
COPY



AIRTRONICS INC

INFINITY

660 SERIES

Radio System Operating Manual



HELICOPTER • AIRPLANE • SAILPLANE

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WARNING!

WHENEVER you change the model type (HELI, AERO, GLID) for any model(s) stored in the Infinity 660 memory, you will **ERASE ALL OF YOUR PREVIOUS PROGRAMMING FOR THAT MODEL!** All switch assignments and all other settings will need to be reprogrammed for that model.

We suggest that you decide on how many of each aircraft type you are likely to want to program this radio for, then assign the proper model types to the four aircraft setups **BEFORE** doing any other programming. Then use the **MODEL-SELECT** function to change from one model (and thus aircraft type) to another **WHENEVER** you wish to change from one aircraft type to another.

INFINITY

660 SERIES

TRANSMITTER FEATURES:

- 4-Model Memory
- Servo Centering
- Model Select
- End Point Adjustment
- Servo Reversing
- Switch Assignment
- Alternate Setup
- Timer
- Stopwatch
- Multiple Mixing Options
- Data Copy
- Data Reset
- Modulation Select
- Model Naming
- Mode 1 or Mode 2 Select
- Two-Line LCD Display
- Contrast Adjustment
- Adjustable Tension Sticks
- Adjustable Length Sticks
- Throttle Ratchet Choice
- Plug-In High Capacity NiCd
- Plug-In RF Module
- RF Output Meter
- Transmitter Voltage Display
- Built-In Stand
- Trainer System
- Low Voltage Alarm

NOTE:

The Serial Number for your Infinity 660 transmitter is located under the plug-in transmitter RF module. You must remove the RF module to see the Serial Number.

OPTIONAL ITEMS:

Transmitter Carrying Case
- Part #96604

1100 MAH Transmitter NiCd
pack
- Part #95018

Airtronics Infinity 660 is built for any helicopter, airplane or sailplane pilot who demands the best.

Remarkably easy to set up, program and use, the Infinity 660 is the latest addition to our award-winning Infinity series, and it's programmable for flying all three types of aircraft.

Infinity 660 virtually redefines the meaning of versatility. Its custom microprocessor and software program allow you to custom tailor the switch assignments to your own needs and easily create exactly the "feel" you want.

Infinity 660 features cutting edge computer programming and is available with an FM narrow band receiver or a new PCM quick response receiver that offers super-fast servo response time.

Infinity 660 is available in three system configurations. One includes four standard servos. Another includes five ball bearing Contest servos and 1,000 milliamp NiCd. And a third comes with four standard servos and the SGX gyro with integral servo.

Helicopters

- Four 4-Point Pitch Curves
- Throttle Curve Adjustment
- Trim Memory
- Rudder Offset
- Dual Rates
- Exponential
- Hovering Pitch
- Hovering Throttle
- Revolution Mixing
- Throttle Hold
- Compensation Mixing

Airplanes

- Dual Rates
- Exponential on Aileron, Rudder and Elevator
- Trim Memory
- Four Programmable Snap Roll or Spin Set-ups
- Spoileron Mixing
- Elevon Mixing
- Aileron Differential Adjustment
- Flap → Elevator Mixing
- Elevator → Flap Mixing
- Flap Trim
- Compensation Mixing


Sailplanes

- Dual Rates
- Spoileron (Crow Mixing)
- Trim Memory
- Aileron Differential Adjustment
- Flap → Elevator Mixing
- Gear → Elevator Mixing
- Flaperon Mixing
- V-Tail Mixing
- Elevator Preset Trims

INFINITY 660 TRANSMITTER SPECIFICATIONS:

Transmitter Type:	6 Channel FM/PCM Dual Stick
Dimensions:	W 8.0" x H 7.4" x D 2.75"
Weight:	40 Ounces
Power Output:	600 MW
Frequencies:	50, 53 or 72 MHz
Modulation:	PPM/FM or PCM/FM
Power Supply:	9.6 Volt, 600 MAH NiCd
Current Drain:	200 MA
Temperature Range:	0-160 degrees F.
Pulse Width:	1.5 ms (nominal)
Receiver Type:	92065 PCM or 92765 FM 6 ch. Super Narrow Band Receiver
Sensitivity:	1.5 Microvolts
Receiver Power Supply:	4.8 Volt, 600 MAH NiCd

For more information about Airtronics' high quality R/C systems, aircraft kits, and accessories please call or write:

 **AIRTRONICS** INC • 11 Autry, Irvine, CA 92718 • Phone (714) 830-8769

INTRODUCTION

Thank you for selecting the Airtronics® Infinity 660 Radio System. In designing the Infinity 660 we have made every effort to provide you with a radio that will allow you to extract the maximum performance from your helicopter, airplane or sailplane, while at the same time simplifying the task of setting up and adjusting your model. These instructions are written in great detail to help you understand what all of your Infinity's capabilities are. Because of the many features of the Infinity 660, this manual is quite long. Don't be intimidated! To actually use the system, you may only need to read this section, the INTRODUCTION, and study the menu summaries. The balance of this book is designed to help you get the most from your Infinity, even if you have never used a computer-controlled radio system before. You probably won't have to read the entire manual just to fly your model, but you may wish to read it anyway to become aware of the many features available for use. Each different aircraft type (Helicopter, Airplane, and Sailplane) has its own, self-contained section describing each feature and its implementation.

Again, we appreciate your selection of an Airtronics System and wish you many hours of flying enjoyment.

SAFETY FIRST!

"SAFETY FIRST!" is not just a slogan when it comes to radio controlled models. The key to R/C pleasure is proper use of your radio system and all other modeling components. If you fail to follow instructions, fail to heed warnings given, or fail to install and operate your system according to the instructions provided with the unit, the result may be the partial or total destruction of your system and injury to yourself or to the person or property of others. For your own safety and the safety of others you must recognize that radio controlled models are not harmless toys and can become dangerous missiles if carelessly or improperly flown. **REMEMBER THAT YOU ARE RESPONSIBLE FOR THE SAFETY OF ALL SPECTATORS AND MAY BE HELD LIABLE FOR ANY DAMAGE OR INJURY CAUSED BY YOUR MODEL.** Radio control equipment and models are generally attractive, inviting, and exciting in looks and performance. Realize that young people and inexperienced adults may try to operate the equipment without understanding the dangers to themselves or others. It is your responsibility to guard against unknowing hands for their protection as well as for the safety of your equipment and model.

ALWAYS INSTALL YOUR RADIO CONTROL SYSTEM CORRECTLY, MAINTAIN IT PROPERLY AND BE CERTAIN THAT YOU CAN FLY WELL ENOUGH TO CONTROL YOUR AIRCRAFT AT ALL TIMES.

DO NOT FLY where your model could injure any person or property.

DO NOT FLY OVER THE HEADS OF SPECTATORS OR PERSONS IN THE AREA OF YOUR FLYING FIELD. This includes taking off, actual flight and landing. Keep everyone, except experienced and knowledgeable persons who are assisting you in flying, away from your model even when it is on the ground and you are preparing to fly.

DO NOT FLY unless an experienced instructor has completely checked over your model and radio installation and test flown the model for you.

DO NOT FLY if you are a newcomer to R/C unless you have an experienced instructor who will fly with you until you have learned to fly competently by yourself.

DO NOT FLY in adverse weather conditions. Strong winds, for example, may cause loss of control of your aircraft leading to injury or damage to yourself or others.

DO NOT FLY unless your frequency is clear. Only one person can use each frequency at a time.

(Continued on next Page)

Safety First ...

WARNING: IF YOU DELIBERATELY OR ACCIDENTALLY TURN ON YOUR TRANSMITTER WHILE ANOTHER MODEL IS FLYING, THAT MODEL WILL GO OUT OF CONTROL.

ACADEMY OF MODEL AERONAUTICS

ACADEMY OF MODEL AERONAUTICS,
1810 Samuel Morse Drive, Reston, VA 22090

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 SAFETY CODE, which we have partially reprinted below:

1. I will not fly my model in competition or in the presence of spectators until it has been proven to be airworthy by having been previously successfully flight tested.
2. 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 to, and avoid flying in the proximity of, full scale aircraft. When necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full scale aircraft.
3. 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.
4. I will have completed a successful radio equipment ground range check before the first flight of a new or repaired model.
5. I will not fly my model aircraft in the presence of spectators until I become a qualified flyer, unless assisted by an experienced helper.
6. I will perform my initial turn after take off away from the pit or spectator areas, unless beyond my control.
7. I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission. (See chart below) Only properly licensed amateurs are authorized to operate equipment on amateur band frequencies.

72 MHZ BAND

6 METER BAND

Ch. #	Freq.	Ch. #	Freq.	Ch. #	Freq.	Ch. #	Freq.	Ch. #	Freq.	Ch. #	Freq.	Freq.
11	72.010	21	72.210	31	72.410	41	72.610	51	72.810	00	50.800	53.100
12	72.030	22	72.230	32	72.430	42	72.630	52	72.830	01	50.820	53.200
13	72.050	23	72.250	33	72.450	43	72.650	53	72.850	02	50.840	53.300
14	72.070	24	72.270	34	72.470	44	72.670	54	72.870	03	50.860	53.400
15	72.090	25	72.290	35	72.490	45	72.690	55	72.890	04	50.880	53.500
16	72.110	26	72.310	36	72.510	46	72.710	56	72.910	05	50.900	53.600
17	72.130	27	72.330	37	72.530	47	72.730	57	72.930	06	50.920	53.700
18	72.150	28	72.350	38	72.550	48	72.750	58	72.950	07	50.940	53.800
19	72.170	29	72.370	39	72.570	49	72.770	59	72.970	08	50.960	
20	72.190	30	72.390	40	72.590	50	72.790	60	72.990	09	50.980	

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**FEDERAL AVIATION
ADMINISTRATION****FEDERAL AVIATION ADMINISTRATION**

The Federal Aviation Administration has announced guidelines for operation of model aircraft. We are reprinting these guidelines here and encourage you to study and follow them.

1. Purpose: This advisory circular outlines safety standards for the operators of model aircraft and encourages voluntary compliance with these standards.
2. Background: Attention has been drawn to the increase in model operations, and the need for added caution in the case of free flight and radio controlled types to avoid creating a noise nuisance or a potential hazard to full-scale aircraft and persons and property on the surface.
3. Operating Standards: Modelers, generally, are concerned about safety and do exercise good judgment when flying model aircraft. However, in the interest of avoiding undue criticism from affected communities and airspace users, **COMPLIANCE WITH THE FOLLOWING STANDARDS IS ENCOURAGED BY OPERATORS OF RADIO CONTROLLED AND FREE FLIGHT MODELS.**
 - A. Exercise vigilance for full scale aircraft (get other people to help if possible) so as not to create a collision hazard.
 - B. Select an operating site at a sufficient distance from populated areas to avoid creating a noise problem or potential hazard.
 - C. Do not fly higher than 400 feet above the surface.
 - D. Do not operate closer than three miles from the boundary of an airport unless permitted to do so by the appropriate air traffic control facility in the case of an airport for which a control zone has been designated, or by the airport manager in the case of other airports.
 - E. Do not hesitate to ask for assistance in complying with these guidelines at the airport traffic control tower, or air route center nearest the site of the proposed operations.

A FINAL NOTE ON SAFETY

The basic safety precautions outlined above are for your safety, the safety of others, and the safety of your equipment. Consider carefully all of what has been stated and obey all precautions in this manual, as well as any others appropriate to your particular activity. And remember that good common sense must also be used at all times during the operation of your equipment.

INITIAL PREPARATION

NOTE: When you first unpack your radio you should charge the transmitter and receiver batteries for 24 hours. Subsequent re-charges should require only 12 hours.

PACKAGING

The packaging of your Airtronics Infinity 660 has been especially designed for the safe transportation and storage of the radio's components. After unpacking your radio, **DO NOT DISCARD THE CONTAINERS.** You should set the packaging aside for use if you ever need to send your radio in for service, or to store your radio in if you do not plan to use it for an extended period of time.

BATTERY CHARGING

The first thing you should do after unpacking your Infinity is to charge the transmitter and receiver batteries. The charging procedure is completely explained in Section IV, page 9 of the **INSTALLATION FUNDAMENTALS AND GUIDELINES MANUAL** included with your radio.

AIRBORNE COMPONENTS

AIRBORNE COMPONENTS

While the system's batteries are charging, you can familiarize yourself with the airborne portion of your radio. The airborne portion of the radio refers to any components which are mounted in your plane and carried aloft when you fly. The airborne components consist of the receiver, which receives the signals from the transmitter, decodes them, and relays the commands to the servos; the servos, which are simply electronically - controlled motors used to move the controls of the plane; the battery pack, which provides power for the receiver and servos to operate; and the switch harness which allows you to turn the airborne package on and off.

PCM RECEIVER
LOW VOLTAGE ALARM

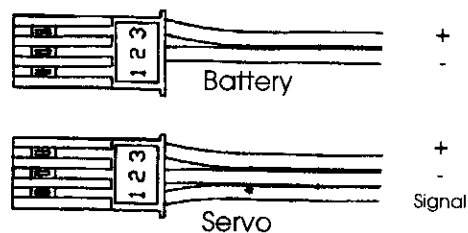
PCM RECEIVER LOW VOLTAGE ALARM

The PCM receiver for the Infinity 660 has the ability to warn you when the airborne battery pack voltage drops below 4.1 volts. When the airborne battery hits this voltage, the throttle servo will move to a reduced throttle position for 0.5 seconds, and then return to normal. This cycling of the throttle will occur about once each minute until you land and recharge the battery. **IT IS RECOMMENDED THAT YOU LAND IMMEDIATELY** if the receiver failsafe warns of low voltage conditions! If you wish to disable the Low Voltage Alarm, remove the two blue jumper plugs that are plugged into the end of the receiver in the slots marked N and D. Be careful not to lose the plugs, as they will have to be reinserted if you wish to use the Alarm feature in the future.

CONNECTORS

CONNECTORS

The connectors on your Airtronics System are rugged but should be handled with care. There are three socket contacts in the servo connector, numbered 1 through 3. The #1 is the signal pin, #2 is negative and #3 (Red) is positive. The Plug configuration is shown below. If you are using an FM or PCM receiver where the connectors are plugged into the end of the receiver, be certain that the #3 pin is toward the bottom of the receiver. When you are using the FM 6 channel receiver where the connectors plug into the top of the receiver, the #3 pin should be toward the outside edge of the receiver. Do not attempt to force the plug into the receiver; properly align each servo plug and it will move into place.



TRANSMITTER R.F. METER

The meter on the front of the Infinity 660 reads Radiated Frequency (R.F.) Current and is an indication of the strength of the signal the unit is sending and the state of charge of the transmitter battery. With the transmitter antenna fully extended the meter will read in the upper portion of the silver section on the meter face. If the meter reads in the orange portion it indicates that the signal has weakened and the battery is marginally discharged. A reading in the red indicates that the signal is very weak and the battery is discharged below an acceptable level. When the transmitter has just been fully charged and the antenna is extended you should get a reading in the high silver. Make a note of where the needle moves to after a full charge. If in the future there is a substantial change in the position the

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Transmitter RF Meter ...

needle assumes right after a full charge, it may be an indication of a drop in battery performance and the unit should be returned to Airtronics for inspection. If you get a reading in the red or orange after a full charge it is an indication of defective cells and the battery must be replaced. If there is no movement of the meter when the transmitter is first turned on the battery is most likely completely discharged. Charge the battery pack as described in Section IV of the INSTALLATION FUNDAMENTALS AND GUIDELINES MANUAL. After approximately 15 minutes of operation the reading will drop to the lower portion of the silver. This is normal, since the battery in the transmitter will actually be higher than 9.6 volts when first taken off charge. The meter is calibrated so that a 9.6 volt reading is in the lower portion of the silver area. **DO NOT ATTEMPT TO OPERATE A TRANSMITTER UNLESS THE METER READS IN THE SILVER WITH THE ANTENNA FULLY EXTENDED. IF YOU NOTICE THE METER READING HAS DROPPED INTO THE ORANGE WHILE FLYING, LAND IMMEDIATELY. A TRANSMITTER WHOSE PERFORMANCE HAS DROPPED MAY NOT SEND THE SIGNALS REQUIRED TO ADEQUATELY AND SAFELY CONTROL THE MODEL, RESULTING IN A POSSIBLE CRASH.**

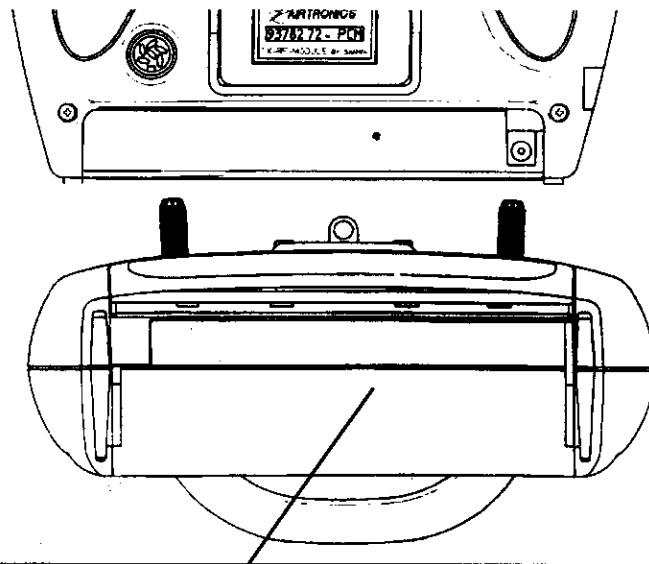
AUDIO LOW VOLTAGE ALARM

Your Infinity 660 is equipped with an Audio Alarm which will sound whenever the transmitter batteries drop below 9.5 volts during transmitter operation. If the alarm sounds while you are flying, land immediately and don't operate the transmitter until it has been charged for 12 hours. The transmitter should normally operate for 120 to 150 minutes before the alarm sounds. If the alarm sounds even after the batteries have been on charge for the required time it indicates that there is a problem with either the battery pack or the transmitter, and you should contact Airtronics about service.

PLUG-IN TRANSMITTER BATTERY

The battery pack in your Infinity 660 is a self contained unit and can easily be removed and replaced with a fully charged pack to extend operating time. The Infinity 660 has a special internal lithium back-up battery, so unplugging the battery pack and switching to a fresh pack will not cause you to lose any information. Additional packs are sold separately as an accessory item under the Airtronics P/N 95017.

To remove the pack, push the pack straight out the back of the transmitter until it clears the rails molded into the transmitter case. Reverse the procedure to replace the pack.



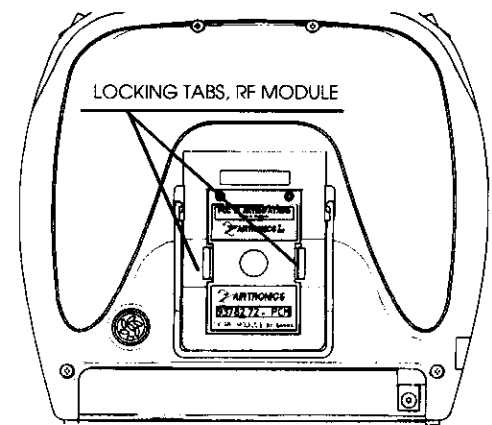
Battery Pack slides out towards rear of transmitter.

CHANGING FREQUENCIES

The operating frequency of the Infinity transmitter is determined by the R.F. Module plugged into the back of the unit. If you wish to change the frequency of your unit, you will have to change this entire Module. Individual transmitter crystals can not be changed. If you change the R.F. Module you will obviously have to change the frequency of your receiver to match the new transmitter frequency. The crystal in the receiver can be replaced. Make a very careful ground range check to be sure you have the same ground range on the new frequency as you did on the radio's original frequency. If there is any loss of range the components should be sent to Airtronics for alignment.

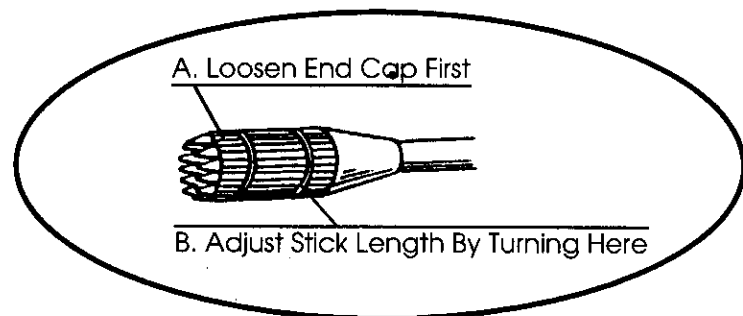
Removing the R.F. Module is rapidly and easily done. Press in the two locking tabs on either side of the Module and lift out. Be sure to lift the Module straight out from the unit, always parallel to the transmitter case to keep from bending the multi-pin connector on the upper edge of the Module. To replace the Module, hold it in place, again being sure to keep it parallel to the case, and press it into position until the two tabs snap into place.

ALWAYS BE CERTAIN that you have installed the proper frequency flag for your present frequency!



CONTROL STICK LENGTH ADJUSTMENT

The sticks in your Infinity 660 are adjustable in length and spring tension to allow you to tailor their feel to your personal preference. To adjust stick length, hold Part B with your fingers and unscrew Part A counterclockwise to loosen the two pieces. Now screw Part A in or out to the desired position, and lock it in place by screwing Part B against it. It is best to leave at least four threads inside Part A when screwed out to its longest length for the best mechanical security. Do not overtighten when you screw the two parts together.

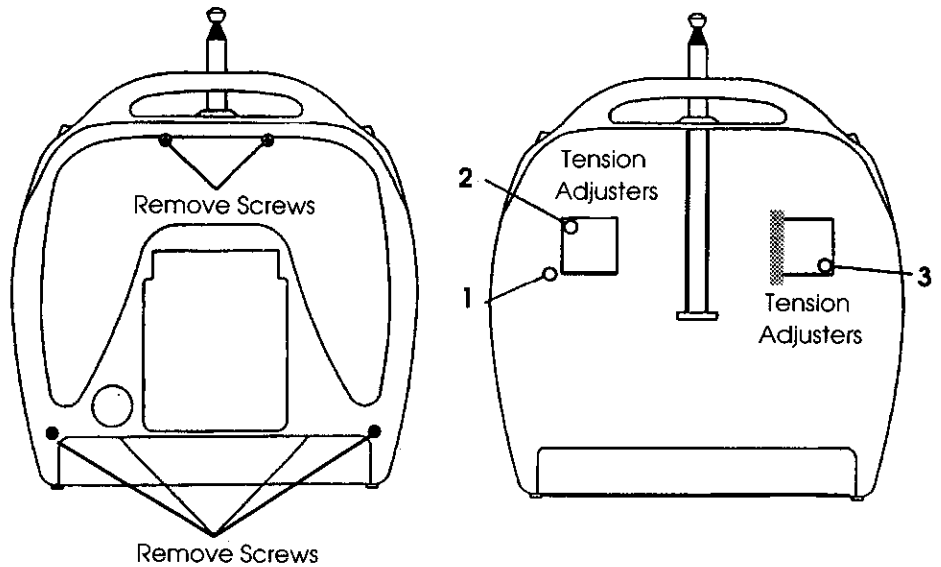


SPRING TENSION

To adjust the spring tension of the sticks you need to take off the back of the transmitter. First unplug the R.F. Module and battery pack. Remove the six screws that hold the case back in place, two on the back near the top of the transmitter, two at the lower back and two on the bottom near the rear edge of the case. Once the
(Continued on next Page)

Spring Tension ...

screws are removed swing the back of the case away from the transmitter, being careful of the trainer plug wiring.



There are four locations for the stick adjustment screws. Your Infinity 660 will only have three screws installed because the stick controlling the throttle is ratcheted and has no tension adjustment. The #1 and #3 screws adjust the tension for the vertical motion of each stick. The #2 and #4 screws adjust the tension for the horizontal motion of each stick. To make the tension adjustment, use a small Phillips type screwdriver to turn the adjustment screws. Turning the screw clockwise will increase the stick tension, turning it counterclockwise will decrease the tension.

THROTTLE/SPOILER RATCHET CLIP

The Infinity 660 is shipped with a ratchet clip for the Throttle/Spoiler stick. To increase the ratchet tension, install the ratchet clip in place of the metal strap that is originally installed on the Throttle/Spoiler stick assembly.

Once you have completed your stick adjustments, replace the case back and install the R.F. Module and battery pack.

TRAINER SYSTEM

The Trainer system in the Infinity 660 allows you to connect any two Airtronics Infinity 660 transmitters together for the purpose of training a new R/C pilot. The connection between the transmitters is made by plugging an Airtronics Computer Trainer System Cable (P/N 97102) into the round connector located on the back of the Infinity transmitter. The trainer system in the Infinity 660 will not work with any other Airtronics radios equipped with trainer systems.

In actual use, one of the two transmitters will serve as the Master and the second transmitter will serve as the Trainer. The Master transmitter is held by the instructing pilot, **AND IS THE TRANSMITTER THAT MUST MATCH THE RECEIVER FREQUENCY INSTALLED IN THE PLANE.** The Trainer transmitter is held by the learning pilot, and does not need to be on the same frequency as the plane. The frequency of the Trainer transmitter is unimportant because the R.F. Module of the Trainer transmitter must be removed during instructional flying. Normally during training, the instructor takes the plane off and flies it to altitude. While the spring loaded switch is left in its off position, the Master

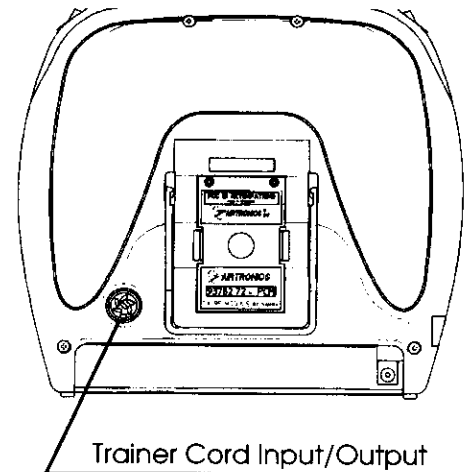
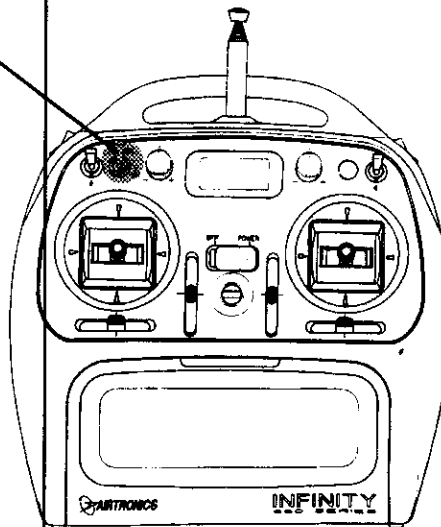
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Trainer System ...

NOTE: BOTH transmitters must be programmed identically for the trainer system to function properly. All switch assignments, reversing positions, servo centering and end points and other settings must be identical.

transmitter will have full control of the model. When the instructor is ready to begin training, he presses and holds the spring loaded switch on his Master transmitter. As long as the instructor holds the switch in the on position, the model will respond to the commands of the Trainer transmitter sticks, allowing the pupil to fly the plane. It is not necessary for the student to hold the switch on the Trainer transmitter. When the instructor wishes to stop training, or if he feels that the student is in a situation that endangers the plane, the instructor can release the spring loaded switch and control of the model will immediately return to the Master transmitter. Note that only the control sticks of the Trainer transmitter will have any affect on the plane; all of the trims and switched functions will still be controlled from the Master transmitter. To use the Trainer system, first remove the antenna and R.F. Module from the Trainer transmitter. Next plug the trainer cable into the back of both the Master and Trainer transmitters. After the cable is plugged in to both transmitters, turn on the transmitters and the model. Once you have verified that both the Master and Trainer transmitters will control the model when the spring loaded switch is in the appropriate position you are ready to begin training. **NOTE: BOTH transmitters must be programmed identically for the trainer system to function properly.** All switch assignments, reversing positions, servo centering and end points and other settings must be identical.

Trainer Switch
(Spring-Loaded)



Mode 1, Mode 2 Conversion

NOTE:

If you are not comfortable with making these mechanical changes to your transmitter, you may send the transmitter to Airtronics for conversion in our service department.

Later in this Introduction section you will find instruction for changing the Infinity 660 software settings from Mode 2 (normal configuration) to Mode 1. In addition to the software changes, you will also need to make the following mechanical changes to your transmitter:

Remove the transmitter RF Module, battery pack and backplate as shown on page 10.

Remove the spring assemblies for vertical centering from the right-hand transmitter stick. Be careful not to lose the springs or any screws.

Now remove the metal ratchet devices from the left-hand transmitter stick. Reinstall the ratchet clip, its mating bracket and throttle-stop assemblies onto the right stick in the same manner as they were installed originally on the left stick.

Next install the centering springs on the left-hand transmitter stick, again installing in the same manner as the springs were originally installed on the right stick. You must also change the throttle stick stops.

Adjust spring and ratchet tensions as desired, replace backplate, RF Module and battery. Now proceed with software instructions for Mode 1 conversion.

Using The Infinity 660 Micro-Processor

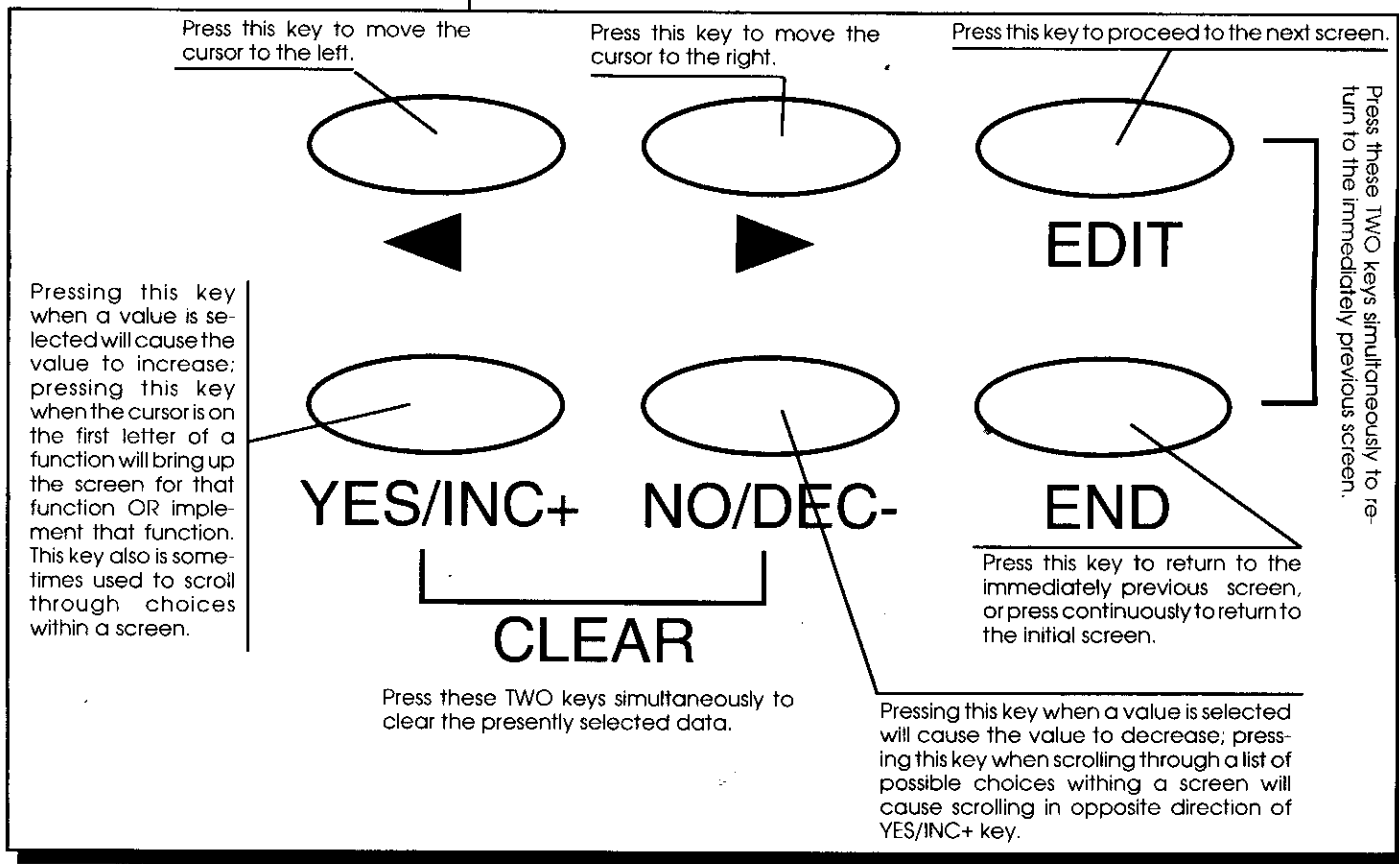
Airtronics has invested a large amount of design effort to ensure that the powerful capabilities of the Infinity 660 are as simple as possible to use. The manual has also been written to offer the user complete instructions for each of the aircraft model types that can be controlled with the Infinity 660. With patient study of the manual you will find it exceptionally easy to access each of Infinity 660's features, and to customize the software as desired for your specific model and flying style.

Throughout the manual you will see that all switches except for the trainer switch and primary control sticks are referred to by numbers. This is because Infinity 660 allows you to assign any function to any switch or switches. You can also assign more than one function to a switch. This allows you to set up the functions in whatever manner you find suits your needs, rather than having to conform to pre-selected switch assignments. **NOTE:** When you assign a function to a switch number, **the number you assign is the 'Active' or 'On' position** for that function.

In order to produce a meaningful manual, we have explained the various model setups using the normal 'default' switch assignment settings. Remember that you do NOT have to use these switch assignments!

THE INPUT KEYS

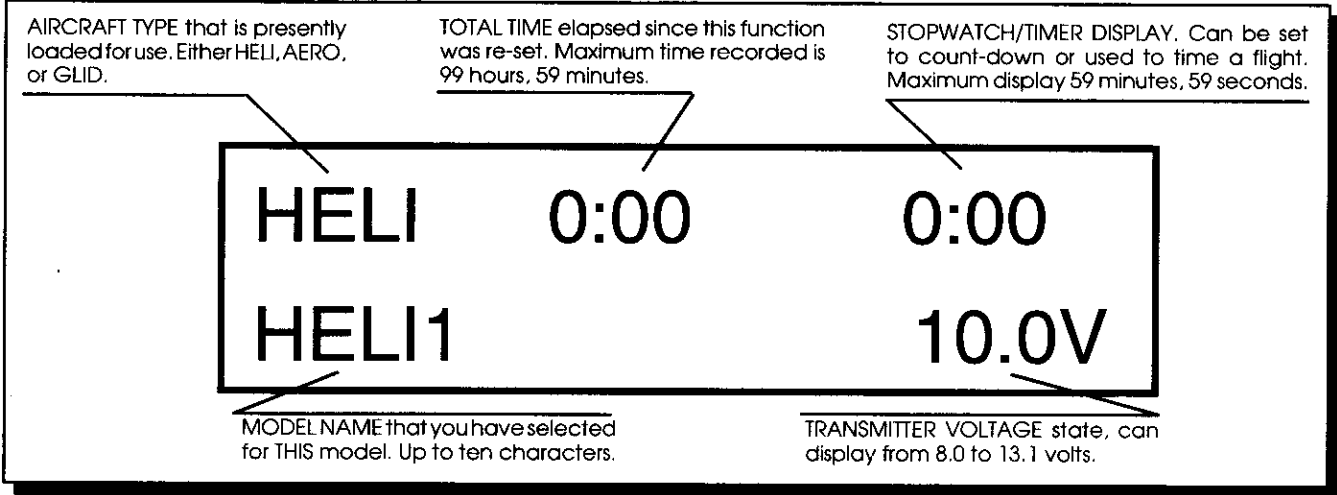
In most cases all of the programming steps possible with the Infinity 660 are accomplished through use of the Input Keys. These keys are located next to the LCD display panel, under the protective cover on the bottom face of the Infinity 660 transmitter. The function(s) of these keys are shown below.



INITIAL SCREEN DISPLAY

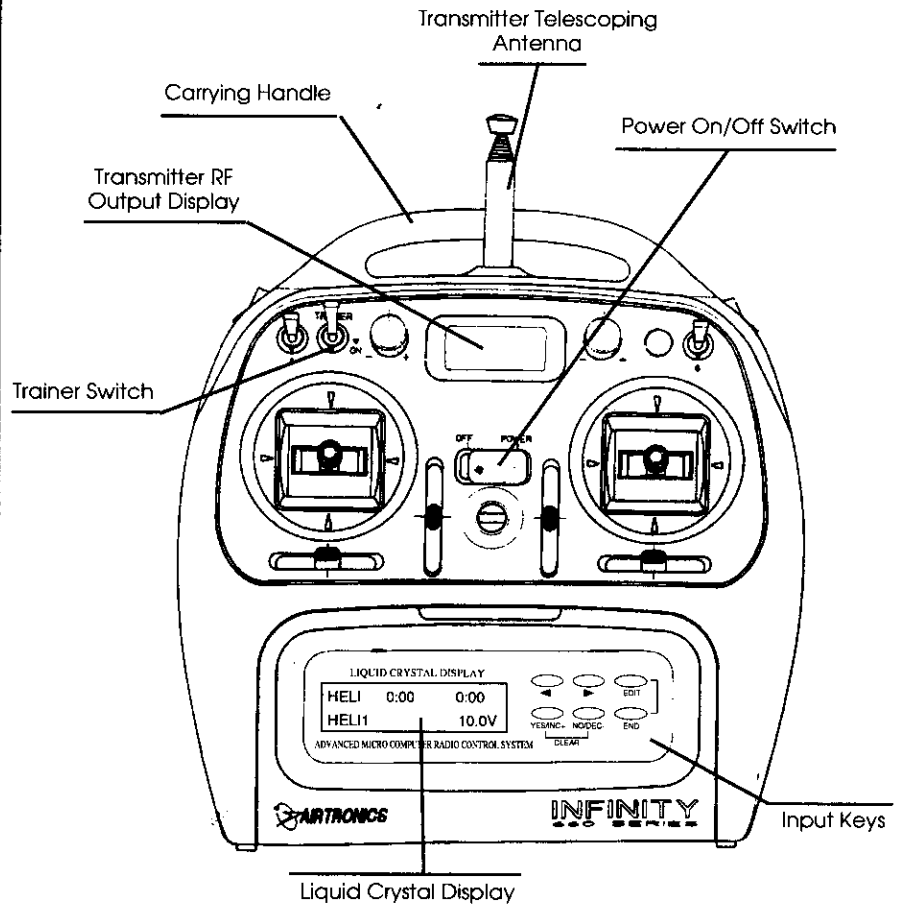
Regardless of the aircraft type being programmed, the first screen displayed is for informational purposes only; no programming is possible on this screen only. If the Infinity 660 transmitter was turned off with another screen selected, that screen will appear instead of this Initial Screen. Pressing the END button one or two times will cause the initial screen to be displayed. You should ALWAYS return to the Initial Screen before flying your aircraft, to ensure that you have locked-in (set within the software) any program changes and to present a display of the important information presented within this screen.

Data presented in the Initial Screen is explained below:



'FIXED' TRANSMITTER COMPONENTS

These components are always the same, and function in the same manner, regardless of aircraft type.



SHARED FUNCTIONS

The screens and specific functions functions described on the following pages are common to all aircraft types.

ALL screens and settings for specific aircraft types are covered in detail in the respective model type sections of this manual.

**'CLICK'
Transmitter Audio**

The Infinity 660 normally is set to emit an audio tone whenever the programming cursor is moved, when screens are changed, when values are changed and when the stopwatch function is started or stopped or reaches the final ten seconds of count-down.

It is possible to disable the 'click,' or audio tone, using software settings. When the tone is disabled, **ONLY** the stopwatch countdown will still cause an audio tone to be emitted.

