

Stylus

Advanced Technology Card System

**EXTENDED FEATURE SET
CARD FOR
HELICOPTERS**

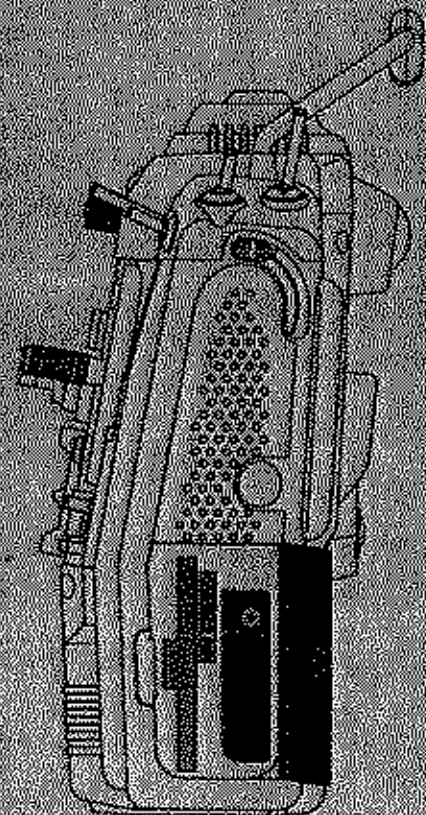


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Basic Description and Special Considerations - READ THIS!

The Stylus HELI Card is used to install a greatly enhanced set of features for use with helicopter models. All of the features and functions of the basic Stylus system program for HELI types are retained, and the entire memory and processing power of the Stylus transmitter are used to allow the addition of added functions for the HELI type. (When the system is initialized with the HELI card, all four memory positions are allocated to the HELI type model set-up.)


Because all set-ups are allocated for extended feature set HELI types, **ANY OTHER MODEL SETUP will be erased from the internal memory when you initialize the transmitter with the HELI card.** If you wish to save a present set-up for possible future use or reference, you have two choices: (1), SAVE the set-up to the optional 50-Model Memory Card, or (2), Write down all of the menu settings for the set-up that you wish to save.

Also, if you remove the HELI card after programming a set-up (but without saving the set-up to the 50-Model Memory Card) and re-initialize the transmitter for the three-model type program, the set-up you had programmed using the HELI card will be lost.

For maximum flexibility and convenience when more than one model TYPE is desired, the 50-Model Memory Card is highly recommended. If you intend only to fly with the HELI extended feature set programs, and only need 4 model memory positions, then leave the HELI card installed in the transmitter at all times.

Initializing the HELI Feature Card

Install the HELI feature card into the transmitter slot (detailed on Page 4). Turn on the display switch. (No RF will be transmitted). The following menu will be displayed:

INIT ALL DATA? 
OR RSTART 3TYPE

THIS IS YOUR LAST CHANCE to avoid erasing any prior programming that you wish to save! This menu asks if you want to initialize all data for the HELI feature card. IF NOT, turn the transmitter off and remove the card, restart, and save any programming information.

IF YOU WANT TO USE THE HELI CARD, press the YES/+ key. The system will now initialize all 4 setups for use with the extended feature set HELI set-ups. If you hear a beep and the display reads "Throttle Stick High," pull the throttle stick to full low position. You may also get a warning to turn off an idle-up. Leave the card in the transmitter at all times, unless you wish to SAVE your data to the 50-Model Memory card or want to revert to the 3-model type set-ups (which will erase any programming done with the HELI card).

CAUTION:

As with any delicate electronic device, care needs to be taken to preserve the integrity of the Stylus Cards. At all times the Card must be kept dry and as clean as possible. When not in use, store the card in its case in a safe place. At all times keep the card away from extreme temperatures, moisture, static electricity, magnetic devices and electrical power sources. With proper care your Stylus Card should give you many years of reliable service.

Using the 50-Model Storage Card in conjunction with Extended Feature Card(s)

This section details the procedures for using the 50-model card along with any of the extended feature cards. Since each of the extended feature cards requires that you initialize the Stylus program for that specific aircraft type (AERO, HELI or GLID) you will want to use the 50-model card to store any other type of model set-up you wish to retain.

1. Insert the Feature Card into transmitter, initialize, and program the set-up for your aircraft. **LEAVE TRANSMITTER POWER ON!** Remove the card.
2. Insert 50-Model card and use the SAVE function to save the set-up onto the 50-Model Storage Card. **LEAVE TRANSMITTER POWER ON!**
3. Reinsert feature card to fly aircraft.
4. To load another model of the same type as first, select another model set-up and program model #2. **LEAVE TRANSMITTER POWER ON!**
5. Insert 50-Model card and use the SAVE function to save the set-up #2 onto the 50-Model Storage Card. **LEAVE TRANSMITTER POWER ON!**
6. Reinsert feature card and select either set-up #1 or #2 to fly aircraft.
7. In a similar manner you can program any number (up to 50) of other set-ups, either using the basic built-in features or any of the extended feature cards, and SAVE them to the 50-model card while the transmitter remains turned on. Then turn the transmitter on with the appropriate feature card installed (or with no cards for a set-up that does not use the extended feature card) and initialize, then WITH POWER STILL ON insert the 50-model card and LOAD the set-up. **LEAVE POWER ON** and reinsert the feature card (if used) and fly model.

Special Precautions for Safe Handling

Do not remove or insert the 50-Model Card while the "CARD ACCESS" lamp is ON, as this may damage the Card circuits. The Card Access lamp will be on whenever you execute the Save, Load, List, Delete or Initialize functions. It will also be on briefly when you turn on either of the transmitter power switches with a card installed.

Do not touch the card terminals with your hands or with any metal objects, as a static charge could destroy the Card circuits.

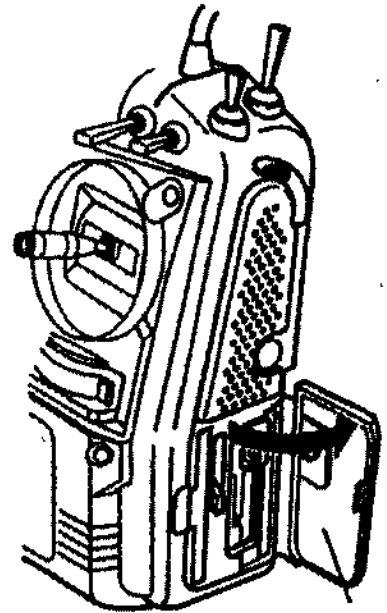
Keep the card terminals protected at all times from any dirt, oil or other contamination.

