-10G transmitter, turn the SD-10G transmitter OFF, then turn it back ON.

⚠ If there is a problem with the Update procedure, turn the SD-10G transmitter OFF, then turn it back ON and run the Update procedure again.

# SURFACE MENU CONTENTS

# SURFACE MENU

The Surface menu is where all basic adjustments to the control surfaces of your model are made. Adjustment Options include Reversing, Centering, End Point Adjustments, Limits, and CCPM and Swashplate settings (HELI Model Type), in an easy-to-follow spreadsheet format. Individual Adjustment Options can also be 'locked' to prevent unwanted or accidental changes.



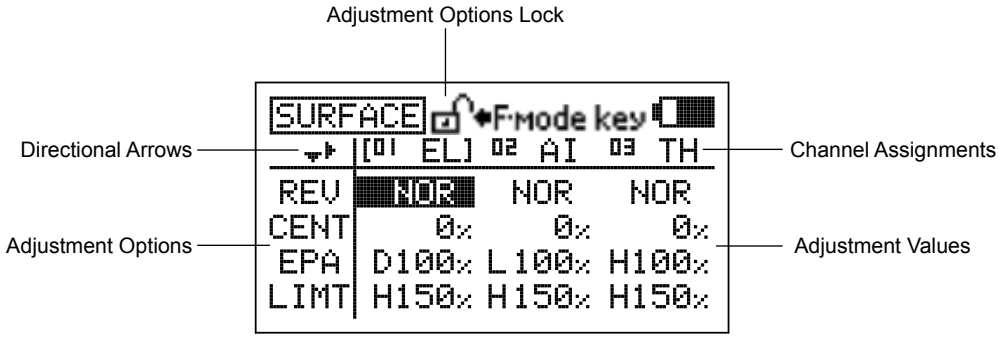
**Surface Menu**

Surface menu Adjustment Options are the same for AERO, GLID, and HELI Model Types. There are also several HELI Model Type-specific Adjustment Options. These are noted in the section headers (HELI Model Type Only).

## *GENERAL INFORMATION*

To access the Surface menu, turn the transmitter ON. From the Top menu, press the Navigation Pad ▲▼ to highlight SURFACE, then press the ENTER key to display the Surface menu.

Unless otherwise noted, all programming changes take effect immediately. From within any menu, press the END key continuously to return to the Top menu.




If the Top menu is not displayed when you turn the transmitter ON, continuously press the END key until the Top menu is displayed.

**Directional Arrows:** Indicates in which direction you can navigate through the Surface menu using the Navigation Pad.

**Adjustment Options:** Indicates which control surface options can be adjusted. Adjustment Options vary based on the current Model Type.

**Adjustment Options Lock:** Indicates if the individual Adjustment Options are either Locked or Unlocked. When the padlock is Open (Unlocked), Adjustment Values for that specific Adjustment Option can be changed. When the padlock is Closed (Locked), Adjustment Values for that specific Adjustment Option cannot be changed.

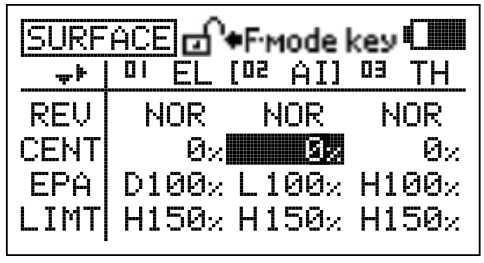
**Channel Assignments:** Indicates the actual channel/control surface that the Adjustment Values affect. Channel Assignments vary based on the current Model Type, specific Model Type selection options, and Channel Assignment options.

**Adjustment Values:** Indicates the current values for each of the Channel Assignment Adjustment Options. Highlight a specific Adjustment Value, then press the YES/+ or NO/- keys to change its value.

Adjustment Values can be changed for all Channel Assignments unless otherwise noted. If an Adjustment Value cannot be changed, three dashes (---) will be displayed.

**Navigating the Surface Menu**

1) Press the Navigation Pad ◀▶▲▼ to highlight the Adjustment Value that you would like to change. For example, if you would like to change the CENT (Centering) Adjustment Value for CH02 AI (Aileron), highlight the Adjustment Value adjacent to CENT and below 02 AI.




As you scroll through the Surface menu, the Directional Arrows will change, indicating which direction you can move the cursor.

**Locking and Unlocking Surface Menu Adjustment Options**

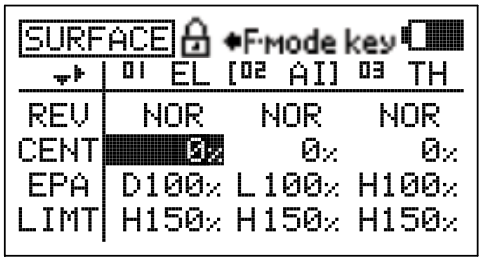
Individual Adjustment Options (REV, CENT, etc.), can be Locked to prevent unwanted or accidental changes to those specific Adjustment Values. The current Locked/Unlocked state of each of the Adjustment Options is indicated by the padlock icon at the top of the Surface menu. When the padlock is Open (Unlocked), Adjustment Values for that specific Adjustment Option can be changed. When the padlock is Closed (Locked), Adjustment Values for that specific Adjustment Option cannot be changed.

⚠ Individual Adjustment Options can be Locked or Unlocked separately. For example, you can Lock REV Adjustment Options, but leave EPA Adjustment Options Unlocked.

1) Press the Navigation Pad ▲▼ to highlight an Adjustment Value adjacent to the Adjustment Option you would like to Lock. For example, to Lock the CENT Adjustment Option, highlight the Adjustment Value adjacent to CENT, then press the F-MODE key.

2) To Unlock the Adjustment Option, press the F-MODE key a second time.

⚠ In the default configuration, all Adjustment Options are Unlocked.



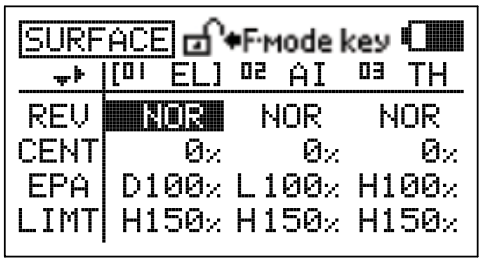

## *REV (SERVO REVERSING - ALL MODEL TYPES)*

The Reversing function electronically switches the direction of servo travel. For example, if you pull the elevator control stick back for Up elevator, but your elevator moves Down, you can use the Reversing function to switch the direction of servo travel to make the elevator move Up.

**Changing Reversing Adjustment Values**

1) Press the Navigation Pad ◀▶ to highlight the REV Adjustment Value for the channel that you would like to change.

2) Press the YES/+ or NO/- keys to change the REV Adjustment Value to set the direction of servo travel, then change the desired remaining REV Adjustment Values using the same techniques.




REV setting range is NOR/REV. The default setting is NOR.

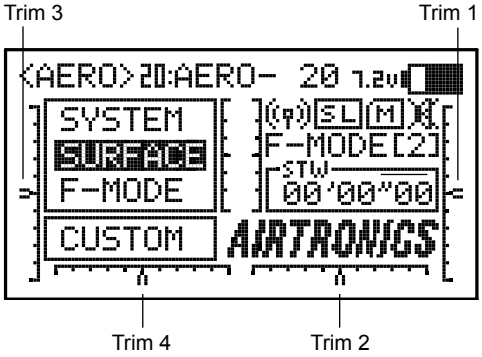
## *CENT (SERVO CENTERING - ALL MODEL TYPES)*

The Centering function allows you to fine-tune the Center (Neutral) position of each servo. It's not unusual that when you install the servo horn onto your servo that the servo horn is not perfectly centered. Centering allows you to center the servo horn perfectly. Centering also makes it possible to keep the trim switches centered while ensuring that the servo horns remain centered. For more information, see the Zeroing Out Trim section on the next page.

**Changing Centering Adjustment Values**

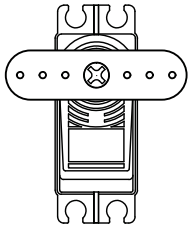
1) Before changing the CENT Adjustment Values, be sure to set the trim switches to the center positions as displayed on the Top menu.

⚠ An audible tone is heard when the trim switches reach the center position. This allows you to know when the trim switches reach the center position without the need to look at the Trim Indicators on the Top menu.




⚠ The SD-10G transmitter features Digital Trim Memory. Any amount of trim that you set during flight, using either the trim switches or the YES/+ and NO/- keys from within the Trim menu, is automatically stored in memory for that specific channel and model, and for that specific Flight Mode (if enabled). The Trim percentage values for each model will automatically be loaded when the transmitter is turned ON and your model is selected. For more information, see page 87.

2) Install the servo horn onto the servo, making sure that the servo horn is as close to being centered as possible. In some cases you can get the servo arm closer to being centered by rotating the servo arm 180º and reinstalling it.

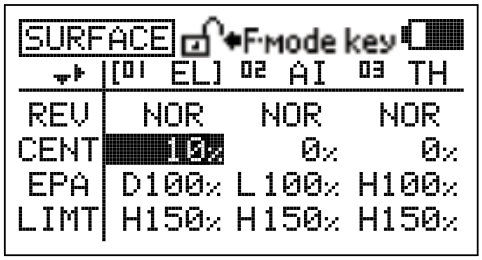


**IMPORTANT** It is always recommended to install the servo horn as close to being centered as possible, prior to changing the CENT Adjustment Values. After you change the CENT Adjustment Values to center the servo horn, only then should you manually adjust the control linkage to center the control surface.

3) Press the Navigation Pad ◂ ▸ ▴ ▾ to highlight the CENT Adjustment Value for the channel that you would like to change.

4) Press the YES/+ or NO/- keys to change the CENT Adjustment Value.

5) Change the desired remaining CENT Adjustment Values using the same techniques.




CENT setting range is -150% to 150%. The default setting is 0%. Increase or decrease the CENT Adjustment Values to center the servo horn.

The SD-10G transmitter utilizes Parallel Trim Technology. This allows you to change the CENT Adjustment Values to center the servo horn and still maintain full servo travel (up to 150%) in each direction.

**Zeroing Out Trim**

Although trim switch settings are automatically stored in memory for each individual model, some users may wish to always keep their trim switch settings at zero (centered) for all models. For example, after test-flying your model, if you have had to add trim to make your model fly straight and level, you can use the Centering function to add that amount of trim back into the servo(s), then move the trim switches back to center. This ensures that your trim switches are always centered.

1) After flying your model, check your model's control surfaces to see how much trim was necessary to achieve straight and level flight.

2) From within the Surface menu, highlight the CENT Adjustment Value for the channel you need to add Centering trim to.

3) Recenter the trim switch, then change the CENT Adjustment Value until the control surface is in the same position it was prior to recentering the trim switch.

In the default configuration, the same trim settings are stored across all Flight Modes. This option can be changed to allow you to store different trim settings for each individual Flight Mode. For more information, see page 87.

## *EPA (SERVO END POINT ADJUSTMENT - ALL MODEL TYPES)*

The End Point Adjustment function allows you to adjust servo travel in each direction. This makes it possible to balance control surface throw in both directions. For example, if you want your elevator to move Up and Down two inches in each direction, but the elevator moves Down more than two inches, decrease the End Point Adjustment in the Down direction, so that the elevator moves Up and Down the same amount. Another example is with ailerons. If your aircraft rolls faster to the right than to the left, increase the End Point Adjustment in the Left direction until the aircraft rolls the same speed in both directions.

**IMPORTANT** End Point Adjustment is not the same as Limits and should not be used in the same manner as Limits. Whereas Limits will Limit the maximum servo travel in either direction, End Point Adjustment does not. End Point Adjustment is designed to balance the control throw on both sides of servo travel and can be overridden by other settings, such as Dual Rate. For example, if you have your End Point Adjustment set to 100%, and you set your Dual Rate to 150%, the servo will travel more than 100% when Dual Rate is ON, however, if you have your Limits set to 100%, the servo will travel only 100%, regardless of the End Point Adjustment setting or the Dual Rate setting.

When changing End Point Adjustments for HELI Model Types that use CCPM, changing the End Point Adjustment value on one channel, for example, pitch, affects all the cyclic servos (due to CCPM). If you need to make End Point Adjustments to individual servos without affecting the other cyclic servos, use the CEPA function. For more information, see page 65.

⚠ The tables below show the End Point Adjustment travel direction options for the Default channel for each Model Type. Channels will vary based on current Model Type and specific Model Type selection options. End Point Adjustment values for the Flap channel and the Auxiliary channels can be set individually for all three Switch Positions.

| DEFAULT CHANNEL | AERO | GLID | HELI |
|---|---|---|---|
| CH01 | U/D | U/D | U/D |
| CH02 | L/R | L/R | L/R |
| CH03 | L*/H | L*/H | L*/H |
| CH04 | R/L | R/L | L/R |
| CH05 | L*/H | L*/H | --- |

| DEFAULT CHANNEL | AERO | GLID | HELI |
|---|---|---|---|
| CH06 | N/1/2 | L/R | L*/H |
| CH07 | L*/N/H | N/1/2 | --- |
| CH08 | L*/N/H | L*/N/H | L*/N/H |
| CH09 | L*/N/H | L*/N/H | L*/N/H |
| CH10 | L*/N/H | L*/N/H | L*/N/H |

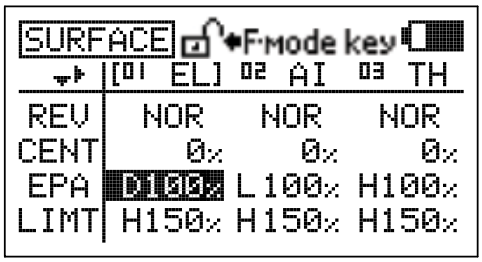
U/D = Up/Down L/R = Left/Right L*/H = Low/High R/L = Right/Left

N/1/2 = Neutral/Position 1/Position 2 L*/N/H = Low/Neutral/High

**IMPORTANT** In front of each EPA Adjustment Value is a specific icon. To set the EPA Adjustment Value for the desired direction of servo travel, the control stick or switch must be moved in the direction of servo travel you want to change the EPA Adjustment Value for. For example, if you want to change the EPA Adjustment Value for Down elevator, push the elevator control stick forward, then release it. 'D' will be displayed in front of the EL EPA Adjustment Value.

**Changing End Point Adjustment Values**

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the EPA Adjustment Value for the channel that you would like to change.
2) Move the control stick or switch in the direction of servo travel you would like to change the EPA Adjustment Value for, then press the YES/+ or NO/- keys to change the EPA Adjustment Value.
3) Adjust the desired remaining EPA Adjustment Values using the same techniques.



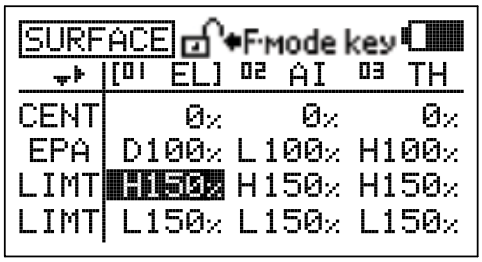

EPA setting range for the primary flight controls is 0% to 150%. The default setting is 100%. EPA setting range for Flaps and Auxiliary channels is -150% to 150%. The default setting range varies based on current Model Type and specific Model Type selection options, and the positions of the Flap and Auxiliary channel switches. Increasing the EPA Adjustment Value increases servo travel and decreasing the EPA Adjustment Value decreases servo travel.

## *LIMT (SERVO MAXIMUM TRAVEL LIMIT - ALL MODEL TYPES)*

The Limits function allows you to set a hard limit for servo travel in each direction (H - High or L - Low). This means that regardless of the End Point Adjustment, Dual Rate, and/or Mixing Adjustment Values programmed, the servo will never rotate past the specified Limits. Limits should be used to Limit the maximum required physical travel of the servo in each direction, so that the servo can never rotate further than intended. For example, if when you set up your model the elevator control linkage binds when full elevator control is commanded, use the Limits function to decrease the servo travel and prevent binding. Another example is with the use of flaps and a mixing function that utilizes flaps. Under no circumstances would you want the flaps to move up. In this situation, you can use the Limits function to set the flap Up servo travel to zero. With this setting there would be no way for the flaps to move up since the servo travel Limit in that direction is zero.

**Changing Limit Adjustment Values - High**

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the LIMT H Adjustment Value for the channel that you would like to change.
2) Press the YES/+ or NO/- keys to change the LIMT H Adjustment Value.
3) Adjust the desired remaining LMT H Adjustment Values using the same techniques.



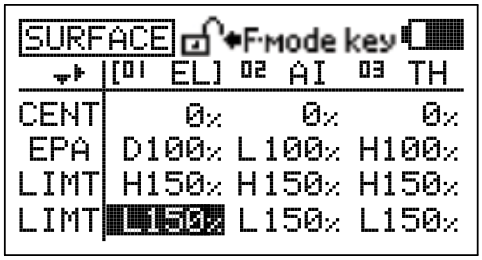

LIMT H setting range is 0% to 150%. The default setting is 150%. Increasing the LIMT H Adjustment Value increases the servo travel High-side Limit and decreasing the LIMT H Adjustment Value decreases the servo travel High-side Limit.

**Changing Limit Adjustment Values - Low**

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the LIMT L Adjustment Value for the channel that you would like to change.

2) Press the YES/+ or NO/- keys to change the LIMT L Adjustment Value.

3) Adjust the desired remaining LMT L Adjustment Value using the same techniques.




LIMT L setting range is 0% to 150%. The default setting is 150%. Increasing the LIMT L Adjustment Value increases the servo Low-side travel Limit and decreasing the LIMT L Adjustment Value decreases the servo Low-side travel Limit.

## *CEPA (CCPM SERVO END POINT ADJUSTMENT - HELI MODEL TYPE ONLY)*

The CCPM End Point Adjustment function allows you to adjust servo travel in each direction for the elevator, aileron, and pitch servos independently. Unlike standard End Point Adjustment, which affects all the cyclic servos, CCPM End Point Adjustment allows you to adjust each cyclic servo independently without any affect on the other cyclic servos. For example, you can change the End Point Adjustment on the pitch servo without affecting the elevator or the aileron servos. This allows for the utmost control is setting up your swashplate for the most accurate movement.

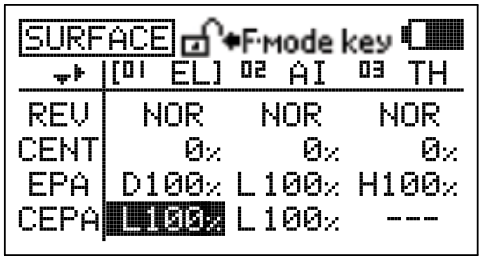
**IMPORTANT** In front of each CEPA Adjustment Value is a specific H or L icon (High or Low, respectively). To set the CEPA Adjustment Value for the desired direction of servo travel, the throttle control stick must be moved in the direction of servo travel you want to change the CEPA Adjustment Value for. For example, if you want to change the CEPA Adjustment Value for the High side Elevator, push the throttle control stick all the way forward. 'H' will be displayed in front of the EL CEPA Adjustment Value.

**Changing CCPM End Point Adjustment Values**

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the CEPA Adjustment Value for the channel that you would like to change.

2) Move the throttle control stick in the direction of servo travel you would like to change the CEPA Adjustment Value for, then press the YES/+ or NO/- keys to change the CEPA Adjustment Value.

3) Adjust the desired remaining CEPA Adjustment Values using the same techniques.




CEPA setting range is 0% to 150%. The default setting is 100%. Increasing the CEPA Adjustment Value increases servo travel and decreasing the CEPA Adjustment Value decreases servo travel.

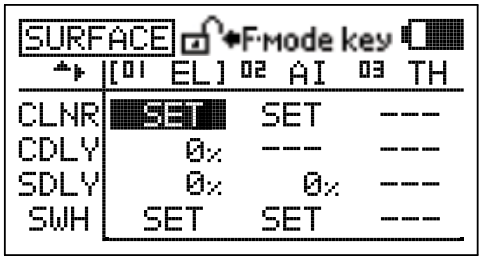
## *CLNR (CCPM SERVO LINEAR - HELI MODEL TYPE ONLY)*

The CCPM Servo Linear function converts the rotary output of the servo(s) to a Linear approximation and helps correct any abnormal cyclic movement caused by off-center control arms when at full positive or negative End Points and allows you to adjust the overall Rates for the elevator, aileron, and pitch servos independently. For example, if you were to take a measurement of the cyclic when the servos are at their neutral positions and you moved the ailerons from right to left, you may see the cyclic move 15º right and 15º left. Now move the cyclic up to full pitch and make the same measurements. The cyclic may no longer move 15º right and 15º left. The CCPM Servo Linear function can be used to set the cyclic at 15º when at full pitch while ensuring adequate servo travel.

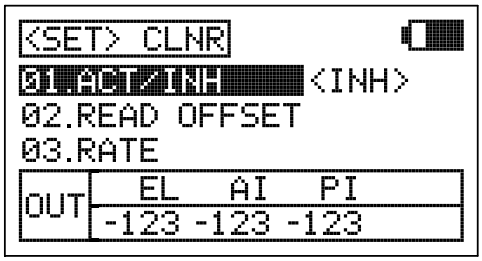
**Setting Channel Offsets**

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the CLNR SET option for either the elevator, the aileron, or the pitch channel.

⚠ CLNR values can be changed for the elevator, aileron, and pitch channels at the same time, regardless of which CLNR SET option you highlight.



2) Press the ENTER key to display the <SET>CLNR menu. ACT/INH will be highlighted and <INH> (Inhibited) will be selected by default.




**IMPORTANT** Prior to starting to use the Read Offset function below, the elevator, aileron, and pitch servos **MUST** be centered (servo arms set to 90º) and the Servo Reversing settings should be made, using the CENT and REV functions.

3) Move both control sticks to the center (neutral) position. The center position is verified using the OUT display at the bottom of the <SET>CLNR menu. When both control sticks are centered all values will read zero. With the control sticks centered, the servo arms should be centered, as described above.

4) Press the Navigation Pad ▼ to highlight READ OFFSET, then press the ENTER key to display the <SET>READ OFFSET menu. SERVO 90º OK?>Y will be displayed.

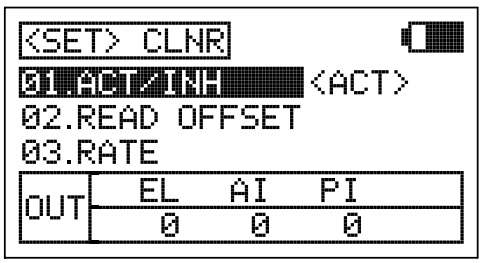
5) Press the YES/+ key to verify the OFFSET value, then press the END key to return to the <SET>CLNR menu.


⚠ When using either CP4A or CP4X Swashplate Types, EL2 values will be displayed in addition to the EL, AI, and PI values.

⚠ If you press the YES/+ key and values are displayed other than zero, the control sticks are not centered. This is usually caused by the throttle control stick not being centered. If this occurs, move the throttle control stick slightly toward center, then press the YES/+ key again. Repeat as necessary until all OFFSET values read zero.

**Activating the CCPM Servo Linear Function**

1) After verifying that the READ OFFSET values are all zero, press the Navigation Pad ▲ to highlight ACT/INH, then press the YES/+ key to change the value to <ACT> (Activated).




⚠ You **MUST** set the Channel Offsets prior to Activating the CCPM Servo Linear function. If you don't and you attempt to change the Rates, the CCPM Servo Linear function will always revert to INH (Inhibited).

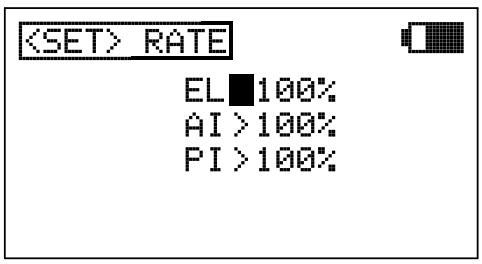
**IMPORTANT** Do **NOT** change the CENT Adjustment Values after Activating the CCPM Servo Linear function. CENT Adjustment Values should be made prior to Activating the CCPM Servo Linear function.

**Changing Channel Rate Adjustment Values**

The Rate settings are used to fine-tune the swashplate and make it as close to level as possible throughout the entire pitch range.

1) Press the Navigation Pad ▲ ▼ to highlight the channel you would like to change the RATE Adjustment Value for, then press the YES/+ or NO/- keys to change the RATE Adjustment Value.

2) Adjust the desired remaining RATE Adjustment Values using the same techniques.

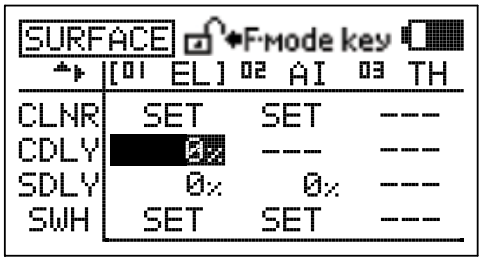



EL, AI, and PI setting range is 0% to 120%. The default setting is 100%. Increasing the RATE Adjustment Value increases servo travel and decreasing the RATE Adjustment Value decreases servo travel. **Do NOT adjust more than 20% in either direction.**

**IMPORTANT** When the CCPM Linear function is Activated, cyclic servo travel is compressed as a result of changing the output from rotary to Linear. If when you change the Rate Adjustment Values the control throws are still not enough, you can increase the control throws as necessary by increasing the End Point Adjustments or the SWH Adjustment Values.

## CDLY (CP3 CHANNEL DELAY - HELI MODEL TYPE ONLY)

The CP3 Delay function allows you to slow down the two forward channels when using CCPM. For example, on some helicopters, when using CCPM you will find that the elevator is a little more sensitive than the ailerons. You can use the CP3 Delay function to slow down the two forward channels to fine-tune the feel of the swashplate controls. The goal is to adjust elevator control to feel the same as aileron control and vice-versa depending on the Swashplate Type selected.




**Changing CP3 Delay Adjustment Values**

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the CDLY Adjustment Value for the channel that you would like to change.
2) Press the YES/+ or NO/- keys to change the CDLY Adjustment Value.

CDLY setting range is 0% to 100%. The default setting is 0%. Increasing the CDLY Adjustment Value slows down the two forward channels and decreasing the CDLY Adjustment Value returns the two forward channels toward their normal speed.

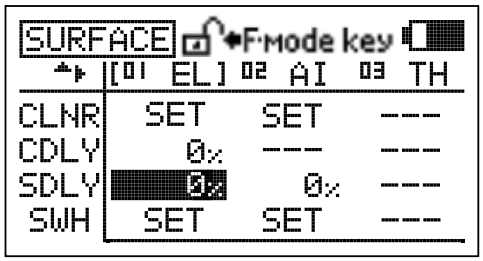
⚠ When the CDLY Adjustment Value is set to 0%, the two forward channels will operate at their normal speed.

⚠ The CP3 Delay function can be adjusted on the Swashplate Types and the Channels shown in the table below.

| SWASHPLATE TYPE | CH |
|---|---|
| CP3F | EL |
| CP3B | EL |
| CP3R | AI |
| CP3L | AI |

## SDLY (CCPM SERVO DELAY - HELI MODEL TYPE ONLY)

The CCPM Servo Delay function allows you to adjust the speed of the elevator, aileron, and pitch servos independently. Even though the servos may be of the same type, not all servos operate at the same exact speed. If one or more servos controlling the swashplate is operating faster than another servo, this can cause swashplate geometry issues and even result in binding of the swashplate linkage assemblies. For example, adjusting the CCPM Servo Delay to slow down the faster servo(s) to match the slower servo(s) helps to fine-tune the swashplate, ensuring the most accurate and smoothest movement as possible throughout the entire deflection range. If desired, you could slow down each of the servos the same percentage to slow the overall feel of the swashplate controls.




**Changing CCPM Servo Delay Adjustment Values**

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the SDLY Adjustment Value for the channel that you would like to change.
2) Press the YES/+ or NO/- keys to change the SDLY Adjustment Value.
3) Adjust the desired remaining SDLY Adjustment Values using the same techniques.

SDLY setting range is 0% to 100%. The default setting is 0%. Increasing the SDLY Adjustment Value slows down the servo in both directions and decreasing the SDLY Adjustment Value speeds up the servo in both directions.

⚠ When the SDLY Adjustment Value is set to 0%, the servo will operate at is normal speed.

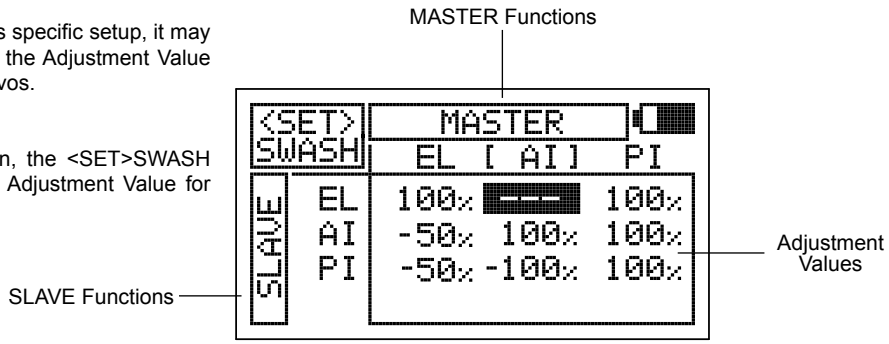
## SWH (SWASHPLATE SETUP - HELI MODEL TYPE ONLY)

The Swash function allows you to control a number of different functions related to the swashplate. Using the Swash function, you are able to reverse individual elevator, aileron, and pitch functions. For example, even if you select the correct Swashplate Type for your particular helicopter there may be a situation where instead of the swashplate rising for positive collective it may be necessary for the swashplate to fall for positive collective. Instead of 'fooling' the swashplate by selecting the opposite Swashplate Type and swapping the aileron and pitch channels in the receiver, then adjusting the servo Reversing, the Swash function allows you simply reverse the pitch function by changing PI Master/PI Slave Adjustment Value opposite to what is displayed (e.g., change 100% to -100% to change the direction of travel for the pitch function). In addition, the Swash function also allows you to control the overall throw of the elevator, aileron, and pitch functions by increasing or decreasing the Adjustment Values.

The Swash function also allows you to mix elevator, aileron, and pitch functions together without the need to use a separate mixer. For example, if you do a loop and the helicopter wants to roll out in one direction or another, you can change the Mixing Adjustment Values of the Elevator Master to the Aileron Slave at either the low or the high collective stick to trim out this tendency.

⚠ Depending on your model's specific setup, it may be necessary to decrease the Adjustment Value to keep from over-driving the servos.

⚠ In the default configuration, the <SET>SWASH menu displays the default Adjustment Value for the current Swashplate Type.




The <SET>SWASH menu consists of a row of MASTER functions along the top and a column of SLAVE functions along the left side. In all cases, the MASTER function controls the SLAVE function. For example, if you want to increase the servo travel of the aileron function when the throttle control stick is moved forward, increase the PI MASTER/AI SLAVE Adjustment Value.

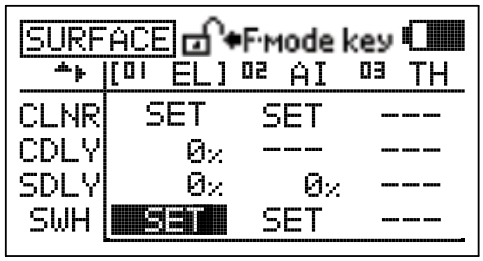
If you want to change the rotation of servo travel for a function, for example, the pitch function, highlight PI MASTER/PI SLAVE and change the Adjustment Value to the opposite of the current Adjustment Option Value (e.g., 100% to -100%).

⚠ When using either CP4A or CP4X Swashplate Types, EL2 Slave values will be displayed in addition to the EL, AI, and PI values.

**Changing Swash Adjustment Values**

1) Press the Navigation Pad ◂ ▸ ▴ ▾ to highlight the SWASH SET option for either the elevator, aileron, or pitch channel.

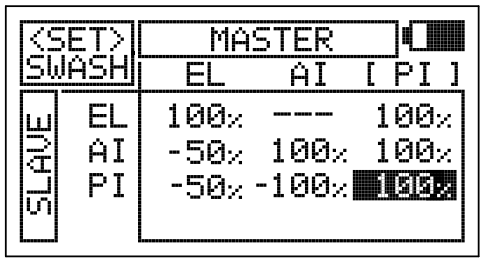
⚠ SWH values can be changed for the elevator, aileron, and pitch channels at the same time, regardless of which SWASH SET option you highlight.




2) Press the ENTER key to display the <SET>SWASH menu. The cursor will default to EL MASTER/EL SLAVE.

3) Press the Navigation Pad ◂ ▸ ▴ ▾ to highlight the Adjustment Value you would like to change, then press the YES/+ or NO/- keys to change the Adjustment Value.

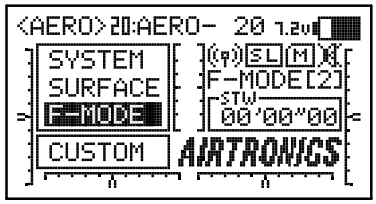
4) Adjust the desired remaining <SET>SWASH menu Adjustment Values using the same techniques.




<SET>SWASH menu setting range varies based on Swashplate Type currently selection. To display the default Adjustment Values, highlight a specific Adjustment Value and press the YES/+ and NO/- keys at the same time.

# FLIGHT MODES

The SD-10G transmitter model programming is based around Flight Modes. Each Model Type (AERO, GLID, and HELI) feature five independently programmable Flight Modes. Within these Flight Modes is where the core of the model programming takes place. Features such as Dual Rate, Exponential, Throttle Curves, Pitch Curves, Mixing, Compensation Mixing, and much more can be individually programmed to each of the five flight Modes. Each Flight Mode can then be assigned to a switch position so that they can be turned ON and OFF during flight. Flight Modes can also be named to keep easier track of them, and Flight Modes can be copied to make programming multiple Flight Modes quicker.




**F-MODE Menu**

Flight Modes allow you to change the flying characteristics of your model with the flip of a switch. For example, if you fly helicopters, you can have one Flight Mode for basic flying and a second Flight Mode for aerobatic flying. Flip the Flight Mode switch from 'Basic' to 'Aerobatic' and your helicopter is now programmed with all of your 'Aerobatic' Flight Mode programming. With five programmable Flight Modes available for each Model Type, the combinations of model programming is almost limitless.

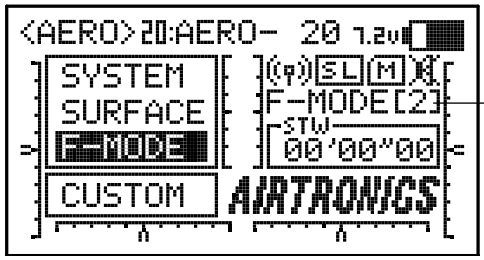
**Flight Mode programming instructions are separated by Model Type as follows: AERO - Pages 70 through 110, GLID - Pages 110 through 153, and HELI - Pages 154 through 192.**

## *GENERAL INFORMATION*

There are five Flight Modes that can be individually programmed for each Model Type. The current Flight Mode (N, 1, 2, 3, or 4) is displayed on the Top menu. The currently Active Flight Mode name is displayed, along with the corresponding Flight Mode number. If the Flight Mode has not been named, F-MODE will be displayed, along with the corresponding Flight Mode number.

⚠ There is always one Flight Mode active at all times and will vary based on the positions of the Flight Mode switches.

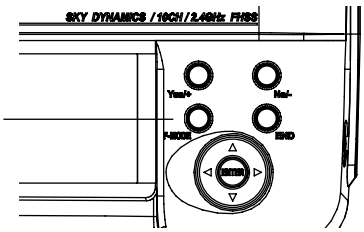
Flight Modes are turned ON and OFF using switches, or in the case of the GLID Flight Mode, switches and the flap control stick. These switches, along with the default control layout for each of three Model Types are described in each Model Type Flight Mode programming section.




Flight Mode Display

⚠ The F-MODE key is used to facilitate programming the individual Flight Modes only and does not turn the Flight Modes ON or OFF.

⚠ When assigning and using multiple Flight Modes to more than one switch, it's important to note that higher numbered Flight Modes override lower numbered Flight Modes. For example, if you have Flight Mode 1 and Flight Mode 2 Active at the same time, Flight Mode 2 will override Flight Mode 1.




F-MODE Key

Many Flight Mode programming options can be flagged either COM (Common) or SEP (Separate). Options flagged as Common are common among all Flight Modes. Options flagged as Separate can be programmed separately for each Flight Mode from the same programming menu.

## *FLIGHT MODE WARNING ALARM*

The SD-10G transmitter is equipped with a safety feature that will not allow you to use the transmitter if the Flight Mode is not set to 'N' (Normal) when you turn the transmitter ON. If the Flight Mode is not set to 'N' when you turn the transmitter ON, the Flight Mode Warning alarm will sound continuously, the red RF Output Indicator will blink, and the LCD Display will read F-MODE NOT 'N' !! To clear the Flight Mode Warning, set the Flight Mode to 'N' using the Flight Mode Switch (this is different from the F-MODE Key). The LCD Display will read normally, the Flight Mode Warning alarm will cease, and both the red and green RF Output Indicators will be illuminated.

⚠ In the default AERO configuration, Flight Mode N (Normal) is switch position 10. In the default HELI configuration, Flight Mode N (Normal) is switch position 22. In the default GLID configuration, the Flight Mode Warning alarm is INHIBITED.

# AERO FLIGHT MODE CONTENTS

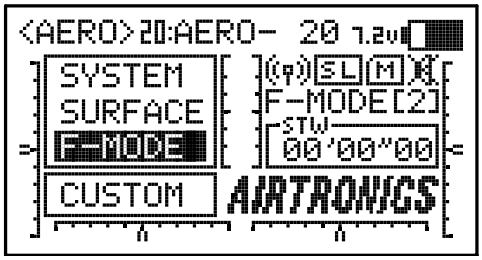
# AERO FLIGHT MODE MENU

## GENERAL INFORMATION

To access the F-Mode menu, turn the transmitter ON. From the Top menu, press the Navigation Pad ▲ ▼ to highlight F-MODE, then press the ENTER key to display the F-Mode menu.

From within any menu, press the END key continuously to return to the Top menu.

Unless otherwise noted, all programming changes take effect immediately.




⚠ If the Top menu is not displayed when you turn the transmitter ON, continuously press the END key until the Top menu is displayed.

## AERO FLIGHT MODE MENU FLOW CHART

Use this Flow Chart to familiarize yourself with the AERO Flight Mode menu structure. Descriptions regarding all AERO Flight Mode menu functions and programming are found on pages 72 through 110.

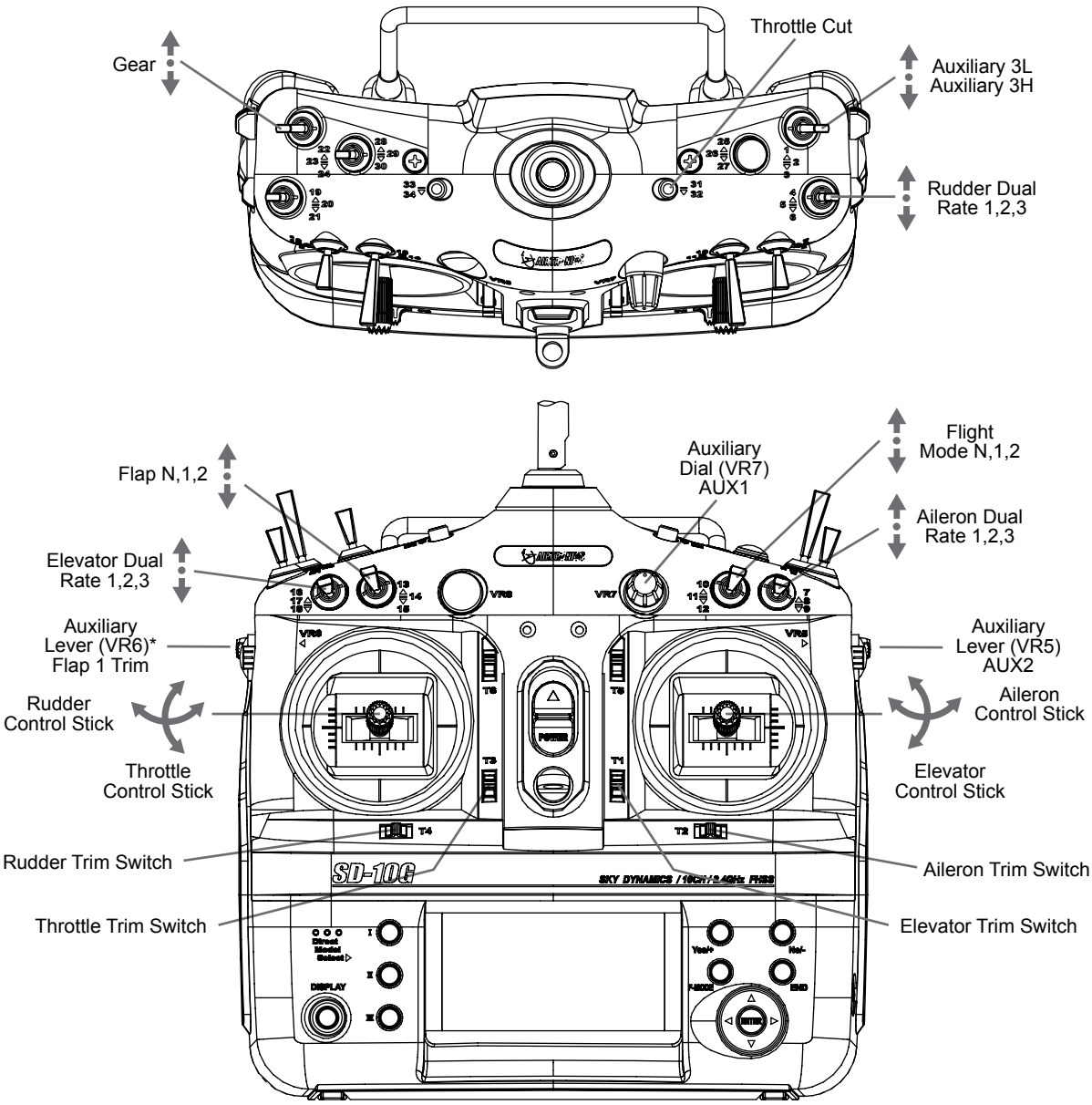
- 01.SX MONITOR
- 02.STICK MONITOR
- 03.D/R
- 04.EXP
- 05.TH-CURVE
- 06.TH-HOLD
- 07.TH-CUT
- 08.IDLE DOWN
- 09.AI DIFFERENTIAL
- 10.OFFSET
- 11.CH DELAY
- 12.TRIM
- 13.TRIM STEP
- 14.TRIM AUTH
- 15.CROSS-TRIM
- 16.SNAP-ROLL
- 17.MIXING
  - 01.FLAPERON
  - 02.AILVATOR
  - 03.EL>FL
  - 04.AI>RU
    - 05.TH>EL
    - 06.TH>RU
    - 07.RU>EL
    - 08.RU>AI
      - 09.RU>TH
      - 10.FL>EL
- 18.C-MIX
- 19.VR ASSIGN
- 20.F-MODE COPY
- 21.F-MODE DELAY
- 22.F-MODE NAME

## *AERO MODEL TYPE DEFAULT TRANSMITTER LAYOUT*

The diagrams below show the default transmitter control stick and switch layout in the AERO Model Type Flight Mode N (Normal) configuration. This is the base from which you can start to change or add functions to switch assignments, modify Flight Modes, and change or assign functions or channels to the Auxiliary Levers (VR5 and VR6) and the Auxiliary Dial (VR7).

**IMPORTANT** Since each of the five Flight Modes can be programmed separately, before making programming changes, verify that you are in the Flight Mode you want to make programming changes to. To avoid confusion, we suggest leaving the Flight Mode Switch (10,11,12) in the N (Normal) position and use the F-MODE key from within the programming menus to choose which Flight Mode you would like to make programming changes to.

Keep in mind that many of the functions, particularly Mixes and Auxiliary functions, MUST be assigned to a Switch Position Number to be Activated. We suggest that you assign the function to a Switch Position Number prior to programming the function. This will avoid confusion and make it easier to test your programming values.




*Auxiliary Lever (VR6) controls the Variable Flap Trim when the flap switch is in Switch Position 1. For more information, see page 89.

## 01.SX MONITOR (SERVO MONITOR)

The Servo Monitor function displays the output levels of each of the 10 channels in bar graph form, allowing you to monitor servo operation in a virtual manner. This is helpful to see servo movement when the control sticks and switches are moved, and it allows you to visualize what is occurring with servo movements when you apply different mixing values. When used in conjunction with the Display key, the Servo Monitor function allows you to see servo movement virtually and make programming changes without the SD-10G transmitter actually transmitting a signal.

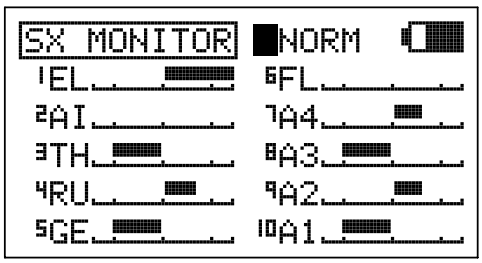
When both the SD-10G transmitter and the receiver are turned ON, the Servo Monitor function has the ability to continuously cycle the primary flight control servos back and forth to verify operation. You are also able to individually cycle any of the primary flight control servos and check the Neutral position of each of the servos (or automatically center all of the servos).

⚠ The channels displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual elevator servos, LE and RE will be displayed and both servos will move when the AUTO1 option is used. Depending on the current servo reversing settings, the bar graphs may not move the same direction as the control sticks. This is normal.

**Using the Servo Monitor - Normal Mode**

1) Press the Navigation Pad ▲▼ to highlight SX MONITOR, then press the ENTER key to display the SX MONITOR menu. The cursor will default to >NORM.

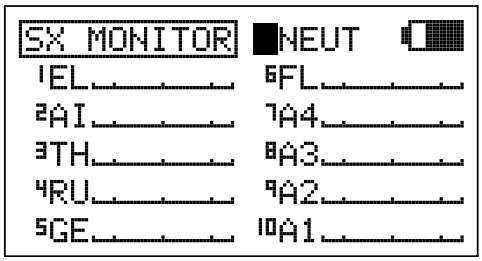
2) Moving the control sticks and channel switches (if assigned) will display the position and movement of each of the servos.




**Using the Servo Monitor - Neutral Mode**

1) Press the YES/+ key to choose >NEUT. When set to NEUT, all servos will move to the Neutral position until you either change the Servo Monitor Mode or exit the Servo Monitor menu.

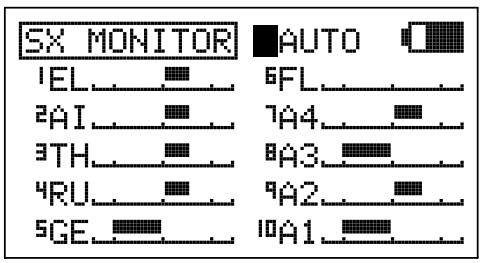
⚠ While in Neutral Mode, all flight controls are Inhibited.




**Using the Servo Monitor - Auto Mode**

1) Press the YES/+ key to choose >AUTO. When set to AUTO, the primary flight control servos will cycle back and forth at the same time, until you either change the Servo Monitor Mode or exit the Servo Monitor menu.

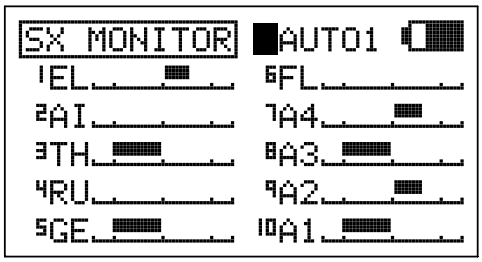
⚠ While in Auto Mode, the primary flight controls are Inhibited, however, the remaining channels remain Active so that you can continue using them.




**Using the Servo Monitor - Auto1, Auto2, Auto3, and Auto4 Modes**

1) Press the YES/+ key to choose >AUTO1. When set to AUTO1, the elevator servo(s) will cycle back and forth equally until you either change the Servo Monitor Mode or exit the Servo Monitor menu.

2) Press the YES/+ key again to choose >AUTO2 and so on. AUTO2 will cycle the aileron servo(s), AUTO3 will cycle the throttle servo(s), and AUTO4 will cycle the rudder servo.




⚠ The flight control for the currently Active servo will be Inhibited, however, the remaining channels remain Active so that you can continue using them.

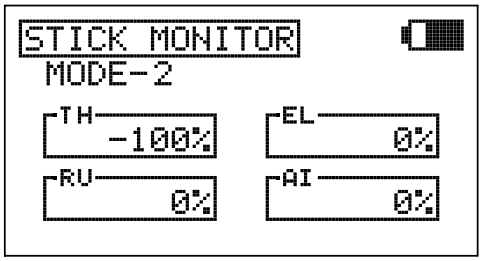
## 02.STICK MONITOR (CONTROL STICK MONITOR)

The Stick Monitor function displays the current position of the control sticks as a percentage of total control stick movement in 1% increments, and is used to determine if the control sticks require calibration. For example, if you move the throttle control stick all the way forward and 95% is displayed, this indicates that the throttle control stick requires calibration. In addition, the Stick Monitor function allows you to visually check exactly what position the control sticks are in relative to the control surface you're setting up.

**Using the Stick Monitor**

1) Press the Navigation Pad ▲▼ to highlight STICK MONITOR, then press the ENTER key to display the STICK MONITOR menu. The current Mode that the SD-10G transmitter is operating in will be displayed.

2) Move the control sticks and watch the percentage displays. When the control sticks are centered, 0% should be displayed, and when the control sticks are moved to their stops, -100% or 100% should be displayed, based on the direction of movement.

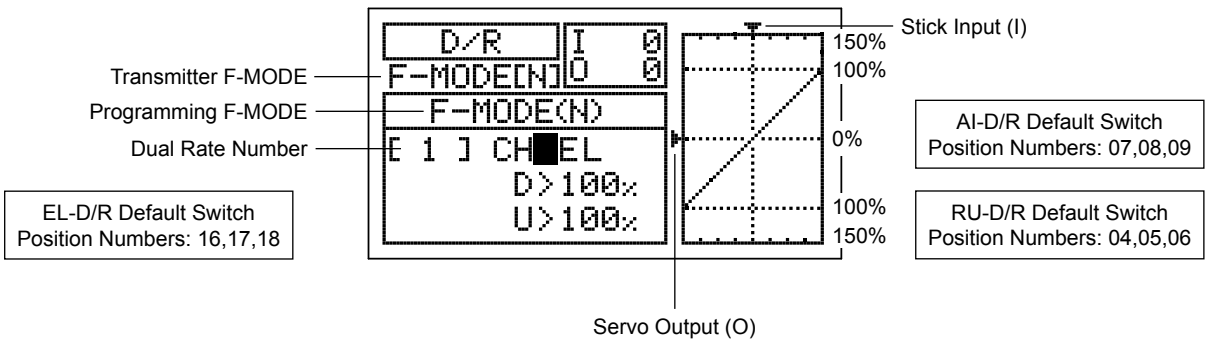



3) If 0% is not displayed when the control sticks are centered, or if -100% and 100% are not displayed when the control sticks are moved to their stops, use the NEUTRAL/TRAVEL>USER setting in the System Mode menu to recalibrate the control sticks. For more information, see page 41.

## 03.D/R (DUAL RATE - ELEVATOR, AILERON, AND RUDDER)

The Dual Rate function allows you to change the control authority of the control surfaces by changing the amount of servo travel. For example, if you are flying an aerobatic aircraft that requires a lot of control throw for aerobatics, but that same amount of control throw makes the aircraft difficult to control during normal flight, you can use Dual Rate to lower the control throw for normal flight with just the flip of the Dual Rate switch. Three Dual Rate settings are available each for the Elevator, Aileron, and Rudder channels, and different Dual Rate settings can be programmed separately for each of the five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.

⚠ Dual Rate is a percentage of End Point Adjustment. For example, if you set Dual Rate 2 to 50% and Activate it, the servo will travel half the amount than if Dual Rate 2 was not Active. Prior to takeoff, check the position of the Dual Rate switches to ensure that they are in the positions you want. If you assign two different channel Dual Rates to more than one switch, it's important to note that the higher numbered Dual Rate will override the lower numbered Dual Rates. For example, if you have Dual Rate 2 and Dual Rate 3 Active at the same time, Dual Rate 3 will override Dual Rate 2.

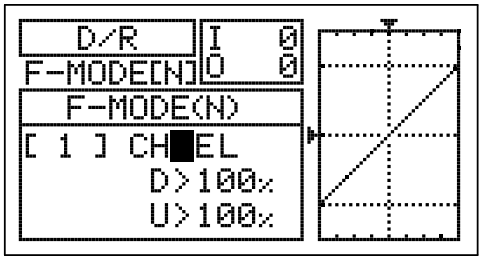



⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight D/R, then press the ENTER key to display the D/R menu. The cursor will default to CH>EL.

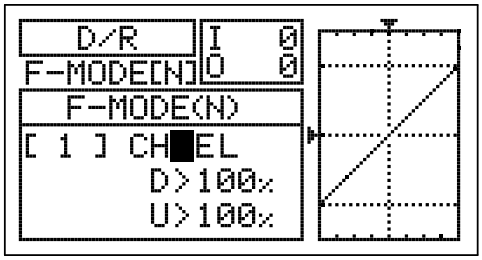
2) Press the F-MODE key to choose the F-MODE number you would like to program the Dual Rate function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Dual Rate function for.



**Choosing the Channel**

1) Press the Navigation Pad ▲ ▼ to highlight CH>EL.

2) If you would like to set the Dual Rate for another channel, press the YES/+ or NO/- keys to choose CH>AI or CH>RU.




Dual Rate can be set for EL (Elevator), AI (Aileron), and RU (Rudder).

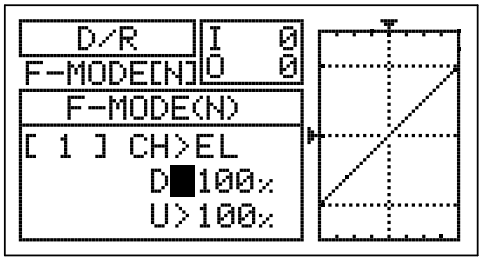
**Changing the Dual Rate Percentage Values**

Three different Dual Rate settings can be programmed to each three-position switch. We recommend that Dual Rate 1 be set to the maximum control surface throw you desire, then set Dual Rate 2 and Dual Rate 3 to different values that are less than maximum. For example, set Dual Rate 1 to 100%, Dual Rate 2 to 75%, and Dual Rate 3 to 50%.

**WARNING** Keep in mind that it's possible to set the Dual Rate higher than the End Point Adjustment. For example, with the End Point Adjustment set to 100% and the Dual Rate set to 150% the servo will move more than 100% when the Dual Rate is Activated. We strongly recommend that you set the Dual Rate 1 percentage value to no more than 100%. This will prevent any chance of exceeding your End Point Adjustment and overdriving your control linkage.

1) Move the Dual Rate Switch for the channel you are setting to the position you would like to set a Dual Rate percentage value for, either 1, 2, or 3.

2) Press the Navigation Pad ▼ to move the cursor to D>100% (L>100% if setting aileron or rudder Dual Rate), then press the YES/+ or NO/- keys to set the desired Down (or Left) Dual Rate percentage value.



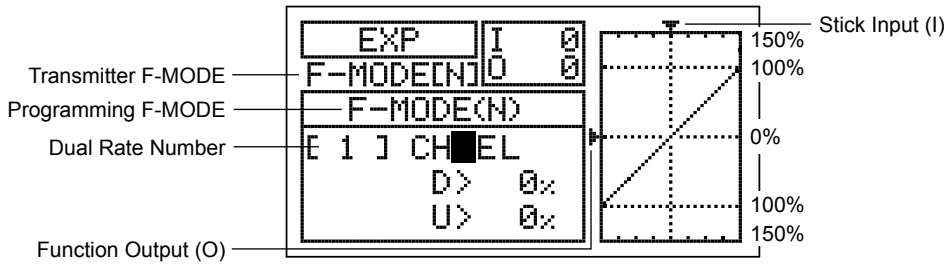

⚠ As you change the Dual Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

3) Press the Navigation Pad ▼ to move the cursor to U>100% (R>100% if setting aileron or rudder Dual Rate), then press the YES/+ or NO/- keys to set the desired Up (or Right) Dual Rate percentage value.

D/R setting range is 0% to 150%. The default setting is 100%. Increasing the D/R percentage value increases servo travel when Dual Rate is Activated. Decreasing the D/R percentage value decreases servo travel when Dual Rate is Activated.

## *04.EXP (EXPONENTIAL - ELEVATOR, AILERON, AND RUDDER)*

The Exponential function allows you to vary the amount of servo travel in relation to the movement of the elevator, aileron, and rudder control sticks near the neutral positions to change the way the control surfaces react to control stick movement. Increasing the Exponential value will soften the control feel around neutral and decreasing the Exponential value will heighten the control feel around neutral. For example, using a positive Exponential value allows for smoother control by lessening the amount of servo travel in relation to the amount of control stick movement. Using a negative Exponential value may result in more 'twitchy' control response because the amount of servo travel will be increased in relation to the amount of control stick movement. The Exponential function is linked directly to your Dual Rate switches. This allows you to program Exponential for each of the three Dual Rate positions separately. In addition, Exponential can be programmed separately for each of the five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.



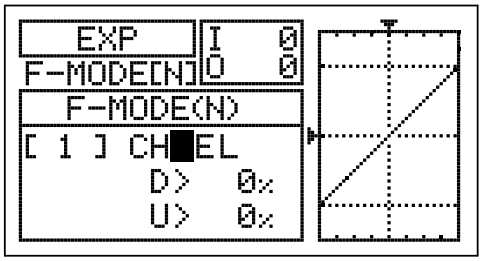

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

⚠ Exponential does not change the total amount of servo travel at maximum control stick deflection. Exponential affects the ratio between servo travel and control stick movement at less than 100% control stick deflection.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight EXP, then press the ENTER key to display the EXP menu. The cursor will default to CH>EL.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Exponential function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Exponential function for.

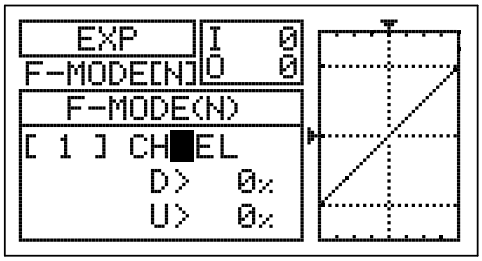



**Choosing the Channel**

1) Press the Navigation Pad ▲▼ to highlight CH>EL.

2) If you would like to set the Exponential for another channel, press the YES/+ or NO/- keys to choose CH>AI or CH>RU.

Exponential can be set for EL (Elevator), AI (Aileron), and RU (Rudder).




**Changing the Exponential Percentage Values**

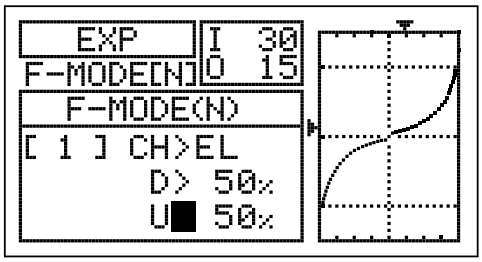
The Exponential function is linked directly to your Dual Rate switches. This allows you to program Exponential for each of the three Dual Rate positions separately. For example, with the Dual Rate switch in position 1 (maximum travel), you can set 30% Exponential, with the Dual Rate switch in position 2, you can set 10% Exponential, and with the Dual Rate switch in position 3, you can set 0% Exponential (Linear).

**WARNING** If you have not used Exponential functions in the past, we suggest that you start with a small percentage of Exponential (approximately 10%~20%) until you get used to the feel of how Exponential affects the control feel of your model. You will find that Exponential is most useful where strong control response is desired at extreme control stick positions, but softer control response to small control stick movements is desired in order to make very accurate small corrections to the flight path.

1) Move the Dual Rate Switch for the channel you are setting to the position you would like to set an Exponential percentage value for, either 1, 2, or 3.

2) Press the Navigation Pad ▼ to move the cursor to D>0% (L>0% if setting aileron or rudder Exponential).

3) Press the YES/+ or NO/- keys to set the desired Down (or Left) Exponential percentage value.




⚠ As you change the Exponential percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range. Notice that as you increase Exponential, the servo travel is decreased near the neutral position in relation to control stick movement, and as you decrease Exponential, the servo travel is increased near the neutral position in relation to control stick movement.

4) Press the Navigation Pad ▼ to move the cursor to U>0% (R>0% if setting aileron or rudder Exponential), then press the YES/+ or NO/- keys to set the desired Up (or Right) Exponential percentage value.

EXP setting range is -100% to 100%. The default setting is 0% (Linear). Increasing the EXP percentage value softens the control feel around neutral. Decreasing the EXP percentage value heightens the control feel around neutral.

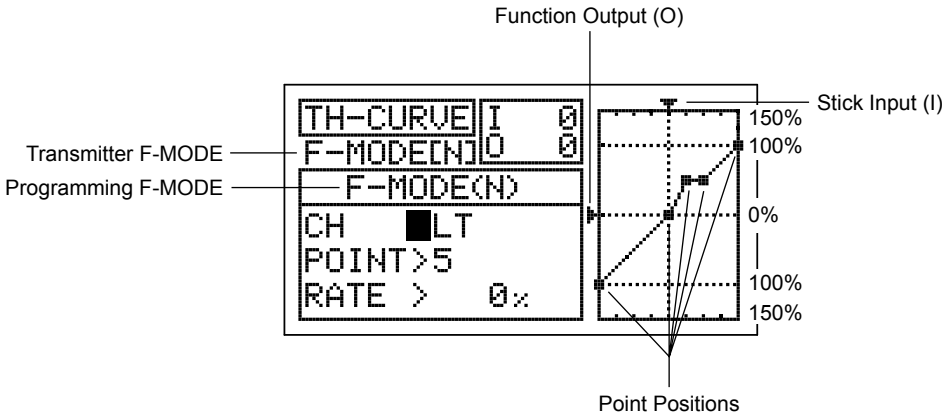
⚠ When the Exponential value is set to 0%, the ratio between servo travel and control stick movement will be Linear. For example, when you move the control stick 50%, the servo will travel 50%, too.

## 05.TH-CURVE (THROTTLE CURVE)

The Throttle Curve function allows you to vary the amount of servo travel in relation to the movement of the throttle control stick at different points throughout the entire range of deflection. Nine custom-programmable Points ensure an extremely precise Throttle Curve to suit any situation. For example, many glow and gas engines are very non-Linear, meaning that when the throttle control stick is at half, the engine is not at half power. In addition, many times the difference between three-quarter power and full power is almost indistinguishable. By adjusting the Throttle Curve, you can change the way the engine reacts to power based on the position of the throttle control stick. For example, you can change the Throttle Curve so that three-quarter stick feels like three-quarter throttle.

The Throttle Curve function is also extremely useful when setting up a twin-engine aircraft. In a twin-engine aircraft, it can be difficult to achieve the exact same throttle response for both engines. The SD-10G transmitter allows you adjust the Throttle Curve for the Right and Left engines separately. For example, you can change the Throttle Curve on one engine to match the response of the other engine, from idle all the way to full throttle.

The Throttle Curve function can be programmed separately for each of the five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.




Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

The tables below show the default Point and Rate values. Settings shown in parentheses are the default percentage values when those Points are Activated by the user.

| POINT | DEFAULT RATE |
|---|---|
| 1 | -100% |
| 2 | INH (-75%) |
| 3 | INH (-50%) |

| POINT | DEFAULT RATE |
|---|---|
| 4 | INH (-25%) |
| 5 | 0% |
| 6 | INH (25%) |

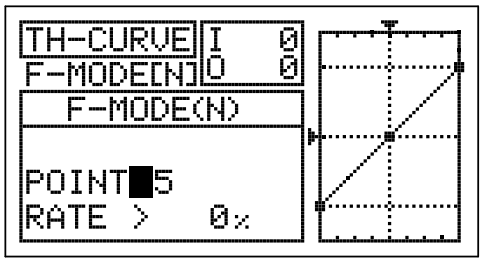
| POINT | DEFAULT RATE |
|---|---|
| 7 | INH (50%) |
| 8 | INH (75%) |
| 9 | 100% |

In the default configuration the Throttle Curve is Linear. For example, when you move the throttle control stick from 0% to 100%, the servo will travel from 0% to 100%, too.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight TH-CURVE, then press the ENTER key to display the TH-CURVE menu. The cursor will default to POINT>5.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Throttle Curve function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Throttle Curve function for.