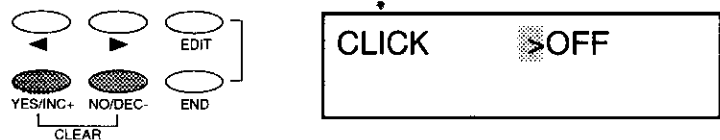
To set the 'Click' function, press the EDIT key until the following screen is displayed:



Note that the first letter of the CLICK function is highlighted with a blinking square rectangle; this rectangle is the CURSOR position indicator. Since the cursor is presently over the function you wish to investigate, press the YES/INC+ key to bring up the programming screen for the CLICK function:



The CLICK screen has only one programming position, so the cursor is over the ON position. Now you can press the YES/INC+ key (or in this case the NO/DEC- key) to change the present setting. Press either of these keys now.



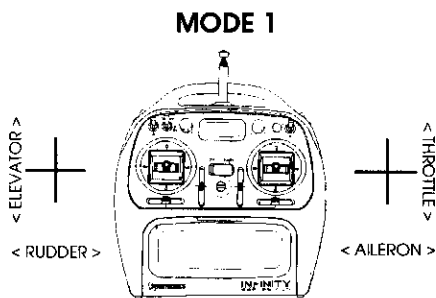
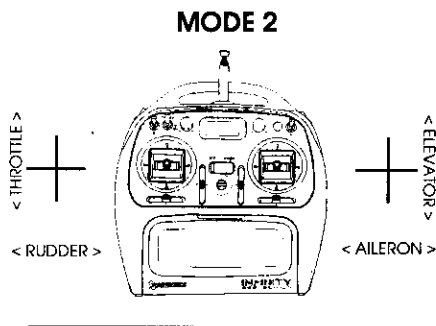
Now the CLICK display has changed from ON to OFF. In the OFF position, the audio tone will only sound when the stopwatch countdown mode is active in its final ten seconds.

Press the YES/INC+ key again to turn the audio 'click' back on. You now have performed almost every function required to make a programming choice within the Infinity 660 software!

You now have performed almost every function required to make a programming choice within the Infinity 660 software!

**MODE 1 or MODE 2
Software Setup**

Along with the mechanical conversion, you also must 'inform' the software which function is assigned to which control stick - BUT ONLY IF YOU WISH TO CHANGE TO MODE 1 CONFIGURATION!



The majority of pilots fly with what is known as 'Mode 2' transmitter stick configuration. This configuration places the Aileron and Elevator functions on the RIGHT transmitter control stick, and Rudder and Throttle on the LEFT transmitter control stick. Within this manual most examples refer to a Mode 2 setup.

Some pilots prefer to switch the Throttle and Elevator functions to the opposite sticks. This configuration is called 'Mode 1.' On Page 11 the mechanical conversion process is outlined. Along with this mechanical conversion, you also must 'inform' the software which function is assigned to which control stick - BUT ONLY IF YOU WISH TO CHANGE TO MODE 1 CONFIGURATION! The software is already programmed for proper operation with Mode 2 configuration.

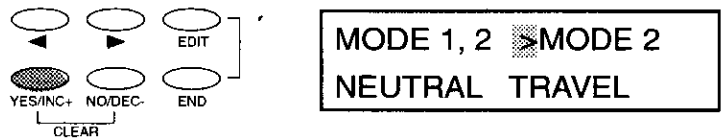
To reset the Infinity 660 software for Mode 1 operation, press the EDIT key to bring up the following screen:



The cursor indicator is over the CLICK position at first when this screen is presented. To move the cursor to the MODE 1,2 program position, press the > key.



Now with the cursor located over the MODE 1,2 position, press the YES/INC+ key to bring up the MODE 1,2 program screen.



The cursor is on the MODE position, and indicates MODE 2 is presently selected. To change to Mode 1, press the YES/INC+ key. The display will change to read MODE 1 as shown below:



Next you must update the Neutral and Travel information for the changed transmitter stick assignments. To do this, set the transmitter throttle stick to the neutral (center) position. Now press the > key to move the cursor to the NEUTRAL position as shown below.

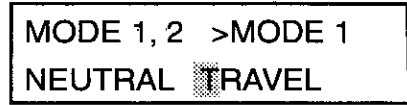
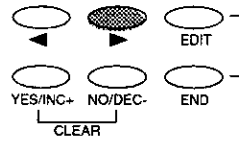


(Continued on next Page)

Mode 1,2 Selection ...

Now with NEUTRAL selected in the screen and with the throttle stick in the neutral position, press the YES/INC+ key. This will update the neutral position of the transmitter sticks.

Next press the > key to move the cursor to the TRAVEL position.



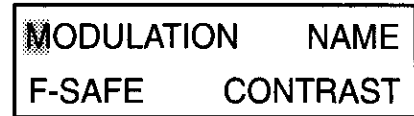
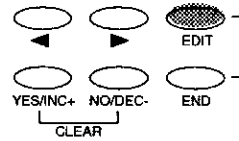
Now you can update the stick travel settings as follows: Move the throttle stick to the full high (upper) position, then press the YES/INC+ key. Next move the throttle stick to the full low position and press the YES/INC+ key. These steps will update the travel information for the throttle stick. (Trim position is not relevant for these steps.)

Repeat the same steps (Upper stick position, press the YES/INC+ key; Lower stick position, press the YES/INC+ key) for the Elevator stick.

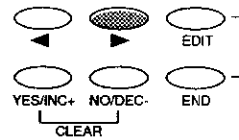
You have now updated all settings required for Mode 1 operation.

CONTRAST

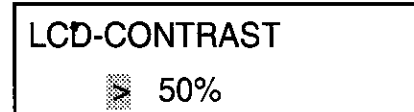
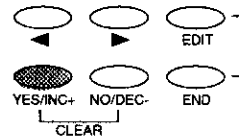
The CONTRAST of the Infinity 660 Liquid Crystal Display can be adjusted for user preference. To adjust the contrast, press the EDIT key until you see the following screen:



Press the > key to move the cursor to the CONTRAST position.



Press the YES/INC+ key to see the CONTRAST program screen.



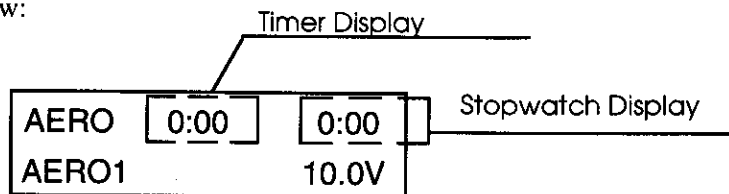
The present, default setting for contrast is 50%, as displayed. You can increase the contrast setting up to 100% by pressing the YES/INC+ key; the contrast setting can be decreased to 0% by pressing the NO/DEC- key.

Pressing both the YES/INC+ and NO/DEC- keys simultaneously will 'clear' the setting back to the default setting of 50%.

STOPWATCH FUNCTION

Infinity 660 offers a built-in timer and allows the pilot to use a stopwatch function in either elapsed-time mode or in countdown mode.

The Stopwatch and Timer displays are shown in the initial screen of all aircraft types, as below:



To use the timer or stopwatch functions, press EDIT to arrive at the following screen:



Press the > key to move the cursor to TIMER.



Press the YES/INC+ key to access the TIMER STW program screen.



The cursor is positioned over the STW, or STOPWATCH position. If you want to use the STW as a timer (for example, to measure flight duration) you will set the STW function to 00:00 as shown. Then, when you activate the stopwatch function by pressing the assigned switch, the timer display will count up to a maximum of 59 minutes, 59 seconds. Pressing the STW switch a second time will cause the timing to stop.

You can also set the STW function to work as a countdown stopwatch. To do this, set the cursor to the STW position as shown above. Then use the YES/INC+ key to increase the STW setting, in 10-second increments, up to a maximum of 59 minutes and 50 seconds. For now, set the STW timer to 3 minutes, 10 seconds as shown:



Now press the END key to return to the Initial Screen display that will normally be displayed when you are in flight.

Continued on next page

Stopwatch Function ...

AERO	0:00	3:10
MODEL NAME		10.1V

Note that the Stopwatch display in the initial screen shows the 3:10 setting you just set.

Now activate the stopwatch function by pressing the assigned switch. (If no switch is presently assigned, see the SWITCH ASSIGNMENTS sections of any Model Type setup in the following sections.)

The Initial Screen display will start to count down in one-second increments. When the remaining time reaches 10 seconds, a short audio tone will sound, and will repeat in one-second intervals. When the timer reaches zero, the audio tone will sound one final long tone.

AERO	5:04	:10
MODEL NAME		10.1V

Tone sounds at one-sec. intervals starting at 10 seconds remaining.

You can stop, then re-start the countdown timer whenever desired by pressing the assigned switch each time you wish to either start or stop the countdown.

After the Stopwatch reaches zero, if the function is not deactivated, it will continue to act as a timer counting upwards in one-second intervals.

Pressing the YES/INC+ and NO/DEC- keys simultaneously will reset the timer to the original selected time value.

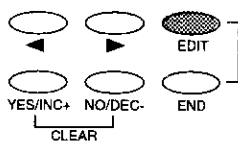
INTEGRAL TIMER

The Integral Timer function of Infinity 660 is activated each time the transmitter power switch is turned on, and continues to time up to 99 hours and 59 seconds at all times when the transmitter is turned on. This timer will give an excellent indication of how many hours of actual use your Infinity 660 transmitter has accrued. Or, you may wish to re-set the timer to zero at certain intervals — for instance, each time you charge the transmitter battery pack.

AERO	5:04	:10
MODEL NAME		10.1V

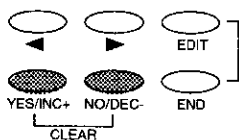
Integral Timer display in the Initial Screen indicates 5 hours and 4 minutes of elapsed time.

To reset the Integral Timer, press the EDIT key to display this screen:



TIMER STW	>	00:00
INTEGRAL	>	5:04

Press the > key to move the cursor to the INTEGRAL position. Now press both the YES/INC+ and NO/DEC- keys simultaneously to reset the timer to zero.

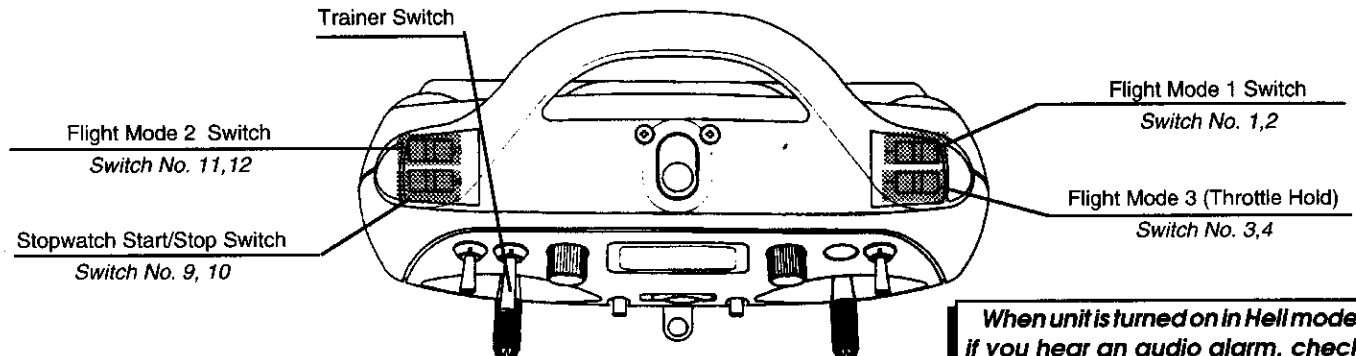
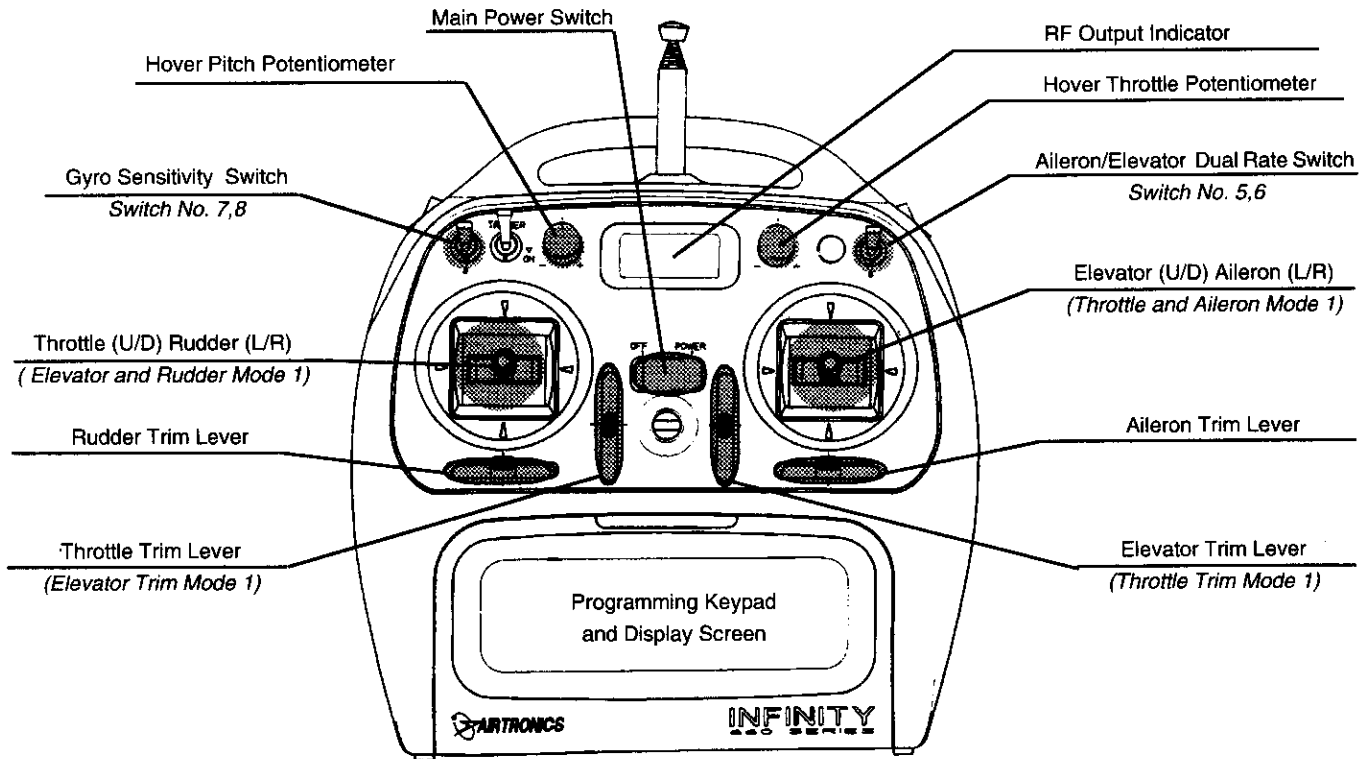


TIMER STW	>	00:00
INTEGRAL	>	00:00

AERO	0:00	0:00
AERO1		10.0V

Initial Screen display will now show that Integral Timer has been reset to zero.

Infinity 660 User's Manual — HELICOPTER



When unit is turned on in Hell mode, if you hear an audio alarm, check that unit is not in Throttle Hold with an Idle-Up activated.

Read This!!

Infinity 660 ships with all four models programmed for HELI, with proper default switch settings. IF YOU CHANGE TYPES, (to Aircraft or Glider) or if you use the Data Reset at any time, the switch assignments will need to be checked. The chart at the right shows the intended 'default' switch assignments. It is recommended that you at least start out with these assignments, as this will make your system consistent with this manual. Later, you may change switch assignments to personalize your setup for your own flying preferences.

NOTE: A "0" default setting means that function is not presently assigned to a switch. To make the function operative you must assign it to a switch or assign it to be always on.

SCREEN ONE	..... Default
Flight Mode 1	..... 1
Flight Mode 2	..... 12
Flight Mode 3	..... 3
SCREEN TWO	
Dual Rates	
D/R A1	..... 6
A2	..... 5
E1	..... 6
E2	..... 5
SCREEN THREE	
R1	..... 0
R2	..... 0
ALTERNATE	..... 0
SCREEN FOUR	
Gyro	..... 8
C-Mix	..... 0
STW (Stopwatch)	..... 9

The receiver channel assignments below apply to both the PCM and FM receivers provided with Infinity 660 systems.

RECEIVER CHANNEL ASSIGNMENTS	
Receiver Plug No.	Plug In Servo For:
1	.. Throttle
2	.. Aileron
3	.. Elevator
4	.. Rudder
5	.. Gyro
6	.. Collective Pitch
B	.. Battery - input end of switch harness. NOT FOR SERVO!

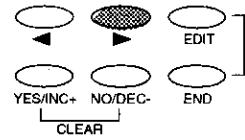
This same order applies to the servo reversing screen positions.

Infinity 660 Menu Summary — Helicopter Menus

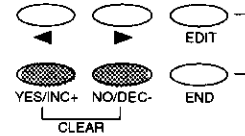
MENU SAMPLE	EXPLANATION/ACCESS <i>(Note; positions are left to right, top row, then left to right, bottom row)</i>
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> HELI 0:00 0:00 HELI 10.0V </div>	First Position Displays present model type Second Position Total Time Display, Hours:Minutes Third Position Stopwatch/Timer Display, Minutes:Seconds Fourth Position Present Model Name Fifth Position Present Transmitter battery pack voltage
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> PI-CURVE TH-CURV TRIM-M RU-OFFSET </div>	First Position Pitch Curves position Second Position Throttle Curves position Third Position Trim Memory position Fourth Position Rudder Offsets position
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> D/R EXP HVP HVT REV-MX HOLD C-MIX </div>	First Position Dual Rates position Second Position Exponential position Third Position Hover Pitch Trim position Fourth Position Hover Throttle Trim position Fifth Position Tail Rotor Compensation Mixer position Sixth Position Throttle Hold Adjustment position Seventh Position Compensation Mixer position
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> CENTER M-SELECT EPA REV SW GYRO </div>	First Position Servo Centering position Second Position Model Selection position Third Position Servo End Point Adjustment position Fourth Position Servo Reversing position Fifth Position Switch Assignments position Sixth Position Gyro Sensitivity Adjustment position
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> ALTER TIMER TYPE D-COPY D-RESET </div>	First Position Alternate Function position Second Position Timer Set Third Position Aircraft Type position Fourth Position Data Copy position Fifth Position Data Reset position
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> MODULATION NAME F-SAFE CONTRAST </div>	First Position Modulation Type position Second Position Name Assignment position Third Position Fail-Safe Assignment position Fourth Position Transmitter Screen Contrast position
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> CLICK (MODE 1,2) </div>	First Position "Click" or beep volume position Second Position Transmitter Mode Selection

TO SELECT HELICOPTER SET-UP:

Press EDIT key to arrive at the screen shown below. Press > button to place cursor over TYPE.



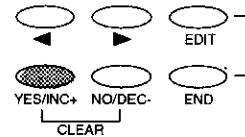
Now press the YES/INC+ button. You will see a screen such as that shown below.



If HELI is not currently displayed to the right of the cursor position, press the YES/INC+ button or NO/DEC- button until HELI is displayed. (The possible choices are: AERO, for powered aircraft; HELI, for helicopter, or; GLID for sailplanes.) To confirm your selection press the > key to move the cursor to the >YES position, then press the YES/INC+ key. Note that HELI now appears in both lower screen positions.

Possible choices are:

- AERO, for powered aircraft
- HELI, for helicopter
- GLID, for sailplanes.



BASIC HELICOPTER SETUP

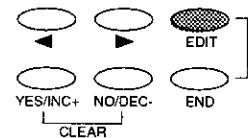
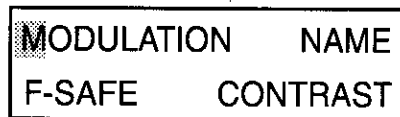
In this section you will learn to name and save your helicopter set-up(s), implement the basic control functions, and tailor the servo movement and centering for each control.

Pressing the END key on the front control panel will bring you to the following screen, the INITIAL SCREEN:



This screen tells you several valuable things as stated in the Introduction section of this manual. If you are not familiar with this screen, please refer to that section!

To set up your model, press the EDIT key until you reach this screen:

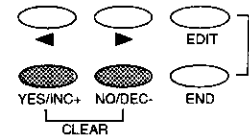
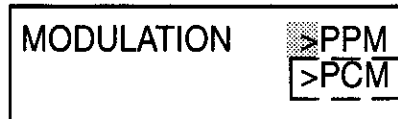


Note that the cursor is over the first menu choice, MODULATION. Press the YES/INC+ key, and this screen will appear: (See next page)

HELICOPTER

BASIC HELICOPTER SETUP ...

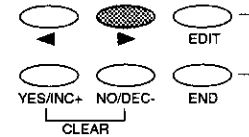
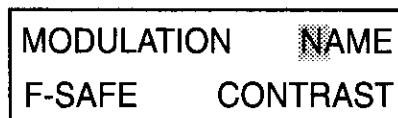
PCM modulation is only available if you are using a PCM receiver!



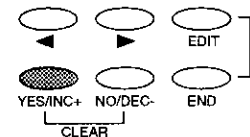
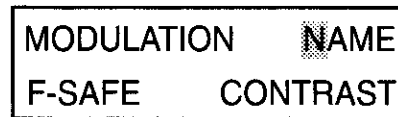
This screen allows you to select PPM FM operation or PCM FM operation. Press the YES/INC+ or NO/DEC- key to change the currently displayed choice. *PCM modulation is only available if you are using a PCM receiver!*

NAMING THE PRESENT HELICOPTER

When you have set the proper modulation, press the END key to return to the prior screen. Press the > key to place the cursor over the NAME position.



You may use any combination of LETTERS, NUMBERS, Colon (:), Dash (-) or Spaces up to a total of 10 characters.



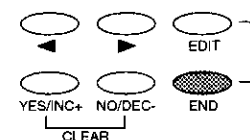
With cursor positioned over NAME, press the YES/INC+ key to reach this screen:



Press both the YES/INC+ and NO/DEC- keys at the same time to CLEAR the present name, if any.

The cursor will now be pointing to the first NAME space. You may use any combination of LETTERS, NUMBERS, Colon (:), Dash (-) or Spaces up to a total of 10 characters. To select the character for the first position, press the YES/INC+ or NO/DEC- key to move through the available characters. When you reach the desired letter or character, press the > key to move to the next position. Continue until you have completed your present model's name or description, then press END to return to the prior screen.

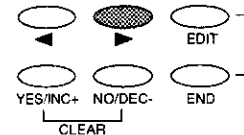
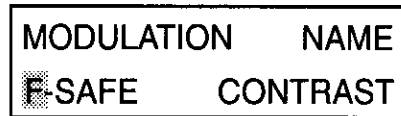
You may edit or correct any character or the entire name at any time by repeating this section.



You are done naming your present helicopter. You may edit or correct any character or the entire name at any time by repeating this section.

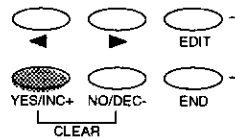
FAIL SAFE

Now press the > key to position the cursor over F-SAFE. This allows you to enable the Failsafe function of your Infinity 660.



FAILSAFE is ONLY available when you are using a PCM receiver and transmitting in the PCM Modulation mode. If you are transmitting PPM FM you will not be able to enable the F-SAFE function.

Now press the YES/INC+ key to see this screen:



NOTE: If interference is present when Failsafe is not active, in PCM Modulation, the receiver will 'hold' the last command received until the signal is again established.

There is NO cursor position in this screen. You program the desired Failsafe servo position by placing the control sticks in the desired position; for example, low throttle, slight up elevator and slight turn command. When the positions are set, press the YES/INC+ key to set those positions in memory. To check your settings (after programming in your control throws and directions) simply turn the transmitter power switch OFF and check that the controls go to the preset positions. These are the positions the radio will assume if control is temporarily lost due to interference or transmitter problems.

NOTE: If interference is present when Failsafe is not active, in PCM Modulation, the receiver will 'hold' the last command received until the signal is again established. With either type modulation control will be regained as soon as the receiver 'sees' a clean signal from the transmitter.

Because of the inherent instability of helicopters, many helicopter pilots prefer to leave the failsafe feature in "hold" rather than setting failsafe positions. You will need to decide what is best for your specific installation.

SPECIAL NOTES

During the radio installation and set-up process for your helicopter you will find it helpful to mark each servo with it's control function and the direction for specific control application, i.e. 'right tail rotor,' 'high throttle,' etc. This way you can look at the servo to ascertain the effect of slight control adjustments, rather than looking at the control itself.

Infinity 660 is not designed to accommodate CCPM style swashplate mixing.

During field set-up and fine tuning you will find it necessary to make adjustments that either change throttle settings, or require changing the throttle stick position in order to make the program changes. BE CERTAIN to kill the engine before making these changes!

Finally, always be certain which flight mode your transmitter is set for before starting the machine or taking off. Regardless of the flight mode selected, be certain the throttle is in the 'low' position with the trim properly set each time you start the engine.

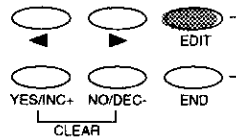
SERVO REVERSING

The Infinity 660 allows you to electronically REVERSE the direction of rotation for each of the servos in use.

The Infinity 660 allows you to electronically REVERSE the direction of rotation for each of the servos in use. This allows you to hook up your control linkages and pushrods in the most mechanically desirable manner, without regard to the direction of servo movement.

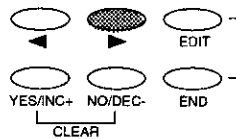
After installing your linkages, check to see if any of the controls move in the wrong direction when you move the transmitter controls. If so, proceed as follows.

Press the EDIT key until you arrive at the following screen:



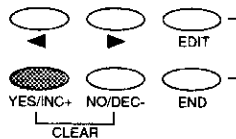
CENTER M-SELECT
EPA REV SW GYRO

Press the > key to position the cursor over the REV position.



CENTER M-SELECT
EPA **REV** SW GYRO

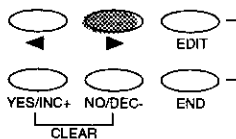
Now press the YES/INC+ key to see the following screen:



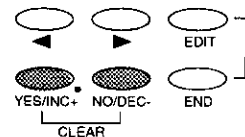
REVERSE
NORMAL **1**23456

The default positions shown have all channels operating in the NORMAL direction, so all channel numbers are in the lower row as shown above.

If, for instance, you wish to change the direction of rotation of the servos operating on channels number 1 and number 3, press < or > keys to position the cursor over the desired channel number(s), then press the YES/INC+ or NO/DEC- key to change that channel to the REVERSE direction.



REVERSE
NORMAL **1**23456



Reversing Position.....	Reverses This
1	Throttle
2	Aileron
3	Elevator
4	Rudder
5	Gyro
6	Collective Pitch

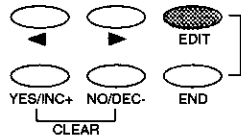
Those channels you have changed to reverse rotation will now appear in the upper row in the REVERSE position.

REVERSE **1 3**
NORMAL 2 456

In this example, Channels 1 and 3 have been set for REVERSE rotation.

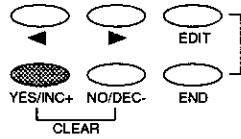
SETTING CONTROL CENTERING

The Infinity 660 allows you to fine-tune the CENTER or neutral position of all flight control servos. After hooking up your controls and mechanically centering all linkages to the approximate positions, press the EDIT key to arrive at the following screen:



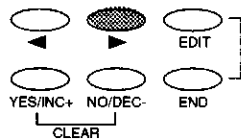
CENTER	M-SELECT
EPA REV	SW GYRO

Now press the YES/INC+ key. You will see this screen:



CENTER	TH 0%
AI 0%	EL 0% →

By pressing the > key (or < key) you can position the cursor over the desired control function. Note the arrow at the far right of the bottom row of this screen; this indicates that there are more cursor positions than presently displayed. If you continue to press the > key past the EL position, you will see the remainder of the CENTER screen positions as shown below.



CENTER	TH 0%
AI 0%	EL 0% →

← RU 0%	PI 0%
---------	-------

It is desirable to adjust the control linkages as close as possible to the correct center positions, then use the CENTER commands to "fine tune" the exact position of the control surface when the transmitter control is in neutral.

The channels for which electronic centering is available are abbreviated in the CENTER menus as follows:

- TH = Throttle
- AI = Aileron (left/right cyclic)
- EL = Elevator (fore and aft cyclic)
- RU = Rudder (Tail rotor)
- PI = Pitch (Main rotor)

The value displayed as a percentage (%) to the right of each channel abbreviation shows the present centering adjustments. Default position is zero.

IMPORTANT NOTE:

It is desirable to adjust the control linkages as close as possible to the correct center positions, then use the CENTER commands to "fine tune" the exact position of the control surface when the transmitter control is in neutral.

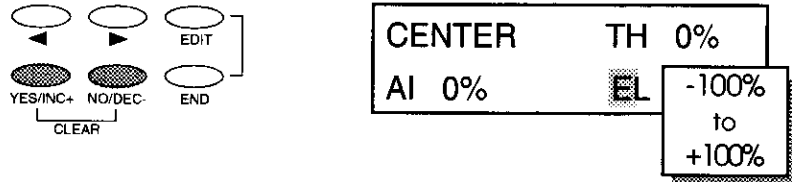
Using a very large amount of electronic centering adjustments will decrease the total throw available for that channel. In particular, centering adjustments greater than + or - 50% will tend to make the extreme stick position on one end less responsive.

Setting Control Centering ...

To adjust the centering of any channel, press the > or < key to place the cursor over that channel's position. (For this example we'll adjust the centering of the Elevator servo; so position the cursor over the EL position as shown).



Now, by pressing the YES/INC+ or NO/DEC- keys you can adjust the centering for the selected channel. The value range possible is from -100% to +100%.



By positioning the cursor over each channel position for which centering adjustments are desired, then setting the CENTER position with the YES/INC+ or NO/DEC- keys, set the centering for each channel.

END POINT ADJUSTMENTS (EPA)

In general, it is best to use as close to 100 percent servo throw as possible. This allows for the best possible resolution and centering of all control surfaces.

The Infinity 660 allows you to adjust the 'End Points,' or servo travel limits, for all flight channels.

In general, it is best to use as close to 100 percent servo throw as possible. This allows for the best possible resolution and centering of all control surfaces. However, in some cases it is not possible to use full servo movement — such as those instances where short control horns must be used because of aircraft design considerations, or with fixed-length control horns such as a throttle arm.

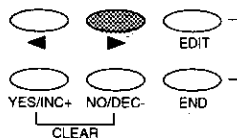
To electronically adjust End Points for servo travel, press the EDIT key to arrive at the following screen:



Press the > key to position the cursor over the EPA position.



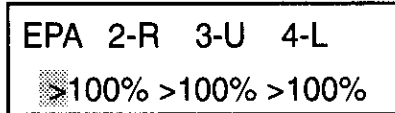
Now press the YES/INC+ key to see the EPA screen as shown on next page.



(Continued on next Page)

End Point Adjustments (EPA) ...

(Continued from previous page) Here is the EPA screen.



How To Use The EPA Screens

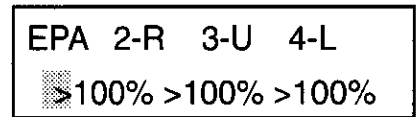
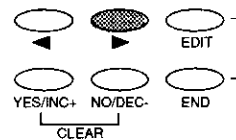
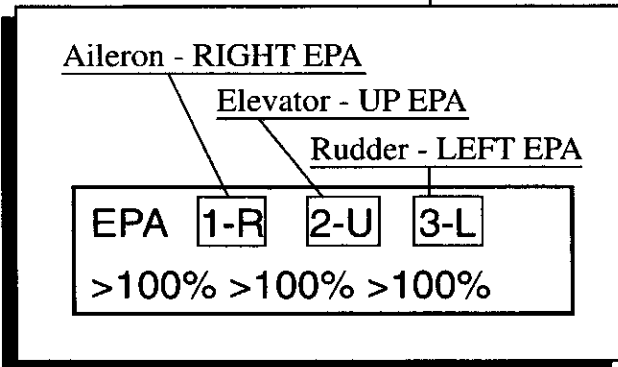
In the EPA screens, the top row shows the three channels for which EPA adjustments are available AND the current End Point for which the adjustments can be made. The bottom row of data is the present setting for the currently displayed End Point.

The order of functions displayed in the EPA menus is: Aileron, Elevator, and Rudder.

(Note that the letters following the channel designating numbers in the top row may vary from the illustrations, depending on your present stick positions.)

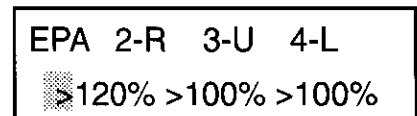
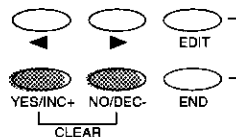
No EPA settings are available for the Throttle and Collective Pitch channels, as these channels have complete multiple-point adjustment availability in their own screens.

To set your individual End Points, use the < or > keys to position the cursor over the desired control function's present setting.



In this example, we have selected the EPA setting for the first function, Aileron. On the top row, the present display shows "2-R," which means you can now make changes in the RIGHT travel limit for the Aileron servo(s).

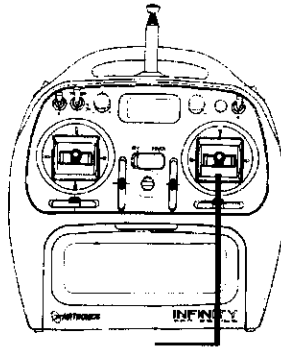
Pressing the YES/INC+ or NO/DEC- keys will increase or decrease the amount of servo rotation caused by full RIGHT deflection of the aileron stick. The range of EPA adjustment is from 0-150%.



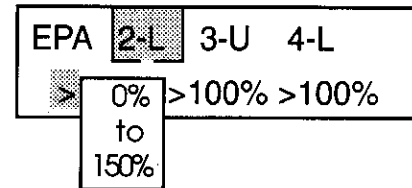
(Continued on next Page)

EPA Screens ...

To set the EPA for LEFT MOVEMENT of the Aileron function, move the aileron stick to the left. Now the EPA screen will show as follows:



Move Aileron Stick to the left.



The 2-L now in the second position means that your End Point Adjustment will now apply to the LEFT extreme of servo travel.

In a similar manner, you can determine which End Point your adjustments will affect by moving the appropriate stick in the direction of the desired End Point adjustment for Elevator and Rudder.

GYRO ADJUSTMENT

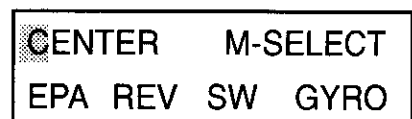
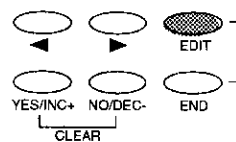
It is possible to program two levels of gyro sensitivity*, and switch between the two in flight with the Infinity 660.

In this manner the pilot can adjust the gyro for a suitable level of sensitivity for one flight mode (for instance, hover) and by changing a switch setting alter the sensitivity for either more or less stabilization.

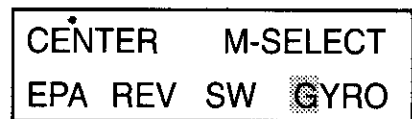
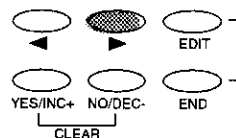
*Actually four levels of sensitivity can be selected in-flight by using the gyro screens in combination with the alternate model option. *The gyro sensitivity program will require the use of a gyro that offers remote sensitivity adjustment.

The gyro sensitivity program will require the use of a gyro that offers remote sensitivity adjustment.

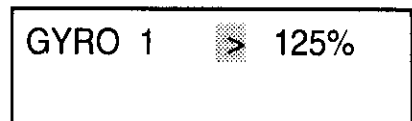
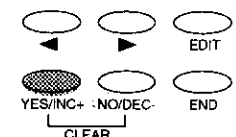
Press the Edit key to reach the following screen:



Press > key to position cursor over the GYRO position.

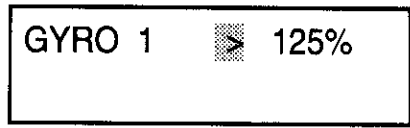
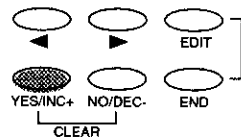


Press the YES/INC+ key to display the GYRO screen:



(Continued on next Page)

Gyro Adjustment ...



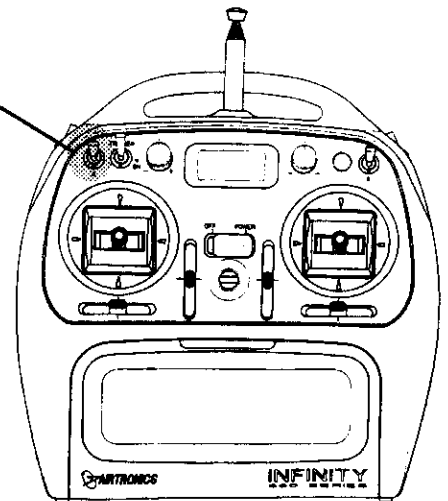
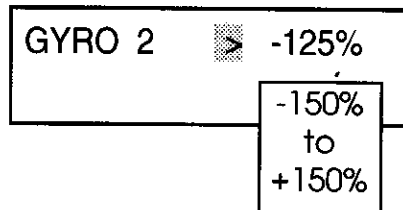
When the GYRO screen is presented, it will display the present Gyro switch setting and the present sensitivity adjustment. In this case, GYRO 1 setting is at the default value of 125%.

To adjust the sensitivity for GYRO 1, press the YES/INC+ or NO/DEC- key. The range available is from -150% to 150%.

The default program selects switch #7, 8 for the Gyro sensitivity switch. This switch is on the upper left face of the transmitter. Switch position #8 selects GYRO 1, and switch position #7 selects GYRO 2.

To adjust the sensitivity of GYRO 2, move the transmitter switch to the #7 position. The GYRO screen will change from GYRO 1 to GYRO 2 depending on the Gyro Switch position.

Switch #7,8 is the pre-set GYRO selection switch.



Note that the default for GYRO 2 is -125%, as opposed to the GYRO 1 default of (+)125%. Both can be adjusted from -150% to 150%.

If desired, the Gyro Switch can also be assigned to control the Dual Rate and Exponential functions for the tail rotor control. See the sections on SWITCH ASSIGNMENTS and DUAL RATES and EXPONENTIAL for more information.

ALWAYS BE SURE WHICH GYRO SETTING IS SELECTED! Taking off with an unexpected Gyro setting may cause loss of control.

DUAL RATES

Dual Rate adjustments allow you to switch from your 'standard' control deflection to a reduced or increased amount of throw by simply flipping a switch. The actual speed of signal processing and servo movement are not affected by the Dual Rate settings, only the amount of total servo throw available.

Infinity 660 allows Dual Rate settings for Aileron, Elevator and Rudder. To access the Dual Rate settings, press the Edit key to reach this screen:

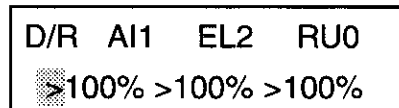


Dual Rate adjustments allow you to switch from your 'standard' control deflection to a reduced or increased amount of throw by simply flipping a switch.

With the cursor positioned over the D/R position, press the YES/INC+ key.