Do not hold the lithium battery used in the 50-model storage card by its contacts or use pliers as this could short out the battery.

Installing Card

The HELI Card (as with any of the cards designed for use with the Stylus transmitter) is simple to install.

The card slot is located directly in front of the transmitter battery compartment on the Stylus, and is accessed by opening the same door. Simply grasp the front edge of the door and pull it open as shown in the diagram.

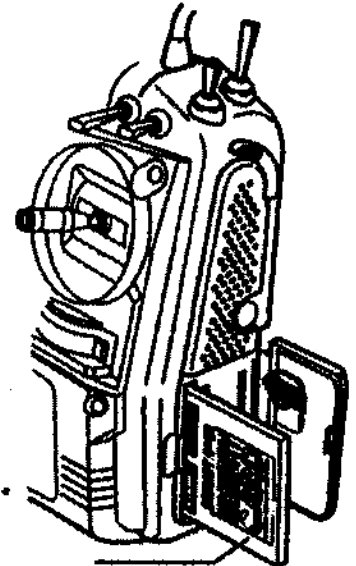


Card Slot access door

The end of the card with the connector block is marked with an arrow. This end is inserted into the card slot. The face of the card (side with the printing on it) must face towards the front of the transmitter, as shown below.

Gently push the card into the slot. **DO NOT** use excess force as this could damage the card or the connectors. Steady, gentle force while making certain that the card is aligned squarely with the slot will be enough to engage the connectors.

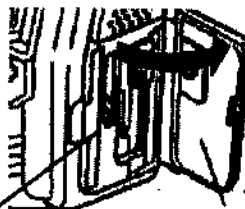
When fully seated, the outer edge of the card will be flush with the surrounding area of the case.



Insert card as shown

REMOVING CARDS:

To remove the card, push the release lever located between the card slot and the transmitter battery compartment upwards; this will disconnect the card and push it outwards far enough to grab with your fingers; then pull it out carefully and store in a safe manner.



Card Release Lever

HELI Card Primary Menus

Menu Sample

Explanation: Positions are numbered here starting left to right on top row, then left to right bottom row.

A:HELI S 0:00
S-HELI-A 10.3V

First Position Present Model Type
Second Position .. Designates Internal Timer or Stopwatch
Third Position Stopwatch/Timer Display, Minutes:Seconds
Fourth Position Present Model Name
Fifth Position Transmitter battery pack voltage

R-CURVE TH-CURV
TRM-M OFST A E R

First Position Pitch Curves menus
Second Position .. Throttle Curves menus
Third Position Trim Memory menus
Fourth Position Offset menu, Aileron
Fifth Position Offset menu, Elevator
Sixth Position Offset menu, Rudder

D/R EXP/VTR HVP
HVT REVO-MX HOLD

First Position Dual Rates menus
Second Position .. Exponential/Variable Trace Rate menus
Third Position Hovering Pitch menu
Fourth Position Hovering Throttle menu
Fifth Position Revolution Mixing menus
Sixth Position Throttle Hold menu

GENT M-SLCT C-MX
B-MIX AUX1 AUX2

First Position Servo Centering menus
Second Position .. Model Selection menus
Third Position Compensation Mixers menus
Fourth Position Bi-Directional Mixers menus
Fifth Position Auxiliary 1 menu
Sixth Position Auxiliary 2 menu

A-DTM A-OFSST VR
EPA REV SW ST-SW

First Position Automatic Dynamic Trim Memory menus
Second Position .. Automatic Offset menus
Third Position Variable Resistor Auxiliary menus
Fourth Position Servo End Point Adjustment menus
Fifth Position Servo Reversing menus
Sixth Position Switch Assignments menus
Seventh Position . Stick Switch menus

GYRO DELAY(I/O-P
CH RU-SFT) ALTER

First Position Gyro menus
Second Position .. In/Out Pitch Delay menu
Third Position Channel Delay menus
Fourth Position Rudder Shift Delay menu
Fifth Position Alternate Set-up function menus

TRIM-AUTH TIMER
D-COPY D-RESET

First Position Trim Authority menus
Second Position .. Timer menus
Third Position Data Copy menus
Fourth Position Data Reset menus

(Continued on next page)

AERO Card Primary Menus — continued

Menu Sample

Explanation: Positions are numbered here starting left to right on top row, then left to right bottom row.

MOD NAME F-SAFE
CONTRAST CLICK

First Position Modulation type menus
Second Position .. Model Name menus
Third Position Fail Safe menus
Fourth Position Display Contrast menus
Fifth Position "Click" Audio menus

CARD (MODE 1,2)
BA-FS ALM

First Position Card Operation menus
Second Position .. Mode Selection menus
Third Position Rec'r Pack Fail Safe menus
Fourth Position Transmitter Alarm menus

About This Manual

This manual is designed to supplement the manual that is included with the basic Stylus system. All of the menu functions that are ONLY available with the HELI upgrade card are described in detail in this manual. Menus that have added functions (as compared to the basic system) are also described here.

Those functions that are identical to the basic system functions are fully described in the Stylus Radio System Operating Manual and are not always repeated here.

If you are already familiar with the basic Stylus system, this manual will describe all additional programming options for using the HELI upgrade card.

If you are just starting with your Stylus and will be using the HELI card, please take some time to study the Stylus Radio System Operating Manual and this supplement before you start programming.

Manual Arrangement:

This supplemental manual describes the HELI Card functions in the ORDER THEY APPEAR within the nine primary menus. This should allow you to simply and quickly find instructions for any specific function.

YOU WILL NOT use the functions in this order; for instance, the first things you need to do are define the modulation type, channel assignments, servo direction, endpoints and switch assignments.

INITIAL SCREEN

A-HELI S 0:00
S-HELI-A 10.3V

The initial screen (shown above) is displayed when you first turn on the Stylus transmitter (unless you last turned it off while within a programming menu, in which case pressing the END key twice will display the initial screen)

No programming is performed within the initial screen. It displays important information about your current set-up, transmitter voltage and timer assignments.