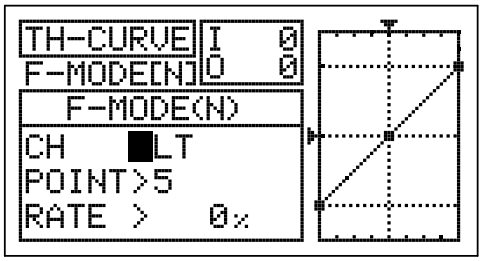

When Model Type Setting Option THROTTLE>2 is chosen, the cursor will default to CH>LT

**Choosing the Channel**

⚠ This option is only available when Model Type Setting Option THROTTLE>2 is chosen. Unless you are setting up a multi-engine aircraft, skip to the Setting Throttle Curve Point and Rate section below.

1) Press the Navigation Pad ▲▼ to highlight CH>LT.

2) If you would like to set the Throttle Curve for the Right Throttle, press the YES/+ or NO/- keys to choose CH>RT.




When Model Type Setting Option THROTTLE>2 is chosen, the Throttle Curve can be set for LT (Left Throttle) and RT (Right Throttle).

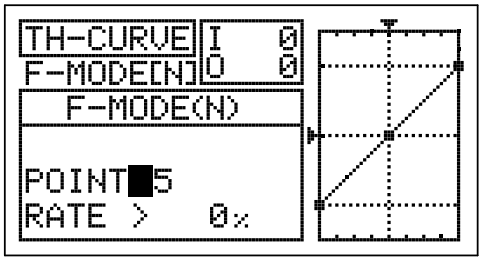
**Changing the Throttle Curve Point Values and the Rate Percentage Values**

Nine different Points with varying Rates can be programmed onto the Throttle Curve. Each Point will be displayed on the graph to give you a visual interpretation of the position of the Point on the Throttle Curve. The Point that is currently selected will blink.

**WARNING** Keep in mind that it's possible to set the Throttle Curve Points higher or lower than the throttle End Point Adjustment. For example, with the throttle End Point Adjustment set to 100% and POINT>9 set to 150% the servo will move 150%. We strongly recommend that you set your Throttle Curve Points no higher than your throttle End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage.

1) Press the Navigation Pad ▲▼ to highlight POINT>5.

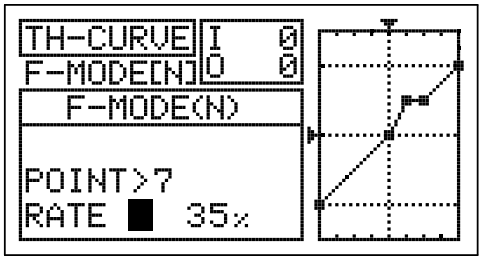
2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.




POINT setting range is 1 through 9. Point 1 is at the low end of the Throttle Curve and Point 9 is at the high end of the Throttle Curve. Point 5 is a the center of the Throttle Curve.

3) Press the Navigation Pad ▼ to highlight RATE>.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.




⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to the default percentage value (e.g., POINT>4 RATE -25%).

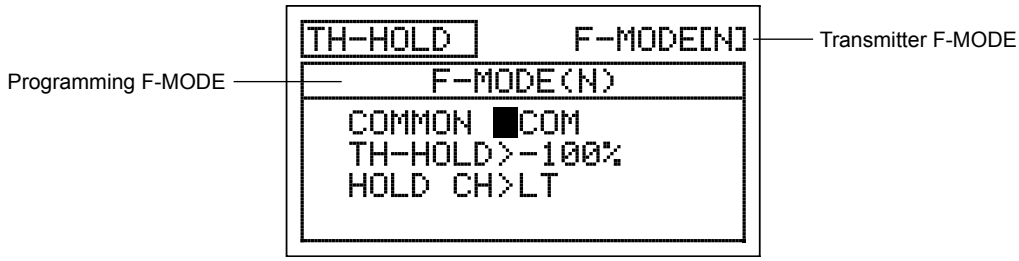
RATE setting range is -150% to 150%. POINT 1 default RATE percentage value is -100%, POINT 5 default RATE percentage value is 0%, POINT 9 default RATE percentage value is 100%.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

5) Repeat the previous procedures to change the desired remaining Point and Rate percentage values.

## 06.TH-HOLD (THROTTLE HOLD)

The Throttle Hold function allows you to set a specific position that the throttle servo will Hold and not respond to the throttle control stick. This function is typically used when flying twin-engine aircraft. The SD-10G transmitter allows you program Throttle Hold for the Right or the Left engine separately. For example, you can set Throttle Hold at idle for the right engine. After starting and tuning the right engine, you can use the Throttle Hold function to Hold the right engine at idle while you start, warm-up, and tune the second engine. The Throttle Hold function can be programmed separately for each of the five Flight Modes or you can use the same Throttle Hold programming across all five Flight Modes.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** TH-HOLD must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

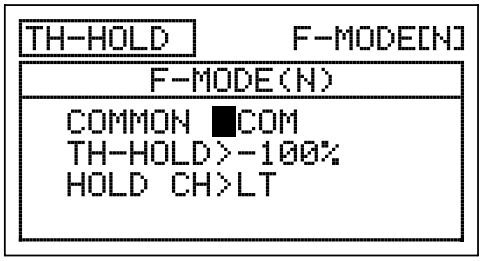
**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TH-HOLD setting will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program TH-HOLD settings separately for each Flight Mode. When set to SEP (Separate), you can program TH-HOLD separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight TH-HOLD, then press the ENTER key to display the TH-HOLD menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP.

⚠ If set to COM, skip to the Setting the Throttle Hold percentage value below. If set to SEP, see step 3 below.




3) Press the F-MODE key to choose the F-MODE number you would like to program the Throttle Hold function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Throttle Hold function for.

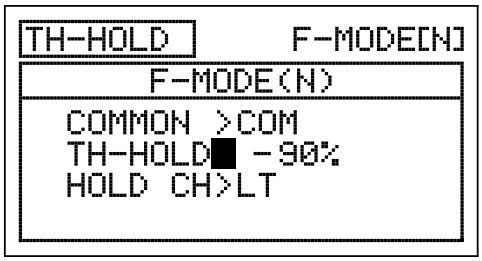
**Changing the Throttle Hold Percentage Value**

**WARNING** Keep in mind that it's possible to set the Throttle Hold lower than the throttle End Point Adjustment. For example, with the throttle End Point Adjustment set to -100% and the Throttle Hold set to -150% the servo will move -150% when the Throttle Hold is Activated. We strongly recommend that you set your Throttle Hold no lower than your throttle End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage.

1) Press the Navigation Pad ▼ to highlight TH-HOLD>-100%.

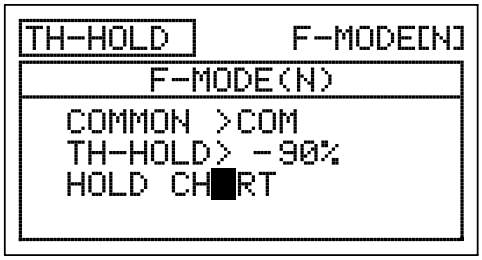
2) Press the YES/+ or NO/- keys to set the position you would like the throttle servo to Hold at when TH-HOLD is Activated.

TH-HOLD setting range is -150% to 0%. The default setting is -100%. Increasing the TH-HOLD percentage value will increase the position at which the throttle servo will Hold at and decreasing the TH-HOLD percentage value will decrease the position at which the throttle servo will Hold at.



**Choosing the Throttle**

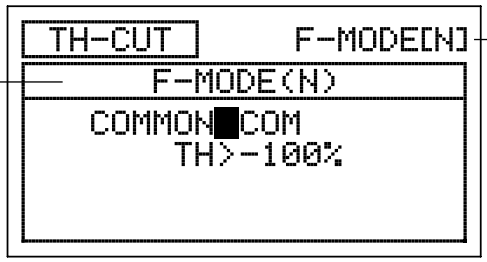
1) If you have programmed Model Type Setting Option THROTTLE>2, press the Navigation Pad ▼ to highlight HOLD CH>LT.




2) Press the YES/+ or NO/- keys to choose which throttle you would like the Throttle Hold function to control, either LT (Left Throttle) or RT (Right Throttle).

## *07.TH-CUT (THROTTLE CUT)*

The Throttle Cut function allows you to set a specific position that the throttle servo will move to. The Throttle Cut function is primarily used to shut down your engine after flight. For example, if your engine idles when the throttle control stick is at the -100% position, you can set the Throttle Cut to -120% to shut down your engine when the Throttle Cut function is Activated. The SD-10G transmitter allows you to program the Throttle Cut percentage values for the Right and the Left engines independently to take into account any differences between throttle linkages. The Throttle Cut function can be programmed separately for each of the five Flight Modes or you can use the same Throttle Cut programming across all five Flight Modes.




TH-CUT Default Switch Position Number: 32

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

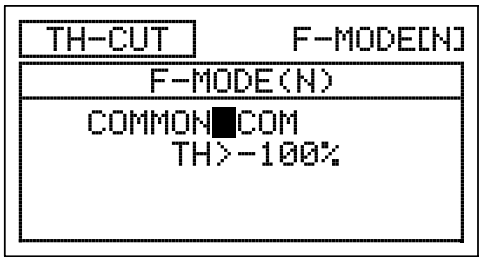
**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TH-CUT setting will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program TH-CUT settings separately for each Flight Mode. When set to SEP (Separate), you can program TH-CUT separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight TH-CUT, then press the ENTER key to display the TH-CUT menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP.

⚠ If set to COM, skip to the Setting the Throttle Cut percentage value below. If set to SEP, see step 3 below.




3) Press the F-MODE key to choose the F-MODE number you would like to program the Throttle Cut function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Throttle Cut function for.

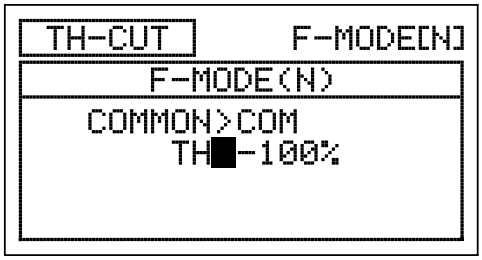
**Changing the Throttle Cut Percentage Value**

**WARNING** Keep in mind that it's possible to set the Throttle Cut lower than the throttle End Point Adjustment. For example, with the throttle End Point Adjustment set to -100% and the Throttle Cut set to -150% the servo will move -150% when the Throttle Cut is Activated. We strongly recommend that you set your Throttle Cut no lower than your throttle End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage.

1) Press the Navigation Pad ▼ to highlight TH>-100%.

2) Press the YES/+ or NO/- keys to set the position you would like the throttle servo to move to when TH-CUT is Activated.

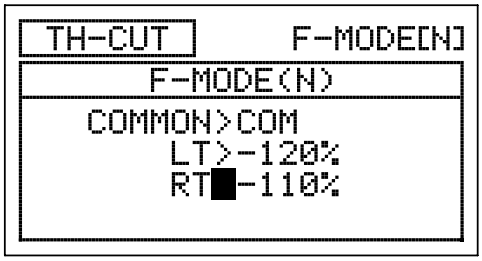
⚠ When the Throttle Cut function is Activated, the throttle control stick will be disabled.




TH-CUT setting range is -150% to 0%. The default setting is -100%. Increasing the TH-CUT percentage value will increase the position that the throttle servo is moved to and decreasing the TH-CUT percentage value will decrease the position that the throttle servo is moved to.

3) If you have programmed Model Type Setting Option THROTTLE>2 press the Navigation Pad ▼ to highlight LT>-100%.

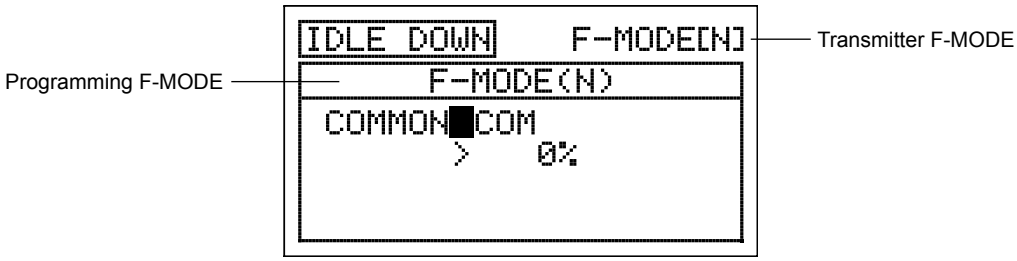
4) Press the YES/+ or NO/- keys to set the position you would like the Left throttle servo to move to when TH-CUT is Activated.




5) Press the Navigation Pad ▼ to highlight RT>-100%, then press the YES/+ or NO/- keys to the position you would like the Right throttle servo to move to when TH-CUT is Activated.

## *08.IDLE DOWN (THROTTLE IDLE DOWN)*

The Idle Down function allows you to set a specific position that the throttle servo will move to. The Idle Down function is similar to the Throttle Cut function, however, whereas the Throttle Cut function is designed to be used to shut down your engine, the Idle Down function is designed to be used to set your engine to a specific idle speed that is different from the idle speed provided when the throttle control stick is pulled all the way back, yet still maintain the full range of throttle travel. For example, you can set one idle speed that you use during normal flight using the throttle trim switch, then you can program a slower idle speed using the Idle Down function for use during landing or when you want your aircraft to stay in position while idling on a paved runway. The Idle Down function can be programmed separately for each of the five Flight Modes or you can use the same Idle Down programming across all five Flight Modes.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

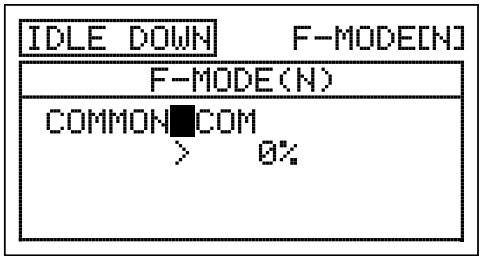
**IMPORTANT** IDLE DOWN must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the IDLE DOWN setting will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program IDLE DOWN settings separately for each Flight Mode. When set to SEP (Separate), you can program IDLE DOWN separately for each Flight Mode.

1) Press the Navigation Pad ▲ ▼ to highlight IDLE DOWN, then press the ENTER key to display the IDLE DOWN menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP.



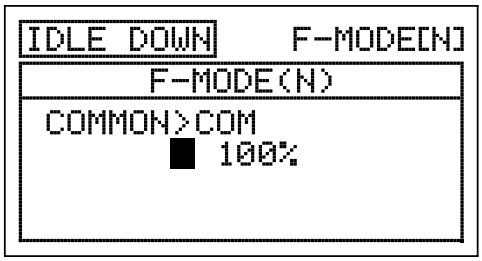

⚠ If set to COM, skip to the Setting the Idle Down percentage value section. If set to SEP, see step 3 below.

3) Press the F-MODE key to choose the F-MODE number you would like to program the Idle Down function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Idle Down function for.

**Changing the Idle Down Percentage Value**

**WARNING** Keep in mind that it's possible to set the Idle Down lower than the throttle End Point Adjustment. For example, with the throttle End Point Adjustment set to -100% and the Idle Down set to -150% the servo travel will increase in that direction when Idle Down is Activated. We strongly recommend that you set your Idle Down no lower than your throttle End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage.

1) Press the Navigation Pad ▼ to highlight >0%, then press the YES/+ or NO/- keys to set the position you would like the throttle servo to move to when IDLE DOWN is Activated.



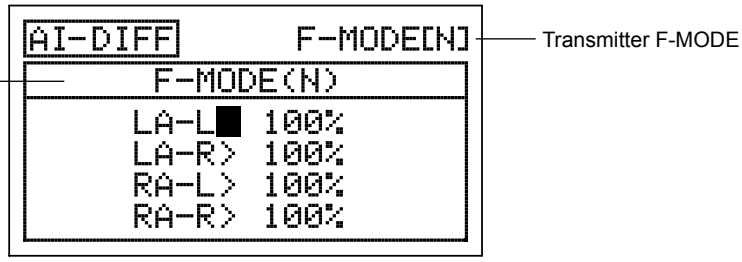

⚠ The Idle Down function will only operate when the throttle control stick is near the idle position. The IDLE DOWN setting is a percentage of total trim. For example, when the Idle Down percentage value is set to 100%, the idle will be moved to the top of the trim range when the Idle Down function is Activated.

IDLE DOWN setting range is -150% to 150%. The default setting is 0%. The IDLE DOWN setting is a percentage of total trim. The throttle trim bug on the Top menu will move when the Idle Down function is Activated, indicating where the throttle trim is currently located. Increasing the IDLE DOWN percentage value will increase the position that the throttle servo is moved to and decreasing the IDLE DOWN percentage value will decrease the position that the throttle servo is moved to.

## *09.AI DIFFERENTIAL (AILERON DIFFERENTIAL)*

The Aileron Differential function allows you change the ratio of the Up to Down movement of each aileron. For example, many aircraft exhibit a yaw tendency when the ailerons are used. Although this can affect any aircraft, it's noticed mostly on high-wing aircraft and aerobatic aircraft. The Aileron Differential function can be used to eliminate the yaw tendency by adding more movement to the upward moving aileron than the downward moving aileron. For example, if your aircraft tends not to stay in a straight line during rolls, you can adjust the Aileron Differential to make the aircraft roll more axially and therefore in a straight line. The Aileron Differential function can be programmed separately for each of the five Flight Modes.

⚠ Although the Aileron Differential settings can be made through the AI-DIFF menu if your model uses only one aileron servo, the Aileron Differential function is intended to be used when your model features two separate aileron servos (one servo controlling each aileron). When only one aileron servo is used, changing AI-DIFF percentage values is essentially the same as changing End Point Adjustment.

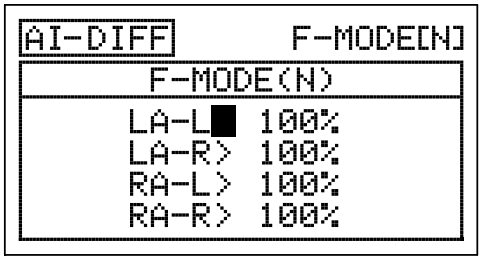



⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight AI DIFFERENTIAL, then press the ENTER key to display the AI-DIFF menu. The cursor will default to LA-L>100%.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Aileron Differential function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Aileron Differential function for.




⚠ When Model Type Setting Option AILERON>1 is chosen, the cursor will default to AI-L>100%

**Changing the Aileron Differential Percentage Values**

Aileron Differential is achieved by reducing the amount of DOWN movement in the required aileron.

**IMPORTANT** Prior to setting the Aileron Differential, you should use the Surface menu EPA Adjustment Option to ensure that each aileron is moving UP and DOWN the same amount.

⚠ Aileron Differential is a percentage of the control throw differential between the ailerons. For example, if you set LA-R (Left Aileron-Right) to 90%, the Left Aileron will move Down less than what the Right Aileron moves Up.

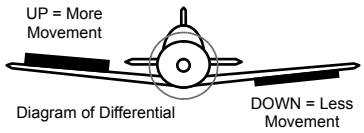
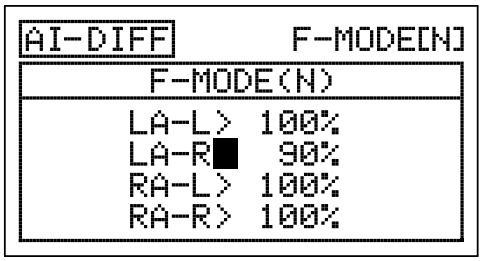


Diagram of Differential

1) Press the Navigation Pad ▲▼ to highlight the desired aileron travel direction you would like to change the Aileron Differential setting for. For example, if you need the Right Aileron to move Up more than the Left Aileron moves Down (per the diagram above right), you would decrease the LA-R>100% (Left Aileron-Right) percentage value.

2) Press the YES/+ or NO/- keys to set the desired Aileron Differential percentage value.

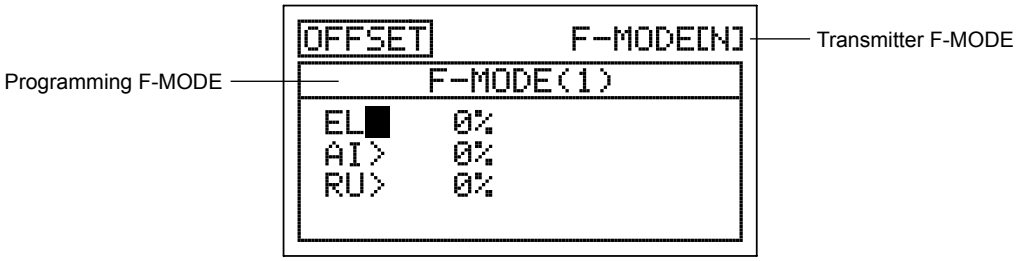



AI-DIFF setting range is 0% to 100%. The default setting is 100%. Decreasing the AI-DIFF percentage value will decrease the movement for that specific aileron and direction of travel. The Aileron Differential percentage value is a percentage of End Point Adjustment.

3) Repeat the previous procedures to set the desired remaining Aileron Differential percentage values.

## *10.OFFSET (CHANNEL OFFSET - ELEVATOR, AILERON, AND RUDDER)*

The Offset function allows you to shift and hold the neutral position of the desired elevator, aileron, and rudder servo(s) during flight. For example, if you are flying a large scale aircraft that requires a certain amount of Up elevator trim during descent or landing, you can use the Offset function to shift the neutral position of the elevator servo Up, so that when the Offset function is Activated when you change to the Flight Mode you've programmed the Offset function in, the elevator moves Up the desired amount. This prevents the need to constantly add elevator trim using the elevator trim switch. Offsets can be programmed for one direction of servo travel on each of the elevator, aileron, and rudder servos independently, and can be programmed separately for each of the five Flight Modes.

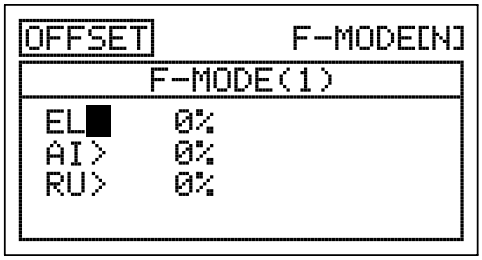



⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight OFFSET, then press the ENTER key to display the OFFSET menu. The cursor will default to EL>0%.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Offset function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Offset function for.




⚠ The channels displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual elevator servos, LE and RE will be displayed and the Offset for both servos can be adjusted.

**IMPORTANT** To avoid confusion from Offset servo positions causing an unexpected trim problem (such as taking off with the servos in an Offset position, we recommend programming the Offset to a Flight Mode other than your Normal Flight Mode.

**Changing the Offset Percentage Values**

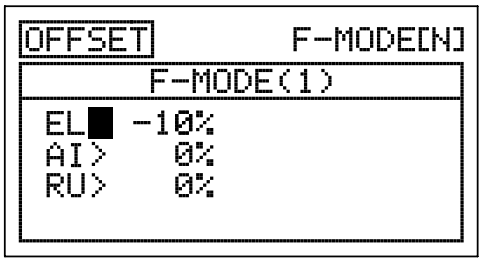
**IMPORTANT** The Offset function shifts the neutral position of the servo, along with the two End Points. For example, with the elevator Offset set to 10% in the Up direction, when the Offset function is Activated using the Flight Mode switch, the elevator control surface will move Up 10% further and Down 10% less. 100% percent control deflection is maintained, however, the neutral position of the servo (and the control surface) is shifted 10% in the Up direction.

⚠ The neutral position of the servo will shift the same percentage that you set the Offset percentage value for when the Offset function is Activated, regardless of control stick position. For example, if you set 10% elevator Offset and the elevator control stick is at neutral, the elevator servo neutral position will shift 10% (Up or Down) when the Offset function is Activated. If you're holding a certain amount of elevator, then Activate the Offset function, the elevator will move 10% further (Up or Down) from the currently held position.

1) Press the Navigation Pad ▲▼ to highlight the desired channel you would like to change the Offset setting for.

2) Press the YES/+ or NO/- keys to set the desired Offset percentage value.

OFFSET setting range is -100% to 100%. The default setting is 0%.




**WARNING** Depending on the ratio between your servo Limits setting and your Offset setting, there could be limited usable control throw. For example, if your servo Limits are set to 100% and your Offset is set to 50%, this will result in only 50% usable control throw in one direction.

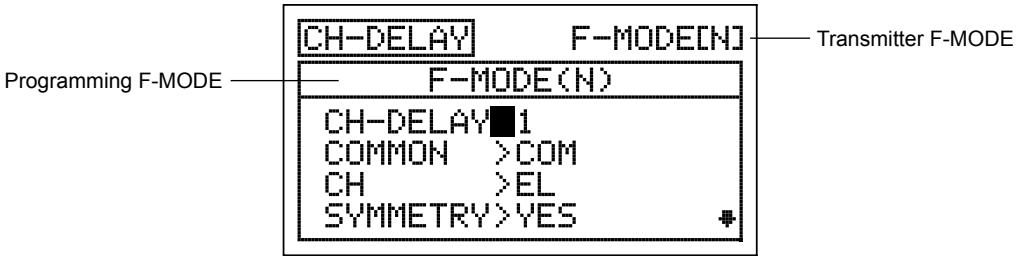
3) Repeat the previous procedures to set the desired remaining Offset percentage values.

## *11.CH DELAY (CHANNEL SERVO DELAY)*

The Channel Delay function allows you to adjust the speed of individual servos. This function has several uses. For example, not all servos operate at the same exact speed. If your model uses two separate elevator servos, you may find that even though the servos are the same, one servo may move faster than the other. You can use the Channel Delay function to slow down the faster servo to match the slower servo. The Channel Delay function can also be used to slow down a servo that controls flaps or mechanical retractable landing gear to achieve a more scale transit time.

The Channel Delay function can be programmed to operate in a number of different combinations to suit just about any model setup or control function need. Up to five Channel Delay functions can be programmed separately for each of the five Flight Modes or you can use the same Channel Delay programming across all five Flight Modes.

⚠ The Channel Delay function does not affect when the servo starts to respond to control stick movement. The Channel Delay function affects only the transit time of the servo.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Each CH-DELAY function (CH-DELAY 1, 2, 3, 4, and 5) must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

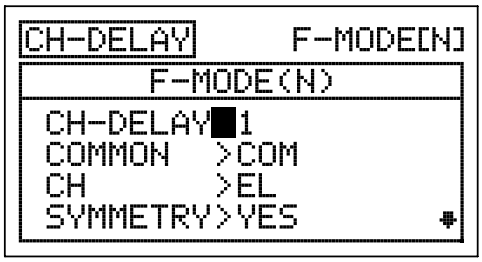
**Choosing the Channel Delay Number**

Up to five separate Channel Delay functions can be programmed for each Flight Mode, however, only one channel can be assigned to one Channel Delay function at a time. For example, if you want to program Channel Delay for the elevator and the aileron channels, you would need to program Elevator to CH-DELAY 1 and Aileron to CH-DELAY 2.

⚠ Although only one channel can be assigned to one Channel Delay function at a time, you can still Activate multiple Channel Delay Functions at the same time by assigning the Channel Delay functions to the same Switch Position Number. For example, assign both CH-DELAY 1 and CH-DELAY 2 to Switch Position 23. This is particularly useful if want to program the same Channel Delay percentage values to a model that uses two different aileron servos or two different elevator servos.

1) Press the Navigation Pad ▲▼ to highlight CH-DELAY, then press the ENTER key to display the CH-DELAY menu. The cursor will default to CH-DELAY>1. Press the YES/+ and NO/- keys to choose the CH-DELAY number you would like to program Channel Delay for.

CH-DELAY setting range is 1, 2, 3, 4, or 5.



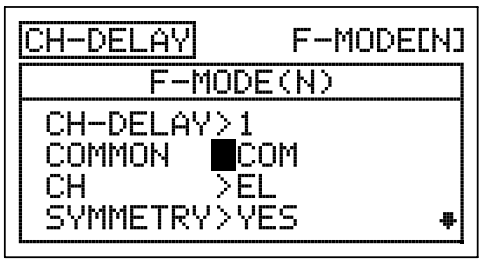

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the CH-DELAY setting will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program CH-DELAY settings separately for each Flight Mode. When set to SEP (Separate), you can program different CH-DELAY settings separately for each Flight Mode.

1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP.

⚠ If set to COM, skip to the Choosing the Channel section. If set to SEP, see step 2 below.

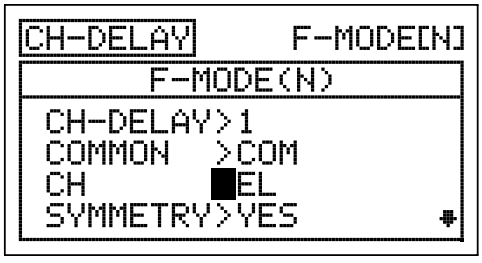
2) Press the F-MODE key to choose the F-MODE number you would like to program the Channel Delay function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Channel Delay function for.

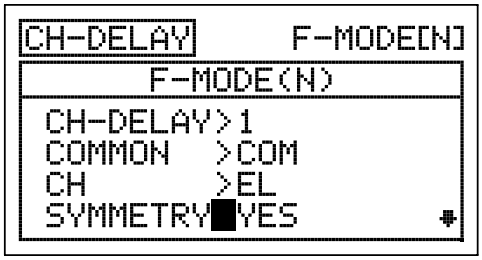



**Choosing the Channel**

1) Press the Navigation Pad ▼ to highlight CH>EL, then press the YES/+ or NO/- keys to choose which Channel you want to program Channel Delay for.

⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual aileron servos, LA and RA will be separate options.

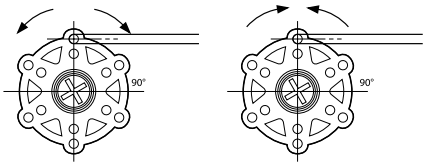




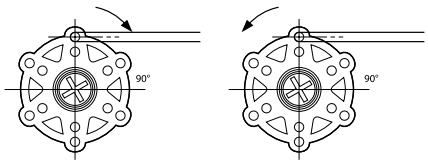

**Changing the Symmetry Value**

1) Press the Navigation Pad ▼ to highlight SYMMETRY>YES, then press the YES/+ or NO/- keys to change the Symmetry option.

The following Symmetry options are available:




**YES** - Selecting this option results in the Channel Delay function affecting the speed of the servo in both directions equally.



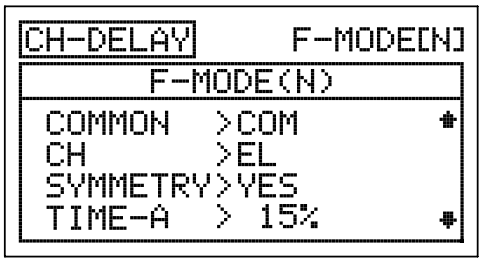

**NO** - Selecting this option results in the Channel Delay function affecting the speed of the servo in only one direction.

**Changing the Time-A Percentage Value**

The Time-A setting adjusts the Channel Delay when the servo moves from the neutral position to either End Point (Symmetry YES), and in a single direction (Symmetry NO), either clockwise or counter-clockwise, depending on the Servo Reversing setting in the Surface menu.

1) Press the Navigation Pad ▼ to highlight TIME-A>0%, then press the YES/+ or NO/- keys to change the Time-A percentage value.

TIME-A setting range is 0% to 100%. The default setting is 0%. When the Time-A percentage value is increased, the servo transit time will be slowed down. At 0%, the servo moves at its normal speed. At 100%, the servo takes approximately 15 seconds to move from the neutral position to 100% or -100% travel.



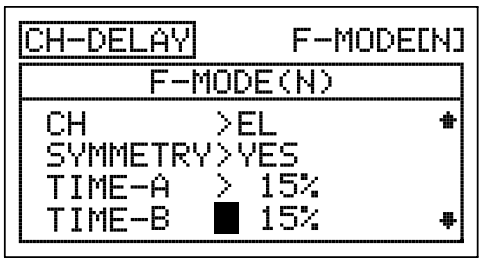

**Changing the Time-B Percentage Value**

The Time-B setting adjusts the Channel Delay when the servo moves from either End Point to the neutral position (Symmetry YES), and in a single direction (Symmetry NO), either clockwise or counter-clockwise, depending on the Servo Reversing setting in the Surface menu.

If a Time-A percentage value is set with SYMMETRY>NO, the Time-B setting will affect the Channel Delay function in the direction opposite the Time-A Channel Delay setting, regardless of the Servo Reversing setting.

1) Press the Navigation Pad ▼ to highlight TIME-B>0%, then press the YES/+ or NO/- keys to change the Time-B percentage value.

TIME-B setting range is 0% to 100%. The default setting is 0%. When the Time-B percentage value is increased, the servo transit time will be slowed down. At 0%, the servo moves at its normal speed. At 100%, the servo takes approximately 15 seconds to move from one 100% or -100% travel to the neutral position.



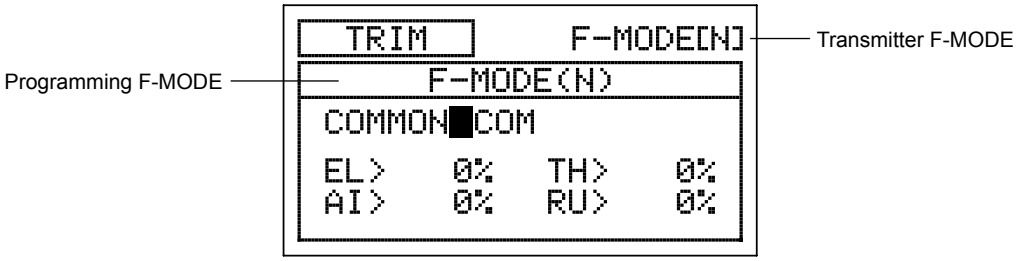

If you want to ensure that a servo will move at the same speed in both directions, for example, to match the speed of a second servo, make sure the Symmetry is set to YES and the that both the Time-A and the Time-B percentage values are the same.

## 12.TRIM (CONTROL SURFACE TRIM)

The Trim function allows you to view the current Digital Trim Positions of the four flight control surfaces. In addition, you are able to fine-tune the Digital Trim Positions, using the YES/+ and No/- keys. For example, in the default configuration, when you move the elevator trim switch, the Trim percentage value changes in 6% increments. When you press the YES/+ and NO/- keys to change the elevator Trim percentage value, the Trim percentage value changes in 1% increments. You can also choose to program specific Trim percentage values separately for each of the five Flight Modes or you can use the same Trim percentage values across all five Flight Modes.

⚠ The SD-10G transmitter features Digital Trim Memory. Any amount of trim that you set during flight, using either the trim switches or the YES/+ and NO/- keys from within the Trim menu, is automatically stored in memory for that specific channel and model, and for that specific Flight Mode (if enabled). The Trim percentage values for each model will automatically be loaded when the transmitter is turned ON and your model is selected.

⚠ An audible tone is heard when the trim switches reach the center position. This allows you to know when the trim switches reach the center position without the need to look at the Trim Indicators on the Top menu.

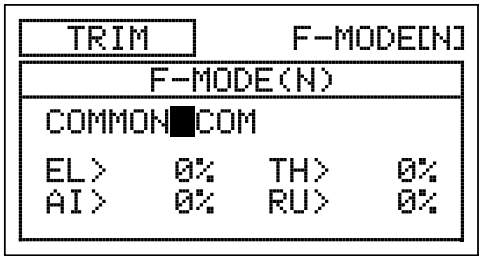



⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TRIM settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program or store TRIM settings separately for each Flight Mode. When set to SEP (Separate), you can program and store different TRIM settings separately for each Flight Mode.

**IMPORTANT** When the Flight Mode is set to Separate, Trim percentage values are stored in the specific Flight Mode you're using when you change the Trim percentage values, whether with the trim switches or with the YES/+ and NO/- keys within the Trim menu. For example, you could have 10% elevator trim in Flight Mode N (Normal) and 5% elevator trim in Flight Mode 1. **Be cautious of this when switching between Flight Modes during flight.**




1) Press the Navigation Pad ▲▼ to highlight TRIM, then press the ENTER key to display the TRIM menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Trim Percentage Values section. If set to SEP, see step 3 below.

3) Press the F-MODE key to choose the F-MODE number you would like to program the Trim function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Trim function for.

**Changing the Trim Percentage Values**

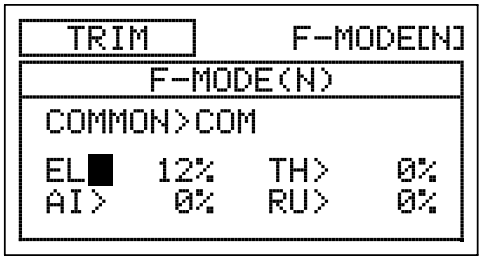
The current Trim percentage values for each of the flight control surfaces is displayed. The Trim percentage values can be changed, if desired, using either the trim switches or the YES/+ and NO/- keys (from within the Trim menu only).

⚠ The Trim percentage values are displayed as a percentage of total trim. They are not displayed as a percentage of servo travel.

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the channel you would like to change the Trim percentage value for, then press the YES/+ or NO/- keys to change the Trim percentage value.

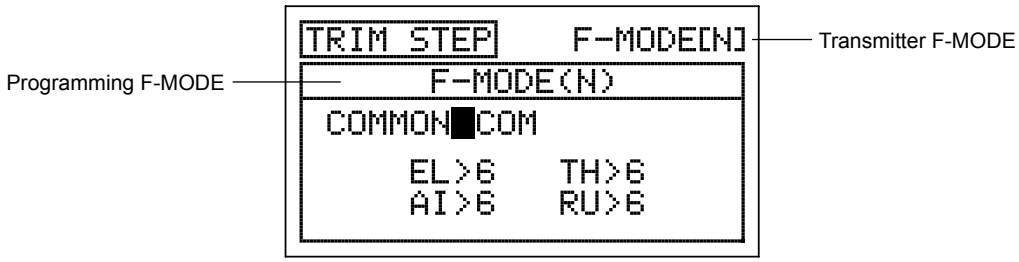
TRIM setting range is -150% to 150%. The default setting is 0%.

⚠ Press the YES/+ and NO/- keys at the same time to set the Trim percentage value to 0% for the selected channel.




## 13.TRIM STEP (CONTROL SURFACE TRIM STEP RESOLUTION)

The Trim Step function allows you to adjust how far the servo travels when the trim switch is moved. This allows you to change the Trim function resolution to suit your preference. For example, in the default configuration, when you move the elevator trim switch, the Trim percentage value changes in 6% increments. You can increase the resolution by decreasing the Trim Step value, so that the servo travels less when you move the trim switch. This makes it possible to fine-tune the trim settings extremely accurately. In addition, you could decrease the resolution by increasing the Trim Step value, so that the servo travels more when you move the trim switch. This makes setting large amounts of trim faster, but the trim setting may not be as accurate. You can choose to program Trim Step values separately for each of the five Flight Modes or you can use the same Trim Step programming values across all five Flight Modes.



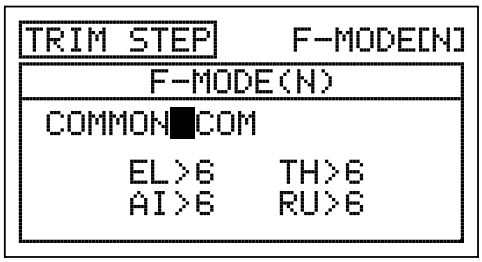

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TRIM STEP settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program TRIM STEP settings separately for each Flight Mode. When set to SEP (Separate), you can program different TRIM STEP settings separately for each Flight Mode.

1) Press the Navigation Pad ▲ ▼ to highlight TRIM STEP, then press the ENTER key to display the TRIM STEP menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Setting the Trim Step Values section. If set to SEP, see step 3 below.

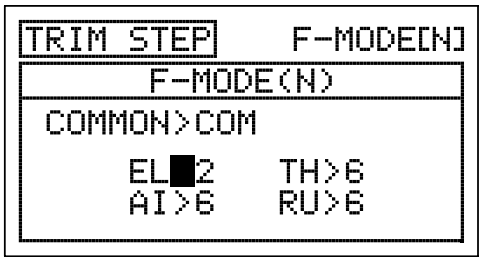



3) Press the F-MODE key to choose the F-MODE number you would like to program the Trim Step function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Trim Step function for.

**Changing the Trim Step Values**

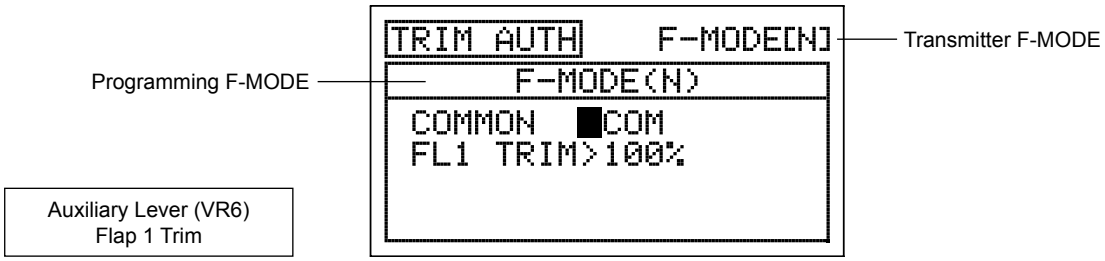
1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the channel you would like to change the Trim Step value for, then press the YES/+ or NO/- keys to change the Trim Step value.

TRIM STEP setting range is 1 to 30. The default setting is 6. Increasing the Trim Step value causes the servo to travel more when the trim switch is moved (lower resolution). Decreasing the Trim Step value causes the servo to move less when the trim switch is moved (higher resolution).



## *14.TRIM AUTH (TRIM AUTHORITY FLAP 1 VR AUXILIARY LEVER OVERRIDE)*

The Trim Authority function allows you to control the flap channel using one of the Auxiliary Levers (VR5 or VR6) or the Auxiliary Dial (VR7) when the flap switch is in Flap Position 1. In the default configuration, this function is assigned to Auxiliary Lever (VR6). This allows you not only to have the option of using the three-position flap switch to control the flaps, but also the option of using an auxiliary lever to variably control the flaps. You can choose to program Trim Authority values separately for each of the five Flight Modes or you can use the same Trim Authority programming values across all five Flight Modes.



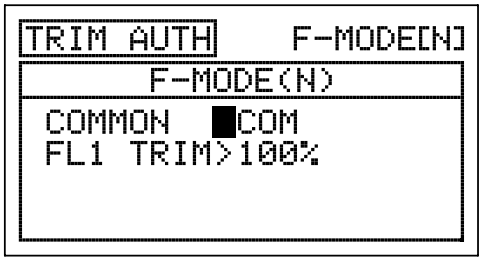

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TRIM AUTH settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program TRIM AUTH settings separately for each Flight Mode. When set to SEP (Separate), you can program different TRIM AUTH settings separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight TRIM AUTH, then press the ENTER key to display the TRIM AUTH menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Flap 1 Trim Percentage Value section. If set to SEP, see step 3 below.




3) Press the F-MODE key to choose the F-MODE number you would like to program the Trim Authority function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Trim Authority function for.

**Changing the Flap 1 Trim Percentage Value**

In the default configuration, the flaps are programmed to a three-position switch. When the switch is in Flap Position N, the flaps are full up. When the switch is in Flap Position 1, the flaps are 50% down [with Auxiliary Lever (VR6) centered], and when the switch is in Flap Position 2, the flaps are 100% down. This can be seen by looking at the FL (Flap) channel in the Surface menu.

⚠ Auxiliary lever VR6 will variably control the flap channel **ONLY** when the flap switch is in Flap Position 1.

When the Flap 1 Trim Authority percentage value is set to 100%, Auxiliary Lever (VR6) will control the flaps variably from 0% to 100% travel. When the Flap 1 Trim Authority percentage value is set to 0%, Auxiliary Lever (VR6) is Inhibited and will **NOT** control the flaps at all. When the Flap 1 Trim Authority percentage value is set anywhere between the 0% and 100%, the flap's center position will be lowered and the overall travel when Auxiliary Lever (VR6) is used to control the flaps will be decreased.

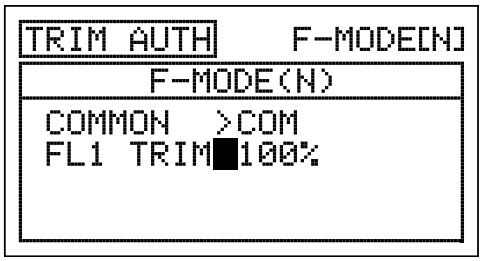
⚠ If the Flap 1 Trim Authority percentage value is set lower than 100%, the center position of the flaps will be lowered when the flap switch is in Flap Position 1. In this situation, to raise the flaps completely, the flap switch must be moved to Flap Position N.

**IMPORTANT** Auxiliary lever VR6 cannot control the flap servo movement more than 100% travel. If your Flap Position 2 End Point Adjustment is set to a percentage value greater than 100%, you will need to move the flap switch to Flap Position 2 to lower the flaps beyond the 100% that is controlled by Auxiliary Lever (VR6) while the flaps are in Flap Position 1.

**IMPORTANT** In the default configuration, Auxiliary Lever (VR6) variably controls the flap channel when the flap switch is in Flap Position 1. Prior to setting your flap End Point Adjustments in the Surface menu, make sure that Auxiliary Lever (VR6) is centered.

1) Press the Navigation Pad ▼ to highlight FL1 TRIM>100%, then press the YES/+ or NO/- keys to change the FL1 TRIM percentage value.

FL 1 TRIM setting range is 0% to 100%. The default setting is 100%. Decreasing the FL 1 TRIM percentage value lowers the flap center position and decreases the overall travel when Auxiliary Lever (VR6) is used to control the flaps.

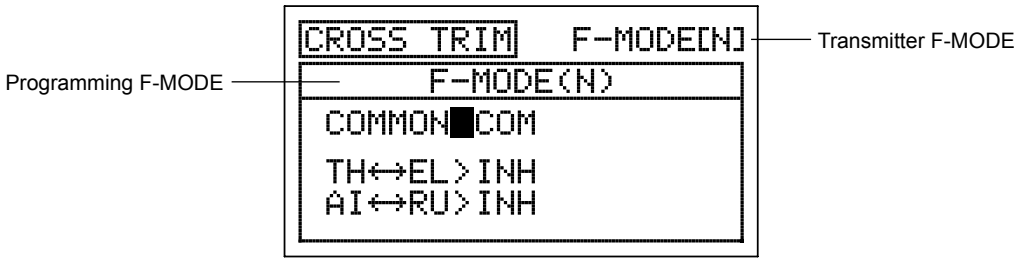



**IMPORTANT** When the flap switch is moved to Flap Position 1, the flaps will move to the position where Auxiliary Lever (VR6) was last left in.

⚠ The Trim Authority Flap 1 VR Auxiliary Lever Override function can be turned OFF by changing the FLAP1>VR6 setting in the VR ASSIGN menu. For more information, see page 106.

## *15.CROSS-TRIM (CONTROL SURFACE CROSS-TRIM)*

The Cross-Trim function allows you to electronically swap trim switch functions. Some pilots prefer this over the standard arrangement in which the trim switches adjacent to the control sticks control the trim for that control function. For example, in the default configuration, the throttle trim switch will control the throttle trim and the elevator trim switch will control the elevator trim. With TH◀ ▶EL Cross-Trim Activated, the throttle trim switch will control the elevator trim and the elevator trim switch will control the throttle trim. You can choose to program Cross-Trim separately for each of the five Flight Modes or you can use the same Cross-Trim programming across all five Flight Modes.



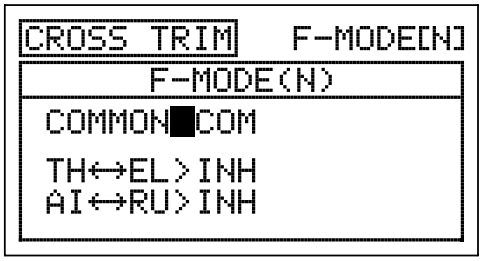

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the CROSS-TRIM settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program CROSS-TRIM settings separately for each Flight Mode. When set to SEP (Separate), you can program different CROSS-TRIM settings separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight CROSS-TRIM, then press the ENTER key to display the CROSS-TRIM menu. The cursor will default to COMMON>COM.

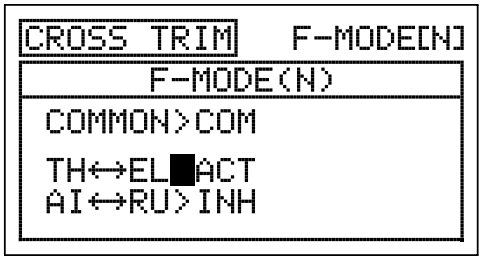
2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Throttle/Elevator Cross-Trim section. If set to SEP, see step 3 below.




3) Press the F-MODE key to choose the F-MODE number you would like to program the Cross-Trim function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Cross-Trim function for.

**Changing the Throttle/Elevator Cross-Trim**

1) Press the Navigation Pad ▼ to highlight TH◀ ▶EL>INH, then press the YES/+ or NO/- keys to change the TH◀ ▶EL Cross-Trim setting.




CROSS-TRIM setting range is INH/ACT. The default setting is INH. When Activated, the throttle trim switch will control the elevator trim and the elevator trim switch will control the throttle trim.

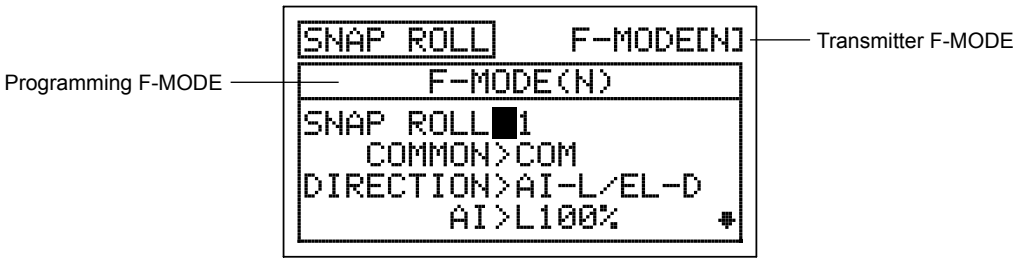
**Changing the Aileron/Rudder Cross-Trim**

1) Press the Navigation Pad ▼ to highlight AI◀ ▶RU>INH, then press the YES/+ or NO/- keys to change the AI◀ ▶RU Cross-Trim setting.

CROSS-TRIM setting range is INH/ACT. The default setting is INH. When Activated, the aileron trim switch will control the rudder trim and the rudder trim switch will control the aileron trim.

## *16.SNAP ROLL (SNAP ROLL)*

The Snap Roll function allows you to program a custom Snap Roll setting and assign it to a Switch Position Number. Some pilots prefer to use a switch to perform a snap roll instead of performing the snap roll by hand. The Snap Roll function can be programmed to perform snap rolls in both the left and right, and the up and down directions. Each of the three control surfaces can also be adjusted separately to fine-tune the control throws. Two different Snap Roll functions can be programmed and you can choose to program the Snap Roll function separately for each of the five Flight Modes or you can use the same Snap Roll programming across all five Flight Modes.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Each SNAP ROLL function (SNAP ROLL>1 and SNAP ROLL>2) must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

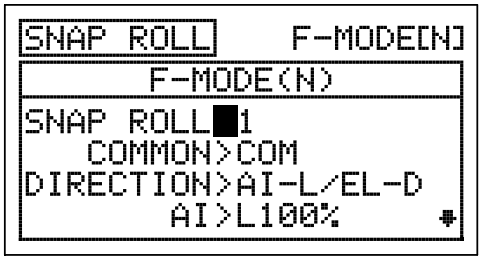
**WARNING** For ease of use, we strongly recommend that the Snap Roll function be assigned to the spring-loaded switch. For example, assign SNAP ROLL>1 to Switch Position 19 or 21.

**Choosing the Snap Roll Number**

Two separate Snap Roll functions can be programmed. For example, you could program SNAP ROLL>1 to snap roll to the left and up, and program SNAP ROLL>2 to snap roll to the right and down. You can then assign each Snap Roll function to a separate Switch Position Number.

1) Press the Navigation Pad ▲▼ to highlight SNAP ROLL, then press the ENTER key to display the SNAP ROLL menu. The cursor will default to SNAP ROLL>1.

2) Press the YES/+ and NO/- keys to choose the SNAP ROLL number you would like to program the Snap Roll function for.



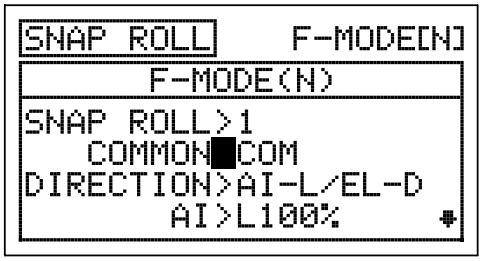

SNAP ROLL setting range is 1 or 2. The default setting is 1.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the SNAP ROLL settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program SNAP ROLL settings separately for each Flight Mode. When set to SEP (Separate), you can program different SNAP ROLL settings separately for each Flight Mode.

1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Choosing the Snap Roll Direction section. If set to SEP, see step 2 below.

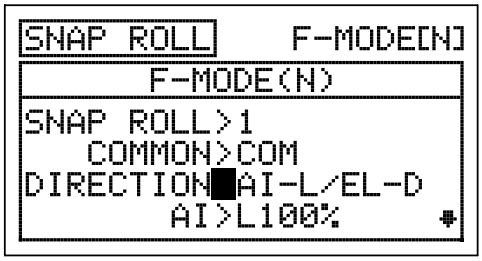
2) Press the F-MODE key to choose the F-MODE number you would like to program the Snap Roll function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Snap Roll function for.




**Choosing the Snap Roll Direction**

1) Press the Navigation Pad ▼ to highlight DIRECTION>AI-L/EL-D.

2) Press the YES/+ or NO/- keys to choose which direction you want the ailerons and the elevator to move (i.e., which directions you want the aircraft to perform the snap roll).




The following Snap Roll Direction options are available:

**AI-L/EL-D** - Ailerons Left, Elevator, Down, and Rudder Right.

**AI-L/EL-U** - Ailerons Left, Elevator Up, and Rudder Left.

**AI-R/EL-D** - Ailerons Right, Elevator Down, and Rudder Left.

**AI-R/EL-U** - Ailerons Right, Elevator Up, and Rudder Right.

**Changing the Control Surface Percentage Values**

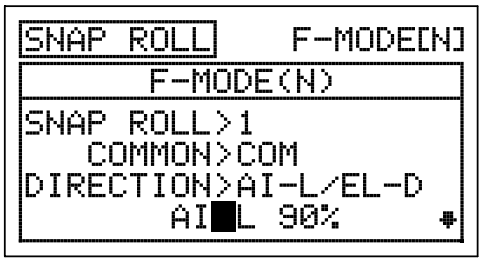
Changing the control surface percentage values allows you to fine-tune the control throws so that the aircraft will perform the snap roll in the desired manner intended.

**WARNING** Keep in mind that it's possible to set the control surface percentage values higher than the End Point Adjustments. For example, with the aileron End Point Adjustment set to 100% and the Aileron Left percentage value set to 150% the servo will move 150% when the Snap Roll function is Activated. We strongly recommend that you set your control surface percentage values no higher than your End Point Adjustments unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage.

1) Press the Navigation Pad ▼ to highlight AI>L100% (AI>R100% if AI-R/EL-D or AI-R/EL-U is selected).

2) Press the YES/+ or NO/- keys to change the Aileron control surface percentage value.

AI setting range is R150% to L150%. The default setting is L100% (R100% if AI-R/EL-D or AI-R/EL-U is selected).




3) Repeat the previous procedures to change the desired remaining control surface percentage values.

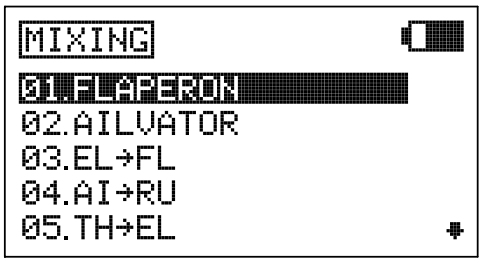
⚠ The channels displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual aileron servos and dual elevator servos, LA, RA, LE, and RE will be displayed and the control surface percentage values can be changed for each servo individually.

⚠ If you decrease the percentage values to 0% and beyond, the percentage values will begin to increase in the opposite direction. We don't suggest doing this unless you would like to use the percentage values to create your own custom control throw configuration.

## 17.MIXING (CHANNEL MIXING)

The SD-10G transmitter features a number of pre-programmed mixes that can all be adjusted to suit just about any model setup or mixing need that you might have. If for some reason one of the pre-programmed mixes will not suffice, you can custom-program one or more of the available five Compensation Mixers. For more information, see page 102.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.




The pre-programmed mixes shown in the tables below are available.

| MIX | DESCRIPTION |
|---|---|
| FLAPERON | Flaperon (Flap/Aileron) Mixing |
| AILVATOR | Ailvator (Taileron) Mixing |
| EL ▸ FL | Elevator to Flap Mixing |
| AI ▸ RU | Aileron to Rudder Mixing |
| TH ▸ EL | Throttle to Elevator Mixing |

| MIX | DESCRIPTION |
|---|---|
| TH ▸ RU | Throttle to Rudder Mixing |
| RU ▸ EL | Rudder to Elevator Mixing |
| RU ▸ AI | Rudder to Aileron Mixing |
| RU ▸ TH | Rudder to Throttle Mixing |
| FL ▸ EL | Flap to Elevator Mixing |

⚠ Aside from the Flaperon and Ailvator mixes, all pre-programmed mixes are described in the following manner: Master ▸ Slave. For example, For the EL ▸ FL mix, the Elevator channel is the Master and the Flap channel is the Slave. In all cases, the Master channel always controls the Slave channel.

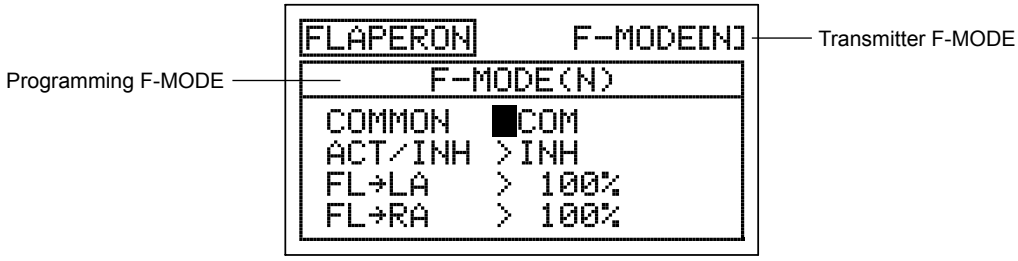
⚠ All pre-programmed mixes are Linear. For example, if you Activate the EL ▸ FL mix and set the mixing percentage value to 50%, the flap servo will travel half the amount that the elevator servo moves at any given control stick position.

**WARNING** When a pre-programmed mix is Activated, including the Flaperon and the Ailvator mixes, you still have separate control over the Slaved channel, however, depending on the mixing percentage value, the Slave channel End Point Adjustment could be exceeded. We strongly recommend that if you use the pre-programmed mixes that you set your Slave channel Limits no higher than that channel's End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage when the mix is used.

**General Overview**

Each of the ten mixes can be programmed separately for each of the five Flight Modes or you can use the same Mixing programming across all five Flight Modes.

**IMPORTANT** Each Mixing function, except Flaperon and Ailvator, must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.



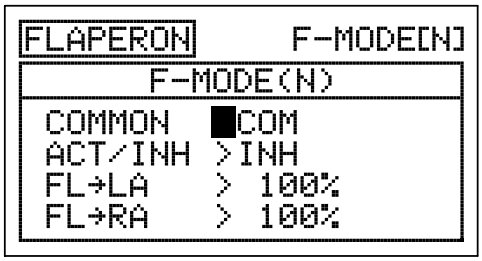

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate (All Mixing Options)**

When set to COM (Common), the mixing settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program mixing settings separately for each Flight Mode. When set to SEP (Separate), you can program different mixing settings separately for each Flight Mode.

1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Activating or the Percentage Value Selections sections. If set to SEP, see step 2 below.

2) Press the F-MODE key to choose the F-MODE number you would like to program the mixing function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the mixing function for.




## Flaperon Mixing

The Flaperon Mixing function mixes flaps and ailerons, allowing you to use the ailerons as flaps if your model does not feature separate flaps. When Activated, both ailerons are moved down at the same time to provide the function of flaps, while still providing aileron roll control. Both ailerons can also be programmed to move up at the same time (spoilerons) to rapidly decrease lift. On some aircraft, moving both ailerons up slightly can induce greater speeds and also aid in trimming.

**Flaperons** - Both ailerons down **Spoilerons** - Both ailerons up.

⚠ To be able to Activate Flaperon mixing, your model must feature two separate aileron servos (one servo controlling each aileron) and AILERON>2 must be selected SYSTEM ▸ TYPE menu.

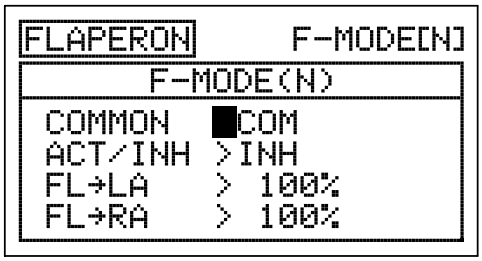
⚠ The Flaperons are controlled by the flap switch. Flap End Point Adjustments and Auxiliary Lever (VR6) programming settings will carry over when the Flaperon mixing function is Activated. For example, to set the control throws for the Flaperons, change the flap switch Switch Position N, 1, and 2 End Point Adjustment Values in the Surface menu. For more information on Auxiliary Lever (VR6) programming, see page 89.

**IMPORTANT** To mix Elevator to Flaperons/Spoilerons for 3D aerobatic aircraft, a C-Mix must be used. For more information, see page 102.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

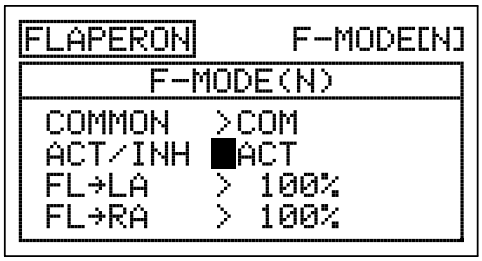
2) Press the ENTER key to display the FLAPERON menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.



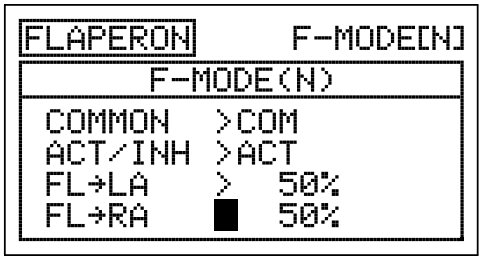

4) Press the Navigation Pad ▼ to highlight ACT/INH>INH, then press the YES/+ or NO/- keys to change the ACT/INH setting.

FLAPERON setting range is INH/ACT. The default setting is INH. When Activated, the flap switch will control the Flaperons.



5) The Flaperon mixing percentage values can be changed for each aileron separately. Press the Navigation Pad ▼ to highlight FL ▸ LA>100%, then press the YES/+ or NO/- keys to change the Flaperon ▸ Left Aileron percentage value.

6) Press the Navigation Pad ▼ to highlight FL ▸ RA>100%, then press the YES/+ or NO/- keys to change the Flaperon ▸ Right Aileron percentage value.




FL ▸ LA and FL ▸ RA setting range is -100% to 100%. The default setting is 100%. When the percentage value is decreased from 100% to 0%, Flaperon travel will decrease in one direction. When the percentage value is decreased from 0% to -100%, Flaperon travel will increase in the opposite direction.