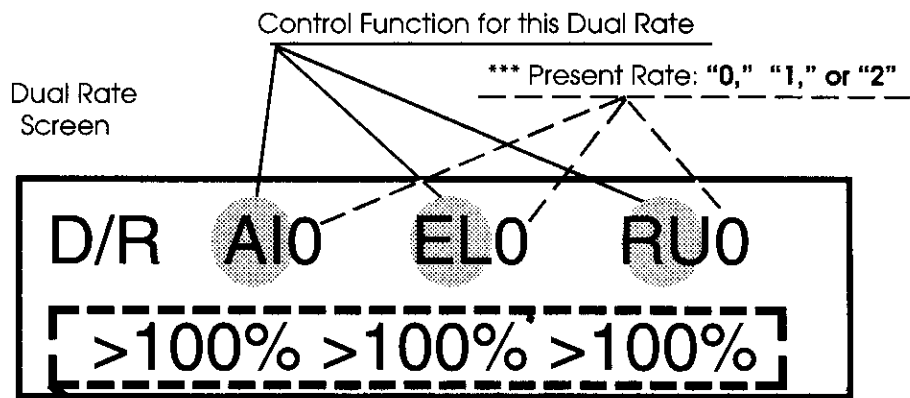


The Dual Rate screen will appear as shown below:



This screen tells you the present rate status and, when a Dual Rate switch is set to an ON position, the alternate rate for that control function that is presently set in the program. See diagram below.

The DUAL RATE Screen



***** Present Rate Display Explanation:**
 0 is Normal
 1 is Dual Rate #1
 2 is Dual Rate #2

Present alternate rate setting. Range is from 0% - 150%.

SWITCH POSITION FOR:

Abbrev.	Function	*Rate 1	Rate 2
AI	Aileron	6	5
EL	Elevator	6	5
RU	Rudder	**None	None

*Default switch assignments and positions.

**Rudder is not assigned to a switch but can be user set.

(Continued on next Page)

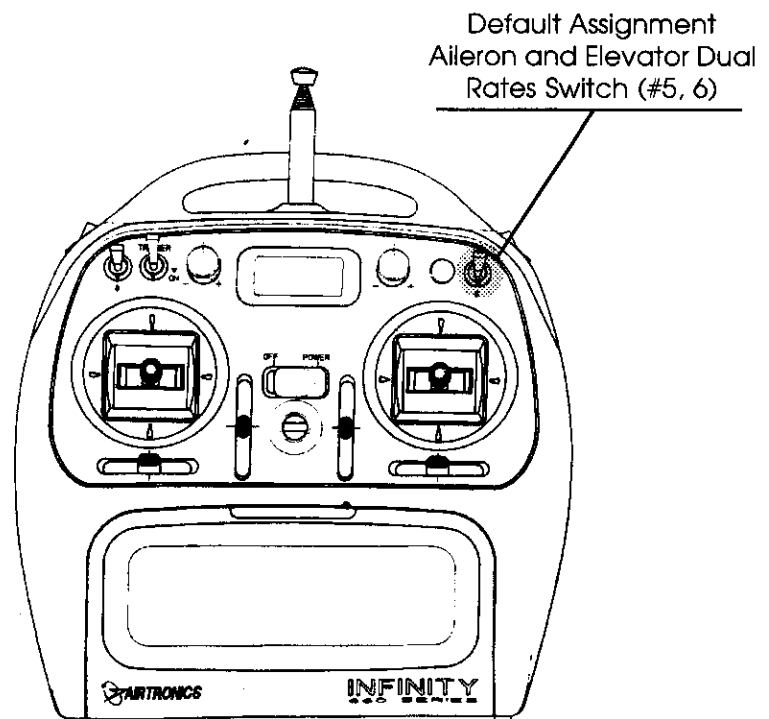
Dual Rates ...

The Dual Rate screens, used with the Switch assignment options, offer far more flexibility than traditional 'dual rate' switches.

It is important to understand that the term "Dual Rate" is used because it is an old and familiar description. It does NOT, however, provide a very complete description of the many options possible when using the Dual Rate functions of the Infinity 660.

The Dual Rate screens, used with the Switch assignment options, offer far more flexibility than traditional 'dual rate' switches. It is almost impossible to list all of the options possible with the Infinity 660's Dual Rate functions; you should study this portion of the manual along with the sections covering Exponential and Switch Assignments to arrive at the optimum use of these functions on your specific aircraft. Here are some important pointers about the Dual Rate functions of the Infinity 660:

- There are THREE possible rates available for each of the three controls: Aileron, Elevator and Rudder. These rates are (0) Normal, (1) Dual Rate #1, and (2) Dual Rate #2.
- You may assign any of the possible rates (Normal, Dual Rate #1 and Dual Rate #2) to cause **reduced** or **increased** throw of that control.
- Any or all of the Dual Rate positions may be assigned to any switch.
- Any Dual Rate switch may also activate or deactivate Exponential settings.
- If you activate the switches for BOTH Dual Rate #1 and Dual Rate #2 at the same time, regardless of which is activated first, Dual Rate #1 will be active.



In the standard default settings, the Aileron and Elevator Dual Rate switch is assigned to the location shown above. Rudder is not assigned to a switch, and thus cannot have a Dual Rate set unless you change the default switch assignments as explained in a later section of the manual. Note that Aileron and Elevator default to Dual Rate #1 rather than 'normal,' and switch from rate #1 to rate #2.

(Continued on next Page)

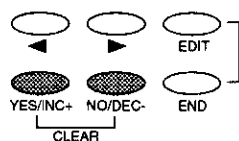
Dual Rates ...

To set an alternate rate for any of the three possible control function, turn the switch for that function to the Dual Rate 'On' position. Below we'll assume that the Aileron and Elevator dual rate switch is in the on position — note that the number following the abbreviations for these functions is "1."

AI and EL display Dual Rate #1 is activated. →

D/R	AI1	EL1	RU0
	>100%	>100%	>100%

By positioning the cursor over the Aileron and/or Elevator positions you may now set the amount of control response available in Dual Rate #1 position by pressing the YES/INC+ or NO/DEC- keys.



D/R	AI1	EL1	RU0
	0%	100%	>100%
	to		
	+150%		

Here we have set the Dual Rate #1 to be 80% of the "Normal" throw for both the Aileron and Elevator channels. The possible range is from 0% of normal to 150%. (Note that you can not increase servo deflection if you already have set the servo throw to its maximum possible settings in the End Point Adjustment settings.)

D/R	AI1	EL1	RU0
	> 80%	> 80%	>100%

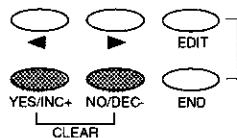
CAUTION:

Proceed with care when setting dual rate functions to ensure that you will have adequate control deflection available in any possible dual rate position. Setting a dual rate to a very low or 0% setting may cause the loss of control of that function!

Always make sure that you are aware of the present status of any rate assignments that you have selected.

If you wish to have Dual Rates available for all channels, and/or want to have three rates available for the flight control functions, you will need to change some switch assignments as shown in the "Switch Assignments" section of this manual. For now, assume that you have assigned switch #5,6 to activate the Dual Rate #1 function for Aileron and Elevator. (You may also assign Dual Rate #1 for Rudder to this switch). When you set the switch to the "On" position, both controls assigned to it will display the number "1" in the Dual Rate Screen.

You can now assign Dual Rate #2 positions to the #7, 8 switch. In this example we'll assume that Dual Rate #2 for Aileron, Elevator and Rudder have all been assigned to the #7 switch position. When this switch is set to #7, you will see the present settings for Dual Rate #2, as shown below.



D/R	AI2	EL2	RU2
	> 60%	> 60%	>60%

In the example above we have set the Dual Rate #2 functions to provide 60% of the "Normal" servo throw for all three control surface functions. The range available is from 0% to 150% of the present "Normal" setting.

(Continued on next Page)

Dual Rates ...

For maximum flexibility in the set-up of your aircraft, you will want to study the instructions for setting EXPONENTIAL and ALTERNATE MODE before completing switch assignments and rates for the Dual Rate function. You must assign Exponential Throw options to the same switch(es) as your Dual Rates, or you may decide to alter any or all of your control settings with one switch by using the Alternate Mode option.

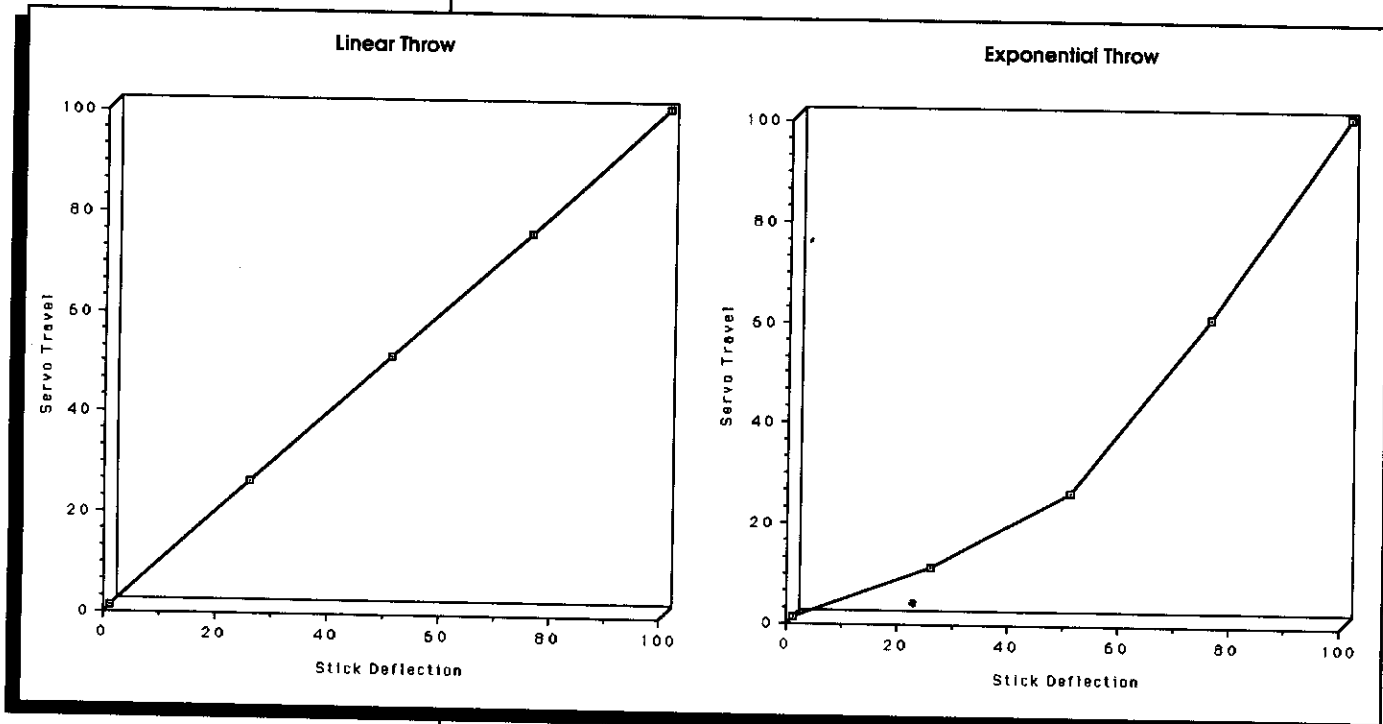
EXPONENTIAL

Exponential settings DO NOT change the amount of servo travel available at 100% control stick deflection; rather they change the amount of servo travel that will occur with stick deflections of less than 100%.

Infinity 660 allows the pilot to choose two settings for Exponential Throw for each of the primary flight channels Aileron, Elevator and Rudder.

Exponential Throw is primarily used to 'soften' or decrease the stick sensitivity of a control around the neutral point. With Exponential disabled, a control function servo will move in an amount proportional to the amount of stick deflection; i.e. 50% stick deflection will result in 50% servo travel; 75% stick deflection will cause the servo to travel to 75% of its presently set maximum throw.

Exponential settings DO NOT change the amount of servo travel available at 100% control stick deflection; rather they change the amount of servo travel that will occur with stick deflections of less than 100%. The first 25% of stick deflection may be set to result in only 10% of total servo throw, making the control less sensitive around neutral. See illustration below.



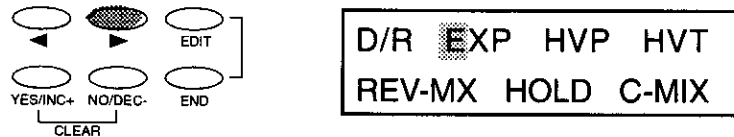
If you have not used Exponential functions before, you will want to start with a very small amount of Exponential (10% - 20%) to determine whether you like this sort of control response. Exponential is most useful where strong control response is desired at extreme stick positions, but softer response to small stick movement is desired in order to make very accurate, small corrections to flight path.

(Continued on next Page.)

Exponential ...

To activate Exponential Throw you must have Dual Rates assigned to a switch. The positions for Exponential #1 and Exponential #2 for each flight control function correspond to the Dual Rates switch position(s) for those functions. In other words, if you have assigned the #5 switch position to turn on Dual Rate #1, then this same switch position will activate Exponential #1 settings for the same control functions. (Note, however, that you can leave the Dual Rates set at 100% so that switching a Dual Rate switch on will activate Exponential only.)

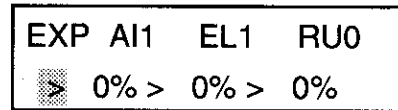
Press the > key to place the cursor over the EXP position.



With the cursor positioned over the EXP position, press the YES/INC+ key.



The Exponential screen will appear as shown below:

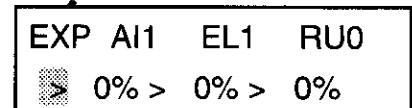


This screen tells you the present Exponential status and, when a Dual Rate/Exponential switch is set to an ON position, the Exponential setting for that control function or functions. Refer to Dual Rate section for an explanation of the screen positions, which are identical for Dual Rate and for Expo.

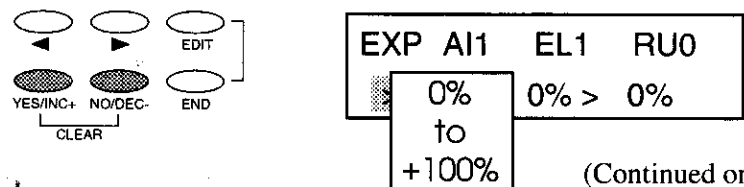
The possible range for Exponential settings for each function is from 0% (Linear Throw) to 100% (Maximum Exponential).

To set an Exponential rate for any of the three possible control function, turn the switch for that function(s) to the Dual Rate 'On' position. Below we'll assume that the Aileron and Elevator dual rate switches are both in the on position — note that the number following the abbreviations for these functions has changed to "1."

AI and EL display Dual Rate and Exponential position #1 is activated. →



By positioning the cursor over the Aileron and/or Elevator positions you may now set the amount of Exponential available in Dual Rate #1 position by pressing the YES/INC+ or NO/DEC- keys.



(Continued on next Page)

Exponential ...

CAUTION:

Proceed with care when setting Exponential functions to ensure that you will have adequate control deflection available in any possible switch position. Setting Exponential to a very high or 100% setting will require very large stick movements to achieve small control responses.

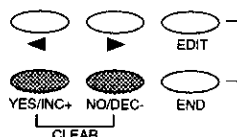
Always make sure that you are aware of the present status of any rate assignments that you have selected.

Here we have set the Exponential Rate #1 to be 20% of the maximum for both the Aileron and Elevator channels. This is a good starting point for determining the suitability of Exponential throw for your aircraft and flying style.

EXP	AI1	EL1	RU0
	> 20%	> 20%	> 0%

If you wish to have Exponential available for all channels, and/or want to have two Exponential rates available for the flight control functions, you will need to change some switch assignments as shown in the "Switch Assignments" section of this manual. For now, assume that you have assigned switch #5,6 to activate the Dual Rate/Exponential #1 function for Aileron and Elevator. (You may also assign Rate #1 for Rudder to this switch). When you set the switch to the "On" position, both controls assigned to it will display the number "1" in the Exponential Screen.

You can now assign Dual Rate/Exponential #2 positions to the #7, 8 switch. In this example we'll assume that Exponential Rate #2 for Aileron, Elevator and Rudder have all been assigned to the #7 switch position. When this switch is set to #7, you will see the present settings for Rate #2, as shown below.



EXP	AI2	EL2	RU2
	> 40%	> 40%	> 40%

In the example above we have set the Rate #2 functions to provide 40% of the maximum amount of Exponential throw for all three control surface functions. Changing these settings is done in the same manner as the Dual Rate setting; i.e. press the > or < keys to position the cursor over the desired control function, then press the YES/INC+ or NO/DEC- keys to adjust the Exponential setting.

In general, large amounts of Exponential are useful only in instances where very large control surface deflection is required at extreme throw, while very small amounts of control response are necessary for smaller control stick inputs.

(You may wish to assign 'low' Gyro sensitivity to the same switch setting as low rate tail rotor in order to utilize all of the rate functions available.)

For most sport and aerobatic models, an Exponential setting from 10% to 25% will give the desired "softness" around neutral.

For the most flexibility in setting up an aircraft model to your liking, study the available options for Dual Rates, Exponential, Switch Assignments and Alternate Modes. The combinations possible when using all of these options allow for in-air alteration of one or several control parameters to several possible set-ups.

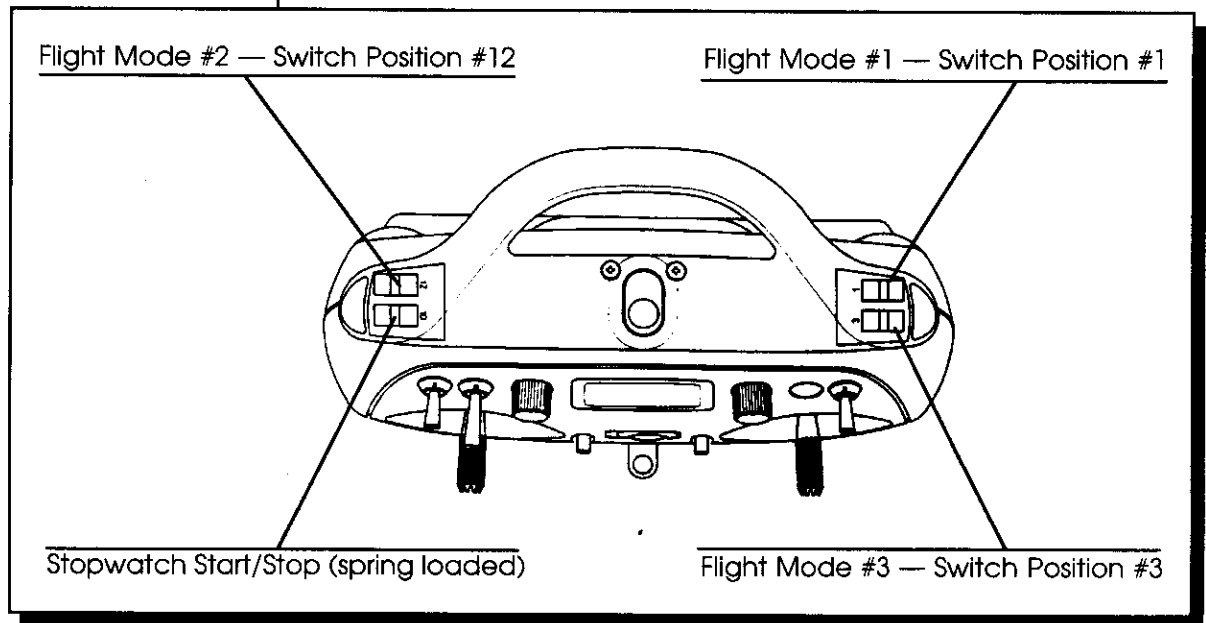
PITCH CURVES (Flight Modes)

Infinity 660 allows you to customize four distinct flight modes for each helicopter. By using the 'Alternate' function you can access a total of eight distinct pitch curves while in flight.

The four pitch curves (flight modes) available for each helicopter are:

- N Normal
- 1 Select Curve One - Idle Up
- 2 Select Curve Two - Idle Up
- 3 Select Curve Three - THROTTLE HOLD

Selecting a pitch curve other than Normal is done by activating a switch on top of the transmitter as shown below.



Always be aware of which flight mode you have selected before starting your engine or attempting flight!

When none of the Flight Modes #1, #2 or #3 are selected, you are in 'Normal' flight mode.

The above switch positions are the factory defaults, and can be changed if desired. **IF DATA RESET IS USED, CHECK FOR THESE SWITCH ASSIGNMENTS.** Because of the international nature of the Infinity 660, the software may not restore these defaults as shown.

The switches are assigned priority as follows: 3, 2, 1. If Flight Mode 2 is selected when Flight Mode 1 is on, Flight Mode 2 has priority. If Flight Mode 3 is selected when Flight Mode 1 and/or 2 is on, Flight Mode 3 has priority.

Because Flight Modes 1 and 2 are idle-up modes, activating Flight Mode 3, which is Throttle Hold, when Flight Mode 1 and/or 2 is active, will cause an audible alarm to sound. This is to warn you of possible erratic or unexpected behavior

You must always be aware of which flight mode you have selected before starting your engine or attempting flight!

(Continued on next Page)

Pitch Curves ...

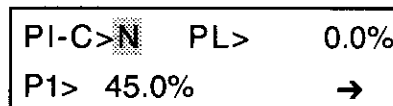
The pitch curve for each flight mode has FOUR points that can be adjusted to suit your specific needs. Within each pitch curve these points are referred to as PL (low pitch) P1, P2 and PH (high pitch). The range of values and the default settings for each point of each pitch curve are shown below:

Flight Mode	Curve Point	Minimum	Default	Maximum
Normal	PL	-25%	0%	125%
	P1	-25%	45%	125%
	P2	-25%	65%	125%
	PH	-25%	100%	125%
F.M. #1	PL	-25%	0%	125%
	P1	-25%	40%	125%
	P2	-25%	60%	125%
	PH	-25%	80%	125%
F.M. #2	PL	-25%	0%	125%
	P1	-25%	35%	125%
	P2	-25%	50%	125%
	PH	-25%	75%	125%
F.M. #3	PL	-25%	-20%	125%
	P1	-25%	30%	125%
	P2	-25%	60%	125%
	PH	-25%	120%	125%

To program your pitch curves, press the Edit key to reach this screen:



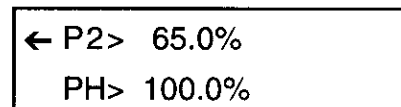
Press YES/INC+ to display the Pitch Curve screen.



The first cursor position (shaded above) indicates the Flight Mode for which the present pitch curve points are set. This position will read either N, 1, 2 or 3. Select the Flight Mode you wish to program using the YES/INC+ or NO/DEC- keys.

The other cursor positions allow adjustment of the PL and P1 pitch settings. Use the < and > keys to place the cursor over the desired pitch curve point, then adjust with the YES/INC+ and NO/DEC- keys.

The arrow at the lower right indicates that more positions are available than are presently displayed. Pressing the > key repeatedly will cause the added screen to become visible as shown below.



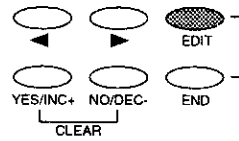
As for the first two positions, use the < and > keys to place the cursor over the desired pitch curve point, then adjust with the YES/INC+ and NO/DEC- keys.

Fine tuning of the Hover pitch setting is also available on a separate screen and via a potentiometer control on the transmitter face.

HOVERING PITCH

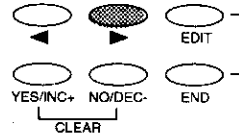
Infinity 660 offers two methods for setting the Hovering Pitch; an 'HVP' screen within the software, and a potentiometer on the face of the transmitter. In normal operation you will usually set the approximate Hovering Pitch with the software, then adjust as needed for various weather and flying conditions with the Hover Pitch potentiometer.

To set the Hovering Pitch with the software, press the Edit key until the following screen appears:



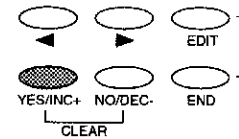
D/R EXP HVP HVT
REV-MX HOLD C-MIX

Place the cursor over the HVP position with the > key.



D/R EXP HVP HVT
REV-MX HOLD C-MIX

Press YES/INC+ key to access the HVP screen.



HOVERING - PITCH
0%

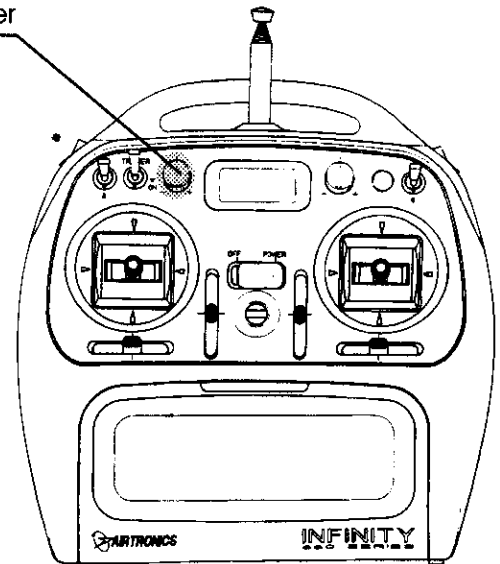
You may now adjust the Hovering Pitch point by using the YES/INC+ or NO/DEC- keys. The range possible is from -25% to +25%. When you adjust the HVP setting, points 1 and 2 of the Pitch Curves are also shifted accordingly.

The Hovering Pitch Potentiometer on the left face of the transmitter also adjusts the Hovering Pitch setting within a range of -25% to +25%, and is incremental to the HVP screen. This means that by using both Hovering Pitch adjustments you have a total range possible of -50% to 0%, OR 0% to +50%.

Hovering Pitch Potentiometer

Fine tuning of the Hovering Pitch can be accomplished with the Hovering Pitch Potentiometer. Turning this clockwise will increase the pitch at the hover position; turning the control counter-clockwise will decrease pitch at the hover position.

(Hover position is half-stick, or the center position on the Throttle/Collective control.)



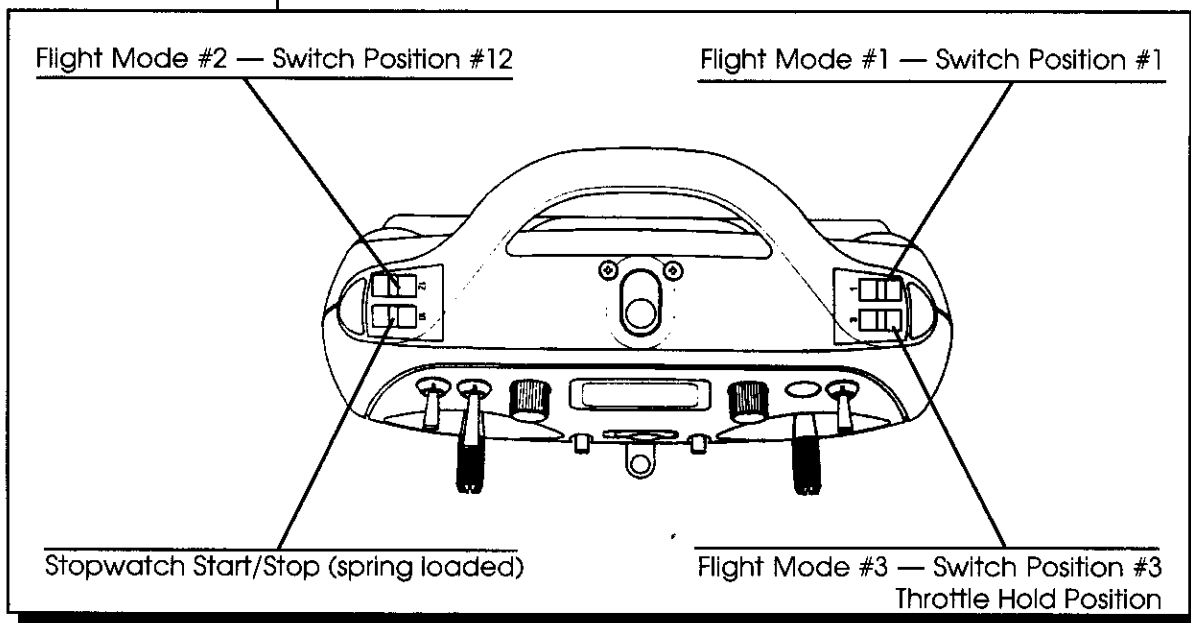
**THROTTLE CURVES
(Flight Modes)**

Infinity 660 allows you to customize four distinct flight modes for each helicopter. By using the 'Alternate' function you can access a total of six distinct throttle curves while in flight plus two Throttle Hold modes.

The four throttle curves (flight modes) available for each helicopter are:

- N.....Normal
- 1.....Select Curve One - Idle Up
- 2.....Select Curve Two - Idle Up
- 3.....Select Curve Three - THROTTLE HOLD

Selecting a throttle curve other than Normal is done by activating a switch on top of the transmitter as shown below.



Always be aware of which flight mode you have selected before starting your engine or attempting flight!

When none of the Flight Modes #1, #2 or #3 are selected, you are in 'Normal' flight mode.

The above switch positions are the factory defaults, and can be changed if desired. **IF DATA RESET IS USED, CHECK FOR THESE SWITCH ASSIGNMENTS.** Because of the international nature of the Infinity 660, the software may not restore these defaults as shown.

The switches are assigned priority as follows: 3, 2, 1. If Flight Mode 2 is selected when Flight Mode 1 is on, Flight Mode 2 has priority. If Flight Mode 3 is selected when Flight Mode 1 and/or 2 is on, Flight Mode 3 has priority.

Because Flight Modes 1 and 2 are idle-up modes, activating Flight Mode 3, which is Throttle Hold, when Flight Mode 1 and/or 2 is active, will cause an audible alarm to sound. This is to warn you of possible erratic or unexpected behavior

You must always be aware of which flight mode you have selected before starting your engine or attempting flight!

(Continued on next Page)

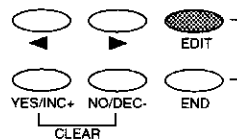
Throttle Curves ...

The throttle curve for each flight mode has FOUR points that can be adjusted to suit your specific needs. Within each throttle curve these points are referred to as PL (idle) P1, P2 and PH (high throttle). The range of values and the default settings for each point of each throttle curve are shown below:

Flight Mode	Throttle Point	Minimum	Default	Maximum
Normal	PL	-25%	0%	125%
	P1	-25%	35%	125%
	P2	-25%	55%	125%
	PH	-25%	100%	125%
F.M. #1	PL	-25%	40%	125%
	P1	-25%	45%	125%
	P2	-25%	60%	125%
	PH	-25%	100%	125%
F.M. #2	PL	-25%	50%	125%
	P1	-25%	55%	125%
	P2	-25%	60%	125%
	PH	-25%	100%	125%

Flight Mode 3 is Throttle Hold. (This throttle setting is adjusted with its own screen, covered later in this manual.)

To program your throttle curves, press the Edit key to reach this screen:



PI - CURVE TH - CURV
TRIM - M RU - OFFSET

Move the cursor to TH-CURV using the > key, then press YES/INC+ to display the Throttle Curve screen.

TH-C>N PL> 0.0%
P1> 35.0%

THROTTLE TRIM

P2> 70.0%
PH> 100.0% TRIM>ON

When you select Flight Mode 1 or 2 for throttle curve you are presented with a screen similar to the above. The TRIM>(ON) position allows you to select whether the throttle trim is active or not when that flight mode is selected. Move the cursor to the TRIM> position and press the YES/INC+ key to toggle between ON or OFF for throttle trim.

The first cursor position (shaded above) indicates the Flight Mode for which the present pitch curve points are set. This position will read either N, 1 or 2. Use the YES/INC+ or NO/DEC- keys to choose the flight mode you wish to alter.

The other cursor positions allow adjustment of the PL and P1 throttle settings. Use the < and > keys to place the cursor over the desired throttle curve point, then adjust with the YES/INC+ and NO/DEC- keys.

The arrow at the lower right indicates that more positions are available than are presently displayed. Pressing the > key repeatedly will cause the added screen to become visible as shown below.

P2> 65.0%
PH> 100.0%

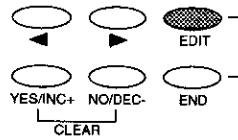
As for the first two positions, use the < and > keys to place the cursor over the desired throttle curve point, then adjust with the YES/INC+ and NO/DEC- keys.

Fine tuning of the Hover throttle setting is also available on a separate screen and via a potentiometer control on the transmitter face.

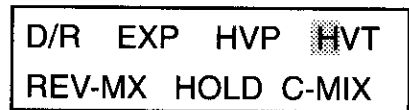
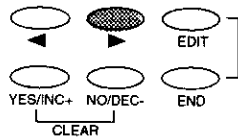
HOVERING THROTTLE

Infinity 660 offers two methods for setting the Hovering Throttle; a 'HVT' screen within the software, and a potentiometer on the face of the transmitter. In normal operation you will usually set the approximate Hovering Throttle with the software, then adjust as needed for various weather and flying conditions with the Hover Throttle potentiometer.

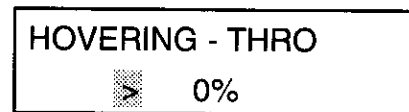
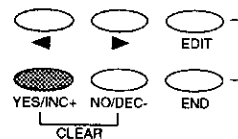
To set the Hovering Throttle with the software, press the Edit key until the following screen appears:



Place the cursor over the HVT position with the > key.



Press YES/INC+ key to access the HVT screen.



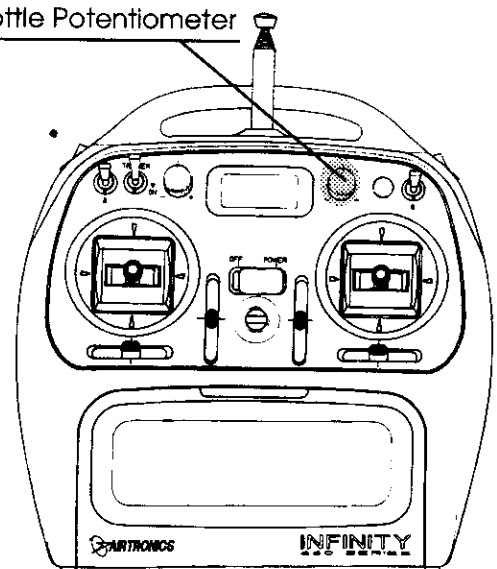
You may now adjust the Hovering Throttle point by using the YES/INC+ or NO/DEC- keys. The range possible is from -25% to +25%. When you adjust the HVT setting, points 1 and 2 of the Throttle Curves are also shifted accordingly.

The Hovering Throttle Potentiometer on the right face of the transmitter also adjusts the Hovering Throttle setting within a range of -25% to +25%, and is incremental to the HVT screen. This means that by using both Hovering Throttle adjustments you have a total range possible of -50% to 0%, OR 0% to +50%.

Hovering Throttle Potentiometer

Fine tuning of the Hovering Throttle can be accomplished with the Hovering Throttle Potentiometer. Turning this clockwise will increase the throttle at the hover position; turning the control counter-clockwise will decrease throttle at the hover position.

(Hover position is half-stick, or the center position on the Throttle/Collective control.)



THROTTLE HOLD

Flight Mode 3 is the Throttle Hold mode, allowing the pilot to practice and perform autorotation approaches and landings without actually killing the engine.

The HOLD screen allows for adjustment of the throttle setting while in Throttle Hold, as well as allowing the throttle trim function to be either active or inactive.

To set the Throttle Hold position, press the Edit to display the following screen:



Place the cursor over the HOLD position with the > key.



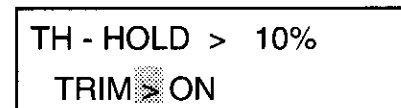
Now press the YES/INC+ key to display the HOLD screen.



Actual operation of your engine will be required to determine the optimum setting for autorotations. Generally the engine will be adjusted to a reliable idle speed that is low enough to disengage the clutch.

The first cursor position allows setting the throttle position for Flight Mode 3, Throttle Hold. Use the YES/INC+ or NO/DEC- keys to change the setting. The range of adjustment available is from -50% to +50%. Actual operation of your engine will be required to determine the optimum setting for autorotations. Generally the engine will be adjusted to a reliable idle speed that is low enough to disengage the clutch.

The second cursor position in the HOLD screen allows you to enable or disable the throttle trim function while in Throttle Hold. Move to the TRIM position using the > key.



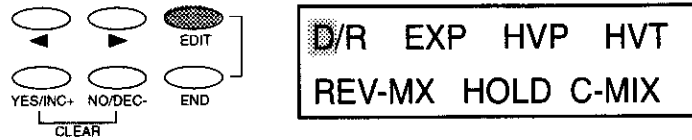
You may now toggle the trim from ON to OFF using the YES/INC+ or NO/DEC- keys. In either case the throttle stick will control only the collective pitch while in Throttle Hold (Flight Mode 3.)

ALWAYS be aware of the position of your flight mode switches when starting or operating your helicopter!

REVOLUTION MIXING

Infinity 660 allows setting Revolution Mixing for each of the four flight modes, and allows for mixing of tail rotor control with both above-hover stick settings and below-hover stick settings.

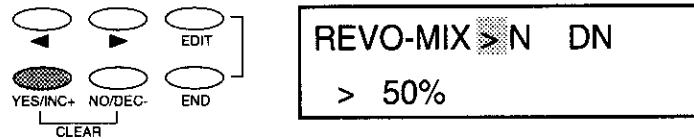
To set REV-MX, press the Edit key to display the following screen:



Press the > key to position the cursor over the REV-MX position.

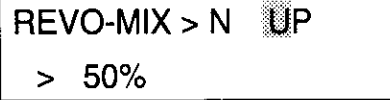


Now press the YES/INC+ key to see the initial REV-MX screen.

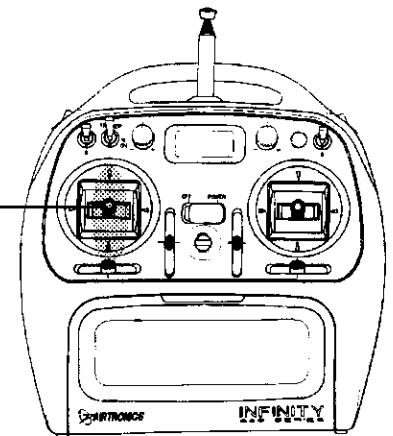


The first cursor position displays the present Flight Mode; either N, 1, 2 or 3. Use the YES/INC+ or NO/DEC- keys to select the Flight Mode.

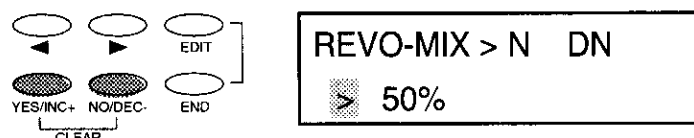
The next cursor position shows the throttle stick direction for which the present mixing will apply. In this case it shows DN, for below-hover stick positions. To set the REV-MX for above-hover stick settings, simply move the throttle stick to a position above center.



Move the Throttle/Collective stick up or down to change the present REVO-MX direction.



Having selected the Flight Mode and the stick direction for which you are setting the REV-MX, move the cursor to the bottom row position, and set the REV-MX using the YES/INC+ or NO/DEC- keys. For each setting the range of values possible is from -100% to +100%. Flight testing will be needed to determine optimum settings.



REV-MIX Default Settings:		
Mode	Low Stick	Hi-Stick
N	50%	50%
1	30%	30%
2	10%	10%
3	-50%	-50%

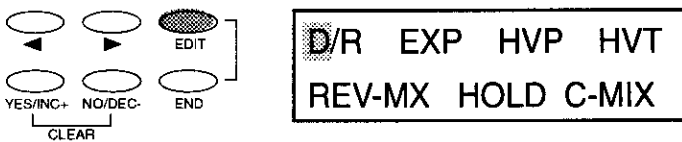
NOTE:
Since you must move the Throttle/Collective stick to change from Low-Stick mix to Hi-Stick mix, you should **ONLY** adjust the REV-MX program with the engine OFF!