The initial screen is described completely in the Stylus Radio System Operating Manual.

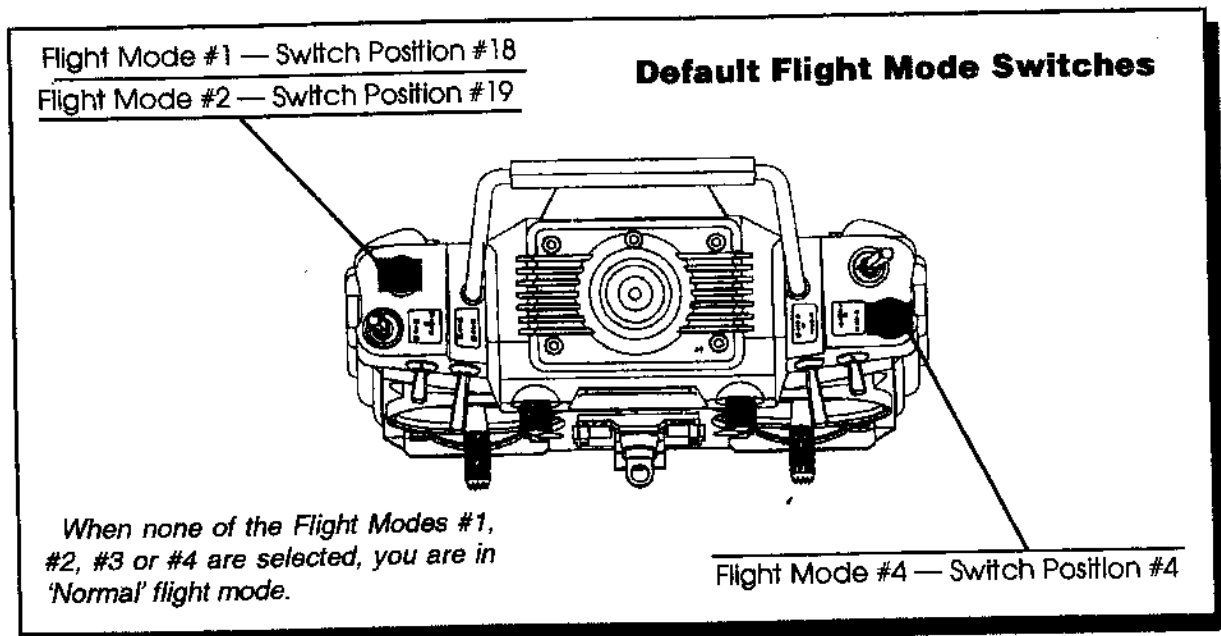
Pitch Curves (Flight Modes)

Stylus allows you to customize five distinct flight modes for each helicopter. By using the 'Alternate' functions you can access a total of 15 distinct pitch curves while in flight.

The five 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 - Idle Up |
| 4 | Select Curve Four - THROTTLE HOLD |

Selecting a pitch curve other than Normal is done by activating a switch on top of the transmitter as shown below. Note that the default settings have no switch assignment for Flight Mode 3, but you can add this if desired.



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 Stylus, the software may not restore these defaults as shown.

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

The switches are assigned priority as follows: 4, 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, 2 and 3 are idle-up modes, activating Flight Mode 4, which is Throttle Hold, when Flight Mode 1, 2 and/or 3 is active, will cause an audible alarm to sound if the Alarm function in the TH-HOLD menu is active. 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 FIVE points that can be adjusted to suit your specific needs.

The P1 and P3 points within each pitch curve are inhibited in the default settings. In this position the servo response will be linear from PL to P2 and from P2 to PH.

To activate the P1 and P3 positions, simply press the YES/+ or NO/- key while the cursor is over the desired position AND while the stick position is at the desired point in travel for this specific pitch curve point in the current flight mode. Move the cursor to the point value position and continue to press the YES/+ or NO/- key to set the value as desired.

**NOTE: The values in the table presume that the HVP menu and potentiometer and the HI and LOW pitch sliders are set at zero or neutral positions.*

**ALSO - The tables assume you have defined P1 and P3 at 25% and 75% of stick travel, respectively.*

The values will vary by a couple of percentage points between transmitters.

The pitch curve for each flight mode has FIVE 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, P3 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%	0%	125.0%
	P1	-25.0%	INH/27.5%	125.0%
	P2	-25.0%	55%	125.0%
	P3	-25.0%	INH/77.5%	125.0%
	PH	-25.0%	100%	125.0%
Flight Mode 1	PL	-25.0%	0%	125.0%
	P1	-25.0%	INH/27.5%	125.0%
	P2	-25.0%	55%	125.0%
	P3	-25.0%	INH/72.5%	125.0%
	PH	-25.0%	90%	125.0%
Flight Mode 2	PL	-25.0%	-5%	125.0%
	P1	-25.0%	INH/22.5%	125.0%
	P2	-25.0%	50%	125.0%
	P3	-25.0%	INH/65%	125.0%
	PH	-25.0%	80%	125.0%
Flight Mode 3	PL	-25.0%	-10%	125.0%
	P1	-25.0%	INH/20%	125.0%
	P2	-25.0%	50%	125.0%
	P3	-25.0%	INH/65%	125.0%
	PH	-25.0%	80%	125.0%
Flight Mode 4	PL	-25.0%	-10%	125.0%
	P1	-25.0%	INH/15%	125.0%
	P2	-25.0%	40%	125.0%
	P3	-25.0%	INH/70%	125.0%
	PH	-25.0%	112.5%	125.0%

Note that the above tables DO NOT take into account the changes in pitch curve points that are possible by using the HVP (Hovering Pitch) screen or potentiometer or by using the Hi and Low Pitch Trim sliders.

The Hi and Low Pitch Trim Sliders can move the PH and PL points (respectively) by 12.5% up or down, or a total of 25% adjustment using the full range of slider travel.

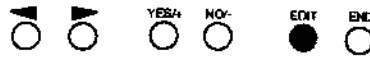
The HVP potentiometer can adjust the P1, P2 and P3 points by a total of 50%, or (starting with potentiometer centered as in the above tables) a change of -25% to +25% to these points.

The HVP screen can adjust the midpoints by an additional 50% total. (The HVP potentiometer and the HVP screen work with each other and changes made to one control will affect the other.)