⚠ FL ▸ LA and FL ▸ RA percentage values will vary based on the NOR/REV Adjustment Value of the two aileron servos when set up in the Surface menu. For example, depending on the NOR/REV status of the aileron servos, increasing the percentage values may cause the Flaperons to move up (Spoilerons), instead of down (Flaperons).

**IMPORTANT** Adjusting the FL ▸ LA and FL ▸ RA percentage values changes the percentage of Flaperon travel in relation to the flap channel End Point Adjustment. For example, if the flap switch Flap Position 2 End Point Adjustment is set to 100% and the Flaperons move down 2", changing the FL ▸ LA and FL ▸ RA percentage values to 50% will cause the Flaperons to move down 1". In addition, changing the FL ▸ LA and FL ▸ RA percentage values to -50% will cause the Flaperons to move up 1" (Spoilerons).

## Ailvator Mixing

The Ailvator Mixing function mixes ailerons and elevator, allowing you to have both roll control and pitch control on the elevator, separate from the ailerons. When Activated, not only will the two elevator halves move up and down together, but each elevator half can move up and down independently like ailerons. This function is commonly referred to as tailerons (or stabilators), and is normally found on aircraft that feature full-flying stabilizers.

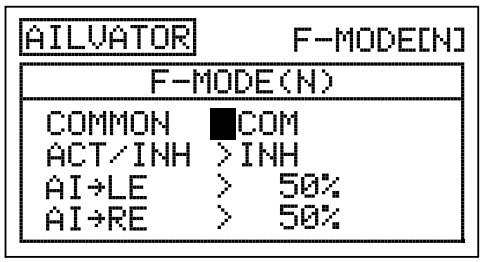
⚠ To be able to Activate Ailvator mixing, your model must feature two separate elevator servos (one servo controlling each elevator half) and TAIL>2xEL must be selected in the SYSTEM ▸ TYPE menu.

**IMPORTANT** In order for the Ailvator mixing function to work as intended, one of the elevator servos must be reversed (using the NOR/REV setting in the Surface menu), so that both elevator servos move the same direction up and down.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

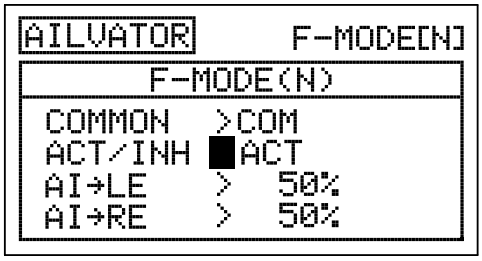
2) Press the Navigation Pad ▼ to highlight AILVATOR, then press the ENTER key to display the AILVATOR menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.



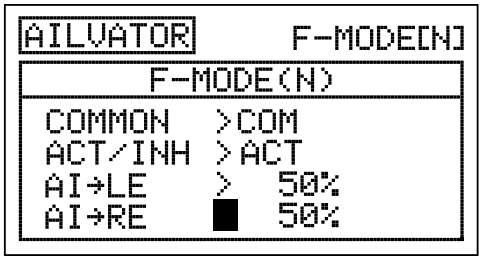

4) Press the Navigation Pad ▼ to highlight ACT/INH>INH, then press the YES/+ or NO/- keys to change the ACT/INH setting.

AILVATOR setting range is INH/ACT. The default setting is INH. When Activated, the two elevator halves will function like elevators and ailerons.



5) The Ailvator mixing percentage values can be changed for each elevator servo separately. Press the Navigation Pad ▼ to highlight AI ▸ LE>50%, then press the YES/+ or NO/- keys to change the Aileron ▸ Left Elevator percentage value.

6) Press the Navigation Pad ▼ to highlight AI ▸ RE>50%, then press the YES/+ or NO/- keys to change the Aileron ▸ Right Elevator percentage value.




AI ▸ LE and AI ▸ RE setting range is -100% to 100%. The default setting is 50%. Adjusting the percentage values will change the ratio of elevator roll travel to elevator pitch travel. For example, when the Aileron ▸ Left Elevator and the Aileron ▸ Right Elevator percentage values are both set to 50%, the elevator roll travel will be half the amount of the elevator pitch travel at any given control stick position.

⚠ Setting one percentage value opposite of the other percentage value will cause both elevator servos to move together when the elevator/aileron control stick is moved in both the up and down, and the right and left directions.

### Elevator to Flap Mixing

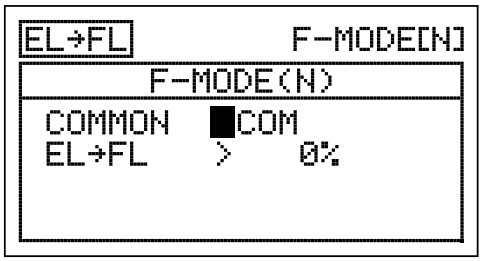
The Elevator to Flap Mixing function allows you to mix a percentage of flap control with elevator control. When you move the elevator up and down, the flaps will move up and down. The Elevator to Flap Mixing function is typically used with Fun-Fly aircraft to enable near-instantaneous pitch changes. The amount and the direction that the flaps move with elevator control is adjusted by changing the Elevator ▸ Flap mixing percentage value either positive or negative.

**IMPORTANT** The Elevator to Flap Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

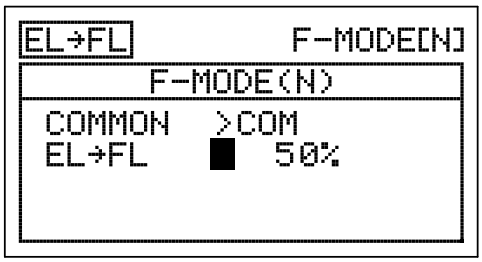
2) Press the Navigation Pad ▼ to highlight EL ▸ FL, then press the ENTER key to display the EL ▸ FL menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight EL ▸ FL>0%.

5) Press the YES/+ or NO/- keys to change the Elevator ▸ Flap mixing percentage value.




⚠ The Elevator ▸ Flap mixing percentage value is a ratio of flap travel to elevator travel. For example, when the Elevator ▸ Flap mixing percentage value is set to 50%, the flaps will travel half the amount that the elevator travels. This mix is Linear.

EL ▸ FL setting range is -100% to 100%. The default setting is 0%. When the percentage value is increased from 0% to 100%, flap travel will increase in one direction in relation to elevator travel. When the percentage value is decreased from 0% to -100%, flap travel will increase in the opposite direction in relation to elevator travel.

⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual flap servos, EL ▸ LF (Left Flap) and EL ▸ RF (Right Flap) percentage values can be changed separately.

⚠ Elevator ▸ Flap mixing will cause the flaps to move up when you move the elevator control stick. If you don't want the flaps to move up (you want them to only move down with EL ▸ FL mixing Active), set the flap channel Limit Adjustment Value to 0% in the Surface menu for the flap up direction.

## Aileron to Rudder Mixing

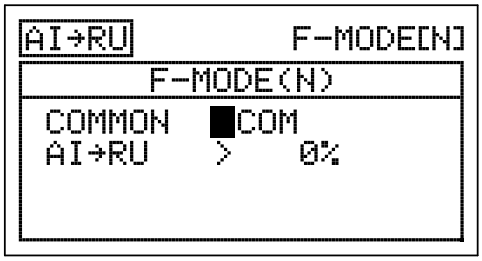
The Aileron to Rudder Mixing function allows you to mix a percentage of rudder control with aileron control. When you move the ailerons right and left, the rudder will move right and left. The Aileron to Rudder Mixing function is typically used on many high wing or scale models to automatically make coordinated turns. The amount and the direction that the rudder moves with aileron control is adjusted by changing the Aileron ▸ rudder mixing percentage value either positive or negative.

**IMPORTANT** The Aileron to Rudder Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight AI ▸ RU, then press the ENTER key to display the AI ▸ RU menu. The cursor will default to COMMON>COM.

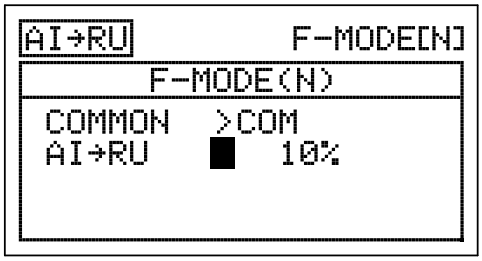
3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight AI ▸ RU>0%.

5) Press the YES/+ or NO/- keys to change the Aileron ▸ Rudder mixing percentage value.

⚠ The Aileron ▸ Rudder mixing percentage value is a ratio of rudder travel to aileron travel. For example, when the Aileron ▸ Rudder mixing percentage value is set to 10%, the rudder will travel 1/10th the amount that the ailerons travel. This mix is Linear.




AI ▸ RU setting range is -100% to 100%. The default setting is 0%. When the percentage value is increased from 0% to 100%, rudder travel will increase in one direction in relation to aileron travel. When the percentage value is decreased from 0% to -100%, rudder travel will increase in the opposite direction in relation to aileron travel.

## Throttle to Elevator Mixing

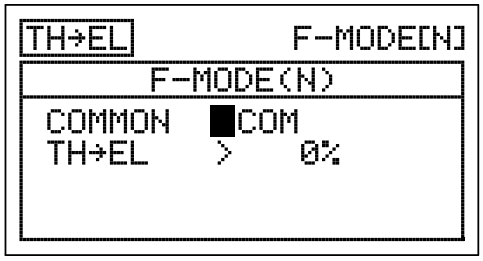
The Throttle to Elevator Mixing function allows you to mix a percentage of elevator control with throttle control. When you increase the throttle, the elevator will move up or down. The Throttle to Elevator Mixing function is typically used on scale aircraft to reduce minor pitch changes when increasing or decreasing power. The amount and the direction that the elevator moves when you increase the throttle is adjusted by changing the Throttle ▸ Elevator mixing percentage value either positive or negative.

**IMPORTANT** The Throttle to Elevator Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

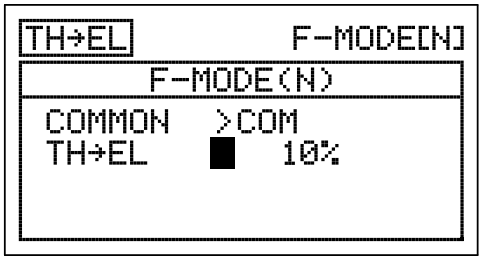
2) Press the Navigation Pad ▼ to highlight TH ▸ EL, then press the ENTER key to display the TH ▸ EL menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.



4) Press the Navigation Pad ▼ to highlight TH ▸ EL>0%.

5) Press the YES/+ or NO/- keys to change the Throttle ▸ Elevator mixing percentage value.




⚠ The Throttle ▸ Elevator mixing percentage value is a ratio of elevator travel to throttle travel. For example, when the Throttle ▸ Elevator mixing percentage value is set to 10%, the elevator will travel 1/10th the amount that the throttle travels. This mix is Linear.

TH ▸ EL setting range is -100% to 100%. The default setting is 0%. When the percentage value is increased from 0% to 100%, elevator travel will increase in one direction in relation to increased throttle travel. When the percentage value is decreased from 0% to -100%, elevator travel will increase in the opposite direction in relation to increased throttle travel.

⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual elevator servos, TH ▸ LE (Left Elevator) and TH ▸ RE (Right Elevator) percentage values can be set separately.

### Throttle to Rudder Mixing

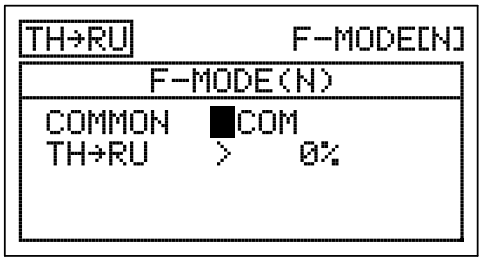
The Throttle to Rudder Mixing function allows you to mix a percentage of rudder control with throttle control. When you increase the throttle, the rudder will move right or left. The Throttle to Rudder Mixing function is typically used to reduce minor yaw changes when increasing power. The amount and the direction that the rudder moves when the throttle is increased is adjusted by changing the Throttle ▸ Rudder mixing percentage value either positive or negative.

**IMPORTANT** The Throttle to Rudder Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

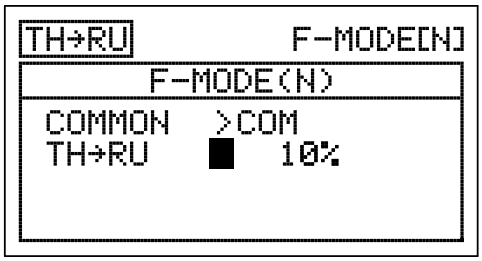
2) Press the Navigation Pad ▼ to highlight TH ▸ RU, then press the ENTER key to display the TH ▸ RU menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight TH ▸ RU>0%.

5) Press the YES/+ or NO/- keys to change the Throttle ▸ Rudder mixing percentage value.




⚠ The Throttle ▸ Rudder mixing percentage value is a ratio of rudder travel to throttle travel. For example, when the Throttle ▸ Rudder mixing percentage value is set to 10%, the rudder will travel 1/10th the amount that the throttle travels. This mix is Linear.

TH ▸ RU setting range is -100% to 100%. The default setting is 0%. When the percentage value is increased from 0% to 100%, rudder travel will increase in one direction in relation to increased throttle travel. When the percentage value is decreased from 0% to -100%, rudder travel will increase in the opposite direction in relation to increased throttle travel.

## Rudder to Elevator Mixing

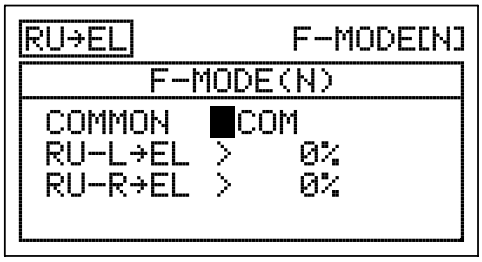
The Rudder to Elevator Mixing function allows you to mix a percentage of elevator control with rudder control. When you move the rudder right or left, the elevator will move up or down. The Rudder to Elevator Mixing function is typically used on many scale models to minimize pitch coupling. The amount and the direction that the elevator moves with rudder control is adjusted by changing the Rudder ▸ Elevator mixing percentage value either positive or negative. Separate mixes can be programmed for right and left rudder throw.

**IMPORTANT** The Rudder to Elevator Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight RU ▸ EL, then press the ENTER key to display the RU ▸ EL menu. The cursor will default to COMMON>COM.

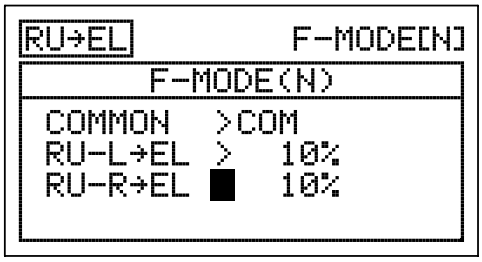
3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight RU-L ▸ EL>0%.

5) Press the YES/+ or NO/- keys to change the Rudder-Left ▸ Elevator mixing percentage value.

6) Press the Navigation Pad ▼ to highlight RU-R ▸ EL>0%, then press the YES/+ or NO/- keys to change the Rudder-Right ▸ Elevator mixing percentage value.




⚠ The Rudder ▸ Elevator mixing percentage value is a ratio of elevator travel to rudder travel. For example, when the Rudder-Left ▸ Elevator and the Rudder-Right ▸ Elevator mixing percentage values are set to 10%, the elevator will travel 1/10th the amount that the rudder travels in both directions. This mix is Linear.

RU-L ▸ EL and RU-R ▸ EL setting range is -100% to 100%. The default settings are 0%. When the percentage values are increased from 0% to 100%, elevator travel will increase in one direction in relation to rudder travel. When the percentage values are decreased from 0% to -100%, elevator travel will increase in the opposite direction in relation to rudder travel.

⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual elevator servos, RU-L/R ▸ LE (Left Elevator) and RU-L/R ▸ RE (Right Elevator) will be displayed and the percentage values can be changed separately.

⚠ Because you can program the Rudder ▸ Elevator percentage value separately for both directions of rudder travel, it's possible to program the mix to either make the elevator move up **or** down with right and left rudder control, make the elevator move up **and** down with right and left rudder control, or make the elevator move up **or** down with right **or** left rudder control.

## Rudder to Aileron Mixing

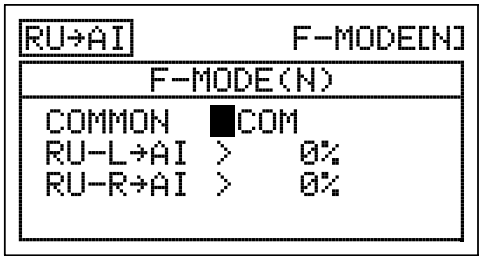
The Rudder to Aileron Mixing function allows you to mix a percentage of aileron control with rudder control. When you move the rudder right or left, the ailerons will move up or down. The Rudder to Aileron Mixing function is typically used on aerobatic aircraft to minimize rolling while in knife edge flight. The amount and the direction that the ailerons move with rudder control is adjusted by changing the Rudder ▸ Aileron mixing percentage value either positive or negative. Separate mixes can be programmed for right and left rudder throw.

**IMPORTANT** The Rudder to Aileron Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight RU▸AI, then press the ENTER key to display the RU▸AI menu. The cursor will default to COMMON>COM.

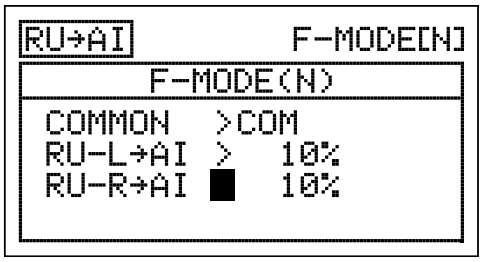
3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight RU-L▸AI>0%.

5) Press the YES/+ or NO/- keys to change the Rudder-Left▸Aileron mixing percentage value.

6) Press the Navigation Pad ▼ to highlight RU-R▸AI>0%, then press the YES/+ or NO/- keys to change the Rudder-Right▸Aileron mixing percentage value.




⚠ The Rudder▸Aileron mixing percentage value is a ratio of aileron travel to rudder travel. For example, when the Rudder-Left▸Aileron and the Rudder-Right▸Aileron mixing percentage values are set to 10%, the ailerons will travel 1/10th the amount that the rudder travels in both directions. This mix is Linear.

RU-L▸AI and RU-R▸AI setting range is -100% to 100%. The default settings are 0%. When the percentage values are increased from 0% to 100%, aileron travel will increase in one direction in relation to rudder travel. When the percentage values are decreased from 0% to -100%, aileron travel will increase in the opposite direction in relation to rudder travel.

⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual aileron servos, RU-L/R▸LA (Left Aileron) and RU-L/R▸RA (Right Aileron) percentage values can be changed separately.

⚠ Because you can program the Rudder▸Aileron percentage value separately for both directions of rudder travel, it's possible to program the mix to either make the ailerons move up **or** down with right and left rudder control, make the ailerons move up **and** down with right and left rudder control, or make the ailerons move up **or** down with right **or** left rudder control.

### Rudder to Throttle Mixing

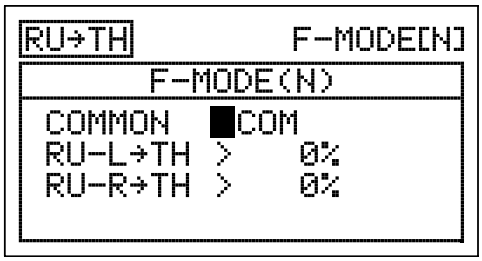
The Rudder to Throttle Mixing function allows you to mix a percentage of throttle control with rudder control. When you move the rudder right or left, the throttle will increase or decrease. The Rudder to Throttle Mixing function is typically used on twin-engine aircraft to vary the throttle of each engine while taxiing. If can also be used to increase power during turns while taxiing. This is helpful for float planes or scale aircraft. The amount and the direction that the throttle moves with rudder control is adjusted by changing the Rudder▸Throttle mixing percentage value either positive or negative. Separate mixes can be programmed for right and left rudder throw.

**IMPORTANT** The Rudder to Throttle Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight RU▸TH, then press the ENTER key to display the RU▸TH menu. The cursor will default to COMMON>COM.

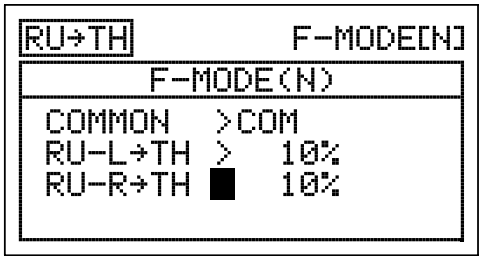
3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.



4) Press the Navigation Pad ▼ to highlight RU-L ▸ TH>0%.

5) Press the YES/+ or NO/- keys to change the Rudder-Left ▸ Throttle mixing percentage value.

6) Press the Navigation Pad ▼ to highlight RU-R ▸ THI>0%, then press the YES/+ or NO/- keys to change the Rudder-Right ▸ Throttle mixing percentage value.




⚠ The Rudder ▸ Throttle mixing percentage value is a ratio of throttle travel to rudder travel. For example, when the Rudder-Left ▸ Throttle and the Rudder-Right ▸ Throttle mixing percentage values are set to 10%, the throttle will travel 1/10th the amount that the rudder travels in both directions. This mix is Linear.

RU-L ▸ TH and RU-R ▸ TH setting range is -100% to 100%. The default settings are 0%. When the percentage values are increased from 0% to 100%, throttle travel will increase in one direction in relation to rudder travel. When the percentage values are decreased from 0% to -100%, throttle travel will increase in the opposite direction in relation to rudder travel.

⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual throttle servos, RU-L/R ▸ LT (Left Throttle) and RU-L/R ▸ RT (Right Throttle) percentage values can be changed separately.

⚠ Because you can program the Rudder ▸ Throttle percentage value separately for both directions of rudder travel, it's possible to program the mix to either make the throttle increase **or** decrease with right and left rudder control, make the throttle increase **and** decease with right and left rudder control, or make the throttle increase **or** decrease with right **or** left rudder control.

## Flap to Elevator Mixing

The Flap to Elevator Mixing function allows you to mix a percentage of elevator control with flap control. When you move the flaps up and down, the elevator will move up and down. The Flap to Elevator Mixing function is typically used to reduce the ballooning tendency that most aircraft exhibit when the flaps are deployed. The amount and the direction that the elevator moves with flap control is adjusted by changing the Flap ▸ Elevator mixing percentage value either positive or negative.

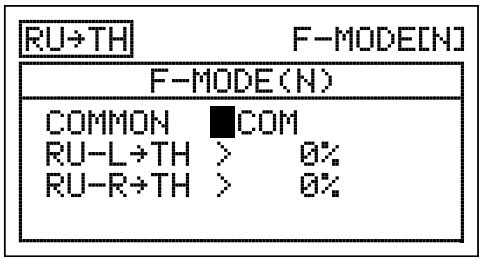
**IMPORTANT** The Flap to Elevator Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

⚠ In the majority of cases, you will want to program the Flap to Elevator Mixing function to move the elevator down enough to minimize ballooning when the flaps are lowered.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The FLAPERON sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight FL ▸ EL, then press the ENTER key to display the FL ▸ EL menu. The cursor will default to COMMON>COM.

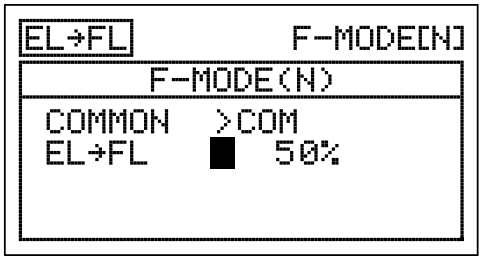
3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight FL ▸ EL>0%.

5) Press the YES/+ or NO/- keys to change the Flap ▸ Elevator mixing percentage value.

⚠ The Flap ▸ Elevator mixing percentage value is a ratio of elevator travel to flap travel. For example, when the Flap ▸ Elevator mixing percentage value is set to 10%, the elevator will travel 1/10th the amount that the flaps travel. This mix is Linear.



FL ▸ EL setting range is -100% to 100%. The default setting is 0%. When the percentage value is increased from 0% to 100%, elevator travel will increase in one direction in relation to flap travel. When the percentage value is decreased from 0% to -100%, elevator travel will increase in the opposite direction in relation to flap travel.

⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual elevator servos, FL ▸ LE (Left Elevator) and FL ▸ RE (Right Elevator) percentage values can be changed separately.

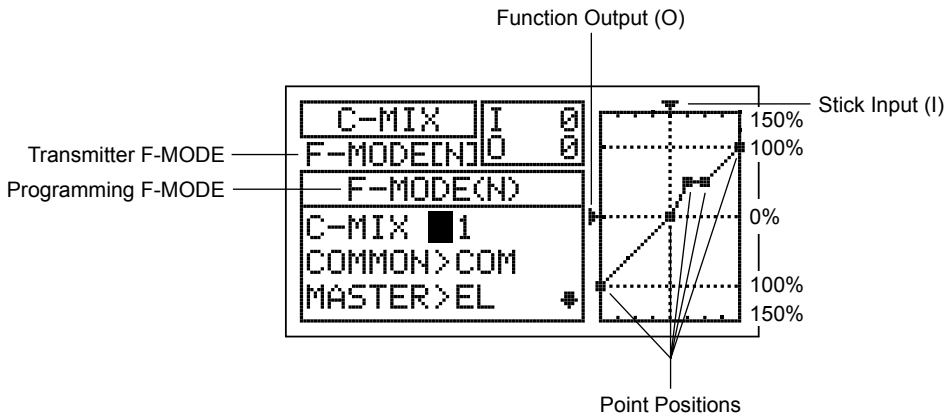
## *18.C-MIX (COMPENSATION MIXING)*

The C-Mix function allows you to program custom mixes that can control any number of desired functions in different combinations. It is used to create your own custom mix if one of the pre-programmed mixes is not suitable. For example, you can create a custom mix that mixes flaperons and spoilerons to elevator, so that when you move the elevator up and down, the flaperons will move up and down, providing near-instantaneous extreme pitch changes while still enabling aileron roll control.

Like with pre-programmed mixes, Compensation Mixes are composed of a Master channel and a Slave channel. The Master channel always controls the Slave channel. Any of the available ten channels can be programmed as a Master or a Slave. The same channel can even be programmed as both a Master and a Slave. For example, if you want to program throttle Dual Rate, you can set both the Master and the Slave to throttle, then adjust Point 1 and Point 9 Rate percentage values to provide the amount of travel you want when the C-Mix function is Activated. The C-Mix function includes nine custom-programmable Points to ensure an extremely precise channel Curve to suit any situation. You can also program a Delay for the Slave function that works independently (or with) the dedicated Channel Delay function described on page 84.

Up to five C-Mix functions can be programmed separately for each of the five Flight Modes or you can use the same C-Mix programming across all five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.

⚠ In all cases, the Master channel always controls the Slave channel. In the default configuration, all Compensation Mixes can be programmed to be Linear, or precise channel Curves can be created by programming up to nine Points along the Curve.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Each C-Mix function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

**Choosing the Compensation Mixing Number**

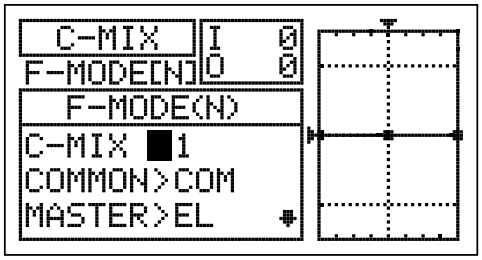
Up to five separate Compensation Mixing functions can be programmed for each Flight Mode, however, only one Master/Slave channel can be assigned to one Compensation Mixing function at a time. For example, if you want to program elevator to flaperons/spoilerons, you would need to program one Compensation Mixer for Master>Elevator to Slave>Left Aileron and a second Compensation Mixer for Master>Elevator to Slave>Right Aileron.

⚠ More than one Compensation Mixer can be assigned to the same Switch Position Number, so that they can be Activated at the same time. For example, assign both C-Mix 1 and C-Mix 2 to Switch Position 23 to Activate Elevator to Flaperon/ Spoileron mixing in the example above.

1) Press the Navigation Pad ▲▼ to highlight C-MIX, then press the ENTER key to display the C-MIX menu. The cursor will default to C-MIX>1.

2) Press the YES/+ and NO/- keys to choose the C-MIX number you would like to program Compensation Mixing for.

C-MIX setting range is 1, 2, 3, 4, or 5. The default setting is 1.

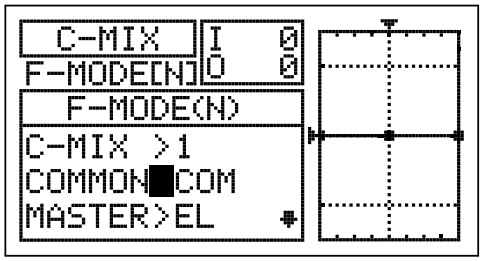



**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the C-MIX settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program C-MIX settings separately for each Flight Mode. When set to SEP (Separate), you can program different C-MIX settings separately for each Flight Mode.

1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Choosing the Master Channel section. If set to SEP, see step 2 below.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Compensation Mixing function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Compensation Mixing function for.




**Choosing the Master Channel**

The Master channel is the channel that controls the Slave channel. For example, if you set the Master channel to EL (Elevator), when you move the elevator control stick, the Slave channel that's mixed to the elevator channel will move. Depending on the Model Type and Model Type selection options you've chosen in the Model Type menu, the following Master channels are available.

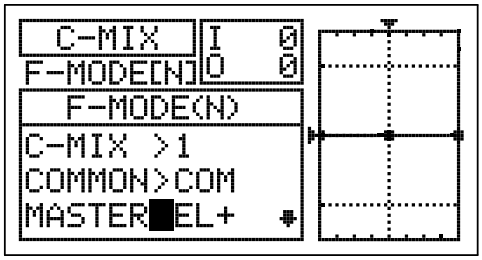
| ABBR. | FUNCTION |
|---|---|
| EL / EL+ | Elevator |
| AI / AI+ | Aileron |
| TH / TH+ | Throttle |
| RU / RU+ | Rudder |
| GE / GE+ | Gear |
| FL / FL+ | Flap |

| ABBR. | FUNCTION |
|---|---|
| AUX1 / AUX1+ | Auxiliary 1 |
| AUX2 / AUX2+ | Auxiliary 2 |
| AUX3 / AUX3+ | Auxiliary 3 |
| AUX4 /AUX4+ | Auxiliary 4 |
| LE+ | Left Elevator |
| RE+ | Right Elevator |

| ABBR. | FUNCTION |
|---|---|
| LA+ | Left Aileron |
| RA+ | Right Aileron |
| LT+ | Left Throttle |
| RT+ | Right Throttle |
| LF+ | Left Flap |
| RF+ | Right Flap |

⚠ Master channels denoted with a plus sign (+) indicate that Dual Rate, Exponential, Trim, and/or Channel Delay settings affect not only the Master channels but also the Slave channels when the Compensation Mixing function is Activated. For example, if MASTER>EL+ is selected, any programmed elevator Dual Rate or Exponential percentage values will affect both the Master elevator channel and the Slave channel when the elevator Dual Rate switch is Activated while the Compensation Mixing function is Active. If you select MASTER>EL, any programmed elevator Dual Rate or Exponential percentage values will only affect the Master elevator channel when the Compensation Mixing function is Active. Dual Rate and Exponential affect only the elevator, aileron, and rudder channels. The Channel Delay function referenced is not the same as the Delay function in the C-MIX menu.

1) Press the Navigation Pad ▼ to highlight MASTER>EL, then press the YES/+ or NO/- keys to choose which channel you want to program the Master channel for.




⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual elevator servos, LE and RE will be separate options. When using dual servos for elevators, ailerons, throttles, and/or flaps, the (+) option will only be available for the servos separately (e.g. LE+ and RE+, but not for EL).

⚠ If you want Dual Rate, Exponential, Trim, and/or independent Channel Delay control over the Slave channel, make sure to choose a Master channel with a plus sign (+).

**Choosing the Slave Channel**

The Slave channel is the channel that is controlled by the Master channel. For example if you set the Master channel to EL (Elevator) and the Slave channel to AI (Aileron), when you move the elevator control stick, the ailerons will move. Depending on the Model Type and Model Type selection options you've chosen in the Model Type menu, the following Slave channels are available.

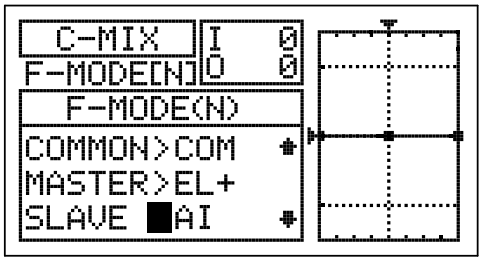
| ABBR. | FUNCTION |
|---|---|
| EL | Elevator |
| AI | Aileron |
| TH | Throttle |
| RU | Rudder |
| GE | Gear |
| FL | Flap |

| ABBR. | FUNCTION |
|---|---|
| AUX1 | Auxiliary 1 |
| AUX2 | Auxiliary 2 |
| AUX3 | Auxiliary 3 |
| AUX4 | Auxiliary 4 |
| LE | Left Elevator |
| RE | Right Elevator |

| ABBR. | FUNCTION |
|---|---|
| LA | Left Aileron |
| RA | Right Aileron |
| LT | Left Throttle |
| RT | Right Throttle |
| LF | Left Flap |
| RF | Right Flap |

1) Press the Navigation Pad ▼ to highlight SLAVE>AI, then press the YES/+ or NO/- keys to choose which channel you want to program the Slave channel for.

⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual aileron servos, LA and RA will be separate options.




**Changing the Channel Curve Point Values and the Rate Percentage Values**

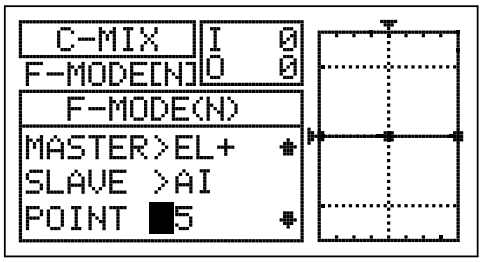
Nine different Points with varying Rates can be programmed onto the channel Curve. Each Point will be displayed on the graph to give you a visual interpretation of the position of the Point on the channel Curve. The Point that is currently selected will blink.

**WARNING** When a Compensation Mixer is Activated, you still have separate control over the Slaved channel, however, depending on the Rate percentage value, the Slave channel End Point Adjustment could be exceeded. We strongly recommend that you set your Slave channel Limits no higher than that channel's End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage when Compensation Mixing is used.

1) Press the Navigation Pad ▼ to highlight POINT>5.

2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.

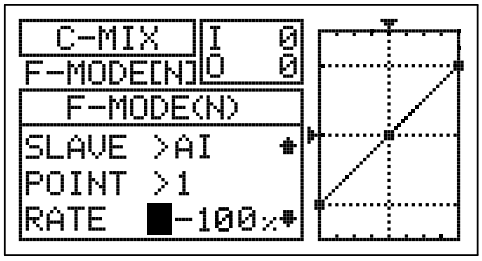
POINT setting range is 1 through 9. Point 1 is at the low end of the channel Curve and Point 9 is at the high end of the channel Curve. Point 5 is a the center of the channel Curve.




3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.

RATE setting range is -150% to 150%. POINT 1 default RATE percentage value is 0%, POINT 5 default RATE percentage value is 0%, and POINT 9 default RATE percentage value is 0%. POINT 2, 3, 4, 6, 7, and 8 RATE values are INH (Inhibited).



The Rate percentage value is a ratio of Slave channel servo travel to Master channel servo travel. For example, if the Rate percentage value is set to 10%, the Slave channel servo will travel 1/10th the amount that the Master channel servo travels.

As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

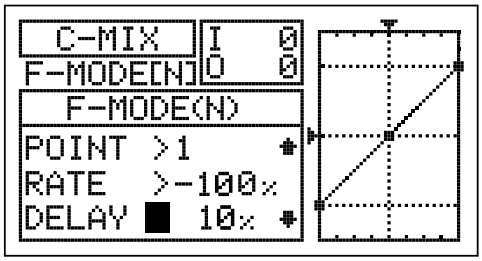
**Changing the Delay Percentage Value**

Changing the Delay percentage value allows you to adjust the speed of Slave channel servo when moved in the direction of the Master channel control stick when the Compensation Mixing function is Active. For example, if you program Compensation Mixing to provide Elevator to Flaperon/Spoileron mixing, both of the ailerons will move up and down when the elevator moves up and down. The ailerons can also be moved right and left to maintain roll control. Setting a Delay percentage value will cause both aileron servos to slow down **ONLY** in the up and down directions when the elevator is moved up and down. Servo speed in the right and left directions for roll control will be normal, unless you have programmed aileron Channel Delay separately.

The Delay function does not affect when the servo starts to respond to control stick movement. The Delay affects only the transit time of the servo.

1) Press the Navigation Pad ▼ to highlight DELAY>0%, then press the YES/+ or NO/- keys to change the Delay percentage value.

DELAY setting range is 0% to 100%. The default setting is 0%. When the Delay percentage value is increased, the Slave servo transit time will be slowed down. At 0%, the Slave servo moves at its normal speed. At 100%, the Slave servo takes approximately 15 seconds to move from neutral to 100% or -100% travel.




The Delay function will cause the Slave servo transit time to slow down not only from neutral to one End Point, but also on the return from one End Point to neutral. The Delay percentage value is not Point-dependent.

**Compensation Mixing Sample - Mixing Elevator to Flaperons/Spoilerons**

The sample below describes how to mix elevator to flaperons using two Compensation Mixers assigned to a single Switch Position Number. This mix is common for use in 3D aerobatic aircraft where you want both ailerons to move up and down with the elevator, yet still maintain full roll control. In the example below, the aircraft features two aileron servos and two elevator servos.

1) Assign C-MIX1 and C-MIX2 to the same Switch Position Number in the Switch Assign menu. For example, use Switch Position Number 23.

2) Verify that the elevator and aileron control surfaces are operating as desired. If necessary, change the servo reversing setting on one of the elevator servos so that both elevator servos move the same direction.

3) Set the two Compensation Mixing programming values as shown:

| C-MIX>1 | C-MIX>2 |
|---|---|
| COMMON>COM | COMMON>COM |
| MASTER>LE+ | MASTER>RE+ |
| SLAVE>LA | SLAVE>RA |
| POINT>1 / RATE>-100% | POINT>1 / RATE>100% |
| POINT>9 / RATE>100% | POINT>9 / RATE>-100% |

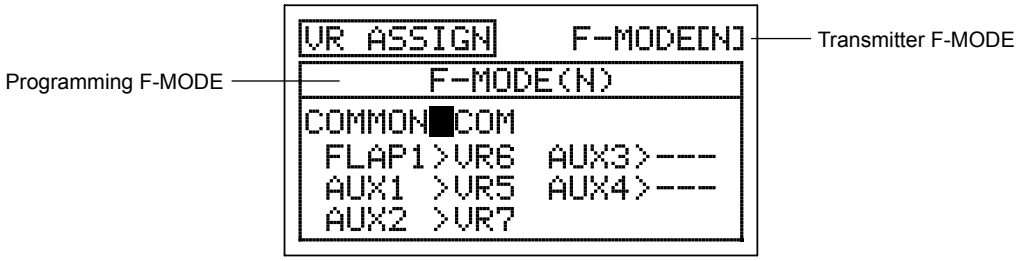
The Point 1 and Point 9 Rate percentage values for C-MIX>2 are opposite those of C-MIX>1. This ensures that both aileron servos move up and down together.

In this example, Points 1 and 9 are set to -100% and 100% on C-MIX1, and Points 1 and 9 are set to 100% and -100% on C-MIX2. When both Compensation Mixers are Active, this results in both aileron servos moving together. When up elevator is commanded, both ailerons move down (flaperons) and when down elevator is commanded, both ailerons move up (spoilerons). With the Rate setting at -100% and 100%, both aileron servos will move up and down at the same time the same amount as the elevator servos. This also results in a Linear channel Curve. If you wanted to lessen the flaperon/spoileron travel, decrease the Rate for Points 1 and 9.

The positive and negative values shown in the example above may vary based on the NOR/REV status of your aileron and elevator servos. You may need to change the percentage values to suit.

## 19.VR ASSIGN (VARIABLE RESISTANCE LEVER ASSIGN)

The VR Assign function allows you to assign the auxiliary channels and the Flap 1 function to either of the two Auxiliary Levers (VR5 or VR6) or the Auxiliary Dial Knob (VR7). For example, you could use the Auxiliary Dial Knob (VR7) to control your engine's throttle mixture remotely. You can choose to program VR Assignments separately for each of the five Flight Modes or you can use the same VR Assignments programming across all five Flight Modes.



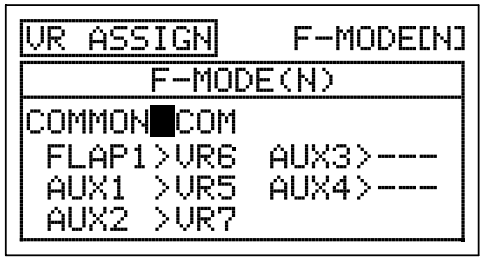

Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the VR ASSIGN settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program VR ASSIGN settings separately for each Flight Mode. When set to SEP (Separate), you can program different VR ASSIGN settings separately for each Flight Mode.

1) Press the Navigation Pad ▲ ▼ to highlight VR ASSIGN, then press the ENTER key to display the VR ASSIGN menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Choosing VR Channel Assignments section. If set to SEP, see step 3 below.

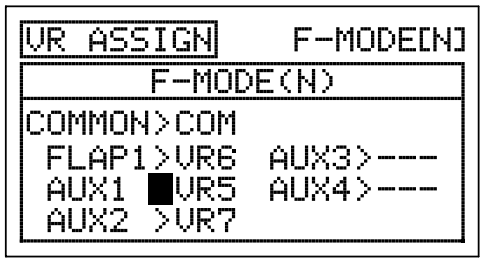



3) Press the F-MODE key to choose the F-MODE number you would like to program the VR Assignments for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the VR Assignments for.

**Choosing VR Channel Assignments**

1) Press the Navigation Pad ▲ ▼ ◀ ▶ to highlight the channel you would like to change the VR Assignment for, then press the YES/+ or NO/- keys to change the VR Assignment.

VR ASSIGN setting range is ---, VR5, VR6, and VR7. The default setting for FLAP1 is VR6. The default setting for AUX1 is VR5 and the default setting for AUX2 is VR7. The default settings for AUX3 and AUX4 is ---.




To disable an Auxiliary Lever or the Auxiliary Dial Knob, assign --- to the desired channel. For example, if you don't want Auxiliary Lever (VR6) to control the flaps when the flap switch is in Switch Position 1, change FLAP1>VR6 to FLAP1>---.

**IMPORTANT** Both sides of each auxiliary channel (High and Low), can be assigned to a Switch Position Number, using the SW ASSIGN menu. If an auxiliary channel is assigned to both a switch and an Auxiliary Lever, the switch takes precedence over the Auxiliary Lever in all cases.

In the default configuration, FLAP1 is assigned to VR6. When the flap switch is in Flap Position 1, Auxiliary Lever (VR6) will variably control the flaps. For more information, see page 89.

## 20.F-MODE COPY (FLIGHT MODE PROGRAMMING DATA COPY)

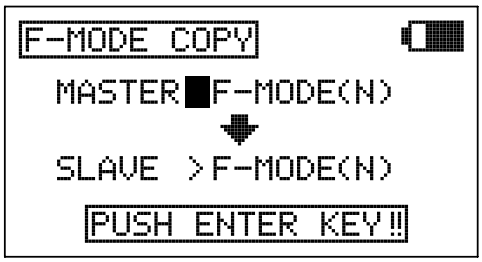
The Flight Mode Copy function allows you to copy the Flight Mode programming data from one Flight Mode to another Flight Mode. This is convenient if you want to use two or more different Flight Modes on one model, but only need to change a few Flight Mode programming values for the new Flight Mode. This allows you to use the Flight Mode programming data from the first Flight Mode to use as a base to start fine-tuning the programming for the second Flight Mode.

⚠ You can only copy Flight Mode programming data from one Flight Mode to another Flight Mode within the same model. To copy Flight Mode programming data from one model's Flight Mode to another model's Flight Mode, you must copy the actual model programming data to the other model. For more information, see page 50.

**Copying Flight Mode Data**

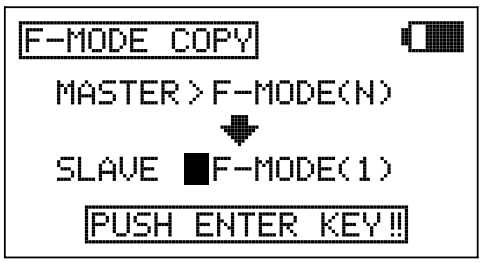
1) Press the Navigation Pad ▲▼ to highlight F-MODE COPY, then press the ENTER key to display the F-MODE COPY menu. The cursor will default to MASTER>F-MODE(N).

2) Press the F-MODE key to select the Flight Mode you would like to copy the Flight Mode programming data FROM (MASTER). Select from F-MODE (N, 1, 2, 3, or 4).




3) Press the Navigation Pad ▼ to highlight SLAVE>F-MODE(N).

4) Press the F-MODE key to select the Flight Mode you would like to copy the Flight Mode programming data TO (SLAVE). Select from F-MODE (N, 1, 2, 3, 4, or ALL).

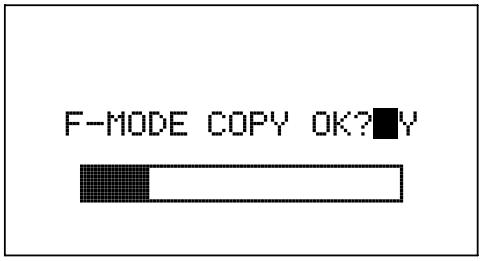



⚠ Selecting ALL will copy the MASTER Flight Mode programming data to the remaining four Flight Modes.

⚠ It's not possible to copy the Flight Mode programming data from one Flight Mode to the same Flight Mode. If you attempt to execute this, SAME F-MODE?? will be displayed and the process will not execute.

5) Press then ENTER key. F-MODE COPY OK?>Y will be displayed.

6) Press the YES/+ key to begin the F-MODE Copy process. When the F-MODE Copy process is completed the F-MODE COPY menu will be displayed, indicating that the Flight Mode programming data has been copied.




⚠ If you want to go back and change the Flight Mode or you don't want to copy the Flight Mode programming data for any reason, press the NO/- or END keys.

## 21.F-MODE DELAY (FLIGHT MODE DELAY)

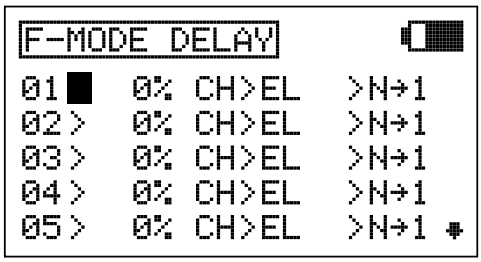
The Flight Mode Delay function allows you to program custom delays for each of the channel functions within each of the separate Flight Modes. This function helps to prevent drastic changes in channel settings when switching between Flight Modes. For example, if you are flying an electric aerobatic aircraft, you might have one Flight Mode set up for sport flying and a second Flight Mode set up for 3D aerobatic flying. Within each of those two Flight Modes you might have programmed different Throttle Curves. The Flight Mode Delay function allows you to program a Delay in the throttle channel so that the transition to the different Throttle Curves when you switch back and forth between Flight Modes is smooth.

If you program Flight Mode Delays for all five Flight Modes separately, you can program up to 10 different Delays for each Flight Mode. If you are using fewer Flight Modes, you can program more than 10 different Delays for each of the Flight Modes that you're using. You are able to program 50 different Delays in total. The Flight Mode Delay function can be programmed for each of the channels you're using, and separate Flight Mode Delays can be programmed in both directions. For example, when switching from Flight Mode N (Normal) to Flight Mode 1 and back from Flight Mode 1 to Flight Mode N (Normal).

**Choosing a Flight Mode Delay**

1) Press the Navigation Pad ▲▼ to highlight F-MODE DELAY, then press the ENTER key to display the F-MODE DELAY menu. The cursor will default to 01>0% CH>EL >N▶1.

2) Press the Navigation Pad ▲▼ to highlight the Flight Mode Delay you would like to program. If this is the first Flight Mode Delay that you're programming, choose 01>0%

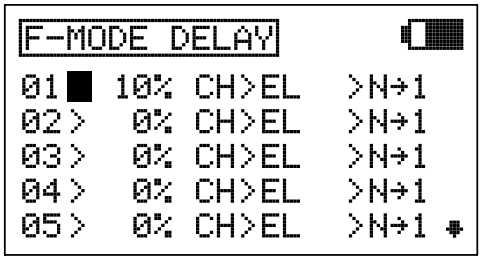



⚠ Flight Mode Delays do not have to programmed in sequence (e.g., 01, 02, 03), but programming them in sequence does make it easier to keep track of them.

**Changing the Flight Mode Delay Rate Percentage Value**

The Rate percentage value changes the speed of the servos as they move to their new positions when you switch between Flight Modes. For example, if you're flying at half throttle in Flight Mode N (Normal) and your throttle servo is at 50% travel, but in Flight Mode 1 at half throttle your throttle servo is programmed to be at 70% travel, increasing the Rate percentage value will slow the speed at which the servo will move to 70% travel when you Activate Flight Mode 1. This allows the throttle to smoothly rise to the new travel position instead of instantly jumping to the new travel position.

1) Press the YES/+ and NO/- keys to change the Rate percentage value for the selected Flight Mode Delay.



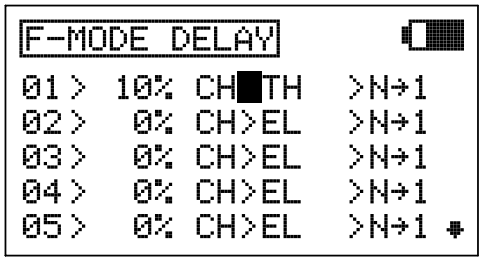

⚠ The Rate percentage value is displayed as a percentage of Delay time and is based on the amount of change in servo travel when switching between different Flight Modes. When the Rate percentage value is set to 100%, the servo will take approximately 15 seconds to travel from neutral to 100% or -100%.

RATE setting range is 0% to 100%. The default setting is 0%. When the Rate percentage value is set to 0%, there is no Delay when switching between Flight Modes. When the Rate percentage value is increased, the Delay when switching between Flight Modes is increased.

**Choosing the Flight Mode Delay Channel**

1) Press the Navigation Pad ▶ to highlight CH>EL.

2) Press the YES/+ and NO/- keys to choose which channel you would like the Flight Mode Delay to affect.




⚠ The channels options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual elevator servos, LE or RE will be display as an option.

**IMPORTANT** Channels that use two servos, such as dual aileron servos or dual elevator servos will be displayed separately (e.g., RE, LE, RA, LA, etc). In this situation, the Flight Mode Delay function will affect not the whole channel, but the individual servo. In most cases, you will want to program a second matching Flight Mode Delay for the second servo, so that both servos are affected equally.

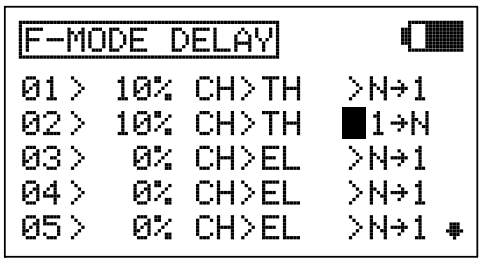
**Changing the Flight Mode Delay Sequence**

The Flight Mode Delay sequence defines the direction you want the Flight Mode Delay going **TO** and **FROM**, as shown in the tables below. For example, if you choose N ▸ 1, the Flight Mode Delay function will Activate when you switch from Flight Mode N (Normal) **to** Flight Mode 1. If you choose N ▸ 4, the Flight Mode Delay function will Activate when you switch from Flight Mode N **to** Flight Mode 4. If you choose 4 ▸ N, the Flight Mode Delay function will Activate when you switch **from** Flight Mode 4 to Flight Mode N (Normal).

⚠ Delay sequences that include an Asterisk indicate that the Flight Mode Delay function will be Activated across all Flight Modes. For example, if you choose N ▸ ✱, the Flight Mode Delay function will Activate on all Flight Modes regardless of the Flight Mode you switch to.

| SEQUENCE | DESCRIPTION |
|---|---|
| N ▸ 1 | Flight Mode N **TO** Flight Mode 1 |
| N ▸ 2 | Flight Mode N **TO** Flight Mode 2 |
| N ▸ 3 | Flight Mode N **TO** Flight Mode 3 |
| N ▸ 4 | Flight Mode N **TO** Flight Mode 4 |
| N ▸ ✱ | Flight Mode N **TO** All Flight Modes |
| 1 ▸ N | **FROM** Flight Mode 1 to Flight Mode N |
| 1 ▸ 2 | Flight Mode 1 **TO** Flight Mode 2 |
| 1 ▸ 3 | Flight Mode 1 **TO** Flight Mode 3 |
| 1 ▸ 4 | Flight Mode 1 **TO** Flight Mode 4 |
| 1 ▸ ✱ | Flight Mode 1 **TO** All Flight Modes |
| 2 ▸ N | **FROM** Flight Mode 2 to Flight Mode N |
| 2 ▸ 1 | **FROM** Flight Mode 2 to Flight Mode 1 |
| 2 ▸ 3 | Flight Mode 2 **TO** Flight Mode 3 |
| 2 ▸ 4 | Flight Mode 2 **TO** Flight Mode 4 |
| 2 ▸ ✱ | Flight Mode 2 **TO** All Flight Modes |
| 3 ▸ N | **FROM** Flight Mode 3 to Flight Mode N |

| SEQUENCE | DESCRIPTION |
|---|---|
| 3 ▸ 1 | **FROM** Flight Mode 3 to Flight Mode 1 |
| 3 ▸ 2 | **FROM** Flight Mode 3 to Flight Mode 2 |
| 3 ▸ 4 | Flight Mode 3 **TO** Flight Mode 4 |
| 3 ▸ ✱ | Flight Mode 3 **TO** All Flight Modes |
| 4 ▸ N | **FROM** Flight Mode 4 to Flight Mode N |
| 4 ▸ 1 | **FROM** Flight Mode 4 to Flight Mode 1 |
| 4 ▸ 2 | **FROM** Flight Mode 4 to Flight Mode 2 |
| 4 ▸ 3 | **FROM** Flight Mode 4 to Flight Mode 3 |
| 4 ▸ ✱ | Flight Mode 4 **TO** All Flight Modes |
| ✱ ▸ N | **FROM** All Flight Modes to Flight Mode N |
| ✱ ▸ 1 | **FROM** All Flight Modes to Flight Mode 1 |
| ✱ ▸ 2 | **FROM** All Flight Modes to Flight Mode 2 |
| ✱ ▸ 3 | **FROM** All Flight Modes to Flight Mode 3 |
| ✱ ▸ 4 | **FROM** All Flight Modes to Flight Mode 4 |
| ✱ ▸ ✱ | **FROM** All Flight Modes **TO** All Flight Modes |




1) Press the Navigation Pad ▸ to highlight N ▸ 1.

2) Press the YES/+ and NO/- keys to choose which Flight Mode Delay sequence you would like to use.

⚠ Use the tables of Delay sequences above to help you choose which Flight Mode Delay sequence you would like to use.

3) Repeat the previous procedures to program more Flight Mode Delay functions. For example, if you want to set a Flight Mode Delay for the throttle channel when you switch from Flight Mode N (Normal) to Flight Mode 1, and from when you switch back from Flight Mode 1 to Flight Mode N (Normal), program the following:

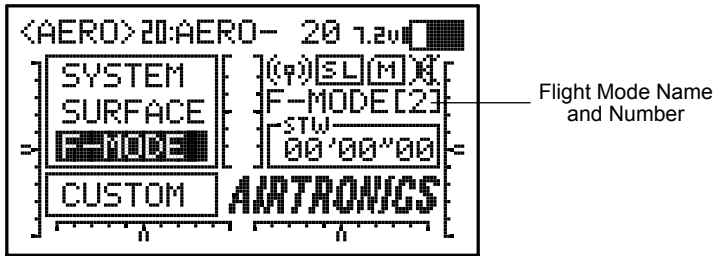
   01>10% CH>TH >N ▸ 1

   02>10% CH>TH >1 ▸ N

   This programming will result in a 10% delay in the throttle channel when you switch from Flight Mode N (Normal) to Flight Mode 1 and when you switch back from Flight Mode 1 to Flight Mode N (Normal). This will not Activate the Flight Mode Delay when you switch to any other Flight Mode. For example, when you switch from Flight Mode N (Normal) to Flight Mode 2.

## 22.F-MODE NAME (FLIGHT MODE NAMING)

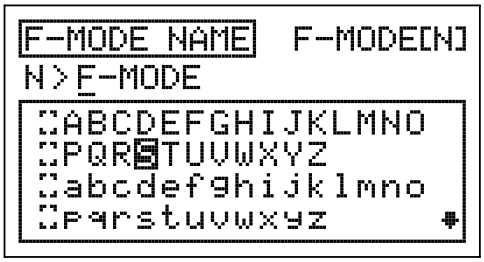
The F-Mode Name function allows you to name each of your individual F-Modes. This makes it easier to keep track of which F-Mode is currently in use. The currently Active Flight Mode name is displayed, along with the corresponding Flight Mode number on the Top menu and on the various F-MODE programming menus. The F-Mode Name can consist of up to 6 letters, numbers, or symbols. Choose from capital letters, lower case letters, numbers, and various symbols.




**Entering a Flight Mode Name**

1) Press the Navigation Pad ▲▼ to highlight F-MODE NAME, then press the ENTER key to display the F-MODE NAME menu. The cursor will default to the left side of the top row of letters.

⚠ Press the F-MODE key to cycle through the five different F-Modes. The F-Mode that you are currently naming is shown to the left of the Flight Mode Name. For example, N>F-MODE.




2) Press the Navigation Pad ◀▶▲▼ to highlight a character, then press the ENTER key to select the highlighted character. That character will be displayed and the underline will move to the next space.

3) Repeat step 2 to enter the rest of the characters. Up to six characters can be entered.

⚠ Press the Navigation Pad ▲▼ repeatedly to scroll up and down the list of characters.

**Deleting a Character**

1) Press the YES/+ or NO/- keys to move the underline under the character you want to erase.

2) Press the Navigation Pad ◀▶▲▼ to highlight the Erase Bracket ⁚, then press the ENTER key to erase the underlined character.

**Deleting a Flight Mode Name**

1) Press the YES/+ and NO/- keys at the same time to move the underline under the first character.

2) Press the Navigation Pad ◀▶▲▼ to highlight the Erase Bracket ⁚, then press the ENTER key repeatedly to erase the entire Flight Mode Name.

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# GLID FLIGHT MODE CONTENTS

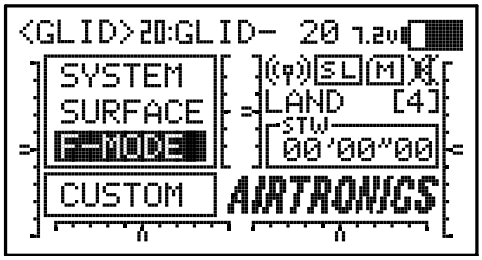
# GLID FLIGHT MODE MENU

## GENERAL INFORMATION

To access the F-Mode menu, turn the transmitter ON. From the Top menu, press the Navigation Pad ▲ ▼ to highlight F-MODE, then press the ENTER key to display the F-Mode menu.

From within any menu, press the END key continuously to return to the Top menu.

Unless otherwise noted, all programming changes take effect immediately.




⚠ If the Top menu is not displayed when you turn the transmitter ON, continuously press the END key until the Top menu is displayed.

## GLID FLIGHT MODE MENU FLOW CHART

Use this Flow Chart to familiarize yourself with the GLID Flight Mode menu structure. Descriptions regarding all GLID Flight Mode menu functions and programming are found on pages 113 through 153.

- 01.SX MONITOR
- 02.STICK MONITOR
- 03.D/R
- 04.EXP
- 05.AI DIFFERENTIAL
- 06.LANDING
  - 01.FLAP FREEZE POINT
  - 02.CROW
  - 03.LANDING DIFF
- 07.CAMBER
- 08.CAMBER POINT
- 09.CH DELAY
- 10.TRIM
- 11.TRIM STEP
- 12.TRIM AUTH
- 13.CROSS-TRIM
- 14.MIXING
  - 01.AI>RU1
  - 02.AI>RU2
  - 03.AI>RU3
  - 04.AI>FL1
    - 05.AI>FL2
    - 06.FL>EL
    - 07.RU>AI
    - 08.GE>EL
      - 09.MT>EL
      - 10.CB>EL
      - 11.EL>CB
- 15.C-MIX
- 16.VR ASSIGN
- 17.F-MODE COPY
- 18.F-MODE DELAY
- 19.F-MODE NAME

⚠ The five Flight Modes have been pre-named for your convenience, however, they have not been pre-programmed. The Flight Modes have been named as follows: NORMAL (N), FLOAT (1), LAUNCH (2), REFLEX (3), and LAND (4).

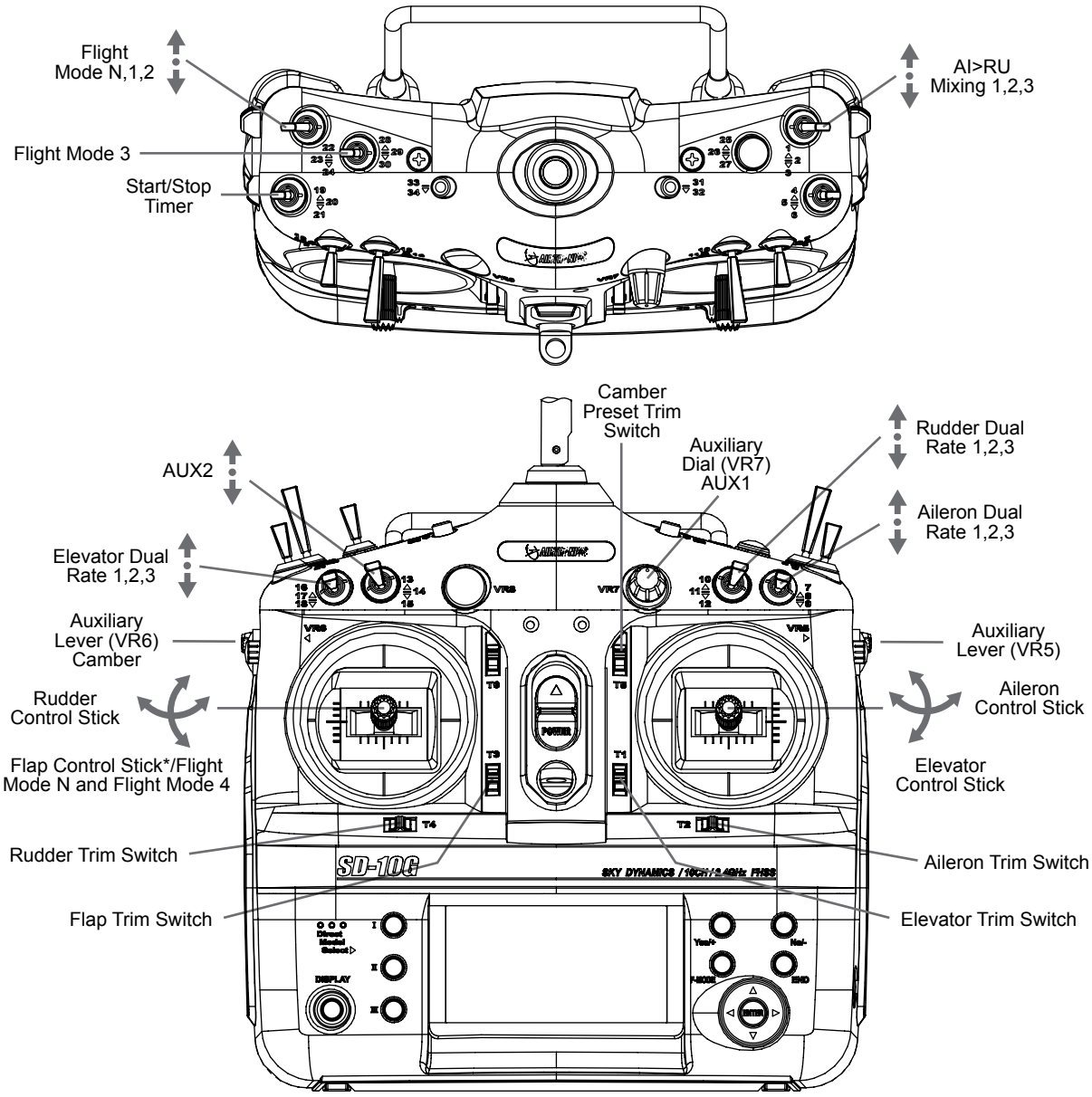
See the **IMPORTANT** note on the next page regarding Flight Modes.