COMPENSATION MIXER

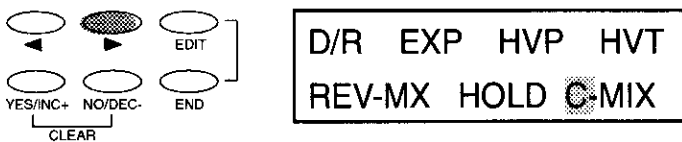
Infinity 660 has one Compensation Mixer available in Helicopter mode to handle advanced mixing needs. This mixer can be assigned to a switch or can be set to remain active or inactive at all times.

The purpose of the Compensation Mixer is to allow one transmitter control input to affect two flight functions. A common use would be to mix rudder with aileron to achieve coordinated turns without moving the rudder stick.

To set up such a mix, press the EDIT key until the following screen appears:



Press the > key to position the cursor over the C-MIX position.



Now press the YES/INC+ key to see the initial C-MIX screen.



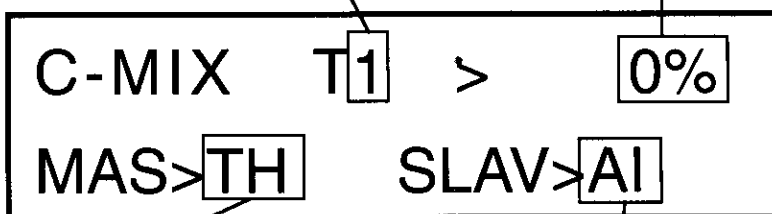
C-MIX SCREEN

Channels available as either MASTER or SLAVE are:

- TH.....Throttle
- AI.....Aileron
- EL.....Elevator
- RU.....Rudder
- GY.....Gyro
- PI.....Pitch

Throw Direction Indicator - either 1 or 2 depending on which way you move the MASTER function's stick.

Amount SLAVE will respond to MASTER control inputs (Mixing Amount)



MASTER Channel: Channel that will 'drive' the presently selected SLAVE channel's servo, in addition to its own, when mixing is active.

SLAVE Channel: Channel that will respond to the transmitter control function set as MASTER, in addition to its own, when mixing is active.

Continued on next Page

Compensation Mixer ...

MASTER channel is the channel that will drive both its own servo(s) AND the slave channel's servo when the Master channel's transmitter control is moved. The SLAVE channel's servo(s) will respond to the Master channel's transmitter control AS WELL AS responding normally to its own transmitter control.

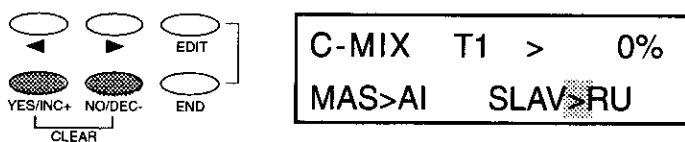
NOTE that you can have more control movement set than the servo is able to accommodate if the total of mixing and EPA for that servo exceed 150%.

Usually the first thing you'll want to set is the MASTER and SLAVE channels. Press the > or < key to position the cursor over the MAS> position.



Now press the YES/INC+ or NO/DEC- keys to cycle through the channels available until you reach the desired MASTER channel. In this example we want the rudder to automatically respond when we move the aileron stick, so Aileron must be the MASTER channel.

Now move the cursor to the SLAV> position, then use the YES/INC+ or NO/DEC- keys to select Rudder as the SLAVE channel.

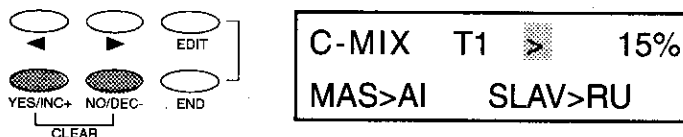


Remember, the MASTER channel is the channel that will drive both its own servo(s) AND the slave channel's servo when the Master channel's transmitter control is moved. The SLAVE channel's servo(s) will respond to the Master channel's transmitter control AS WELL AS responding normally to its own transmitter control.

Having selected the Master and Slave channels, the next step is to set the amount of mixing and the direction of the Slave channel's response to the Master channel's transmitter control.

Position the cursor over the T1> cursor position using the < or > keys. By pressing the YES/INC+ or NO/DEC- keys you can set the amount of Slave servo movement (rudder) that will occur with movement of the Master control. (In this case aileron.) The range of adjustment available is from -150% to +150% — in other words, the full range of servo travel is available for mixing. NOTE that you can have more control movement set than the servo is able to accommodate if the total of mixing and EPA for that servo exceed 150%.

For now, set the T1 at 15%. If the rudder moves opposite the direction desired, simply change the value for T1 to -15%. This will give the same amount of mixing, but in the opposite direction.

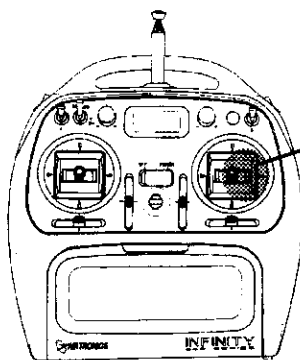


With T1 set at 15% you now have 15% mixing of rudder with aileron in ONE direction; i.e. left Aileron stick will now give left aileron response PLUS left rudder response, but right Aileron stick will not cause rudder movement.

(Continued on next page)

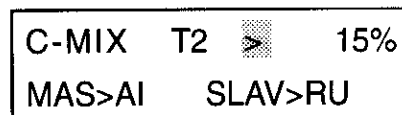
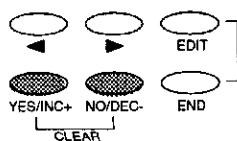
Compensation Mixer ...

To program mixing for both directions of Master stick movement you must set both T1 and T2. To change from T1 to T2 for programming, simply move the transmitter control for the MASTER channel. (In this example the Aileron stick). Note that when you move the control in one direction T1 is displayed in the mixing screen, and when you move the control in the opposite direction T2 is displayed.



Move the Aileron stick to the right and T2 will be displayed in the mixing screen.

Now you can set the mixing for T2 by pressing the YES/INC+ or NO/DEC- keys.



At this point you will have automatic rudder response along with aileron response whenever you move the Aileron stick on the transmitter. The rudder servo will still respond normally to movement of the transmitter's rudder stick.

Optimum amounts of mixing must be determined by in-flight testing.

MIXING NOTES

Because each direction of mixing can be set individually, you can change both the AMOUNT and DIRECTION of the slave channel's response to movement of the master channel's control.

By changing the value from + to - for both T1 and T2 you will reverse the slave channels response to the master channel BUT NOT to it's own transmitter control. An example of this type of mixing would be to mix out undesired rolling with application of rudder. For this type mix, the Rudder channel is set as Master and Aileron is set as slave. T1 and T2 are then set to give aileron movement OPPOSITE the direction of rudder movement whenever rudder is applied. (i.e. right rudder causes left aileron and vice-versa). Aileron response to movement of the Aileron stick is unaffected.

There are times where the desired deflection of the Slave channel is the same regardless of Master control movement. An example of this would be using a Compensation Mixer to add power whenever right/left cyclic is applied. In this case Aileron would be the Master channel and Throttle would be Slave. By setting one of the T1 or T2 settings to +10 and the other to -10 (as determined by observing servo movement) you can set the mixing to cause increased power with the application of either Right OR Left cyclic.

You may wish to assign the mixer to a switch (See Switch Assignments section.) so so that mixing will only occur during certain flight modes.

(Continued on next Page)

Compensation Mixer ...

The arrow to the right of the SLAV> channel position indicates that there are more settings than can be displayed in the present screen. Press the > key to move the cursor past the arrow and the next screen will appear.



The MIXING-POINT setting is an advanced mixer function that may be useful in certain situations. It is set by moving the Master transmitter control to a desired point and then pressing the YES/INC+ key. The display will read whatever amount of transmitter control deflection you had when the key was pushed. The SLAVE channel's servo will move a corresponding amount WHEN THE MASTER CONTROL IS RETURNED TO NEUTRAL. Now the first Master transmitter control movement in the direction of the offset will cause opposite mixing until the un-mixed neutral (slave) position is reached, then mixing will occur as it would without the Mixing-Point function. Mixing in the opposite direction will work normally.

Since the MIXING-POINT function causes a change in the neutral position of the SLAVE servo, this type of mixer will almost always be used as a switched mixer.

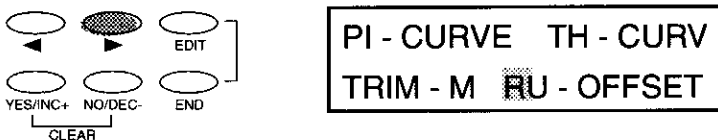
**RUDDER OFFSET
(Flight Modes)**

You can adjust Rudder Offset for each of the flight modes #1, #2 and #3. In this manner you can set the appropriate tail rotor trim for each flight mode without having to reset the transmitter trim lever when you select a new flight mode.

Press Edit key to reach this screen:



Move the cursor to the RU-OFFSET position using the > key.



Now press the YES/INC+ key to display the RU-OFFSET screen.



The first cursor position indicates the flight mode for which the current rudder offset is set. Change the flight mode setting by using the YES/INC+ or NO/DEC- key.

The second cursor position allows you to program rudder offset for the presently displayed flight mode. The range available is from -100% to +100%. In-flight testing will be needed to determine the proper rudder offset setting.

TRIM MEMORY

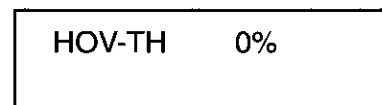
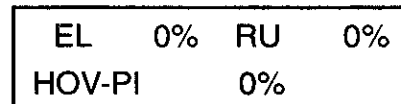
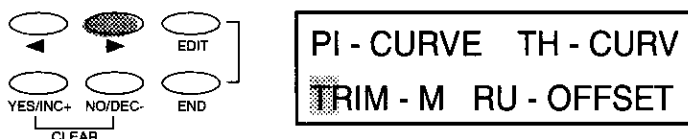
By always having the trim levers centered for ALL aircraft stored in transmitter memory the pilot can change from one model's program to another without having to worry about trim positions for each model.

Infinity 660 offers a Trim Memory function for all flight control channels. This function allows the trim levers to be re-set to the center positions while maintaining the trimming information in memory. This is useful because the pilot can then ensure that the trims are in the proper position just by checking that the trim levers are all centered. Also, by always having the trim levers centered for ALL aircraft stored in transmitter memory the pilot can change from one model's program to another without having to worry about trim positions for each model.

Trim Memory is used after flight testing and trimming the aircraft. When trimming is complete, program Trim Memory as follows: press the Edit key to reach this screen...



Press the > key to position cursor over TRIM-M, then press YES/INC+ key to display the TRIM-M screen.



Additional screens; press > or < keys to move between screens.

The cursor will be over the ALL position. This position will store trim information for ALL channels if desired, by pressing the YES/INC+ key when the cursor is over ALL.

To store memory information for selected channels ONLY, press the > or < keys to position the cursor over the desired channel indicator, then press the YES/INC+ key. Move to the next channel indicator and repeat until desired channels' trim information is stored. Note that as you press the YES/INC+ key, the trim value for each selected channel will change from zero to a value from -100% to +200%. This value indicates the present trim location.

After storing the trim information for all desired channels, TURN OFF the transmitter. Move the trim levers to the neutral positions (within 1-2 notches from center) for all channels for which you have stored trim information. When you turn the power back on, the servos should stay in the previously trimmed positions.

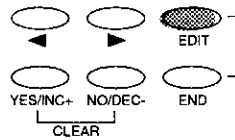
To clear a value stored in any function's trim memory, position the cursor over that function in TRIM-M and press both the YES/INC+ and NO/DEC- keys simultaneously.

NOTE: Hovering Pitch and Hovering Throttle trim settings will be displayed and saved IF the respective potentiometers are set to within + or - 1 notch of their center positions.

SWITCH ASSIGNMENTS

A very useful feature of Infinity 660 is the ability to assign functions to switches however you prefer, rather than forcing you to adapt to one particular switch layout.

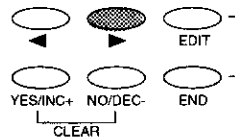
To observe or change switch assignments, press the Edit key to reach this screen:



CENTER M-SELECT
EPA REV SW GYRO

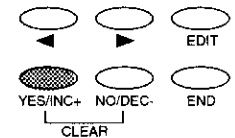
At each cursor location (designated by ">") you can change the switch assignment number that follows to any switch number from 1 th 12, or '0' for inhibit, or 'On' to turn the function on at all times.

Press the > key to place the cursor over the SW position.



CENTER M-SELECT
EPA REV **SW** GYRO

Now press the YES/INC+ ket to see the first SW screen. There are a total of four Switch Assignment screens as seen below. To move from one screen to another press the > or < keys to move the cursor past the arrow positions.



SW FLI-MODE(1> 1
2>12 3>3) →

Switch Assignment Chart

Write Your SW Choice In Below Lines:

SCREEN ONE . Default	Set
Flight Mode 1 1	_____
Flight Mode 2 12	_____
Flight Mode 3 3	_____
SCREEN TWO	
Dual Rates	
D/R A1 6	_____
A2 5	_____
E1 6	_____
E2 5	_____
SCREEN THREE	
R1 0	_____
R2 0	_____
ALTERNATE 0	_____
SCREEN FOUR	
Gyro 8	_____
C-Mix 0	_____
STW (Stopwatch) .. 9	_____

← D/R (A1> 6 A2> 5
E1> 6 E2> 5) →

← D/R (R1> 0 R2> 0
) ALTERNATE> 0 →

← GYRO> 8 C-MIX> 0
STW-S/S > 9

At each cursor location (designated by ">") you can change the switch assignment number that follows to any switch number from 1 through 12, or '0' for inhibit, or 'On' to turn the function on at all times.

Note that more than one function may be assigned to a single switch. This can be useful in the case of similar functions, such as dual rates for Aileron, Elevator and Rudder all being assigned to a single switch. However, to avoid accidentally enacting a function, extreme care must be used when assigning switches. It is suggested that you keep a list of all switch assignments for each model in the transmitter's memory.

Also, it is a good idea to assign similar functions to the same switch from one aircraft to the next. Always be aware of which functions are active at any time before starting or flying your aircraft.

DATA COPY

Having copied your control set-up, you can now use M-SELECT to load the Model 2 program, and then make control changes to that set-up. This allows you to experiment with different control options without changing your original parameters.

MAKE CERTAIN that this Model set-up is not one you wish to save, because when you copy the HELI1 set-up into HELI2, all data that was in HELI2 is REPLACED with the HELI1 data!

A valuable feature of the Infinity 660 is the Data Copy function. With this function the entire set of control parameters for one aircraft can be 'copied' from one Model set-up into another. (For instance, if you have your helicopter program in Model 1 and nothing in Model 2, you can copy the Model 1 program into Model 2 with the Data Copy function).

Having copied your control set-up, you can now use M-SELECT to load the Model 2 program, and then make control changes to that set-up. This allows you to experiment with different control options without changing your original parameters (in this example, still stored as Model 1).

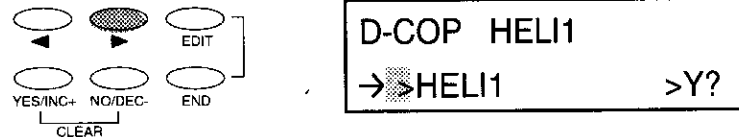
To use the Data Copy function, press the Edit key to reach this screen:



Press the > key to place the cursor over the D-COPY position.

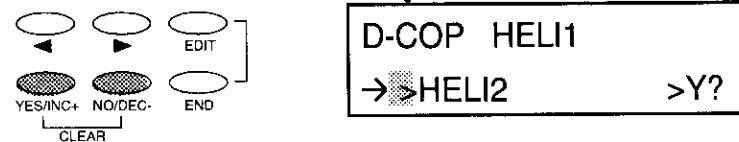


Now press the YES/INC+ key to see the D-COPY screen.



The top line of the screen shows the PRESENTLY LOADED model; in this case "HELI1". This is the model that can presently be copied INTO another model set-up.

The second line shows the data destination, or which Model (1 through 4) the presently loaded data will be copied INTO. It is presently set as HELI1, which is the same as the source model. Pressing the YES/INC+ or NO/DEC- keys allow you to set the DESTINATION for the data being copied.



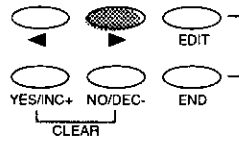
Above, the destination has been set to HELI2. **MAKE CERTAIN** that this Model set-up is not one you wish to save, because when you copy the HELI1 set-up into HELI2, all data that was in HELI2 is REPLACED with the HELI1 data! At this point HELI2 is still intact, so if you wish to change the destination for the copied data, do so before proceeding.

(Continued on next Page)

Data Copy ...

Having selected both the desired data source (HELI1) AND the desired date destination (in this example, HELI2) you can now proceed to confirm the D-COPY function.

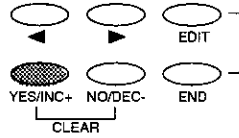
Press the > key to place the cursor over the >Y position as shown.



```

D-COP HELI1
-> >HELI2          >Y?
  
```

Press the YES/INC+ key to confirm your D-COPY selection.



```

D-COP HELI1
-> >HELI2          >Y?
  
```

The screen will change to the following screen to inform you that the proces has been completed, and that Model 1 and Model 2 now have the same data (in this case, HELI1).

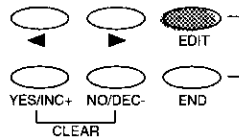
```

D-COP  OK
M1:M2 HELI1
  
```

DATA RESET

If you want 'undo' all of your programed parameters at one time, you can use the Data Reset function. This function will 'Reset' all settings to the factory default settings.

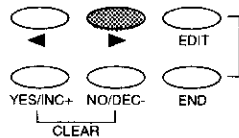
Press the Edit key to display the following screen:



```

ALTER TIMER TYPE
D-COPY D-RESET
  
```

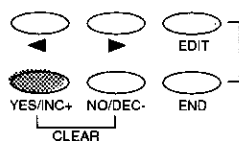
Press the > key to place the cursor over the D-RESET position.



```

ALTER TIMER TYPE
D-COPY D-RESET
  
```

Now press the YES/INC+ key to display the D-RESET screen:



```

DATA-RESET >NO.2
HELI1          > YES?
  
```

The first cursor position shows the current MODEL (No. 2 here) that will be RESET if you continue. Press the YES/INC+ or NO/DEC- to change this Model if desired.

(Continued on next Page)

Data Reset ...

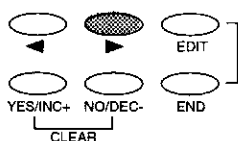
ALL OTHER Models in memory are unaffected by the DATA-RESET function, only the selected Model setup is affected.

***NOTE!**

Due to the international nature of the Infinity 660, using the Data Reset feature may cause the switch default settings for the two FRONT rocker switches on the top of the transmitter to be transposed from left to right. You will probably want to re-assign these switches to the factory defaults shown on page 28.

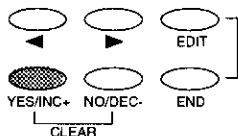
Along with the Model No. displayed on the top line, the bottom line shows the name of the setup denoted by the selected Model No. (In this case HELI1).

When you are certain that the selected Model setup is the one you wish to reset, press the > key to position the cursor over the >YES position.



```
DATA-RESET >NO.2
HELI1          > YES?
```

Now press the YES/INC+ key to confirm that you wish to Reset the data for this Model.



```
DATA-RESET >NO.2
HELI2          > YES?
```

Note that the bottom line now displays HELI2 — the default name for this Model setup. The data has now been reset to factory default* settings.

ALL OTHER Models in memory are unaffected by the DATA-RESET function, only the selected Model setup is affected.

ALTERNATE

The ALTERNATE function is one of the most powerful functions of the Infinity 660. This function allows the pilot to switch from one Model Setup to another Model Setup DURING FLIGHT!

The ALTERNATE function is one of the most powerful functions of the Infinity 660. This function allows the pilot to switch from one Model Setup to another (compatible) Model Setup DURING FLIGHT! There are two particularly helpful uses for this function:

1. A pilot may Copy the current setup and make adjustments to the copied data, then can switch IN FLIGHT between the two Model Setups. In this manner a comparison can be made easily, during a single flight, allowing the pilot to choose which control set-up is most comfortable. Also, trying a new control setup in this manner allows the pilot to instantly change back to a known setup by simply flipping one switch.
2. A pilot may change ANY or ALL flight control parameters with a single switch for greatly differing flight conditions. For instance, the Alternate settings might include forward cyclic, low gyro gain, high rate for flight controls and removal or addition of exponential characteristics on flight controls — all by flipping a single switch.

In order to use the ALTERNATE function, you must first assign it to a switch. (See Switch Assignments on Page 32).

Next you need to have an ALTERNATE setup that is compatible to your standard setup. The recommended manner to achieve this is to start with a completely tested Model setup, then use the DATA COPY function to copy this setup to a new Model Setup that will be assigned as the Alternate setup.

(Continued on next Page)

Alternate ...

Having assigned a switch and determined a suitable Alternate Model setup, you may program your Alternate.

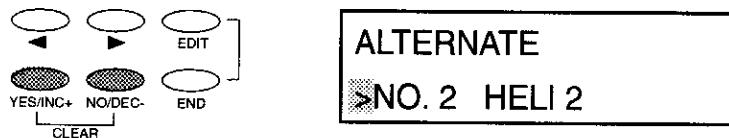
Press EDIT key until the following screen appears:



The cursor is already positioned over ALTER, so press the YES/INC+ key to display the Alternate screen.



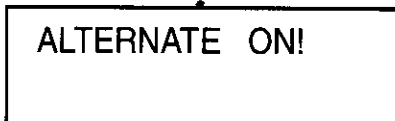
The cursor location's display will read OFF, meaning that no Alternate Model is presently selected. By pressing the YES/INC+ or NO/DEC- keys you can scroll through the four Models in memory to choose the desired Alternate Model.



In the above example the bottom line shows that Model No. 2, named HELI 2, has been selected as the present Alternate Model.

NOTE that it is possible to select an incompatible set-up as the Alternate; i.e. you can select a AERO Model setup as an alternate for your helicopter. However, in this case the Alternate function will be ignored even if you do turn the Alternate switch on.

Also, if you turn the transmitter power on while the Alternate switch is activated, you will hear a "beep" and a warning will be displayed to inform you that you are in Alternate mode.



Make certain that you know which mode (normal or Alternate) you have selected at all times!

To make changes to the setup that you have selected as your Alternate, first use the M-SELECT function to load that (Alternate) Model into memory, then make any adjustments desired, then re-load the primary Model with the M-SELECT function.

If you turn the transmitter power on while the Alternate switch is activated, you will hear a "beep" and a warning will be displayed to inform you that you are in Alternate mode.

SWITCHLESS INVERTED

Infinity 660 can be easily set up to allow switchless inverted flight. Though other methods are possible, this example will use Flight Mode 2 as the “switchless inverted” flight mode.

To set up Flight Mode 2 for “switchless inverted” flight, you will need to use the following functions of the Infinity 660:

- FUNCTION.....MENU ABBREVIATION**
- Pitch Curve for Flight Mode 2(PI-CURV)**
- Throttle Curve for Flight Mode 2(TH-CURVE)**
- Hover Pitch for Flight Mode 2(HVP)**
- Hover Throttle for Flight Mode 2(HVT)**
- Tail Rotor Mix for Flight Mode 2.....(REV-MX)**

Each of the above functions has been explained in detail in prior sections, refer back for more information.

The first step would be to set the Hover Pitch (using HVP screen) to zero degrees, or ‘flat’ pitch at mid-stick. Next, use the Hover Throttle to establish the desired rotor speed at mid stick.

Next, from within the PI-CURV screen, Flight Mode 2 setting, set the high stick position for the desired high-end positive pitch using the PH point of Pitch Curve #2. Set P2 of this curve at some intermediate setting between zero pitch and high pitch.

Now set PL, low stick pitch setting, at approximately the same negative blade setting as used for maximum positive pitch setting. Set P1 to an intermediate position between zero pitch and full negative.

Now go to the TH-CURVE screen for Flight Mode 2 settings. Set PH for desired full stick rotor speed, and set P2 for the desired rotor speed at the mid-positive position. Next set PL and P1 to the same throttle settings as PH and P2, respectively. You should now have pitch and throttle settings that are ‘mirror images’ of each other with opposite pitch direction and same throttle response from mid-stick upwards and mid-stick downwards.

Finally, use the REV-MX screen to set the tail rotor compensation for both positive (upright) acceleration and negative (inverted) acceleration. FLIGHT TESTING will be required to determine optimum settings!!

CAUTION: *Be very careful not to attempt to start your engine while in the switchless inverted mode, as low-stick position is FULL THROTTLE! Always know what flight mode you have selected at all times.*

Stick Position	Pitch Setting	Throttle	Heli Response
100%	+9 deg.	100%	Full Upright Power
75%	+4.5 deg.	70%	Upright Hover
50%	0 deg.	40%	Neutral
25%	-4.5 deg.	70%	Inverted Hover
0%	-9 deg.	100%	Full Inverted Power

NOTE!! All settings are approximate, and will need to be set for each machine through in-flight testing.

Inverted flight of your helicopter is very challenging, and should only be attempted with the aid of an experienced helicopter pilot. Also, check the manual

Continued on next Page

Switchless Inverted ...

for your helicopter for the manufacturer's allowed range of pitch settings and desired rotor speed range.

Note that the perceived reaction of the helicopter to transmitter control inputs will be REVERSED for rudder and elevator commands when the helicopter is inverted.

CAUTION: Be very careful not to attempt to start your engine while in the switchless inverted mode, as low-stick position is FULL THROTTLE! Always know what flight mode you have selected at all times.

SWITCHED INVERTED

Another option for inverted flight is 'Switched Inverted.' In this case, you would normally use Flight Mode 2 as the idle-up mode for switched inverted. IN ADDITION, you would use the Switch Assignments screen to cause the same switch that selects Flight Mode 2 to activate the ALTERNATE function.

For the set-up that will be used in Alternate mode, copy a proven setup for your helicopter into any available model setup, and assign it as the Alternate. Now, use the M-SELECT screen to load the alternate model so you can make the adjustments for switched inverted flight.

On the ALTERNATE model setup, use the REVERSE screen to reverse the direction of the servos for Rudder, Elevator and Collective Pitch. Due to some differences inherent in most helicopters when flying inverted, you may need to adjust control rates and collective settings when in the switched inverted mode.

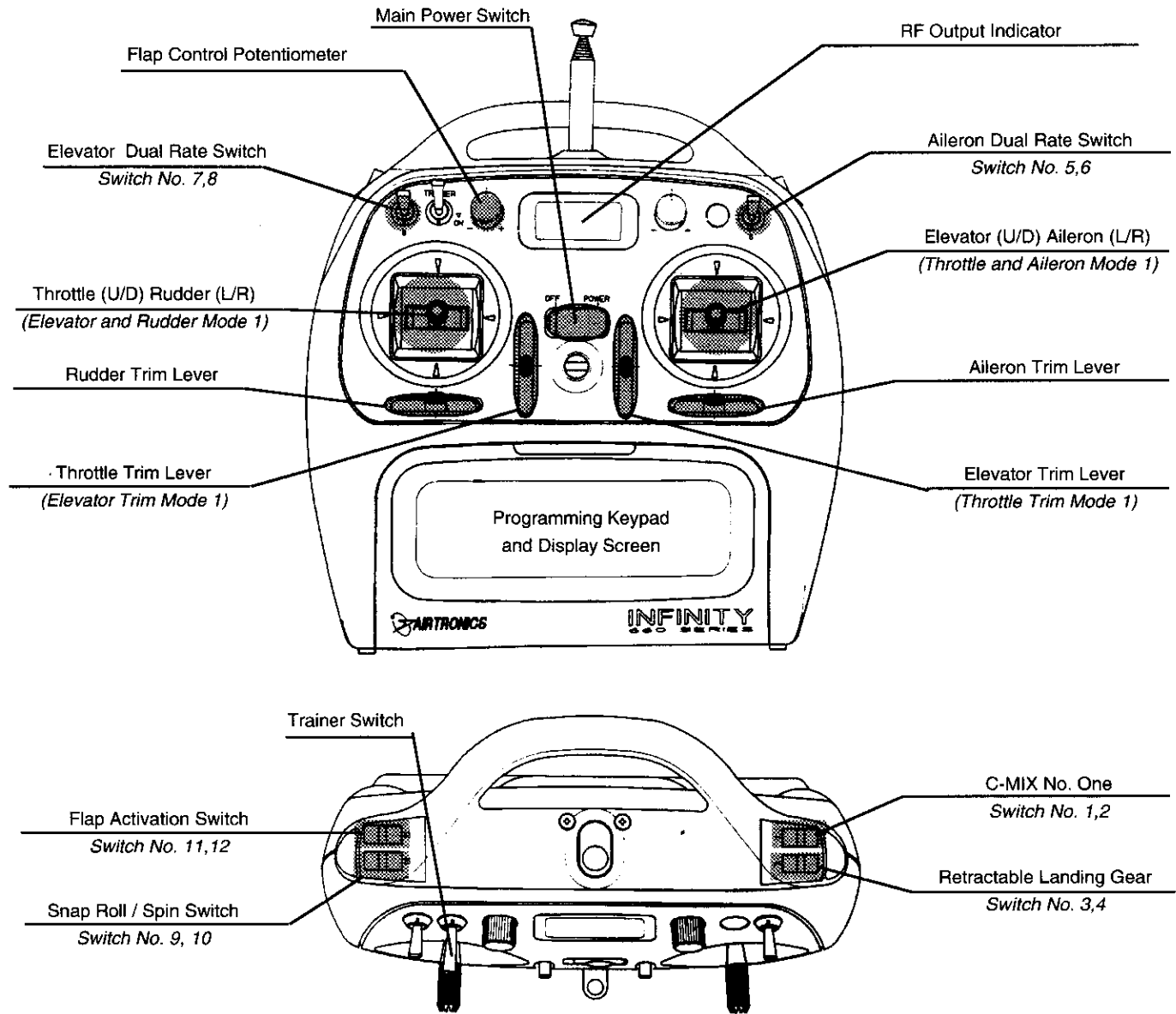
Now use the M-SELECT screen to re-load the original helicopter setup. At this time, check to ensure that activating Flight Mode 2/Alternate Function causes the Rudder, Elevator and Collective settings to reverse.

Using the Switched Inverted setup, you will normally activate the inverted mode (Flight Mode 2) while performing a half-roll or half-loop to inverted. When the inverted mode switch is activated, the appropriate controls will reverse so that your stick movements will cause the same reaction in your inverted helicopter as they normally do when the helicopter is upright; i.e. the model increase its angle of attack when you pull back on the elevator stick, will yaw the nose to your right when right rudder is applied, and will climb when throttle-collective is advanced. In other words the radio will take care of the 'control reversal' effect for you.

There are some special precautions that must be taken when using a switched inverted setup. First, you must always be aware of which mode (upright or inverted) you are in at all times. Second, you need to change the switch from normal to inverted and vice-versa when reversing the helicopter's attitude. And third, you must be careful to make the change from normal to inverted mode when the collective pitch is at or very near ZERO PITCH! Changing modes with a high pitch setting can cause loss of control and/or damage to your helicopter.

Inverted flight of your helicopter is very challenging, and should only be attempted with the aid of an experienced helicopter pilot. Also, check the manual for your helicopter for the manufacturer's allowed range of pitch settings and desired rotor speed range.

Infinity 660 User's Manual — AIRPLANE



Read This!!

Infinity 660 ships with all four models programmed for HELL, with proper default switch settings. IF YOU CHANGE TYPES, (to Aircraft or Glider) or if you use the Data Reset at any time, the switch assignments will need to be checked. The chart at the right shows the intended 'default' switch assignments. It is recommended that you at least start out with these assignments, as this will make your system consistent with this manual. Later, you may change switch assignments to personalize your setup for your own flying preferences.

NOTE: A "0" default setting means that function is not presently assigned to a switch. To make the function operative you must assign it to a switch or assign it to be always on.

SCREEN ONE	Default
S-Roll	10
F > E	11
E > F	12
SCREEN TWO	
Dual Rates	
D/R A1	6
A2	5
E1	8
E2	7
SCREEN THREE	
R1	0
R2	0
ALTERNATE	0
SCREEN FOUR	
Gear	4
STW (Stopwatch)	0
C-Mix 1	10
C-Mix 2	0

The receiver channel assignments below apply to both the PCM and FM receivers provided with Infinity 660 systems.

RECEIVER CHANNEL ASSIGNMENTS

Receiver Plug No.	Plug In Servo For:
1	Throttle
2	Aileron
3	Elevator
4	Rudder
5	Gear
6	Flap OR second Aileron Servo
B	Battery - input end of switch harness. NOT FOR SERVO!

This same order applies to the servo reversing screen positions.

Infinity 660 Menu Summary — Airplane Menus

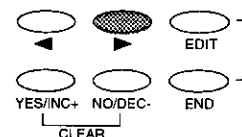
MENU SAMPLE	EXPLANATION/ACCESS <i>(Note: positions are left to right, top row, then left to right, bottom row)</i>
<div style="border: 1px solid black; padding: 5px;"> <p>AERO 0:00 0:00 AERO1 10.0V</p> </div>	<p>First Position Displays present model type Second Position Total Time Display, Hours:Minutes Third Position Stopwatch/Timer Display, Minutes:Seconds Fourth Position Present Model Name Fifth Position Present Transmitter battery pack voltage</p>
<div style="border: 1px solid black; padding: 5px;"> <p>D/R EXP TRIM-M S-ROLL WING-TYPE</p> </div>	<p>First Position Dual Rates position Second Position Exponential position Third Position Trim Memory position Fourth Position Snap Roll or Spin position Fifth Position Wing Type position</p>
<div style="border: 1px solid black; padding: 5px;"> <p>MIX (F→E E→F) C-MIX FLAP-TRIM</p> </div>	<p>First Position Flap-Elevator Mix position Second Position Elevator Flap Mix position Third Position Compensation Mixers position Fourth Position Flap Trim position</p>
<div style="border: 1px solid black; padding: 5px;"> <p>CENTER M-SELECT EPA REV SW GEAR</p> </div>	<p>First Position Servo Centering position Second Position Model Selection position Third Position Servo End Point Adjustment position Fourth Position Servo Reversing position Fifth Position Switch Assignments position Sixth Position Retractable Landing Gear Setup position</p>
<div style="border: 1px solid black; padding: 5px;"> <p>ALTER TIMER TYPE D-COPY D-RESET</p> </div>	<p>First Position Alternate Function position Second Position Timer Set Third Position Aircraft Type position Fourth Position Data Copy position Fifth Position Data Reset position</p>
<div style="border: 1px solid black; padding: 5px;"> <p>MODULATION NAME F-SAFE CONTRAST</p> </div>	<p>First Position Modulation Type position Second Position Name Assignment position Third Position Fail-Safe Assignment position Fourth Position Transmitter Screen Contrast position</p>
<div style="border: 1px solid black; padding: 5px;"> <p>CLICK (MODE 1, 2)</p> </div>	<p>First Position "Click" or beep volume position Second Position Transmitter Mode Selection</p>

TO SELECT AIRPLANE SET-UP:

Press EDIT key to arrive at the screen shown below. Press > button to place cursor over TYPE.

```

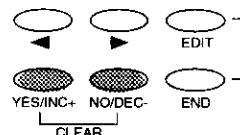
ALTER  TIMER  TYPE
D-COPY  D-RESET
    
```



Now press the YES/INC+ button. You will see a screen such as that shown below.

```

TYPE
AERO-> >AERO >YES?
    
```



If AERO is not currently displayed to the right of the cursor position, press the YES/INC+ button or NO/DEC- button until AERO is displayed. (The possible choices are: AERO, for powered aircraft; HELI, for helicopter, or; GLID for sailplanes.) To confirm your selection press the > key to move the cursor to the >YES position, then press the YES/INC+ key.

Possible choices are:

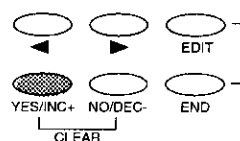
AERO, for powered aircraft

HELI, for helicopter

GLID, for sailplanes.

```

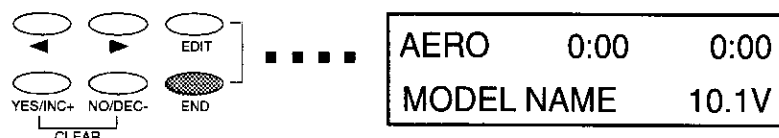
TYPE
AERO-> >AERO >YES?
    
```



BASIC AIRPLANE SETUP

In this section you will learn to name and save your aircraft set-up(s), implement the basic control functions, and tailor the servo movement and centering for each control.

Pressing the END key on the front control panel will bring you to the following screen, the INITIAL SCREEN:

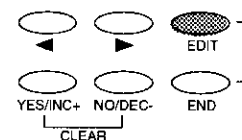


This screen tells you several valuable things as stated in the Introduction section of this manual. If you are not familiar with this screen, please refer to that section!

To set up your model, press the EDIT key until you reach this screen:

```

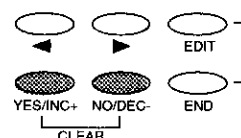
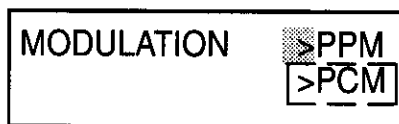
MODULATION  NAME
F-SAFE      CONTRAST
    
```



Note that the cursor is over the first menu choice, MODULATION. Press the YES/INC+ key, and this screen will appear: (See next page)

Basic Airplane Setup ...

PCM modulation is only available if you are using a PCM receiver!

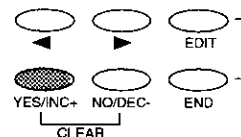
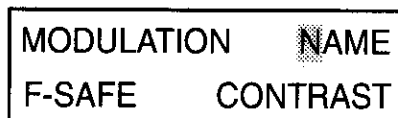
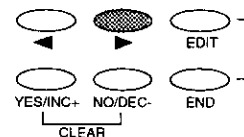
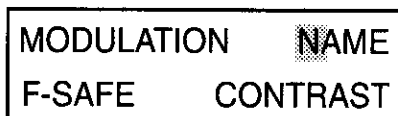


This screen allows you to select PPM FM operation or PCMFM operation. Press the YES/INC+ or NO/DEC- key to change the currently displayed choice. *PCM modulation is only available if you are using a PCM receiver!*

NAMING THE PRESENT AIRPLANE

You may use any combination of LETTERS, NUMBERS, Colon (:), Dash (-) or Spaces up to a total of 10 characters.

When you have set the proper modulation, press the END key to return to the prior screen. Press the > key to place the cursor over the NAME position.



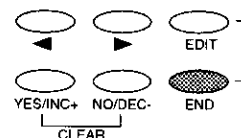
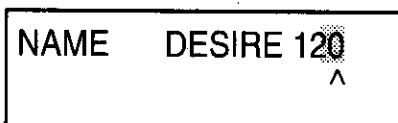
With cursor positioned over NAME, press the YES/INC+ key to reach this screen:



Press both the YES/INC+ and NO/DEC- keys at the same time to CLEAR the present name, if any.

The cursor will now be pointing to the first NAME space. You may use any combination of LETTERS, NUMBERS, Colon (:), Dash (-) or Spaces up to a total of 10 characters. To select the character for the first position, press the YES/INC+ or NO/DEC- key to move through the available characters. When you reach the desired letter or character, press the > key to move to the next position. Continue until you have completed your present model's name or description, then press END to return to the prior screen.

You may edit or correct any character or the entire name at any time by repeating this section.



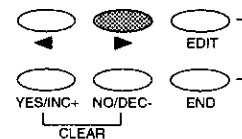
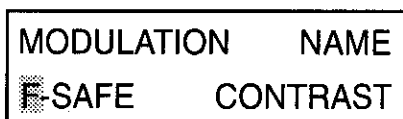
You are done naming your present aircraft. You may edit or correct any character or the entire name at any time by repeating this section.