The actual servo position realized from the above settings will be affected by adjustments made in the EPA screens for Collective.

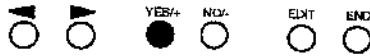
Pitch Curves ...

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



PI-CURV TH-CURV
TRM-M OFST: A E R

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



PI-CURV>N ST 0%
(PL) > 0.0% →

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, 3 or 4. Select the Flight Mode you wish to program, using the YES/+ or NO/- keys. (If you are trying to measure the pitch while making adjustments, make sure that you have assigned and activated a switch for the Flight Mode you are programming)

The next display item (shaded below) shows the PRESENT position of the Throttle/Collective stick.

PI-CURV>N ST 0%
(PL) > 0.0% →

The other cursor position in this screen allow adjustment of the PL pitch setting. Use the > key to place the cursor over the PL point, then adjust with the YES/+ and NO/- keys.



PI-CURV>N ST 0%
(PL) > 0.0% →

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

← PI-CURV>N ST 0%
(P1 INH) →

← PI-CURV>N ST 0%
(P2 50%) 57.0% →

← PI-CURV>N ST 0%
(P3 INH) →

← PI-CURV>N ST 0%
(PH) > 100.0%

Use the YES/+ and NO/- keys to adjust the pitch setting for the P2 and PH settings in the same manner as for the PL screen above.

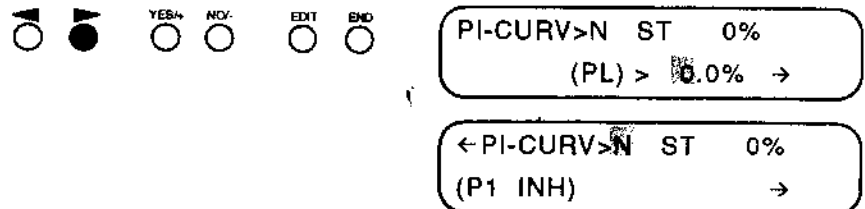
The P1, P2 and P3 screens allow you to set both the VALUE and the POSITION of the points in each flight mode. (See next page).

Pitch Curves ...

The stick position that corresponds to the values for P1, P2 and P3 can be adjusted to suit your needs. By default, the P2 position is mid-stick, or 50% stick position. P1 and P3 are inhibited but can be activated to "fine-tune" your setup.

To activate and set a position and value for P1, proceed as follows:

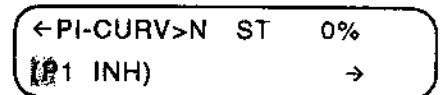
From the first PI-CURV screen press the > key to move to the second, or "P1" screen.



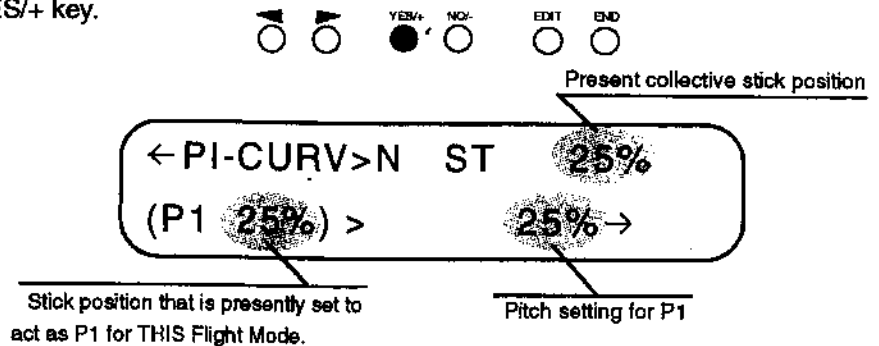
The cursor will be over the first position, where you select the Flight Mode for which you wish to make adjustments. Always check that you are adjusting the point for the desired flight model!

Always check that you are adjusting the point for the desired flight model!

Press the > key once to move the cursor to the P1 position, which presently displays "INH" for Inhibit.



Move the throttle/collective stick until the display on the top line reads 25%. (Which is one-fourth of the way UP from full low stick position.) Now press the YES/+ key.

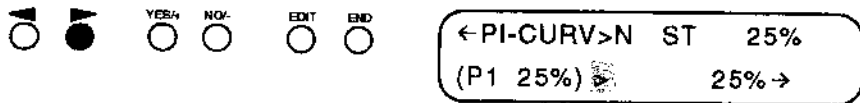


As the above illustration shows, the lower display changes to show that P1 is now at 25% instead of INH. There is also now a VALUE shown (lower right display position) for P1. Not that the initial value will be extrapolated in a linear fashion to result in a value that is between PL and P2. In this example, since we set the POSITION for P1 as 25%, it is exactly half way between PL and P2 (P2 in Normal Flight Mode is 50% by default). Thus the VALUE is half of the difference between PL (0%) and P2 (50%).

To change the stick position that corresponds to P1, simply move the collective stick to the desired position and press the YES/+ key again while the cursor is over the P1 position.

Pitch Curves ...

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



Now you can adjust the value for the P1 position by pressing the YES/+ or NO/- keys. (See chart on Page 8 for range of values available).

In a similar manner, you can set or adjust both the Position and/or Value for the P2 and P3 points.

Application Notes:

If you desire a perfectly linear pitch curve, then leaving the P1 and P3 points inhibited is the way to proceed. This also results in fewer settings and adjustments to keep track of.

However, there are times when more than three adjustment points are very desirable. The ability to not only set the values for these points, but also to choose WHERE (on the throttle/collective stick) the points are located gives you an extremely versatile amount of control.

One example of the benefits of the Stylus/HELI Card 5-point curve might be as follows: Let's say that you wish to have a very fine degree of control in hover, but still want to have the ability to pull the full amount of pitch that your engine can handle at high stick and also want to be able to have a few degrees of negative for positive transitions from fast forward flight into hover. With -2 degrees at low stick and +11 at high stick there is 13 degrees of pitch change available over the full range of movement. So each 10% of throttle/collective stick input (on a linear set-up) would cause 1.3 degrees of pitch change in your main rotors. This will result in a fairly sensitive hovering position, with small stick changes causing relatively large changes in the helicopter's position.