## GLID MODEL TYPE DEFAULT TRANSMITTER LAYOUT

The diagrams below show the default transmitter control stick and switch layout in the GLID Model Type configuration. This is the base from which you can start to change or add functions to switch assignments, modify Flight Modes, and change or assign functions or channels to the Auxiliary Levers (VR5 and VR6) and the Auxiliary Dial (VR7).

**IMPORTANT** When the flap control stick is pulled all the way back, Flight Mode 4 (Land) will be Activated and will override all other Flight Modes. To Activate Flight Modes N, 1, 2, or 3, push the flap control stick all way forward, then Activate the desired Flight Mode using one of the Flight Mode switches described below. Since each of the five Flight Modes can be programmed separately, before making programming changes, verify that you are in the Flight Mode you want to make programming changes to.

Keep in mind that many of the functions, particularly Mixes and Auxiliary functions, MUST be assigned to a Switch Position Number to be Activated. We suggest that you assign the function to a Switch Position Number prior to programming the function. This will avoid confusion and make it easier to test your programming values.




*In the default configuration the flap control stick operates the flaps. For normal flight the flap control stick should be pushed all the way forward. To lower the flaps for landing, pull the flap control stick back.

## *01.SX MONITOR (SERVO MONITOR)*

The Servo Monitor function displays the output levels of each of the 10 channels in bar graph form, allowing you to monitor servo operation in a virtual manner. This is helpful to see servo movement when the control sticks and switches are moved, and it allows you to visualize what is occurring with servo movements when you apply different mixing values. When used in conjunction with the Display key, the Servo Monitor function allows you to see servo movement virtually and make programming changes without the SD-10G transmitter actually transmitting a signal.

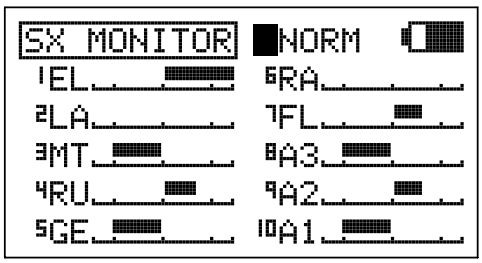
When both the SD-10G transmitter and the receiver are turned ON, the Servo Monitor function has the ability to continuously cycle the primary flight control servos back and forth to verify operation. You are also able to individually cycle any of the primary flight control servos and check the Neutral position of each of the servos (or automatically center all of the servos).

⚠ The channels displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features four aileron servos, ROA, LOA, RIA, and LIA will be displayed and all four servos will move when the AUTO2 option is used. Depending on the current servo reversing settings, the bar graphs may not move the same direction as the control sticks. This is normal.

**Using the Servo Monitor - Normal Mode**

1) Press the Navigation Pad ▲▼ to highlight SX MONITOR, then press the ENTER key to display the SX MONITOR menu. The cursor will default to >NORM.

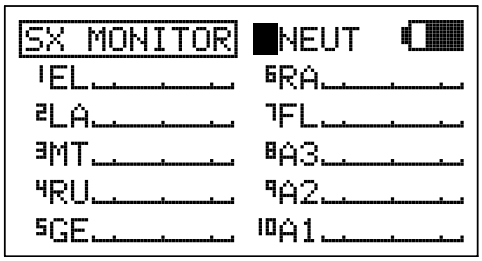
2) Moving the control sticks and channel switches (if assigned) will display the position and movement of each of the servos.




**Using the Servo Monitor - Neutral Mode**

1) Press the YES/+ key to choose >NEUT. When set to NEUT, all servos will move to the Neutral position until you either change the Servo Monitor Mode or exit the Servo Monitor menu.

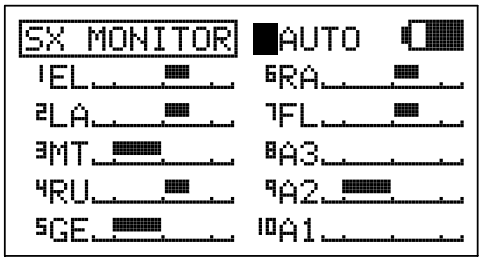
⚠ While in Neutral Mode, all flight controls are Inhibited.




**Using the Servo Monitor - Auto Mode**

1) Press the YES/+ key to choose >AUTO. When set to AUTO, the primary flight control servos will cycle back and forth at the same time, until you either change the Servo Monitor Mode or exit the Servo Monitor menu.

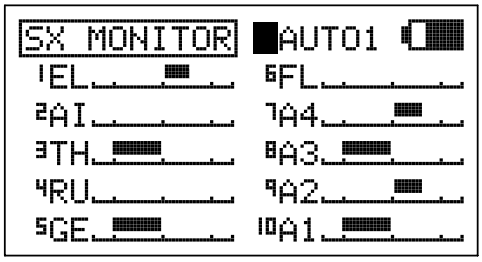
⚠ While in Auto Mode, the primary flight controls are Inhibited, however, the remaining channels remain Active so that you can continue using them.




**Using the Servo Monitor - Auto1, Auto2, Auto3, and Auto4 Modes**

1) Press the YES/+ key to choose >AUTO1. When set to AUTO1, the elevator servo will cycle back and forth equally until you either change the Servo Monitor Mode or exit the Servo Monitor menu.

2) Press the YES/+ key again to choose >AUTO2 and so on. AUTO2 will cycle the aileron servos, AUTO3 will cycle the flap servo(s), and AUTO4 will cycle the rudder servo.

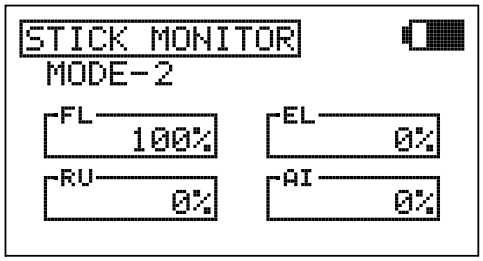



⚠ The flight control for the currently Active servo will be Inhibited, however, the remaining channels remain Active so that you can continue using them.

## 02.STICK MONITOR (CONTROL STICK MONITOR)

The Stick Monitor function displays the current position of the control sticks as a percentage of total control stick movement in 1% increments, and is used to determine if the control sticks require calibration. For example, if you move the flap control stick all the way forward and 95% is displayed, this indicates that the flap control stick requires calibration. In addition, the Stick Monitor function allows you to visually check exactly what position the control sticks are in relative to the control surface you're setting up.

**Using the Stick Monitor**




1) Press the Navigation Pad ▲▼ to highlight STICK MONITOR, then press the ENTER key to display the STICK MONITOR menu. The current Mode that the SD-10G transmitter is operating in will be displayed.

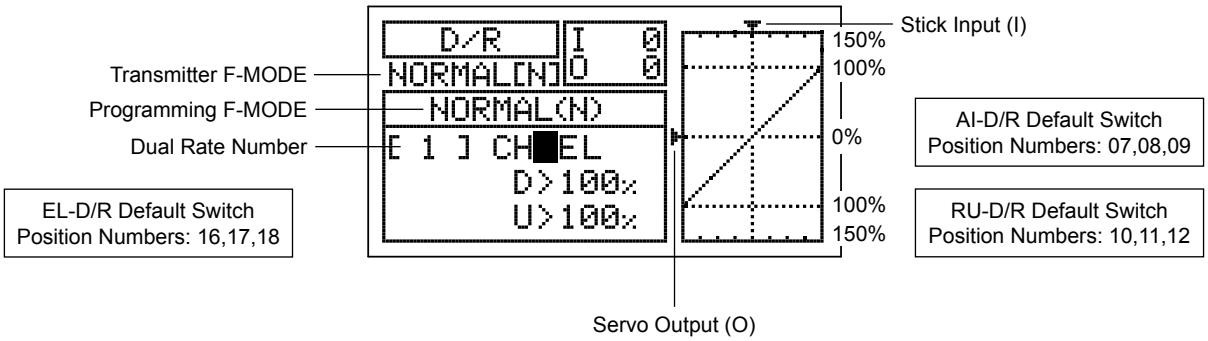
2) Move the control sticks and watch the percentage displays. When the control sticks are centered, 0% should be displayed, and when the control sticks are moved to their stops, -100% or 100% should be displayed, based on the direction of movement.

3) If 0% is not displayed when the control sticks are centered, or if -100% and 100% are not displayed when the control sticks are moved to their stops, use the NEUTRAL/TRAVEL>USER setting in the System Mode menu to recalibrate the control sticks. For more information, see page 41.

## 03.D/R (DUAL RATE - ELEVATOR, AILERON, AND RUDDER)

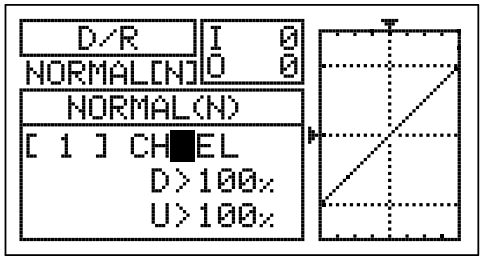
The Dual Rate function allows you to change the control authority of the control surfaces by changing the amount of servo travel. For example, if you are flying a sailplane that requires more control throw for low-speed flight, but that same amount of control throw makes the aircraft difficult to control during high-speed flight, you can use Dual Rate to lower the control throw for high-speed flight with just the flip of the Dual Rate switch. Three Dual Rate settings are available each for the Elevator, Aileron, and Rudder channels, and different Dual Rate settings can be programmed separately for each of the five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.

⚠ Dual Rate is a percentage of End Point Adjustment. For example, if you set Dual Rate 2 to 50% and Activate it, the servo will travel half the amount than if Dual Rate 2 was not Active. Prior to flight, check the position of the Dual Rate switches to ensure that they are in the positions you want. If you assign two different channel Dual Rates to more than one switch, it's important to note that the higher numbered Dual Rate will override the lower numbered Dual Rates. For example, if you have Dual Rate 2 and Dual Rate 3 Active at the same time, Dual Rate 3 will override Dual Rate 2.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode**



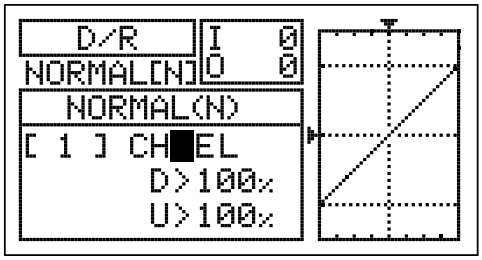

1) Press the Navigation Pad ▲▼ to highlight D/R, then press the ENTER key to display the D/R menu. The cursor will default to CH>EL.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Dual Rate function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Dual Rate function for.

**Choosing the Channel**

1) Press the Navigation Pad ▲ ▼ to highlight CH>EL.

2) If you would like to set the Dual Rate for another channel, press the YES/+ or NO/- keys to choose CH>AI or CH>RU.




Dual Rate can be set for EL (Elevator), AI (Aileron), and RU (Rudder).

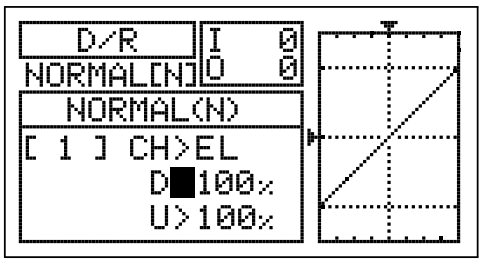
**Changing the Dual Rate Percentage Values**

Three different Dual Rate settings can be programmed to each three-position switch. We recommend that Dual Rate 1 be set to the maximum control surface throw you desire, then set Dual Rate 2 and Dual Rate 3 to different values that are less than maximum. For example, set Dual Rate 1 to 100%, Dual Rate 2 to 75%, and Dual Rate 3 to 50%.

**WARNING** Keep in mind that it's possible to set the Dual Rate higher than the End Point Adjustment. For example, with the End Point Adjustment set to 100% and the Dual Rate set to 150% the servo will move more than 100% when the Dual Rate is Activated. We strongly recommend that you set the Dual Rate 1 percentage value to no more than 100%. This will prevent any chance of exceeding your End Point Adjustment and overdriving your control linkage.

1) Move the Dual Rate Switch for the channel you are setting to the position you would like to set a Dual Rate percentage value for, either 1, 2, or 3.

2) Press the Navigation Pad ▼ to move the cursor to D>100% (L>100% if setting aileron or rudder Dual Rate), then press the YES/+ or NO/- keys to set the desired Down (or Left) Dual Rate percentage value.




⚠ As you change the Dual Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

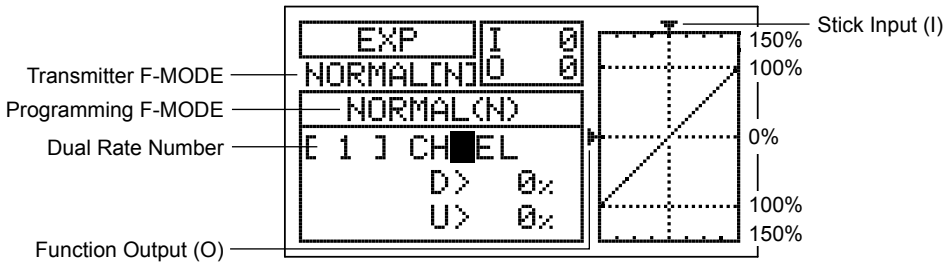
3) Press the Navigation Pad ▼ to move the cursor to U>100% (R>100% if setting aileron or rudder Dual Rate), then press the YES/+ or NO/- keys to set the desired Up (or Right) Dual Rate percentage value.

D/R setting range is 0% to 150%. The default setting is 100%. Increasing the D/R percentage value increases servo travel when Dual Rate is Activated. Decreasing the D/R percentage value decreases servo travel when Dual Rate is Activated.

## *04.EXP (EXPONENTIAL - ELEVATOR, AILERON, AND RUDDER)*

The Exponential function allows you to vary the amount of servo travel in relation to the movement of the elevator, aileron, and rudder control sticks near the neutral positions to change the way the control surfaces react to control stick movement. Increasing the Exponential value will soften the control feel around neutral and decreasing the Exponential value will heighten the control feel around neutral. For example, using a positive Exponential value allows for smoother control by lessening the amount of servo travel in relation to the amount of control stick movement. Using a negative Exponential value may result in more 'twitchy' control response because the amount of servo travel will be increased in relation to the amount of control stick movement.

The Exponential function is linked directly to your Dual Rate switches. This allows you to program Exponential for each of the three Dual Rate positions separately. In addition, Exponential can be programmed separately for each of the five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.



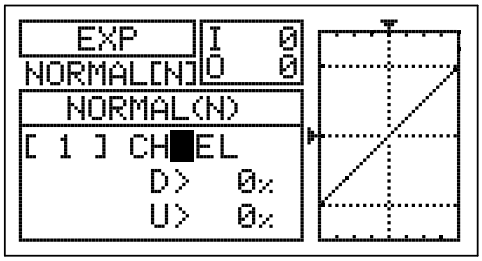

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

⚠ Exponential does not change the total amount of servo travel at maximum control stick deflection. Exponential affects the ratio between servo travel and control stick movement at less than 100% control stick deflection.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight EXP, then press the ENTER key to display the EXP menu. The cursor will default to CH>EL.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Exponential function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Exponential function for.

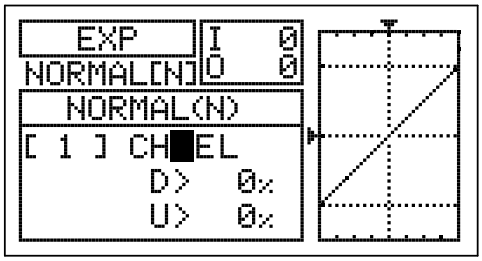



**Choosing the Channel**

1) Press the Navigation Pad ▲▼ to highlight CH>EL.

2) If you would like to set the Exponential for another channel, press the YES/+ or NO/- keys to choose CH>AI or CH>RU.

Exponential can be set for EL (Elevator), AI (Aileron), and RU (Rudder).




**Changing the Exponential Percentage Values**

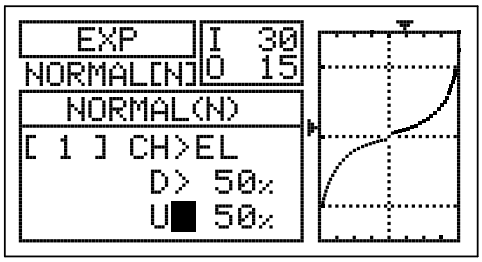
The Exponential function is linked directly to your Dual Rate switches. This allows you to program Exponential for each of the three Dual Rate positions separately. For example, with the Dual Rate switch in position 1 (maximum travel), you can set 30% Exponential, with the Dual Rate switch in position 2, you can set 10% Exponential, and with the Dual Rate switch in position 3, you can set 0% Exponential (Linear).

**WARNING** If you have not used Exponential functions in the past, we suggest that you start with a small percentage of Exponential (approximately 10%~20%) until you get used to the feel of how Exponential affects the control feel of your model. You will find that Exponential is most useful where strong control response is desired at extreme control stick positions, but softer control response to small control stick movements is desired in order to make very accurate small corrections to the flight path.

1) Move the Dual Rate Switch for the channel you are setting to the position you would like to set an Exponential value percentage for, either 1, 2, or 3.

2) Press the Navigation Pad ▼ to move the cursor to D>0% (L>0% if setting aileron or rudder Exponential).

3) Press the YES/+ or NO/- keys to set the desired Down (or Left) Exponential percentage value.




⚠ As you change the Exponential percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range. Notice that as you increase Exponential, the servo travel is decreased near the neutral position in relation to control stick movement, and as you decrease Exponential, the servo travel is increased near the neutral position in relation to control stick movement.

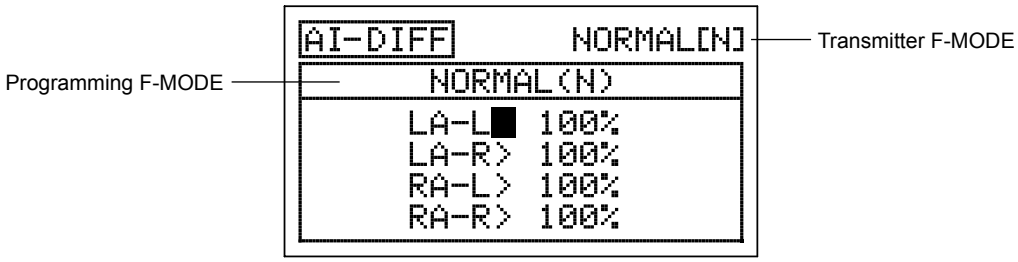
4) Press the Navigation Pad ▼ to move the cursor to U>0% (R>0% if setting aileron or rudder Exponential), then press the YES/+ or NO/- keys to set the desired Up (or Right) Exponential percentage value.

EXP setting range is -100% to 100%. The default setting is 0% (Linear). Increasing the EXP percentage value softens the control feel around neutral. Decreasing the EXP percentage value heightens the control feel around neutral.

⚠ When the Exponential value is set to 0%, the ratio between servo travel and control stick movement will be Linear. For example, when you move the control stick 50%, the servo will travel 50%, too.

## *05.AI DIFFERENTIAL (AILERON DIFFERENTIAL)*

The Aileron Differential function allows you change the ratio of the Up to Down movement of each aileron. For example, many aircraft exhibit a yaw tendency when the ailerons are used. This can affect any aircraft, and is common in sailplanes, especially when a lot of aileron control throw is used. The Aileron Differential function can be used to eliminate the yaw tendency by adding more movement to the upward moving aileron than the downward moving aileron. For example, if your aircraft tends to yaw during aileron turns, you can adjust the Aileron Differential to make the aircraft turn more axially, which requires less use of the rudder to compensate. The Aileron Differential function can be programmed separately for each of the five Flight Modes.



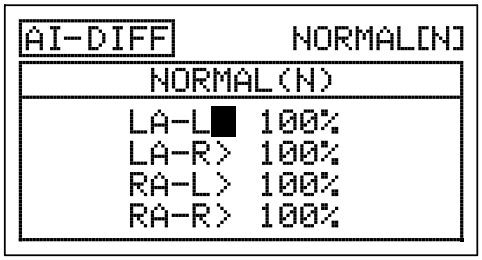

Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** The Aileron Differential function is only effective when the flaps are up. The Landing Differential function will always override the Aileron Differential function in the same Flight Mode when the Landing Differential Function is Activated and the flaps are deployed, either using the flap control stick, or if you've moved the flap function to a three-position switch. For more information, see page 43.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight AI DIFFERENTIAL, then press the ENTER key to display the AI-DIFF menu. The cursor will default to LA-L>100%.

When Model Type Setting Option AILERON>4 is chosen, the cursor will default to LOA-L>100%




2) Press the F-MODE key to choose the F-MODE number you would like to program the Aileron Differential function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Aileron Differential function for.

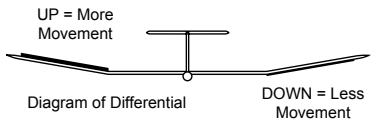
**Changing the Aileron Differential Percentage Values**

Aileron Differential is achieved by reducing the amount of DOWN movement in the required aileron.

**IMPORTANT** Prior to setting the Aileron Differential, you should use the Surface menu EPA Adjustment Option to ensure that each aileron is moving UP and DOWN the same amount.

Aileron Differential can be programmed for each aileron. The channels displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features four aileron servos, LOA-L (Left Outside Aileron - Left), LOA-R (Left Outside Aileron - Right), ROA-L (Right Outside Aileron - Left) ROA-R (Right Outside Aileron - Right), LIA-L (Left Inside Aileron - Left), LIA -R (Left Inside Aileron - Right), RIA-L (Right Inside Aileron - Left), and RIA-R (Right Inside Aileron - Right) will be displayed and the Aileron Differential can be adjusted for each of the servos individually.

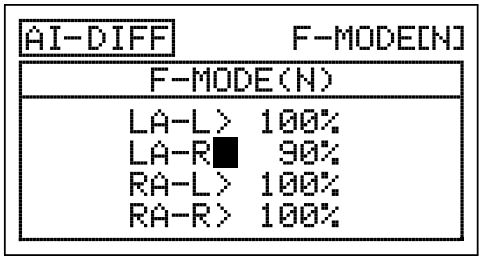
Aileron Differential is a percentage of the control throw differential between the ailerons. For example, if you set LA-R (Left Aileron-Right) to 90%, the Left Aileron will move Down less than what the Right Aileron moves Up.




The Aileron Differential percentage value is a percentage of End Point Adjustment.

1) Press the Navigation Pad ▲▼ to highlight the desired aileron travel direction you would like to change the Aileron Differential setting for. For example, if you need the Right Aileron to move Up more than the Left Aileron moves Down (per the diagram on the previous page), you would decrease the LA-R>100% (Left Aileron-Right) percentage value.

2) Press the YES/+ or NO/- keys to set the desired Aileron Differential percentage value.




AI-DIFF setting range is 0% to 100%. The default setting is 100%. Decreasing the AI-DIFF percentage value will decrease the movement for that specific aileron and direction of travel.

3) Repeat the previous procedures to set the desired remaining Aileron Differential percentage values.

## *06.LANDING (FLAP FREEZE POINT, CROW, AND LANDING DIFFERENTIAL)*

The Landing menu consists of three different functions. The Flap Freeze Point function, the Crow function, and the Landing Differential function. Although all three functions can be programmed separately for each of the five Flight Modes. These functions are intended to be used when the aircraft is in landing mode [e.g., the transmitter is in Flight Mode 4 (Land) or the flaps are deployed]. In the default configuration, Flight Mode 4 (Land) is Active when the flap control stick is pulled back.

**Flap Freeze Point**

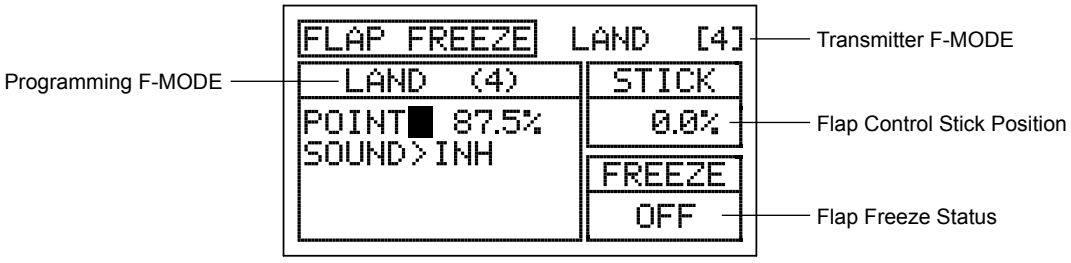
The Flap Freeze Point function allows you to set a predetermined amount of flap deflection, based on flap control stick position, then variably control the remainder of flap travel, using the flap control stick. For example, if you set the Flap Freeze Point percentage value to 50%, the flaps will deploy to that flap control stick position when the flap control stick is moved from Flight Mode 1 (Normal) to Flight Mode 4 (Land). Once you pull the flap control stick down below the 50% control stick position, the flaps will variably move down relative to the position of the flap control stick. To raise the flaps completely and turn off Flight Mode 4 (Land), move the flap control stick all the way forward. An audible tone can be programmed to indicate when the Flap Freeze Point turns ON and OFF.

⚠ When the flap control stick is above the Flap Freeze Point position, the flaps will not move until either the flap control stick is moved down below the Flap Freeze Point position or the flap control stick is moved all the way forward to raise the flaps completely and turn off Flight Mode 4 (Land).

⚠ The Flap Freeze Point function will only work if the flaps are controlled by a control stick (in the default configuration, the flap control stick). The Flap Freeze Point function will not work if the flaps have been reassigned to a switch.

⚠ In the default configuration, Flight Mode 4 (Land) becomes Active when the flap control stick position reaches 87.5%. If you want to disable the Flap Freeze Point function, set the Flap Freeze Point to 87.5% (press the YES/+ and NO/- keys at the same time when adjusting the Point percentage value. This will provide variable flap deflection for the entire amount of flap control stick movement.

⚠ If you reassign the Camber function to the flap control stick (CAMBER>STK in the VR ASSIGN menu), it is normal for the flap servo(s) to move with the aileron servos to produce Camber, even though the Flap Freeze Point might be Active. For more information, see page 149.

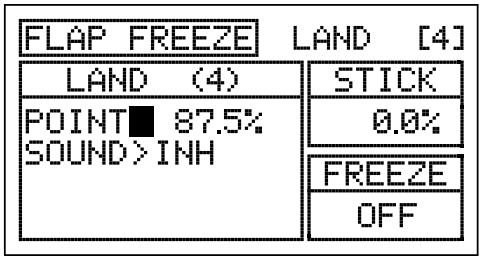



⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight LANDING, then press the ENTER key to display the LANDING menu. The cursor will default to the FLAP FREEZE POINT sub-menu.

2) Press the ENTER key to display the FLAP FREEZE POINT menu. The cursor will default to POINT>87.5%.



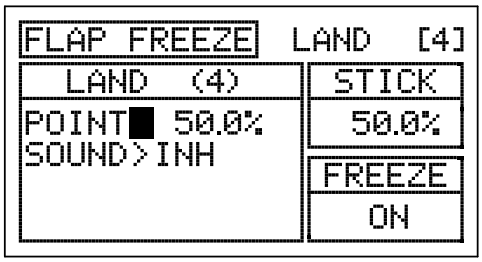

3) Press the F-MODE key to choose the F-MODE number you would like to program the Flap Freeze Point function for. Choose from N, 1, 2, 3, or 4. The LAND (4) display will change, indicating which Flight Mode you are programming the Flap Freeze Point function for.

⚠ Although the Flap Freeze Point function can be programmed for use in any Flight Mode, it is intended to be used only during landing, so we suggest choosing the Flight Mode that you have designated for landing.

**Setting the Flap Freeze Point**

1) Press the Navigation Pad ▲▼ to highlight POINT>87.5%. This is the position at which the Flap Freeze Point function will turn ON and OFF.

2) Move the flap control stick to the position at which you want the Flap Freeze Point to turn ON and OFF, then press the YES/+ key. ON will be displayed in the FREEZE dialog box.




**IMPORTANT** If you set the Point percentage value to 0%, you will not have variable control of the flaps. The flaps will deploy to their maximum deflection when Flight Mode 4 (Land) is Activated. When you turn off Flight Mode 4 (Land), the flaps will retract completely.

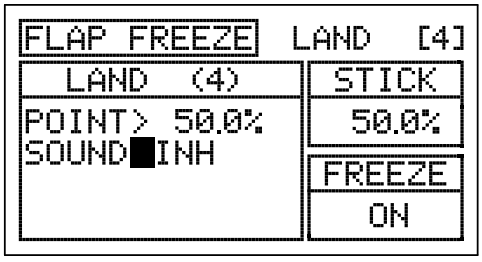
⚠ The current position of the flap control stick is displayed in the STICK dialog box. If you want to disable the Flap Freeze Point function, so that you will have variable flap deflection for the entire amount of flap control stick movement, set the Flap Freeze Point to the same percentage value the flap control stick switches Flight Modes. For example, if you've previously reset the Flap Stick Switch Point percentage value to 50% using the Stick Switch menu (causing the flap control stick to switch to and from Flight Mode 4 (Land) at 50% control stick movement, set the Flap Freeze Point percentage value to 50%, too.

**Flap Freeze Point Sound**

An audible tone can be programmed to alert you to the status of the Flap Freeze Point function.

1) Press the Navigation Pad ▼ to highlight SOUND>INH.

2) Press the YES/+ or NO/- keys to choose which sound option you desire to use. When set to INH, no audible tone will be heard when the Flap Freeze Point function turns ON and OFF.




The following Sound options are available:

**ON<>OFF -** An audible tone is heard when the Flap Freeze Point function turns ON and when the Flap Freeze Point function turns OFF.

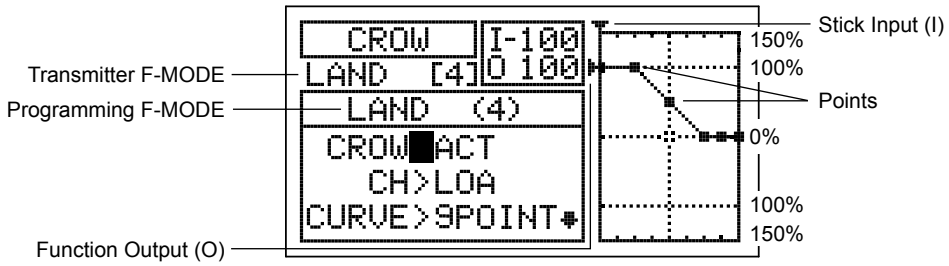
**ON>OFF -** An audible tone is heard only when the Flap Freeze Point function turns OFF.

**OFF>ON -** An audible tone is heard only when the Flap Freeze Point function turns ON.

**Crow**

The Crow function allows you to use the ailerons and the flaps simultaneously to control the lift of the aircraft, while still allowing aileron roll control. Crow is typically used to quickly reduce lift, ensuring pin-point spot landings in nearly any situation. When the Crow function is Activated, all of the ailerons should move Up and all of the flaps should move Down when the flaps are deployed. The Crow function can be adjusted separately for each aileron servo and you have the choice of making each of those adjustments Linear or Curved by programming each of the nine custom-programmable Points. The amount of deflection and the position at which the Crow function Activates during flap deployment can also be changed. An Input and Output display, along with a graph, help with programming visualization.

⚠ The Crow function works in conjunction with the flaps. If the Flap Freeze Point function is used, the Crow function will still operate variably with the flap control stick even when the flaps are deployed to your predetermined amount of deflection (Flap Freeze Point function ON). Once the Flap Freeze Point function is OFF, the flaps will work variably with the flap control stick to produce Crow all the way to full flap deflection.



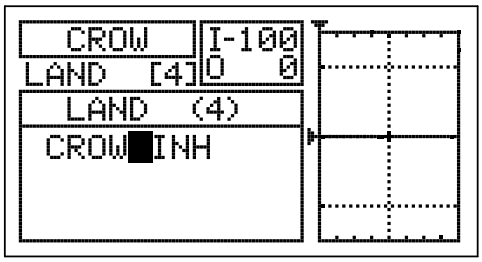

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Prior to Activating and programming the Crow function, it's important that the ailerons and flaps are centered (all control surfaces should be even with the trailing edge of the wing) with the transmitter in Flight Mode N (Normal). All End Point Adjustments and Limits should be set for Flight Mode N (Normal), too. The flaps should be centered when the flap control stick pushed all the way forward.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight LANDING, then press the ENTER key to display the LANDING menu. The cursor will default to the FLAP FREEZE POINT sub-menu.

2) Press the Navigation Pad ▼ to highlight CROW, then press the ENTER key to display the CROW menu. The cursor will default to CROW>INH.




3) Press the F-MODE key to choose the F-MODE number you would like to program the Crow function for. Choose from N, 1, 2, 3, or 4. The LAND (4) display will change, indicating which Flight Mode you are programming the Crow function for.

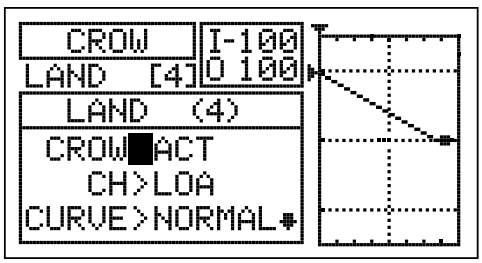
⚠ Although the Crow function can be programmed for use in any Flight Mode, it is intended to be used only during landing, so we suggest choosing the Flight Mode that you have designated for landing.

**Activating the Crow Function**

1) Press the Navigation Pad ▲▼ to highlight CROW>ACT.

2) Press the YES/+ or NO/- keys to choose the desired the ACT/INH setting.

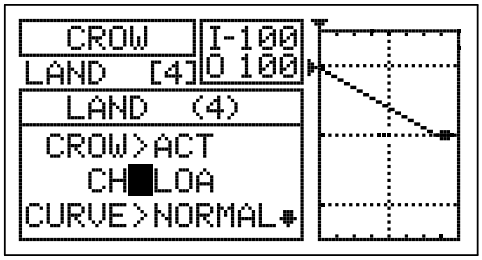
CROW setting range is ACT or INH. The default setting is ACT. When set to ACT, the Crow function will be Activated for that Flight Mode. When set to INH, the Crow function will be Inhibited for that Flight Mode.



**Choosing the Channel**

1) Press the Navigation Pad ▼ to highlight CH>LOA.

2) Press the YES/+ or NO/- keys to choose the channel you would like to set the Curve value, Point percentage value, and Rate percentage value for.



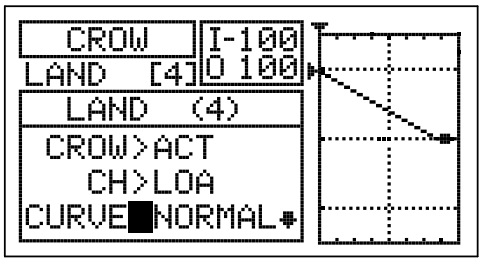

⚠ The channels displayed will vary based on Model Type selection options currently selected. For example, if your model features four aileron servos, LOA (Left Outside Aileron), ROA (Right Outside Aileron), LIA (Left Inside Aileron), and RIA (Right Inside Aileron) will be displayed and the Curve value, Point percentage value, and Rate percentage value can be adjusted for each of the servos individually.

**Choosing the Curve Type**

1) Press the Navigation Pad ▼ to highlight CURVE>NORMAL.

2) Press the YES/+ or NO/- keys to choose the desired Curve type.

⚠ If you choose CURVE>9POINT, skip to the Changing the Point and Rate Percentage Values - 9 Point Curve section on the next page.




CURVE setting range is NORMAL and 9POINT. The default setting is NORMAL. When set to NORMAL, the Crow function will operate in a Linear fashion. When set to 9POINT, each of the nine individual points can be changed to create a channel Curve when the Crow function operates. This allows for greater flexibility and fine-tuning for specific aircraft.

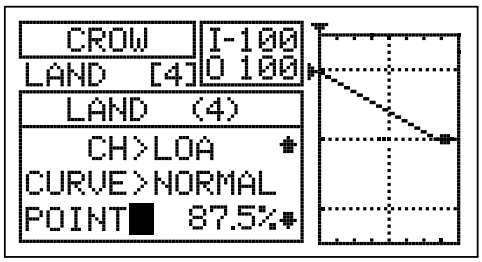
**Changing the Point and Rate Percentage Values - Normal Curve**

The Point percentage value determines the position that the Crow function begins to operate based on the position of the flap control stick. For example, you could set the Point percentage value so that the Crow function begins to operate when the flap control stick is centered, however, still maintain only flap control at higher flap control stick positions. The Rate percentage value defines the maximum amount of servo travel desired when the Crow function is used.

1) Press the Navigation Pad ▼ to highlight POINT>87.5%

2) Move the flap control stick to the position you would like the Crow function to begin to operate.

3) Press the YES/+ or NO/- keys to move the aileron servo back so that the aileron is centered. In the majority of cases, you'll program a lower Point percentage value to bring the aileron back to the centered position.



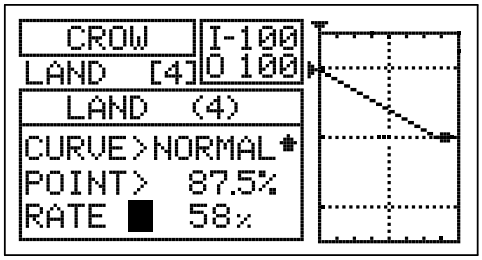

POINT setting range is 0.0% to 100%. The default setting is 87.5%. The Point percentage value will vary and should be set so that the aileron is centered when the flap control stick is in the position you desire to begin adding Crow. For example, if you want to begin adding Crow when the flap control stick is centered, center the flap control stick, then change the Point percentage value to move the aileron back to the centered position.

⚠ Decreasing the Point percentage value will lessen the available Crow aileron servo travel. You can add more Crow aileron servo travel by adjusting the Rate percentage value described on the next page.

**WARNING** Keep in mind that when the Crow function is used, the aileron servo travel can exceed the End Point Adjustment value that you set previously in the Surface menu, however, the aileron servo travel will not exceed the Limits adjustment value. Be careful when setting the Rate percentage value that you don't overdrive your control linkage.

4) Press the Navigation Pad ▼ to highlight RATE>58%

5) Press the YES/+ or NO/- keys to set the desired Rate percentage value.




RATE setting range is -150% to 150%. The default setting is 58%. When the Rate percentage value is increased, Crow aileron servo travel will increase. When the Rate percentage value is decreased, Crow aileron servo travel will decrease.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between flap control stick movement and Crow aileron servo travel throughout the entire deflection range.

6) Repeat the previous procedures to change the Point and Rate percentage values for the desired remaining aileron servos.

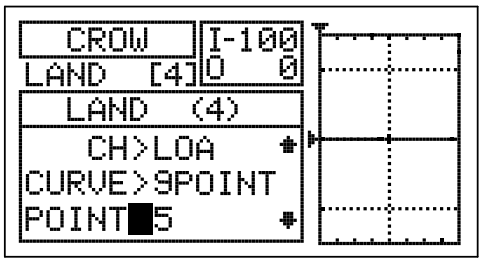
**Changing the Point and Rate Percentage Values - 9 Point Curve**

Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses. For example, one of the top F3J sailplanes uses a Crow setting where at half flap the ailerons are down (Camber for Crawl mode) and at full flap that ailerons are up (Crow for deceleration). In this configuration, with the flaps half down, the ailerons are down and at full flap, the ailerons are up. Programming the Point and Rate percentage values on a Curve allow you do this.

The Point and Rate percentage values work together to determine the position and the amount of servo travel of the ailerons based on the position of the flap control stick. Nine different Points with varying Rates can be programmed onto the Curve. Use the Input and Output display, along with the graph, to help with programming visualization. The Point that is currently selected will blink.

1) Press the Navigation Pad ▼ to highlight POINT>5.

2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.

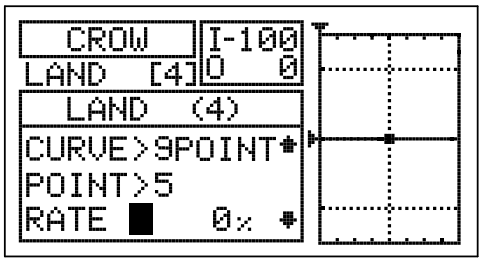



POINT setting range is 1 through 9. Point 1 is at the low end of the Curve and Point 9 is at the high end of the Curve. Point 5 is a the center of the Curve. The default Point is Point 5.

3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.

⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to 0%.




RATE setting range is -150% to 150%. POINT 1, 5, and 9 default Rate percentage values are 0%.

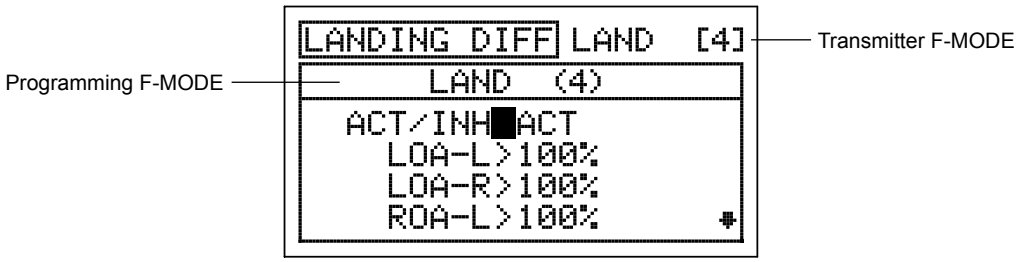
⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

5) Repeat the previous procedures to change the Point and Rate percentage values for the desired remaining aileron servos.

**Landing Differential**

The Landing Differential function allows you to program Aileron Differential (in this case, referred to as Landing Differential) separately that operates only when the flaps are deployed. This allows you to program Aileron Differential (using the AI-DIFF menu) for any Flight Mode, then program a separate Landing Differential for use only in the Flight Mode you use for landing when the flaps are deployed. When the flaps are deployed, the amount of Landing Differential smoothly increases or decreases based on flap travel.

The Landing Differential function allows you change the ratio of the Up to Down movement of each aileron. For example, many aircraft exhibit a yaw tendency when the ailerons are used. This can affect any aircraft, and is common in sailplanes, especially when a lot of aileron control throw is used. The Landing Differential function can be used to eliminate the yaw tendency by adding more movement to the upward moving aileron than the downward moving aileron. For example, if your aircraft tends to yaw during aileron turns, you can adjust the Landing Differential to make the aircraft turn more axially, which requires less use of the rudder to compensate. The Landing Differential function can be programmed separately for each of the five Flight Modes, but only operates when the flaps are deployed.



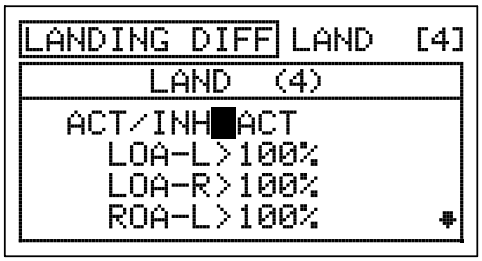

Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** The Landing Differential function operates only when the flaps are deployed. The Landing Differential function will always override the Aileron Differential function in the same Flight Mode when the Landing Differential Function is Activated and the flaps are deployed, either using the flap control stick or if you've moved the flap function to a three-position switch. For example, if you've programmed Aileron Differential in Flight Mode 2 (Launch) and you Activate and program Landing Differential in Flight Mode 2 (Launch), when the flaps are up, the Aileron Differential settings will be effective, however, when you deploy the flaps the Landing Differential settings will become effective and override the Aileron Differential settings.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight LANDING, then press the ENTER key to display the LANDING menu. The cursor will default to the FLAP FREEZE POINT sub-menu.

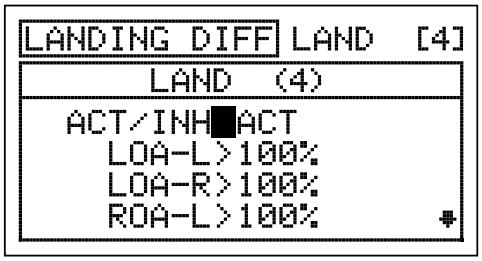
2) Press the Navigation Pad ▼ to highlight LANDING DIFF, then press the ENTER key to display the LANDING DIFF menu. The cursor will default to ACT/INH>ACT.




3) Press the F-MODE key to choose the F-MODE number you would like to program the Landing Differential function for. Choose from N, 1, 2, 3, or 4. The LAND (4) display will change, indicating which Flight Mode you are programming the Landing Differential function for.

Although the Landing Differential function can be programmed for use in any Flight Mode, it is intended to be used only during landing and will only operate when the flaps are deployed, so we suggest choosing the Flight Mode that you have designated for landing.

In the default configuration, when the flap control stick is pulled back, Flight Mode 4 (Land) becomes Active. In this situation, we suggest programming the Aileron Differential setting that you want to use for landing in Flight Mode 4 (Land) in the AI-DIFF menu and Inhibiting the Landing Differential function in Flight Mode 4 (Land). Programming the Landing Differential setting will typically be used only if you move Flight Mode 4 (Land) from the flap control stick onto a three-position switch.




**Activating the Landing Differential Function**

1) Press the Navigation Pad ▲ ▼ to highlight ACT/INH>ACT.

2) Press the YES/+ or NO/- keys to choose the desired the ACT/INH setting.

ACT/INH setting range is ACT or INH. The default setting is ACT. When set to ACT, the Landing Differential function will be Activated for that Flight Mode. When set to INH, the Landing Differential function will be Inhibited for that Flight Mode.

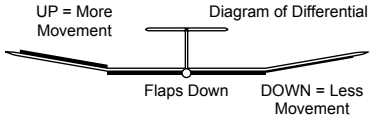
**Changing the Landing Differential Percentage Values**

Landing Differential is achieved by reducing the amount of DOWN movement in the required aileron.

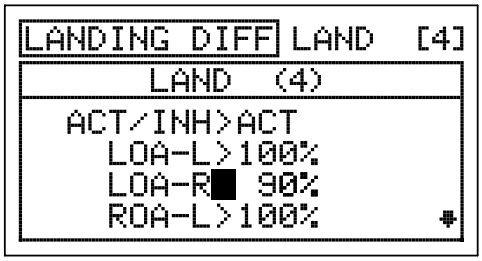
**IMPORTANT** Prior to setting the Landing Differential, you should use the Surface menu EPA Adjustment Option to ensure that each aileron is moving UP and DOWN the same amount.

⚠ Landing Differential can be programmed for each aileron. The channels displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features four aileron servos, LOA-L (Left Outside Aileron - Left), LOA-R (Left Outside Aileron - Right), ROA-L (Right Outside Aileron - Left) ROA-R (Right Outside Aileron - Right), LIA-L (Left Inside Aileron - Left), LIA -R (Left Inside Aileron - Right), RIA-L (Right Inside Aileron - Left), and RIA-R (Right Inside Aileron - Right) will be displayed and the Landing Differential can be adjusted for each of the servos individually.

⚠ Landing Differential is a percentage of the control throw differential between the ailerons. For example, if you set LOA-R (Left Outside Aileron-Right) to 90%, the Left Outside Aileron will move Down less than what the Right Aileron(s) moves Up.




1) Press the Navigation Pad ▲ ▼ to highlight the desired aileron travel direction you would like to change the Landing Differential setting for. For example, if you need the Right Outside Aileron to move Up more than the Left Outside Aileron moves Down (per the diagram above right), you would decrease the LOA-R>100% (Left Outside Aileron-Right) percentage value.




2) Press the YES/+ or NO/- keys to set the desired Landing Differential percentage value.

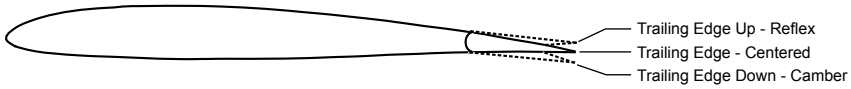
⚠ The Landing Differential percentage value is a percentage of End Point Adjustment.

LANDING DIFF setting range is 0% to 100%. The default setting is 100%. Decreasing the LANDING DIFF percentage value will decrease the movement for that specific aileron and direction of travel. Keep in mind that Landing Differential only operates when the flaps are deployed. When the flaps are deployed, the amount of Landing Differential smoothly increases or decreases based on flap travel.

3) Repeat the previous procedures to set the desired remaining Landing Differential percentage values.

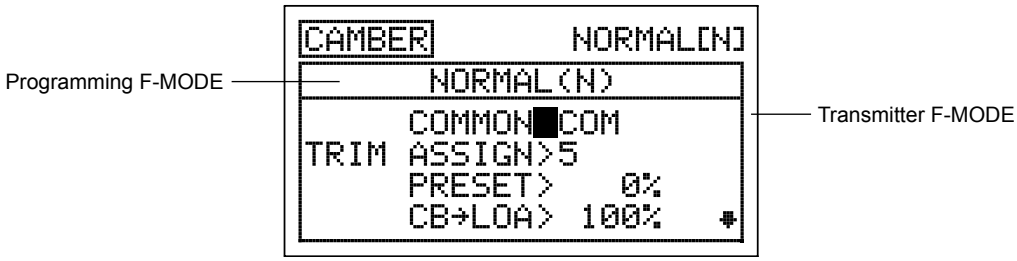
## 07.CAMBER (CAMBER AND REFLEX)

The Camber function allows you to program either Camber or Reflex into the trailing edge of the wing to change the flight characteristics of your aircraft. When the entire trailing edge of the wing (ailerons and flaps) drops, this is referred to as Camber, and when the entire trailing edge of the wing (ailerons and flaps) rises, this is referred to as Reflex. Camber is typically used during launch to maximize lift and Reflex is typically used in normal flight to maximize speed.




In the default configuration, the Camber function is controlled proportionally by Auxiliary Lever (VR6). The Camber function can also be Preset to a specific position using Trim Switch (T5), while still maintaining proportional control via Auxiliary Lever (VR6). For example, you might program the Camber Preset in Flight Mode 2 (Launch), so that the trailing edge of the wing is down to maximize lift for launching. At the same time, you can program the Camber Preset in Flight Mode 3 (Reflex), so that the trailing edge of the wing is up to maximize speed during high-speed flight. The trailing edge will automatically move to the programmed Preset when you switch Flight Modes.

You can choose to program Camber separately for each of the five Flight Modes or you can use the same Camber programming across all five Flight Modes.



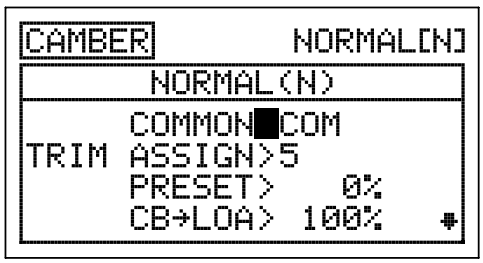

Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Prior to programming the Camber function, we strongly suggest programming the Camber Point function. This will ensure that your Camber settings are not changed if and when you program the Camber Point function. For more information, see page 128.

Camber can be programmed for each of the ailerons and each of the flaps separately. The channels displayed will vary based on Model Type and Model Type selection options currently selected.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the CAMBER settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program CAMBER settings separately for each Flight Mode. When set to SEP (Separate), you can program different CAMBER settings separately for each Flight Mode.




1) Press the Navigation Pad ▲▼ to highlight CAMBER, then press the ENTER key to display the CAMBER menu. The cursor will default to COMMON>COM.

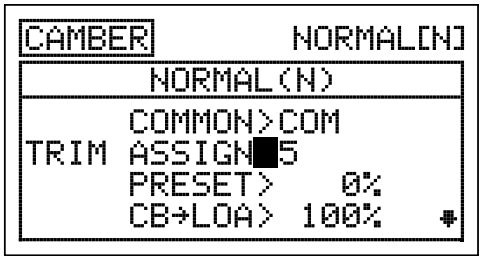
2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Camber Trim Switch Assignment section. If set to SEP, see step 3 below.

3) Press the F-MODE key to choose the F-MODE number you would like to program the Camber function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Camber function for.

**Changing the Camber Trim Switch Assignment**

The Camber Preset can be assigned to a different trim switch, or it can be Inhibited.

1) Press the Navigation Pad ▼ to highlight TRIM ASSIGN>5, then press the YES/+ or NO/- keys to choose which trim switch you would like to assign the Camber Preset to, or if you would like to Inhibit the Camber Preset.



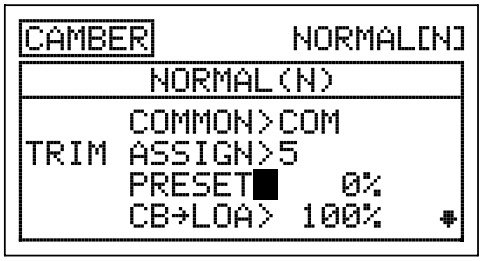

TRIM ASSIGN setting range is 5, 6, and INH. The default setting is 5. When set to 5, Camber Preset will be controlled by the Trim Switch (T5). When set to 6, Camber Preset will be controlled by the Trim Switch T6. When set to INH, Camber Preset will be Inhibited.

**Changing the Camber Preset Percentage Value**

The Camber Preset percentage value defines the preset amount of Camber (trailing edge down) or Reflex (trailing edge up) used in your aircraft and is separate from adjusting the Camber using Auxiliary Lever (VR6). Although this setting can be changed by pressing the YES/+ and NO/- keys from within the Camber menu, it can also be adjusted during flight by moving the trim switch you've assigned it to. In the default configuration, this is Trim Switch (T5).

1) Press the Navigation Pad ▼ to highlight PRESET>0%, then press the YES/+ or NO/- keys to change the Camber Preset percentage value.

PRESET setting range is -192% to 192%. The default setting is 0%. Adjust the Camber Preset percentage value to either move the trailing edge of the wing down (Camber) or move the trailing edge of the wing up (Reflex).



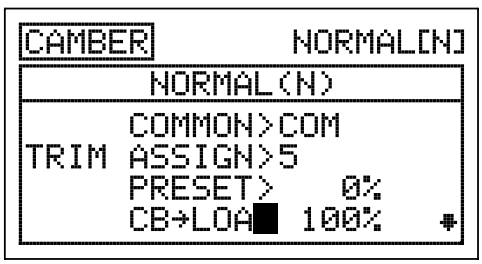

⚠ When the Camber Preset percentage value is changed using the YES/+ and NO/- keys through the Camber menu, the percentage values are changed in 1% increments. When the Camber Preset percentage value is adjusted using the trim switch, the percentage values are changed in 6% increments. If desired, the trim switch resolution can be changed through the Trim Step menu. For more information, see page 133.

**Changing the Camber Percentage Values**

The Camber percentage values define the maximum amount of Camber travel (trailing edge down) or Reflex travel (trailing edge up) when adjusting the Camber angle using Auxiliary Lever (VR6).

⚠ The total amount the trailing edge moves up and/or down will vary based on how you program the Camber Point function. For example, if you set the Camber Point percentage value to 0% in the Camber Point menu, the trailing edge may move up and down 1/4" in each direction when you move Auxiliary Lever (VR6) from the center detent to either end point. If you set the Camber Point percentage value to 100%, the trailing edge will move down twice that amount (1/2") in one direction when Auxiliary Lever (VR6) is moved from one end point to the other end point. For more information, see page 128.

1) Press the Navigation Pad ▲▼ to highlight the CB percentage value for the channel that you would like to change.
2) Press the YES/+ or NO/- keys to change the CB percentage value to set the desired maximum amount of travel for each of the aileron and flap servos. In most cases, the percentage values should be set so that all aileron and flap control surfaces deflect the same amount.
3) Repeat the previous procedures to set the desired remaining Camber percentage values.

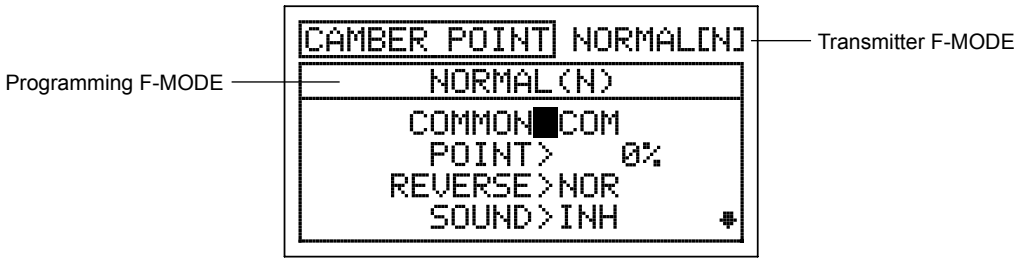



CB setting range is -150% to 150%. The default setting is 100%. Decreasing the CB percentage value will decrease the amount of Camber or Reflex travel for that specific aileron or flap. Increasing the CB percentage value will increase the amount of Camber or Reflex travel for that specific aileron or flap.

## *08.CAMBER POINT [AUXILIARY LEVER (VR6) CAMBER POINT]*

The Camber Point function allows you to define how Auxiliary Lever (VR6) controls Camber. Based on the Camber Point setting, you can control both Camber and Reflex, or you can control only Camber or Reflex. When programmed to control only Camber or Reflex, the amount of servo travel will be doubled. This is useful for those pilots who want more overall travel, but in only one direction. For example, if you set the Camber Point percentage value to 0%, the trailing edge may move up and down 1/4" in each direction when you move Auxiliary Lever (VR6) from the center detent to either end point. If you set the Camber Point percentage value to 100%, the trailing edge will move down twice that amount (1/2") in one direction when Auxiliary Lever (VR6) is moved from one end point to the other end point. The direction that Auxiliary Lever (VR6) controls the Camber function can be reversed, and an audible tone can be programmed to indicate when Auxiliary Lever (VR6) reaches the Camber Point setting.

You can choose to program Camber Point separately for each of the five Flight Modes or you can use the same Camber Point programming across all five Flight Modes.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

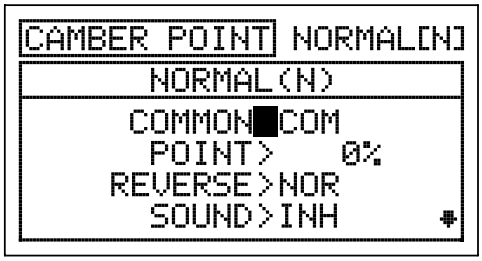
**IMPORTANT** If you change the Camber Point function programming settings after you've programmed the Camber function, your Camber settings can be altered. In this situation we suggest that you double-check your Camber settings and adjust them as necessary.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the CAMBER POINT settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program CAMBER POINT settings separately for each Flight Mode. When set to SEP (Separate), you can program different CAMBER POINT settings separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight CAMBER POINT, then press the ENTER key to display the CAMBER POINT menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Camber Point Percentage Value section. If set to SEP, see step 3 below.



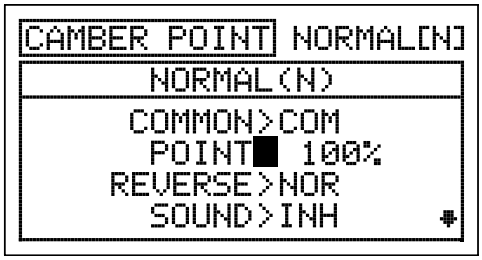

3) Press the F-MODE key to choose the F-MODE number you would like to program the Camber Point function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Camber Point function for.

**Changing the Camber Point Percentage Value**

The Camber Point percentage value defines how Auxiliary Lever (VR6) controls Camber. In the default configuration, with Auxiliary Lever (VR6) in the center detent and the Camber Point percentage value set to 0%, you can control both Camber and Reflex by moving Auxiliary Lever (VR6) forward and backward. Changing the Camber Point percentage value allows you to change the position that Auxiliary Lever (VR6) is in when the trailing edge is at neutral. For example, if you change the Camber Point percentage value to 100%, the bottom of Auxiliary Lever (VR6) will be all the way forward to neutralize the trailing edge. This allows for trailing edge movement in only one direction, however, the amount of movement is doubled, allowing you more total control throw in that direction.

1) Press the Navigation Pad ▼ to highlight POINT>0%.

2) Press the YES/+ or NO/- keys to set the desired Camber Point percentage value.




⚠ The Camber Point percentage value is a percentage of servo travel set via the Camber menu.

⚠ For example, if you want the trailing edge of the wing to be at neutral when the bottom of Auxiliary Lever (VR6) is pushed all the way forward, change the Camber Point percentage value to 100%. In this example, Auxiliary Lever (VR6) cannot control Reflex, however, you will have double the amount of Camber travel when the bottom of Auxiliary Lever (VR6) is pulled all the way back.

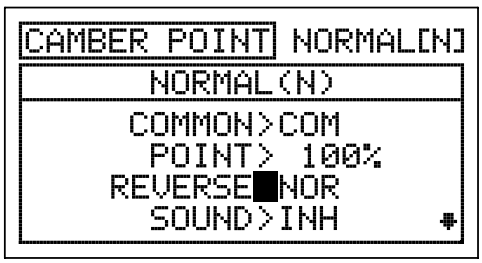
POINT setting range is -100% to 100%. The default setting is 0%. When the Camber Point percentage value is set to 0%, the trailing edge will be at neutral when Auxiliary Lever (VR6) is at the center detent. Auxiliary Lever (VR6) will control both Camber and Reflex the same amount in both directions. When the Camber Point percentage value is set to 100%, the trailing edge will be at neutral when the bottom of Auxiliary Lever (VR6) is pushed all the way forward. When the Camber Point percentage value is set to -100%, the trailing edge will be at neutral when the bottom of Auxiliary Lever (VR6) is pulled all the way back. When the Camber Point percentage value is set to -100% or 100%, Auxiliary Lever (VR6) will control either Camber or Reflex in only one direction, based on the Camber Point REV setting. When the Camber Point percentage value is set to a value between -99% and -1%, or between 1% and 99%, Auxiliary Lever (VR6) will control Camber and Reflex based on the Camber Point percentage value. For example, if you set the Camber Point percentage value to 75%, moving Auxiliary Lever (VR6) will result in 75% Camber travel and 25% Reflex travel from the trailing edge neutral position.

**Changing the Camber Point Reversing Value**

The Camber Point Reversing value changes the direction that the trailing edge will move in relation to the direction Auxiliary Lever (VR6) is moved. For example, if you move the bottom of Auxiliary Lever (VR6) forward and the trailing edge moves down, but you would rather have the trailing edge move up, change the Camber Point Reversing value to make the trailing edge move up when the bottom of Auxiliary Lever (VR6) is moved forward.

1) Press the Navigation Pad ▼ to highlight REVERSE>NOR.

2) Press the YES/+ or NO/- keys to set the desired Camber Point travel direction.



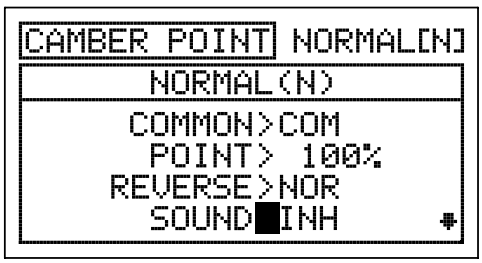

REVERSE setting range is NOR and REV. The default setting is NOR.