FAIL SAFE

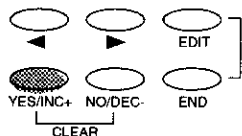
FAILSAFE is ONLY available when you are using a PCM receiver and transmitting in the PCM Modulation mode. If you are transmitting PPM FM you will not be able to enable the F-SAFE function.

NOTE: If interference is present when Failsafe is not active, in PCM Modulation, the receiver will 'hold' the last command received until the signal is again established.

Now press the > key to position the cursor over F-SAFE. This allows you to enable the Failsafe function of your Infinity 660.



Now press the YES/INC+ key to see this screen:



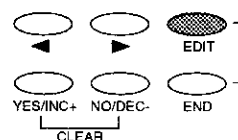
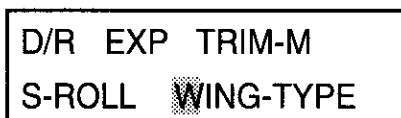
There is NO cursor position in this screen. You program the desired Failsafe servo position by placing the control sticks in the desired position; for example, low throttle, slight up elevator and slight turn command. When the positions are set, press the YES/INC+ key to set those positions in memory. To check your settings (after programming in your control throws and directions) simply turn the transmitter power switch OFF and check that the controls go to the preset positions. These are the positions the radio will assume if control is temporarily lost due to interference or transmitter problems.

SPECIAL CONTROL OPTIONS

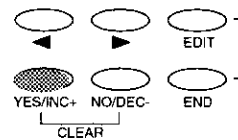
Infinity 660 has the ability to control several different aircraft 'Wing' types.

The Infinity 660 has the ability to control several different aircraft 'Wing' types, including conventional single aileron servo, dual aileron servos on individual channels with differential adjustment, wings with flaperons/spoilerons, and delta (or "flying wing") configurations with elevons.

To select the type of control set-up appropriate for your aircraft, press the EDIT key until the following screen appears:



Press > button to place cursor over WING-TYPE position. Press YES/INC+ key to see following screen:



Electronic Differential

It is only possible to electronically adjust differential when using TWO CHANNELS for aileron, with one servo on each side of the wing driving that wing's aileron.

When the cursor is over the WING DIFF> position, pressing the YES/INC+ button or NO/DEC- buttons will adjust the differential throw in the ailerons. NOTE: It is only possible to electronically adjust differential when using TWO CHANNELS for aileron, with one servo on each side of the wing driving that wing's aileron. The INH position allows only one channel for aileron function.

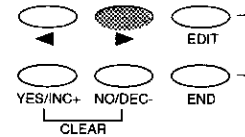
Differential refers to the ratio of up-to-down movement of each aileron. Many aircraft need more movement from the upward deflecting aileron than from the

Wing Types ...

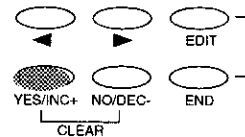
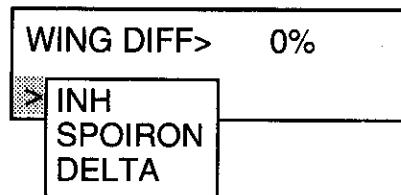
downward deflecting aileron in order to eliminate unwanted yaw when ailerons are applied.

The display to the right of the cursor (default setting 0%) shows the amount of differential presently programmed. The range is from -100% to +100%. However, since INH is presently displayed, no differential adjustment will be effected.

In order to use the electronic differential adjustment, you must select a WING-TYPE that uses two channels for aileron control. Press the > key to place the cursor over the presently selected type, in this case INH.



Now press the YES/INC+ key to select another type:



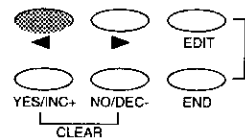
INH, for single-channel aileron operation.

SPOIRON, for two channel operation of ailerons with optional spoileron or flaperon operation.

DELTA, for delta or flying wing type aircraft with elevon controls.

The three possible wing types are: INH, for single-channel aileron operation, in which case the DIFF function is inhibited; SPOIRON, for two-channel operation of ailerons with optional spoileron or flaperon operation, and; DELTA, for delta or flying wing type aircraft with elevon controls.

For now, select SPOIRON. This will allow two channels for aileron function, and allows electronic differential adjustment. With SPOIRON showing in the WING-TYPE position, press the < key to place the cursor over the WING DIFF> position.

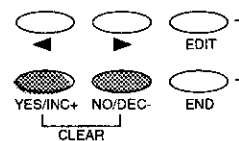


By moving the cursor back to WING DIFF> position, you have confirmed the SPOIRON selection. You will now have two channels assigned to the aileron/spoileron function. Plug these servos into CHANNELS 2 and 6 of your receiver. Note that both servos respond equally when you move the aileron stick on the transmitter. Plug the servos into receiver channels 2 and 3 for Delta or 'flying wing' control systems.

NOTE: When using the SPOIRON or DELTA functions, the total servo throw available will be decreased by approximately 25 percent for individual stick functions.

Differential ...

Now, with the cursor over the WING DIFF> position, press the YES/INC+ or NO/DEC- key to set the amount of differential.



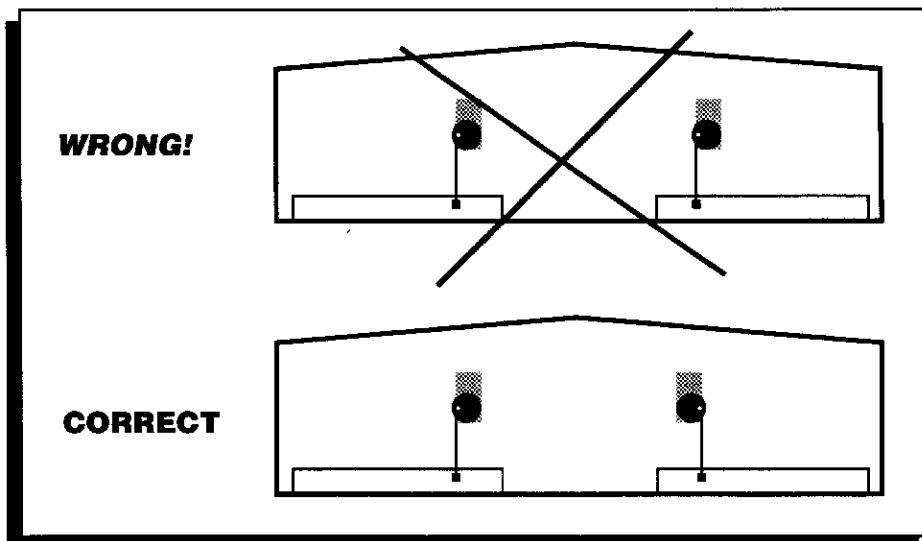
In this example the differential is set to +50 percent. This means that the downward-deflecting aileron will move half as far as the upward-deflecting aileron. The final adjustment will be determined by actual flight testing.

SERVO LINKAGE FOR DUAL-SERVO AILERON OPERATION

When using two channels for aileron operation as in the SPOIRON or DELTA wing type modes, you must take care to install your wing servos for proper operation.

Both servos will rotate in the same direction with the application of aileron stick commands. This means that the aileron (or spoileron or elevon) linkages must be installed so that they are mirror-images of each other, NOT in identical fashion. See diagram below.

Aileron (or spoileron or elevon) linkages must be installed so that they are mirror-images of each other, NOT in identical fashion.



Correct installation of aileron linkages is necessary!

Because the servos will rotate in the same direction with the application of aileron stick commands, you must mechanically design your installation so that the ailerons move in opposite directions when aileron is applied.

You may either install both aileron pushrods on the inside of their servo output arms, or install both aileron pushrods on the outside of the servo output arms. Direction of operation may then be controlled by reversing the aileron operation with the transmitter's reversing function.

Reversing the aileron, elevator or spoileron functions will reverse the rotation of BOTH servos when using the SPOIRON or DELTA wing type choices.

Reversing the aileron, elevator or spoileron functions will reverse the rotation of BOTH servos when using the SPOIRON or DELTA wing type choices.

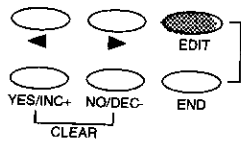
SERVO REVERSING

The Infinity 660 allows you to electronically REVERSE the direction of rotation for each of the servos in use.

The Infinity 660 allows you to electronically REVERSE the direction of rotation for each of the servos in use. This allows you to hook up your control linkages and pushrods in the most mechanically desirable manner, without regard to the direction of servo movement. (Note that when using two channels for aileron controls, you must install the servo linkages as outlines on the previous page).

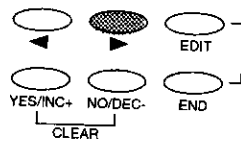
After installing your linkages, check to see if any of the controls move in the wrong direction when you move the transmitter controls. If so, proceed as follows.

Press the EDIT key until you arrive at the following screen:



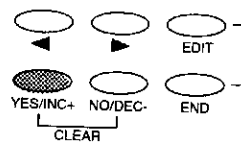
CENTER M-SELECT
EPA REV SW GEAR

Press the > key to position the cursor over the REV position.



CENTER M-SELECT
EPA **REV** SW GEAR

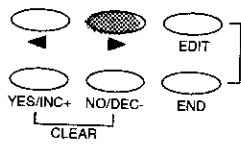
Now press the YES/INC+ key to see the following screen:



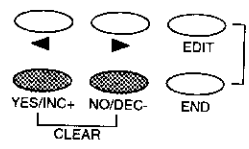
REVERSE
NORMAL 123456

The default positions shown have all channels operating in the NORMAL direction, so all channel numbers are in the lower row as shown above.

If, for instance, you wish to change the direction of rotation of the servos operating on channels number 1 and number 3, press < or > keys to position the cursor over the desired channel number(s), then press the YES/INC+ or NO/DEC- key to change that channel to the REVERSE direction.



REVERSE
NORMAL 123456



Reversing Position	Reverses This
1	Throttle
2	Aileron
3	Elevator
4	Rudder
5	Gear
6	Flap OR second Aileron Servo

Those channels you have changed to reverse rotation will now appear in the upper row in the REVERSE position.

REVERSE 1 3
NORMAL 2 456

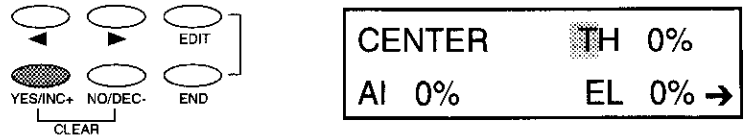
In this example, Channels 1 and 3 have been set for REVERSE rotation.

SETTING CONTROL CENTERING

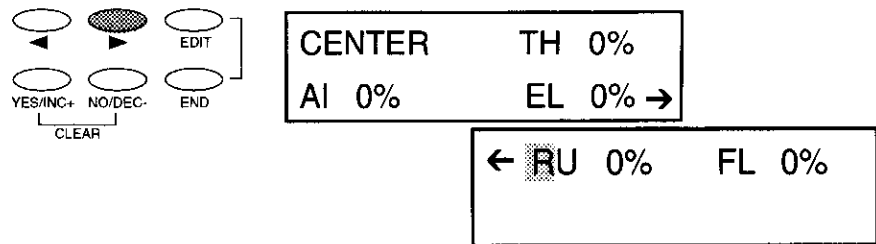
The Infinity 660 allows you to fine-tune the CENTER or neutral position of all flight control servos. After hooking up your controls and mechanically centering all linkages to the approximate positions, press the EDIT key to arrive at the following screen:



Now press the YES/INC+ key. You will see this screen:



By pressing the > key (or < key) you can position the cursor over the desired control function. Note the arrow at the far right of the bottom row of this screen; this indicates that there are more cursor positions than presently displayed. If you continue to press the > key past the EL position, you will see the remainder of the CENTER screen positions as shown below.



It is desirable to adjust the control linkages as close as possible to the correct center positions, then use the CENTER commands to “fine tune” the exact position of the control surface when the transmitter control is in neutral.

The channels for which electronic centering is available are abbreviated in the CENTER menus as follows:

- TH = Throttle
- AI = Aileron
- EL = Elevator
- RU = Rudder
- FL = Flap

The value displayed as percentage (%) to the right of each channel abbreviation shows the present centering adjustments. Default position is zero.

IMPORTANT NOTE:

It is desirable to adjust the control linkages as close as possible to the correct center positions, then use the CENTER commands to “fine tune” the exact position of the control surface when the transmitter control is in neutral.

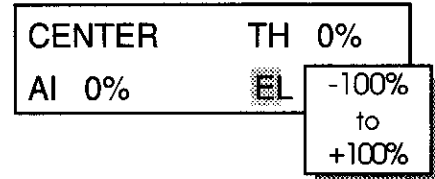
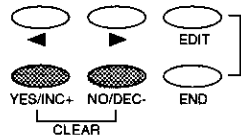
Using a very large amount of electronic centering adjustments will decrease the total throw available for that channel. In particular, centering adjustments greater than + or - 50% will tend to make the extreme stick position on one end less responsive.

Setting Control Centering ...

To adjust the centering of any channel, press the > or < key to place the cursor over that channel's position. (For this example we'll adjust the centering of the Elevator servo; so position the cursor over the EL position as shown).



Now, by pressing the YES/INC+ or NO/DEC- keys you can adjust the centering for the selected channel. The value range possible is from -100% to +100%.



By positioning the cursor over each channel position for which centering adjustments are desired, then setting the CENTER position with the YES/INC+ or NO/DEC- keys, set the centering for each channel.

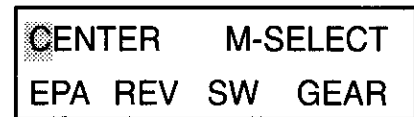
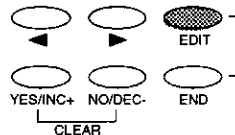
END POINT ADJUSTMENTS (EPA)

The Infinity 660 allows you to adjust the 'End Points,' or servo travel limits, for all flight channels.

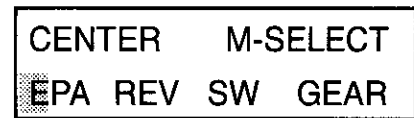
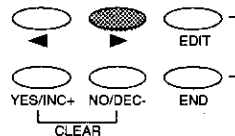
In general, it is best to use as close to 100 percent servo throw as possible. This allows for the best possible resolution and centering of all control surfaces. However, in some cases it is not possible to use full servo movement — such as those instances where short control horns must be used because of aircraft design considerations, or with fixed-length control horns such as a throttle arm.

In general, it is best to use as close to 100 percent servo throw as possible. This allows for the best possible resolution and centering of all control surfaces.

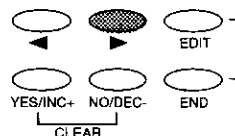
To electronically adjust End Points for servo travel, press the EDIT key to arrive at the following screen:



Press the > key to position the cursor over the EPA position.



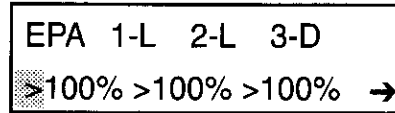
Now press the YES/INC+ key to see the EPA screen as shown on next page.



(Continued on next Page)

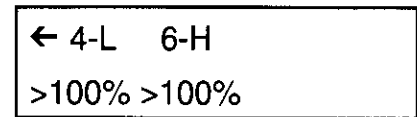
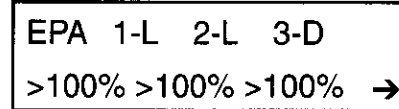
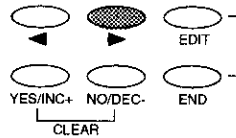
End Point Adjustments (EPA) ...

(Continued from previous page) Here is the EPA screen number one:



Note that there is an arrow pointing to the right at the bottom right corner of the screen. This means that there are more cursor positions than are presently displayed.

Pressing the > key repeatedly will 'push' the cursor off this screen and bring up the second screen of the EPA menu, as shown below.

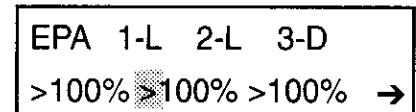
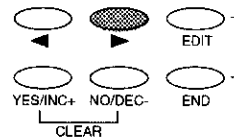


How To Use The EPA Screens

In the EPA screens, the top row shows the five channels for which EPA adjustments are available AND the current End Point for which the adjustments can be made. The bottom row of data is the present setting for the currently displayed End Point.

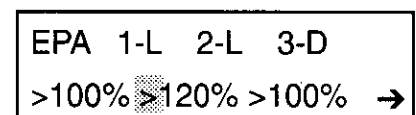
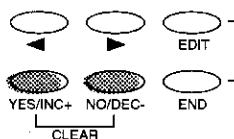
The order of functions displayed in the EPA menus is: Throttle, Aileron, Elevator, Rudder and Flap (from left to right in the EPA screens).

To set your individual End Points, use the < or > keys to position the cursor over the desired control function's present setting.



In this example, we have selected the EPA setting for the second function, Aileron. On the top row, the present display shows "2-L," which means you can now make changes in the LEFT travel limit for the Aileron servo(s).

Pressing the YES/INC+ or NO/DEC- keys will increase or decrease the amount of servo rotation caused by full LEFT deflection of the aileron stick. The range of EPA adjustment is from 0-150%.



Throttle - LOW EPA

Aileron - LEFT EPA

Elevator - DOWN EPA

EPA 1-L 2-L 3-D

>100% >100% >100% →

Rudder - LEFT EPA

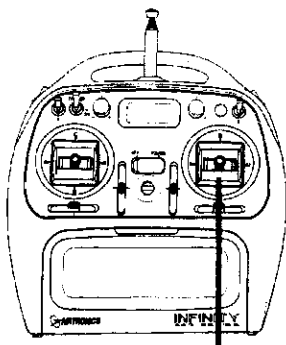
Flap - HIGH EPA

← 4-L 6-H

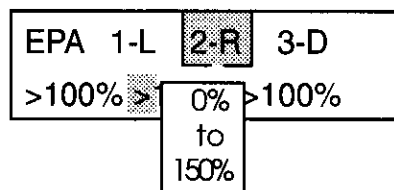
>100% >100%

EPA Screens ...

To set the EPA for RIGHT MOVEMENT of the Aileron function, move the aileron stick to the right. Now the EPA screen will show as follows:



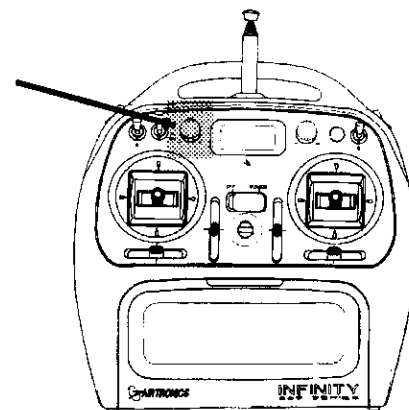
Move Aileron Stick to the right. →



The 2-R now in the second position means that your End Point Adjustment will now apply to the RIGHT extreme of servo travel.

In a similar manner, you can determine which End Point your adjustments will affect by moving the appropriate stick in the direction of the desired End Point adjustment.

The fifth, or 'FLAP End Point Adjustment' position, is set by turning the potentiometer on the left upper face of the transmitter to determine which end of the flap throw is being adjusted. The display will read either 6-H or 6-L depending on which way the control is turned, for HIGH or LOW Flap setting, respectively. The Flap switch #11,12 must be set to the 'ON' position in order for the flap adjustment potentiometer to have an effect on the present flap position.

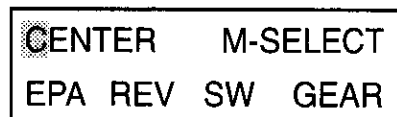
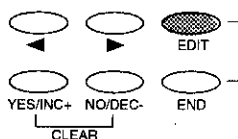


LANDING GEAR ADJUSTMENT

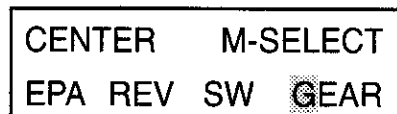
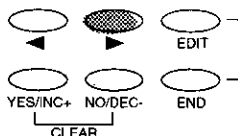
In most cases (in fact, almost all cases in the past) the total servo throw for the landing gear function can not be set by the transmitter, because most retract servos are SWITCHED (non-proportional) servos. With these servos, mechanical adjustment is the only method available to ensure proper operation of the retracts.

Airtronics now offers a high-torque PROPORTIONAL retract servo. With this servo and the INFINITY transmitters, End Point Adjustments for the retract servo are possible, independantly setting the "Down" and "Up" lock positions.

To use this function, press the EDIT key to reach this screen:



Press > key to position cursor over GEAR position.



With this servo and the INFINITY transmitters, End Point Adjustments for the retract servo are possible, independantly setting the "Down" and "Up" lock positions.

(Continued on next Page)

Landing Gear Adjustment ...

With the cursor over the GEAR position, press the YES/INC+ key to see the following screen:



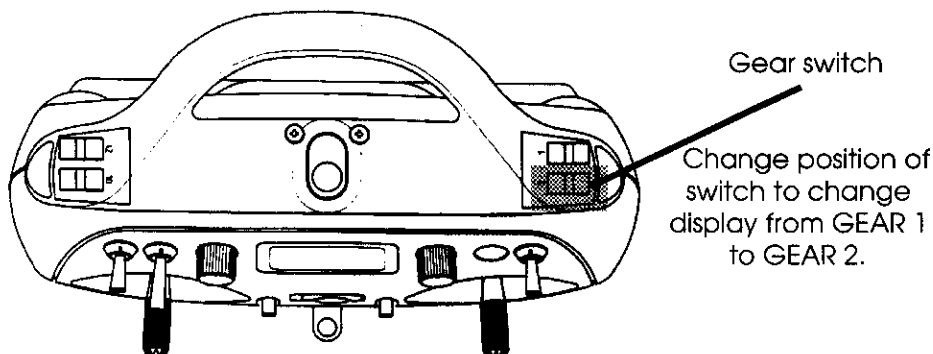
The number after GEAR (in this case GEAR 2) denotes the present position of the GEAR switch - NOT THE SWITCH NUMBER. Position GEAR 2 is the default position for landing gear UP. This is important, because in the GEAR UP position the Snap Roll function is enabled, allowing your currently programmed Snap Roll function to be activated by pressing the Snap Roll switch.

To adjust the end point for the landing gear UP position, press the YES/INC+ or NO/DEC- key to reach the desired pushrod travel for the up position. The range possible is from -150% to +150%.



In the GEAR DOWN switch position, Snap Roll is DISABLED. This is a safety feature, so that when the landing gear is down (such as take-off) you can not accidentally cause an unintentional snap roll by hitting the wrong switch.

To set the end point for the landing gear DOWN position, set the retract switch on the right side of the transmitter to the "#4" position. Note that this has the switch "Down" for landing gear Down. The Gear display screen will now show GEAR 1, as shown below.



NOTE: The Snap Roll function is disabled in the Gear 1 (down) position whether you are using a proportional OR switched retract servo.

As for the GEAR 2 position, press the YES/INC+ or NO/DEC- key to reach the desired pushrod travel for the gear down position.



Remember, in the GEAR 2 position the Snap Roll function is enabled, so you will want GEAR 2 to be set for the gear UP position. This is a safety feature, so that when the landing gear is down (such as take-off) you can not accidentally cause an unintentional snap roll by hitting the wrong switch.

Note that the Gear Function can be reassigned to a different switch if desired. See section on Switch Assignments

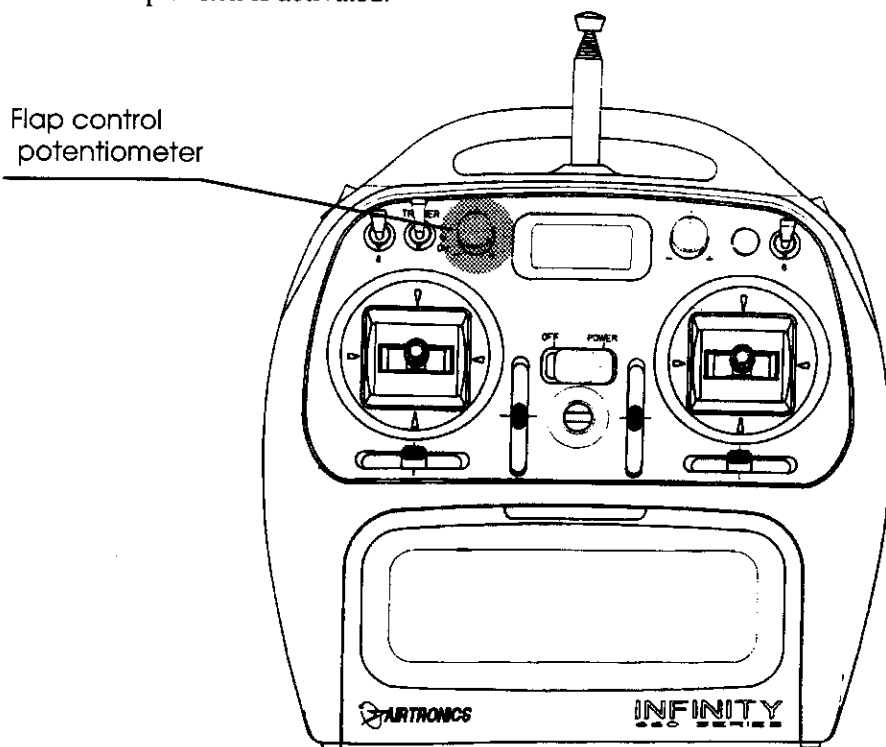
FLAPS

- FLAPERONS
- SPOILERONS

The Infinity 660 allows extreme flexibility in the set-up and operation of the Flap function. There are two separate systems for determining the amount of Flap function that will be realized when the Flap switch is activated:

- The End Point, or total throw available in either direction, is set in the EPA screen as described on pages 9-11.

- The Flap control potentiometer on the left side of the transmitter face. Turning this control will determine how much of the presently available Flap is activated, and which direction the Flap moves. When the Flap control potentiometer is turned to the far right (+) or far left (-) position, the flap throw will be the total amount available *as determined by the present End Point setting for the respective directions*. For instance, if the Flap control potentiometer is turned half-way towards the + position, then half of the presently set Flap throw in the + direction will be enacted when the Flap switch is activated.



To set the neutral point of the Flaps, press the EDIT key to reach this screen:



Press the > or < key to position the cursor over the FLAP-TRIM position.



(Continued on next page).

Flaps ...

- FLAPERONS
- SPOILERONS

With the cursor over the FLAP-TRIM position, press the YES/INC+ key to bring up the FLAP-TRIM screen:



Now use the YES/INC+ or NO/DEC- keys to adjust the Flaps to the desired neutral position. The range available is from -100% to 100%



NOTE: The Flap-Trim, Flap End Point Adjustments and the Flap Control Potentiometer all have the same function whether you are using FLAPS, FLAPERONS or SPOILERONS.

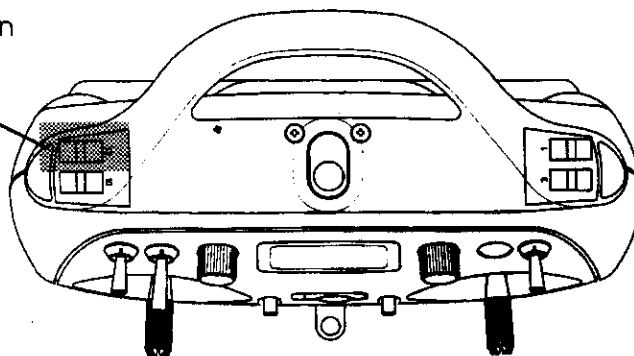
When using Spoilerons or Flaperons (activated by choosing 'SPOIRON' in the WING TYPE screen) the flap settings will affect both the aileron servos in the same surface-throw direction.

When using standard, separate flap and aileron servos, the FLAP settings and adjustments will affect only the FLAP servo.

In mechanical terms, the difference between FLAPS and SPOILERS is that Flaps deploy in a downward direction, while Spoilers deploy in an upward direction. Flaps create both lift and drag; Spoilers create only drag.

The amount and direction of Flap or Spoileron deployment are now set, and can be activated by flipping the Flap Switch located on the upper left top of the transmitter. On is the #11 position on this switch.

Flap Activation Switch



Note that the Flap Function can be reassigned to a different switch if desired. See section on Switch Assignments

If you wish to have Flap travel (or Spoiler travel) possible in one direction only, set the End Point for the opposite direction at 0%; now the Flap/Spoiler surface will only be allowed to travel in one direction regardless of the position of the Flap Control Potentiometer.

MIXING:

**Flap → Elevator
Elevator → Flap**

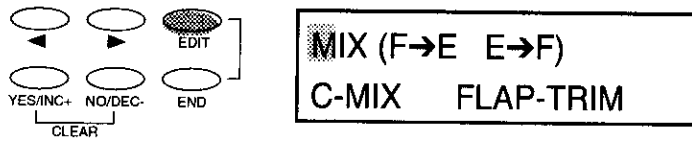
Infinity 660 allows electronic mixing of the Flap and Elevator controls in two distinct ways; (1) Flap → Elevator, and/or (2) Elevator → Flap.

FLAP → ELEVATOR MIXER

By making this adjustment with an electronic mixer, the pilot does not have to alter the elevator trim lever position each time the flaps are used, and thus does not have to re-trim the elevators for normal flight.

The first option, Flap → Elevator, allows for automatic adjustment of Elevator trim whenever the flaps are deployed. This is a valuable option, as most aircraft will need a change in pitch trim whenever flaps are deployed. By making this adjustment with an electronic mixer, the pilot does not have to alter the elevator trim lever position each time the flaps are used, and thus does not have to re-trim the elevators for normal flight.

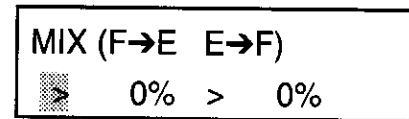
To use Flap → Elevator mixing, press the EDIT key to reach this screen:



Since the cursor is positioned over the MIX (F→E E→F) position, press the YES/INC+ key.



The following screen will now appear:



The cursor will be over the first position, which corresponds with the F → E mix position. To set the amount of elevator trim change that will occur with the application of Flaps, press the YES/INC+ or NO/DEC- key to alter the setting. The range for this function is from -100% to +100%. For now, press the YES/INC+ key to set the F → E mix to 33%.



Note that this mixer is a TRIM function, and 33% of the available elevator trim is NOT the same as 33% of total available elevator THROW.

With this setting, you will have 33% of the total available elevator trim added when you deploy the flaps. Note that this mixer is a TRIM function, and 33% of the available elevator trim is NOT the same as 33% of total available elevator THROW.

Flight testing will be required to find the optimum AMOUNT and DIRECTION of F → E mix. Both of these variables are set within this screen, by changing the value of the mixing percentage from 0-100, or its sign from -/+.

(Continued on next Page)

Flap → Elevator Mixer ...

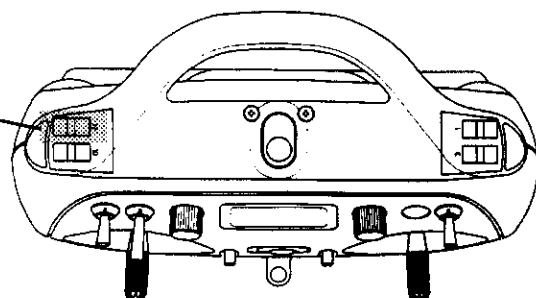
The proper amount and direction of trim change needed can only be determined through actual flight testing of your specific aircraft.

In general, high-wing trainer or sport models will tend to 'balloon' upwards with the application of Flaps. In this case, you will want to set the mixer to cause DOWN-elevator trim when flaps are applied. Conversely, many high performance low wing models and most delta-wing jets will tend to nose downward with flap application; for these models, set the mixer to add UP-elevator trim when flaps are deployed.

If you are using the Flap switch to deploy Spoilers or Spoilerons, in most cases you will want to add some UP-elevator trim with the spoiler deployment. Again, the proper amount and direction of trim change needed can only be determined through actual flight testing of your specific aircraft. Please proceed with caution, and start with reasonably small amounts of trim change until you are certain of the amount needed.

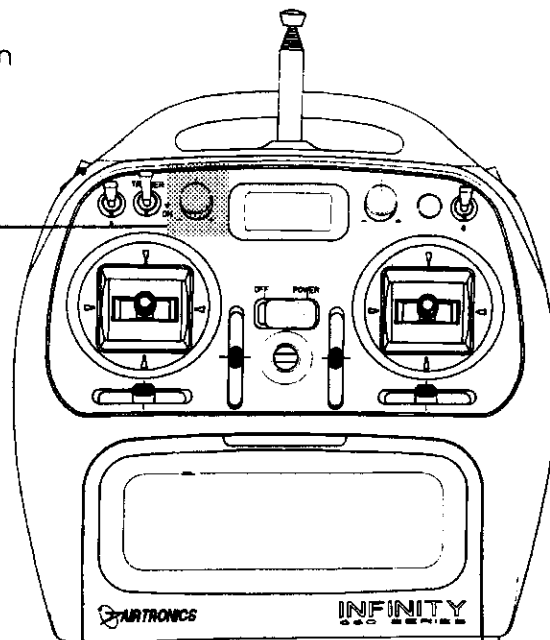
Once set, the Flap → Elevator Mixing is activated by setting the Flap switch to the on position.

To deploy Flaps and activate F → E Mixing.



The amount of presently available Flap deployment and of Flap → Elevator Mixing can be adjusted (at the same time) by changing the Flap Control Potentiometer on the left face of the transmitter. Turning the potentiometer to either extreme position will cause the largest amount of movement. Changing the direction of the Flap potentiometer setting from + to - will change the direction of BOTH the flap deployment AND the elevator trim change.

To change the amount AND/OR direction of F → E Mixing that will occur when flap button is turned on.



Changing the direction of the Flap potentiometer setting from + to - will change the direction of BOTH the flap deployment AND the elevator trim change.

Flap → Elevator Mixer ...

Special Note For Pilots of Models WITHOUT Flaps

Almost all full-sized aircraft use elevator trim to set the approach angle (and therefore airspeed) to reduce the workload on the pilot. With the Flap → Elevator Mixing function, you can do the same without having to reset your elevator trim after each landing approach.

It may be advantageous to use the Flap → Elevator Mixing function **EVEN ON AIRCRAFT THAT DO NOT USE FLAPS!**

One instance where this may be desirable is in the case of an intermediate trainer or sport model with a fairly powerful engine. Many such models, even when assembled with the recommended amount of down-thrust, will have a strong tendency to nose-down when throttle is reduced to idle. This will require a fair amount of up-elevator to be added and held throughout the approach to landing. Almost all full-sized aircraft use elevator trim to set the approach angle (and therefore airspeed) to reduce the workload on the pilot. With the Flap → Elevator Mixing function, you can do the same without having to reset your elevator trim after each landing approach.

To use Flap → Elevator Mixing on models without flaps, proceed as if you were setting up a model **WITH** flaps. In the End-Point Adjustment screen, set one direction's End Point for Flaps at 0% and the other at 100%. This will prevent the Flap → Elevator Mixing from working in both directions, regardless of the Flap Potentiometer setting. Now set the F → E Mix to either +100% or -100%, whichever setting causes the elevator trim to change upwards when Flap switch is turned on.

Once set, the amount of Up-elevator trim realized with Flap → Elevator Mixing can be adjusted with the Flap Control Potentiometer.

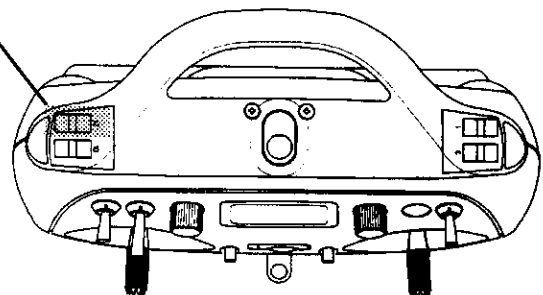
Now you can set your landing trim by simply turning on the Flap switch. **CAUTION: Be certain to re-set the elevator trim by turning the Flap switch OFF before your next flight, or an unexpected climb will result!**

Elevator → Flap Mixing

The other option in the MIX (F→E E→F) screen is for Elevator → Flap mixing. With this option, you can cause the Flaps to move whenever the Elevator stick is moved. This function is most commonly used for aerobatic models, where deploying flaps with elevator control can make for tighter corners on maneuvers such as the square loop.

Unlike the Flap → Elevator mix, the Elevator → Flap mix is usually used only during certain maneuvers. Therefore, it is assigned to a switch so that the function can be activated only when desired. The default setting assigns this function to the #11-12 switch, with the #12 position being 'ON.'

To activate E → F Mixing.



(Continued on next Page.)

Elevator → Flap Mixing ...

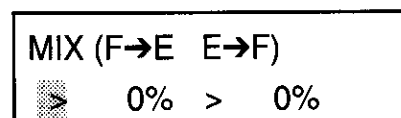
To use Elevator → Flap mixing, press the EDIT key to reach this screen:



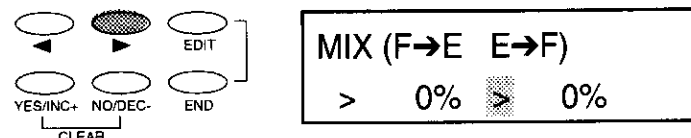
Since the cursor is positioned over the MIX (F→E E→F) position, press the YES/INC+ key.



The following screen will now appear:

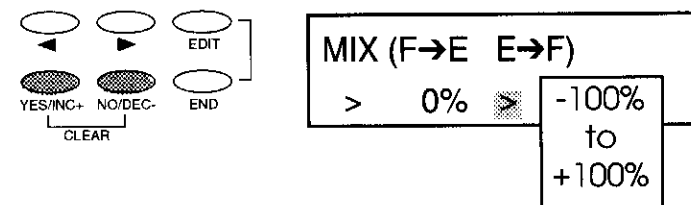


Press the > key to position the cursor over the E>F position:



You can now use the YES/INC+ or NO/DEC- keys to adjust the amount and direction of flaps that will be deployed when the elevator stick is moved. The range is from 100% to -100%. This is the ONLY adjustment that affects Elevator → Flap mixing.

When the Elevator → Flap mixing switch is on, the Flaps will respond along with the Elevator whenever the elevator stick is moved, in either direction.



When the Elevator → Flap mixing switch is on, the Flaps will respond along with the Elevator whenever the elevator stick is moved, in either direction. This is true even if you have the End Point Adjustment for one direction of Flap travel set at zero.

The Flap Control Potentiometer has no affect on Elevator → Flap Mixing.

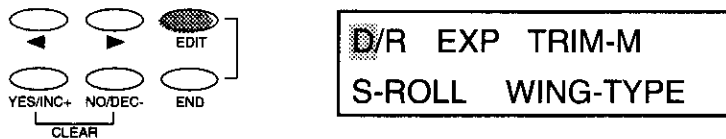
You can set the Flaps to respond OPPOSITE the direction of Elevator control; i.e. Flaps DOWN with UP Elevator and Flaps UP with DOWN Elevator, or you can set Flaps to respond in the SAME direction as elevator. The difference is in the SIGN (+ or MINUS) of the value set in the E → F mixing screen.

CAUTION! Start with small amounts of mixing, and proceed with care. Always ensure that you know whether mixers are ON or OFF before flight!.

DUAL RATES

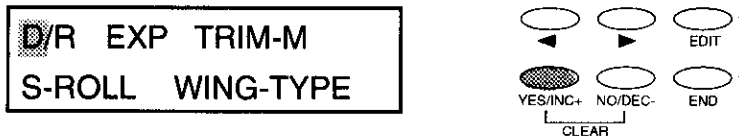
Dual Rate adjustments allow you to switch from your 'standard' control deflection to a reduced or increased amount of throw by simply flipping a switch. The actual speed of signal processing and servo movement are not affected by the Dual Rate settings, only the amount of total servo throw available.