To make the hover position less sensitive and more easily controlled, activate the P1 and P3 positions and offset them towards center stick. For instance, assume that P2 (center, or 50% stick position) is at 50% pitch setting, yielding 4.5 degrees. Set the POSITION for P1 at 40% stick position, and set P3 at 60% stick position. Now set the values at 45% for P1 and 55% at P3.

You now have a 20 percent range of stick movement (from 40% to 60%) that will cause only 10% change in the amount of collective pitch! This portion of throttle/collective stick movement now causes only half the collective change to take place as the other portions of the stick movement, so it is easier to make small corrections without over-controlling. Yet you still have the full range of collective travel available to meet your other requirements.

This is just one example of the usefulness of the 5-point system. Obviously you will also have to work with the throttle curves to arrive at optimum settings and the desired rotor speeds. Also, the actual settings desired will vary from one helicopter to the next; you will need to determine the settings through flight testing and by following your helicopter's manual.

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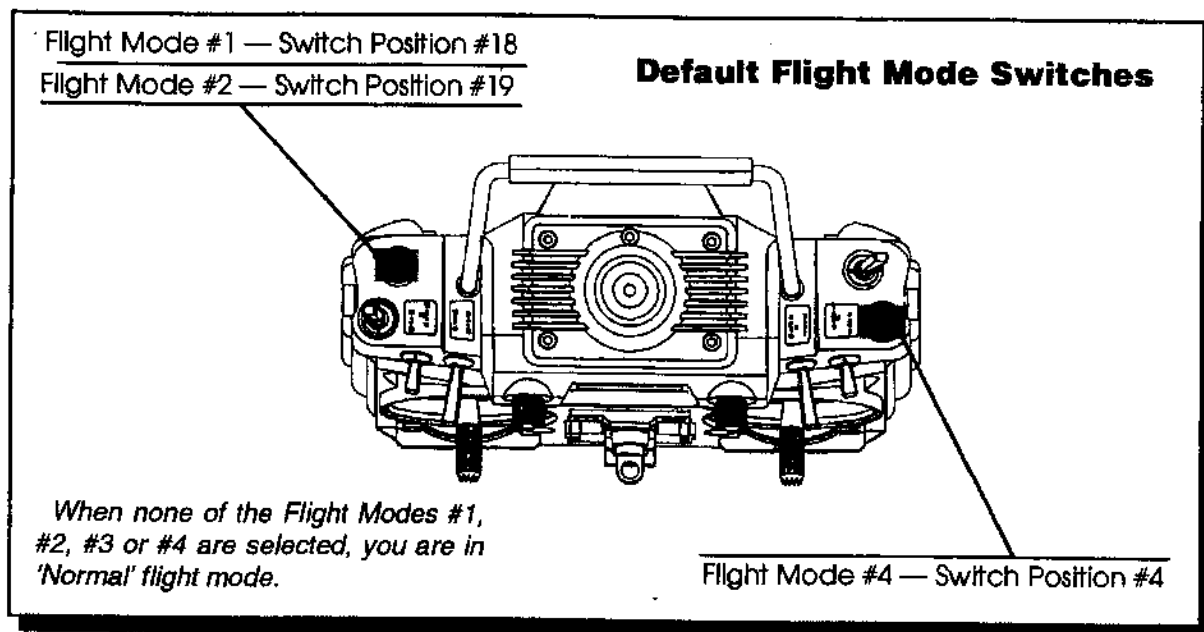
Throttle Curves (Flight Modes)

Stylus allows you to customize five distinct flight modes for each helicopter. By using the 'Alternate' functions you can access a total of 15 distinct throttle curves while in flight.

The five 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 - Idle Up
4	Select Setting Four - THROTTLE HOLD

Selecting a throttle curve other than Normal is done by activating a switch on top of the transmitter as shown below. Note that the default settings have no switch assignment for Flight Mode 3, but you can add this if desired.



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 Stylus, the software may not restore these defaults as shown.

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

The switches are assigned priority as follows: 4, 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, 2 and 3 are idle-up modes, activating Flight Mode 4, which is Throttle Hold, when Flight Mode 1, 2 and/or 3 is active, will cause an audible alarm to sound if the Alarm function in the TH-HOLD menu is active. 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!

Throttle Curves ...

The throttle curve for each flight mode has FIVE points that can be adjusted to suit your specific needs.

The P1 and P3 points within each pitch curve are inhibited in the default settings. In this position the servo response will be linear from PL to P2 and from P2 to PH.

To activate the P1 and P3 positions, simply press the YES/+ or NO/- key while the cursor is over the desired position AND while the stick position is at the desired point in travel for this specific pitch curve point in the current flight mode. Move the cursor to the point value position and continue to press the YES/+ or NO/- key to set the value as desired.

**NOTE: The values in the table presume that the HVT menu is set at zero or neutral positions.*

**ALSO - The tables assume you have defined P1 and P3 at 25% and 75% of stick travel, respectively.*

The values will vary by a couple of percentage points between transmitters.

The throttle curve for each flight mode (except for Throttle Hold, Flight Mode 4) has FIVE points that can be adjusted to suit your specific needs. Within each throttle curve these points are referred to as PL (low throttle) P1, P2, P3 and PH (high throttle). 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%	0%	125.0%
	P1	-25.0%	INH/22.5%	125.0%
	P2	-25.0%	45%	125.0%
	P3	-25.0%	INH/72.5%	125.0%
	PH	-25.0%	100%	125.0%
Flight Mode 1	PL	-25.0%	0%	125.0%
	P1	-25.0%	INH/45%	125.0%
	P2	-25.0%	50%	125.0%
	P3	-25.0%	INH/75%	125.0%
	PH	-25.0%	100%	125.0%
Flight Mode 2	PL	-25.0%	-5%	125.0%
	P1	-25.0%	INH/52.5%	125.0%
	P2	-25.0%	55%	125.0%
	P3	-25.0%	INH/77.5%	125.0%
	PH	-25.0%	100%	125.0%
Flight Mode 3	PL	-25.0%	-10%	125.0%
	P1	-25.0%	INH/57.5%	125.0%
	P2	-25.0%	55%	125.0%
	P3	-25.0%	INH/77.5%	125.0%
	PH	-25.0%	100%	125.0%

Flight Mode 4 Throttle hold position is adjusted with the HOLD menu

Note that the above tables DO NOT take into account the changes in pitch curve points that are possible by using the HVT (Hovering Pitch) screen or potentiometer

The HVT potentiometer can adjust the P1, P2 and P3 points by a total of 50%, or (starting with potentiometer centered as in the above tables) a change of -25% to +25 to these points.