**Changing the Camber Point Sound Value**

An audible tone can be Activated to alert you when Auxiliary Lever (VR6) reaches the Camber Point percentage value position that you've programmed.

1) Press the Navigation Pad ▼ to highlight SOUND>INH.

2) Press the YES/+ or NO/- keys to Activate the Camber Point audible tone.



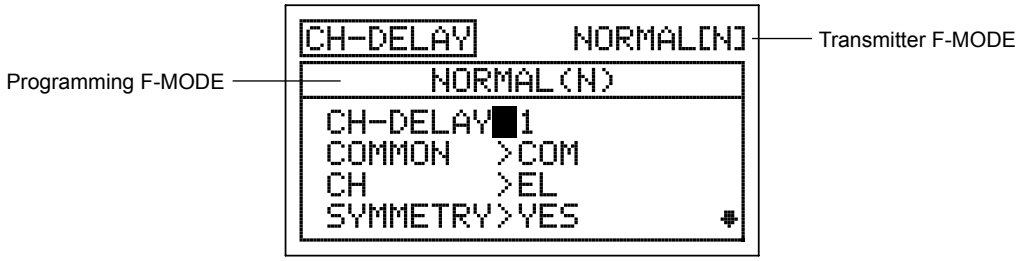

SOUND setting range is ACT and INH. The default setting is INH. When set to INH, no audible tone will be heard when Auxiliary Lever (VR6) reaches the Camber Point percentage value position that you've programmed. When set to ACT, an audible tone will alert you when Auxiliary Lever (VR6) reaches the Camber Point percentage value position that you've programmed.

## 09.CH DELAY (CHANNEL SERVO DELAY)

The Channel Delay function allows you to adjust the speed of individual servos. This function has several uses. For example, not all servos operate at the same exact speed. If your model uses separate aileron and flap servos, you may find that even though the servos are the same, one servo may move faster than the other. You can use the Channel Delay function to slow down the faster servo to match the slower servo. The Channel Delay function can also be used to slow down a servo that controls a specific function to achieve a more scale transit time, for example, to open and close a canopy on a scale aircraft.

The Channel Delay function can be programmed to operate in a number of different combinations to suit just about any model setup or control function need. Up to five Channel Delay functions can be programmed separately for each of the five Flight Modes or you can use the same Channel Delay programming across all five Flight Modes.

⚠ The Channel Delay function does not affect when the servo starts to respond to control stick movement. The Channel Delay function affects only the transit time of the servo.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Each CH-DELAY function (CH-DELAY 1, 2, 3, 4, and 5) must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

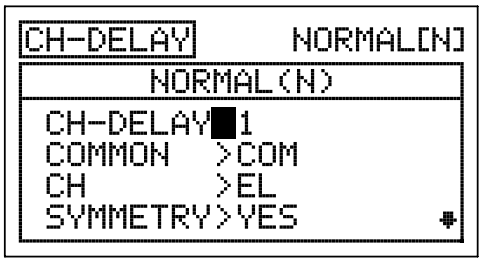
**Choosing the Channel Delay Number**

Up to five separate Channel Delay functions can be programmed for each Flight Mode, however, only one channel can be assigned to one Channel Delay function at a time. For example, if you want to program Channel Delay for the elevator and the aileron channels, you would need to program Elevator to CH-DELAY 1 and Aileron to CH-DELAY 2.

⚠ Although only one channel can be assigned to one Channel Delay function at a time, you can still Activate multiple Channel Delay Functions at the same time by assigning the Channel Delay functions to the same Switch Position Number. For example, assign both CH-DELAY 1 and CH-DELAY 2 to Switch Position 23. This is particularly useful if want to program the same Channel Delay percentage values to a model that uses two different aileron servos or two different elevator servos.

1) Press the Navigation Pad ▲▼ to highlight CH-DELAY, then press the ENTER key to display the CH-DELAY menu. The cursor will default to CH-DELAY>1.

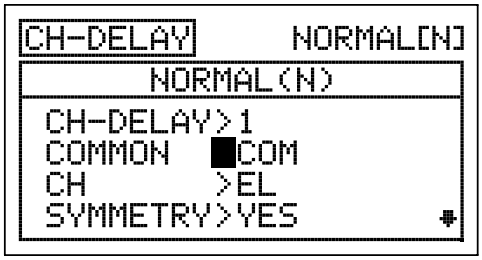
2) Press the YES/+ and NO/- keys to choose the CH-DELAY number you would like to program Channel Delay for.




CH-DELAY setting range is 1, 2, 3, 4, or 5.

**Choosing the Flight Mode - Common or Separate**

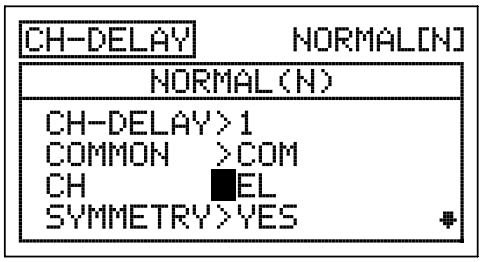
When set to COM (Common), the CH-DELAY setting will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program CH-DELAY settings separately for each Flight Mode. When set to SEP (Separate), you can program different CH-DELAY settings separately for each Flight Mode.




1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP.

⚠ If set to COM, skip to the Choosing the Channel section. If set to SEP, see step 2 below.

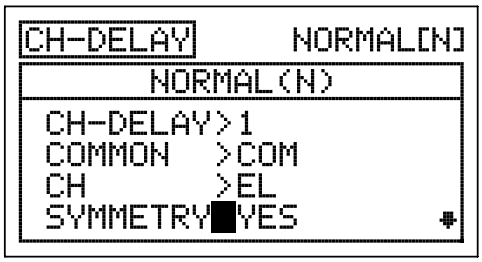
2) Press the F-MODE key to choose the F-MODE number you would like to program the Channel Delay function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Channel Delay function for.




**Choosing the Channel**

1) Press the Navigation Pad ▼ to highlight CH>EL, then press the YES/+ or NO/- keys to choose which Channel you want to program Channel Delay for.

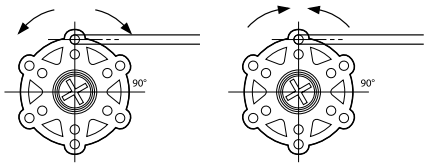
⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features four aileron servos, LOA, ROA, LIA, and RIA will be separate options.



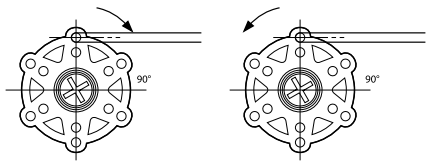

**Changing the Symmetry Value**

1) Press the Navigation Pad ▼ to highlight SYMMETRY>YES, then press the YES/+ or NO/- keys to change the Symmetry option.

The following Symmetry options are available:



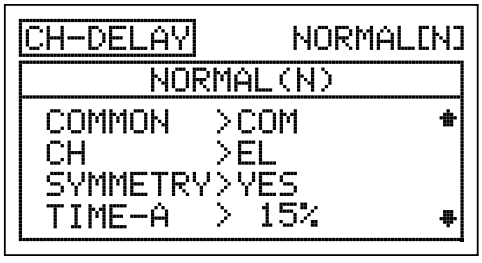

**YES** - Selecting this option results in the Channel Delay function affecting the speed of the servo in both directions equally.




**NO** - Selecting this option results in the Channel Delay function affecting the speed of the servo in only one direction.

**Changing the Time-A Percentage Value**

The Time-A setting adjusts the Channel Delay when the servo moves from the neutral position to either End Point (Symmetry YES), and in a single direction (Symmetry NO), either clockwise or counter-clockwise, depending on the Servo Reversing setting in the Surface menu.




1) Press the Navigation Pad ▼ to highlight TIME-A>0%, then press the YES/+ or NO/- keys to change the Time-A percentage value.

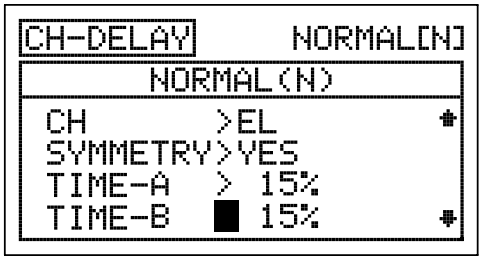
TIME-A setting range is 0% to 100%. The default setting is 0%. When the Time-A percentage value is increased, the servo transit time will be slowed down. At 0%, the servo moves at its normal speed. At 100%, the servo takes approximately 15 seconds to move from the neutral position to 100% or -100% travel.

**Changing the Time-B Percentage Value**

The Time-B setting adjusts the Channel Delay when the servo moves from either End Point to the neutral position (Symmetry YES), and in a single direction (Symmetry NO), either clockwise or counter-clockwise, depending on the Servo Reversing setting in the Surface menu.

⚠ If a Time-A percentage value is set with SYMMETRY>NO, the Time-B setting will affect the Channel Delay function in the direction opposite the Time-A Channel Delay setting, regardless of the Servo Reversing setting.

1) Press the Navigation Pad ▼ to highlight TIME-B>0%, then press the YES/+ or NO/- keys to change the Time-B percentage value.




TIME-B setting range is 0% to 100%. The default setting is 0%. When the Time-B percentage value is increased, the servo transit time will be slowed down. At 0%, the servo moves at its normal speed. At 100%, the servo takes approximately 15 seconds to move from one 100% or -100% travel to the neutral position.

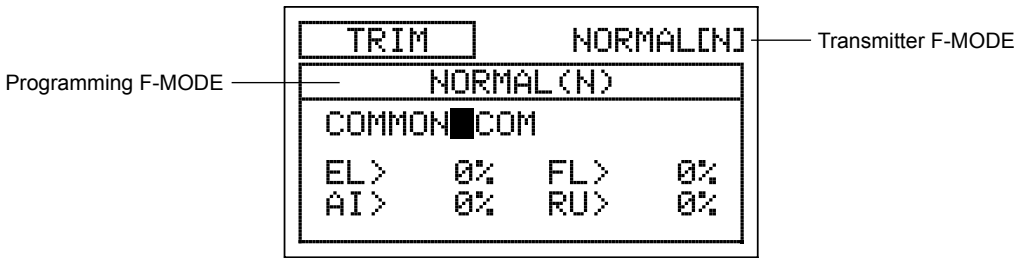
⚠ If you want to ensure that a servo will move at the same speed in both directions, for example, to match the speed of a second servo, make sure the Symmetry is set to YES and the that both the Time-A and the Time-B percentage values are the same.

## *10.TRIM (CONTROL SURFACE TRIM)*

The Trim function allows you to view the current Digital Trim Positions of the four flight control surfaces. In addition, you are able to fine-tune the Digital Trim Positions, using the YES/+ and No/- keys. For example, in the default configuration, when you move the elevator trim switch, the Trim percentage value changes in 6% increments. When you press the YES/+ and NO/- keys to change the elevator Trim percentage value, the Trim percentage value changes in 1% increments. You can also choose to program specific Trim percentage values separately for each of the five Flight Modes or you can use the same Trim percentage values across all five Flight Modes.

⚠ The SD-10G transmitter features Digital Trim Memory. Any amount of trim that you set during flight, using either the trim switches or the YES/+ and NO/- keys from within the Trim menu, is automatically stored in memory for that specific channel and model, and for that specific Flight Mode (if enabled). The Trim percentage values for each model will automatically be loaded when the transmitter is turned ON and your model is selected.

⚠ An audible tone is heard when the trim switches reach the center position. This allows you to know when the trim switches reach the center position without the need to look at the Trim Indicators on the Top menu.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

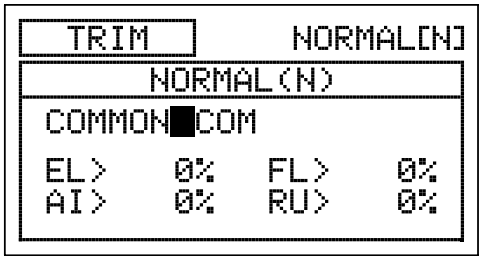
**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TRIM settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program or store TRIM settings separately for each Flight Mode. When set to SEP (Separate), you can program and store different TRIM settings separately for each Flight Mode.

**IMPORTANT** When the Flight Mode is set to Separate, Trim percentage values are stored in the specific Flight Mode you're using when you change the Trim percentage values, whether with the trim switches or with the YES/+ and NO/- keys within the Trim menu. For example, you could have 10% elevator trim in Flight Mode N (Normal) and 5% elevator trim in Flight Mode 1. **Be cautious of this when switching between Flight Modes during flight.**

1) Press the Navigation Pad ▲▼ to highlight TRIM, then press the ENTER key to display the TRIM menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Trim Percentage Values section. If set to SEP, see step 3 below.



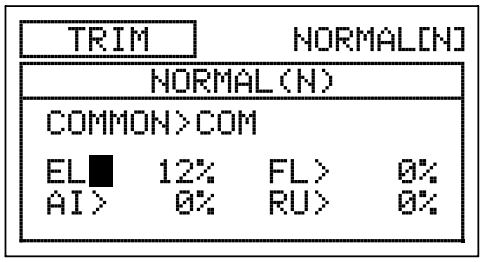

3) Press the F-MODE key to choose the F-MODE number you would like to program the Trim function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Trim function for.

**Changing the Trim Percentage Values**

The current Trim percentage values for each of the flight control surfaces is displayed. The Trim percentage values can be changed, if desired, using either the trim switches or the YES/+ and NO/- keys (from within the Trim menu only).

⚠ The Trim percentage values are displayed as a percentage of total trim. They are not displayed as a percentage of servo travel.

1) Press the Navigation Pad ◀▶▲▼ to highlight the channel you would like to change the Trim percentage value for, then press the YES/+ or NO/- keys to change the Trim percentage value.

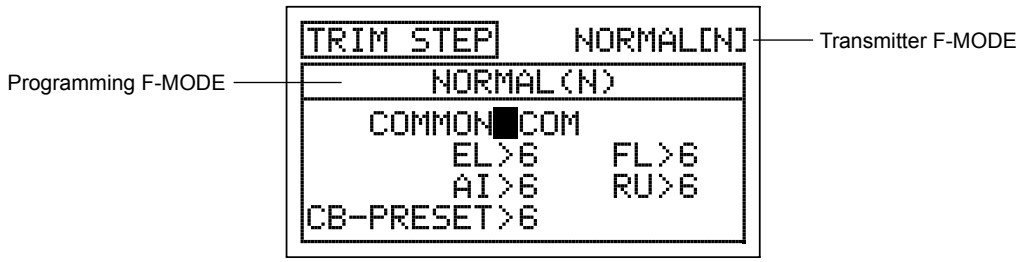



TRIM setting range is -150% to 150%. The default setting is 0%.

⚠ Press the YES/+ and NO/- keys at the same time to set the Trim percentage value to 0% for the selected channel.

## *11.TRIM STEP (CONTROL SURFACE TRIM STEP RESOLUTION)*

The Trim Step function allows you to adjust how far the servo travels when the trim switch is moved. This allows you to change the Trim function resolution to suit your preference. For example, in the default configuration, when you move the elevator trim switch, the Trim percentage value changes in 6% increments. You can increase the resolution by decreasing the Trim Step value, so that the servo travels less when you move the trim switch. This makes it possible to fine-tune the trim settings extremely accurately. In addition, you could decrease the resolution by increasing the Trim Step value, so that the servo travels more when you move the trim switch. This makes setting large amounts of trim faster, but the trim setting may not be as accurate. You can choose to program Trim Step values separately for each of the five Flight Modes or you can use the same Trim Step programming values across all five Flight Modes.



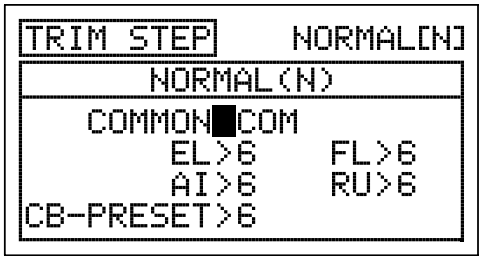

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TRIM STEP settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program TRIM STEP settings separately for each Flight Mode. When set to SEP (Separate), you can program different TRIM STEP settings separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight TRIM STEP, then press the ENTER key to display the TRIM STEP menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Setting the Trim Step Values section. If set to SEP, see step 3 below.

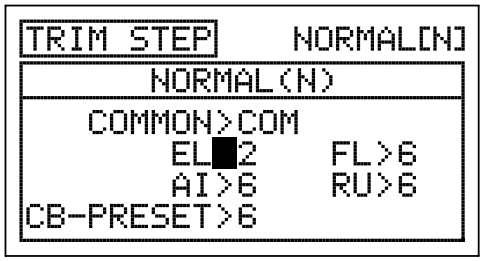



3) Press the F-MODE key to choose the F-MODE number you would like to program the Trim Step function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Trim Step function for.

**Changing the Trim Step Values**

1) Press the Navigation Pad ◀ ▶ ▲▼ to highlight the channel you would like to change the Trim Step value for, then press the YES/+ or NO/- keys to change the Trim Step value.

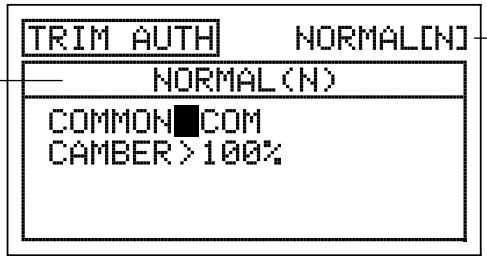
⚠ The CB-PRESET channel controls the Camber Preset and is assigned to the Trim Switch (T5).




TRIM STEP setting range is 1 to 30. The default setting is 6. Increasing the Trim Step value causes the servo to travel more when the trim switch is moved (lower resolution). Decreasing the Trim Step value causes the servo to move less when the trim switch is moved (higher resolution).

## *12.TRIM AUTH [AUXILIARY LEVER (VR6) CAMBER TRIM AUTHORITY]*

The Trim Authority function allows you to change the amount of Camber or Reflex travel relative to how far Auxiliary Lever (VR6) is moved. For example, if you set the Trim Authority Camber percentage value to 50%, the trailing edge will move half as much using Auxiliary Lever (VR6) as it would if the Trim Authority Camber percentage value was set to 100%. You can choose to program Trim Authority values separately for each of the five Flight Modes or you can use the same Trim Authority programming values across all five Flight Modes.




Auxiliary Lever (VR6) Camber

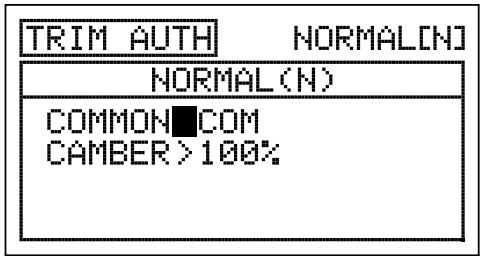
⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TRIM AUTH settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program TRIM AUTH settings separately for each Flight Mode. When set to SEP (Separate), you can program different TRIM AUTH settings separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight TRIM AUTH, then press the ENTER key to display the TRIM AUTH menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Camber Trim Authority Percentage Value section. If set to SEP, see step 3 below.

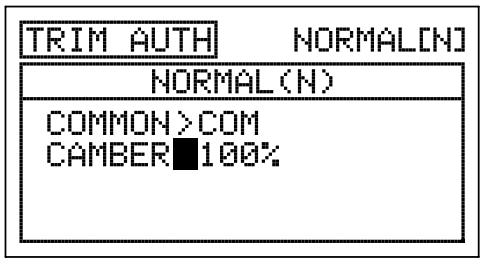



3) Press the F-MODE key to choose the F-MODE number you would like to program the Trim Authority function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Trim Authority function for.

**Changing the Camber Trim Authority Percentage Value**

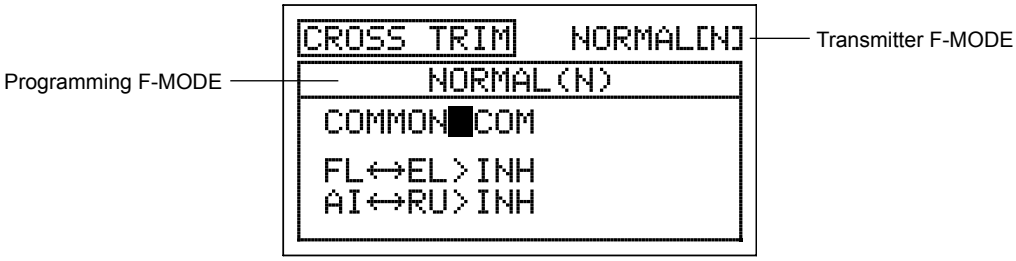
1) Press the Navigation Pad ▼ to highlight CAMBER>100%, then press the YES/+ or NO/- keys to change the Camber Trim Authority percentage value.

CAMBER setting range is 0% to 100%. The default setting is 100%. Decreasing the CAMBER percentage value decreases the overall Camber or Reflex travel when Auxiliary Lever (VR6) is used to control Camber.




## *13.CROSS-TRIM (CONTROL SURFACE CROSS-TRIM)*

The Cross-Trim function allows you to electronically swap trim switch functions. Some pilots prefer this over the standard arrangement in which the trim switches adjacent to the control sticks control the trim for that control function. For example, in the default configuration, the flap trim switch will control the flap trim and the elevator trim switch will control the elevator trim. With FL◀ ▶EL Cross-Trim Activated, the flap trim switch will control the elevator trim and the elevator trim switch will control the flap trim. You can choose to program Cross-Trim separately for each of the five Flight Modes or you can use the same Cross-Trim programming across all five Flight Modes.



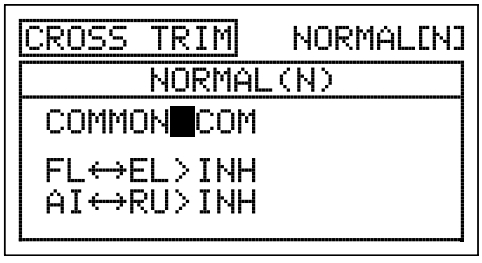

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the CROSS-TRIM settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program CROSS-TRIM settings separately for each Flight Mode. When set to SEP (Separate), you can program different CROSS-TRIM settings separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight CROSS-TRIM, then press the ENTER key to display the CROSS-TRIM menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Flap/Elevator Cross-Trim section. If set to SEP, see step 3 below.

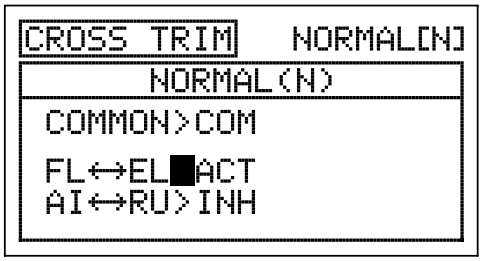


3) Press the F-MODE key to choose the F-MODE number you would like to program the Cross-Trim function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Cross-Trim function for.

**Changing the Flap/Elevator Cross-Trim**

1) Press the Navigation Pad ▼ to highlight FL◀ ▶EL>INH, then press the YES/+ or NO/- keys to change the FL◀ ▶EL Cross-Trim setting.

CROSS-TRIM setting range is INH/ACT. The default setting is INH. When Activated, the flap trim switch will control the elevator trim and the elevator trim switch will control the flap trim.




**Changing the Aileron/Rudder Cross-Trim**

1) Press the Navigation Pad ▼ to highlight AI◀ ▶RU>INH, then press the YES/+ or NO/- keys to change the AI◀ ▶RU Cross-Trim setting.

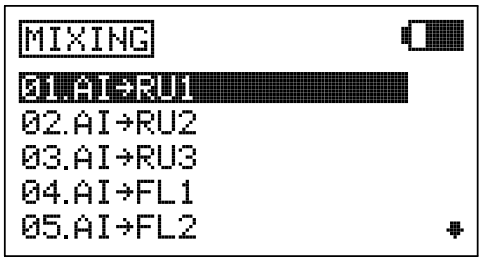
CROSS-TRIM setting range is INH/ACT. The default setting is INH. When Activated, the aileron trim switch will control the rudder trim and the rudder trim switch will control the aileron trim.

⚠ The Camber Preset function on Trim Switch (T5) is not affected by the FL◀ ▶EL Cross-Trim settings.

## *14.MIXING (CHANNEL MIXING)*

The SD-10G transmitter features a number of pre-programmed mixes that can all be adjusted to suit just about any model setup or mixing need that you might have. If for some reason one of the pre-programmed mixes will not suffice, you can custom-program one or more of the available five Compensation Mixers. For more information, see page 145.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The AI▶RU1 sub-menu will be highlighted by default.




The pre-programmed mixes shown in the tables below are available.

| MIX | DESCRIPTION |
|---|---|
| AI▶RU1~RU3 | Aileron to Rudder Mixing (1~3) |
| AI▶FL1~2 | Aileron to Flap Mixing (1~2) |
| FL▶EL | Flap to Elevator Mixing |
| RU▶AI | Rudder to Aileron Mixing |

| MIX | DESCRIPTION |
|---|---|
| GE▶EL | Gear to Elevator Mixing |
| MT▶EL | Motor to Elevator Mixing |
| CB▶EL | Camber to Elevator Mixing |
| EL▶CB | Elevator to Camber Mixing |

⚠ All pre-programmed mixes are described in the following manner: Master▶Slave. For example, For the AI▶RU1 mix, the Aileron channel is the Master and the Rudder channel is the Slave. In all cases, the Master channel always controls the Slave channel.

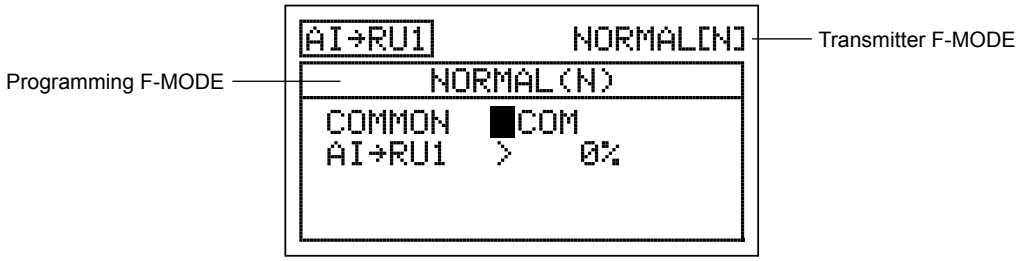
⚠ All pre-programmed mixes are Linear unless otherwise noted. For example, if you Activate the AI▶RU1 mix and set the mixing percentage value to 50%, the aileron servos will travel half the amount that the rudder servo moves at any given control stick position.

**WARNING** When a pre-programmed mix is Activated, you still have separate control over the Slaved channel, however, depending on the mixing percentage value, the Slave channel End Point Adjustment could be exceeded. We strongly recommend that if you use the pre-programmed mixes that you set your Slave channel Limits no higher than that channel's End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage when the mix is used.

**General Overview**

Each of the eight mixes can be programmed separately for each of the five Flight Modes or you can use the same Mixing programming across all five Flight Modes.

**IMPORTANT** Each Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.



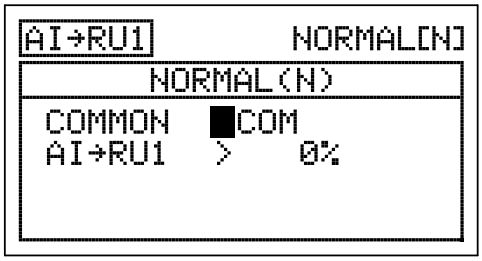

Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate (All Mixing Options)**

When set to COM (Common), the mixing settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program mixing settings separately for each Flight Mode. When set to SEP (Separate), you can program different mixing settings separately for each Flight Mode.

1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Percentage Value or Point Selections sections. If set to SEP, see step 2 below.

2) Press the F-MODE key to choose the F-MODE number you would like to program the mixing function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the mixing function for.




## Aileron to Rudder Mixing

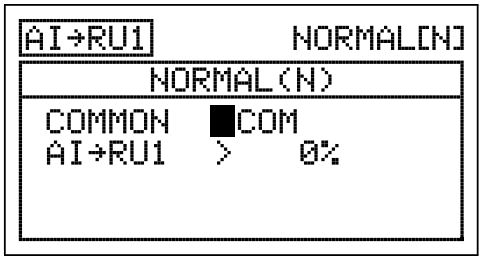
The Aileron to Rudder Mixing function allows you to mix a percentage of rudder control with aileron control. When you move the ailerons right and left, the rudder will move right and left. The Aileron to Rudder Mixing function is typically used to automatically make coordinated turns. The amount and the direction that the rudder moves with aileron control is adjusted by changing the Aileron ▸ Rudder mixing percentage value either positive or negative. Three separate Aileron ▸ Rudder mixes are available so that you can have three separate Aileron ▸ Rudder mixes for each Flight Mode.

**IMPORTANT** The three Aileron to Rudder Mixing functions are each pre-assigned to Switch Position Numbers 1, 2, and 3. If you choose to change the default switch assignments, be aware that only one Aileron ▸ Rudder mix can be Active at one time. In all cases, the higher number Aileron ▸ Rudder mix will override the lower number Aileron ▸ Rudder mix.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The AI ▸ RU1 sub-menu will be highlighted by default.

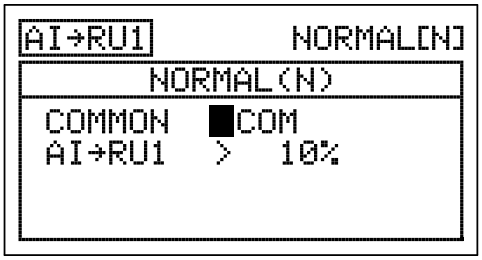
2) Press the Navigation Pad ▲▼ to highlight which of the three AI ▸ RU mixing functions you would like to program, then press the ENTER key to display the AI ▸ RU1, AI ▸ RU2, or AI ▸ RU3 menus. The cursor will default to COMMON>COM. In this example, AI ▸ RU1 is displayed.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.



4) Press the Navigation Pad ▼ to highlight AI ▸ RU1>0%.

5) Press the YES/+ or NO/- keys to change the Aileron ▸ Rudder1 mixing percentage value.




⚠ The Aileron ▸ Rudder1 mixing percentage value is a ratio of rudder travel to aileron travel. For example, when the Aileron ▸ Rudder1 mixing percentage value is set to 10%, the rudder will travel 1/10th the amount that the ailerons travel. This mix is Linear.

AI ▸ RU1 setting range is -100% to 100%. The default setting is 0%. When the percentage value is increased from 0% to 100%, rudder travel will increase in one direction in relation to aileron travel. When the percentage value is decreased from 0% to -100%, rudder travel will increase in the opposite direction in relation to aileron travel.

### Aileron to Flap Mixing

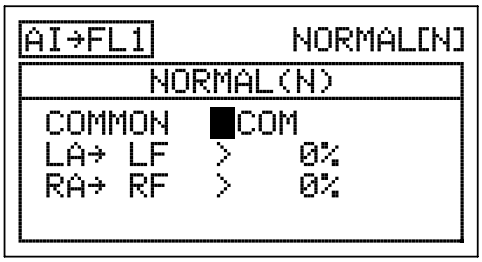
The Aileron to Flap Mixing function allows you to mix a percentage of flap control with aileron control. When you move the ailerons right and left, the flaps will move up and down. The Aileron to Flap Mixing function is typically used when you have two or more separate flaps (one or two on each wing half). You can then use the Aileron to Flap Mixing function to move the flaps up and down in concert with the ailerons (full span ailerons) to achieve higher roll control authority. The amount and the direction that the flaps move with aileron control is adjusted by changing the Aileron ▸ Flap mixing percentage value either positive or negative. Two separate Aileron ▸ Flap mixes are available so that you can have two separate Aileron ▸ Flap mixes for each Flight Mode.

**IMPORTANT** Each of the Aileron to Flap Mixing functions must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43. Be aware that only one Aileron ▸ Flap mix can be Active at one time. In all cases, the higher number Aileron ▸ Flap mix will override the lower number Aileron ▸ Flap mix.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The AI ▸ RU1 sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight which of the two AI ▸ FL mixing functions you would like to program, then press the ENTER key to display the AI ▸ FL1 or AI ▸ FL2 menus. The cursor will default to COMMON>COM. In this example, AI ▸ FL1 is displayed.

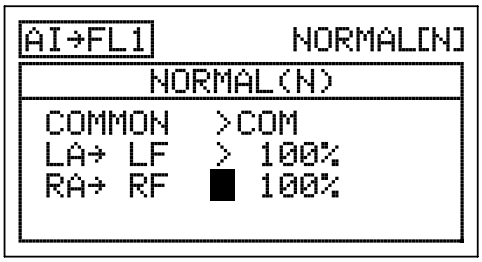
3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight LA ▸ LF>0%.

5) Press the YES/+ or NO/- keys to change the Aileron ▸ Left Flap mixing percentage value.

6) Press the Navigation Pad ▼ to highlight RA ▸ RF>0%, then press the YES/+ or NO/- keys to change the Aileron ▸ Right Flap mixing percentage value.



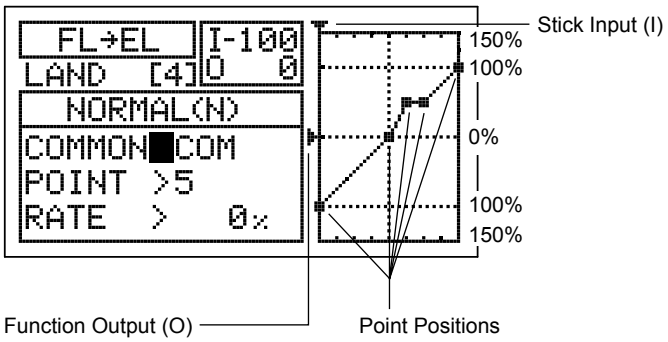

⚠ The Aileron ▸ Flap1 mixing percentage value is a ratio of flap travel to aileron travel. For example, when the Aileron ▸ Flap1 mixing percentage value is set to 100%, the flaps will travel the same amount that the ailerons travel. This mix is Linear.

AI ▸ FL1 setting range is -100% to 100%. The default setting is 0%. When the percentage value is increased from 0% to 100%, flap travel will increase in one direction in relation to aileron travel. When the percentage value is decreased from 0% to -100%, flap travel will increase in the opposite direction in relation to aileron travel.

⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features four flap servos, LOF (Left Outside Flap), LIF (Left Inside Flap), ROF (Right Outside Flap), and RIF (Right Inside Flap) will be displayed and the percentage values can be changed separately.

## Flap to Elevator Mixing

The Flap to Elevator Mixing function allows you to mix a percentage of elevator control with flap control. The Flap to Elevator Mixing function is typically used to reduce the ballooning tendency that most aircraft exhibit when the flaps are deployed. For example, if your aircraft pitches up when the flaps are deployed, you can mix in down elevator to help compensate for the pitch changes. This can be useful during landing to help prevent the aircraft from pitching up when the flaps are deployed. The amount and the direction that the elevator moves with flap control is adjusted by changing the Flap ▸ Elevator mixing percentage value either positive or negative. An Input and Output display, along with a graph, help with programming visualization.

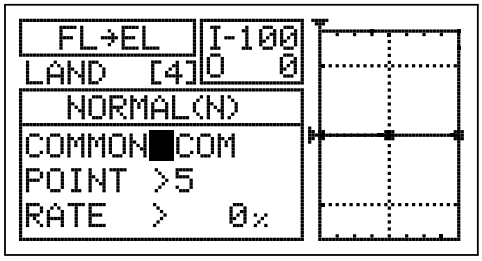



**IMPORTANT** The Flap to Elevator Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The AI ▸ RU1 sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight FL ▸ EL, then press the ENTER key to display the FL ▸ EL menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.

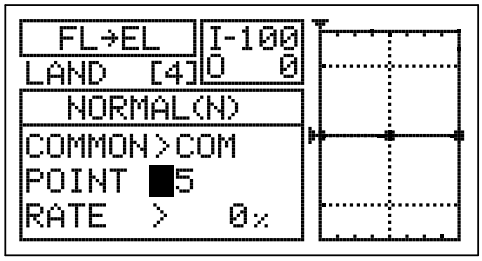



**Changing the Point and Rate Percentage Values**

Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses. The Point and Rate percentage values work together to determine the amount of elevator travel in relation to flap travel. Nine different Points with varying Rates can be programmed onto the Curve. Use the Input and Output display, along with the graph, to help with programming visualization. The Point that is currently selected will blink.

1) Press the Navigation Pad ▼ to highlight POINT>5.

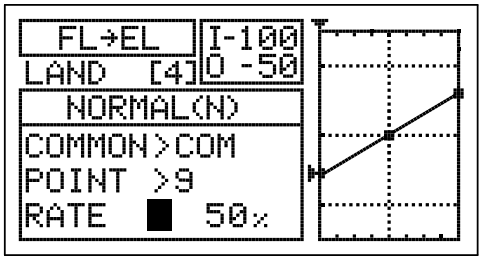
2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.




POINT setting range is 1 through 9. Point 1 is at the low end of the Curve and Point 9 is at the high end of the Curve. Point 5 is a the center of the Curve. The default Point is Point 5.

3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.




⚠ When you program the mix Curve so that the line is straight, this results in a Linear Curve. For example, if you set the Point 1 percentage value to -50% and the Point 9 percentage value to 50%, the elevator will move half the amount that the flaps move in both directions at any given flap control stick position.

⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to 0%.

RATE setting range is -150% to 150%. POINT 1, 5, and 9 default Rate percentage values are 0%. The direction of elevator travel in relation to flap travel can be changed by programming positive or negative Rate percentage values.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and flap travel throughout the entire deflection range.

## Rudder to Aileron Mixing

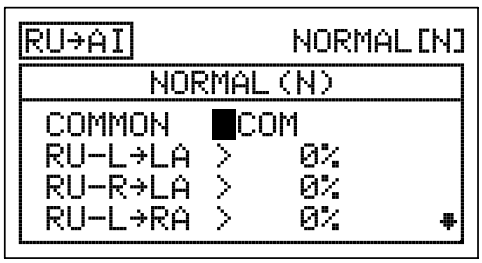
The Rudder to Aileron Mixing function allows you to mix a percentage of aileron control with rudder control. When you move the rudder right or left, the ailerons will move up or down. For example, if your aircraft rolls when rudder is applied, you can mix in opposite aileron to help eliminate the roll. The amount and the direction that the ailerons move with rudder control is adjusted by changing the Rudder ▸ Aileron mixing percentage value either positive or negative. Separate mixes can be programmed for right and left rudder throw and to each of the aileron servos separately.

**IMPORTANT** The Rudder to Aileron Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The AI ▸ RU1 sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight RU ▸ AI, then press the ENTER key to display the RU ▸ AI menu. The cursor will default to COMMON>COM.

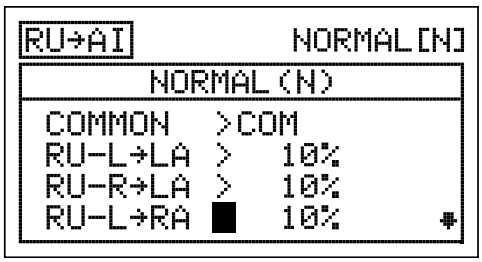
3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight RU-L ▸ LA>0%.

5) Press the YES/+ or NO/- keys to change the Rudder-Left ▸ Left Aileron mixing percentage value.

6) Press the Navigation Pad ▼ to highlight each of the desired remaining options (RU-R ▸ LA>0%, RU-L ▸ RA>0%, and RU-R ▸ RA>0%), then press the YES/+ or NO/- keys to change the mixing percentage values.




⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features four aileron servos, LOA, LIA, ROA, and RIA percentage values can be changed separately.

RU-L ▸ LA, RU-R ▸ LA, RU-L ▸ RA, and RU-R ▸ RA setting range is -100% to 100%. The default settings are 0%. When the percentage values are increased from 0% to 100%, aileron travel will increase in one direction in relation to rudder travel. When the percentage values are decreased from 0% to -100%, aileron travel will increase in the opposite direction in relation to rudder travel.

⚠ The Rudder ▸ Aileron mixing percentage value is a ratio of aileron travel to rudder travel. For example, when the Rudder-Left ▸ Left Aileron and the Rudder-Right ▸ Left Aileron mixing percentage values are set to 10%, the left aileron will travel 1/10th the amount that the rudder travels in both directions. This mix is Linear.

⚠ Because you can program the Rudder ▸ Aileron percentage value separately for both directions of rudder travel, it's possible to program the mix to either make the ailerons move up **or** down with right and left rudder control, make the ailerons move up **and** down with right and left rudder control, or make the ailerons move up **or** down with right **or** left rudder control.

## Gear to Elevator Mixing

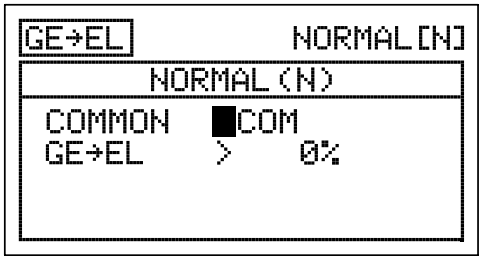
The Gear to Elevator Mixing function allows you to mix a percentage of elevator control with landing gear control. When you raise and lower the landing gear, the elevator will move up and down. The Gear to Elevator Mixing function is typically used on scale sailplanes that feature retractable landing gear. It is used to compensate for pitch changes when the landing gear is lowered. The amount and the direction that the elevator moves when the landing gear is raised and lowered is adjusted by changing the Gear ▸ Elevator mixing percentage value either positive or negative.

**IMPORTANT** The Gear to Elevator Mixing function must be assigned to a Switch Position Number before it can be Activated. The landing gear function must be assigned to a Switch Position Number, too. For more information, see page 43.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The AI ▸ RU1 sub-menu will be highlighted by default.

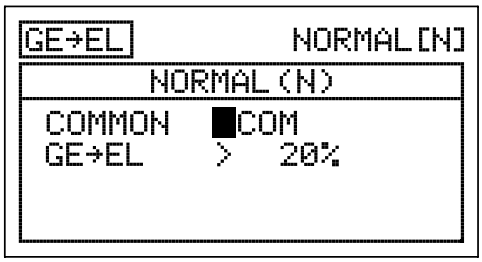
2) Press the Navigation Pad ▼ to highlight GE ▸ EL, then press the ENTER key to display the GE ▸ EL menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight GE ▸ EL>0%.

5) Press the YES/+ or NO/- keys to change the Gear ▸ Elevator mixing percentage value.




⚠ The Gear ▸ Elevator mixing percentage value is a ratio of elevator travel to landing gear travel. Because the landing gear is assigned to a non-proportional switch, the Gear ▸ Elevator mixing percentage value programmed will result in only half the programmed movement. For example, when the Gear ▸ Elevator mixing percentage value is set to 20%, the elevator will travel 1/10th the amount that the landing gear travels. **Since the landing gear channel is not proportional, the elevator will jump to the Gear ▸ Elevator mixing percentage value programmed.**

GE ▸ EL setting range is -100% to 100%. The default setting is 0%. When the percentage value is increased from 0% to 100%, elevator travel will increase in one direction in relation to landing gear travel. When the percentage value is decreased from 0% to -100%, elevator travel will increase in the opposite direction in relation to landing gear travel.

## Motor to Elevator Mixing

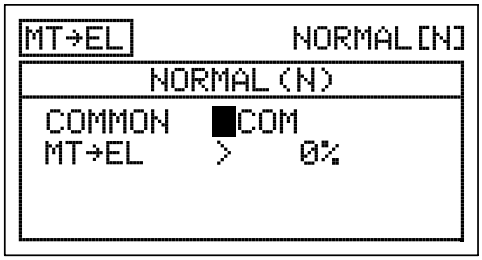
The Motor to Elevator Mixing function allows you to mix a percentage of elevator control with motor control. When the motor is turned on and off, the elevator will move up and down. The Motor to Elevator Mixing function is typically used to compensate for pitch changes when the motor is turned on and off. For example, when the motor is turned on, the aircraft might pitch up more than desired. You can mix in down elevator to compensate for this. The amount and the direction that the elevator moves when the motor is turned on and off is adjusted by changing the Motor ▸ Elevator mixing percentage value either positive or negative.

**IMPORTANT** The Motor to Elevator Mixing function must be assigned to a Switch Position Number before it can be Activated. The motor function must be assigned to a Switch Position Number, too. For more information, see page 43. The motor function can also be assigned to a control stick or an Auxiliary Lever, too. For more information, see page 149.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The AI ▸ RU1 sub-menu will be highlighted by default.

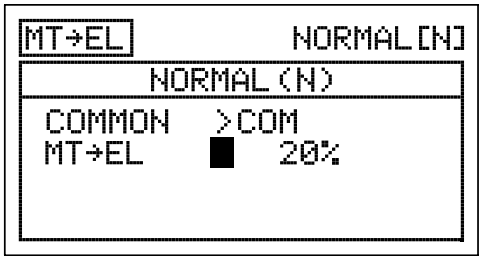
2) Press the Navigation Pad ▼ to highlight MT ▸ EL, then press the ENTER key to display the MT ▸ EL menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.




4) Press the Navigation Pad ▼ to highlight MT ▸ EL>0%.

5) Press the YES/+ or NO/- keys to change the Motor ▸ Elevator mixing percentage value.

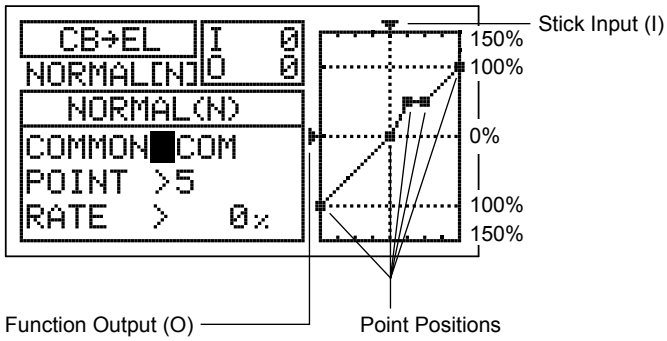



⚠ The Motor ▸ Elevator mixing percentage value is a ratio of elevator travel to motor travel. Regardless if the motor function is assigned to a non-proportional switch or to a control stick, or an Auxiliary Lever, the Motor ▸ Elevator mixing percentage value programmed will result in only half the programmed movement. For example, when the Motor ▸ Elevator mixing percentage value is set to 20%, the elevator will travel 1/10th the amount that the motor travels. **Even if the motor is assigned to a control stick or an Auxiliary Lever, the elevator will jump to the Motor ▸ Elevator mixing percentage value programmed, as if it were assigned to a non-proportional switch.**

MT ▸ EL setting range is -100% to 100%. The default setting is 0%. When the percentage value is increased from 0% to 100%, elevator travel will increase in one direction in relation to motor travel. When the percentage value is decreased from 0% to -100%, elevator travel will increase in the opposite direction in relation to motor travel.

### Camber to Elevator Mixing

The Camber to Elevator Mixing function allows you to mix a percentage of elevator control with Camber or Reflex control. The Camber to Elevator Mixing function is typically used to reduce pitch changes associated with adding Camber or Reflex. For example, the aircraft may pitch up when Camber is added. You can mix down elevator to help eliminate the pitch change. The amount and the direction that the elevator moves when Camber or Reflex is added is adjusted by changing the Camber ▸ Elevator mixing percentage value either positive or negative. An Input and Output display, along with a graph, help with programming visualization.

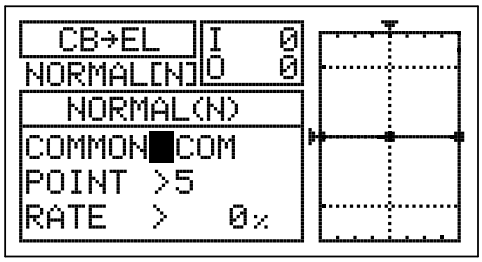



**IMPORTANT** The Camber to Elevator Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The AI ▸ RU1 sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight CB ▸ EL, then press the ENTER key to display the CB ▸ EL menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.

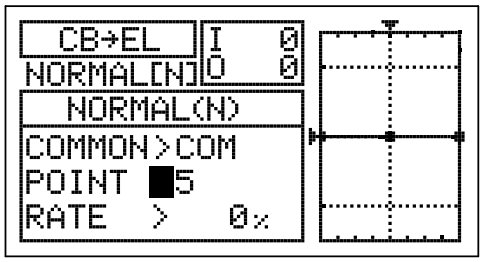



**Changing the Point and Rate Percentage Values**

Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses. The Point and Rate percentage values work together to determine the amount of elevator travel in relation to Camber or Reflex travel. Nine different Points with varying Rates can be programmed onto the Curve. Use the Input and Output display, along with the graph, to help with programming visualization. The Point that is currently selected will blink.

1) Press the Navigation Pad ▼ to highlight POINT>5.

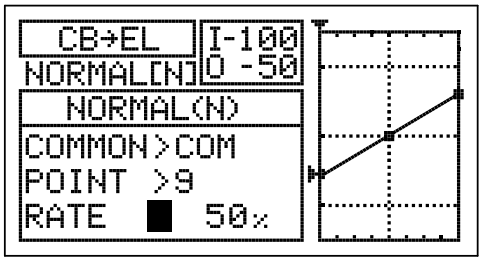
2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.




POINT setting range is 1 through 9. Point 1 is at the low end of the Curve and Point 9 is at the high end of the Curve. Point 5 is a the center of the Curve. The default Point is Point 5.

3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.




⚠ When you program the mix Curve so that the line is straight, this results in a Linear Curve. For example, if you set the Point 1 percentage value to -50% and the Point 9 percentage value to 50%, the elevator will move half the amount that Camber or Reflex moves in both directions for the entire range of deflection.

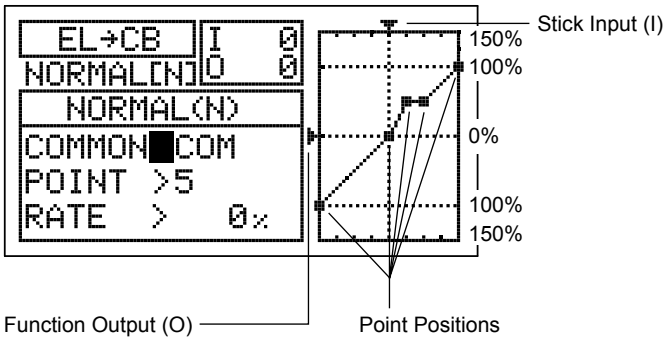
⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to 0%.

RATE setting range is -150% to 150%. POINT 1, 5, and 9 default Rate percentage values are 0%. The direction of elevator travel in relation to Camber or Reflex travel can be changed by programming positive or negative Rate percentage values.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between Camber or Reflex travel and elevator travel throughout the entire deflection range.

## Elevator to Camber Mixing

The Elevator to Camber Mixing function allows you to mix a percentage of Camber or Reflex control with elevator control. The Elevator to Camber Mixing function is typically used in high-performance sailplanes to make the wing more efficient and to increase turning performance. For example, if you want to increase turning performance to enable sharper turns for pylon racing, you would want to mix Camber when you pull up elevator. The amount and the direction of Camber or Reflex travel when the elevator is moved up and down is adjusted by changing the Elevator ▸ Camber mixing percentage value either positive or negative. An Input and Output display, along with a graph, help with programming visualization.

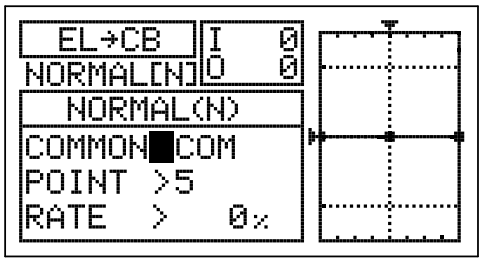



**IMPORTANT** The Elevator to Camber Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The AI ▸ RU1 sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight EL ▸ CB, then press the ENTER key to display the EL ▸ CB menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.

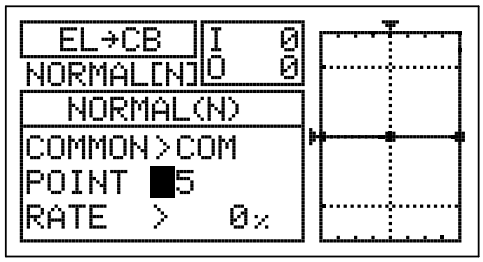



**Changing the Point and Rate Percentage Values**

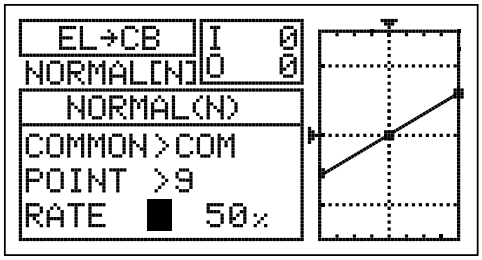
Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses. The Point and Rate percentage values work together to determine the amount of Camber or Reflex travel in relation to elevator travel. Nine different Points with varying Rates can be programmed onto the Curve. Use the Input and Output display, along with the graph, to help with programming visualization. The Point that is currently selected will blink.

1) Press the Navigation Pad ▼ to highlight POINT>5.

2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.




POINT setting range is 1 through 9. Point 1 is at the low end of the Curve and Point 9 is at the high end of the Curve. Point 5 is a the center of the Curve. The default Point is Point 5.




3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.

⚠ When you program the mix Curve so that the line is straight, this results in a Linear Curve. For example, if you set the Point 1 percentage value to -50% and the Point 9 percentage value to 50%, Camber or Reflex travel will be half the amount that the elevator travels in both directions for the entire range of deflection. If you wanted only Camber travel with up elevator travel, you can set the Point 1 percentage value to 50%, and the Point 5 and Point 9 percentage values to 0%.

⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to 0%.

RATE setting range is -150% to 150%. POINT 1, 5, and 9 default Rate percentage values are 0%. The direction of Camber or Reflex travel in relation to elevator travel can be changed by programming positive or negative Rate percentage values.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and Camber or Reflex travel throughout the entire deflection range.

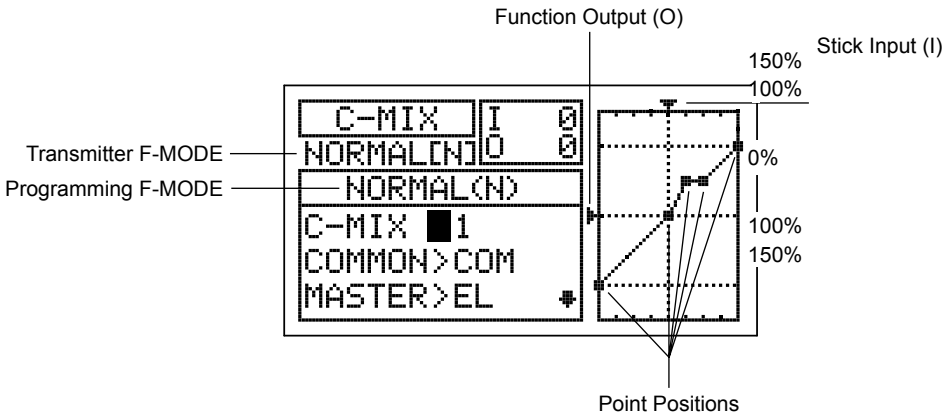
## *15.C-MIX (COMPENSATION MIXING)*

The C-Mix function allows you to program custom mixes that can control any number of desired functions in different combinations. It is used to create your own custom mix if one of the pre-programmed mixes is not suitable. For example, you can create a custom mix that mixes Camber to rudder, that can be used to help eliminate the need to use elevator during some turns, allowing you to fly with only the rudder control stick.

Like with pre-programmed mixes, Compensation Mixes are composed of a Master channel and a Slave channel. The Master channel always controls the Slave channel. Any of the available ten channels can be programmed as a Master or a Slave. The same channel can even be programmed as both a Master and a Slave. The C-Mix function includes nine custom-programmable Points to ensure an extremely precise channel Curve to suit any situation. You can also program a Delay for the Slave function that works independently (or with) the dedicated Channel Delay function described on page 84.

Up to five C-Mix functions can be programmed separately for each of the five Flight Modes or you can use the same C-Mix programming across all five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.

⚠ In all cases, the Master channel always controls the Slave channel. In the default configuration, all Compensation Mixes can be programmed to be Linear, or precise channel Curves can be created by programming up to nine Points along the Curve.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Each C-Mix function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

**Choosing the Compensation Mixing Number**

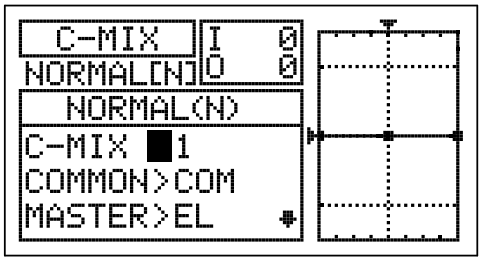
Up to five separate Compensation Mixing functions can be programmed for each Flight Mode, however, only one Master/Slave channel can be assigned to one Compensation Mixing function at a time.

⚠ More than one Compensation Mixer can be assigned to the same Switch Position Number, so that they can be Activated at the same time. For example, assign both C-Mix 1 and C-Mix 2 to Switch Position 5 to Activate both Compensation Mixers at the same time.

1) Press the Navigation Pad ▲ ▼ to highlight C-MIX, then press the ENTER key to display the C-MIX menu. The cursor will default to C-MIX>1.

2) Press the YES/+ and NO/- keys to choose the C-MIX number you would like to program Compensation Mixing for.

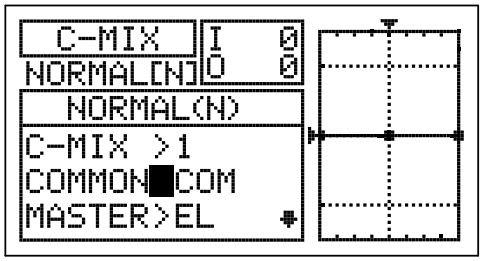
C-MIX setting range is 1, 2, 3, 4, or 5. The default setting is 1.




**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the C-MIX settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program C-MIX settings separately for each Flight Mode. When set to SEP (Separate), you can program different C-MIX settings separately for each Flight Mode.

1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Choosing the Master Channel section. If set to SEP, see step 2 below.




2) Press the F-MODE key to choose the F-MODE number you would like to program the Compensation Mixing function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Compensation Mixing function for.

**Choosing the Master Channel**

The Master channel is the channel that controls the Slave channel. For example, if you set the Master channel to EL (Elevator), when you move the elevator control stick, the Slave channel that's mixed to the elevator channel will move. Depending on the Model Type and Model Type selection options you've chosen in the Model Type menu, the following Master channels are available.

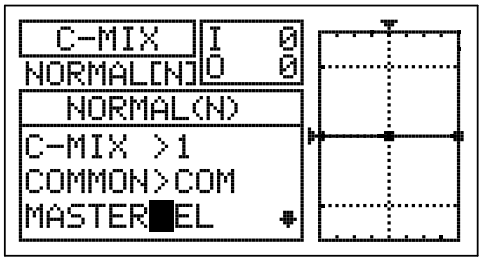
| ABBR. | FUNCTION |
|---|---|
| EL / EL+ | Elevator |
| AI | Aileron |
| MT / MT+ | Motor |
| RU / RU+ | Rudder |
| GE / GE+ | Gear |
| FL | Flap |
| LF+ | Left Flap |
| RF+ | Right Flap |

| ABBR. | FUNCTION |
|---|---|
| AUX1 / AUX1+ | Auxiliary 1 |
| AUX2 / AUX2+ | Auxiliary 2 |
| AUX3 / AUX3+ | Auxiliary 3 |
| LA+ | Left Aileron |
| RA+ | Right Aileron |
| LOA+ | Left Outside Aileron |
| ROA+ | Right Outside Aileron |

| ABBR. | FUNCTION |
|---|---|
| LIA+ | Left Inside Aileron |
| RIA+ | Right Inside Aileron |
| LOF+ | Left Outside Flap |
| ROF+ | Right Outside Flap |
| LIF+ | Left Inside Flap |
| RIF+ | Right Inside Flap |
| CB/CB+ | Camber |

⚠ Master channels denoted with a plus sign (+) indicate that Dual Rate, Exponential, Trim, and/or Channel Delay settings affect not only the Master channels but also the Slave channels when the Compensation Mixing function is Activated. For example, if MASTER>EL+ is selected, any programmed elevator Dual Rate or Exponential percentage values will affect both the Master elevator channel and the Slave channel when the elevator Dual Rate switch is Activated while the Compensation Mixing function is Active. If you select MASTER>EL, any programmed elevator Dual Rate or Exponential percentage values will only affect the Master elevator channel when the Compensation Mixing function is Active. Dual Rate and Exponential affect only the elevator, aileron, and rudder channels. The Channel Delay function referenced is not the same as the Delay function in the C-MIX menu.

1) Press the Navigation Pad ▼ to highlight MASTER>EL, then press the YES/+ or NO/- keys to choose which channel you want to program the Master channel for.




⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features four aileron servos, LOA+, ROA+, LIA+, and RIA+ will be separate options. When using dual or quad servos for ailerons or flaps, the (+) option will only be available for the servos separately (e.g. LF+ and RF+, but not for FL).

⚠ If you want Dual Rate, Exponential, Trim, and/or independent Channel Delay control over the Slave channel, make sure to choose a Master channel with a plus sign (+).

**Choosing the Slave Channel**

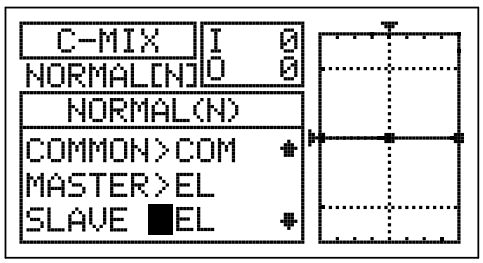
The Slave channel is the channel that is controlled by the Master channel. For example if you set the Master channel to EL (Elevator) and the Slave channel to AI (Aileron), when you move the elevator control stick, the ailerons will move. Depending on the Model Type and Model Type selection options you've chosen in the Model Type menu, the following Slave channels are available.

| ABBR. | FUNCTION |
|---|---|
| EL | Elevator |
| MT | Motor |
| RU | Rudder |
| GE | Gear |
| LA | Left Aileron |
| RA | Right Aileron |
| FL | Flap |

| ABBR. | FUNCTION |
|---|---|
| AUX1 | Auxiliary 1 |
| AUX2 | Auxiliary 2 |
| AUX3 | Auxiliary 3 |
| CB | Camber |
| LOA | Left Outside Aileron |
| ROA | Right Outside Aileron |
| LIA | Left Inside Aileron |

| ABBR. | FUNCTION |
|---|---|
| RIA | Right Inside Aileron |
| LF | Left Flap |
| RF | Right Flap |
| LOF | Left Outside Flap |
| ROF | Right Outside Flap |
| LIF | Left Inside Flap |
| RIF | Right Inside Flap |

1) Press the Navigation Pad ▼ to highlight SLAVE>EL, then press the YES/+ or NO/- keys to choose which channel you want to program the Slave channel for.




⚠ The channel options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual flap servos, LF and RF will be separate options.

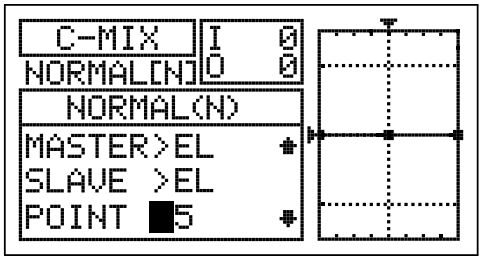
**Changing the Channel Curve Point Values and the Rate Percentage Values**

Nine different Points with varying Rates can be programmed onto the channel Curve. Each Point will be displayed on the graph to give you a visual interpretation of the position of the Point on the channel Curve. The Point that is currently selected will blink.

**WARNING** When a Compensation Mixer is Activated, you still have separate control over the Slaved channel, however, depending on the Rate percentage value, the Slave channel End Point Adjustment could be exceeded. We strongly recommend that you set your Slave channel Limits no higher than that channel's End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage when Compensation Mixing is used.

1) Press the Navigation Pad ▼ to highlight POINT>5.