Infinity 660 allows Dual Rate settings for Aileron, Elevator and Rudder. To access the Dual Rate settings, press the Edit key to reach this screen:

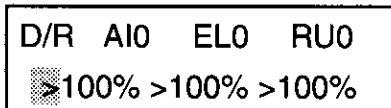


Dual Rate adjustments allow you to switch from your 'standard' control deflection to a reduced or increased amount of throw by simply flipping a switch.

With the cursor positioned over the D/R position, press the YES/INC+ key.

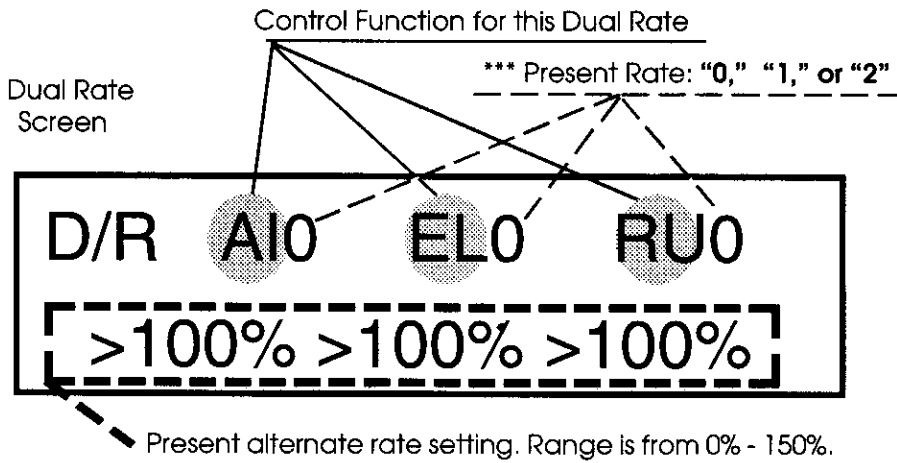


The Dual Rate screen will appear as shown below:



This screen tells you the present rate status and, when a Dual Rate switch is set to an ON position, the alternate rate for that control function that is presently set in the program. See diagram below.

The DUAL RATE Screen



***** Present Rate Display Explanation:**
 0 is Normal
 1 is Dual Rate #1
 2 is Dual Rate #2

Abbrev.	Function	*Switch OFF	Switch ON
AI	Alleron	5	6
EL	Elevator	7	8
RU	Rudder	**None	None

*Default switch assignments and positions.

**Rudder is not assigned to a switch but can be user set.

(Continued on next Page)

Dual Rates ...

The Dual Rate screens, used with the Switch assignment options, offer far more flexibility than traditional 'dual rate' switches.

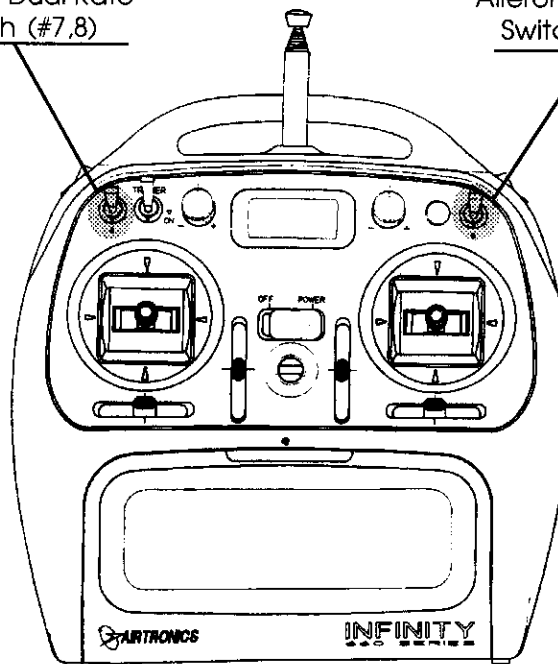
It is important to understand that the term "Dual Rate" is used because it is an old and familiar description. It does NOT, however, provide a very complete description of the many options possible when using the Dual Rate functions of the Infinity 660.

The Dual Rate screens, used with the Switch assignment options, offer far more flexibility than traditional 'dual rate' switches. It is almost impossible to list all of the options possible with the Infinity 660's Dual Rate functions; you should study this portion of the manual along with the sections covering Exponential and Switch Assignments to arrive at the optimum use of these functions on your specific aircraft. Here are some important pointers about the Dual Rate functions of the Infinity 660:

- There are THREE possible rates available for each of the three controls: Aileron, Elevator and Rudder. These rates are (0) Normal, (1) Dual Rate #1, and (2) Dual Rate #2.
- You may assign any of the possible rates (Normal, Dual Rate #1 and Dual Rate #2) to cause **reduced** or **increased** throw of that control.
- Any or all of the Dual Rate positions may be assigned to any switch.
- Any Dual Rate switch may also activate or deactivate Exponential settings.
- If you activate the switches for BOTH Dual Rate #1 and Dual Rate #2 at the same time, regardless of which is activated first, Dual Rate #1 will be active.

Default Assignment
Elevator Dual Rate
Switch (#7,8)

Default Assignment
Aileron Dual Rate
Switch (#5, 6)

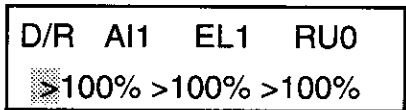


In the standard default settings, the Aileron and Elevator Dual Rate switches are assigned to the 'standard' locations as shown above. Rudder is not assigned to a switch, and thus cannot have a Dual Rate set unless you change the default switch assignments as explained in a later section of the manual.

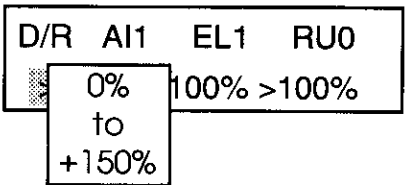
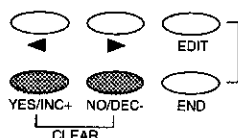
Dual Rates ...

To set an alternate rate for any of the three possible control function, turn the switch for that function to the Dual rate 'On' position. Below we'll assume that the Aileron and Elevator dual rate switches are both in the on position — note that the number following the abbreviations for these functions has changed to "1."

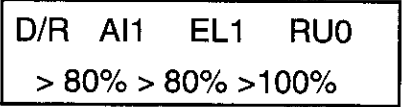
AI and EL display Dual Rate #1 is activated. →



By positioning the cursor over the Aileron and/or Elevator positions you may now set the amount of control response available in Dual Rate #1 position by pressing the YES/INC+ or NO/DEC- keys.



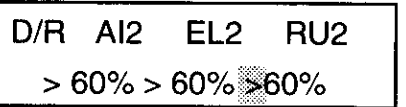
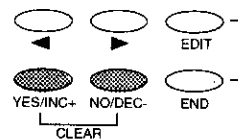
Here we have set the Dual Rate #1 to be 80% of the "Normal" throw for both the Aileron and Elevator channels. The possible range is from 0% of normal to 150%. (Note that you can not increase servo deflection if you already have set the servo throw to its maximum possible settings in the End Point Adjustment settings.)



CAUTION:
 Proceed with care when setting dual rate functions to ensure that you will have adequate control deflection available in any possible dual rate position. Setting a dual rate to a very low or 0% setting may cause the loss of control of that function!
 Always make sure that you are aware of the present status of any rate assignments that you have selected.

If you wish to have Dual Rates available for all channels, and/or want to have three rates available for the flight control functions, you will need to change some switch assignments as shown in the "Switch Assignments" section of this manual. For now, assume that you have assigned switch #5,6 to activate the Dual Rate #1 function for Aileron and Elevator. (You may also assign Dual Rate #1 for Rudder to this switch). When you set the switch to the "On" position, both controls assigned to it will display the number "1" in the Dual Rate Screen.

You can now assign Dual Rate #2 positions to the #7, 8 switch. In this example we'll assume that Dual Rate #2 for Aileron, Elevator and Rudder have all been assigned to the #7 switch position. When this switch is set to #7, you will see the present settings for Dual Rate #2, as shown below.



In the example above we have set the Dual Rate #2 functions to provide 60% of the "Normal" servo throw for all three control surface functions. The range available is from 0% to 150% of the present "Normal" setting.

Dual Rates ...

For maximum flexibility in the set-up of your aircraft, you will want to study the instructions for setting EXPONENTIAL and ALTERNATE MODE before completing switch assignments and rates for the Dual Rate function. You must assign Exponential Throw options to the same switch(es) as your Dual Rates, or you may decide to alter any or all of your control settings with one switch by using the Alternate Mode option.

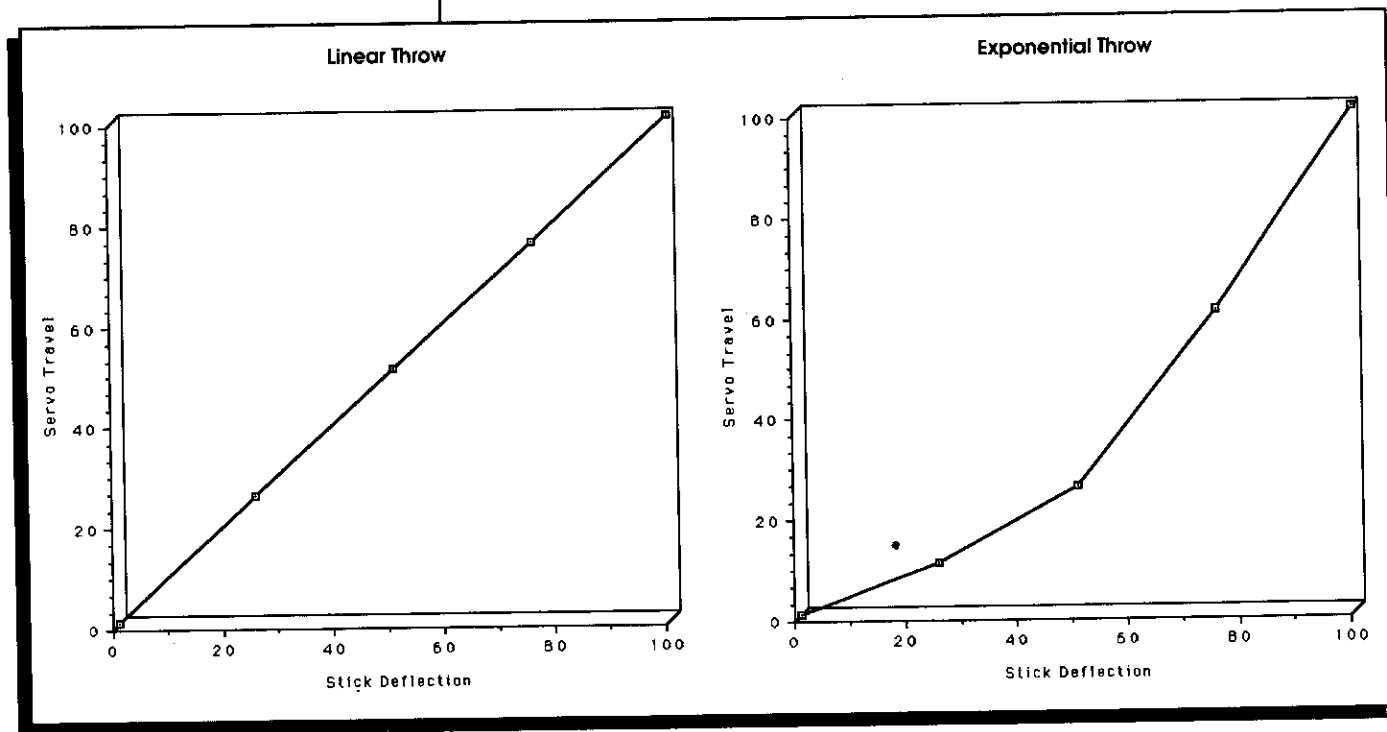
EXPONENTIAL

Exponential settings DO NOT change the amount of servo travel available at 100% control stick deflection; rather they change the amount of servo travel that will occur with stick deflections of less than 100%.

Infinity 660 allows the pilot to choose two settings for Exponential Throw for each of the primary flight channels Aileron, Elevator and Rudder.

Exponential Throw is primarily used to 'soften' or decrease the stick sensitivity of a control around the neutral point. With Exponential disabled, a control function servo will move in an amount proportional to the amount of stick deflection; i.e. 50% stick deflection will result in 50% servo travel; 75% stick deflection will cause the servo to travel to 75% of its presently set maximum throw.

Exponential settings DO NOT change the amount of servo travel available at 100% control stick deflection; rather they change the amount of servo travel that will occur with stick deflections of less than 100%. The first 25% of stick deflection may be set to result in only 10% of total servo throw, making the control less sensitive around neutral. *See illustration below.*



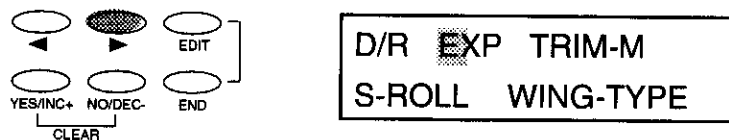
If you have not used Exponential functions before, you will want to start with a very small amount of Exponential (10% - 20%) to determine whether you like this sort of control response. Exponential is most useful where strong control response is desired at extreme stick positions, but softer response to small stick movement is desired in order to make very accurate, small corrections to flight path.

(Continued on next Page.)

Exponential ...

To activate Exponential Throw you must have Dual Rates assigned to a switch. The positions for Exponential #1 and Exponential #2 for each flight control function correspond to the Dual Rates switch position(s) for those functions. In other words, if you have assigned the #5 switch position to turn on Dual Rate #1, then this same switch position will activate Exponential #1 settings for the same control functions. (Note, however, that you can leave the Dual Rates set at 100% so that switching a Dual Rate switch on will activate Exponential only.)

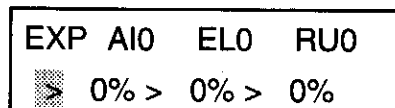
Press the > key to place the cursor over the EXP position.



With the cursor positioned over the EXP position, press the YES/INC+ key.



The Exponential screen will appear as shown below:

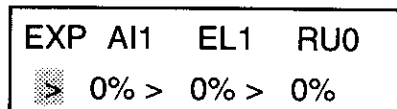


This screen tells you the present Exponential status and, when a Dual Rate/Exponential switch is set to an ON position, the Exponential setting for that control function or functions. Refer to Page 19 for an explanation of the screen positions, which are identical for Dual Rate and for Expo.

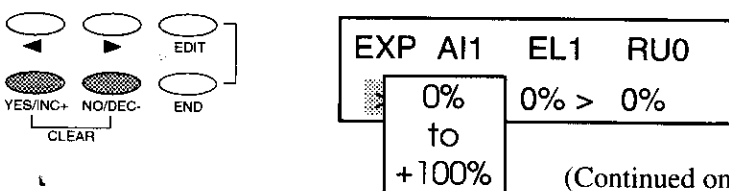
The possible range for Exponential settings for each function is from 0% (Linear Throw) to 100% (Maximum Exponential).

To set an Exponential rate for any of the three possible control function, turn the switch for that function(s) to the Dual Rate 'On' position. Below we'll assume that the Aileron and Elevator dual rate switches are both in the on position — note that the number following the abbreviations for these functions has changed to "1."

AI and EL display Dual Rate and Exponential position #1 is activated. →



By positioning the cursor over the Aileron and/or Elevator positions you may now set the amount of Exponential available in Dual Rate #1 position by pressing the YES/INC+ or NO/DEC- keys.



(Continued on next Page)

Exponential ...

CAUTION:

Proceed with care when setting Exponential functions to ensure that you will have adequate control deflection available in any possible switch position. Setting Exponential to a very high or 100% setting will require very large stick movements to achieve small control responses.

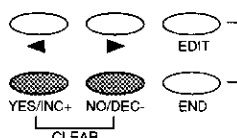
Always make sure that you are aware of the present status of any rate assignments that you have selected.

Here we have set the Dual Rate #1 to be 20% of the maximum for both the Aileron and Elevator channels. This is a good starting point for determining the suitability of Exponential throw for your aircraft and flying style.

EXP	AI1	EL1	RU0
>	20%	>	20%
		>	0%

If you wish to have Exponential available for all channels, and/or want to have two Exponential rates available for the flight control functions, you will need to change some switch assignments as shown in the "Switch Assignments" section of this manual. For now, assume that you have assigned switch #5,6 to activate the Dual Rate/Exponential #1 function for Aileron and Elevator. (You may also assign Rate #1 for Rudder to this switch). When you set the switch to the "On" position, both controls assigned to it will display the number "1" in the Exponential Screen.

You can now assign Dual Rate/Exponential #2 positions to the #7, 8 switch. In this example we'll assume that Exponential Rate #2 for Aileron, Elevator and Rudder have all been assigned to the #7 switch position. When this switch is set to #7, you will see the present settings for Rate #2, as shown below.



EXP	AI2	EL2	RU2
>	40%	>	40%
		>	40%

In the example above we have set the Rate #2 functions to provide 40% of the maximum amount of Exponential throw for all three control surface functions. Changing these settings is done in the same manner as the Dual Rate setting; i.e. press the > or < keys to position the cursor over the desired control function, then press the YES/INC+ or NO/DEC- keys to adjust the Exponential setting.

In general, large amounts of Exponential are useful only in instances where very large control surface deflection is required at extreme throw, while very small amounts of control response are necessary for smaller control stick inputs. One example of models for which large Exponential settings may be useful is the highly maneuverable 'Competition Fun Fly' style of aircraft.

For most sport and aerobatic models, an Exponential setting from 10% to 25% will give the desired "softness" around neutral.

For the most flexibility in setting up an aircraft model to your liking, study the available options for Dual Rates, Exponential, Switch Assignments and Alternate Modes. The combinations possible when using all of these options allow for in-air alteration of one or several control parameters to several possible set-ups.

COMPENSATION MIXERS

Infinity 660 has two Compensation Mixers available in Aircraft mode to handle advanced mixing needs. Each of these mixers can be assigned to a switch or can be set to remain active or inactive at all times.

The purpose of the Compensation Mixer is to allow one transmitter control input to affect two flight functions. A common use would be to mix aileron and rudder to achieve coordinated turns without moving the rudder stick.

To set up such a mix, press the EDIT key until the following screen appears:



Press the > key to position the cursor over the C-MIX position.



Now press the YES/INC+ key to see the initial C-MIX screen.



C-MIX SCREEN

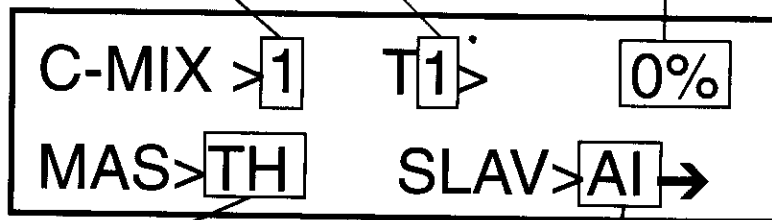
Presently selected mixer - #1 or #2. Select which with YES/INC+ or NO/DEC- key.

Throw Direction Indicator - either 1 or 2 depending on which way you move the MASTER function's stick.

Amount SLAVE will respond to MASTER control inputs (Mixing Amount)

Channels available as either MASTER or SLAVE are:

- TH.....Throttle
- AI.....Aileron
- EL.....Elevator
- RU.....Rudder
- GE.....Gear
- FL.....Flaps



MASTER Channel: Channel that will 'drive' the presently selected SLAVE channel's servo, in addition to its own, when mixing is active.

SLAVE Channel: Channel that will respond to the transmitter control function set as MASTER, in addition to its own, when mixing is active.

(Continued on next Page)

Compensation Mixers ...

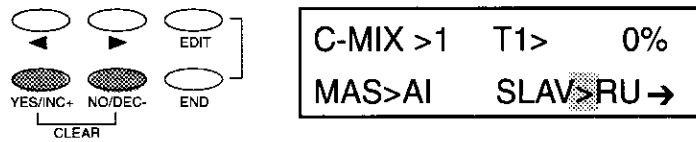
MASTER channel is the channel that will drive both its own servo(s) AND the slave channel's servo when the Master channel's transmitter control is moved. The SLAVE channel's servo(s) will respond to the Master channel's transmitter control AS WELL AS responding normally to its own transmitter control.

Usually the first thing you'll want to set is the MASTER and SLAVE channels. Press the > or < key to position the cursor over the MAS> position.



Now press the YES/INC+ or NO/DEC- keys to cycle through the channels available until you reach the desired MASTER channel. In this example we want the rudder to automatically respond when we move the aileron stick, so Aileron must be the MASTER channel.

Now move the cursor to the SLAV> position, then use the YES/INC+ or NO/DEC- keys to select Rudder as the SLAVE channel.

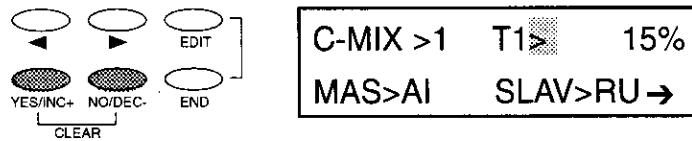


Remember, the MASTER channel is the channel that will drive both its own servo(s) AND the slave channel's servo when the Master channel's transmitter control is moved. The SLAVE channel's servo(s) will respond to the Master channel's transmitter control AS WELL AS responding normally to its own transmitter control.

Having selected the Master and Slave channels, the next step is to set the amount of mixing and the direction of the Slave channel's response to the Master channel's transmitter control.

Position the cursor over the T1> cursor position using the < or > keys. By pressing the YES/INC+ or NO/DEC- keys you can set the amount of Slave servo movement (rudder) that will occur with movement of the Master control. (In this case aileron.) The range of adjustment available is from -150% to +150% — in other words, the full range of servo travel is available for mixing. NOTE that you can have more control movement set than the servo is able to accommodate if the total of mixing and EPA for that servo exceed 150%.

For now, set the T1 at 15%. If the rudder moves opposite the direction desired, simply change the value for T1 to -15%. This will give the same amount of mixing, but in the opposite direction.

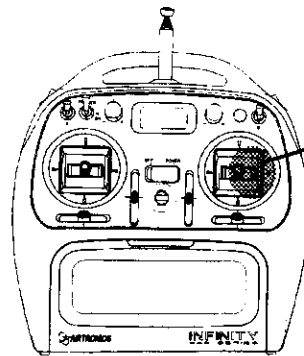


With T1 set at 15% you now have 15% mixing of rudder with aileron in ONE direction; i.e. left Aileron stick will now give left aileron response PLUS left rudder response, but right Aileron stick will not cause rudder movement.

(Continued on next page)

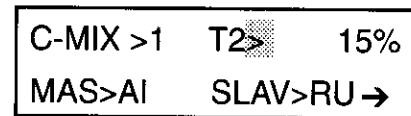
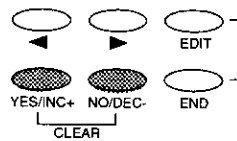
Compensation Mixers ...

To program mixing for both directions of Master stick movement you must set both T1 and T2. To change from T1 to T2 for programming, simply move the transmitter control for the MASTER channel. (In this example the Aileron stick). Note that when you move the control in one direction T1 is displayed in the mixing screen, and when you move the control in the opposite direction T2 is displayed.



Move the Aileron stick to the right and T2 will be displayed in the mixing screen.

Now you can set the mixing for T2 by pressing the YES/INC+ or NO/DEC- keys.



At this point you will have automatic rudder response along with aileron response whenever you move the Aileron stick on the transmitter. The rudder servo will still respond normally to movement of the transmitter's rudder stick.

Optimum amounts of mixing must be determined by in-flight testing.

MIXING NOTES

Because each direction of mixing can be set individually, you can change both the AMOUNT and DIRECTION of the slave channel's response to movement of the master channel's control.

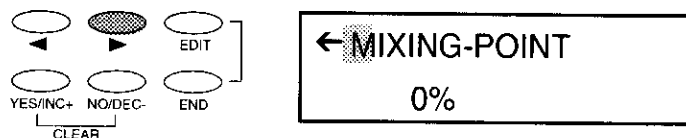
By changing the value from + to - for both T1 and T2 you will reverse the slave channels response to the master channel BUT NOT to it's own transmitter control. An example of this type of mixing would be in an airplane with too much dihedral where a "yaw only" response from rudder is desired. To mix out undesired rolling with application of rudder, the Rudder channel is set as Master and Aileron is set as slave. T1 and T2 are then set to give aileron movement OPPOSITE the direction of rudder movement whenever rudder is applied. (i.e. right rudder causes left aileron and vice-versa). Aileron response to movement of the Aileron stick is unaffected.

There are times where the desired deflection of the Slave channel is the same regardless of Master control movement. An example of this would be using a Compensation Mixer to fix an aircraft that "pulls" towards the top in both knife edge attitudes. In this case rudder would be the Master channel and Elevator would be Slave. By setting one of the T1 or T2 settings to +10 and the other to -10 (as determined by observing servo movement) you can set the mixing to cause Down elevator with the application of either Right OR Left rudder. In this case you may wish to assign the mixer to a switch (See Switch Assignments section.) so that rudder corrections during landing won't change elevator trim.

(Continued on next Page)

Compensation Mixers ...

The arrow to the right of the SLAV> channel position indicates that there are more settings than can be displayed in the present screen. Press the > key to move the cursor past the arrow and the next screen will appear.



The MIXING-POINT setting is an advanced mixer function that will not be used in most airplane set-ups. It is set by moving the Master transmitter control to a desired point and then pressing the YES/INC+ key. The display will read whatever amount of transmitter control deflection you had when the key was pushed. The SLAVE channel's servo will move a corresponding amount WHEN THE MASTER CONTROL IS RETURNED TO NEUTRAL. Now the first Master transmitter control movement in the direction of the offset will cause opposite mixing until the un-mixed neutral (slave) position is reached, then mixing will occur as it would without the Mixing-Pont function. Mixing in the opposite direction will work normally.

Since the MIXING-POINT function causes a change in the neutral position of the SLAVE servo, this type of mixer will almost always be used as a switched mixer.

SNAP ROLL SWITCH

When the S-ROLL switch is turned on the flight controls will assume the positions set and can NOT be over-ridden by the transmitter sticks as long as the Snap Roll switch is held in the on position.

Infinity 660 allows up to four different Snap Roll programs to be set and stored. Any one of these four can be selected as the S-ROLL program that will occur when the Snap Roll switch is activated. When the S-ROLL switch is turned on the flight controls will assume the positions set and can NOT be over-ridden by the transmitter sticks as long as the Snap Roll switch is held in the on position.

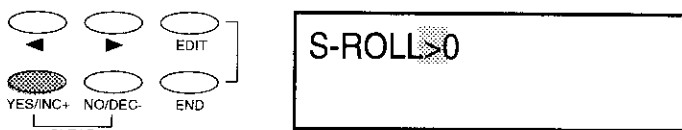
To reach the S-ROLL settings, press the EDIT key until the following screen is displayed:



Press the > key to position the cursor over the S-ROLL position.



Now press the YES/INC+ key to display the S-ROLL screen. It will probably look like this:

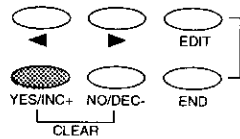


(Continued on next Page)

Snap Roll Switch ...

The default screen will show S-ROLL>0, with the "0" indicating that none of the Snap Roll programs is presently selected. This means that nothing will happen when the Snap Roll switch is turned on.

Now press the YES/INC+ key to display the S-ROLL>1 screen.



```

S-ROLL> 1 > A - R100%
>E- D 100% > R- L 100%
  
```

The screen information can be read and adjusted as explained below:

SNAP ROLL SCREEN

Current S-ROLL Program Number, from 1 - 4. ('0' is inhibit)

Present AILERON direction and travel program. In this example it is Right (R) 100%.

```

S-ROLL> 1 > A - R100%
>E- D 100% > R- L 100%
  
```

Present ELEVATOR direction and travel program. In this example it is Down (D) 100%.

Present RUDDER direction and travel program. In this example it is Left (L) 100%.

To change any of the control travel settings, move the cursor to that control position with the > or < keys, then press the YES/INC+ or NO/DEC- keys to adjust that control's S-ROLL program. The range of throw is from 0% to 150% for each of the three flight controls; Aileron, Elevator and Rudder.

Note that only the AMOUNT of travel is adjustable, not the direction. There are four S-ROLL program screens, which allow you to select from either right or left snap rolls either upright or inverted, as follows:

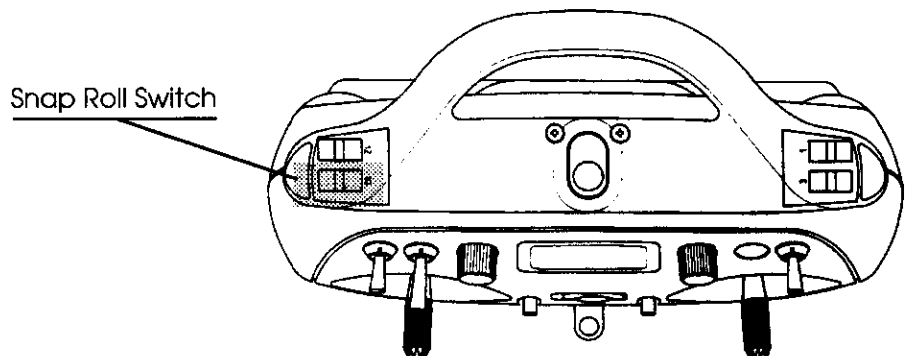
- Program 1Outside Right Snap**
- Program 2Left Outside Snap**
- Program 3Right Inside Snap**
- Program 4Left Inside Snap**

(Continued on next Page)

Snap Roll Switch ...

The program (0 through 4) that is presently displayed in the S-ROLL> screen is the program that will be activated when the snap roll switch is turned on. The amount of control input needed must be set according to in-flight testing.

The Snap Roll Switch is factory set to be the #9-#10 switch, with #9 being the ON position. This is the spring-loaded switch on the left side of the Infinity 660 transmitter.



You will normally want to leave this switch assignment set for Snap Roll, so that the function can NOT be accidentally left on. Also, see page 12 of this section for an explanation of the built in safety-disable feature when using S-Roll and Gear assignments.

Related Maneuver

Since the control movements are very similar for Snap Rolls and Spins, you can also use the Snap Roll programs and switch to enter and continue in a Spin, either upright or inverted. In this case the throttle will normally be set to idle before the switch is activated.

The primary difference between a Spin and a Snap Roll is that the Snap Roll is entered and executed with power on, while a spin is entered from a stalled condition, either upright or inverted.

SAFETY REMINDERS:

Because there are both Inside (up-elevator) and Outside (down-elevator) S-Roll programs available, it is **VERY IMPORTANT** that the pilot is always aware of which S-Roll program, if any, is presently active. You do not want to have the model respond in an unexpected manner when the Snap Roll Switch is activated.

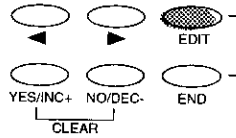
ALSO, you must remember that when the Snap Roll Switch is held in the ON position, **NONE** of the controls will respond to transmitter stick movements. You must **RELEASE** the Snap Roll Switch before the normal transmitter controls are again active.

TRIM MEMORY

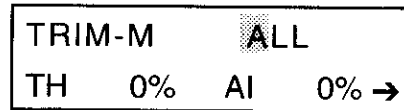
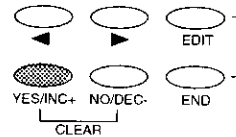
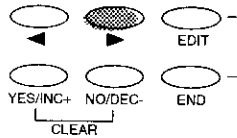
By always having the trim levers centered for ALL aircraft stored in transmitter memory the pilot can change from one model's program to another without having to worry about trim positions for each model.

Infinity 660 offers a Trim Memory function for all flight control channels. This function allows the trim levers to be re-set to the center positions while maintaining the trimming information in memory. This is useful because the pilot can then ensure that the trims are in the proper position just by checking that the trim levers are all centered. Also, by always having the trim levers centered for ALL aircraft stored in transmitter memory the pilot can change from one model's program to another without having to worry about trim positions for each model.

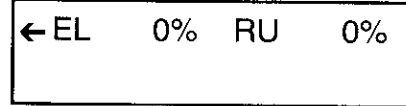
Trim Memory is used after flight testing and trimming the aircraft. When trimming is complete, program Trim Memory as follows: press the Edit key to reach this screen...



Press the > key to position cursor over TRIM-M, then press YES/INC+ key to display the TRIM-M screen.



Additional screen; press > or < keys to move between screens.



The cursor will be over the ALL position. This position will store trim information for ALL channels if desired, by pressing the YES/INC+ key when the cursor is over ALL.

To store memory information for selected channels ONLY, press the > or < keys to position the cursor over the desired channel indicator, then press the YES/INC+ key. Move to the next channel indicator and repeat until desired channels' trim information is stored. Note that as you press the YES/INC+ key, the trim value for each selected channel will change from zero to a value from -100% to +200%. This value indicates the present trim location.

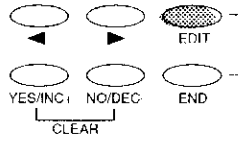
After storing the trim information for all desired channels, TURN OFF the transmitter. Move the trim levers to the neutral positions (within 1-2 notches from center) for all channels for which you have stored trim information. When you turn the power back on, the servos should stay in the previously trimmed positions.

To clear a value stored in any function's trim memory, position the cursor over that function in TRIM-M and press both the YES/INC+ and NO/DEC- keys simultaneously.

SWITCH ASSIGNMENTS

A very useful feature of Infinity 660 is the ability to assign functions to switches however you prefer, rather than forcing you to adapt to one particular switch layout.

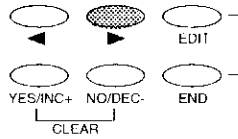
To observe or change switch assignments, press the Edit key to reach this screen:



CENTER M-SELECT
EPA REV SW GEAR

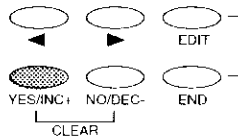
At each cursor location (designated by ">") you can change the switch assignment number that follows to any switch number from 1 th 12, or '0' for inhibit, or 'On' to turn the function on at all times.

Press the > key to place the cursor over the SW position.



CENTER M-SELECT
EPA REV SW GEAR

Now press the YES/INC+ ket to see the first SW screen. There are a total of four Switch Assignment screens as seen below. To move from one screen to another press the > or < keys to move the cursor past the arrow positions.



SW S-ROLL> 10
F→E>11 E→F >12 →

Switch Assignment Chart

Write Your SW Choice In Below Lines:

SCREEN ONE .Default	Set
S-Roll 10	_____
F >E 11	_____
E >F 12	_____
SCREEN TWO	
Dual Rates	
D/R A1 6	_____
A2 5	_____
E1 8	_____
E2 7	_____
SCREEN THREE	
R1 0	_____
R2 0	_____
ALTERNATE 0	_____
SCREEN FOUR	
Gear 4	_____
STW (Stopwatch) .. 0	_____
C-Mix 1 10	_____
C-Mix 2 0	_____

← D/R (A1> 6 A2> 5
E1> 8 E2> 7) →

← D/R (R1> 0 R2> 0
) ALTERNATE> 0 →

← GEAR> 4 STW> 0
C-MIX (1> 10 2> 0)

At each cursor location (designated by ">") you can change the switch assignment number that follows to any switch number from 1 through 12, or '0' for inhibit, or 'On' to turn the function on at all times.

Note that more than one function may be assigned to a single switch. This can be useful in the case of similar functions, such as dual rates for Aileron, Elevator and Rudder all being assigned to a single switch. However, to avoid accidentally enacting a function, extreme care must be used when assigning switches. It is suggested that you keep a list of all switch assignments for each model in the transmitter's memory.

Also, it is a good idea to assign similar functions to the same switch from one aircraft to the next. Always be aware of which functions are active at any time before starting or flying your aircraft.

DATA COPY

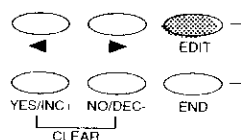
Having copied your control set-up, you can now use M-SELECT to load the Model 2 program, and then make control changes to that set-up. This allows you to experiment with different control options without changing your original parameters.

MAKE CERTAIN that this Model set-up is not one you wish to save, because when you copy the AERO1 set-up into AERO2, all data that was in AERO2 is REPLACED with the AERO1 data!

A valuable feature of the Infinity 660 is the Data Copy function. With this function the entire set of control parameters for one aircraft can be 'copied' from one Model set-up into another. (For instance, if you have your aircraft program in Model 1 and nothing in Model 2, you can copy the Model 1 program into Model 2 with the Data Copy function).

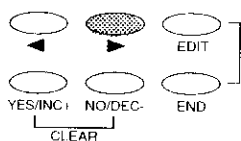
Having copied your control set-up, you can now use M-SELECT to load the Model 2 program, and then make control changes to that set-up. This allows you to experiment with different control options without changing your original parameters (in this example, still stored as Model 1).

To use the Data Copy function, press the Edit key to reach this screen:



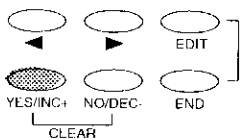
```
ALTER TIMER TYPE
D-COPY D-RESET
```

Press the > key to place the cursor over the D-COPY position.



```
ALTER TIMER TYPE
D-COPY D-RESET
```

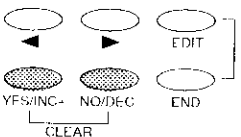
Now press the YES/INC+ key to see the D-COPY screen.



```
D-COP AERO1
->>AERO1 >Y?
```

The top line of the screen shows the PRESENTLY LOADED model; in this case "AERO1". This is the model that can presently be copied INTO another model set-up.

The second line shows the data destination, or which Model (1 through 4) the presently loaded data will be copied INTO. It is presently set as AERO1, which is the same as the source model. Pressing the YES/INC+ or NO/DEC- keys allow you to set the DESTINATION for the data being copied.



```
D-COP AERO1
->>AERO2 >Y?
```

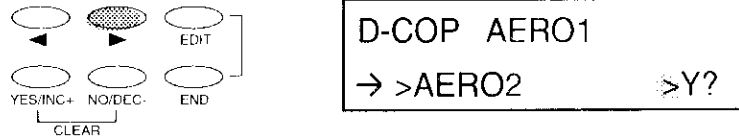
Above, the destination has been set to AERO2. MAKE CERTAIN that this Model set-up is not one you wish to save, because when you copy the AERO1 set-up into AERO2, all data that was in AERO2 is REPLACED with the AERO1 data! At this point AERO2 is still intact, so if you wish to change the destination for the copied data, do so before proceeding.

(Continued on next Page)

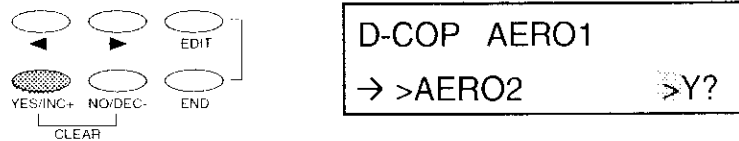
Data Copy ...

Having selected both the desired data source (AERO1) AND the desired data destination (in this example, AERO2) you can now proceed to confirm the D-COPY function.

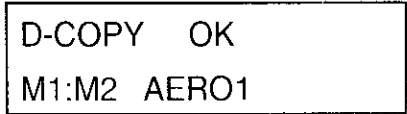
Press the > key to place the cursor over the >Y position as shown.



Press the YES/INC+ key to confirm your D-COPY selection.



The screen will change to the following screen to inform you that the process has been completed, and that Model 1 and Model 2 now have the same data (in this case, AERO1).



DATA RESET

If you want to 'undo' all of your programmed parameters at one time, you can use the Data Reset function. This function will 'Reset' all settings to the factory default settings.

Press the Edit key to display the following screen:



Press the > key to place the cursor over the D-RESET position.



Now press the YES/INC+ key to display the D-RESET screen:



The first cursor position shows the current MODEL (No. 2 here) that will be RESET if you continue. Press the YES/INC+ or NO/DEC- to change this Model if desired.