The HVT screen can adjust the midpoints by an additional 50% total. (The HVP potentiometer and the HVP screen work with each other and changes made to one control will affect the other.)

The actual servo position realized from the above settings will be affected by adjustments made in the EPA screens for Collective.

Throttle Hold position is adjusted from the HOLD menu covered later in this manual.

Throttle Curves

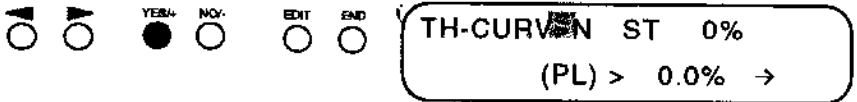
Press the Edit key to display the following screen:



Press the > key to move the cursor to the TH-CURV position.

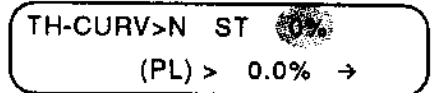


Press the YES/+ key to bring up the first Throttle Curve screen:



The first cursor position (shaded above) indicates the Flight Mode for which the present throttle 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/+ or NO/- keys. (If you are trying to measure the throttle position while making adjustments, make sure that you have assigned and activated a switch for the Flight Mode you are programming)

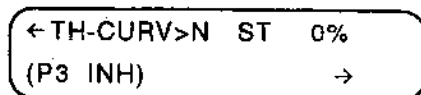
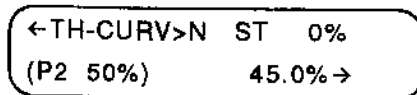
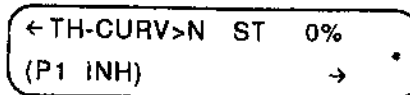
The next display item (shaded below) shows the PRESENT position of the Throttle/Collective stick.



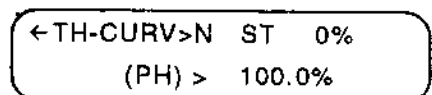
The other cursor position in this screen allow adjustment of the PL throttle setting. Use the > key to place the cursor over the PL point, then adjust with the YES/+ and NO/- keys.



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



Use the YES/+ and NO/- keys to adjust the throttle setting for the P2 and PH settings in the same manner as for the PL screen.



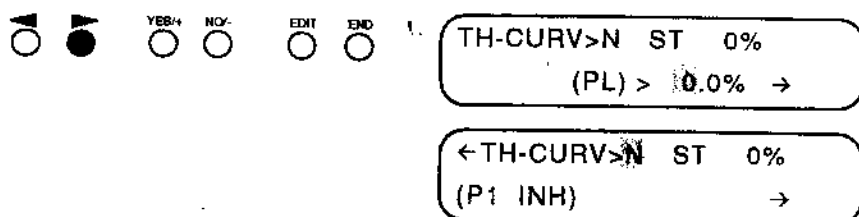
Throttle Curves

The P1, P2 and P3 screens allow you to set both the VALUE and the POSITION of the points in each flight mode.

The stick position that corresponds to the values for P1, P2 and P3 can be adjusted to suit your needs. By default, the P2 position is mid-stick, or 50% stick position. P1 and P3 are inhibited but can be activated to "fine-tune" your setup.

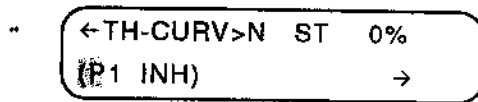
To activate and set a position and value for P1, proceed as follows:

From the first TH-CURV screen press the > key to move to the second, or "P1" screen.

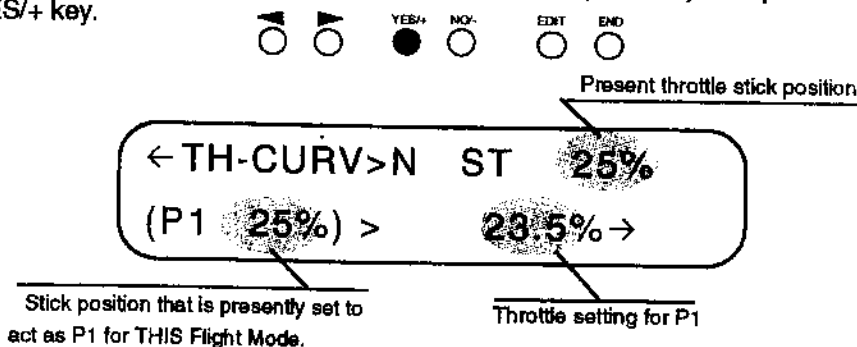


The cursor will be over the first position, where you select the Flight Mode for which you wish to make adjustments. **Always check that you are adjusting the point for the desired flight model**

Press the > key once to move the cursor to the P1 position, which presently displays "INH" for Inhibit.



Move the throttle/collective stick until the display on the top line reads 25%. (Which is one-fourth of the way UP from full low stick position.) Now press the YES/+ key.



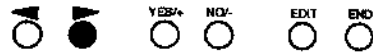
As the above illustration shows, the lower display changes to show that P1 is now at 25% instead of INH. There is also now a VALUE shown (lower right display position) for P1. Note that the initial value will be extrapolated in a linear fashion to result in a value that is between PL and P2. In this example, since we set the POSITION for P1 as 25%, it is exactly half way between PL and P2 (P2 in Normal Flight Mode is 45% by default). Thus the VALUE is half of the difference between PL (0%) and P2 (45%).

To change the stick position that corresponds to P1, simply move the throttle/collective stick to the desired position and press the YES/+ key again while the cursor is over the P1 position.

Throttle Curves

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

Actual settings desired will vary from one helicopter to the next; you will need to determine the settings through flight testing and by following your helicopter's manual.

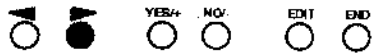


←TH-CURV>N ST 25%
(P1 25%) → 23.5% →

Now you can adjust the value for the P1 position by pressing the YES/+ or NO/- keys. (See chart on Page 12 for range of values available). In a similar manner, you can set or adjust both the Position and/or Value for the P2 and P3 points.