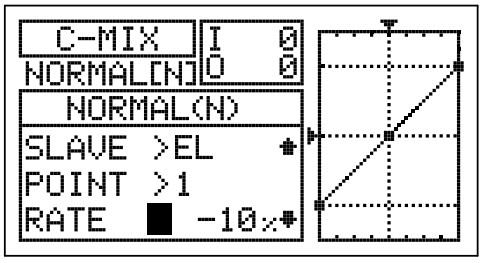
2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.




POINT setting range is 1 through 9. Point 1 is at the low end of the channel Curve and Point 9 is at the high end of the channel Curve. Point 5 is a the center of the channel Curve.

3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.




RATE setting range is -150% to 150%. POINT 1 default RATE percentage value is 0%, POINT 5 default RATE percentage value is 0%, and POINT 9 default RATE percentage value is 0%. POINT 2, 3, 4, 6, 7, and 8 RATE values are INH (Inhibited).

⚠ The Rate percentage value is a ratio of Slave channel servo travel to Master channel servo travel. For example, if the Rate percentage value is set to 10%, the Slave channel servo will travel 1/10th the amount that the Master channel servo travels.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

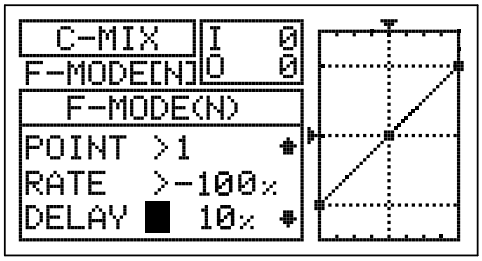
**Changing the Delay Percentage Value**

Changing the Delay percentage value allows you to adjust the speed of the Slave channel servo when moved in the direction of the Master channel control stick (or switch) when the Compensation Mixing function is Active. For example, if you program Compensation Mixing to provide Camber to rudder mixing, the trailing edge will move down when the rudder moves right and left. The Camber and Reflex can also be controlled separately using Auxiliary Lever (VR6). Setting a Delay percentage value will cause the flap and aileron servos to slow down **ONLY** in the up and down directions when the when the rudder is moved right and left. Servo speed in the right and left directions for roll control will be normal, unless you have programmed aileron Channel Delay separately.

⚠ The Delay function does not affect when the servo starts to respond to control stick movement. The Delay affects only the transit time of the servo.

1) Press the Navigation Pad ▼ to highlight DELAY>0%, then press the YES/+ or NO/- keys to change the Delay percentage value.

⚠ The Delay percentage value is not Point-dependent.




DELAY setting range is 0% to 100%. The default setting is 0%. When the Delay percentage value is increased, the Slave servo transit time will be slowed down. At 0%, the Slave servo moves at its normal speed. At 100%, the Slave servo takes approximately 15 seconds to move from neutral to 100% or -100% travel.

⚠ The Delay function will cause the Slave servo transit time to slow down not only from neutral to one End Point, but also on the return from one End Point to neutral, unless the Master channel is assigned to a switch. If the Master channel is assigned to a switch, the Delay function will only affect the Slave servo in the neutral to End Point direction of travel. The Delay function will not affect the Slave servo in the return to neutral direction of travel.

**Compensation Mixing Sample - Mixing Camber to Rudder**

The sample below describes how to mix Camber to rudder using one Compensation Mixer assigned to a Switch Position Number. This mix can be used to help eliminate the need to use elevator during some turns, allowing you to fly with only the left control stick.

1) Assign C-MIX1 to a Switch Position Number in the Switch Assign menu. For example, use Switch Position Number 05.

2) Verify that the rudder control surface and the Camber function are operating as desired.

3) Set the Compensation Mixing programming values as shown:

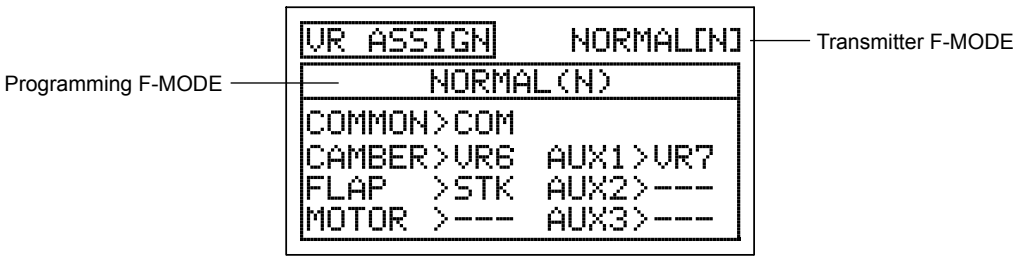
C-MIX>1
COMMON>COM
MASTER>RU+
SLAVE>CB
POINT>1 / RATE>20%
POINT>9 / RATE>20%

In this example, Points 1 and 9 are both set to 20%. When the Compensation Mixer is Active, this results in Camber movement when the rudder is moved either right or left. With the Rate setting at 20%, the trailing edge will move down 1/20th the amount that the rudder moves right or left. This results in a Linear channel Curve. To increase or decrease Camber travel, increase or decrease the Point 1 and Point 9 Rate percentage values, respectively.

The positive values shown in the example above may vary based on the NOR/REV status of your servos. You may need to change the percentage values to suit.

## *16.VR ASSIGN (VARIABLE RESISTANCE LEVER ASSIGN)*

The VR Assign function allows you to assign the auxiliary channels and the Camber, Flap, and Motor functions to either of the two Auxiliary Levers (VR5 or VR6) or the Auxiliary Dial Knob (VR7). For example, you could use the Auxiliary Lever (VR5) to variably control your motor, instead of assigning the motor to a Switch Position Number via the Switch Assign menu. You can choose to program VR Assignments separately for each of the five Flight Modes or you can use the same VR Assignments programming across all five Flight Modes.



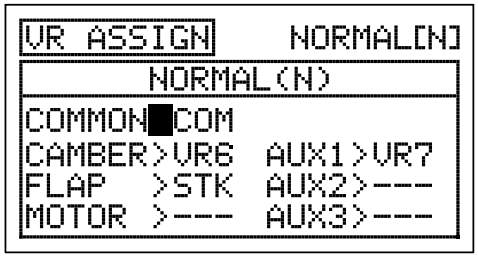

Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

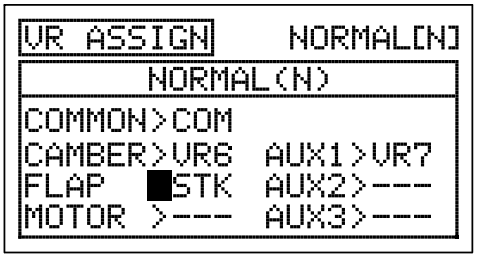
When set to COM (Common), the VR ASSIGN settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program VR ASSIGN settings separately for each Flight Mode. When set to SEP (Separate), you can program different VR ASSIGN settings separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight VR ASSIGN, then press the ENTER key to display the VR ASSIGN menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Choosing Channel VR Assignments section. If set to SEP, see step 3 below.




3) Press the F-MODE key to choose the F-MODE number you would like to program the VR Assignments for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the VR Assignments for.




**Choosing Channel VR Assignments**

1) Press the Navigation Pad ▲▼◀▶ to highlight the channel you would like to change the VR Assignment for, then press the YES/+ or NO/- keys to change the VR Assignment.

VR ASSIGN setting range is ---, STK, VR5, VR6, and VR7. The default setting for CAMBER is VR6. The default setting for FLAP is STK, and the default setting for AUX1 is VR7. The default settings for MOTOR, AUX2 and AUX3 is ---.

⚠ To disable an Auxiliary Lever, Auxiliary Dial Knob or the control stick, assign --- to the desired channel. For example, if you don't want Auxiliary Lever (VR6) to control Camber, change CAMBER>VR6 to CAMBER>---.

**IMPORTANT** Both sides of each auxiliary channel (High and Low), can be assigned to a Switch Position Number, using the SW ASSIGN menu. If the Flap and Motor channels, or an auxiliary channel is assigned to both a switch and an Auxiliary Lever, the switch takes precedence over the Auxiliary Lever in all cases.

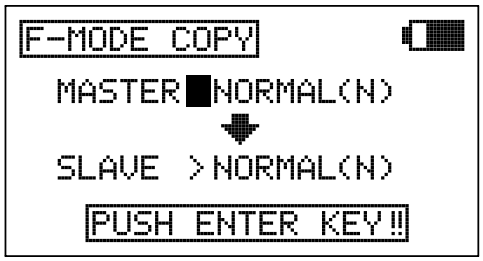
## *17.F-MODE COPY (FLIGHT MODE PROGRAMMING DATA COPY)*

The Flight Mode Copy function allows you to copy the Flight Mode programming data from one Flight Mode to another Flight Mode. This is convenient if you want to use two or more different Flight Modes on one model, but only need to change a few Flight Mode programming values for the new Flight Mode. This allows you to use the Flight Mode programming data from the first Flight Mode to use as a base to start fine-tuning the programming for the second Flight Mode.

⚠ You can only copy Flight Mode programming data from one Flight Mode to another Flight Mode within the same model. To copy Flight Mode programming data from one model's Flight Mode to another model's Flight Mode, you must copy the actual model programming data to the other model. For more information, see page 50.

**Copying Flight Mode Data**

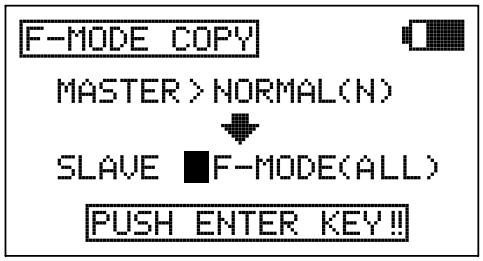
1) Press the Navigation Pad ▲▼ to highlight F-MODE COPY, then press the ENTER key to display the F-MODE COPY menu. The cursor will default to MASTER>NORMAL(N).




2) Press the F-MODE key to select the Flight Mode you would like to copy the Flight Mode programming data FROM (MASTER). Select from NORMAL (N), FLOAT (1), LAUNCH (2), REFLEX (3), or LAND (4).

3) Press the Navigation Pad ▼ to highlight SLAVE>NORMAL(N).

4) Press the F-MODE key to select the Flight Mode you would like to copy the Flight Mode programming data TO (SLAVE). Select from NORMAL (N), FLOAT (1), LAUNCH (2), REFLEX (3), LAND (4), or ALL.

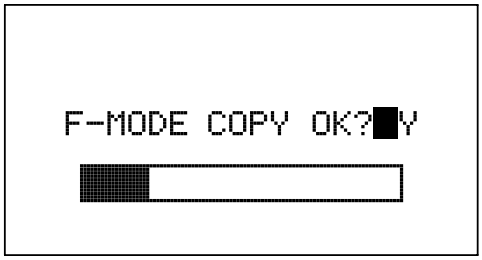



⚠ Selecting ALL will copy the MASTER Flight Mode programming data to the remaining four Flight Modes.

⚠ It's not possible to copy the Flight Mode programming data from one Flight Mode to the same Flight Mode. If you attempt to execute this, SAME F-MODE?? will be displayed and the process will not execute.

5) Press then ENTER key. F-MODE COPY OK?>Y will be displayed.

6) Press the YES/+ key to begin the F-MODE Copy process. When the F-MODE Copy process is completed the F-MODE COPY menu will be displayed, indicating that the Flight Mode programming data has been copied.




⚠ If you want to go back and change the Flight Mode or you don't want to copy the Flight Mode programming data for any reason, press the NO/- or END keys.

## *18.F-MODE DELAY (FLIGHT MODE DELAY)*

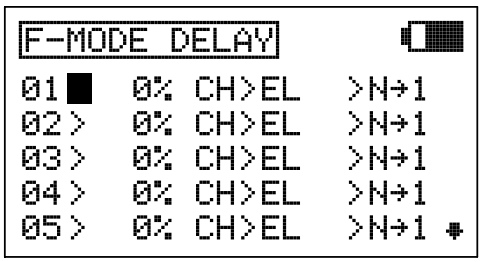
The Flight Mode Delay function allows you to program custom delays for each of the channel functions within each of the separate Flight Modes. This function helps to prevent drastic changes in channel settings when switching between Flight Modes. For example, if you switch from Flight Mode N (Normal) to Flight Mode 4 (Land), the flaps will immediately deploy to the position that the flap control stick is in. The Flight Mode Delay function allows you to program a Delay in the flap channel, so that the transition to the flap position when you switch back and forth between Flight Modes is smooth.

If you program Flight Mode Delays for all five Flight Modes separately, you can program up to 10 different Delays for each Flight Mode. If you are using fewer Flight Modes, you can program more than 10 different Delays for each of the Flight Modes that you're using. You are able to program 50 different Delays in total. The Flight Mode Delay function can be programmed for each of the channels you're using, and separate Flight Mode Delays can be programmed in both directions. For example, when switching from Flight Mode N (Normal) to Flight Mode 4 (Land) and back from Flight Mode N (Normal) to Flight Mode 4 (Land).

**Choosing a Flight Mode Delay**

1) Press the Navigation Pad ▲▼ to highlight F-MODE DELAY, then press the ENTER key to display the F-MODE DELAY menu. The cursor will default to 01>0% CH>EL >N▶1.

2) Press the Navigation Pad ▲▼ to highlight the Flight Mode Delay you would like to program. If this is the first Flight Mode Delay that you're programming, choose 01>0%

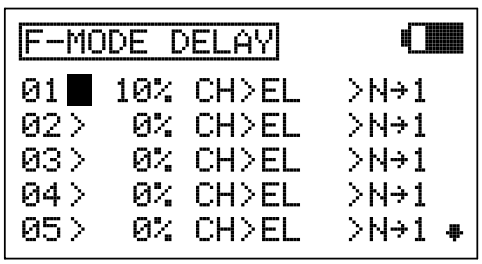



⚠ Flight Mode Delays do not have to programmed in sequence (e.g., 01, 02, 03), but programming them in sequence does make it easier to keep track of them.

**Changing the Flight Mode Delay Rate Percentage Value**

The Rate percentage value changes the speed of the servos as they move to their new positions when you switch between Flight Modes. For example, if you're flying with flaps up in Flight Mode N (Normal), but the flaps fully deploy when you pull the flap control stick all the way back, increasing the Rate percentage value will slow the speed at which the flap servos will move to their maximum travel when you Activate Flight Mode 4 (Land). This allows the flaps to smoothly lower to the new travel position instead of immediately jumping to the new travel position.

1) Press the YES/+ and NO/- keys to change the Rate percentage value for the selected Flight Mode Delay.



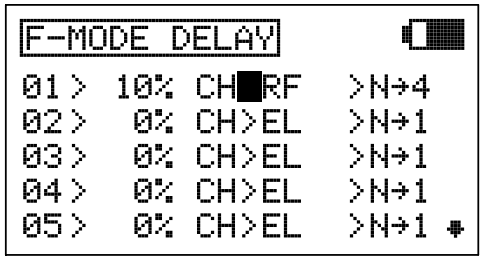

⚠ The Rate percentage value is displayed as a percentage of Delay time and is based on the amount of change in servo travel when switching between different Flight Modes. When the Rate percentage value is set to 100%, the servo will take approximately 15 seconds to travel from neutral to 100% or -100%.

RATE setting range is 0% to 100%. The default setting is 0%. When the Rate percentage value is set to 0%, there is no Delay when switching between Flight Modes. When the Rate percentage value is increased, the Delay when switching between Flight Modes is increased.

**Choosing the Flight Mode Delay Channel**

1) Press the Navigation Pad ▸ to highlight CH>EL.

2) Press the YES/+ and NO/- keys to choose which channel you would like the Flight Mode Delay to affect.




⚠ The channels options displayed will vary based on Model Type and Model Type selection options currently selected. For example, if your model features dual flap servos, RF or LF will be display as an option.

**IMPORTANT** Channels that use two or more servos, such as quad aileron servos or dual rudder servos will be displayed separately (e.g., LOA, ROA, LIA, RIA, LF, RF, etc). In this situation, the Flight Mode Delay function will affect not the whole channel, but the individual servo. In most cases, you will want to program a second matching Flight Mode Delay for the second, third, or fourth servos, so that each servo is affected equally.

**Changing the Flight Mode Delay Sequence**

The Flight Mode Delay sequence defines the direction you want the Flight Mode Delay going **TO** and **FROM**, as shown in the tables below. For example, if you choose N ▸ 1, the Flight Mode Delay function will Activate when you switch from Flight Mode N (Normal) **to** Flight Mode 1 (Float). If you choose N ▸ 4, the Flight Mode Delay function will Activate when you switch from Flight Mode N (Normal) **to** Flight Mode 4 (Land). If you choose 4 ▸ N, the Flight Mode Delay function will Activate when you switch **from** Flight Mode 4 (Land) to Flight Mode N (Normal).

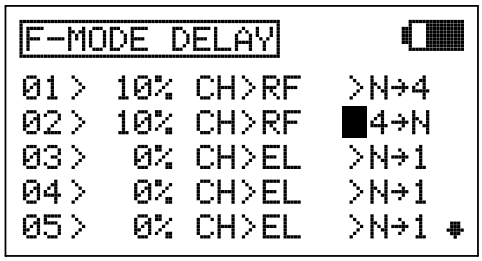
⚠ Delay sequences that include an Asterisk indicate that the Flight Mode Delay function will be Activated across all Flight Modes. For example, if you choose N ▸ ✱, the Flight Mode Delay function will Activate on all Flight Modes regardless of the Flight Mode you switch to.

| SEQUENCE | DESCRIPTION |
|---|---|
| N ▸ 1 | Flight Mode N **TO** Flight Mode 1 |
| N ▸ 2 | Flight Mode N **TO** Flight Mode 2 |
| N ▸ 3 | Flight Mode N **TO** Flight Mode 3 |
| N ▸ 4 | Flight Mode N **TO** Flight Mode 4 |
| N ▸ ✱ | Flight Mode N **TO** All Flight Modes |
| 1 ▸ N | **FROM** Flight Mode 1 to Flight Mode N |
| 1 ▸ 2 | Flight Mode 1 **TO** Flight Mode 2 |
| 1 ▸ 3 | Flight Mode 1 **TO** Flight Mode 3 |
| 1 ▸ 4 | Flight Mode 1 **TO** Flight Mode 4 |
| 1 ▸ ✱ | Flight Mode 1 **TO** All Flight Modes |
| 2 ▸ N | **FROM** Flight Mode 2 to Flight Mode N |
| 2 ▸ 1 | **FROM** Flight Mode 2 to Flight Mode 1 |
| 2 ▸ 3 | Flight Mode 2 **TO** Flight Mode 3 |
| 2 ▸ 4 | Flight Mode 2 **TO** Flight Mode 4 |
| 2 ▸ ✱ | Flight Mode 2 **TO** All Flight Modes |
| 3 ▸ N | **FROM** Flight Mode 3 to Flight Mode N |

| SEQUENCE | DESCRIPTION |
|---|---|
| 3 ▸ 1 | **FROM** Flight Mode 3 to Flight Mode 1 |
| 3 ▸ 2 | **FROM** Flight Mode 3 to Flight Mode 2 |
| 3 ▸ 4 | Flight Mode 3 **TO** Flight Mode 4 |
| 3 ▸ ✱ | Flight Mode 3 **TO** All Flight Modes |
| 4 ▸ N | **FROM** Flight Mode 4 to Flight Mode N |
| 4 ▸ 1 | **FROM** Flight Mode 4 to Flight Mode 1 |
| 4 ▸ 2 | **FROM** Flight Mode 4 to Flight Mode 2 |
| 4 ▸ 3 | **FROM** Flight Mode 4 to Flight Mode 3 |
| 4 ▸ ✱ | Flight Mode 4 **TO** All Flight Modes |
| ✱ ▸ N | **FROM** All Flight Modes to Flight Mode N |
| ✱ ▸ 1 | **FROM** All Flight Modes to Flight Mode 1 |
| ✱ ▸ 2 | **FROM** All Flight Modes to Flight Mode 2 |
| ✱ ▸ 3 | **FROM** All Flight Modes to Flight Mode 3 |
| ✱ ▸ 4 | **FROM** All Flight Modes to Flight Mode 4 |
| ✱ ▸ ✱ | **FROM** All Flight Modes **TO** All Flight Modes |

1) Press the Navigation Pad ▸ to highlight N ▸ 1.

2) Press the YES/+ and NO/- keys to choose which Flight Mode Delay sequence you would like to use.




⚠ Use the tables of Delay sequences on the previous page to help you choose which Flight Mode Delay sequence you would like to use.

3) Repeat the previous procedures to program more Flight Mode Delay functions. For example, if you want to set a Flight Mode Delay for the flap channel when you switch from Flight Mode N (Normal) to Flight Mode 4 (Land), and from when you switch back from Flight Mode 4 (Land) to Flight Mode N (Normal), program the following:

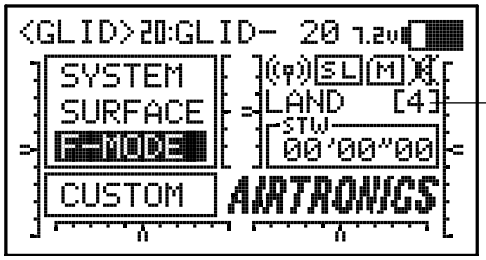
01>10% CH>LF >N▸4 03>10% CH>LF >4▸N

02>10% CH>RF >N▸4 04>10% CH>RF >4▸N

This programming will result in a 10% delay in the flap channel when you switch from Flight Mode N (Normal) to Flight Mode 4 (Land) and when you switch back from Flight Mode 4 (Land) to Flight Mode N (Normal). This will not Activate the Flight Mode Delay when you switch to any other Flight Mode. For example, when you switch from Flight Mode N (Normal) to Flight Mode 2 (Launch).

## *19.F-MODE NAME (FLIGHT MODE NAMING)*

The F-Mode Name function allows you to name each of your individual F-Modes. This makes it easier to keep track of which F-Mode is currently in use. The currently Active Flight Mode name is displayed, along with the corresponding Flight Mode number on the Top menu and on the various F-MODE programming menus. The F-Mode Name can consist of up to 6 letters, numbers, or symbols. Choose from capital letters, lower case letters, numbers, and various symbols.



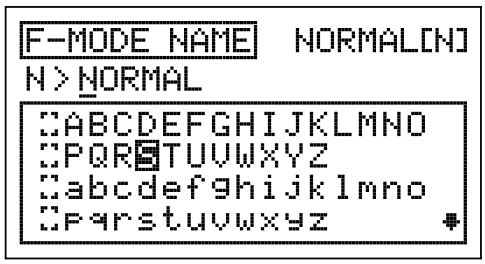

**Entering a Flight Mode Name**

1) Press the Navigation Pad ▲▼ to highlight F-MODE NAME, then press the ENTER key to display the F-MODE NAME menu. The cursor will default to the left side of the top row of letters.

⚠ Press the F-MODE key to cycle through the five different F-Modes. The F-Mode that you are currently naming is shown to the left of the Flight Mode Name. For example, N>NORMAL.

2) Press the Navigation Pad ◀▶▲▼ to highlight a character, then press the ENTER key to select the highlighted character. That character will be displayed and the underline will move to the next space.

3) Repeat step 2 to enter the rest of the characters. Up to six characters can be entered.




⚠ Press the Navigation Pad ▲▼ repeatedly to scroll up and down the list of characters.

**Deleting a Character**

1) Press the YES/+ or NO/- keys to move the underline under the character you want to erase.

2) Press the Navigation Pad ◀▶▲▼ to highlight the Erase Bracket ⁚, then press the ENTER key to erase the underlined character.

**Deleting a Flight Mode Name**

1) Press the YES/+ and NO/- keys at the same time to move the underline under the first character.

2) Press the Navigation Pad ◀▶▲▼ to highlight the Erase Bracket ⁚, then press the ENTER key repeatedly to erase the entire Flight Mode Name.

# HELI FLIGHT MODE CONTENTS

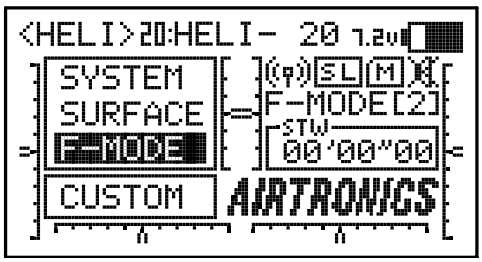
# HELI FLIGHT MODE MENU

## GENERAL INFORMATION

To access the F-Mode menu, turn the transmitter ON. From the Top menu, press the Navigation Pad ▲ ▼ to highlight F-MODE, then press the ENTER key to display the F-Mode menu.

From within any menu, press the END key continuously to return to the Top menu.

Unless otherwise noted, all programming changes take effect immediately.




⚠ If the Top menu is not displayed when you turn the transmitter ON, continuously press the END key until the Top menu is displayed.

## HELI FLIGHT MODE MENU FLOW CHART

Use this Flow Chart to familiarize yourself with the HELI Flight Mode menu structure. Descriptions regarding all HELI Flight Mode menu functions and programming are found on pages 156 through 192.

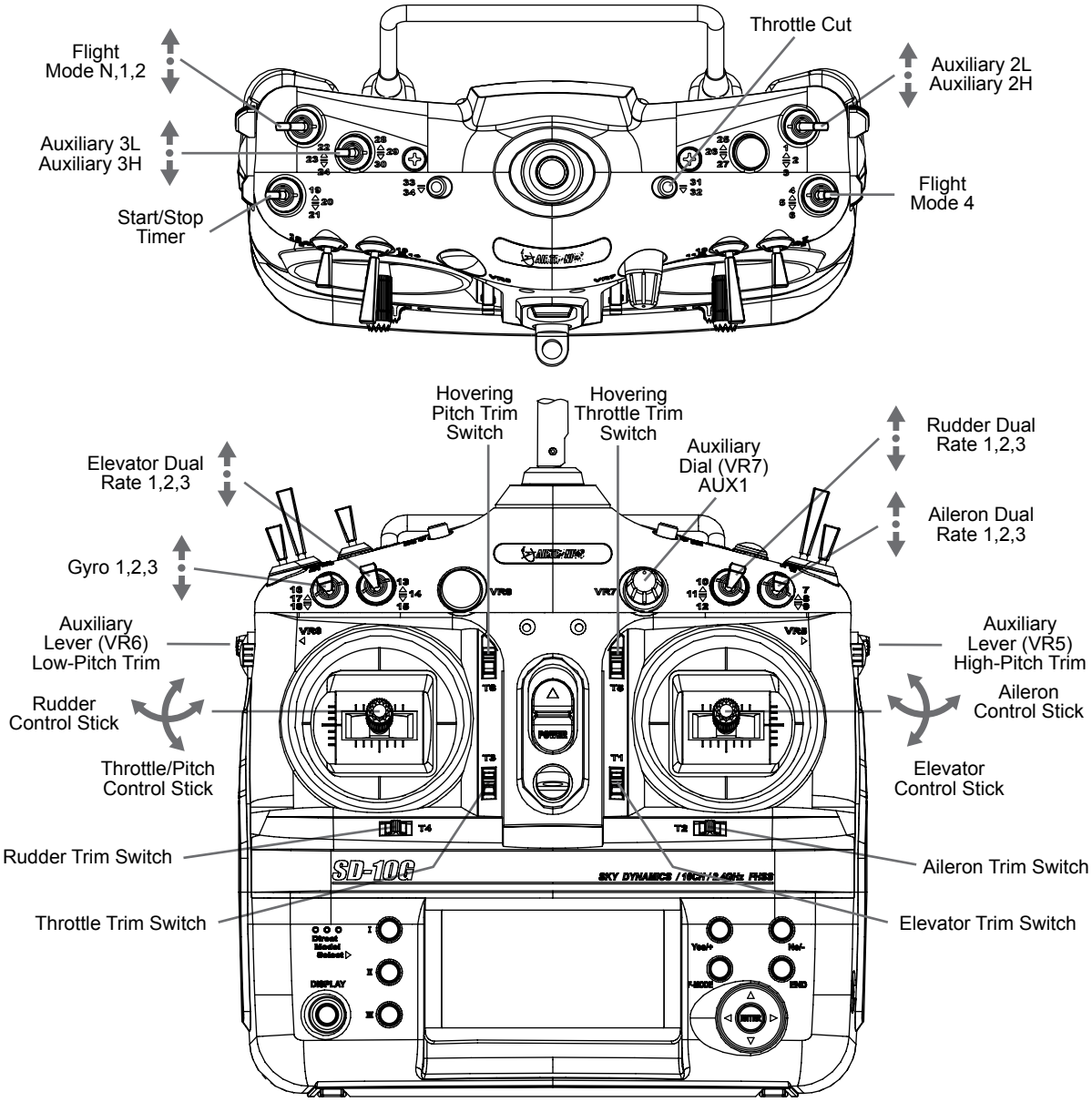
- 01.SX MONITOR
- 02.STICK MONITOR
- 03.D/R
- 04.EXP
- 05.TH-CURVE
- 06.PI-CURVE
- 07.TH-CUT
- 08.HOV-TH
- 09.HOV-PI
- 10.OFFSET
- 11.CH DELAY
- 12.TRIM
- 13.TRIM STEP
- 14.TRIM AUTH
- 15.GYRO
- 16.GOVERNOR
- 17.MIXING
  - 01.REVO MIX
  - 02.EL>TH
  - 03.AI>TH
  - 04.RU>TH
- 18.C-MIX
- 19.VR ASSIGN
- 20.F-MODE COPY
- 21.F-MODE DELAY
- 22.F-MODE NAME

## *HELI MODEL TYPE DEFAULT TRANSMITTER LAYOUT*

The diagrams below show the default transmitter control stick and switch layout in the HELI Model Type Flight Mode N (Normal) configuration. This is the base from which you can start to change or add functions to switch assignments, modify Flight Modes, and change or assign functions or channels to the Auxiliary Levers (VR5 and VR6) and the Auxiliary Dial (VR7).

**IMPORTANT** Since each of the five Flight Modes can be programmed separately, before making programming changes, verify that you are in the Flight Mode you want to make programming changes to. To avoid confusion, we suggest leaving the Flight Mode Switches (6, 22, 23, and 24) in the N (Normal) position and use the F-MODE key from within the programming menus to choose which Flight Mode you would like to make programming changes to.

Keep in mind that many of the functions, particularly Mixes and Auxiliary functions, MUST be assigned to a Switch Position Number to be Activated. We suggest that you assign the function to a Switch Position Number prior to programming the function. This will avoid confusion and make it easier to test your programming values.




*The Hovering Throttle and Hovering Pitch trim switches are Active only in F-MODE N (Normal). To use these features in other Flight Modes, they must be Activated in those specific Flight Modes. For more information, see pages 166 and 168.

## 01.SX MONITOR (SERVO MONITOR)

The Servo Monitor function displays the output levels of each of the 10 channels in bar graph form, allowing you to monitor servo operation in a virtual manner. This is helpful to see servo movement when the control sticks and switches are moved, and it allows you to visualize what is occurring with servo movements when you apply different mixing values. When used in conjunction with the Display key, the Servo Monitor function allows you to see servo movement virtually and make programming changes without the SD-10G transmitter actually transmitting a signal.

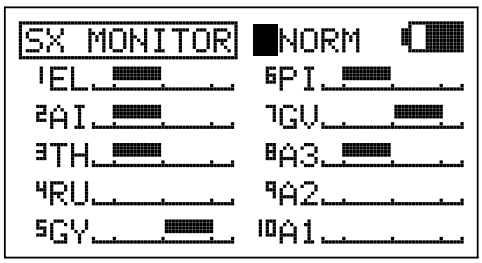
When both the SD-10G transmitter and the receiver are turned ON, the Servo Monitor function has the ability to continuously cycle the primary flight control servos back and forth to verify operation. You are also able to individually cycle any of the primary flight control servos and check the Neutral position of each of the servos (or automatically center all of the servos).

⚠ The channels displayed will vary based on Model Type and Swashplate selection options currently selected. For example, if your model features a CP4A swashplate, both elevator servos will be displayed and both servos will move when the AUTO1 option is used. Depending on the current servo reversing settings, the bar graphs may not move the same direction as the control sticks. This is normal.

**Using the Servo Monitor - Normal Mode**

1) Press the Navigation Pad ▲▼ to highlight SX MONITOR, then press the ENTER key to display the SX MONITOR menu. The cursor will default to >NORM.

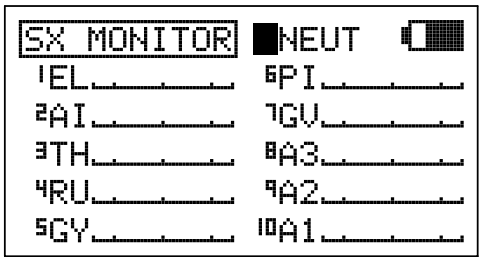
2) Moving the control sticks and channel switches (if assigned) will display the position and movement of each of the servos.




**Using the Servo Monitor - Neutral Mode**

1) Press the YES/+ key to choose >NEUT. When set to NEUT, all servos will move to the Neutral position until you either change the Servo Monitor Mode or exit the Servo Monitor menu.

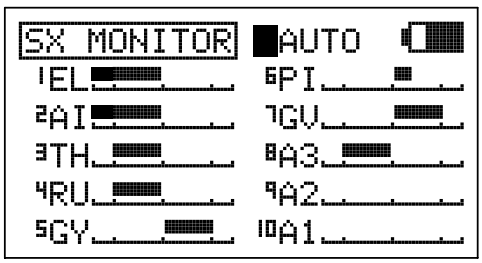
⚠ While in Neutral Mode, all flight controls are Inhibited.




**Using the Servo Monitor - Auto Mode**

1) Press the YES/+ key to choose >AUTO. When set to AUTO, the primary flight control servos will cycle back and forth at the same time, until you either change the Servo Monitor Mode or exit the Servo Monitor menu.

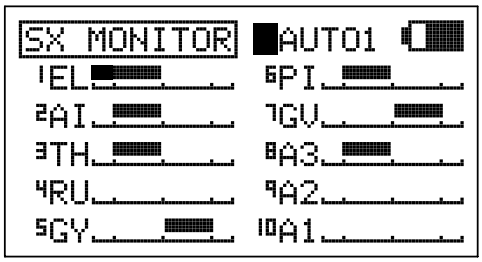
⚠ While in Auto Mode, the primary flight controls are Inhibited, however, the remaining channels remain Active so that you can continue using them.




**Using the Servo Monitor - Auto1, Auto2, Auto3, and Auto4 Modes**

1) Press the YES/+ key to choose >AUTO1. When set to AUTO1, the elevator, aileron, and pitch servos will cycle back and forth at the same time, until you either change the Servo Monitor Mode or exit the Servo Monitor menu.

2) Press the YES/+ key again to choose >AUTO2 and so on. AUTO2 will cycle the aileron and pitch servos, AUTO3 will cycle all CCPM servos, and AUTO4 will cycle the rudder servo.




⚠ The flight control for the currently Active servo will be Inhibited, however, the remaining channels remain Active so that you can continue using them.

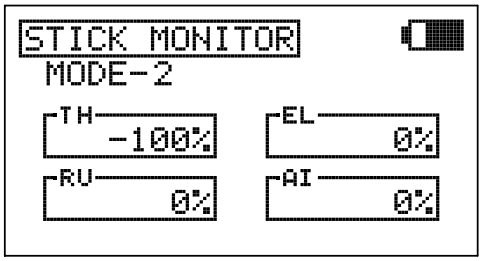
## 02.STICK MONITOR (CONTROL STICK MONITOR)

The Stick Monitor function displays the current position of the control sticks as a percentage of total control stick movement in 1% increments, and is used to determine if the control sticks require calibration. For example, if you move the throttle control stick all the way forward and 95% is displayed, this indicates that the throttle control stick requires calibration. In addition, the Stick Monitor function allows you to visually check exactly what position the control sticks are in relative to the control surface you're setting up.

**Using the Stick Monitor**

1) Press the Navigation Pad ▲▼ to highlight STICK MONITOR, then press the ENTER key to display the STICK MONITOR menu. The current Mode that the SD-10G transmitter is operating in will be displayed.

2) Move the control sticks and watch the percentage displays. When the control sticks are centered, 0% should be displayed, and when the control sticks are moved to their stops, -100% or 100% should be displayed, based on the direction of movement.

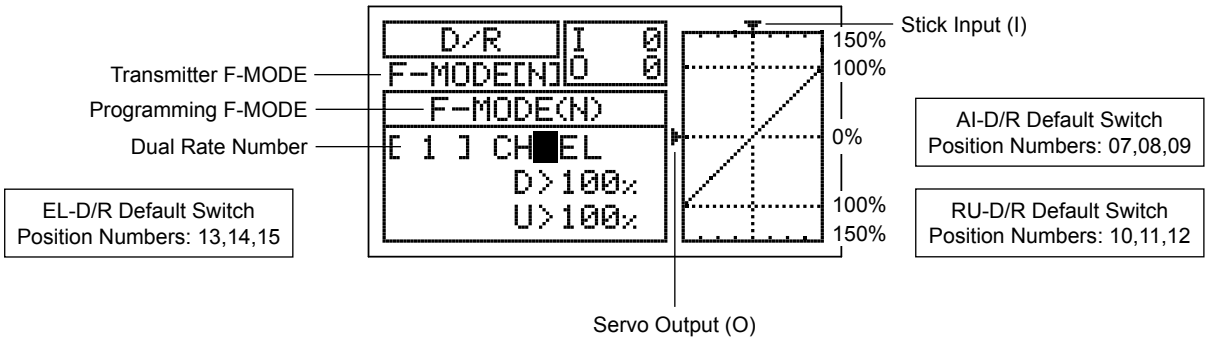



3) If 0% is not displayed when the control sticks are centered, or if -100% and 100% are not displayed when the control sticks are moved to their stops, use the NEUTRAL/TRAVEL>USER setting in the System Mode menu to recalibrate the control sticks. For more information, see page 41.

## 03.D/R (DUAL RATE - ELEVATOR, AILERON, AND RUDDER)

The Dual Rate function allows you to change the control authority of the control surfaces by changing the amount of servo travel. For example, if you are flying an aerobatic helicopter that requires a lot of control throw for aerobatics, but that same amount of control throw makes the helicopter difficult to control during normal flight, you can use Dual Rate to lower the control throw for normal flight with just the flip of the Dual Rate switch. Three Dual Rate settings are available each for the Elevator, Aileron, and Rudder channels, and different Dual Rate settings can be programmed separately for each of the five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.

⚠ Dual Rate is a percentage of End Point Adjustment. For example, if you set Dual Rate 2 to 50% and Activate it, the servo will travel half the amount than if Dual Rate 2 was not Active. Prior to takeoff, check the position of the Dual Rate switches to ensure that they are in the positions you want. If you assign two different channel Dual Rates to more than one switch, it's important to note that the higher numbered Dual Rate will override the lower numbered Dual Rates. For example, if you have Dual Rate 2 and Dual Rate 3 Active at the same time, Dual Rate 3 will override Dual Rate 2.

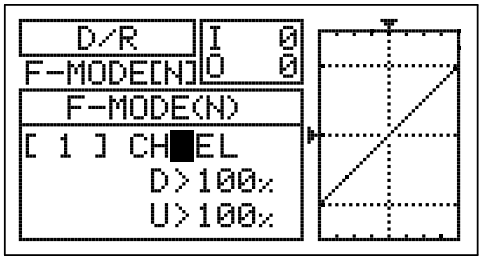



⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight D/R, then press the ENTER key to display the D/R menu. The cursor will default to CH>EL.

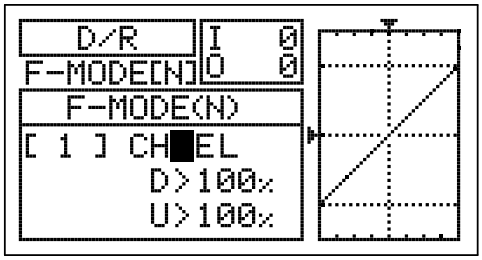
2) Press the F-MODE key to choose the F-MODE number you would like to program the Dual Rate function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Dual Rate function for.



**Choosing the Channel**

1) Press the Navigation Pad ▲▼ to highlight CH>EL.

2) If you would like to set the Dual Rate for another channel, press the YES/+ or NO/- keys to choose CH>AI or CH>RU.




Dual Rate can be set for EL (Elevator), AI (Aileron), and RU (Rudder).

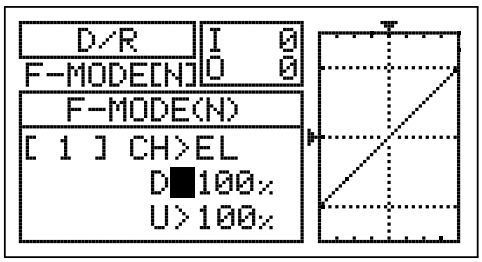
**Changing the Dual Rate Percentage Values**

Three different Dual Rate settings can be programmed to each three-position switch. We recommend that Dual Rate 1 be set to the maximum control surface throw you desire, then set Dual Rate 2 and Dual Rate 3 to different values that are less than maximum. For example, set Dual Rate 1 to 100%, Dual Rate 2 to 75%, and Dual Rate 3 to 50%.

**WARNING** Keep in mind that it's possible to set the Dual Rate higher than the End Point Adjustment. For example, with the End Point Adjustment set to 100% and the Dual Rate set to 150% the servo will move more than 100% when the Dual Rate is Activated. We strongly recommend that you set the Dual Rate 1 percentage value to no more than 100%. This will prevent any chance of exceeding your End Point Adjustment and overdriving your control linkage.

1) Move the Dual Rate Switch for the channel you are setting to the position you would like to set a Dual Rate percentage value for, either 1, 2, or 3.

2) Press the Navigation Pad ▼ to move the cursor to D>100% (L>100% if setting aileron or rudder Dual Rate), then press the YES/+ or NO/- keys to set the desired Down (or Left) Dual Rate percentage value.




⚠ As you change the Dual Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

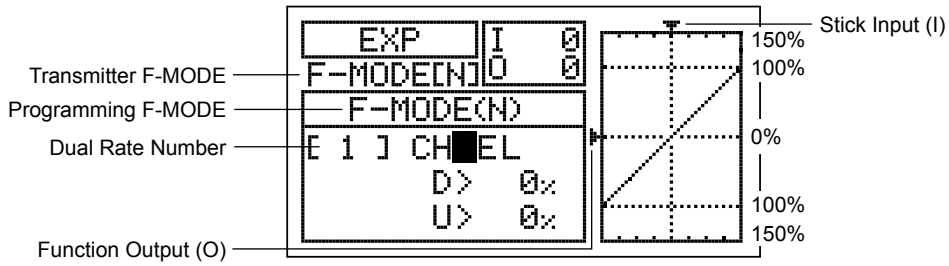
3) Press the Navigation Pad ▼ to move the cursor to U>100% (R>100% if setting aileron or rudder Dual Rate), then press the YES/+ or NO/- keys to set the desired Up (or Right) Dual Rate percentage value.

D/R setting range is 0% to 150%. The default setting is 100%. Increasing the D/R percentage value increases servo travel when Dual Rate is Activated. Decreasing the D/R percentage value decreases servo travel when Dual Rate is Activated.

## *04.EXP (EXPONENTIAL - ELEVATOR, AILERON, AND RUDDER)*

The Exponential function allows you to vary the amount of servo travel in relation to the movement of the elevator, aileron, and rudder control sticks near the neutral positions to change the way the control surfaces react to control stick movement. Increasing the Exponential value will soften the control feel around neutral and decreasing the Exponential value will heighten the control feel around neutral. For example, using a positive Exponential value allows for smoother control by lessening the amount of servo travel in relation to the amount of control stick movement. Using a negative Exponential value may result in more 'twitchy' control response because the amount of servo travel will be increased in relation to the amount of control stick movement.

The Exponential function is linked directly to your Dual Rate switches. This allows you to program Exponential for each of the three Dual Rate positions separately. In addition, Exponential can be programmed separately for each of the five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.



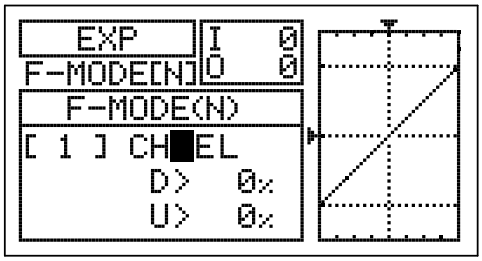

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

⚠ Exponential does not change the total amount of servo travel at maximum control stick deflection. Exponential affects the ratio between servo travel and control stick movement at less than 100% control stick deflection.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight EXP, then press the ENTER key to display the EXP menu. The cursor will default to CH>EL.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Exponential function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Exponential function for.

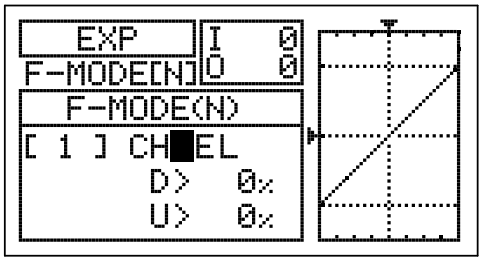



**Choosing the Channel**

1) Press the Navigation Pad ▲▼ to highlight CH>EL.

2) If you would like to set the Exponential for another channel, press the YES/+ or NO/- keys to choose CH>AI or CH>RU.

Exponential can be set for EL (Elevator), AI (Aileron), and RU (Rudder).




**Changing the Exponential Percentage Values**

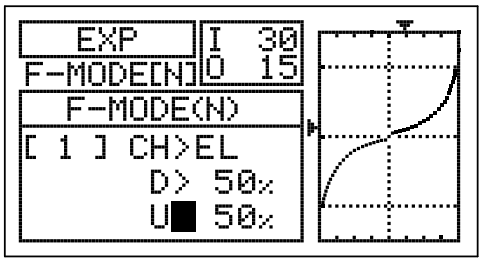
The Exponential function is linked directly to your Dual Rate switches. This allows you to program Exponential for each of the three Dual Rate positions separately. For example, with the Dual Rate switch in position 1 (maximum travel), you can set 30% Exponential, with the Dual Rate switch in position 2, you can set 10% Exponential, and with the Dual Rate switch in position 3, you can set 0% Exponential (Linear).

**WARNING** If you have not used Exponential functions in the past, we suggest that you start with a small percentage of Exponential (approximately 10%~20%) until you get used to the feel of how Exponential affects the control feel of your model. You will find that Exponential is most useful where strong control response is desired at extreme control stick positions, but softer control response to small control stick movements is desired in order to make very accurate small corrections to the flight path.

1) Move the Dual Rate Switch for the channel you are setting to the position you would like to set an Exponential percentage value for, either 1, 2, or 3.

2) Press the Navigation Pad ▼ to move the cursor to D>0% (L>0% if setting aileron or rudder Exponential).

3) Press the YES/+ or NO/- keys to set the desired Down (or Left) Exponential percentage value.




⚠ As you change the Exponential percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range. Notice that as you increase Exponential, the servo travel is decreased near the neutral position in relation to control stick movement, and as you decrease Exponential, the servo travel is increased near the neutral position in relation to control stick movement.

4) Press the Navigation Pad ▼ to move the cursor to U>0% (R>0% if setting aileron or rudder Exponential), then press the YES/+ or NO/- keys to set the desired Up (or Right) Exponential percentage value.

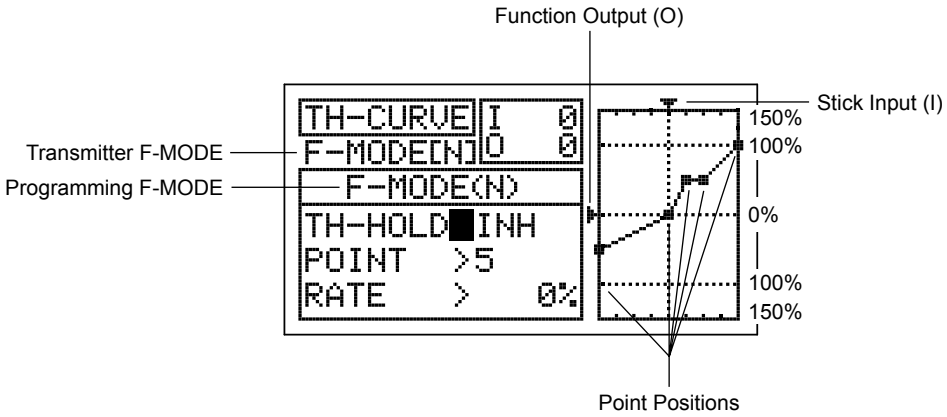
EXP setting range is -100% to 100%. The default setting is 0% (Linear). Increasing the EXP percentage value softens the control feel around neutral. Decreasing the EXP percentage value heightens the control feel around neutral.

⚠ When the Exponential value is set to 0%, the ratio between servo travel and control stick movement will be Linear. For example, when you move the control stick 50%, the servo will travel 50%, too.

## *05.TH-CURVE (THROTTLE CURVE AND THROTTLE HOLD)*

The Throttle Curve function allows you to vary the amount of throttle servo travel in relation to the movement of the throttle control stick at different points throughout the entire range of deflection. Nine custom-programmable Points ensure an extremely precise Throttle Curve to suit any type of situation. For example, if you are doing 3D flying, you can adjust the Throttle Curve so that you have maximum power and rotor head speed at both the low throttle control stick position and the high throttle control stick position when you have full negative and positive collective pitch for aerobatics, but reduced power when the throttle control stick is near the center, so that the rotor head will not overspeed with reduced collective.

Included within the Throttle Curve function is the Throttle Hold function. The Throttle Hold function allows you to set a specific position that the throttle servo will Hold and not respond to the throttle control stick. This function is typically used to hold the throttle at idle or low speed, while still allowing you full pitch control. This is ideal for practicing auto-rotations and is also a good safety feature on electric helicopters, because when Activated, the rotor head will not spin up if you accidentally bump the throttle control stick up. Both the Throttle Curve function and the Throttle Hold function can be programmed separately for each of the five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

⚠ The tables below show the default Throttle Curve Point and Rate values. Settings shown in parentheses are the default percentage values when those Points are Activated by the user.

| POINT | DEFAULT RATE |
|---|---|
| 1 | -100% |
| 2 | INH (-75%) |
| 3 | INH (-50%) |

| POINT | DEFAULT RATE |
|---|---|
| 4 | INH (-25%) |
| 5 | 0% |
| 6 | INH (25%) |

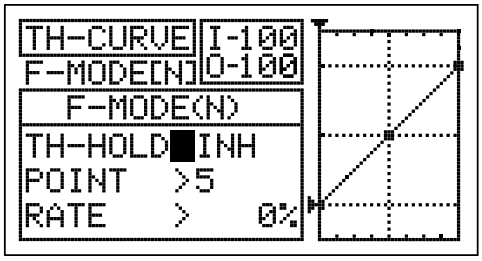
| POINT | DEFAULT RATE |
|---|---|
| 7 | INH (50%) |
| 8 | INH (75%) |
| 9 | 100% |

⚠ In the default configuration the Throttle Curve is Linear. For example, when you move the throttle control stick from 0% to 100%, the throttle servo will travel from 0% to 100%, too.

**Choosing the Flight Mode**

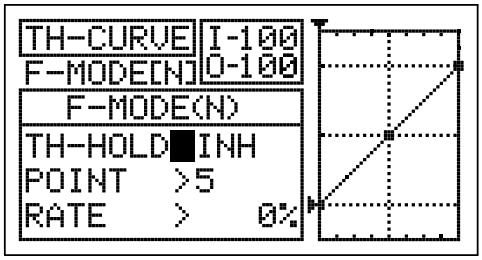
1) Press the Navigation Pad ▲▼ to highlight TH-CURVE, then press the ENTER key to display the TH-CURVE menu. The cursor will default to TH-HOLD>INH.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Throttle Curve function or the Throttle Hold function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Throttle Curve function or the Throttle Hold function for.



**Activating the Throttle Hold Function**

1) Press the Navigation Pad ▲▼ to highlight TH-HOLD>INH, then press the YES/+ or NO/- keys to change the ACT/INH setting.




TH-HOLD setting range is INH/ACT. The default setting is INH. When Activated, the Throttle Hold function will be Active for that Flight Mode. The TH-HOLD percentage value and the TH-TRIM option will be displayed.

**IMPORTANT** When the Throttle Hold function is Activated, you cannot program the Throttle Curve Function. If you Activate the Throttle Hold function, skip to the Changing the Throttle Hold Percentage Value - Throttle Hold Function Active section on page 163, otherwise, continue below to program the desired Throttle Curve Point values and the Rate percentage values.

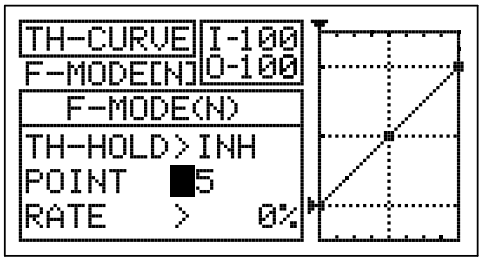
**Changing the Throttle Curve Point Values and the Rate Percentage Values**

Nine different Points with varying Rates can be programmed onto the Throttle Curve. Each Point will be displayed on the graph to give you a visual interpretation of the position of the Point on the Throttle Curve. The Point that is currently selected will blink.

**WARNING** Keep in mind that it's possible to set the Throttle Curve Points higher or lower than the throttle End Point Adjustment. For example, with the throttle End Point Adjustment set to 100% and POINT>9 set to 150% the servo will move 150%. We strongly recommend that you set your Throttle Curve Points no higher than your throttle End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage.

1) Press the Navigation Pad ▼ to highlight POINT>5.

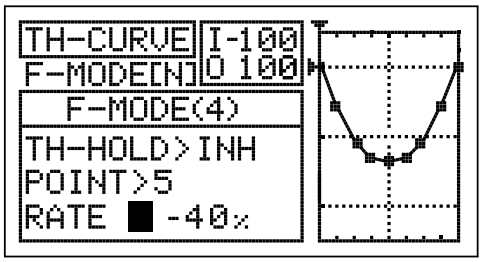
2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.




POINT setting range is 1 through 9. Point 1 is at the low end of the Throttle Curve and Point 9 is at the high end of the Throttle Curve. Point 5 is a the center of the Throttle Curve.

3) Press the Navigation Pad ▼ to highlight RATE>.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.




⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to the default percentage value (e.g., POINT>4 RATE -25%).

RATE setting range is -150% to 150%. POINT 1 default RATE percentage value is -100%, POINT 5 default RATE percentage value is 0%, POINT 9 default RATE percentage value is 100%. This results in a Linear Throttle Curve.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

5) Repeat the previous procedures to change the desired remaining Point and Rate percentage values.

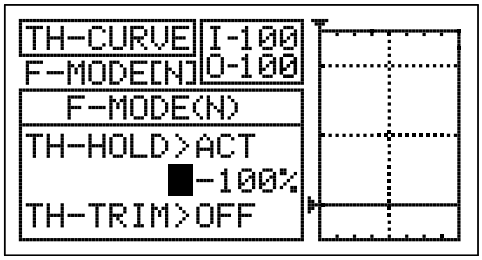
**Changing the Throttle Hold Percentage Value - Throttle Hold Function Active**

**WARNING** Keep in mind that it's possible to set the Throttle Hold lower than the throttle End Point Adjustment. For example, with the throttle End Point Adjustment set to -100% and the Throttle Hold set to -150% the servo will move -150% when the Throttle Hold is Activated. We strongly recommend that you set your Throttle Hold no lower than your throttle End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage.

1) Press the Navigation Pad ▼ to highlight >-100%.

2) Press the YES/+ or NO/- keys to set the position you would like the throttle servo to Hold at.

TH-HOLD setting range is -150% to 0%. The default setting is -100%. Increasing the TH-HOLD percentage value will increase the position at which the throttle servo will Hold at and decreasing the TH-HOLD percentage value will decrease the position at which the throttle servo will Hold at.




⚠ When the Throttle Hold function is Activated, the Throttle Hover trim switch will be disabled and you will not be able to control the Hovering Throttle function. This is normal.

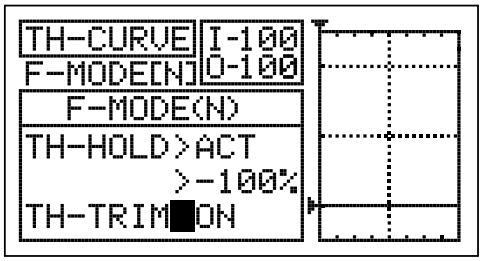
**Turning ON the Throttle Trim Function - Throttle Hold Function Active**

The Throttle Trim function allows you to have throttle trim control even with the Throttle Hold function Active. This allows you make minor adjustments to your throttle speed as required.

1) Press the Navigation Pad ▼ to highlight TH-TRIM>OFF.

2) Press the YES/+ or NO/- keys to change the OFF/ON setting.

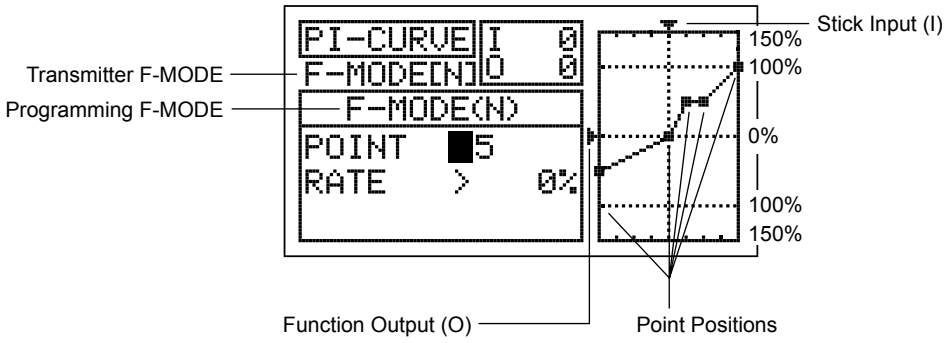
TH-TRIM setting range is OFF/ON. The default setting is OFF. When set to ON, you will control of the full range of throttle trim from the position that the Throttle Hold percentage value is set at. When the Throttle Trim function is set to OFF, the Throttle trim switch will be disabled.




## *06.PI-CURVE (PITCH CURVE)*

The Pitch Curve function allows you to vary the amount of pitch travel in relation to the movement of the throttle control stick at different points throughout the entire range of deflection. Nine custom-programmable Points ensure an extremely precise Pitch Curve to suit any type of situation. For example, if you are doing 3D flying, you may want a Linear Pitch Curve with maximum negative pitch when the throttle control stick is at low, maximum positive pitch when the throttle control stick is at high, and 0 degrees of pitch when the throttle control stick is centered. Alternatively, for a more docile flying helicopter, you may want minimum negative pitch when the throttle control stick is all the way back and gradually increase pitch in small increments as the throttle control stick moves from low to high, to produce a smooth transition from low to high throttle.

The Pitch Curve function can be programmed separately for each of the five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.



Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

The tables below show the default Pitch Curve Point and Rate values. Settings shown in parentheses are the default percentage values when those Points are Activated by the user.

| POINT | DEFAULT RATE |
|---|---|
| 1 | -100% |
| 2 | INH (-75%) |
| 3 | INH (-50%) |

| POINT | DEFAULT RATE |
|---|---|
| 4 | INH (-25%) |
| 5 | 0% |
| 6 | INH (25%) |

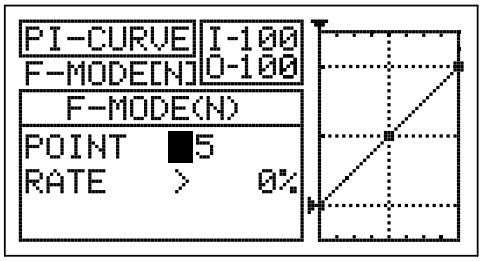
| POINT | DEFAULT RATE |
|---|---|
| 7 | INH (50%) |
| 8 | INH (75%) |
| 9 | 100% |

In the default configuration the Pitch Curve is Linear. For example, when you move the throttle control stick from 0% to 100%, the elevator, aileron, and pitch servos will travel from 0% to 100%, too.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight PI-CURVE, then press the ENTER key to display the PI-CURVE menu. The cursor will default to POINT>5.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Pitch Curve function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Pitch Curve function for.




**Changing the Pitch Curve Point Values and the Rate Percentage Values**

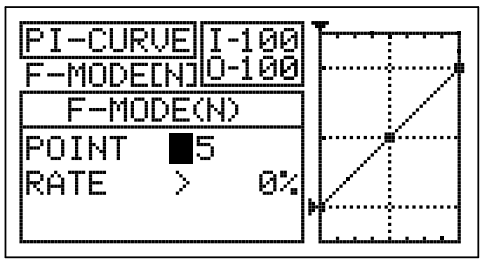
Nine different Points with varying Rates can be programmed onto the Pitch Curve. Each Point will be displayed on the graph to give you a visual interpretation of the position of the Point on the Pitch Curve. The Point that is currently selected will blink.

**WARNING** Keep in mind that it's possible to set the Pitch Curve Points higher or lower than the pitch End Point Adjustment. For example, with the pitch End Point Adjustment set to 100% and POINT>9 set to 150% the collective servos will move more than 100%. We strongly recommend that you set your Pitch Curve Points no higher than your pitch End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage.

**IMPORTANT** In the default configuration, Auxiliary Lever (VR5) and Auxiliary Lever (VR6) control the high (Point 9) and low (Point 1) points of the Pitch Curve, respectively. For example, you can manually adjust the high and low points of the Pitch Curve during flight to fine-tune the adjustments. Before changing the Pitch Curve Point values and the Rate percentage values, make sure that both Auxiliary Levers are centered (in the center detent).

1) Press the Navigation Pad ▲▼ to highlight POINT>5.

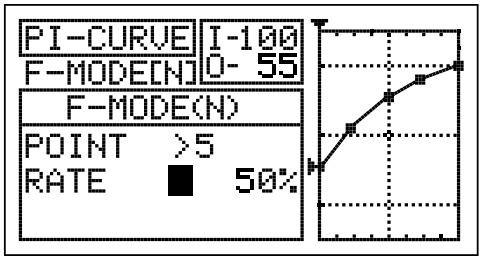
2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.




POINT setting range is 1 through 9. Point 1 is at the low end of the Pitch Curve and Point 9 is at the high end of the Pitch Curve. Point 5 is a the center of the Pitch Curve.

3) Press the Navigation Pad ▼ to highlight RATE>.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.




⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to the default percentage value (e.g., POINT>4 RATE -25%).

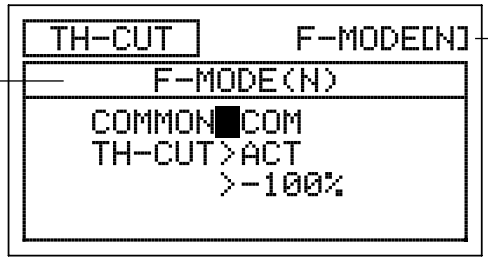
RATE setting range is -150% to 150%. POINT 1 default RATE percentage value is -100%, POINT 5 default RATE percentage value is 0%, POINT 9 default RATE percentage value is 100%. This results in a Linear Pitch Curve.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

5) Repeat the previous procedures to change the desired remaining Point and Rate percentage values.

## *07.TH-CUT (THROTTLE CUT)*

The Throttle Cut function allows you to set a specific position that the throttle servo will move to. The Throttle Cut function is primarily used in glow- or gas-powered helicopters to shut down your engine after flight. For example, if your engine idles when the throttle control stick is at the -100% position, you can set the Throttle Cut to -120% to shut down your engine when the Throttle Cut function is Activated. The Throttle Cut function can be programmed separately for each of the five Flight Modes or you can use the same Throttle Cut programming across all five Flight Modes.




TH-CUT Default Switch Position Number: 32

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

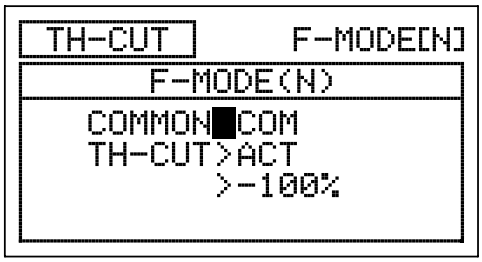
**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TH-CUT setting will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program TH-CUT separately for each Flight Mode. When set to SEP (Separate), you can program TH-CUT separately for each Flight Mode.