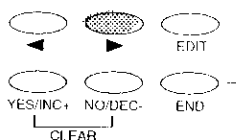
(Continued on next Page)

NOTE!
 Using the Data Reset function will cause the Infinity 660 to reset the switch assignments to the international settings: specifically, the functions assigned to the momentary switch No. 9, 10 and switch No. 1, 2 **will be TRANSPOSED!**
 Always check switch assignments whenever loading a new model, changing model type or after using the Data Reset function.

Data Reset ...

Along with the Model No. displayed on the top line, the bottom line shows the name of the setup denoted by the selected Model No. (In this case AERO1).

When you are certain that the selected Model setup is the one you wish to reset, press the > key to position the cursor over the >YES position.

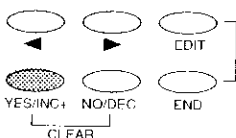


```

DATA-RESET >NO.2
AERO1          > YES?
    
```

ALL OTHER Models in memory are unaffected by the DATA-RESET function, only the selected Model setup is affected.

Now press the YES/INC+ key to confirm that you wish to Reset the data for this Model.



```

DATA-RESET >NO.2
AERO2          > YES?
    
```

Note that the bottom line now displays AERO2 — the default name for this Model setup. The data has now been reset to factory default settings.

ALL OTHER Models in memory are unaffected by the DATA-RESET function, only the selected Model setup is affected.

ALTERNATE

The ALTERNATE function is one of the most powerful functions of the Infinity 660. This function allows the pilot to switch from one Model Setup to another Model Setup DURING FLIGHT!

The ALTERNATE function is one of the most powerful functions of the Infinity 660. This function allows the pilot to switch from one Model Setup to another (compatible) Model Setup DURING FLIGHT! There are two particularly helpful uses for this function:

1. A pilot may Copy the current setup and make adjustments to the copied data, then can switch IN FLIGHT between the two Model Setups. In this manner a comparison can be made easily, during a single flight, allowing the pilot to choose which control set-up is most comfortable. Also, trying a new control setup in this manner allows the pilot to instantly change back to a known setup by simply flipping one switch.
2. A pilot may change ANY or ALL flight control parameters with a single switch for greatly differing flight conditions. For instance, the Alternate settings might include landing trim for elevators, gear down, high rate for flight controls and removal or addition of exponential characteristics on flight controls — all by flipping a single switch.

In order to use the ALTERNATE function, you must first assign it to a switch. (See Switch Assignments on Page 32).

Next you need to have an ALTERNATE setup that is compatible to your standard setup. The recommended manner to achieve this is to start with a completely tested Model setup, then use the DATA COPY function to copy this setup to a new Model Setup that will be assigned as the Alternate setup.

(Continued on next Page)

Alternate ...

Having assigned a switch and determined a suitable Alternate Model setup, you may program your Alternate.

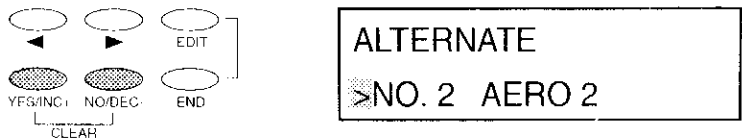
Press EDIT key until the following screen appears:



The cursor is already positioned over ALTER, so press the YES/INC+ key to display the Alternate screen.



The cursor location's display will read OFF, meaning that no Alternate Model is presently selected. By pressing the YES/INC+ or NO/DEC- keys you can scroll through the four Models in memory to choose the desired Alternate Model.

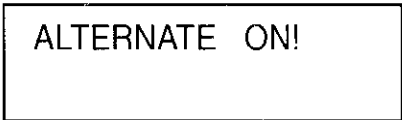


If you turn the transmitter power on while the Alternate switch is activated, you will hear a "beep" and a warning will be displayed to inform you that you are in Alternate mode.

In the above example the bottom line shows that Model No. 2, named AERO2, has been selected as the present Alternate Model.

NOTE that it is possible to select an incompatible set-up as the Alternate; i.e. you can select a HELI Model setup as an alternate for your airplane. However, in this case the Alternate function will be ignored even if you do turn the Alternate switch on.

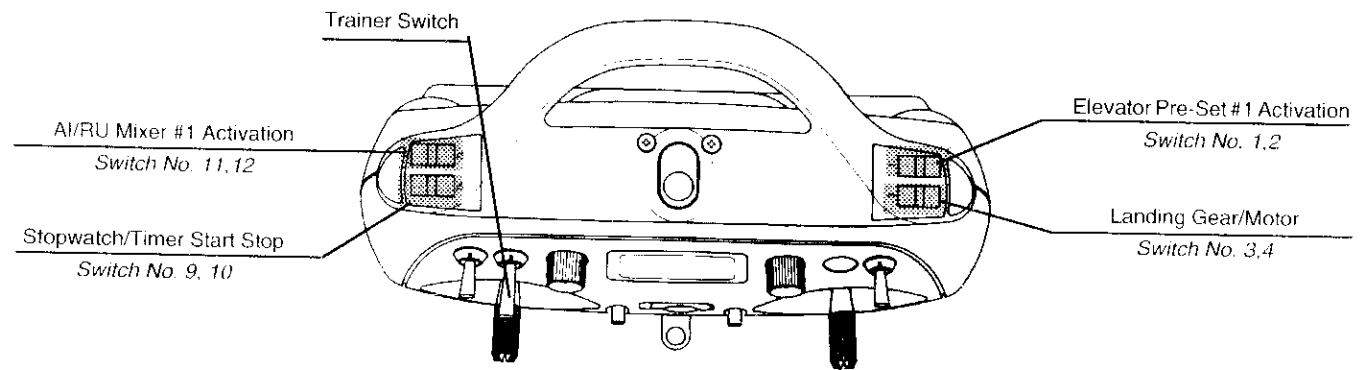
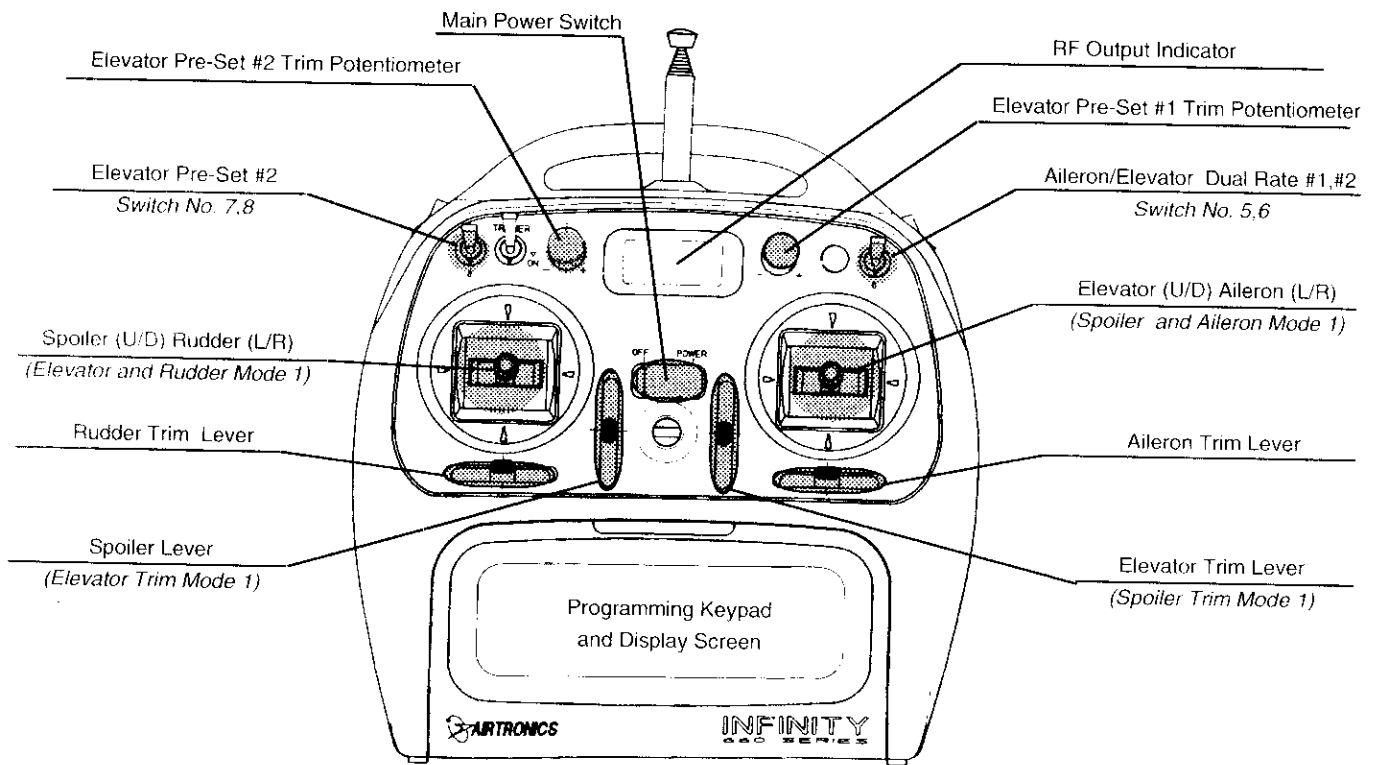
Also, if you turn the transmitter power on while the Alternate switch is activated, you will hear a "beep" and a warning will be displayed to inform you that you are in Alternate mode.



Make certain that you know which mode (normal or Alternate) you have selected at all times!

To make changes to the setup that you have selected as your Alternate, first use the M-SELECT function to load that (Alternate) Model into memory, then make any adjustments desired, then re-load the primary Model with the M-SELECT function.

Infinity 660 User's Manual — SAILPLANE



Read This!!

Infinity 660 ships with all four models programmed for HELI, with proper default switch settings. IF YOU CHANGE TYPES, (to Aircraft or Glider) or if you use the Data Reset at any time, the switch assignments will need to be checked. The chart at the right shows the intended 'default' switch assignments. It is recommended that you at least start out with these assignments, as this will make your system consistent with this manual. Later, you may change switch assignments to personalize your setup for your own flying preferences.

NOTE: A "0" default setting means that function is not presently assigned to a switch. To make the function operative you must assign it to a switch or assign it to be always on.

SCREEN ONE	.....Default
AI>RU (1)	..... 12
AI>RU (2)	..... 0
Gear	..... 4
SCREEN TWO	
Dual Rates	
D/R A1	..... 6
A2	..... 5
E1	..... 6
E2	..... 5
SCREEN THREE	
R1	..... 0
R2	..... 0
ALTERNATE	..... 0
SCREEN FOUR	
ELE PST 1	..... 1
ELE PST 2	..... 7
STW (Stopwatch)	..... 9

The receiver channel assignments below apply to both the PCM and FM receivers provided with Infinity 660 systems.

RECEIVER CHANNEL ASSIGNMENTS

Receiver Plug No.	Plug In Servo For:
1	Spoiler
2	Left Aileron
3	Elevator
4	Rudder
5	Gear/Motor
6	Right Aileron
B	Battery - input end of switch harness. NOT FOR SERVO!

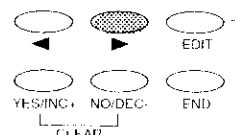
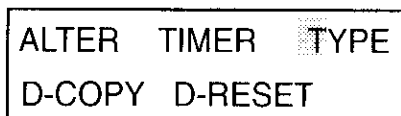
This same order applies to the servo reversing screen positions.

Infinity 660 Menu Summary — Sailplane Menus

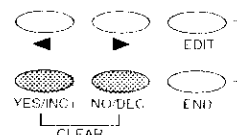
MENU SAMPLE	EXPLANATION/ACCESS <i>(Note: positions are left to right, top row, then left to right, bottom row)</i>
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> GLID 0:00 0:00 GLID1 10.0V </div>	First Position Displays present model type Second Position Total Time Display, Hours:Minutes Third Position Stopwatch/Timer Display, Minutes:Seconds Fourth Position Present Model Name Fifth Position Present Transmitter battery pack voltage
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> CENTER E-PST D/R MIX(SP→EL GE→EL) </div>	First Position Servo Centering position Second Position Elevator Pre-Sets Adjustment position Third Position Dual Rates Adjustment position Fourth Position Spoiler > Elevator Mix position Fifth Position Gear > Elevator Mix position
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> MIX(SP→LA SP→RA AI→RU) DIFF TRM-M </div>	First Position Spoiler Left Aileron Mix position Second Position Spoiler Right Aileron Mix position Third Position Aileron > Rudder Mix position Fourth Position Differential Adjustment position Fifth Position Trim Memory position
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> V-TAIL M-SELECT EPA REV SW GEAR </div>	First Position V-Tail Enable/Disable position Second Position Model Selection position Third Position Servo End Point Adjustment position Fourth Position Servo Reversing position Fifth Position Switch Assignments position Sixth Position Gear or Motor Adjustment position
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ALTER TIMER TYPE D-COPY D-RESET </div>	First Position Alternate Function position Second Position Timer Set Third Position Aircraft Type position Fourth Position Data Copy position Fifth Position Data Reset position
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> MODULATION NAME F-SAFE CONTRAST </div>	First Position Modulation Type position Second Position Name Assignment position Third Position Fail-Safe Assignment position Fourth Position Transmitter Screen Contrast position
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> CLICK (MODE 1, 2) </div>	First Position "Click" or beep volume position Second Position Transmitter Mode Selection

TO SELECT SAILPLANE SET-UP:

Press EDIT key to arrive at the screen shown below. Press > button to place cursor over TYPE.



Now press the YES/INC+ button. You will see a screen such as that shown below.



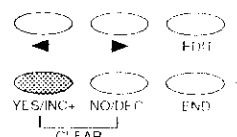
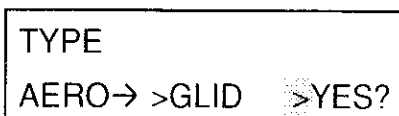
If GLID is not currently displayed to the right of the cursor position, press the YES/INC+ button or NO/DEC- button until GLID is displayed. (The possible choices are: AERO, for powered aircraft; HELI, for helicopter, or; GLID for sailplanes.) To confirm your selection press the > key to move the cursor to the >YES position, then press the YES/INC+ key.

Possible choices are:

AERO, for powered aircraft

HELI, for helicopter

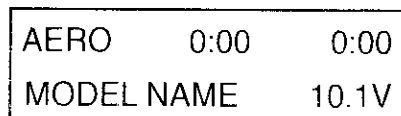
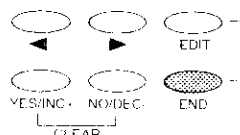
GLID, for sailplanes.



BASIC SAILPLANE SETUP

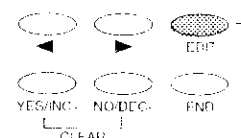
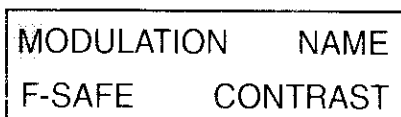
In this section you will learn to name and save your aircraft set-up(s), implement the basic control functions, and tailor the servo movement and centering for each control.

Pressing the END key on the front control panel will bring you to the following screen, the INITIAL SCREEN:



This screen tells you several valuable things as stated in the Introduction section of this manual. If you are not familiar with this screen, please refer to that section!

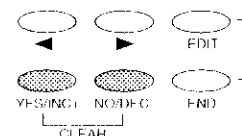
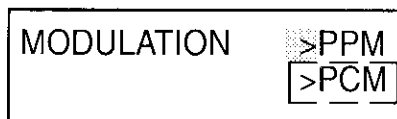
To set up your model, press the EDIT key until you reach this screen:



Note that the cursor is over the first menu choice, MODULATION. Press the YES/INC+ key, and this screen will appear: (See next page)

BASIC SAILPLANE SETUP ...

PCM modulation is only available if you are using a PCM receiver!

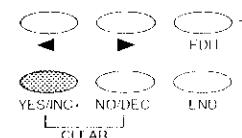
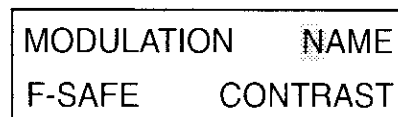
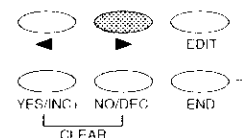
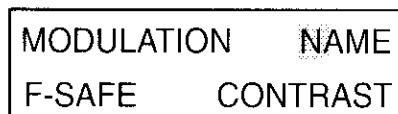


This screen allows you to select PPM FM operation or PCM FM operation. Press the YES/INC+ or NO/DEC- key to change the currently displayed choice. *PCM modulation is only available if you are using a PCM receiver!*

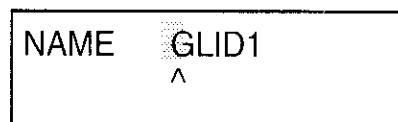
NAMING THE PRESENT SAILPLANE

You may use any combination of LETTERS, NUMBERS, Colon (:), Dash (-) or Spaces up to a total of 10 characters.

When you have set the proper modulation, press the END key to return to the prior screen. Press the > key to place the cursor over the NAME position.



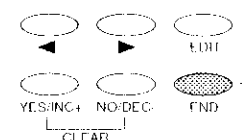
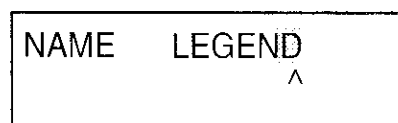
With cursor positioned over NAME, press the YES/INC+ key to reach this screen:



Press both the YES/INC+ and NO/DEC- keys at the same time to CLEAR the present name, if any.

The cursor will now be pointing to the first NAME space. You may use any combination of LETTERS, NUMBERS, Colon (:), Dash (-) or Spaces up to a total of 10 characters. To select the character for the first position, press the YES/INC+ or NO/DEC- key to move through the available characters. When you reach the desired letter or character, press the > key to move to the next position. Continue until you have completed your present model's name or description, then press END to return to the prior screen.

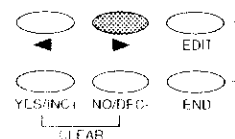
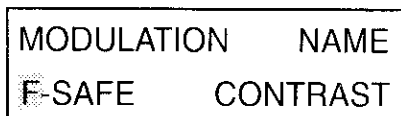
You may edit or correct any character or the entire name at any time by repeating this section.



You are done naming your present aircraft. You may edit or correct any character or the entire name at any time by repeating this section.

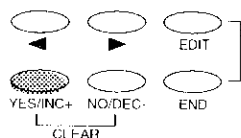
FAIL SAFE

Now press the > key to position the cursor over F-SAFE. This allows you to enable the Failsafe function of your Infinity 660.



FAILSAFE is ONLY available when you are using a PCM receiver and transmitting in the PCM Modulation mode. If you are transmitting PPM FM you will not be able to enable the F-SAFE function.

Now press the YES/INC+ key to see this screen:



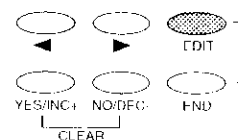
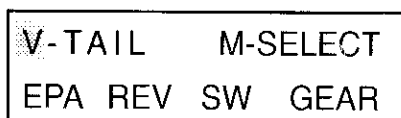
NOTE: If interference is present when Failsafe is not active, in PCM Modulation, the receiver will 'hold' the last command received until the signal is again established.

There is NO cursor position in this screen. You program the desired Failsafe servo position by placing the control sticks in the desired position; for example, low throttle, slight up elevator and slight turn command. When the positions are set, press the YES/INC+ key to set those positions in memory. To check your settings (after programming in your control throws and directions) simply turn the transmitter power switch OFF and check that the controls go to the preset positions. These are the positions the radio will assume if control is temporarily lost due to interference or transmitter problems.

**SPECIAL CONTROL OPTIONS:
V-TAIL SAILPLANES**

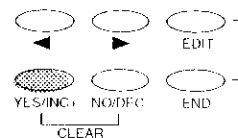
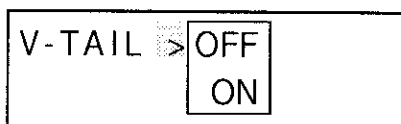
The Infinity 660 has the ability to control sailplanes that utilize a V-Tail control system. In these aircraft the two tail controls perform both as elevators and as rudders. Two servos and two channels (receiver channels no. 3 and 4) are required for V-Tail operation.

To select the V-Tail operation, press the EDIT key until the following screen appears:



Two servos and two channels (receiver channels no. 3 and 4) are required for V-Tail operation.

Press > button to place cursor over V-TAIL position. Press YES/INC+ key to see following screen:



There is only one menu choice in the V-TAIL screen; either V-TAIL operation is ON or OFF. Press the YES/INC+ or NO/DEC- key to toggle from ON to OFF.

When V-TAIL operation is off, channels 3 and 4 operate normally as separate functions. (Channel 3 is elevator, channel 4 is rudder)

(Continued on next Page)

**V-TAIL SAILPLANES
Servo Connections**

If you wish, you may use Aileron-Rudder mixing to allow operation of the V-TAIL rudders with the Aileron stick.

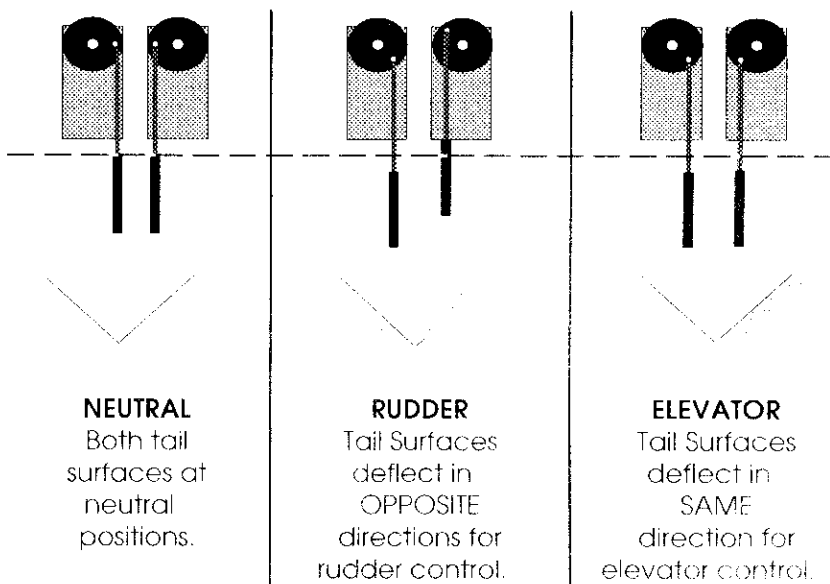
When using V-TAIL mixing, both servos will rotate in the **SAME** direction when rudder commands are applied. The two servos will rotate in **OPPOSITE** directions when elevator commands are applied. Electronically reversing either rudder or elevator channels will cause both servos to rotate in the reversed direction.

Be sure to study your control hookups to ensure proper operation. Tail surface control horns will normally be installed either on the bottoms of both control surfaces or on the tops of both surfaces. For proper operation with this type of installation, pushrods will normally be connected to the servos in a symmetrical, **NOT** identical manner; i.e. both connected to the outside of the servo output arm or both connected to the inside of the servo output arm. This arrangement will cause the tail surfaces to deflect in the **SAME** direction when elevator is applied, and in **OPPOSITE** directions when rudder is applied.

If you wish, you may use Aileron-Rudder mixing (covered later) to allow operation of the V-TAIL rudder function with the Aileron stick.

**V-TAIL
SERVO
HOOKUP**

*For proper operation with this type of installation, pushrods will normally be connected to the servos in a symmetrical, **NOT** identical manner, i.e. both connected to the outside of the servo output arm or both connected to the inside of the servo output arm.*

**SERVO LINKAGE FOR
DUAL-SERVO
AILERON OPERATION**

Two channels are normally used for aileron activation, channel 2 for Left Aileron, and channel 6 for Right Aileron.

You may either install both aileron pushrods on the inside of their servo output arms, or install both aileron pushrods on the outside of the servo output arms, or install the pushrods in an identical manner. Direction of operation of each aileron may then be controlled by reversing the proper channel with the transmitter's reversing function.

Reversing one aileron channel will **NOT** reverse the rotation of **BOTH** servos when two channels are used for Aileron. You must reverse each servo independently to reverse aileron direction.

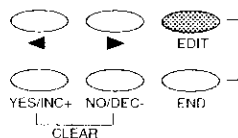
SERVO REVERSING

The Infinity 660 allows you to electronically REVERSE the direction of rotation for each of the servos in use.

The Infinity 660 allows you to electronically REVERSE the direction of rotation for each of the servos in use. This allows you to hook up your control linkages and pushrods in the most mechanically desirable manner, without regard to the direction of servo movement. (Note that when using two channels for aileron controls, you must install the servo linkages as outlined on the previous page).

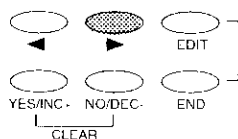
After installing your linkages, check to see if any of the controls move in the wrong direction when you move the transmitter controls. If so, proceed as follows.

Press the EDIT key until you arrive at the following screen:



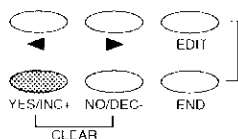
V-TAIL M-SELECT
EPA REV SW GEAR

Press the > key to position the cursor over the REV position.



V-TAIL M-SELECT
EPA REV SW GEAR

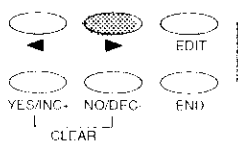
Now press the YES/INC+ key to see the following screen:



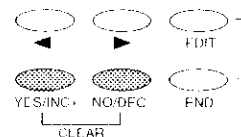
REVERSE
NORMAL 123456

The default positions shown have all channels operating in the NORMAL direction, so all channel numbers are in the lower row as shown above.

If, for instance, you wish to change the direction of rotation of the servos operating on channels number 1 and number 3, press < or > keys to position the cursor over the desired channel number(s), then press the YES/INC+ or NO/DEC- key to change that channel to the REVERSE direction.



REVERSE
NORMAL 123456



Channel	Control
1	Spoiler
2	Left Aileron
3	Elevator
4	Rudder
5	Gear/Motor
6	Right Aileron

Those channels you have changed to reverse rotation will now appear in the upper row in the REVERSE position.

REVERSE 1 3
NORMAL 2 456

In this example, Channels 1 and 3 have been set for REVERSE rotation.

SETTING CONTROL CENTERING

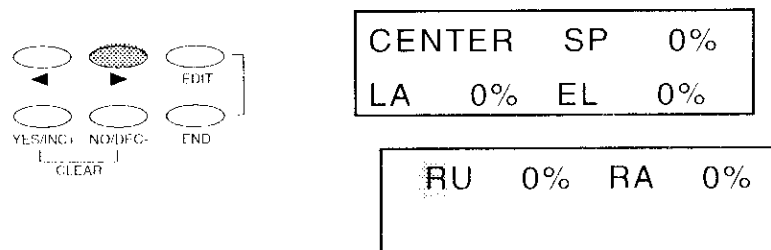
The Infinity 660 allows you to fine-tune the CENTER or neutral position of all flight control servos. After hooking up your controls and mechanically centering all linkages to the approximate positions, press the EDIT key to arrive at the following screen:



Now press the YES/INC+ key. You will see this screen:



By pressing the > key (or < key) you can position the cursor over the desired control function. Note the arrow at the far right of the bottom row of this screen; this indicates that there are more cursor positions than presently displayed. If you continue to press the > key past the EL position, you will see the remainder of the CENTER screen positions as shown below.



It is desirable to adjust the control linkages as close as possible to the correct center positions, then use the CENTER commands to "fine tune" the exact position of the control surface when the transmitter control is in neutral.

The channels for which electronic centering is available are abbreviated in the CENTER menus as follows:

- SP = Spoiler**
- LA = Left Aileron**
- EL = Elevator**
- RU = Rudder**
- RA = Right Aileron**

The value displayed as percentage (%) to the right of each channel abbreviation shows the present centering adjustments. Default position is zero.

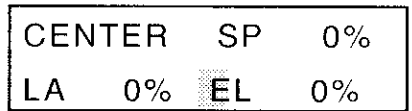
IMPORTANT NOTE:

It is desirable to adjust the control linkages as close as possible to the correct center positions, then use the CENTER commands to "fine tune" the exact position of the control surface when the transmitter control is in neutral.

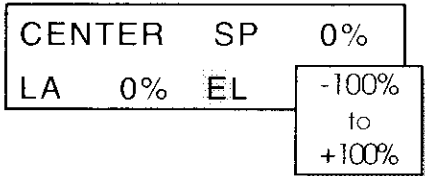
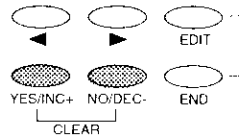
Using a very large amount of electronic centering adjustments will decrease the total throw available for that channel. In particular, centering adjustments greater than + or - 50% will tend to make the extreme stick position on one end less responsive.

Setting Control Centering ...

To adjust the centering of any channel, press the > or < key to place the cursor over that channel's position. (For this example we'll adjust the centering of the Elevator servo; so position the cursor over the EL position as shown).



Now, by pressing the YES/INC+ or NO/DEC- keys you can adjust the centering for the selected channel. The value range possible is from -100% to +100%.



By positioning the cursor over each channel position for which centering adjustments are desired, then setting the CENTER position with the YES/INC+ or NO/DEC- keys, set the centering for each channel.

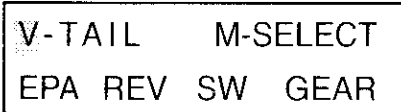
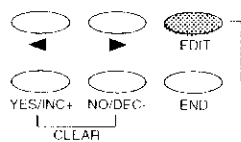
END POINT ADJUSTMENTS (EPA)

The Infinity 660 allows you to adjust the 'End Points,' or servo travel limits, for all flight channels.

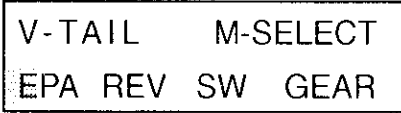
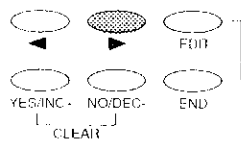
In general, it is best to use as close to 100 percent servo throw as possible. This allows for the best possible resolution and centering of all control surfaces. However, in some cases it is not possible to use full servo movement — such as those instances where short control horns must be used because of aircraft design considerations, or with fixed-length control horns.

In general, it is best to use as close to 100 percent servo throw as possible. This allows for the best possible resolution and centering of all control surfaces.

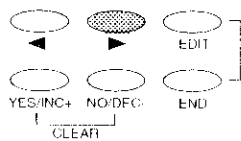
To electronically adjust End Points for servo travel, press the EDIT key to arrive at the following screen:



Press the > key to position the cursor over the EPA position.



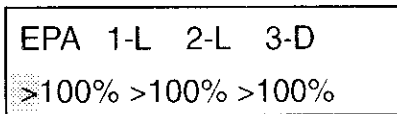
Now press the YES/INC+ key to see the EPA screen as shown on next page.



(Continued on next Page)

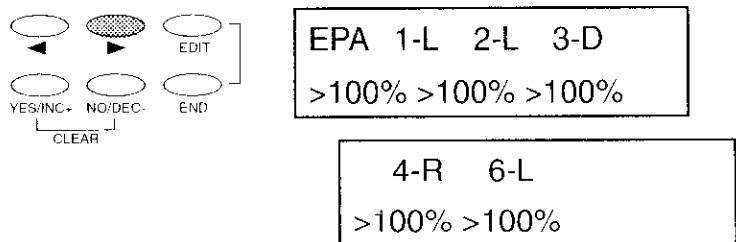
End Point Adjustments (EPA) ...

(Continued from previous page) Here is the EPA screen number one:



Note that there is an arrow pointing to the right at the bottom right corner of the screen. This means that there are more cursor positions than are presently displayed.

Pressing the > key repeatedly will 'push' the cursor off this screen and bring up the second screen of the EPA menu, as shown below.

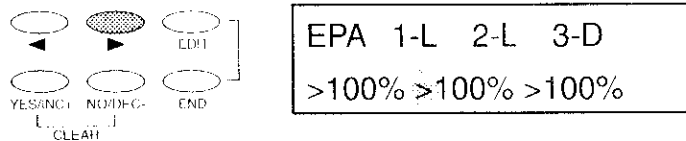


How To Use The EPA Screens

In the EPA screens, the top row shows the five channels for which EPA adjustments are available AND the current End Point for which the adjustments can be made. The bottom row of data is the present setting for the currently displayed End Point.

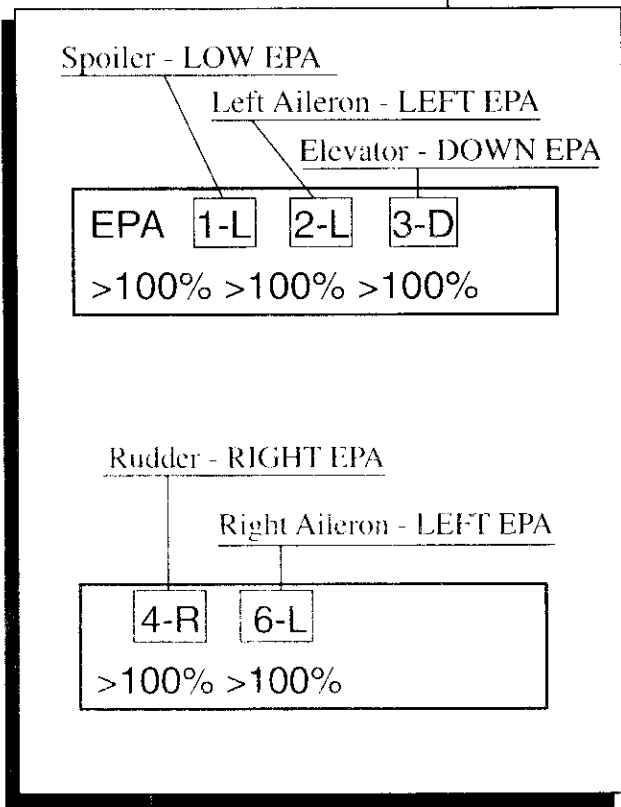
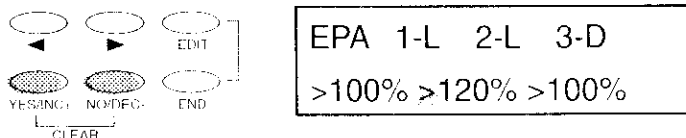
The order of functions displayed in the EPA menus is: Spoiler, Left Aileron, Elevator, Rudder and Right Aileron (from left to right in the EPA screens).

To set your individual End Points, use the < or > keys to position the cursor over the desired control function's present setting.



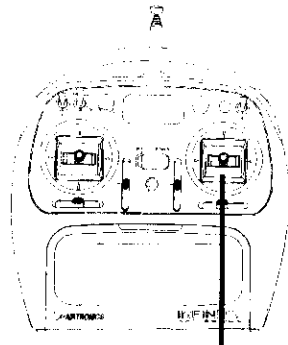
In this example, we have selected the EPA setting for the second function, Left Aileron. On the top row, the present display shows "2-L," which means you can now make changes in the LEFT travel limit for the Left Aileron servo.

Pressing the YES/INC+ or NO/DEC- keys will increase or decrease the amount of servo rotation caused by full LEFT deflection of the aileron stick. The range of EPA adjustment is from 0-150%.

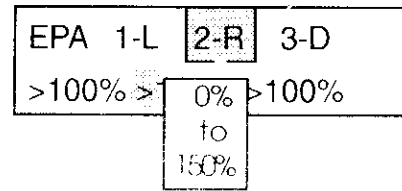


EPA Screens ...

To set the EPA for **RIGHT MOVEMENT** of the Left Aileron function, move the aileron stick to the right. Now the EPA screen will show as follows:



Move Aileron Stick to the right. →



The **2-R** now in the second position means that your End Point Adjustment will now apply to the **RIGHT** extreme of the Left Aileron servo travel.

In a similar manner, you can determine which End Point your adjustments will affect by moving the appropriate stick in the direction of the desired End Point adjustment.

**LANDING GEAR ADJUSTMENT
OR
MOTOR SWITCH**

In most cases (in fact, almost all cases in the past) the total servo throw for the landing gear function can not be set by the transmitter, because most retract servos are **SWITCHED** (non-proportional) servos. With these servos, mechanical adjustment is the only method available to ensure proper operation of the retracts.

Airtronics now offers a high-torque **PROPORTIONAL** retract servo. With this servo and the **INFINITY** transmitters, End Point Adjustments for the retract servo are possible, independantly setting the "Down" and "Up" lock positions.

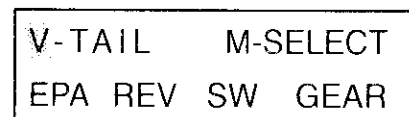
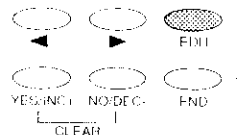
With this servo and the INFINITY transmitters, End Point Adjustments for the retract servo are possible, independantly setting the "Down" and "Up" lock positions.

If your sailplane does not use retractable landing gear, you may still want to use the **GEAR** function. The **GEAR** function can be used to control an electronic speed controller or electronic on-off motor switch for motor-powered sailplanes.

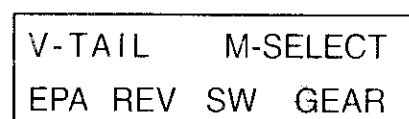
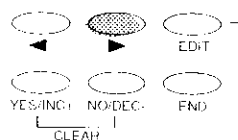
The GEAR function can be used to control an electronic speed controller or electronic on-off motor switch for motor-powered sailplanes.

For either use, you will have the option of mixing Elevator trim with operation of the **GEAR** function to compensate for gear drag or for thrust-induced pitch trim changes.

To use this function, press the **EDIT** key to reach this screen:



Press **>** key to position cursor over **GEAR** position.



(Continued on next page).

Landing Gear or Motor Adjustment ...

Remember, you will want GEAR 2 to be set for the gear UP or motor OFF position. This will allow use of the GEAR-EL mixing to adjust elevator trim for the Gear Down or Motor ON positions.

To set Gear → Elevator mixing, press EDIT to display the following screen:

CENTER E-PST D/R
MIX(SP→EL GE→EL)

Press the > key to place the cursor over the GE→EL position, then press the YES/INC+ key to display the GE→EL Mix screen.

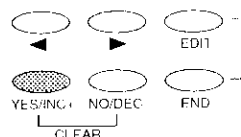
(GE →EL) MIX

> 0%

0%
to
150%

Press the YES/INC+ or NO/DEC- key to set the amount of GE→EL mixing desired. Both the amount and direction of mixing can be set, within a range of -100% to 100%.

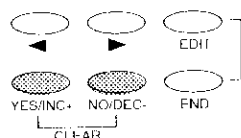
With the cursor over the GEAR position, press the YES/INC+ key to see the following screen:



GEAR 2 > -125%

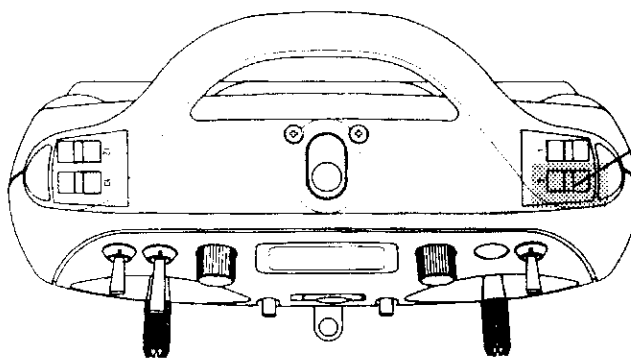
The number after GEAR (in this case GEAR 2) denotes the present position of the GEAR switch - NOT THE SWITCH NUMBER. There are two gear positions, GEAR 1 and GEAR 2. GEAR 2 is the position for landing gear UP, or Motor OFF.

To adjust the end point for the landing gear (or motor control) 2 position, press the YES/INC+ or NO/DEC- key to reach the desired pushrod travel or motor setting for the GEAR 2 position. The range possible is from -150% to +150%.