TRIM LEVER OPTIONS - Throttle Curves

The throttle trim lever will always be active in the N (normal) Flight Mode. The TH-CURV menus allow you to activate the throttle trim lever for the Flight Modes 1, 2 and/or 3 as you wish. From the PH menu in any of these flight modes, press the > key to move to the next screen.



←TH-CURV>1 ST 0%
(PH) → 100.0% →

←TRIM OFF

To toggle between ON and OFF for the throttle trim function for the present flight mode, press the YES/+ or NO/- keys.



←TRIM ON

The throttle trim option for flight mode #4 (throttle hold) is accessed in the HOLD menu as described later.

MAKE COPIES ...

of the chart on the following page to take to the field with you. The chart includes settings for Pitch and Throttle settings for each Flight Mode, and one chart for your Rev-Mix settings. During setup you can refer to your settings on this chart and make changes based on the flight testing.

MODEL NAME: _____

PITCH CURVES

NORMAL (SW#) #17 _____

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

FLIGHT MODE 1 (IDLE UP) #18 _____

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

FLIGHT MODE 2 (IDLE UP) #19 _____

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

FLIGHT MODE 3 (IDLE UP) INH _____

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

FLIGHT MODE 4 (TH HOLD) #4 _____

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

THROTTLE CURVES

NORMAL (SW#) #17 _____

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

FLIGHT MODE 1 (IDLE UP) #18 _____

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

FLIGHT MODE 2 (IDLE UP) #19 _____

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

FLIGHT MODE 3 (IDLE UP) INH _____

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

FLIGHT MODE 4 (TH HOLD) #4 _____

PL _____% _____%

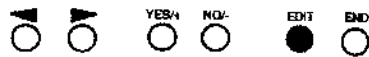
REV MIX (MODE _____)

PL _____% _____%
P1 _____% _____%
P2 _____% _____%
P3 _____% _____%
PH _____% _____%

TRIM MEMORY

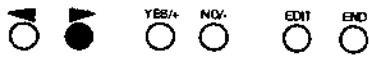
Stylus offers a Trim Memory function for all flight control channels. This function allows the trim levers to be re-set to the center positions while maintaining the trimming information in memory. This is useful because the pilot can then ensure that the trims are in the proper position just by checking 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...

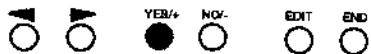


PI-CURVE TH-CURV
TRM-M OFST: A E R

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



PI-CURVE TH-CURV
TRM-M OFST: A E R



TRIM-MEM ALL
TH INH AI INH→

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

<EL INH RU INH
HOV-PI INH →

<HOV-TH INH
HP IHN LP IHN

Trim Memory is available for:

Throttle
Aileron
Elevator
Rudder
Hovering Pitch
Hovering Throttle
High Pitch
Low Pitch

The cursor will be over the ALL position. This position will store trim information for ALL channels if desired, by pressing the YES/+ 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/+ key. Move to the next channel indicator and repeat until desired channels' trim information is stored. Note that as you press the YES/+ key, the trim value for each selected channel will change from zero to a value from -200% 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 use Auto DTM, you must activate trim memory for the control functions that you wish to have adjusted by the Auto DTM function.

To inhibit a value stored in any function's trim memory, position the cursor over that function in TRIM-M and press both the YES/+ and NO/- keys simultaneously so that it reads "INH."

OFFSETS (Flight Modes)

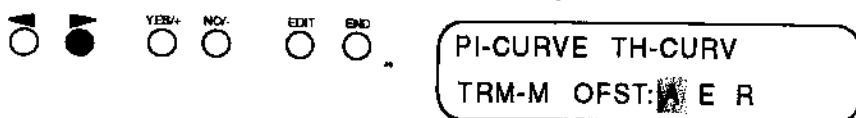
Stylus with the HELI card installed offers control function offsets for each flight control and for each flight mode. Offsets are normally used to trim for different flight modes without having to change the primary trim levers. Switching to a Flight Mode for which you have an Offset activated automatically moves (or "offsets") the neutral point of the servo by a user-defined amount. NO other flight modes are affected.

The most common situation where an offset function is helpful is for keeping the helicopter in trim when switching from hovering (normally done in flight mode N) to forward flight in a different flight mode. When the heli enters fast forward flight it will generally bank towards the retreating blade and yaw slightly. Some models also tend to pitch upwards in fast forward flight. By using the Offsets function rather than the trim levers, you can trim the heli for forward flight in one of the idle-up flight modes without disturbing the trim you have already set for hovering.

To access the Offset menus, press the EDIT key to display this screen:



There are three offset functions, one each for Aileron, Elevator and Rudder. Press the > key to move the cursor to OFST:A position.

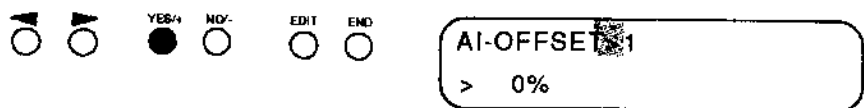


Press the YES/+ key to bring you the screen for Aileron Offset:

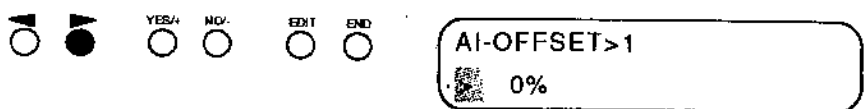


The cursor will initially be over the Flight Mode designator (shaded above) which will read either N, 1, 2, 3 or 4. This is the Flight Mode for which the present aileron offset is set. Use the YES/+ or NO/- keys to change to the desired mode.

Typically you will make mechanical or centering adjustments to center the trims in the Normal Flight Mode. Press the YES/+ key to change to Aileron Offset for Flight Mode 1.



Press the > key to move the cursor to the next menu position:



Offsets ... (Flight Modes)

The range of Offset available is from -100% to +100%. Use the YES/+ or NO/- keys to enter the amount and direction of offset desired.



Very large amounts of offset should not be needed and will result in a loss of control response as well as possible servo or swashplate binding. The exact amount of offset needed can only be determined through flight testing.

The OFST-E (elevator) and OFST-R (rudder) menus work in an identical manner to the OFST-A function.

In all of the offset screens, when you return to a screen the active flight mode will be whichever one you last made an offset adjustment to. BE CERTAIN to check that you are making adjustments to the intended flight mode!