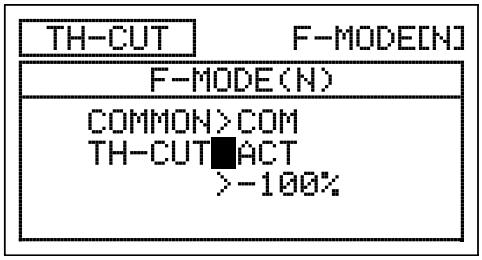
1) Press the Navigation Pad ▲▼ to highlight TH-CUT, then press the ENTER key to display the TH-CUT menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP.

⚠ If set to COM, skip to the Setting the Throttle Cut percentage value on page 166. If set to SEP, see step 3 below.




3) Press the F-MODE key to choose the F-MODE number you would like to program the Throttle Cut function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Throttle Cut function for.



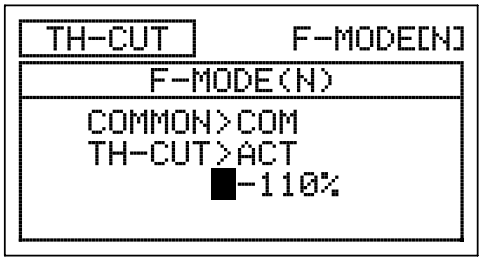

**Activating the Throttle Cut Function**

1) Press the Navigation Pad ▼ to highlight TH-CUT>ACT, then press the YES/+ or NO/- keys to change the ACT/INH setting.

TH-CUT setting range is ACT/INH. The default setting is ACT. When Activated, the Throttle Cut function can be used for that Flight Mode. When Inhibited, the Throttle Cut function will be disabled for that Flight Mode.

**Changing the Throttle Cut Percentage Value**

**WARNING** Keep in mind that it's possible to set the Throttle Cut lower than the throttle End Point Adjustment. For example, with the throttle End Point Adjustment set to -100% and the Throttle Cut set to -150% the servo will move -150% when the Throttle Cut function is used. We strongly recommend that you set your Throttle Cut no lower than your throttle End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage.




1) Press the Navigation Pad ▼ to highlight >-100%.

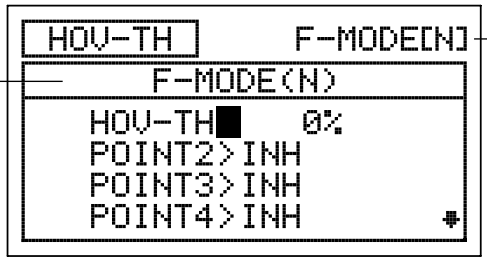
2) Press the YES/+ or NO/- keys to set the position you would like the throttle servo to move to when the Throttle Cut function is used.

⚠ When the Throttle Cut function is used, the throttle control stick will be disabled.

TH-CUT setting range is -150% to 0%. The default setting is -100%. Increasing the TH-CUT percentage value will increase the position that the throttle servo is moved to and decreasing the TH-CUT percentage value will decrease the position that the throttle servo is moved to.

## *08.HOV-TH (HOVERING THROTTLE)*

The Hovering Throttle function allows you to adjust specific Throttle Curve Points to fine-tune the Throttle Curve at any throttle control stick position, not just the hovering position. The Hovering Throttle function is controlled by the Hovering Throttle Trim Switch (T5). You are able to Activate and control one or more Points on the Throttle Curve. For example, you can Activate Point 2 through Point 8, so that all the Throttle Curve Points can be fine-tuned, or you can Activate only Point 3 to fine-tune that particular Throttle Curve Point. These adjustments can be viewed on the TH-CURVE menu graph to help you visualize the changes. In addition, the resolution of the Hovering Throttle trim switch can be adjusted, using the Trim Step function, to ensure a high degree of accuracy. The Hovering Throttle function can be programmed separately for each of the five Flight Modes.



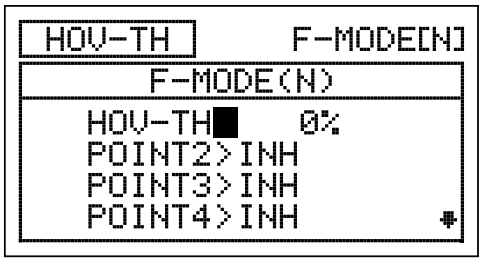

HOV-TH Default Trim Switch: T5

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight HOV-TH, then press the ENTER key to display the HOV-TH menu. The cursor will default to HOV-TH>0%.

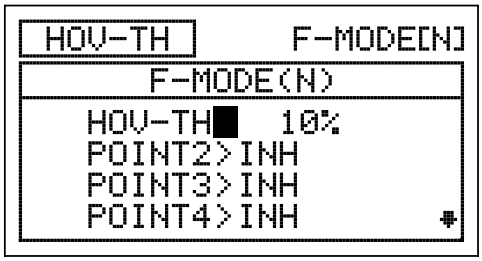
2) Press the F-MODE key to choose the F-MODE number you would like to program the Hovering Throttle function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Hovering Throttle function for.




**Changing the Hovering Throttle Percentage Value**

The Hovering Throttle percentage value can be changed by pressing the YES/+ and NO/- keys from within the HOV-TH menu or it can changed during flight by moving the Hovering Throttle trim switch.

1) Press the Navigation Pad ▲▼ to highlight HOV-TH>0%, then press the YES/+ or NO/- keys to change the Hovering Throttle percentage value. Alternately, you could move the Hovering Throttle trim switch to change the Hovering Throttle percentage value.




HOV-TH setting range is -32% to 32%. The default setting is 0%. When increased, the Active Point Rate percentage value(s) will increase. When decreased, the Active Point Rate Percentage value(s) will decrease.

⚠ When the Hovering Throttle percentage value is changed using the YES/+ and NO/- keys through the HOV-TH menu, the percentage value is changed in 1% increments. When the Hovering Throttle percentage value is changed using the Hovering Throttle trim switch, the percentage value is changed in 2% increments. If desired, the Hovering Throttle trim switch resolution can be changed through the Trim Step menu. For more information, see page 174.

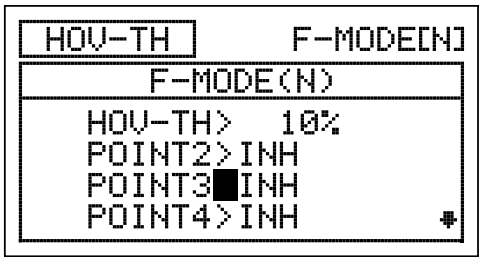
**Activating Hovering Throttle Points**

The Hovering Throttle Points displayed in the HOV-TH menu correspond directly with the Throttle Curve Points. You are able to Activate one or more Hovering Throttle Points to be controlled by the Hovering Throttle trim switch.

⚠ All Activated Hovering Throttle Points will move at the same time and at the same Rate as defined by the Hovering Throttle percentage value.

1) Press the Navigation Pad ▲▼ to highlight which Hovering Throttle Point you would like to Activate, then press the YES/+ or NO/- keys to change the ACT/INH setting.

⚠ If all Hovering Throttle Points are set to INH, no Hovering Throttle Trim Indicator will be displayed on the Top menu and the Hovering Throttle trim switch will not function. At least one Hovering Throttle Point must be set to ACT for the Hovering Throttle Trim Indicator to be displayed on the Top menu and the Hovering Throttle trim switch to function.

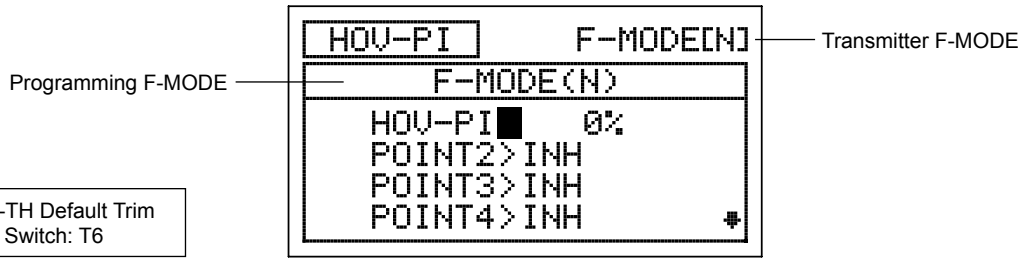



POINT2 through POINT8 setting range is INH/ACT. In Flight Mode N (Normal), the POINT5 default setting is ACT. The remaining POINT default settings are INH. In all other Flight Modes, all POINT default settings are INH.

⚠ An audible tone is heard when the Hovering Throttle trim switch reaches the center position (0%). This allows you to know when the trim switch reaches the center position without the need to look at the Trim Indicator on the Top menu.

## 09.HOV-PI (HOVERING PITCH)

The Hovering Pitch function allows you to adjust specific Pitch Curve Points to fine-tune the Pitch Curve at any throttle control stick position, not just the hovering position. The Hovering Pitch function is controlled by the Hovering Pitch Trim Switch (T6). You are able to Activate and control one or more Points on the Pitch Curve. For example, you can Activate Point 2 through Point 8, so that all the Pitch Curve Points can be fine-tuned, or you can Activate only Point 3 to fine-tune that particular Pitch Curve Point. These adjustments can be viewed on the PI-CURVE menu graph to help you visualize the changes. In addition, the resolution of the Hovering Pitch trim switch can be adjusted, using the Trim Step function, to ensure a high degree of accuracy. The Hovering Pitch function can be programmed separately for each of the five Flight Modes.



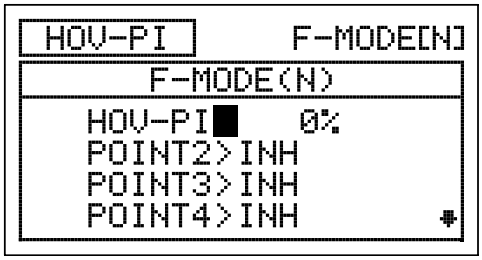

HOV-TH Default Trim Switch: T6

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲ ▼ to highlight HOV-PI, then press the ENTER key to display the HOV-PI menu. The cursor will default to HOV-PI>0%.

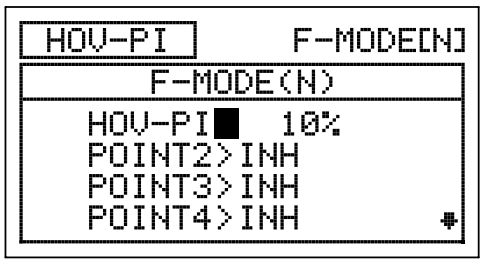
2) Press the F-MODE key to choose the F-MODE number you would like to program the Hovering Pitch function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Hovering Pitch function for.




**Changing the Hovering Pitch Percentage Value**

The Hovering Pitch percentage value can be changed by pressing the YES/+ and NO/- keys from within the HOV-PI menu or it can changed during flight by moving the Hovering Pitch trim switch.

1) Press the Navigation Pad ▲ ▼ to highlight HOV-PI>0%, then press the YES/+ or NO/- keys to change the Hovering Pitch percentage value. Alternately, you could move the Hovering Pitch trim switch to change the Hovering Pitch percentage value.




HOV-PI setting range is -32% to 32%. The default setting is 0%. When increased, the Active Point Rate percentage value(s) will increase. When decreased, the Active Point Rate Percentage value(s) will decrease.

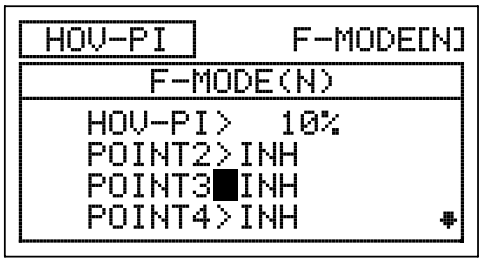
⚠ When the Hovering Pitch percentage value is changed using the YES/+ and NO/- keys through the HOV-PI menu, the percentage value is changed in 1% increments. When the Hovering Pitch percentage value is changed using the Hovering Pitch trim switch, the percentage value is changed in 2% increments. If desired, the Hovering Pitch trim switch resolution can be changed through the Trim Step menu. For more information, see page 174.

**Activating Hovering Pitch Points**

The Hovering Pitch Points displayed in the HOV-PI menu correspond directly with the Pitch Curve Points. You are able to Activate one or more Hovering Pitch Points to be controlled by the Hovering Pitch trim switch.

⚠ All Activated Hovering Pitch Points will move at the same time and at the same Rate as defined by the Hovering Pitch percentage value.

1) Press the Navigation Pad ▲▼ to highlight which Hovering Pitch Point you would like to Activate, then press the YES/+ or NO/- keys to change the ACT/INH setting.



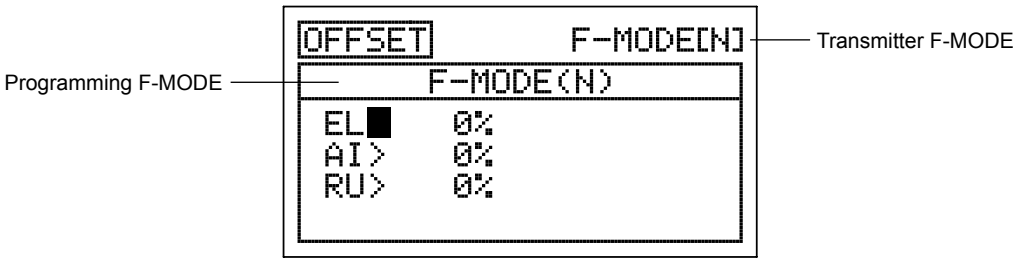

⚠ If all Hovering Pitch Points are set to INH, no Hovering Pitch Trim Indicator will be displayed on the Top menu and the Hovering Pitch trim switch will not function. At least one Hovering Pitch Point must be set to ACT for the Hovering Pitch trim indicator to be displayed on the Top menu and the Hovering Pitch trim switch to function.

POINT2 through POINT8 setting range is INH/ACT. In Flight Mode N (Normal), the POINT5 default setting is ACT. The remaining POINT default settings are INH. In all other Flight Modes, all POINT default settings are INH.

⚠ An audible tone is heard when the Hovering Pitch trim switch reaches the center position (0%). This allows you to know when the trim switch reaches the center position without the need to look at the Trim Indicator on the Top menu.

## *10.OFFSET (CHANNEL OFFSET - ELEVATOR, AILERON, AND RUDDER)*

The Offset function allows you to shift the neutral position of the elevator, aileron, and rudder servos. This allows you another option to center the servos without the need to use the Centering function in the Surface menu (which can affect the overall collective pitch setup). For example, if you set up your helicopter with the swashplate perfectly square to the main shaft, however, when you test-fly the helicopter, it wants to roll to the left, you can adjust the aileron Offset to compensate without affecting the aileron trim. Offsets can be programmed for one direction of servo travel on each of the elevator, aileron, and rudder servos independently, and can be programmed separately for each of the five Flight Modes.

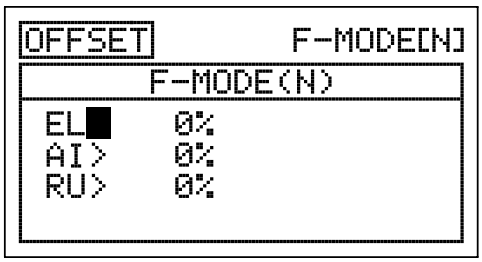



⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight OFFSET, then press the ENTER key to display the OFFSET menu. The cursor will default to EL>0%.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Offset function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Offset function for.




**IMPORTANT** If you use the Offset function to adjust servo centering, make sure to program the same Offset percentage value(s) for each Flight Mode that you use, to avoid trim changes when you switch Flight Modes, unless different Offset percentage values are required for each Flight Mode. For example, different Offset percentage values might be required if you have different head speeds in different Flight Modes.

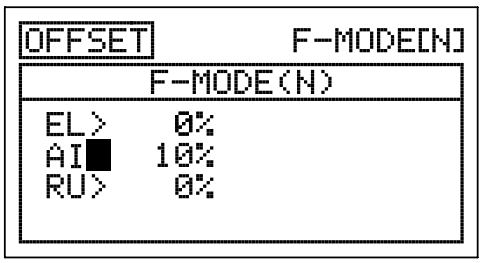
**Changing the Offset Percentage Values**

**IMPORTANT** The Offset function shifts the neutral position of the servo, along with the two End Points. For example, with the aileron Offset set to 10% in the Right direction, when the Offset function is Activated using the Flight Mode switch, the roll cyclic will move Right 10% further and Down 10% less. 100% percent control deflection is maintained, however, the neutral position of the servo (and the roll cyclic) is shifted 10% in the Right direction.

⚠ The neutral position of the servo will shift the same percentage that you set the Offset percentage value for when the Offset function is Activated, regardless of control stick position. For example, if you set 10% aileron Offset and the aileron control stick is at neutral, the aileron servo neutral position will shift 10% (Right or Left) when the Offset function is Activated. If you're holding a certain amount of roll cyclic, then Activate the Offset function, the roll cyclic will move 10% further (Right or Left) from the currently held position.

1) Press the Navigation Pad ▲▼ to highlight the desired channel you would like to change the Offset setting for.

2) Press the YES/+ or NO/- keys to set the desired Offset percentage value.




OFFSET setting range is -100% to 100%. The default setting is 0%.

**WARNING** Depending on the ratio between your servo Limits setting and your Offset setting, there could be limited usable control throw. For example, if your servo Limits are set to 100% and your Offset is set to 50%, this will result in only 50% usable control throw in one direction.

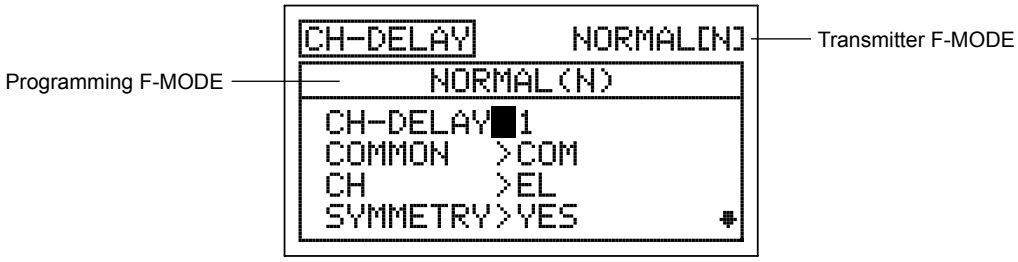
3) Repeat the previous procedures to set the desired remaining Offset percentage values.

## *11.CH DELAY (CHANNEL SERVO DELAY)*

The Channel Delay function allows you to adjust the speed of individual servos. This function has several uses. For example, not all servos operate at the same exact speed. You may find that even though the elevator, aileron, throttle, and pitch servos are the same, one servo may move faster than the others. You can use the Channel Delay function to slow down the faster servo to match the slower servos. In addition, you can use the Channel Delay function to slow down channels, such as the pitch channel. For example, you can slow down the pitch channel to help make your helicopter more docile in the pitch range. The Channel Delay function can also be used to slow down a servo that controls mechanical retractable landing gear in a scale helicopter to achieve a more scale transit time.

The Channel Delay function can be programmed to operate in a number of different combinations to suit just about any model setup or control function need. Up to five Channel Delay functions can be programmed separately for each of the five Flight Modes or you can use the same Channel Delay programming across all five Flight Modes.

⚠ The Channel Delay function does not affect when the servo starts to respond to control stick movement. The Channel Delay function affects only the transit time of the servo.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Each CH-DELAY function (CH-DELAY 1, 2, 3, 4, and 5) must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

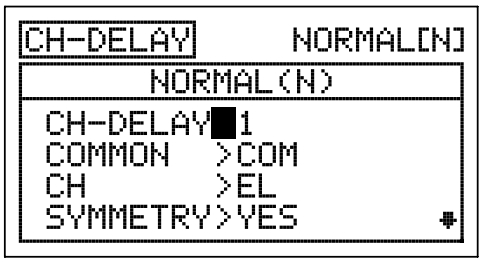
**Choosing the Channel Delay Number**

Up to five separate Channel Delay functions can be programmed for each Flight Mode, however, only one channel can be assigned to one Channel Delay function at a time. For example, if you want to program Channel Delay for the elevator and the aileron channels, you would need to program Elevator to CH-DELAY 1 and Aileron to CH-DELAY 2.

⚠ Although only one channel can be assigned to one Channel Delay function at a time, you can still Activate multiple Channel Delay Functions at the same time by assigning the Channel Delay functions to the same Switch Position Number. For example, assign both CH-DELAY 1 and CH-DELAY 2 to Switch Position 23. This is particularly useful if need to program Channel Delay percentage values for both the aileron and the elevator servos in the CCPM setup.

1) Press the Navigation Pad ▲▼ to highlight CH-DELAY, then press the ENTER key to display the CH-DELAY menu. The cursor will default to CH-DELAY>1.

2) Press the YES/+ and NO/- keys to choose the CH-DELAY number you would like to program Channel Delay for.



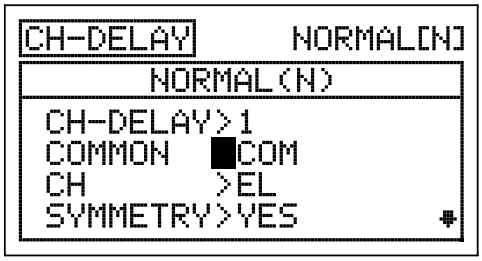

CH-DELAY setting range is 1, 2, 3, 4, or 5.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the CH-DELAY setting will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program CH-DELAY settings separately for each Flight Mode. When set to SEP (Separate), you can program different CH-DELAY settings separately for each Flight Mode.

1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP.

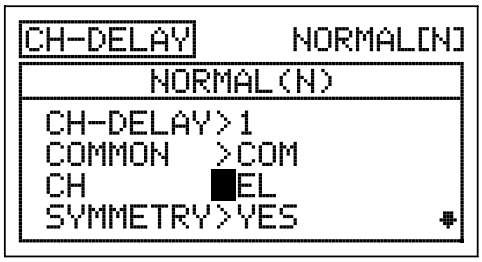
⚠ If set to COM, skip to the Choosing the Channel section. If set to SEP, see step 2 below.



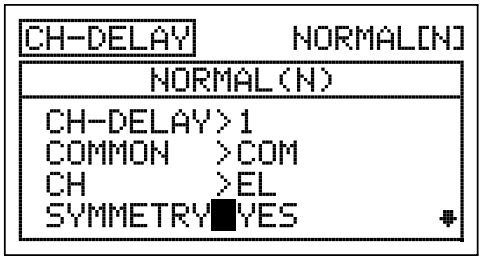

2) Press the F-MODE key to choose the F-MODE number you would like to program the Channel Delay function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Channel Delay function for.

**Choosing the Channel**

1) Press the Navigation Pad ▼ to highlight CH>EL, then press the YES/+ or NO/- keys to choose which Channel you want to program Channel Delay for.



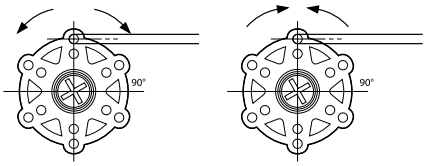

⚠ The channel options displayed will vary based on Model Type and Swashplate selection options currently selected. For example, if your model features two elevator servos, EL and EL2 will be separate options.



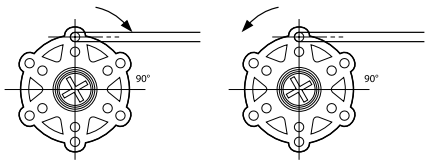

**Changing the Symmetry Value**

1) Press the Navigation Pad ▼ to highlight SYMMETRY>YES, then press the YES/+ or NO/- keys to change the Symmetry option.

The following Symmetry options are available:




**YES** - Selecting this option results in the Channel Delay function affecting the speed of the servo in both directions equally.

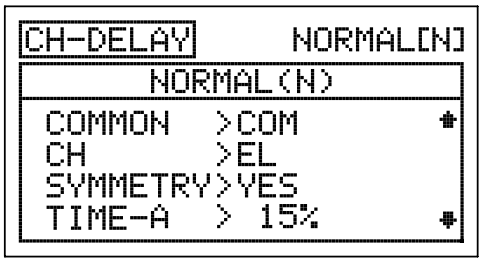



**NO** - Selecting this option results in the Channel Delay function affecting the speed of the servo in only one direction.

**Changing the Time-A Percentage Value**

The Time-A setting adjusts the Channel Delay when the servo moves from the neutral position to either End Point (Symmetry YES), and in a single direction (Symmetry NO), either clockwise or counter-clockwise, depending on the Servo Reversing setting in the Surface menu.

1) Press the Navigation Pad ▼ to highlight TIME-A>0%, then press the YES/+ or NO/- keys to change the Time-A percentage value.



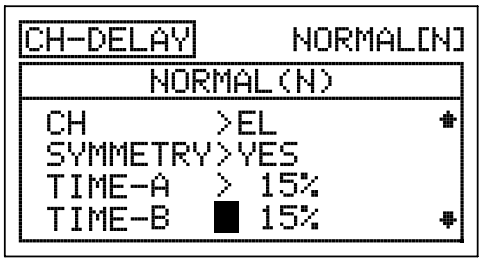

TIME-A setting range is 0% to 100%. The default setting is 0%. When the Time-A percentage value is increased, the servo transit time will be slowed down. At 0%, the servo moves at its normal speed. At 100%, the servo takes approximately 15 seconds to move from the neutral position to 100% or -100% travel.

**Changing the Time-B Percentage Value**

The Time-B setting adjusts the Channel Delay when the servo moves from either End Point to the neutral position (Symmetry YES), and in a single direction (Symmetry NO), either clockwise or counter-clockwise, depending on the Servo Reversing setting in the Surface menu.

⚠ If a Time-A percentage value is set with SYMMETRY>NO, the Time-B setting will affect the Channel Delay function in the direction opposite the Time-A Channel Delay setting, regardless of the Servo Reversing setting.

1) Press the Navigation Pad ▼ to highlight TIME-B>0%, then press the YES/+ or NO/- keys to change the Time-B percentage value.




⚠ If you want to ensure that a servo will move at the same speed in both directions, for example, to match the speed of a second servo, make sure the Symmetry is set to YES and the that both the Time-A and the Time-B percentage values are the same.

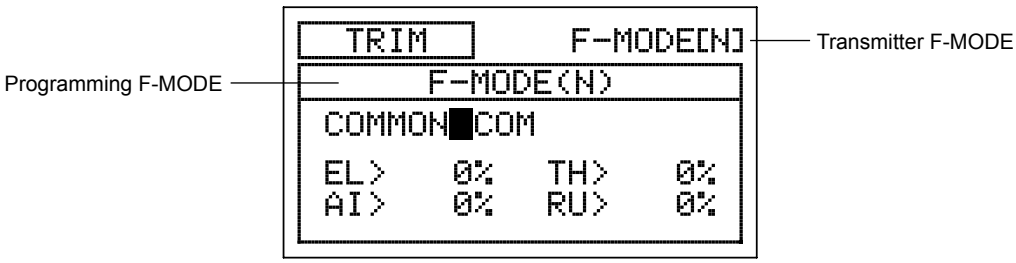
TIME-B setting range is 0% to 100%. The default setting is 0%. When the Time-B percentage value is increased, the servo transit time will be slowed down. At 0%, the servo moves at its normal speed. At 100%, the servo takes approximately 15 seconds to move from one 100% or -100% travel to the neutral position.

## 12.TRIM (CONTROL SURFACE TRIM)

The Trim function allows you to view the current Digital Trim Positions of the four flight control surfaces. In addition, you are able to fine-tune the Digital Trim Positions, using the YES/+ and No/- keys. For example, in the default configuration, when you move the elevator trim switch, the Trim percentage value changes in 6% increments. When you press the YES/+ and NO/- keys to change the elevator Trim percentage value, the Trim percentage value changes in 1% increments. You can also choose to program specific Trim percentage values separately for each of the five Flight Modes or you can use the same Trim percentage values across all five Flight Modes.

⚠ The SD-10G transmitter features Digital Trim Memory. Any amount of trim that you set during flight, using either the trim switches or the YES/+ and NO/- keys from within the Trim menu, is automatically stored in memory for that specific channel and model, and for that specific Flight Mode (if enabled). The Trim percentage values for each model will automatically be loaded when the transmitter is turned ON and your model is selected.

⚠ An audible tone is heard when the trim switches reach the center position. This allows you to know when the trim switches reach the center position without the need to look at the Trim Indicators on the Top menu.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

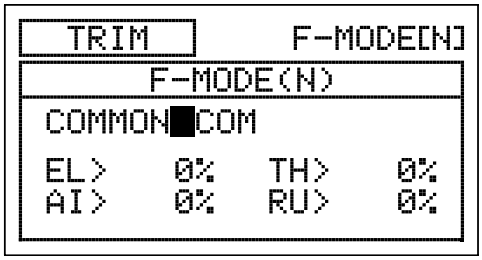
**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TRIM settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program or store TRIM settings separately for each Flight Mode. When set to SEP (Separate), you can program and store different TRIM settings separately for each Flight Mode.

**IMPORTANT** When the Flight Mode is set to Separate, Trim percentage values are stored in the specific Flight Mode you're using when you change the Trim percentage values, whether with the trim switches or with the YES/+ and NO/- keys within the Trim menu. For example, you could have 10% elevator trim in Flight Mode N (Normal) and 5% elevator trim in Flight Mode 1. **Be cautious of this when switching between Flight Modes during flight.**

1) Press the Navigation Pad ▲▼ to highlight TRIM, then press the ENTER key to display the TRIM menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Trim Percentage Values section. If set to SEP, see step 3 below.



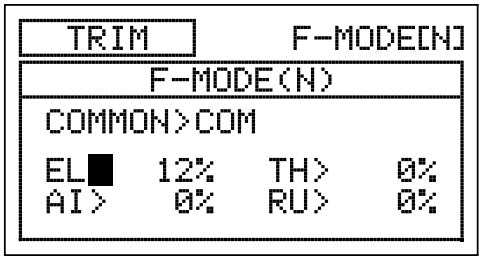

3) Press the F-MODE key to choose the F-MODE number you would like to program the Trim function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Trim function for.

**Changing the Trim Percentage Values**

The current Trim percentage values for each of the flight control surfaces is displayed. The Trim percentage values can be changed, if desired, using either the trim switches or the YES/+ and NO/- keys (from within the Trim menu only).

⚠ The Trim percentage values are displayed as a percentage of total trim. They are not displayed as a percentage of servo travel.

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the channel you would like to change the Trim percentage value for, then press the YES/+ or NO/- keys to change the Trim percentage value.



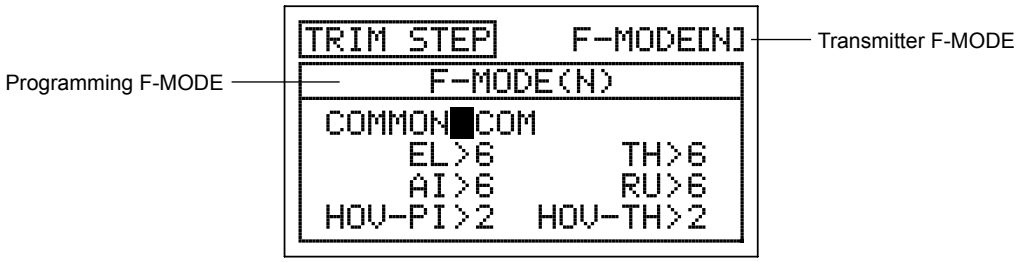

TRIM setting range is -150% to 150%. The default setting is 0%.

⚠ Press the YES/+ and NO/- keys at the same time to set the Trim percentage value to 0% for the selected channel.

## *13.TRIM STEP (CONTROL SURFACE TRIM STEP RESOLUTION)*

The Trim Step function allows you to adjust how far the servo travels when the trim switch is moved. This allows you to change the Trim function resolution to suit your preference. For example, in the default configuration, when you move the elevator trim switch, the Trim percentage value changes in 6% increments. You can increase the resolution by decreasing the Trim Step value, so that the servo travels less when you move the trim switch. This makes it possible to fine-tune the trim settings extremely accurately. In addition, you could decrease the resolution by increasing the Trim Step value, so that the servo travels more when you move the trim switch. This makes setting large amounts of trim faster, but the trim setting may not be as accurate.

You can choose to program Trim Step values separately for each of the five Flight Modes or you can use the same Trim Step programming values across all five Flight Modes.



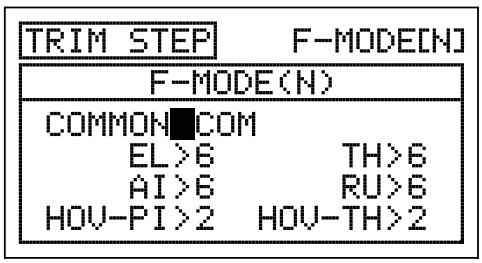

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

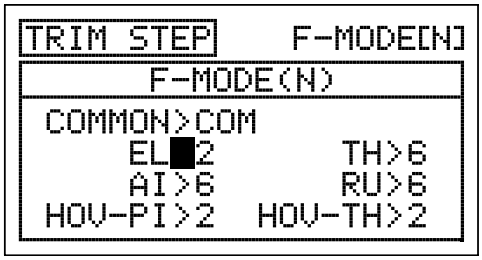
When set to COM (Common), the TRIM STEP settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program TRIM STEP settings separately for each Flight Mode. When set to SEP (Separate), you can program different TRIM STEP settings separately for each Flight Mode.

1) Press the Navigation Pad ▲ ▼ to highlight TRIM STEP, then press the ENTER key to display the TRIM STEP menu. The cursor will default to COMMON>COM.

2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Setting the Trim Step Values section. If set to SEP, see step 3 below.




3) Press the F-MODE key to choose the F-MODE number you would like to program the Trim Step function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Trim Step function for.



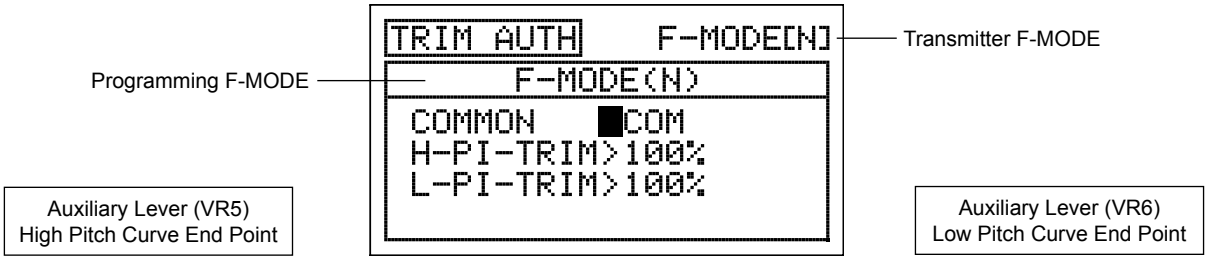

**Changing the Trim Step Values**

1) Press the Navigation Pad ◄ ► ▲ ▼ to highlight the channel you would like to change the Trim Step value for, then press the YES/+ or NO/- keys to change the Trim Step value.

TRIM STEP setting range is 1 to 30. The default setting for EL, AI, TH, and RU is 6. The default setting for HOV-PI and HOV-TH is 2. Increasing the Trim Step value causes the servo to travel more when the trim switch is moved (lower resolution). Decreasing the Trim Step value causes the servo to move less when the trim switch is moved (higher resolution).

## *14.TRIM AUTH [AUXILIARY LEVER (VR5 AND VR6) PITCH TRIM AUTHORITY]*

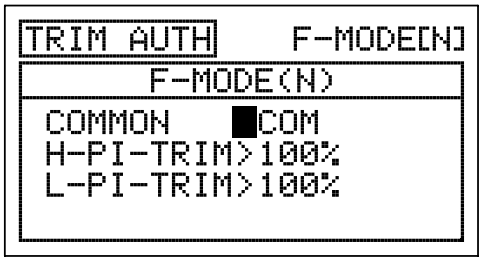
The Trim Authority function allows you to change the amount that Point 9 and Point 1 of the Pitch Curve move relative to how far Auxiliary Lever (VR5) and Auxiliary Lever (VR6) are moved. In the default configuration, Auxiliary Lever (VR5) and Auxiliary Lever (VR6) control the high (Point 9) and low (Point 1) points of the Pitch Curve, respectively. For example, you can manually adjust the high and low points of the Pitch Curve during flight to fine-tune the adjustments. The Trim Authority function allows you to change the amount of high and low Pitch Curve travel relative to how far Auxiliary Lever (VR5) and Auxiliary Lever (VR6) are moved. For example, if you set the Trim Authority High Pitch Trim percentage value to 50%, the High Pitch End Point (Point 9 on the Pitch Curve) will move half as much using Auxiliary Lever (VR5) as it would if the Trim Authority High Pitch Trim percentage value was set to 100%. For example, when set to 100%, Auxiliary Lever (VR5) will move Point 9 on the Pitch Curve 25% in either direction. If set to 50%, Auxiliary Lever (VR5) will move Point 9 on the Pitch Curve 12% in either direction. You can choose to program Trim Authority values separately for each of the five Flight Modes or you can use the same Trim Authority programming values across all five Flight Modes.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the TRIM AUTH settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program TRIM AUTH settings separately for each Flight Mode. When set to SEP (Separate), you can program different TRIM AUTH settings separately for each Flight Mode.




1) Press the Navigation Pad ▲ ▼ to highlight TRIM AUTH, then press the ENTER key to display the TRIM AUTH menu. The cursor will default to COMMON>COM.

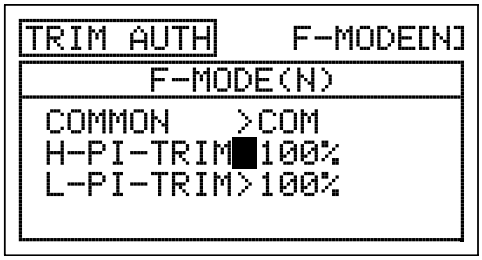
2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the High Pitch Trim Authority Percentage Values section on page 176. If set to SEP, see step 3 below.

3) Press the F-MODE key to choose the F-MODE number you would like to program the Trim Authority function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Trim Authority function for.

**Changing the High Pitch Trim Authority Percentage Value**

1) Press the Navigation Pad ▼ to highlight H-PI-TRIM>100%, then press the YES/+ or NO/- keys to change the High Pitch Trim Authority percentage value.

⚠ Auxiliary Lever (VR5) will control High Pitch Trim only when the throttle control stick is at 1% or higher control stick position.

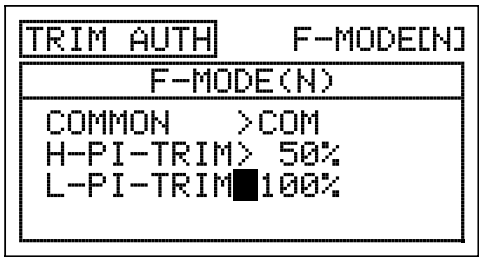



H-PI-TRIM setting range is 0% to 100%. The default setting is 100%. Decreasing the H-PI-TRIM percentage value decreases the overall High Pitch End Point travel when Auxiliary Lever (VR5) is used to control Point 9 of the Pitch Curve. When set to 100%, Auxiliary Lever (VR5) will move Point 9 of the Pitch Curve 25% in either direction from the center detent.

**Changing the Low Pitch Trim Authority Percentage Value**

1) Press the Navigation Pad ▼ to highlight L-PI-TRIM>100%, then press the YES/+ or NO/- keys to change the Low Pitch Trim Authority percentage value.

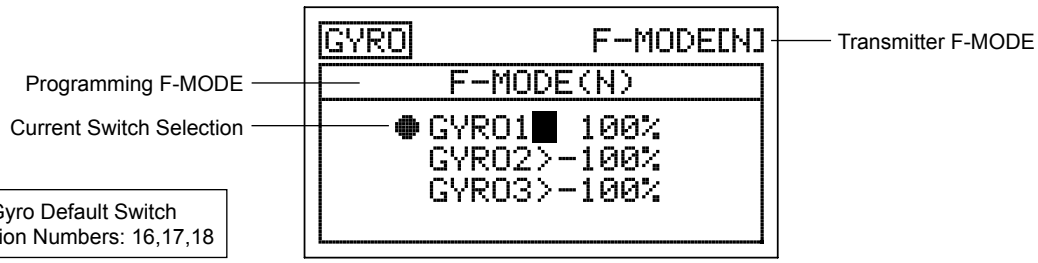
⚠ Auxiliary Lever (VR6) will control Low Pitch Trim only when the throttle control stick is at -1% or lower control stick position.




L-PI-TRIM setting range is 0% to 100%. The default setting is 100%. Decreasing the L-PI-TRIM percentage value decreases the overall Low Pitch End Point travel when Auxiliary Lever (VR6) is used to control Point 1 of the Pitch Curve. When set to 100%, Auxiliary Lever (VR6) will move Point 1 of the Pitch Curve 25% in either direction from the center detent.

## *15.GYRO (REMOTE GYRO GAIN CONTROL)*

The Gyro function allows you to control Heading Hold mode gain and Rate mode gain remotely. Three separate Gyro function settings can be programmed and each can be selected at any time using a three-position switch. For example, you might want 100% gain for aerobatic flight, but then switch to 75% gain for sport flying. In essence, when you assign a Gyro percentage value to each of the three Gyro function settings, you effectively have triple-rates for your gyro, just like you have triple rates for your elevator, aileron, and rudder control surfaces. Depending on the Gyro percentage value, you can adjust the gain in either Heading Hold mode or Rate mode. In addition, you can program a Heading Hold gain percentage value and a Rate gain percentage value separately, then switch between the two to aid in setting up your gyro. The Gyro function can be programmed separately for each of the five Flight Modes.




Gyro Default Switch Position Numbers: 16,17,18

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

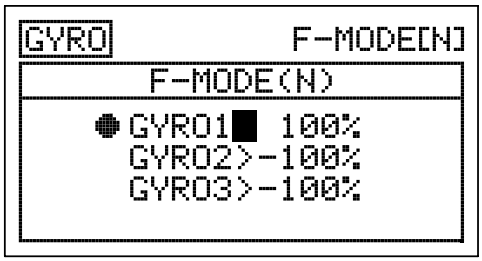
**IMPORTANT** In order to use this feature, your gyro must support Remote Gain. For more information, and before using this function, please refer to your gyro's Operating Guide to familiarize yourself with its setup and use.

⚠ The Current Switch Selection icon displays which Gyro function (gain percentage value) is currently Active for the current Flight Mode.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲▼ to highlight GYRO, then press the ENTER key to display the GYRO menu. The cursor will default to GYRO1>100%.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Gyro function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Gyro function for.



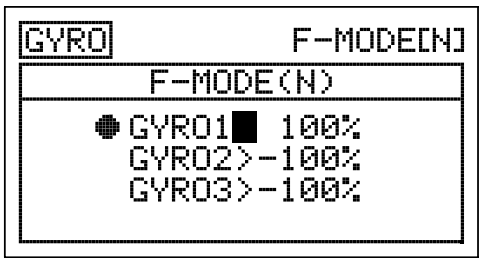

**Changing the Gyro Percentage Values**

The Gyro percentage values determine both the amount of gain and the gyro operating mode - either Heading Hold mode or Rate mode. In general, positive values will result in your gyro operating in Heading Hold mode and negative values will result in your gyro operating in Rate mode. The amount of gain is determined by the percentage value.

**IMPORTANT** Whether you use positive or negative Gyro percentage values to program your gyro in either Heading Hold mode or Rate mode will be determined by the NOR/REV settings of the gyro channel in the Surface menu. For example, if the gyro channel is set to NOR (Normal) in the Surface menu, positive Gyro percentage values may result in your gyro operating in Heading Hold mode, but if the gyro channel is set to REV (Reverse) in the Surface menu, positive Gyro percentage values may result in your gyro operating in Rate mode. You will need to test your gyro to ensure that it's operating in the desired mode based on the percentage values, then adjust the percentage values accordingly to achieve the desired amount of gain.

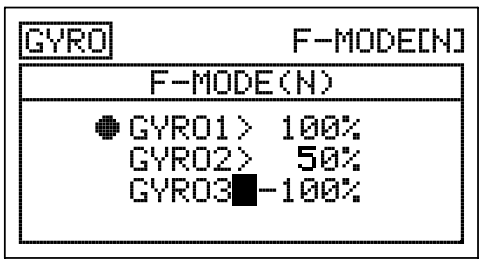
1) Press the Navigation Pad ▲▼ to highlight GYRO1>100%, then press the YES/+ or NO/- keys to change the Gyro 1 percentage value.

⚠ When the Gyro 1 percentage value is set to 0%, the gyro will be in 'pass-through' mode (e.g., OFF) for that selected Gyro function only.




2) Press the Navigation Pad ▼ to move the cursor to GYRO2>-100%, then press the YES/+ or NO/- keys to change the Gyro 2 percentage value.

3) Press the Navigation Pad ▼ to move the cursor to GYRO3>-100%, then press the YES/+ or NO/- keys to change the Gyro 3 percentage value.

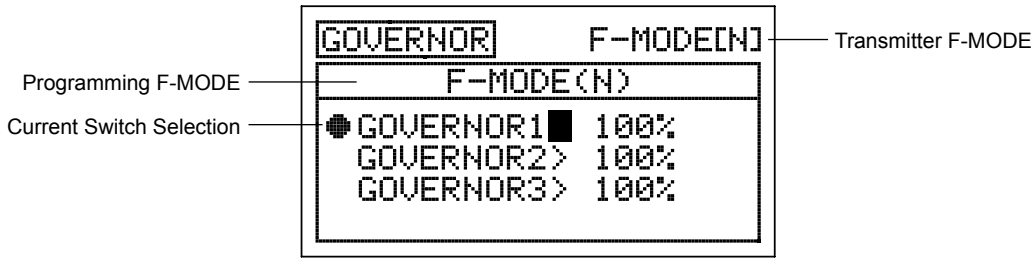



GYRO1, GYRO2, and GYRO3 setting range is -150% to 150%. The GYRO1 default setting is 100%. The GYRO2 and GYRO3 default settings are -100%. Decreasing the GYRO percentage values decreases gyro gain and increasing the GYRO percentage values increases gyro gain. See the **IMPORTANT** note above regarding the use of positive and negative Gyro percentage values and how they may change your gyro operating mode.

⚠ If you prefer to use the same Gyro function settings across all Flight Modes, instead of programming separate Gyro function settings for each Flight Mode, you can control up to two separate Gyro function settings via a three-position switch. To do this, plug your gyro into the AUX2 channel and adjust the AUX2 channel High and Low End Point Adjustments in the Surface menu to set the desired Gyro percentage values. Positive or negative values will determine your gyro operating mode - either Heading Hold mode or Rate mode, as described above. In the default configuration, Switch Position 1 is AUX2L and Switch Position 3 is AUX2H. For example, with the switch in Switch Position 1, you might have 100% End Point Adjustment for maximum gain in Heading Hold mode and with the switch in Switch Position 3, you might have 75% End Point Adjustment for decreased gain in Heading Hold mode. When the switch is in Switch Position 2 (centered), the gyro will be will be in 'pass-through' mode (e.g., OFF).

## 16.GOVERNOR (REMOTE GOVERNOR RPM CONTROL)

A Governor is an electronic device used on glow-powered helicopters, that, coupled with a high-speed servo, is used to control the helicopter's rotor head speed. The Governor function allows you to program Governor percentage values and therefore control rotor head speed via your helicopter's governor remotely. Three separate Governor function settings can be programmed and each can be selected at any time using a three-position switch. For example, you might want 100% RPM for maximum rotor head speed for aerobatic flight, but then switch to 75% RPM to slow down rotor head speed for sport flying. The Governor function can be programmed separately for each of the five Flight Modes.




Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Before using this function, please refer to your governor's Operating Guide to familiarize yourself with its setup and use.

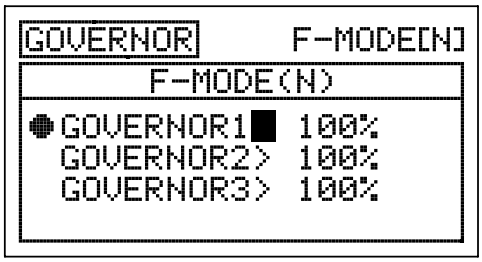
The Current Switch Selection icon displays which Governor is currently Active for the current Flight Mode.

**IMPORTANT** Each GOVERNOR function (GOVERNOR 1, 2, and 3) must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

**Choosing the Flight Mode**

1) Press the Navigation Pad ▲ ▼ to highlight GOVERNOR, then press the ENTER key to display the GOVERNOR menu. The cursor will default to GOVERNOR1>100%.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Governor function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the Governor function for.

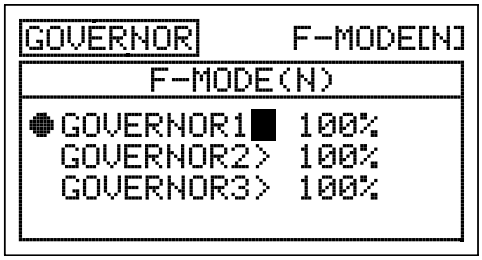



**Changing the Governor Percentage Values**

The Governor percentage values determines the RPM that your governor will regulate your helicopter's rotor head speed at.

**IMPORTANT** Whether you use positive or negative Governor percentage values will be determined by the NOR/REV settings of the governor channel in the Surface menu. For example, if the governor channel is set to NOR (Normal) in the Surface menu, positive Governor percentage values may result in increased rotor head speed, but if the governor channel is set to REV (Reverse) in the Surface menu, positive Governor percentage values may result in decreased rotor head speed. You will need to test your governor to ensure that it's operating as desired, then adjust the Governor percentage values accordingly to either increase or decrease rotor head speed. For more information, refer to your governor's Operating Guide.

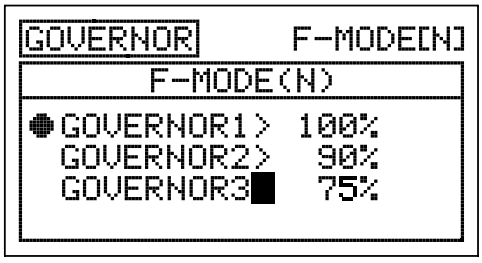
1) Press the Navigation Pad ▲▼ to highlight GOVERNOR1>100%, then press the YES/+ or NO/- keys to change the Governor 1 percentage value.




⚠ When the Governor 1 percentage value is set to 0%, the governor will be in 'pass-through' mode (e.g., OFF). This value can vary by manufacturer. Make sure to check your governor's Operating Guide for more information. For example, some governors may be OFF when the percentage value is set anywhere between -5% and 5%.

2) Press the Navigation Pad ▼ to move the cursor to GOVERNOR2>100%, then press the YES/+ or NO/- keys to change the Governor 2 percentage value.

3) Press the Navigation Pad ▼ to move the cursor to GOVERNOR3>100%, then press the YES/+ or NO/- keys to change the Governor 3 percentage value.



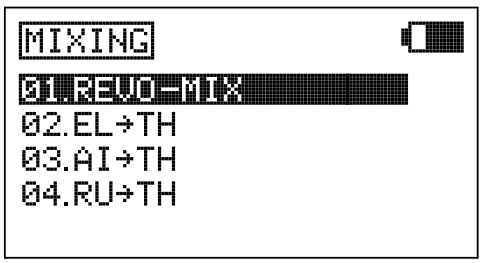

GOVERNOR1, GOVERNOR2, and GOVERNOR3 setting range is -150% to 150%. The default setting for each is 100%. Decreasing the GOVERNOR percentage values decreases rotor head speed and increasing the GOVERNOR percentage values increases rotor head speed. See the **IMPORTANT** note on the bottom of the previous page regarding the use of positive and negative Governor percentage values and how they affect the use of your governor.

⚠ If you prefer to use the same Governor function settings across all Flight Modes, instead of programming separate Governor function settings for each Flight Mode, you can control up to two separate Governor function settings via a three-position switch. To do this, plug your governor into the AUX3 channel and adjust the AUX3 channel High and Low End Point Adjustments in the Surface menu to set the desired Governor percentage values. In the default configuration, Switch Position 28 is AUX3L and Switch Position 30 is AUX3H. For example, with the switch in Switch Position 28, you might have 100% End Point Adjustment for maximum rotor head speed and with the switch in Switch Position 30, you might have 75% End Point Adjustment for decreased rotor head speed. When the switch is in Switch Position 29 (centered), the governor will be will be in 'pass-through' mode (e.g., OFF).

## *17.MIXING (REVOLUTION MIXING AND CHANNEL MIXING)*

The SD-10G transmitter features the most common pre-programmed mixes that can all be adjusted to suit just about any model setup or mixing need that you might have. If for some reason one of the pre-programmed mixes will not suffice, you can custom-program one or more of the available five Compensation Mixers. For more information, see page 185.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The REVO-MIX sub-menu will be highlighted by default.




The pre-programmed mixes shown in the tables below are available.

| MIX | DESCRIPTION |
|---|---|
| REVO-MIX | Revolution Mixing |
| EL ▸ TH | Elevator to Throttle Mixing |

| MIX | DESCRIPTION |
|---|---|
| AI ▸ TH | Aileron to Throttle Mixing |
| RU ▸ TH | Rudder to Throttle Mixing |

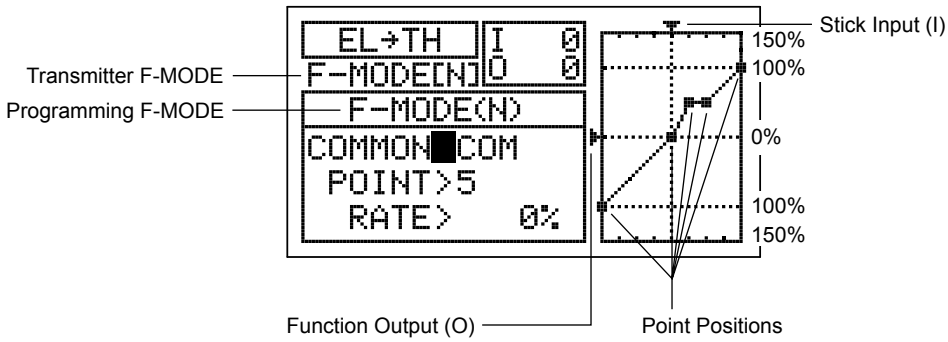
⚠ Aside from Revolution Mixing, all pre-programmed mixes are described in the following manner: Master ▸ Slave. For example, For the EL ▸ TH mix, the Elevator channel is the Master and the Throttle channel is the Slave. In all cases, the Master channel always controls the Slave channel.

**WARNING** When a pre-programmed mix is Activated, you still have separate control over the Slaved channel, however, depending on the mixing percentage value, the Slave channel End Point Adjustment could be exceeded. We strongly recommend that if you use the pre-programmed mixes that you set your Slave channel Limits no higher than that channel's End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage when the mix is used.

**General Overview**

Each of the four mixes can be programmed separately for each of the five Flight Modes or you can use the same Mixing programming across all five Flight Modes (except Revolution mixing). Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses.

**IMPORTANT** Each Mixing function (except Revolution mixing) must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43. Revolution Mixing will be Activated/Inhibited when switching Flight Modes.



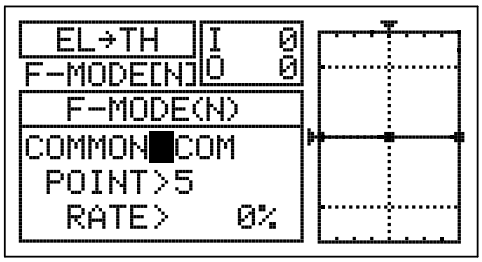

⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate (All Mixing Options Except Revo Mixing)**

When set to COM (Common), the mixing settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program mixing settings separately for each Flight Mode. When set to SEP (Separate), you can program different mixing settings separately for each Flight Mode.

1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Changing the Point and Rate Percentage Values sections. If set to SEP, see step 2 below.

2) Press the F-MODE key to choose the F-MODE number you would like to program the mixing function for. Choose from N, 1, 2, 3, or 4. The F-MODE (N) display will change, indicating which Flight Mode you are programming the mixing function for.




## Revo (Revolution) Mixing

The Revo Mixing function mixes rudder and collective pitch controls, which makes the helicopter more stable when collective pitch is increased. For example, when you increase collective pitch, as the rotor head speed and pitch increase, the torque that it creates can cause the tail of the helicopter to pivot. Adding Revolution mixing helps prevent this from occurring, which makes the helicopter more stable in the yaw axis. The amount and the direction that the rudder moves with collective pitch control is adjusted by changing the Rate percentage value either positive or negative. An Input and Output display, along with a graph, help with programming visualization.

**IMPORTANT** We **DO NOT** recommend using Revolution mixing with a Heading Hold mode or AVCS mode gyro. Revolution Mixing should only be used with a Rate mode gyro or in the event that no gyro is used.

**IMPORTANT** The Revo Mixing function is not assigned directly to a Switch Position Number. It is designed for use in a specific Flight Mode (or Flight Modes). For example, you may have programmed your gyro for Heading Hold mode in Flight Mode N (Normal) and Rate mode in Flight Mode 1. In this case, you might program Revolution mixing only in Flight Mode 1.

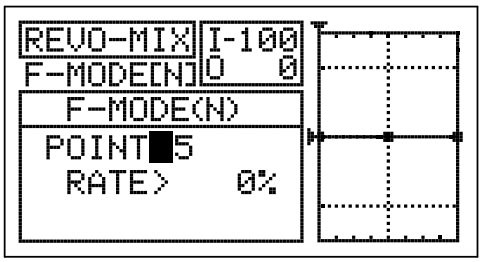
**Changing the Point and Rate Percentage Values**

Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses. The Point and Rate percentage values work together to determine the amount of rudder travel in relation to collective pitch travel. Nine different Points with varying Rates can be programmed onto the Curve. Use the Input and Output display, along with the graph, to help with programming visualization. The Point that is currently selected will blink.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The REVO-MIX sub-menu will be highlighted by default.

1) Press the ENTER key to highlight the REVO-MIX menu. The cursor will default to POINT>5.

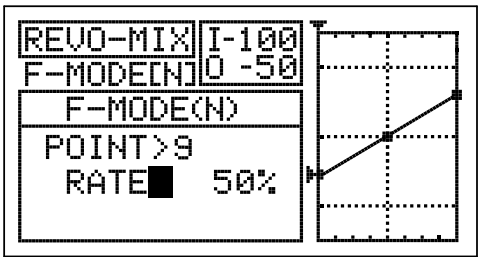
2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.




POINT setting range is 1 through 9. Point 1 is at the low end of the Curve and Point 9 is at the high end of the Curve. Point 5 is a the center of the Curve. The default Point is Point 5.

3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.




⚠ When you program the mix Curve so that the line is straight, this results in a Linear Curve. For example, if you set the Point 1 percentage value to -50% and the Point 9 percentage value to 50%, the rudder will move half the amount that the collective pitch moves in both directions at any given collective control stick position.

⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to 0%.

RATE setting range is -150% to 150%. POINT 1, 5, and 9 default Rate percentage values are 0%. The direction of rudder travel in relation to collective pitch travel can be changed by programming positive or negative Rate percentage values.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between collective control stick movement and rudder travel throughout the entire deflection range.

## Elevator to Throttle Mixing

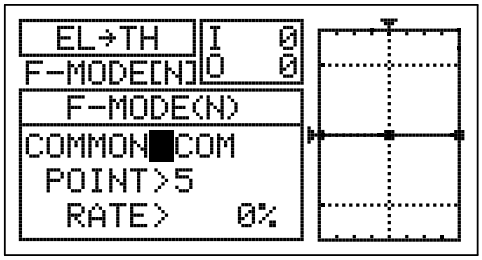
The Elevator to Throttle Mixing function allows you to mix a percentage of throttle control with elevator control. The Elevator to Throttle Mixing function is typically used during 3D flying to provide a momentary burst of throttle under hard cyclic load. The amount and the direction that the throttle travels when you move the elevator cyclic is adjusted by changing the Elevator ▸ Throttle Rate percentage value either positive or negative.

**IMPORTANT** The Elevator to Throttle Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The REVO-MIX sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight EL▸TH, then press the ENTER key to display the EL▸TH menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.

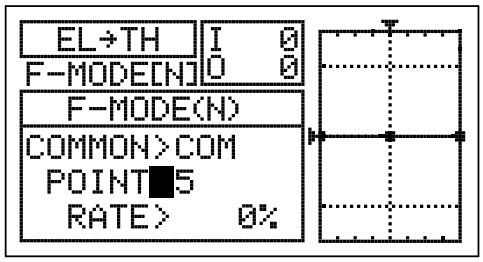



**Changing the Point and Rate Percentage Values**

Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses. The Point and Rate percentage values work together to determine the amount of throttle travel in relation to elevator cyclic travel. Nine different Points with varying Rates can be programmed onto the Curve. Use the Input and Output display, along with the graph, to help with programming visualization. The Point that is currently selected will blink.

1) Press the Navigation Pad ▼ to highlight POINT>5.

2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.

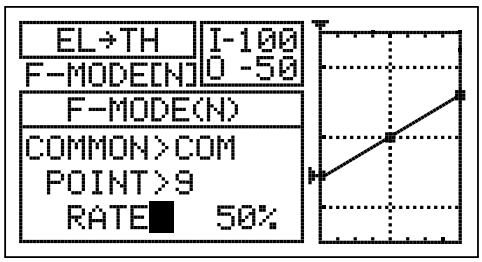



POINT setting range is 1 through 9. Point 1 is at the low end of the Curve and Point 9 is at the high end of the Curve. Point 5 is a the center of the Curve. The default Point is Point 5.

3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.

⚠ When you program the mix Curve so that the line is straight, this results in a Linear Curve. For example, if you set the Point 1 percentage value to -50% and the Point 9 percentage value to 50%, the throttle will increase or decrease half the amount that the elevator cyclic moves in both directions at any given elevator control stick position.




⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to 0%.

RATE setting range is -150% to 150%. POINT 1, 5, and 9 default Rate percentage values are 0%. The direction of throttle travel in relation to elevator cyclic travel can be changed by programming positive or negative Rate percentage values.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between elevator control stick movement and throttle travel throughout the entire deflection range.

## Aileron to Throttle Mixing

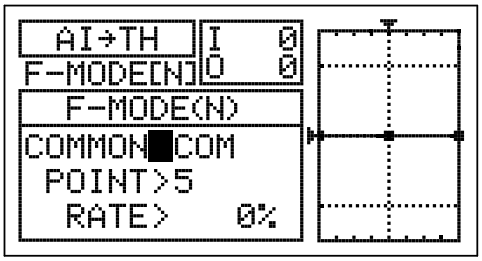
The Aileron to Throttle Mixing function allows you to mix a percentage of throttle control with aileron control. The Aileron to Throttle Mixing function is typically used during 3D flying to provide a momentary burst of throttle under hard cyclic load. The amount and the direction that the throttle travels when you move the aileron cyclic is adjusted by changing the Aileron ▸ Throttle Rate percentage value either positive or negative.

**IMPORTANT** The Aileron to Throttle Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The REVO-MIX sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight AI▶TH, then press the ENTER key to display the AI▶TH menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.

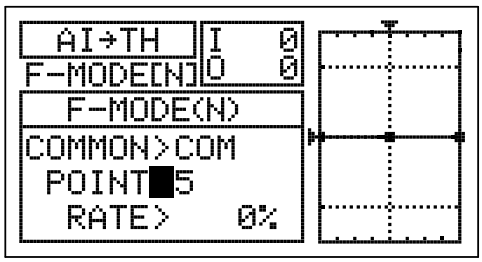



**Changing the Point and Rate Percentage Values**

Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses. The Point and Rate percentage values work together to determine the amount of throttle travel in relation to aileron cyclic travel. Nine different Points with varying Rates can be programmed onto the Curve. Use the Input and Output display, along with the graph, to help with programming visualization. The Point that is currently selected will blink.

1) Press the Navigation Pad ▼ to highlight POINT>5.

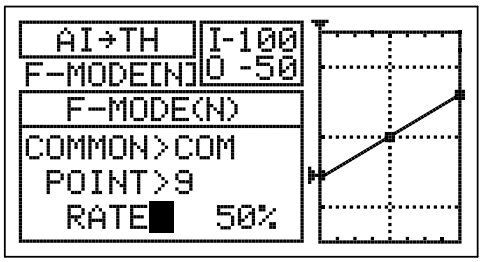
2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.