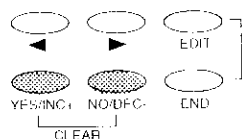
GEAR 2 > -150%
to
+150%

To set the end point for the landing gear or motor control 1 position, set the switch on the right side of the transmitter to the "#4" position. The Gear display screen will now show GEAR 1, as shown below.



Gear/Motor Default setting is Switch #3,4
Change position of switch to change display from GEAR 1 to GEAR 2.

As for the GEAR 2 position, press the YES/INC+ or NO/DEC- key to reach the desired gear down position.



GEAR 1 > -150%
to
+150%

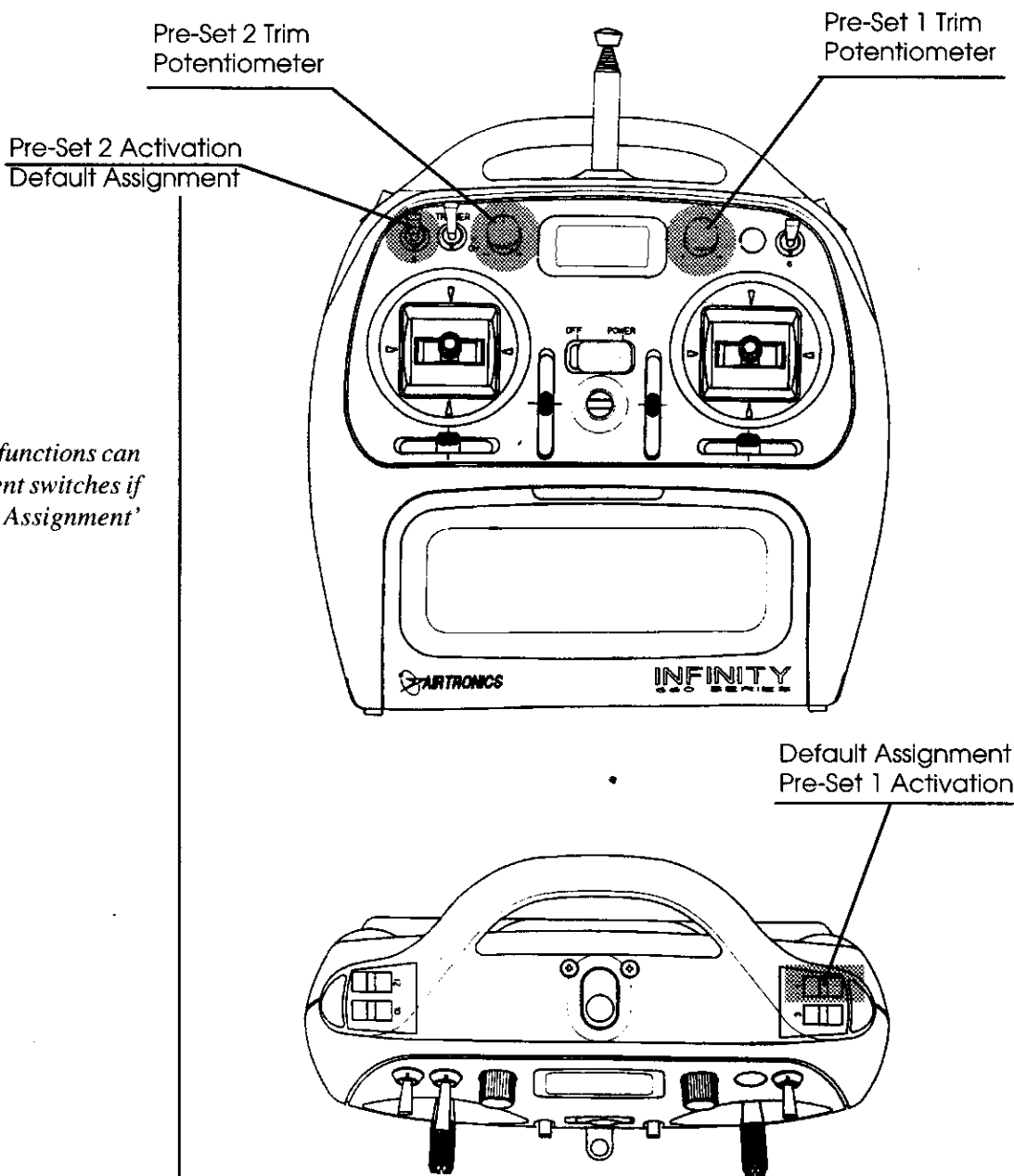
Remember, you will want GEAR 2 to be set for the gear UP or motor OFF position. This will allow use of the GEAR-EL mixing to adjust elevator trim for the Gear Down or Motor ON positions.

ELEVATOR PRE-SET TRIM

The Infinity 660 allows the pilot to select three elevator trim states during flight. The first elevator trim state is the trim as set with the elevator stick trim lever with both Elevator Pre-Sets turned off.

To allow selection of differing elevator trim states without changing the elevator stick trim lever position, Infinity 660 has two selectable ELEVATOR PRE-SETs available. Pre-Set 1 is activated by the #1,2 switch on the top right of the transmitter, and can be trimmed using the potentiometer on the right face of the transmitter. Pre-Set 2 is activated by the #7,8 switch and can be trimmed with the potentiometer nearest that switch on the left face of the transmitter. (These functions can be reassigned to different switches if desired, see 'Switch Assignment' section.)

Using these function, you can trim for launch, speed or thermalling without disturbing the trim for the other states.



The Elevator Pre-Set functions can be reassigned to different switches if desired, see 'Switch Assignment' section.

(Continued on next Page)

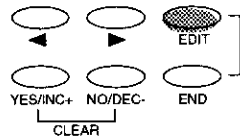
Elevator Pre-Set Trim ...

Regardless of whether the potentiometers are programmed to be Active or Locked, the elevator stick's trim lever is always active.

Pre-Set #1 ALWAYS has priority over Pre-Set #2. Whenever both Pre-Set switches are in the ON position, no matter which was activated first, Pre-Set #1 will be active.

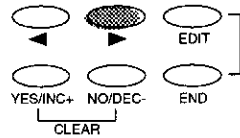
Always be certain which elevator trim is activated before launching your sailplane!

To program the Elevator Pre-Sets, press the EDIT key to reach this screen:



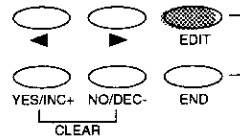
CENTER E-PST D/R
MIX(SP→EL GE→EL)

Press the > or < key to position the cursor over the E-PST position.



CENTER **E**-PST D/R
MIX(SP→EL GE→EL)

Press the EDIT key to see the E-PST screen:



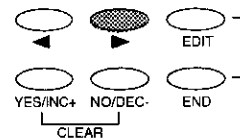
ELE-PST - 0 > 0%

The '0' to the left of the cursor position indicates that neither Elevator Pre-Set switch is presently set to the ON position. To program the Elevator Pre-Set #1, turn switch #1,2 to the 2 position. The display will change as follows:

ELE-PST - 1 > 0%
TRIM>ACT

You can now set the elevator trim for ELE-PST 1 by pressing the YES/INC+ or NO/DEC- keys. Actual flight testing will be required to find the optimum setting.

Now press the > key to place the cursor over the TRIM>ACT position.



ELE-PST - 1 > 0%
TRIM>**A**CT

By pressing the YES/INC+ or NO/DEC- keys you can toggle the trim from ACT (for 'active') to LOCK. With LOCK selected, the potentiometer for the presently selected Elevator Pre-Set is inoperable.

In the same manner, turn switch #7,8 to the 7 position to program Elevator Pre-Set #2 for surface deflection and trim potentiometer status.

Regardless of whether the potentiometers are programmed to be Active or Locked, the elevator stick's trim lever is always active.

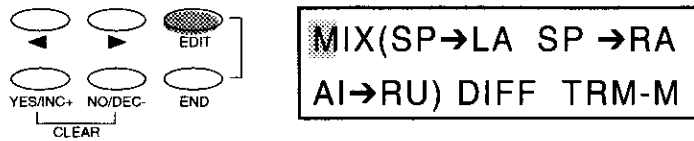
Pre-Set #1 ALWAYS has priority over Pre-Set #2. Whenever both Pre-Set switches are in the ON position, no matter which was activated first, Pre-Set #1 will be active.

Always be certain which elevator trim is activated before launching your sailplane!

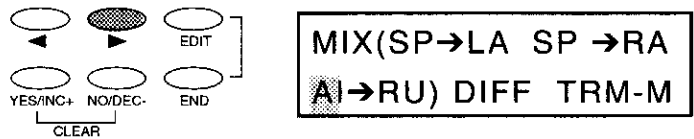
AILERON → RUDDER MIX

Infinity 660 allows the sailplane pilot to couple aileron and rudder response to achieve optimum turning performance. The amount of mixing is variable, and is programmed through the AI → RU screen. Two mixers are available for Aileron → Rudder mix, although only one mixer (AI → RU Mix 1) is active in the default settings; it is assigned to be on when switch #11,12 is in the #12 position.

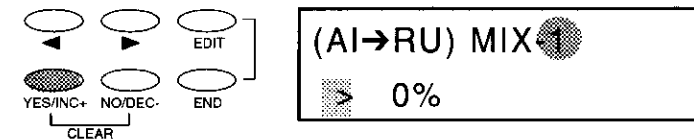
To use Aileron → Rudder mixing, press the EDIT key to reach this screen:



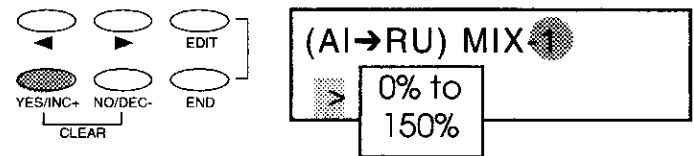
Press the > key until the cursor is positioned over the AI→RU) position.



Press the YES/INC+ key to display the following screen:



The #1 on the top row (circled above) indicates that mixer #1 is active; if '0' is displayed, turn the #11,12 switch to the #12 position. You can now press the YES/INC+ or NO/DEC- keys to adjust the amount of Aileron - Rudder mixing.

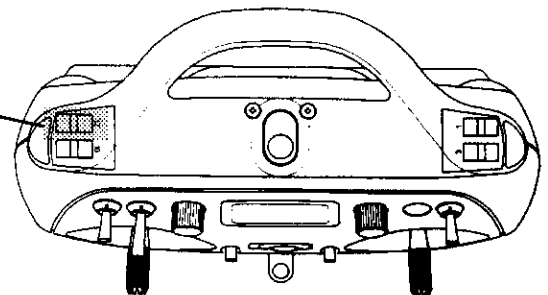


If you have assigned AI → RU Mix number 2 to a switch, turn that switch to the "ON" position to set the mixing amount for mixer #2 in the same manner.

The range available in either mixer is from 0% to 150%.

NOTE: the rudder stick has full over-ride ability over the AI → RU Mix, and works normally whether or not mixing is active; except that the rudder responds to either aileron and/or rudder stick application when AI → RU Mix is active.

Default Assignment
To activate
AI → RU Mixer #1



If you only desire one mixer for Aileron→Rudder mixing and want it to be active at all times, you can use the SWITCH ASSIGNMENT screen to assign the mixer to be always on.

This will allow the pilot to use the switch for other purposes as desired.

See the section on Switch Assignments.

SPOILER → ELEVATOR MIX

Infinity 660 allows mixing elevator with spoiler application to maintain pitch trim when spoilers are applied. This function is always available and is not assigned to a switch. If you do not wish to mix elevator with spoilers, simply leave the mix setting at 0%.

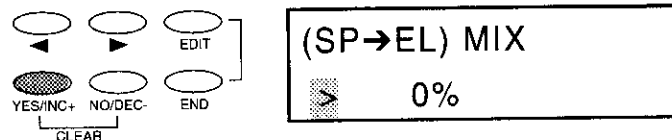
To program Spoiler→ Elevator mixing, press EDIT key until you see this screen:



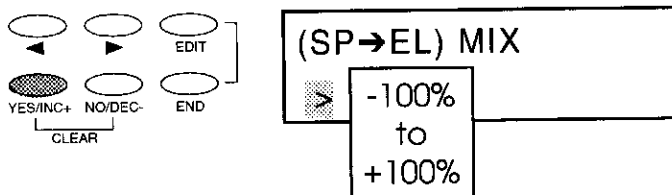
Press the > key until the cursor is positioned over the (SP→EL) position.



Press the YES/INC+ key to display the following screen:



Since there is only one cursor position in this screen, you can now press the YES/INC+ or NO/DEC- keys to adjust the amount of Spoiler→ Elevator mixing.



The range of adjustment possible is from -100% to +100%. Thus, you can program both the amount and the direction of elevator deflection that will occur when spoilers are deployed.

The elevator stick will remain active when Spoiler→ Elevator mixing is used, and inputs to the elevator control stick will override mixing inputs.

In-flight testing will be necessary to determine the optimum amount of Spoiler→ Elevator mixing to use.

NOTE: If you wish to use spoilers and flaperons for “crow” mixing, you will want to set the Spoiler > Aileron mixing before setting any Spoiler→ Elevator mixing that may be required.

(See next page for Spoiler > Aileron mixing instructions)

NOTE: If you wish to use spoilers and flaperons for “crow” mixing, you will want to set the Spoiler → Aileron mixing before setting any Spoiler→ Elevator mixing that may be required.

SPOILER → AILERON MIXING

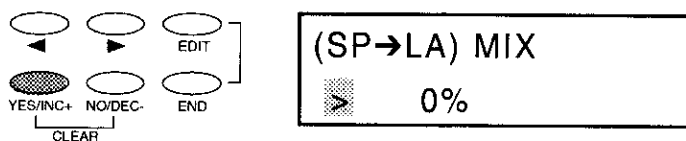
Infinity 660 allows individual mixing of each aileron with deflection of spoilers. The ailerons can be programmed to deploy upwards with the spoilers, or more commonly the ailerons will be set to deploy downward (as flaperons) when the spoilers are deployed, or “crow mix” as it’s commonly termed.

By allowing the mixing to be set separately for each aileron, any unwanted turning tendency can be easily trimmed out by adjusting the Spoiler → Aileron mix.

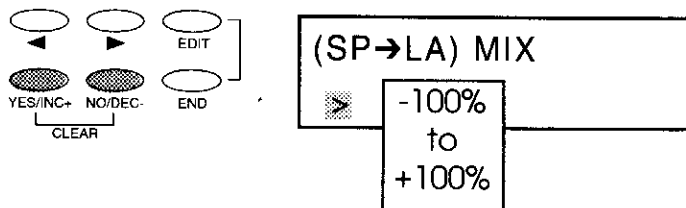
To use Spoiler → Aileron mixing, press the EDIT key to reach this screen:



Since the cursor is positioned over the MIX (SP→LA) position, (LA is for Left Aileron) press the YES/INC+ key. The following screen will appear:



You can now use the YES/INC+ or NO/DEC- keys to adjust the amount and direction of LEFT aileron deflection that will occur when spoilers are deployed. The range available is from -100% to +100%



Spoiler → Aileron mixing is always active, and is not assigned to a switch.

After the desired setting is reached, press the END key to return to this screen:



Use the > key to move the cursor to the SP→ RA position to set RIGHT aileron mixing.

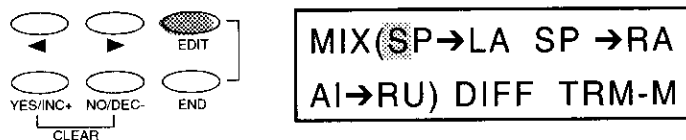


Press the EDIT key to access the SP→ RA screen, then use the YES/INC+ or NO/DEC- keys to set the Spoiler → Aileron mix for the RIGHT aileron. To start, use the same setting as for the Left aileron. Actual flight testing will determine optimum mixing for both ailerons. Spoiler → Aileron mixing is always active, and is not assigned to a switch.

AILERON DIFFERENTIAL

Infinity 660 allows electronic adjustment of aileron differential to ensure the proper turning response. "Differential" refers to the ratio of up-to-down movement of each aileron. Many aircraft need more movement from the upward deflecting aileron than from the downward deflecting aileron in order to eliminate unwanted yaw with application of aileron. (It is also possible to program the downward-deflecting aileron to have more travel if desired, by changing the value from "+" to "-".

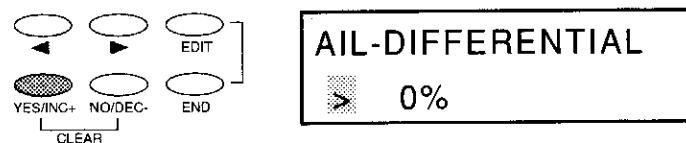
To adjust aileron differential, press the EDIT key to reach this screen:



Press the > key to place the cursor over the DIFF position.



Press the YES/INC+ key. The following screen will appear:



Now simply press the YES/INC+ or NO/DEC- key to set the amount of differential.



In this example the differential has been set to +50 percent. This means that the downward-deflecting aileron will move half as far as the upward-deflecting aileron. The final adjustment will be determined by actual flight testing.

The range of adjustment available is from -100% to +100%.

Differential is not switch-assignable, and is on whenever the AIL-DIFFERENTIAL screen setting is programmed to other than 0%.

Note that on many high-performance sailplanes it will be necessary to experiment with various Differential settings in conjunction with Aileron-Rudder mixing to achieve the desired turning performance. This experimenting can be done most efficiently by using the Alternate function to compare various settings.

DUAL RATES

Dual Rate adjustments allow you to switch from your 'standard' control deflection to a reduced or increased amount of throw by simply flipping a switch. The actual speed of signal processing and servo movement are not affected by the Dual Rate settings, only the amount of total servo throw available.

Infinity 660 allows Dual Rate settings for Aileron, Elevator and Rudder. To access the Dual Rate settings, press the Edit key to reach this screen:

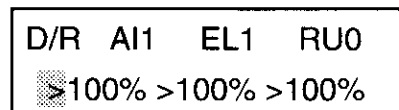


Dual Rate adjustments allow you to switch from your 'standard' control deflection to a reduced or increased amount of throw by simply flipping a switch.

Press the > until cursor is positioned over the D/R position, press the YES/INC+ key.

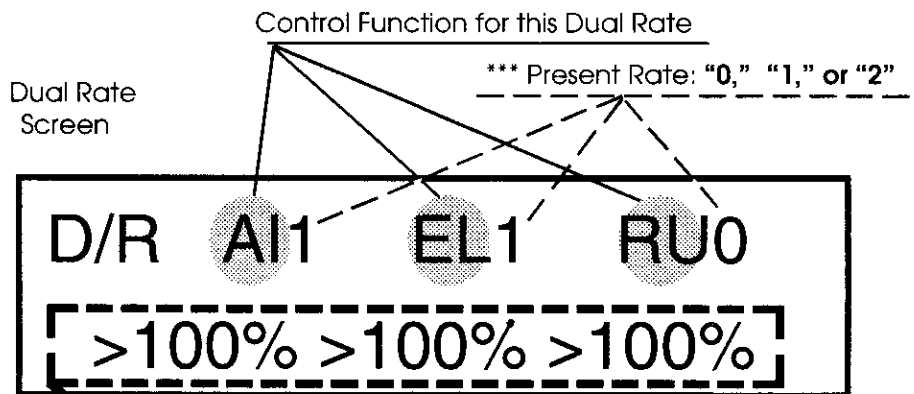


The Dual Rate screen will appear as shown below:



This screen tells you the present rate status and, when a Dual Rate switch is set to an ON position, the alternate rate for that control function that is presently set in the program. See diagram below.

The DUAL RATE Screen



***** Present Rate Display Explanation:**
 0 is Normal
 1 is Dual Rate #1
 2 is Dual Rate #2

Present alternate rate setting. Range is from 0% - 150%.

Abbrev.	Function	*Rate One	*Rate Two
AI	Aileron	6	5
EL	Elevator	6	5
RU	Rudder	**None	None

*Default switch assignments and positions.

**Rudder is not assigned to a switch but can be user set.

(Continued on next Page)

Dual Rates ...

The Dual Rate screens, used with the Switch assignment options, offer far more flexibility than traditional 'dual rate' switches.

**In the Sailplane set-ups, the Aileron and Elevator channels are both assigned to be in either Dual Rate 1 or Dual Rate 2 depending on the position of switch #5,6.*

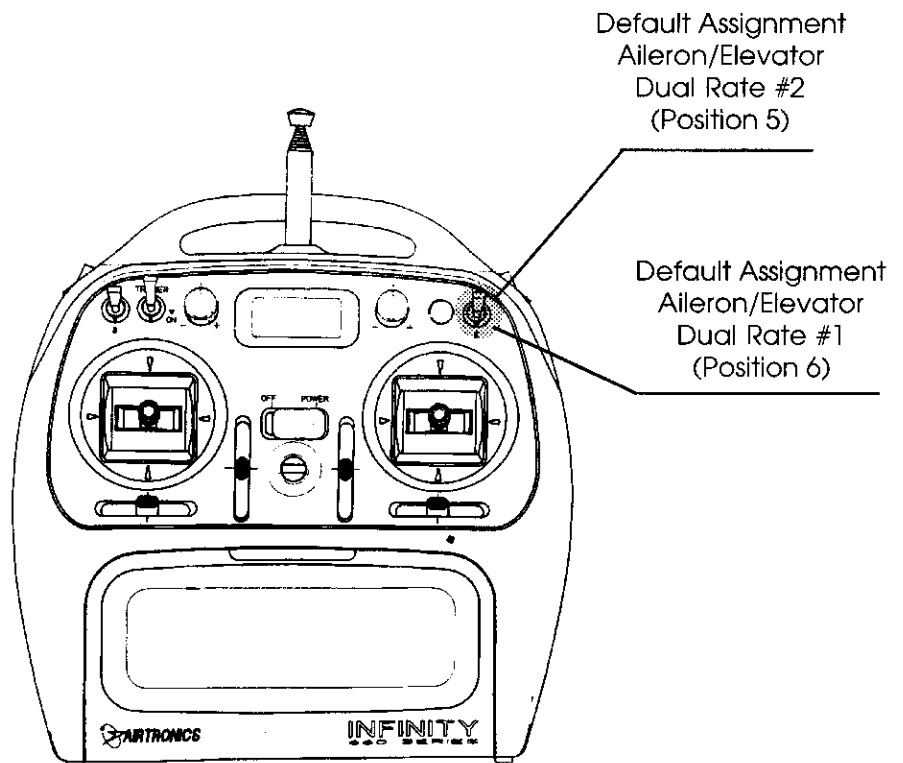
If desired, you can have three rates available by assigning two different switches for rates; one can turn dual rate #1 on or off, another to turn dual rate #2 on or off. When both are off, you will have a third rate, the 'normal' position, available.

See 'Switch Assignments' section for more information.

It is important to understand that the term "Dual Rate" is used because it is an old and familiar description. It does NOT, however, provide a very complete description of the many options possible when using the Dual Rate functions of the Infinity 660.

The Dual Rate screens, used with the Switch assignment options, offer far more flexibility than traditional 'dual rate' switches. It is almost impossible to list all of the options possible with the Infinity 660's Dual Rate functions; you should study this portion of the manual along with the sections covering Exponential and Switch Assignments to arrive at the optimum use of these functions on your specific aircraft. Here are some important pointers about the Dual Rate functions of the Infinity 660:

- There are THREE possible rates available for each of the three controls: Aileron, Elevator and Rudder. These rates are (0) Normal, (1) Dual Rate #1, and (2) Dual Rate #2.
- You may assign any of the possible rates (Normal, Dual Rate #1 and Dual Rate #2) to cause **reduced** or **increased** throw of that control.
- Any or all of the Dual Rate positions may be assigned to any switch.
- Any Dual Rate switch may also activate or deactivate Exponential settings.
- If you activate the switches for BOTH Dual Rate #1 and Dual Rate #2* at the same time, regardless of which is activated first, Dual Rate #1 will be active.

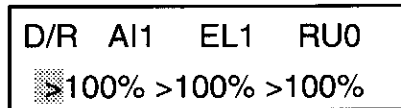


In the standard default settings, the Aileron and Elevator Dual Rate switches are assigned to the switch locations as shown above. Rudder is not assigned to a switch, and thus cannot have a Dual Rate set unless you change the default switch assignments as explained in a later section of the manual.

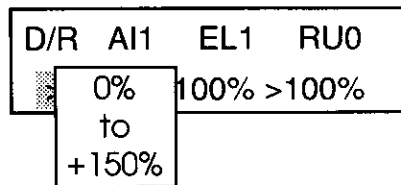
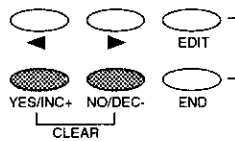
Dual Rates ...

To set an alternate rate for any of the three possible control function, turn the switch for that function(s) to the Dual rate 'On' position. Below we'll assume that the Aileron and Elevator dual rate switch is in the on position — note that the number following the abbreviations for these functions has changed to "1."

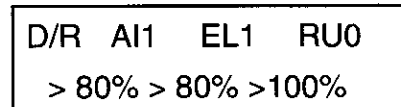
Ai and EL display Dual Rate #1 is activated. →



By positioning the cursor over the Aileron and/or Elevator positions you may now set the amount of control response available in Dual Rate #1 position by pressing the YES/INC+ or NO/DEC- keys.



Here we have set the Dual Rate #1 to be 80% of the "Normal" throw for both the Aileron and Elevator channels. The possible range is from 0% of normal to 150%. (Note that you can not increase servo deflection if you already have set the servo throw to its maximum possible settings in the End Point Adjustment settings.)



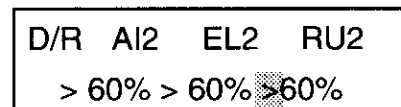
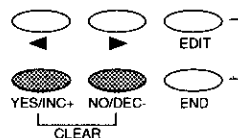
CAUTION:

Proceed with care when setting dual rate functions to ensure that you will have adequate control deflection available in any possible dual rate position. Setting a dual rate to a very low or 0% setting may cause the loss of control of that function!

Always make sure that you are aware of the present status of any rate assignments that you have selected.

If you wish to have Dual Rates available for all channels, and/or want to have three rates available for the flight control functions, you will need to change some switch assignments as shown in the "Switch Assignments" section of this manual. For now, assume that you have assigned switch #5,6 to activate the Dual Rate #1 function for Aileron and Elevator. (You may also assign Dual Rate #1 for Rudder to this switch). When you set the switch to the "On" position, both controls assigned to it will display the number "1" in the Dual Rate Screen.

You can now assign Dual Rate #2 positions to the #7, 8 switch. In this example we'll assume that Dual Rate #2 for Aileron, Elevator and Rudder have all been assigned to the #7 switch position. When this switch is set to #7, you will see the present settings for Dual Rate #2, as shown below.



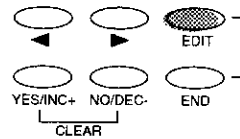
In the example above we have set the Dual Rate #2 functions to provide 60% of the "Normal" servo throw for all three control surface functions. The range available is from 0% to 150% of the present "Normal" setting.

TRIM MEMORY

By always having the trim levers centered for ALL aircraft stored in transmitter memory the pilot can change from one model's program to another without having to worry about trim positions for each model.

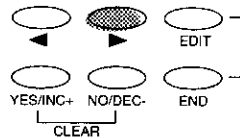
Infinity 660 offers a Trim Memory function for all flight control channels. This function allows the trim levers to be re-set to the center positions while maintaining the trimming information in memory. This is useful because the pilot can then ensure that the trims are in the proper position just by checking that the trim levers are all centered. Also, by always having the trim levers centered for ALL aircraft stored in transmitter memory the pilot can change from one model's program to another without having to worry about trim positions for each model.

Trim Memory is used after flight testing and trimming the aircraft. When trimming is complete, program Trim Memory as follows: press the Edit key to reach this screen...

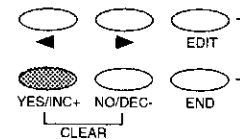


MIX(SP→LA SP →RA
AI→RU) DIFF TRM-M

Press the > key to position cursor over TRIM-M, then press YES/INC+ key to display the TRIM-M screen.



MIX(SP→LA SP →RA
AI→RU) DIFF **TRM-M**



TRIM-MEM **ALL**
SP 0% AI 0% →

Additional screen; press > or < keys to move between screens.

← EL 0% RU 0%

After storing the trim information for all desired channels, TURN OFF the transmitter. Move the trim levers to the neutral positions (within 1-2 notches from center) for all channels for which you have stored trim information. When you turn the power back on, the servos should stay in the previously trimmed positions.

The cursor will be over the ALL position. This position will store trim information for ALL channels displayed in both screens, if desired, by pressing the YES/INC+ key when the cursor is over ALL.

To store memory information for selected channels ONLY, press the > or < keys to position the cursor over the desired channel indicator, then press the YES/INC+ key. Move to the next channel indicator and repeat until desired channels' trim information is stored. Note that as you press the YES/INC+ key, the trim value for each selected channel will change from zero to a value from -100% to +200%. This value indicates the present trim location.

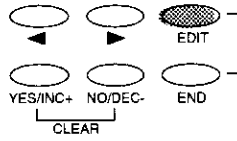
After storing the trim information for all desired channels, TURN OFF the transmitter. Move the trim levers to the neutral positions (within 1-2 notches from center) for all channels for which you have stored trim information. When you turn the power back on, the servos should stay in the previously trimmed positions.

To clear a value stored in any function's trim memory, position the cursor over that function in TRIM-M and press both the YES/INC+ and NO/DEC- keys simultaneously.

SWITCH ASSIGNMENTS

A very useful feature of Infinity 660 is the ability to assign functions to switches however you prefer, rather than forcing you to adapt to one particular switch layout.

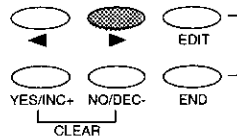
To observe or change switch assignments, press the Edit key to reach this screen:



V-TAIL M-SELECT
EPA REV SW GEAR

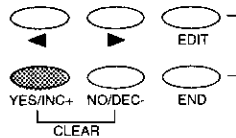
At each cursor location (designated by ">") you can change the switch assignment number that follows to any switch number from 1 th 12, or '0' for inhibit, or 'On' to turn the function on at all times.

Press the > key to place the cursor over the SW position.



V-TAIL M-SELECT
EPA REV SW GEAR

Now press the YES/INC+ ket to see the first SW screen. There are a total of four Switch Assignment screens as seen below. To move from one screen to another press the > or < keys to move the cursor past the arrow positions.



SW AI→RU(1>12
2> 0) GEAR> 4 →

Switch Assignment Chart

Write Your SW Choice In Below Lines:

SCREEN ONE .Default	Set
AI→RU 1	12
AI→RU 2	0
GEAR	4
SCREEN TWO	
Dual Rates	
D/R A1	6
A2	5
E1	6
E2	5
SCREEN THREE	
R1	0
R2	0
ALTERNATE	0
SCREEN FOUR	
ELE-PST 1	2
ELE-PST 2	7
STW	9

← D/R (A1> 6 A2> 5
E1> 6 E2> 5) →

← D/R (R1> 0 R2> 0
) ALTERNATE> 0 →

← ELE-PST(1> 2
2> 7) STW> 9

At each cursor location (designated by ">") you can change the switch assignment number that follows to any switch number from 1 through 12, or '0' for inhibit, or 'On' to turn the function on at all times.

Note that more than one function may be assigned to a single switch. This can be useful in the case of similar functions, such as dual rates for Aileron, Elevator and Rudder all being assigned to a single switch. However, to avoid accidentally enacting a function, extreme care must be used when assigning switches. It is suggested that you keep a list of all switch assignments for each model in the transmitter's memory.

Also, it is a good idea to assign similar functions to the same switch from one aircraft to the next. Always be aware of which functions are active at any time before starting or flying your aircraft.

DATA COPY

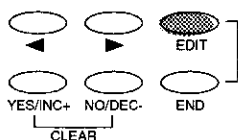
Having copied your control set-up, you can now use M-SELECT to load the Model 2 program, and then make control changes to that set-up. This allows you to experiment with different control options without changing your original parameters.

MAKE CERTAIN that this Model set-up is not one you wish to save, because when you copy the GLID1 set-up into GLID2, all data that was in GLID2 is REPLACED with the GLID1 data!

A valuable feature of the Infinity 660 is the Data Copy function. With this function the entire set of control parameters for one aircraft can be 'copied' from one Model set-up into another. (For instance, if you have your sailplane program in Model 1 and nothing in Model 2, you can copy the Model 1 program into Model 2 with the Data Copy function).

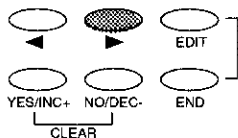
Having copied your control set-up, you can now use M-SELECT to load the Model 2 program, and then make control changes to that set-up. This allows you to experiment with different control options without changing your original parameters (in this example, still stored as Model 1).

To use the Data Copy function, press the Edit key to reach this screen:



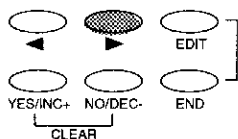
```
ALTER TIMER TYPE
D-COPY D-RESET
```

Press the > key to place the cursor over the D-COPY position.



```
ALTER TIMER TYPE
D-COPY D-RESET
```

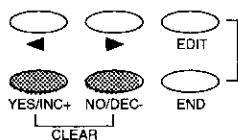
Now press the YES/INC+ key to see the D-COPY screen.



```
D-COP GLID1
->>GLID1 >Y?
```

The top line of the screen shows the PRESENTLY LOADED model; in this case "GLID1". This is the model that can presently be copied INTO another model set-up.

The second line shows the data destination, or which Model (1 through 4) the presently loaded data will be copied INTO. It is presently set as GLID1, which is the same as the source model. Pressing the YES/INC+ or NO/DEC- keys allow you to set the DESTINATION for the data being copied.



```
D-COP GLID1
->>GLID2 >Y?
```

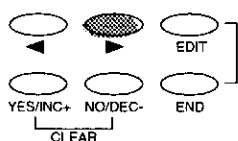
Above, the destination has been set to GLID2. **MAKE CERTAIN** that this Model set-up is not one you wish to save, because when you copy the GLID1 set-up into GLID2, all data that was in GLID2 is REPLACED with the GLID1 data! At this point GLID2 is still intact, so if you wish to change the destination for the copied data, do so before proceeding.

(Continued on next Page)

Data Copy ...

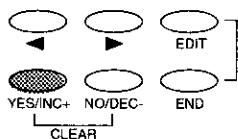
Having selected both the desired data source (GLID1) AND the desired date destination (in this example, GLID2) you can now proceed to confirm the D-COPY function.

Press the > key to place the cursor over the >Y position as shown.



D-COP GLID1
→ >GLID2 >Y?

Press the YES/INC+ key to confirm your D-COPY selection.



D-COP GLID1
→ >GLID2 >Y?

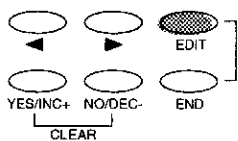
The screen will change to the following screen to inform you that the proces has been completed, and that Model 1 and Model 2 now have the same data (in this case, GLID1).

D-COP OK
M1:M2 GLID1

DATA RESET

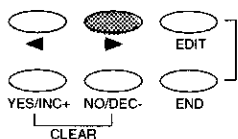
If you want to 'undo' all of your programed parameters at one time, you can use the Data Reset function. This function will 'Reset' all settings to the factory default settings.

Press the Edit key to display the following screen:



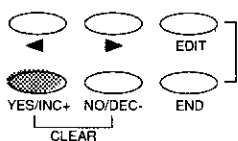
ALTER TIMER TYPE
D-COPY D-RESET

Press the > key to place the cursor over the D-RESET position.



ALTER TIMER TYPE
D-COPY D-RESET

Now press the YES/INC+ key to display the D-RESET screen:



DATA-RESET >NO.2
GLID1 > YES?

The first cursor position shows the current MODEL (No. 2 here) that will be RESET if you continue. Press the YES/INC+ or NO/DEC- to change this Model if desired.

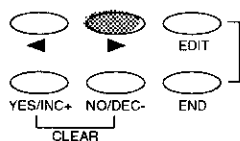
(Continued on next Page)

Data Reset ...

ALL OTHER Models in memory are unaffected by the DATA-RESET function, only the selected Model setup is affected.

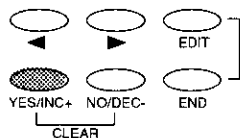
Along with the Model No. displayed on the top line, the bottom line shows the name of the setup denoted by the selected Model No. (In this case GLID1).

When you are certain that the selected Model setup is the one you wish to reset, press the > key to position the cursor over the >YES position.



DATA-RESET >NO.2
GLID1 > YES?

Now press the YES/INC+ key to confirm that you wish to Reset the data for this Model.



DATA-RESET >NO.2
GLID2 > YES?

Note that the bottom line now displays GLID2 — the default name for this Model setup. The data has now been reset to factory default settings.

ALL OTHER Models in memory are unaffected by the DATA-RESET function, only the selected Model setup is affected.

ALTERNATE

The ALTERNATE function is one of the most powerful functions of the Infinity 660. This function allows the pilot to switch from one Model Setup to another Model Setup DURING FLIGHT!

The ALTERNATE function is one of the most powerful functions of the Infinity 660. This function allows the pilot to switch from one Model Setup to another (compatible) Model Setup DURING FLIGHT! There are two particularly helpful uses for this function:

1. A pilot may Copy the current setup and make adjustments to the copied data, then can switch IN FLIGHT between the two Model Setups. In this manner a comparison can be made easily, during a single flight, allowing the pilot to choose which control set-up is most comfortable. Also, trying a new control setup in this manner allows the pilot to instantly change back to a known setup by simply flipping one switch.
2. A pilot may change ANY or ALL flight control parameters with a single switch for greatly differing flight conditions. For instance, the Alternate settings might include landing trim for elevators, gear down, high rate for flight controls and removal or addition of any mixing of flight controls — all by flipping a single switch.

In order to use the ALTERNATE function, you must first assign it to a switch. (See Switch Assignments on Page 32).

Next you need to have an ALTERNATE setup that is compatible to your standard setup. The recommended manner to achieve this is to start with a completely tested Model setup, then use the DATA COPY function to copy this setup to a new Model Setup that will be assigned as the Alternate setup.

(Continued on next Page)

Alternate ...

Having assigned a switch and determined a suitable Alternate Model setup, you may program your Alternate.

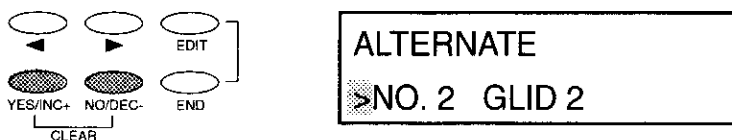
Press EDIT key until the following screen appears:



The cursor is already positioned over ALTER, so press the YES/INC+ key to display the Alternate screen.



The cursor location's display will read OFF, meaning that no Alternate Model is presently selected. By pressing the YES/INC+ or NO/DEC- keys you can scroll through the four Models in memory to choose the desired Alternate Model.

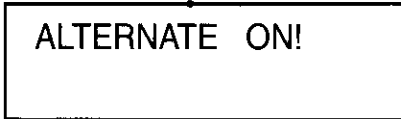


If you turn the transmitter power on while the Alternate switch is activated, you will hear a "beep" and a warning will be displayed to inform you that you are in Alternate mode.

In the above example the bottom line shows that Model No. 2, named GLID2, has been selected as the present Alternate Model.

NOTE that it is possible to select an incompatible set-up as the Alternate; i.e. you can select a HELI Model setup as an alternate for your sailplane. However, in this case the Alternate function **will be ignored** even if you do turn the Alternate switch on.

Also, if you turn the transmitter power on while the Alternate switch is activated, you will hear a "beep" and a warning will be displayed to inform you that you are in Alternate mode.



Make certain that you know which mode (normal or Alternate) you have selected at all times!

To make changes to the setup that you have selected as your Alternate, first use the M-SELECT function to load that (Alternate) Model into memory, then make any adjustments desired, then re-load the primary Model with the M-SELECT function.