POINT setting range is 1 through 9. Point 1 is at the low end of the Curve and Point 9 is at the high end of the Curve. Point 5 is a the center of the Curve. The default Point is Point 5.

3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.




⚠ When you program the mix Curve so that the line is straight, this results in a Linear Curve. For example, if you set the Point 1 percentage value to -50% and the Point 9 percentage value to 50%, the throttle will increase or decrease half the amount that the aileron cyclic moves in both directions at any given aileron control stick position.

⚠ When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to 0%.

RATE setting range is -150% to 150%. POINT 1, 5, and 9 default Rate percentage values are 0%. The direction of throttle travel in relation to aileron cyclic travel can be changed by programming positive or negative Rate percentage values.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between aileron control stick movement and throttle travel throughout the entire deflection range.

## Rudder to Throttle Mixing

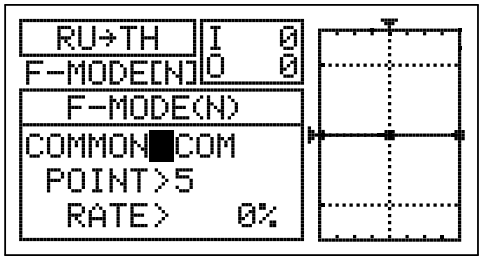
The Rudder to Throttle Mixing function allows you to mix a percentage of throttle control with rudder control. The Rudder to Throttle Mixing function is typically used to reduce the tendency of the helicopter to slightly rise and fall as you pirouette. For example, when you command a pirouette to the left, the helicopter will rise slightly and will require you to reduce throttle, and when you command a pirouette to the right, the helicopter will fall slightly and will require you to increase throttle. With the Rudder to Throttle Mixing function Active, the throttle will increase and decrease the desired amount when you apply left or right rudder. The amount and the direction that the throttle increases or decreases when you move the rudder control stick is adjusted by changing the Rudder ▸ Throttle Rate percentage value either positive or negative.

**IMPORTANT** The Rudder to Throttle Mixing function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

1) Press the Navigation Pad ▲ ▼ to highlight MIXING, then press the ENTER key to display the MIXING menu. The REVO-MIX sub-menu will be highlighted by default.

2) Press the Navigation Pad ▼ to highlight RU ▸ TH, then press the ENTER key to display the RU ▸ TH menu. The cursor will default to COMMON>COM.

3) Press the YES/+ or NO/- keys to choose the desired COM or SEP option as described previously.



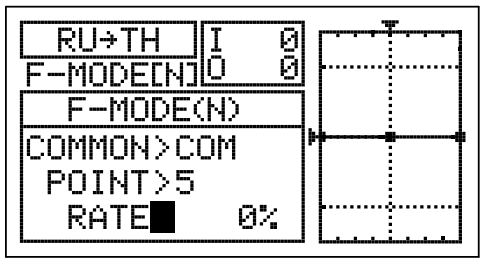

**Changing the Point and Rate Percentage Values**

Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses. The Point and Rate percentage values work together to determine the amount of throttle travel in relation to rudder travel. Nine different Points with varying Rates can be programmed onto the Curve. Use the Input and Output display, along with the graph, to help with programming visualization. The Point that is currently selected will blink.

1) Press the Navigation Pad ▼ to highlight POINT>5.

2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.

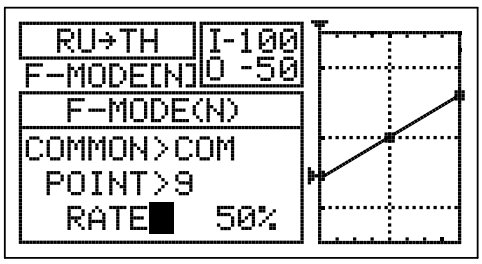
POINT setting range is 1 through 9. Point 1 is at the low end of the Curve and Point 9 is at the high end of the Curve. Point 5 is a the center of the Curve. The default Point is Point 5.




3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.

When you program the mix Curve so that the line is straight, this results in a Linear Curve. For example, if you set the Point 1 percentage value to -50% and the Point 9 percentage value to 50%, the throttle will move half the amount that the rudder moves in both directions at any given rudder control stick position.




When you change the Rate percentage value for Points 2, 3, 4, 6, 7, and 8, INH will be displayed. When you press the YES/+ or NO/- keys, INH will change to 0%.

RATE setting range is -150% to 150%. POINT 1, 5, and 9 default Rate percentage values are 0%. The direction of throttle travel in relation to rudder travel can be changed by programming positive or negative Rate percentage values.

As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between rudder control stick movement and throttle travel throughout the entire deflection range.

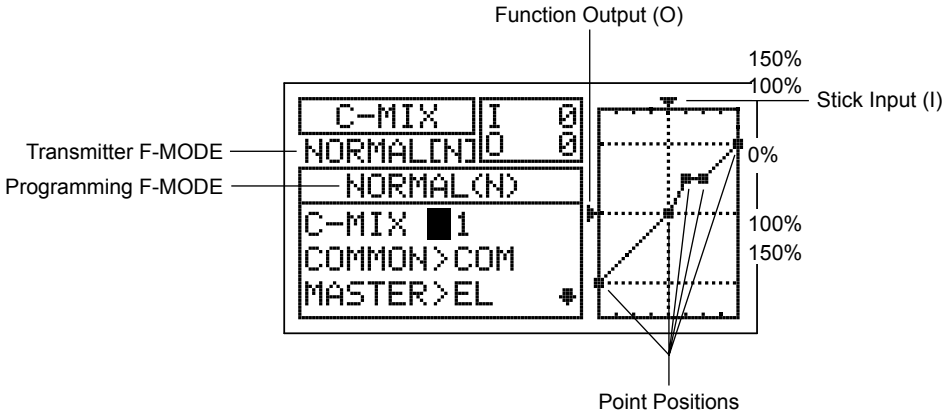
## 18.C-MIX (COMPENSATION MIXING)

The C-Mix function allows you to program custom mixes that can control any number of desired functions in different combinations. It is used to create your own custom mix if one of the pre-programmed mixes is not suitable.

Like with pre-programmed mixes, Compensation Mixes are composed of a Master channel and a Slave channel. The Master channel always controls the Slave channel. Any of the available ten channels can be programmed as a Master or a Slave. The same channel can even be programmed as both a Master and a Slave. The C-Mix function includes nine custom-programmable Points to ensure an extremely precise channel Curve to suit any situation. You can also program a Delay for the Slave function that works independently (or with) the dedicated Channel Delay function described on page 170.

Up to five C-Mix functions can be programmed separately for each of the five Flight Modes or you can use the same C-Mix programming across all five Flight Modes. An Input and Output display, along with a graph, help with programming visualization.

⚠ In all cases, the Master channel always controls the Slave channel. In the default configuration, all Compensation Mixes can be programmed to be Linear, or precise channel Curves can be created by programming up to nine Points along the Curve.




⚠ Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**IMPORTANT** Each C-Mix function must be assigned to a Switch Position Number before it can be Activated. For more information, see page 43.

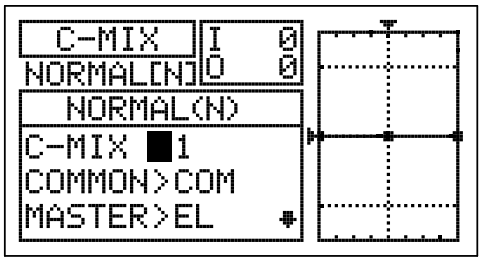
**Choosing the Compensation Mixing Number**

Up to five separate Compensation Mixing functions can be programmed for each Flight Mode, however, only one Master/Slave channel can be assigned to one Compensation Mixing function at a time.

⚠ More than one Compensation Mixer can be assigned to the same Switch Position Number, so that they can be Activated at the same time. For example, assign both C-Mix 1 and C-Mix 2 to Switch Position 5 to Activate both Compensation Mixers at the same time.

1) Press the Navigation Pad ▲▼ to highlight C-MIX, then press the ENTER key to display the C-MIX menu. The cursor will default to C-MIX>1.

2) Press the YES/+ and NO/- keys to choose the C-MIX number you would like to program Compensation Mixing for.



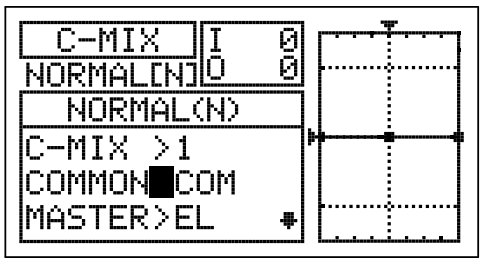

C-MIX setting range is 1, 2, 3, 4, or 5. The default setting is 1.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the C-MIX settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program C-MIX settings separately for each Flight Mode. When set to SEP (Separate), you can program different C-MIX settings separately for each Flight Mode.

1) Press the Navigation Pad ▼ to highlight COMMON>COM, then press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Choosing the Master Channel section. If set to SEP, see step 2 below.

2) Press the F-MODE key to choose the F-MODE number you would like to program the Compensation Mixing function for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the Compensation Mixing function for.




**Choosing the Master Channel**

The Master channel is the channel that controls the Slave channel. For example, if you set the Master channel to EL (Elevator), when you move the elevator control stick, the Slave channel that's mixed to the elevator channel will move. Depending on the Model Type and Swashplate selection options you've chosen in the Model Type menu, the following Master channels are available.

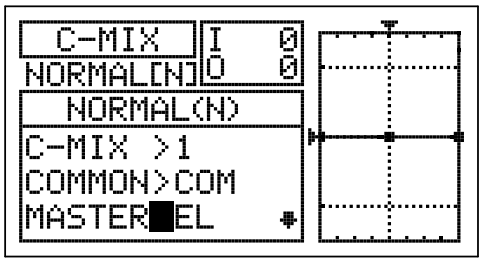
| ABBR. | FUNCTION |
|---|---|
| EL / EL+ | Elevator |
| AI/AI+ | Aileron |
| TH / TH+ | Throttle |
| RU / RU+ | Rudder |

| ABBR. | FUNCTION |
|---|---|
| GY / GY+ | Gyro |
| PI/PI+ | Pitch |
| GV/GV+ | Governor |

| ABBR. | FUNCTION |
|---|---|
| AUX3/AUX3+ | Auxiliary 3 |
| AUX2 / AUX2+ | Auxiliary 2 |
| AUX1 / AUX1+ | Auxiliary 1 |

⚠ Master channels denoted with a plus sign (+) indicate that Dual Rate, Exponential, Trim, and/or Channel Delay settings affect not only the Master channels but also the Slave channels when the Compensation Mixing function is Activated. For example, if MASTER>EL+ is selected, any programmed elevator Dual Rate or Exponential percentage values will affect both the Master elevator channel and the Slave channel when the elevator Dual Rate switch is Activated while the Compensation Mixing function is Active. If you select MASTER>EL, any programmed elevator Dual Rate or Exponential percentage values will only affect the Master elevator channel when the Compensation Mixing function is Active. Dual Rate and Exponential affect only the elevator, aileron, and rudder channels. The Channel Delay function referenced is not the same as the Delay function in the C-MIX menu.

1) Press the Navigation Pad ▼ to highlight MASTER>EL, then press the YES/+ or NO/- keys to choose which channel you want to program the Master channel for.




⚠ If you want Dual Rate, Exponential, Trim, and/or independent Channel Delay control over the Slave channel, make sure to choose a Master channel with a plus sign (+).

**Choosing the Slave Channel**

The Slave channel is the channel that is controlled by the Master channel. For example if you set the Master channel to EL (Elevator) and the Slave channel to AI (Aileron), when you move the elevator control stick, the aileron servo will move. Depending on the Model Type and Swashplate selection options you've chosen in the Model Type menu, the following Slave channels are available (shown at the top of the next page).

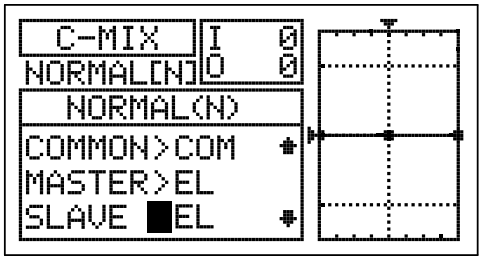
| ABBR. | FUNCTION |
|---|---|
| EL | Elevator |
| AI | Aileron |
| TH | Throttle |
| RU | Rudder (Tail Rotor) |

| ABBR. | FUNCTION |
|---|---|
| GY | Gyro |
| PI | Pitch |
| GV | Governor |
| EL2 | Elevator 2 |

| ABBR. | FUNCTION |
|---|---|
| AUX3 | Auxiliary 3 |
| AUX2 | Auxiliary 2 |
| AUX1 | Auxiliary 1 |

1) Press the Navigation Pad ▼ to highlight SLAVE>EL, then press the YES/+ or NO/- keys to choose which channel you want to program the Slave channel for.

⚠ The channel options displayed will vary based on Model Type and Swashplate selection options currently selected. For example, if your model features dual elevator servos, EL and EL2 will be separate options.



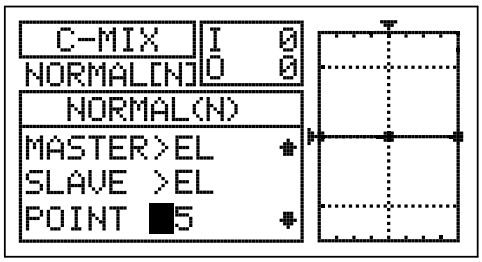

**Changing the Channel Curve Point Values and the Rate Percentage Values**

Nine different Points with varying Rates can be programmed onto the channel Curve. Each Point will be displayed on the graph to give you a visual interpretation of the position of the Point on the channel Curve. The Point that is currently selected will blink.

**WARNING** When a Compensation Mixer is Activated, you still have separate control over the Slaved channel, however, depending on the Rate percentage value, the Slave channel End Point Adjustment could be exceeded. We strongly recommend that you set your Slave channel Limits no higher than that channel's End Point Adjustment unless specifically necessary for your particular setup. This will prevent any chance of overdriving your control linkage when Compensation Mixing is used.

1) Press the Navigation Pad ▼ to highlight POINT>5.

2) Press the YES/+ or NO/- keys to choose which Point you would like to set a Rate percentage value for.

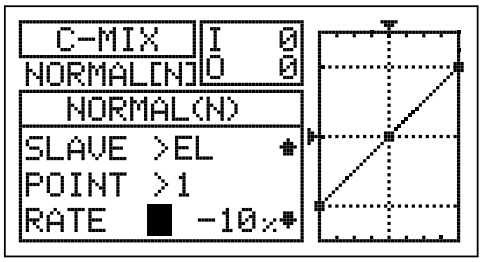



POINT setting range is 1 through 9. Point 1 is at the low end of the channel Curve and Point 9 is at the high end of the channel Curve. Point 5 is a the center of the channel Curve.

3) Press the Navigation Pad ▼ to highlight RATE>0%.

4) Press the YES/+ or NO/- keys to set the desired Rate percentage value.

RATE setting range is -150% to 150%. POINT 1 default RATE percentage value is 0%, POINT 5 default RATE percentage value is 0%, and POINT 9 default RATE percentage value is 0%. POINT 2, 3, 4, 6, 7, and 8 RATE values are INH (Inhibited).

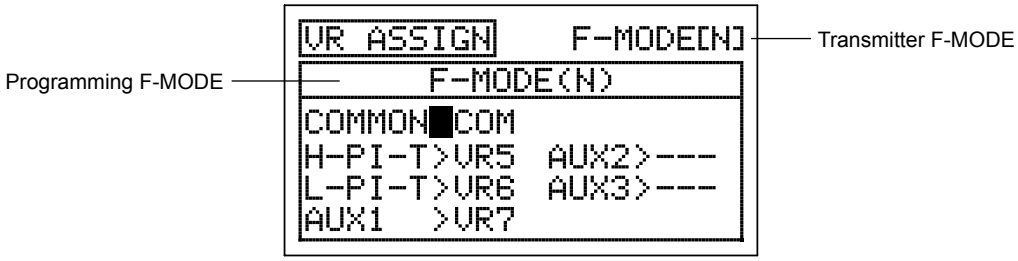



⚠ The Rate percentage value is a ratio of Slave channel servo travel to Master channel servo travel. For example, if the Rate percentage value is set to 10%, the Slave channel servo will travel 1/10th the amount that the Master channel servo travels.

⚠ As you change the Point and Rate percentage values, you can use the graph and I/O numbers to visualize the ratio between control stick movement and servo travel throughout the entire deflection range.

## 19.VR ASSIGN (VARIABLE RESISTANCE LEVER ASSIGN)

The VR Assign function allows you to reassign the High Pitch Trim and the Low Pitch Trim, and/or assign the auxiliary channels to either of the two Auxiliary Levers (VR5 or VR6) or the Auxiliary Dial Knob (VR7). For example, you could use the Auxiliary Dial Knob (VR7) to control your glow-powered helicopter's engine throttle mixture remotely. You can choose to program VR Assignments separately for each of the five Flight Modes or you can use the same VR Assignments programming across all five Flight Modes.



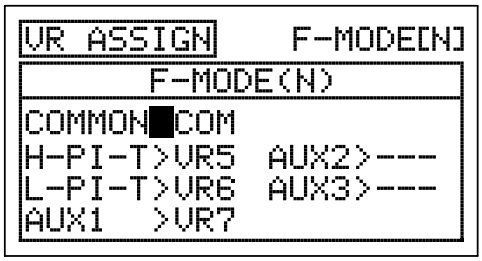

Transmitter F-MODE refers to the Flight Mode that the transmitter is currently operating in. Programming F-MODE refers to the Flight Mode that you would like to change the programming for.

**Choosing the Flight Mode - Common or Separate**

When set to COM (Common), the VR ASSIGN settings will be the same regardless of which Flight Mode the transmitter is operating in. You cannot program VR ASSIGN settings separately for each Flight Mode. When set to SEP (Separate), you can program different VR ASSIGN settings separately for each Flight Mode.

1) Press the Navigation Pad ▲▼ to highlight VR ASSIGN, then press the ENTER key to display the VR ASSIGN menu. The cursor will default to COMMON>COM.

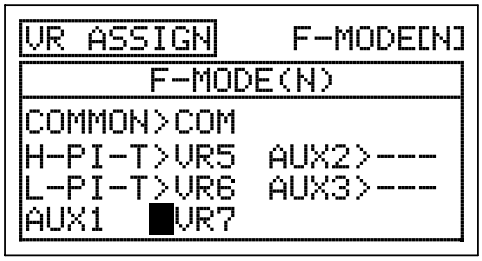
2) Press the YES/+ or NO/- keys to choose either COM or SEP. If set to COM, skip to the Choosing Channel VR Assignments section. If set to SEP, see step 3 below.




3) Press the F-MODE key to choose the F-MODE number you would like to program the VR Assignments for. Choose from N, 1, 2, 3, or 4. The NORMAL (N) display will change, indicating which Flight Mode you are programming the VR Assignments for.

**Choosing Channel VR Assignments**

1) Press the Navigation Pad ▲▼◀▶ to highlight the channel you would like to change the VR Assignment for, then press the YES/+ or NO/- keys to change the VR Assignment.




VR ASSIGN setting range is ---, VR5, VR6, and VR7. The default setting for H-PI-T is VR5. The default setting for L-PI-T is VR6, and the default setting for AUX1 is VR7. The default settings for MOTOR, AUX2 and AUX3 is ---.

To disable an Auxiliary Lever or the Auxiliary Dial Knob, assign --- to the desired channel. For example, if you don't want Auxiliary Lever (VR6) to control Low Pitch Trim, change L-PI-T>VR6 to L-PI-T>---.

**IMPORTANT** Both sides of each auxiliary channel (High and Low), can be assigned to a Switch Position Number, using the SW ASSIGN menu. If an auxiliary channel is assigned to both a switch and an Auxiliary Lever or the Auxiliary Dial Knob, the switch takes precedence over the Auxiliary Lever or the Auxiliary Dial Knob in all cases.

## 20.F-MODE COPY (FLIGHT MODE PROGRAMMING DATA COPY)

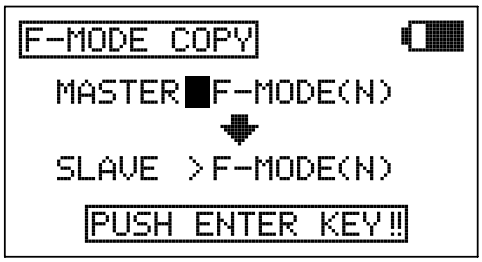
The Flight Mode Copy function allows you to copy the Flight Mode programming data from one Flight Mode to another Flight Mode. This is convenient if you want to use two or more different Flight Modes on one model, but only need to change a few Flight Mode programming values for the new Flight Mode. This allows you to use the Flight Mode programming data from the first Flight Mode to use as a base to start fine-tuning the programming for the second Flight Mode.

⚠ You can only copy Flight Mode programming data from one Flight Mode to another Flight Mode within the same model. To copy Flight Mode programming data from one model's Flight Mode to another model's Flight Mode, you must copy the actual model programming data to the other model. For more information, see page 50.

**Copying Flight Mode Data**

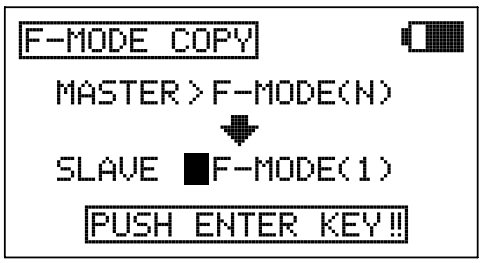
1) Press the Navigation Pad ▲▼ to highlight F-MODE COPY, then press the ENTER key to display the F-MODE COPY menu. The cursor will default to MASTER>F-MODE(N).

2) Press the F-MODE key to select the Flight Mode you would like to copy the Flight Mode programming data FROM (MASTER). Select from F-MODE (N, 1, 2, 3, or 4).




3) Press the Navigation Pad ▼ to highlight SLAVE>F-MODE(N).

4) Press the F-MODE key to select the Flight Mode you would like to copy the Flight Mode programming data TO (SLAVE). Select from F-MODE (N, 1, 2, 3, 4, or ALL).

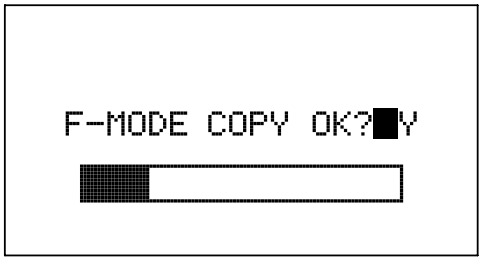



⚠ Selecting ALL will copy the MASTER Flight Mode programming data to the remaining four Flight Modes.

⚠ It's not possible to copy the Flight Mode programming data from one Flight Mode to the same Flight Mode. If you attempt to execute this, SAME F-MODE?? will be displayed and the process will not execute.

5) Press then ENTER key. F-MODE COPY OK?>Y will be displayed.

6) Press the YES/+ key to begin the F-MODE Copy process. When the F-MODE Copy process is completed the F-MODE COPY menu will be displayed, indicating that the Flight Mode programming data has been copied.




⚠ If you want to go back and change the Flight Mode or you don't want to copy the Flight Mode programming data for any reason, press the NO/- or END keys.

## 21.F-MODE DELAY (FLIGHT MODE DELAY)

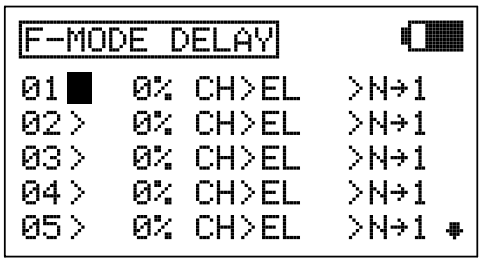
The Flight Mode Delay function allows you to program custom delays for each of the channel functions within each of the separate Flight Modes. This function helps to prevent drastic changes in channel settings when switching between Flight Modes. For example, if you are flying an aerobatic helicopter, you might have one Flight Mode set up for aerobatic flying and a second Flight Mode set up for general sport flying. Within each of those two Flight Modes you might have programmed different Throttle Curves. The Flight Mode Delay function allows you to program a Delay in the Throttle channel so that the transition to the different Throttle Curves when you switch back and forth between Flight Modes is smooth.

If you program Flight Mode Delays for all five Flight Modes separately, you can program up to 10 different Delays for each Flight Mode. If you are using fewer Flight Modes, you can program more than 10 different Delays for each of the Flight Modes that you're using. You are able to program 50 different Delays in total. The Flight Mode Delay function can be programmed for each of the channels you're using, and separate Flight Mode Delays can be programmed in both directions. For example, when switching from Flight Mode N (Normal) to Flight Mode 1 and back from Flight Mode 1 to Flight Mode N (Normal).

**Choosing a Flight Mode Delay**

1) Press the Navigation Pad ▲▼ to highlight F-MODE DELAY, then press the ENTER key to display the F-MODE DELAY menu. The cursor will default to 01>0% CH>EL >N▶1.

2) Press the Navigation Pad ▲▼ to highlight the Flight Mode Delay you would like to program. If this is the first Flight Mode Delay that you're programming, choose 01>0%

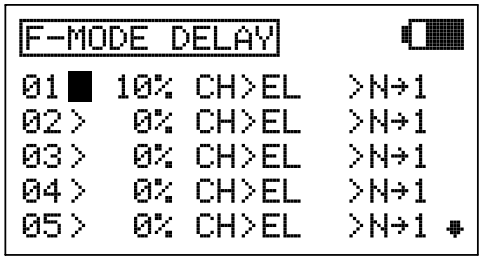



⚠ Flight Mode Delays do not have to programmed in sequence (e.g., 01, 02, 03), but programming them in sequence does make it easier to keep track of them.

**Changing the Flight Mode Delay Rate Percentage Value**

The Rate percentage value changes the speed of the servos as they move to their new positions when you switch between Flight Modes. For example, if you're flying at half throttle in Flight Mode N (Normal) and your throttle servo is at 50% travel, but in Flight Mode 1 at half throttle your throttle servo is programmed to be at 70% travel, increasing the Rate percentage value will slow the speed at which the servo will move to 70% travel when you Activate Flight Mode 1. This allows the throttle to smoothly rise to the new travel position instead of instantly jumping to the new travel position.

1) Press the YES/+ and NO/- keys to change the Rate percentage value for the selected Flight Mode Delay.



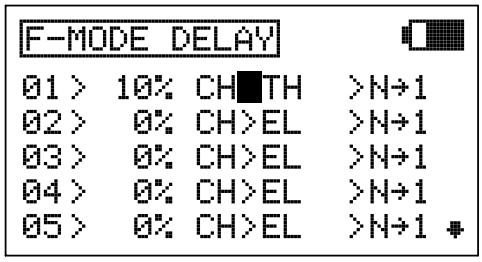

⚠ The Rate percentage value is displayed as a percentage of Delay time and is based on the amount of change in servo travel when switching between different Flight Modes. When the Rate percentage value is set to 100%, the servo will take approximately 15 seconds to travel from neutral to 100% or -100%.

RATE setting range is 0% to 100%. The default setting is 0%. When the Rate percentage value is set to 0%, there is no Delay when switching between Flight Modes. When the Rate percentage value is increased, the Delay when switching between Flight Modes is increased.

**Choosing the Flight Mode Delay Channel**

1) Press the Navigation Pad ▶ to highlight CH>EL.

2) Press the YES/+ and NO/- keys to choose which channel you would like the Flight Mode Delay to affect.




⚠ The channels options displayed will vary based on Model Type and Swashplate selection options currently selected. For example, if your model features two elevator servos, EL or EL2 will be display as an option.

**IMPORTANT** Channels that use two servos, such as Swashplate Types that use two elevator servos will be displayed separately (e.g., EL and EL2). In this situation, the Flight Mode Delay function will affect not the whole channel, but the individual servo. In most cases, you will want to program a second matching Flight Mode Delay for the second servo, so that both servos are affected equally.

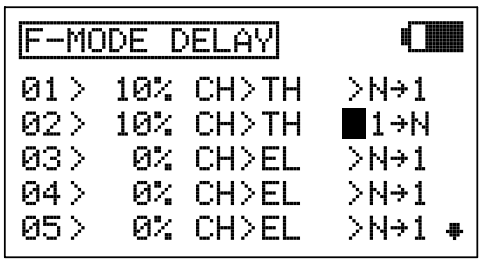
**Changing the Flight Mode Delay Sequence**

The Flight Mode Delay sequence defines the direction you want the Flight Mode Delay going **TO** and **FROM**, as shown in the tables below. For example, if you choose N ▸ 1, the Flight Mode Delay function will Activate when you switch from Flight Mode N (Normal) **to** Flight Mode 1. If you choose N ▸ 4, the Flight Mode Delay function will Activate when you switch from Flight Mode N (Normal) **to** Flight Mode 4. If you choose 4 ▸ N, the Flight Mode Delay function will Activate when you switch **from** Flight Mode 4 to Flight Mode N (Normal).

⚠ Delay sequences that include an Asterisk indicate that the Flight Mode Delay function will be Activated across all Flight Modes. For example, if you choose N ▸ ✱, the Flight Mode Delay function will Activate on all Flight Modes regardless of the Flight Mode you switch to.

| SEQUENCE | DESCRIPTION |
|---|---|
| N ▸ 1 | Flight Mode N **TO** Flight Mode 1 |
| N ▸ 2 | Flight Mode N **TO** Flight Mode 2 |
| N ▸ 3 | Flight Mode N **TO** Flight Mode 3 |
| N ▸ 4 | Flight Mode N **TO** Flight Mode 4 |
| N ▸ ✱ | Flight Mode N **TO** All Flight Modes |
| 1 ▸ N | **FROM** Flight Mode 1 to Flight Mode N |
| 1 ▸ 2 | Flight Mode 1 **TO** Flight Mode 2 |
| 1 ▸ 3 | Flight Mode 1 **TO** Flight Mode 3 |
| 1 ▸ 4 | Flight Mode 1 **TO** Flight Mode 4 |
| 1 ▸ ✱ | Flight Mode 1 **TO** All Flight Modes |
| 2 ▸ N | **FROM** Flight Mode 2 to Flight Mode N |
| 2 ▸ 1 | **FROM** Flight Mode 2 to Flight Mode 1 |
| 2 ▸ 3 | Flight Mode 2 **TO** Flight Mode 3 |
| 2 ▸ 4 | Flight Mode 2 **TO** Flight Mode 4 |
| 2 ▸ ✱ | Flight Mode 2 **TO** All Flight Modes |
| 3 ▸ N | **FROM** Flight Mode 3 to Flight Mode N |

| SEQUENCE | DESCRIPTION |
|---|---|
| 3 ▸ 1 | **FROM** Flight Mode 3 to Flight Mode 1 |
| 3 ▸ 2 | **FROM** Flight Mode 3 to Flight Mode 2 |
| 3 ▸ 4 | Flight Mode 3 **TO** Flight Mode 4 |
| 3 ▸ ✱ | Flight Mode 3 **TO** All Flight Modes |
| 4 ▸ N | **FROM** Flight Mode 4 to Flight Mode N |
| 4 ▸ 1 | **FROM** Flight Mode 4 to Flight Mode 1 |
| 4 ▸ 2 | **FROM** Flight Mode 4 to Flight Mode 2 |
| 4 ▸ 3 | **FROM** Flight Mode 4 to Flight Mode 3 |
| 4 ▸ ✱ | Flight Mode 4 **TO** All Flight Modes |
| ✱ ▸ N | **FROM** All Flight Modes to Flight Mode N |
| ✱ ▸ 1 | **FROM** All Flight Modes to Flight Mode 1 |
| ✱ ▸ 2 | **FROM** All Flight Modes to Flight Mode 2 |
| ✱ ▸ 3 | **FROM** All Flight Modes to Flight Mode 3 |
| ✱ ▸ 4 | **FROM** All Flight Modes to Flight Mode 4 |
| ✱ ▸ ✱ | **FROM** All Flight Modes **TO** All Flight Modes |




1) Press the Navigation Pad ▸ to highlight N ▸ 1.

2) Press the YES/+ and NO/- keys to choose which Flight Mode Delay sequence you would like to use.

⚠ Use the tables of Delay sequences above to help you choose which Flight Mode Delay sequence you would like to use.

3) Repeat the previous procedures to program more Flight Mode Delay functions. For example, if you want to set a Flight Mode Delay for the throttle channel when you switch from Flight Mode N (Normal) to Flight Mode 1, and from when you switch back from Flight Mode 1 to Flight Mode N (Normal), program the following:

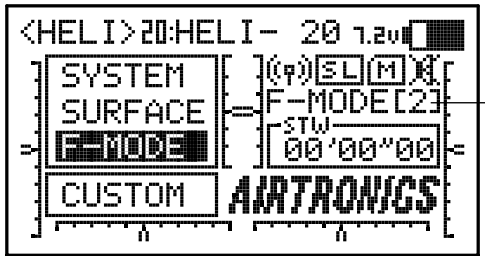
   01>10% CH>TH >N ▸ 1

   02>10% CH>TH >1 ▸ N

   This programming will result in a 10% delay in the throttle channel when you switch from Flight Mode N (Normal) to Flight Mode 1 and when you switch back from Flight Mode 1 to Flight Mode N (Normal). This will not Activate the Flight Mode Delay when you switch to any other Flight Mode. For example, when you switch from Flight Mode N (Normal) to Flight Mode 2.

## 22.F-MODE NAME (FLIGHT MODE NAMING)

The F-Mode Name function allows you to name each of your individual F-Modes. This makes it easier to keep track of which F-Mode is currently in use. The currently Active Flight Mode name is displayed, along with the corresponding Flight Mode number on the Top menu and on the various F-MODE programming menus. The F-Mode Name can consist of up to 6 letters, numbers, or symbols. Choose from capital letters, lower case letters, numbers, and various symbols.



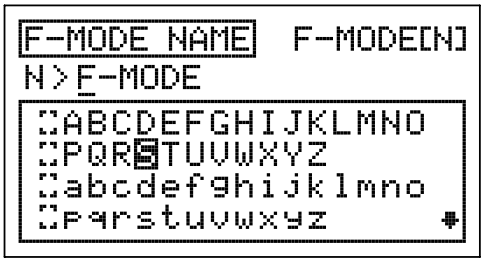

**Entering a Flight Mode Name**

1) Press the Navigation Pad ▲ ▼ to highlight F-MODE NAME, then press the ENTER key to display the F-MODE NAME menu. The cursor will default to the left side of the top row of letters.

⚠ Press the F-MODE key to cycle through the five different F-Modes. The F-Mode that you are currently naming is shown to the left of the Flight Mode Name. For example, N>F-MODE.

2) Press the Navigation Pad ◀ ▶ ▲ ▼ to highlight a character, then press the ENTER key to select the highlighted character. That character will be displayed and the underline will move to the next space.

3) Repeat step 2 to enter the rest of the characters. Up to six characters can be entered.




⚠ Press the Navigation Pad ▲ ▼ repeatedly to scroll up and down the list of characters.

**Deleting a Character**

1) Press the YES/+ or NO/- keys to move the underline under the character you want to erase.

2) Press the Navigation Pad ◀ ▶ ▲ ▼ to highlight the Erase Bracket ⁚, then press the ENTER key to erase the underlined character.

**Deleting a Flight Mode Name**

1) Press the YES/+ and NO/- keys at the same time to move the underline under the first character.

2) Press the Navigation Pad ◀ ▶ ▲ ▼ to highlight the Erase Bracket ⁚, then press the ENTER key repeatedly to erase the entire Flight Mode Name.

THIS SPACE INTENTIONALLY LEFT BLANK

# TROUBLESHOOTING GUIDE

This troubleshooting guide has been provided to help you diagnose and solve most problems that you may encounter with your SD-10G 2.4GHz FHSS-3 radio control system. Most problems encountered can be solved by following the problem-cause-solution sections. If you cannot solve the problem using this troubleshooting guide, please contact us directly using the Customer Service information below:


Global Services
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| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| Transmitter does not turn ON | Battery not fully charged | Fully charge battery |
| | Battery not plugged in | Plug in battery. Observe correct polarity |
| | Damage caused by using incorrect charger or reverse polarity | Contact Airtronics Customer Service |
| Transmitter will not bind to receiver | Modulation incorrect | Ensure FH3/FH1 modulation selection matches the type of receiver you're using |
| | Too much time elapsed after pressing Bind Button | Quickly press the YES/+ key after releasing the Bind Button |
| | Attempting to bind incompatible receiver | Transmitter is compatible only with Airtronics brand 2.4GHz FHSS-3 and FHSS-1 receivers |
| F-MODE NOT 'N'!! message displayed | Transmitter not in Flight Mode N when turned ON | Adjust Flight Mode switches to turn ON Flight Mode 1 as displayed on the Top menu |
| Alarm beeps continuously | Low battery voltage | Fully charge battery |
| TH-STICK Hi!! message displayed along with continuous beeping | Throttle control stick not in its lowest position when transmitter is turned ON | Pull throttle control stick all the way back to its lowest position |
| POWER SWITCH ON!! message displayed along with continuous beeping | Transmitter left ON more than 15 minutes without control stick movement | Turn transmitter OFF or press any programming key to continue use. |
| TRAINER MODE MASTER!! message displayed along with continuous beeping | Transmitter in Trainer>Master mode when turned ON | Press any key to use transmitter in Trainer>Master mode or Inhibit the Trainer function to use transmitter normally |
| TRAINER MODE SLAVE!! message displayed along with continuous beeping | Transmitter in Trainer>Slave mode when turned ON | Press any key to use transmitter in Trainer>Slave mode or Inhibit the Trainer function to use transmitter normally |
| Transmitter operating time seems low | Transmitter battery is new | Transmitter battery must be cycled 3-5 times before it will achieve maximum capacity |
| Servo movement is slow | Receiver battery low | Fully charge receiver battery |
| | Channel Delay function Active | Inhibit Channel Delay function |
| Control sticks don't display 100% movement in Stick Monitor menu | Control sticks require calibration | Calibrate control sticks using Stick Monitor Calibration function |
| LCD display difficult to read | LCD display contrast set too low | Increase LCD display contrast |
| | Reading LCD display in direct sunlight | Increase LCD display contrast or orient transmitter out of direct sunlight |
| Desired function cannot be controlled | Function(s) not assigned to a switch position number (or numbers) | Assign the desired function(s) to a switch position number (or numbers) |
| Throttle servo cycles up and down | Receiver battery voltage has reached the programmed Battery Fail Safe voltage level | Fully charge receiver battery. If flying, land immediately |

# TROUBLESHOOTING GUIDE

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| Inadequate transmitting range | Battery not fully charged | Fully charge battery |
| | Antenna retracted | Extend antenna and hold the transmitter so that the antenna is 90º to the ground |
| | Receiver antennas not mounted correctly in your model | Mount receiver antennas as described |
| | Transmitter in Low Power mode | Inhibit Low Power mode to operate in Normal mode |
| | Transmitter operating in Trainer>Slave mode | Inhibit the Trainer function to use transmitter normally |
| Servo will not move to the end of its range | Servo Limit Adjustment Value set too low | Adjust servo Limit Adjustment Value in the surface menu |
| Safety Link system not functioning | Safety Link number does not match Model Memory number | Change Safety Link number to match Model Memory number of current model |
| | Using FHSS-1 receiver | Use FHSS-3 receiver. Safety Link is compatible only with FHSS-3 receivers. |
| Cannot copy programming data | Attempting to copy programming data to the same model memory number | Copy programming data to a different model memory number |
| Cannot copy Flight Mode programming data | Attempting to copy Flight Mode programming data to the same Flight Mode number | Copy Flight Mode programming data to a different Flight Mode number |
| Custom menu display empty | No shortcuts added to Custom menu | Add shortcuts to your favorite menus by highlighting the desired menu, then pressing the YES/+ key |
| PACK NOT READY!! message displayed when Initializing Memory Expansion Card | Memory Expansion Card not installed | Install Memory Expansion Card and make sure it's fully seated into position |
| Cannot change Surface menu Adjustment Values | Adjustment Options Lock is engaged | Inhibit Adjustment Options Lock |
| Control linkages bind when using the available pre-programmed mixes or a C-Mix | Mixes can cause servos to move beyond the programmed EPA Adjustment Values | Use the Limits function in the Surface menu to set the maximum allowable travel of your servo |
| Servo moves too much, or doesn't move enough, when trim switch is moved | Trim Step resolution requires adjustment to suit your preference | Adjust Trim Step resolution to suit your preference |
| Drastic control changes when switching between Flight Modes | Flight Mode Delay function not utilized | Program Flight Mode Delays to smooth the transition of servo movement when switching between Flight Modes |
| One or more mixes do not function | Mixes not assigned to switch | Assign mixes to a switch (or switches). |
| Control surface trim changes when switching between Flight Modes | Trim set to SEP in Trim Flight Mode menu | Set Trim to COM in Trim Flight Mode menu |
| Transmitter/receiver range check fails | Low transmitter and/or receiver batteries | Fully charge transmitter and receiver batteries |
| | Receiver antennas not mounted correctly in your model | Mount receiver antennas as described |
| | Aircraft sitting in tall grass (usually sailplanes only) | Lift model out of grass for range check |
| Camber trim changes when you change camber percentage value | Camber Point is incorrect | With the Camber Preset percentage value set to 0%, Auxiliary Lever (VR6) must be centered. With the percentage value set to 100%, the bottom of Auxiliary Lever (VR6) must be pushed all the way forward. With the percentage value set to -100%, the bottom of Auxiliary Lever (VR6) must be pulled all the way back |

**Activate:** To turn ON a particular function.

**Ailvator:** Ailvator mixes ailerons and elevator, allowing you to have both roll control and pitch control on the elevator, separate from the ailerons. When Activated, not only will the two elevator halves move up and down together, but each elevator half can move up and down independently like ailerons. This function is commonly referred to as tailerons or stabilators.

**Antenna:** Transmits the signal from the transmitter to the receiver in the model. The Antenna should be extended and pivoted into the vertical position during use. When not in use, the Antenna should be retracted and collapsed into the horizontal position to prevent damage during handling and transport.

**Antenna Reception Wires:** The portion of each of the receiver antenna wires that actually receives the transmitter signal. The Antenna Reception Wires should never be bent or they could be damaged and limit the range of the receiver.

**Auxiliary Dial Knob:** The Auxiliary Dial Knob is programmable and will perform a different function depending on what function is assigned to it.

**Auxiliary Lever:** Two Auxiliary Levers are featured, one on each side of the transmitter. Each
Auxiliary Lever is programmable and will perform a different function depending on what function is assigned to it.

**Battery Compartment:** Houses the 6 cell 1500mAH Ni-MH battery that powers the transmitter. The transmitter uses a 6 cell battery for lighter weight and better feel, while still providing long usage time.

**Battery Fail Safe:** The Battery Fail Safe function allows you to set a custom receiver voltage, that when reached, will provide feedback to you by quickly cycling the throttle servo up and down in 1 minute intervals to indicate that the receiver battery has reached the programmed Battery Fail Safe voltage. This feedback will help prevent you from flying too long and losing receiver battery power.

**Binding:** The act of pairing the transmitter and receiver to prevent interference from radio controllers operated by other users. The transmitter and receiver must be paired so that the two can 'talk' to each other. Once the Binding process is complete, the setting is remembered even when the transmitter and receiver are turned OFF.

**Camber:** Camber is typically used on sailplanes and refers to the function of lowering the entire trailing edge of the wing to change airfoil of the wing, and therefore, the flight characteristics of your aircraft. Camber is typically used during launch to maximize lift.

**Camber Point:** The Camber Point function allows you to define how Auxiliary Lever (VR6) controls Camber. Based on the Camber Point setting, you can control both Camber and Reflex, or you can control only Camber or Reflex. When programmed to control only Camber or Reflex, the amount of servo travel will be doubled. This is useful for those pilots who want more overall travel, but in only one direction.

**CCPM:** Collective, Cyclic, Pitch Mixing. CCPM is software-controlled mixing that allows control of the collective, cyclic and pitch using three (and sometimes four) servos. This allows lower mechanical complexity and greater control precision. In this configuration the cyclic and collective controls are mixed. 3-Point and 4-Point mixes are featured.

**CCPM Servo End Point Adjustment:** The CCPM End Point Adjustment function allows you to adjust servo travel in each direction for the elevator, aileron, and pitch servos independently. Unlike standard End Point Adjustment, which affects all the cyclic servos, CCPM End Point Adjustment allows you to adjust each cyclic servo independently without any affect on the other cyclic servos.

**CCPM Servo Linear:** The CCPM Servo Linear function converts the rotary output of the servo(s) to a Linear approximation and helps correct any abnormal cyclic movement caused by off-center control arms when at full positive or negative End Points and allows you to adjust the overall Rates for the elevator, aileron, and pitch servos independently.

**CCPM Servo Delay:** The CCPM Servo Delay function allows you to adjust the speed of the elevator, aileron, and pitch servos independently. Even though the servos may be of the same type, not all servos operate at the same exact speed. If one or more servos controlling the swashplate is operating faster than another servo, this can cause swashplate geometry issues and even result in binding of the swashplate linkage assemblies. Slowing down the faster servo(s) to match the slower servo(s) helps to fine-tune the swashplate, ensuring the most accurate and smoothest movement as possible throughout the entire deflection range.

**Channel Delay:** The Channel Delay function allows you to adjust the speed of individual servos. This function has several uses. For example, not all servos operate at the same exact speed. If your model uses separate aileron and flap servos, you may find that even though the servos are the same, one servo may move faster than the other. You can use the Channel Delay function to slow down the faster servo to match the slower servo. The Channel Delay function can also be used to slow down a servo that controls a specific function to achieve a more scale transit time, for example, to open and close a canopy on a scale aircraft. The Channel Delay function operates independently of the CCPM Servo Delay and CP3 Servo Delay functions in HELI mode.

**Channel Offset:** The Offset function allows you to shift and hold the neutral position of the desired elevator, aileron, and rudder servo(s) during flight.

**Charging Jack:** Used for onboard charging of the 6 cell 1500mAH Ni-MH battery.

**Channel Curve Programming:** Programming the Point and Rate percentage values on a Curve allows you to achieve maximum flexibility and fine-tuning for specific uses by changing the amount of servo travel in relation to control stick travel at any point (or points) along the Curve.

**Coaxial Cables:** The portion of each antenna wire that extends the Antenna Reception Wires. The Coaxial Cables can be bent into gentle curves, however, do not bend the Coaxial Cables acutely, or repeatedly bend them, or the antenna wire's cores can be damaged.

**Compensation Mixing:** Allows you to mix two channels together, then apply that mixing to the channels themselves. Useful if you need to program a mix that is not already pre-programmed.

**CP3 Channel Delay:** The CP3 Delay function allows you to slow down the two forward channels when using CCPM. On some helicopters, when using CCPM you will find that the elevator is a little more sensitive than the ailerons. You can use the CP3 Delay function to slow down the two forward channels to fine-tune the feel of the swashplate controls. The goal is to adjust elevator control to feel the same as aileron control and vice-versa depending on the Swashplate Type selected.

**Cross-Trim:** The Cross-Trim function allows you to electronically swap trim switch functions. Some pilots prefer this over the standard arrangement in which the trim switches adjacent to the control sticks control the trim for that control function.

**Crow:** The Crow function allows you to use the ailerons and the flaps simultaneously to control the lift of the aircraft, while still allowing aileron roll control. Crow is typically used to quickly reduce lift, ensuring pin-point spot landings in nearly any situation. When the Crow function is Activated, all of the ailerons should move Up and all of the flaps should move Down.

**Custom Menu:** The Custom menu function allows you to store shortcuts to your most-used System menu and F-Mode menu selections. You can store up to 10 menu shortcuts. If desired, the Top Menu Arrange function can then be used to create a shortcut to the Custom menu, providing you with a quick and easy way to access your most-used menu functions without the need to scroll through the SYSTEM or F-MODE menus to access them.

**Differential:** The Differential function allows you change the ratio of the Up to Down movement of each aileron. The Aileron Differential function can be used to eliminate aircraft yaw tendency by adding more movement to the upward moving aileron than the downward moving aileron.

**DIN Connector:** The DIN Connector is where the trainer cable (available separately) is plugged into. It is also used to plug the Airtronics USB data cable (available separately) between the transmitter and your computer. An adapter to use the transmitter with a flight simulator can also be plugged into the DIN Connector.

**Direct Model Select:** Direct Model Select allows you to select one of three of your most-used models from memory without going through the Model Select menu.

**Display Key:** Activates the transmitter's LCD Display without actually turning the transmitter ON. This allows you to check and/or change programming settings without actually turning the transmitter ON.

**Dual Rate:** The Dual Rate function allows you to change the control authority of the control surfaces by changing the amount of servo travel. You can use Dual Rate to lower the control throw with just the flip of the Dual Rate switch. Three Dual Rate settings are available each for the Elevator, Aileron, and Rudder channels.

**Elevons:** Elevons combine the use of aileron and elevator from two separate control surfaces to provide both roll and pitch control. Elevons are generally found on delta wing (flying wing) aircraft which do not feature separate horizontal stabilizer.

**End Point Adjustment:** The End Point Adjustment function allows you to adjust servo travel in each direction. This makes it possible to balance control surface throw in both directions. For example, if you want your elevator to move Up and Down two inches in each direction, but the elevator moves Down more than two inches, decrease the End Point Adjustment in the Down direction, so that the elevator moves Up and Down the same amount.

**Exponential:** The Exponential function allows you to vary the amount of servo travel in relation to the movement of the elevator, aileron, and rudder control sticks near the neutral positions to change the way the control surfaces react to control stick movement. Increasing the Exponential value will soften the control feel around neutral and decreasing the Exponential value will heighten the control feel around neutral.

**Fail Safe:** The Fail Safe function automatically sets the servos to a predetermined position in the event that the signal between the transmitter and the receiver is interrupted, whether due to signal degradation or to a low transmitter battery. The Fail Safe function can be set to Hold the servos in the last position they were in when the signal was lost, or each of the servos can be set to move to a custom position when the signal is lost.

**FH1 Modulation:** Frequency Hopping 1st generation FHSS technology. The SD-10G 2.4GHz FHSS-3 transmitter modulation can be changed to FH1 to allow the use of Airtronics FHSS-1 receivers, such as the Airtronics 92824 8-Channel, 92674 7-Channel, and 92664 6-Channel Micro 2.4GHz FHSS-1 receivers.

**FH3 Modulation:** Frequency Hopping 3rd generation FHSS technology. FH3 Modulation is used in the Airtronics SD-10G 2.4GHz FHSS-3 transmitter and matching 92104 10-Channel receiver.

**FHSS:** Frequency Hopping Spread Spectrum. FHSS is a modulation type which transmits data across the entire frequency spectrum by transmitting data on different channels at an extremely fast interval.

**Flap Freeze Point:** Used with sailplanes, the Flap Freeze Point function allows you to set a predetermined amount of flap deflection, based on flap control stick position, then variably control the remainder of flap travel, using the flap control stick. An audible tone can be programmed to indicate when the Flap Freeze Point turns ON and OFF.

**Flaperons:** Flaperons is a mix of flaps and ailerons, allowing you to use the ailerons as flaps if your model does not feature separate flaps. When Activated, both ailerons are moved down at the same time to provide the function of flaps, while still providing aileron roll control.

**Flight Modes:** Flight Modes allow you to change the flying characteristics of your model with the flip of a switch. Each Model Type (AERO, GLID, and HELI) feature five independently programmable Flight Modes. Within these Flight Modes is where the core of the model programming takes place. Features such as Dual Rate, Exponential, Throttle Curves, Pitch Curves, Mixing, Compensation Mixing, and much more can be individually programmed to each of the five flight Modes. Each Flight Mode can then be assigned to a switch position so that they can be turned ON and OFF during flight. For example, you can have one Flight Mode for basic flying and a second Flight Mode for aerobatic flying. Flip the Flight Mode switch from 'Basic' to 'Aerobatic' and your model is now programmed with all of your 'Aerobatic' Flight Mode programming.

**Flight Mode Key:** Allows you to cycle through the five different Flight Modes while in the Flight Mode Programming menu.

**Governor:** A Governor is an electronic device used on glow-powered helicopters, that, coupled with a high-speed servo, is used to control a helicopter's rotor head speed.

**Gyro:** A Gyro is an electronic device, that coupled with a high-speed servo linked to the tail rotor control arm, is used to stabilize a helicopter's yaw axis.

**Hovering Throttle:** The Hovering Throttle function allows you to adjust specific Throttle Curve Points to fine-tune the Throttle Curve at any throttle control stick position, not just the hovering position. The Hovering Throttle function is controlled by the Hovering Throttle Trim Switch (T5).

**Hovering Pitch:** The Hovering Pitch function allows you to adjust specific Pitch Curve Points to fine-tune the Pitch Curve at any throttle control stick position, not just the hovering position. The Hovering Pitch function is controlled by the Hovering Pitch Trim Switch (T6).

**Inhibit:** To deactivate or turn OFF a particular function.

**Integral Timer:** The Integral timer is a Count Up timer that displays the time that the SD-10G transmitter has been turned ON (either via the Power switch or the Display key) since the last time the Integral timer was Reset. The Integral timer is not model-specific, so, for example, it is good to use as an indicator to chart the usage time between battery charges.

**Idle Down:** The Idle Down function allows you to set a specific position that the throttle servo will move to. The Idle Down function is similar to the Throttle Cut function, however, whereas the Throttle Cut function is designed to be used to shut down your engine, the Idle Down function is designed to be used to set your engine to a specific idle speed that is different from the idle speed provided when the throttle control stick is pulled all the way back, yet still maintain the full range of throttle travel.

**LCD Display:** Liquid Crystal Display. The LCD Display displays all of the transmitter programming and related information. The LCD Display contrast can be customized.

**Linear Channel Programming:** Allows you to program servo travel directly in relation with the amount of control stick travel for the entire range of deflection.

**Low Power Mode:** The Low Power Mode function lowers the transmitter's RF output level to check radio signal reception (Range Check). Use this function to check radio signal reception on the ground, prior to flight. The radio control system should be Range Checked prior to the day's first flight and prior to the first flight after a hard landing or after a repair. This will ensure that the transmitter and receiver are communicating properly prior to flight.

**Memory Expansion Card:** The Memory Expansion Card allows you to store up to 40 models (20 in the SD-10G transmitter and 20 on the Memory Expansion Card). The Memory Expansion Card can be removed and installed into a different SD-10G transmitter, so that model-specific programming data can be shared with fellow SD-10G transmitter owners in the field. When the Memory Expansion Card is installed and Initialized, it is treated as an extension of the SD-10G transmitter's internal model memory, therefore, model-specific programming data can be created, copied, deleted, etc., directly through the various System menu selections.

**Memory Expansion Card Slot:** Holds the Memory Expansion Card (available separately).

**Model Name:** The Model Name function allows you to name each of your individual models. This makes it easy to keep track of multiple models. The Model Name can consist of up to 8 letters, numbers, or symbols. Choose from capital letters, lower case letters, numbers, and various symbols.

**Model Select:** The Model select function allows you to load the programming for the particular model you wish to fly. The programming for all of your models is accessed through the Model Select menu.

**Navigation Pad:** The Navigation Pad is used in conjunction with the Programming Keys and the F-MODE Key to facilitate transmitter programming. The Navigation Pad allows you to quickly and easily move the Programming Cursor up and down, and right and left. The ENTER Key in the center of the Navigation Pad is used to open the selected menu or programming option.

**NiMH:** Short for Nickel Metal Hydride, the NiMH battery typically has about two to three times the capacity of an equivalently sized Ni-Cd (Nickel Cadmium) battery, therefore, they are ideal for use to power both the transmitter and the receiver. The SD-10G transmitter features a 6 cell 1500mAH NiMH battery for light weight and long usage time.

**Operating Voltage:** The safe voltage that the transmitter or receiver can operate within. Exceeding the minimum operating voltage can result in loss of power to the device(s). Exceeding the maximum operating voltage can result in damage to the devices(s).

**Output Power:** The power (in Milliwatts) that your transmitter transmits a signal. Output power is defined by government guidelines and differs by region.

**Pitch Curve:** The Pitch Curve function allows you to vary the amount of pitch travel in relation to the movement of the throttle control stick at different points throughout the entire range of deflection.

**Power Switch:** Turns the transmitter ON and OFF.

**PPM8 Modulation:** A modulation type that is strictly used only when using the SD-10G transmitter with a computer-based flight simulator. Using this modulation allows the transmitter to communicate with your computer's flight simulator software.

**Programming Keys:** The Programming Keys are used in conjunction with the Navigation Pad and the F-MODE Key to facilitate transmitter programming. The three Programming Keys consist of the YES/+ (Increase) Key, the NO/- (Decrease) Key, and the END Key.

**Push-Button Switch:** Two Push-Button Switches are featured. Each Push-Button Switch is programmable and will perform a different function depending on what function is assigned to it.

**Reflex:** Reflex is typically used on sailplanes and refers to the function of raising the entire trailing edge of the wing to change airfoil of the wing, and therefore, the flight characteristics of your aircraft. Reflex is typically used during high-speed flight to increase speed. Reflex is also commonly used on delta wing aircraft that use elevon mixing for control.

**RF Output Indicators:** Both indicators illuminate when the transmitter is turned ON and transmitting a signal. If one or both of the RF Output Indicators fails to illuminate, RF output is limited or non-existent. In this case, you should not fly.

**Rhythm Timer:** The Rhythm timer can be programmed to provided a selected sequence of audible tones, which can be used for pacing aerobatics or for practicing precision landings. Three separate Rhythm timers can be programmed and each Rhythm timer can be turned ON separately by assigning them to different switch positions. Each Rhythm timer features five programmable Types. Within each Type, the Start time, the Interval time, the Sound, and the Count can be programmed individually. This allows for a near infinite combination of audible tones to suit nearly any situation.

**Safety Link:** The Safety Link function is used to program a unique bind code to each receiver/model pair, preventing the transmitter from controlling a model that it's not currently programmed for. In addition, the Safety Link Number can be changed separately from the Model Select number to allow you to bind multiple receivers to the same model. The Safety Link feature can be used ONLY with the Airtronics 92104 10-Channel 2.4GHz FHSS-3 receiver. Safety Link is not supported for use with Airtronics FHSS-1 receivers.

**Servo Monitor:** The Servo Monitor function displays the output levels of the four different channels in bar graph form, allowing you to monitor servo operation in a virtual manner. Using the Servo Monitor function while making setting changes can make it easier to understand the setting changes you're making.

**Servo Reversing:** Electronically switches the direction of servo travel. For example, if you move the elevator control stick forward, and the elevator moves up, you can use the Servo Reversing function to make the elevator move down.

**Servo Centering:** The Centering function allows you to fine-tune the Center (Neutral) position of each servo. It's not unusual that when you install the servo horn onto your servo that the servo horn is not perfectly centered. Centering allows you to center the servo horn perfectly.

**Servo Limits:** The Limits function allows you to set a hard limit for servo travel in each direction (H - High or L - Low). This means that regardless of the End Point Adjustment, Dual Rate, and/or Mixing Adjustment Values programmed, the servo will never rotate past the specified Limits. Limits should be used to Limit the maximum required physical travel of the servo in each direction, so that the servo can never rotate further than intended.

**Spoilerons:** Spoilerons is a mix of spoilers and ailerons, allowing you to use the ailerons as spoilers if your model does not feature separate spoilers. When Activated, both ailerons are moved up at the same time to provide the function of spoilers, while still providing aileron roll control.

**Stick Monitor:** The Stick Monitor function displays the current position of the control sticks as a percentage of total control stick movement in 1% increments, and is used to determine if the control sticks require calibration.

**Stick Switch:** The Stick Switch function allows you to convert one or more control stick axes into a switch, then assign a function to that Stick Switch.

**Stopwatch Timer:** The Stop Watch timer is used to either count down from a programmed Start time (Count Down mode) or to count up from zero if no Start time is programmed (Count Up mode). In Count Down mode, an audible tone will sound in 1 second intervals when the Stop Watch reaches 10 seconds from zero. When zero is reached, a long audible tone will sound and the Stop Watch will begin to count up. In Count Up mode, an audible tone will sound at 1 minute intervals to remind you that the count down time (zero) has been surpassed. The Stop Watch timer can be utilized for a number of different uses, but one of the more popular uses is to use it as a fuel usage indicator to remind you to land within an allotted amount of time to ensure that your model doesn't run out of fuel.

**Swashplate:** The swashplate changes the pilot's linear cyclic (and often collective) control inputs into rotary blade pitch angle changes in the main rotor. It is the position of the swashplate that determines which direction the rotor disk will move in.

**Switch Assignment:** The Switch Assignment function allows you to assign a function, such as Gear, Dual Rate, F-Mode, Snap Roll, Stopwatch, etc, to any of the 9 three-position switches and the 2 push-button switches (31 positions total). Switches can be programmed to operate in the standard fashion, or they can be made to operate interdependently using the Boolean conditions OR/AND. Switches can also be programmed to always be ON.

**System Timer:** The System timer is a Count Up timer that displays the total time that the SD-10G transmitter has been turned ON (either via the Power switch or the Display key) since it was new.

**Throttle Cut:** The Throttle Cut function allows you to set a specific position that the throttle servo will move to. The Throttle Cut function is primarily used to shut down your engine after flight. The SD-10G transmitter allows you to program the Throttle Cut percentage values for the Right and the Left engines independently to take into account any differences between throttle linkages on twin-engine aircraft.

**Throttle Hold:** The Throttle Hold function allows you to set a specific position that the throttle servo will Hold and not respond to the throttle control stick. This function is typically used when flying twin-engine aircraft or helicopters. The SD-10G transmitter allows you program Throttle Hold for the Right or the Left engine separately.

**Trainer System:** Provides a way of training pilots to fly. During use, one transmitter acts as the Master (Instructor) and the other transmitter acts as the Slave (Student). The Instructor controls the Student's model as long as the Trainer Switch is released. Once the Instructor maneuvers the model to a safe altitude, the Instructor holds the Trainer Switch and the Student has control of the model. The Student will have control of the model as long as the Instructor holds the Trainer Switch. Once the Trainer Switch is released, the Instructor will have control of the model once again. If at any time the Instructor feels that the Student is in a situation that endangers the model, the Instructor releases the Trainer Switch and control of the model returns instantly to the Instructor.

**Trim Authority:** The Trim Authority function allows you to change the amount of control surface travel relative to how far Auxiliary Lever (VR6) is moved. You are only able to change the Trim Authority for the specific control surface that is assigned to the Auxiliary Lever (VR6), such as flaps in AERO mode, camber in GLID mode, and high and low pitch trim in HELI mode.

**Trim Step Resolution:** The Trim Step function allows you to adjust how far the servo travels when the trim switch is moved. This allows you to change the Trim function resolution to suit your preference. You can increase the resolution by decreasing the Trim Step value, so that the servo travels less when you move the trim switch. This makes it possible to fine-tune the trim settings extremely accurately. In addition, you could decrease the resolution by increasing the Trim Step value, so that the servo travels more when you move the trim switch. This makes setting large amounts of trim faster, but the trim setting may not be as accurate.

**Trim Switch:** Adjusts the trim of the four main flight controls, enabling you to trim your model for level flight. Six separate Trim Switches (T 1, T 2, T 3, T 4, T 5, and T 6) are featured. Each Trim Switch will control a different trim axis depending on which Model Type is selected and different trim settings can be programmed separately for each Flight Mode.

**Type (Model Type):** The Type function allows you to quickly set up the transmitter's low-level mixing based on the type of model you're flying. Common templates for AERO, GLIDER, and HELI model types are provided. This takes the guess-work out of setting up more complex models.

**User Name:** The User Name function allows you to input a User Name to register the transmitter. The User Name can consist of up to 8 letters, numbers, or symbols. Choose from capital letters, lower case letters, numbers, and various symbols.

**Variable Rate Assign:** The VR Assign function allows you to assign specific functions to the two Auxiliary Levers (VR5 and VR6) and to the Auxiliary Dial Knob (VR7).

**Symbols**



**A**



**B**

**C**



**D**

**E**



**F**

**M**



**N**

**S**



**T**


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