OTHER FLIGHT MODE TRIMMING OPTIONS:

Besides using the Offset functions, there are two other possible methods for making trim changes that affect one Flight Mode without changing any other Flight Mode's settings. These are:

AUTO-DTM
AUTO-OFST

Both of these options allow you to make trim changes in flight that affect only the present Flight Mode. Study the manual sections for these options to decide which method(s) will be best for your situation. The general descriptions of the above options are as follows:

Auto DTM Automatic Dynamic Trim Memory allows moving the *primary trim levers* as desired to trim while in any Flight Mode, without affecting any other Flight Mode.

Auto-Offset This function stores offsets for a Flight Mode when you activate a switch that you have assigned, based on where the *primary control sticks* are positioned when you activate that switch.

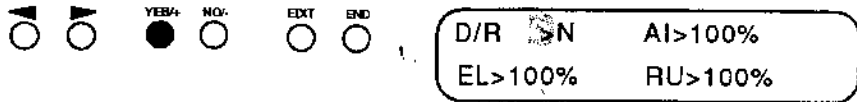
DUAL RATES

With the HELI card installed, the options for Dual Rates are greatly expanded. EACH flight mode has a rate setting for flight controls that is automatically activated when that Flight Mode is active.

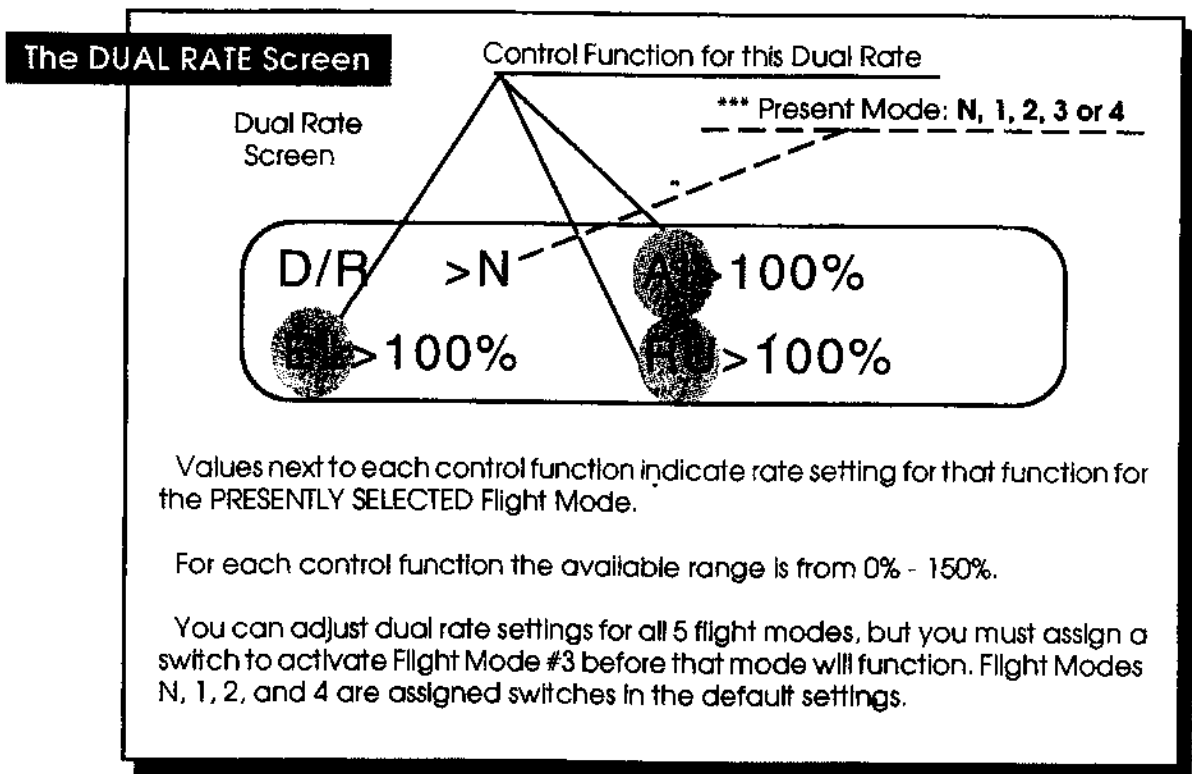
Press the Edit key to display the following screen:



Press the YES/+ key to bring up the first Dual Rate screen:



This screen tells you the present rate status for each flight control for the PRESENTLY SELECTED FLIGHT MODE. See diagram below.



In the default settings, the Dual Rates for all functions in each Flight Mode are set to 100%, which means that with full stick deflection the control surfaces will move 100% as far as your EPA settings allow.

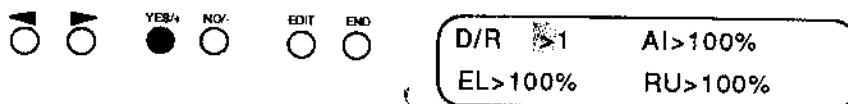
Any of the rates in any Flight Mode may be set to either more or less than the default settings.

Dual Rates ...

To adjust any control function's rate setting, you select the desired Flight Mode and then adjust the desired function.

For example, let's assume that you wish to have a higher degree of tail rotor (rudder) response in Flight Mode #1 than in your Normal Flight Mode. Proceed as follows:

With the cursor over the first menu position, press the YES/+ key to select Flight Mode #1.



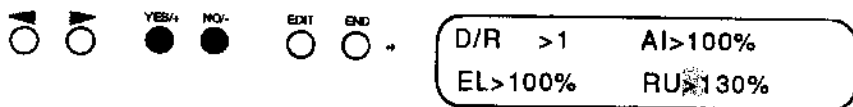
Make certain before changing a rate setting that you have selected the desired Flight Mode in the Dual Rate screen!

All three rates displayed now indicate the rate settings for Flight Mode #1.

Press the > key to move the cursor to the RU position:



Now press the YES/+ or NO/- keys to adjust the rudder rate for Flight Mode 1 to the desired amount - in this example 130%.



In the same manner, you may adjust the rate settings for Aileron, Elevator and/or Rudder for any of the five Flight Modes as desired.

Make certain before changing a rate setting that you have selected the desired Flight Mode in the Dual Rate screen!

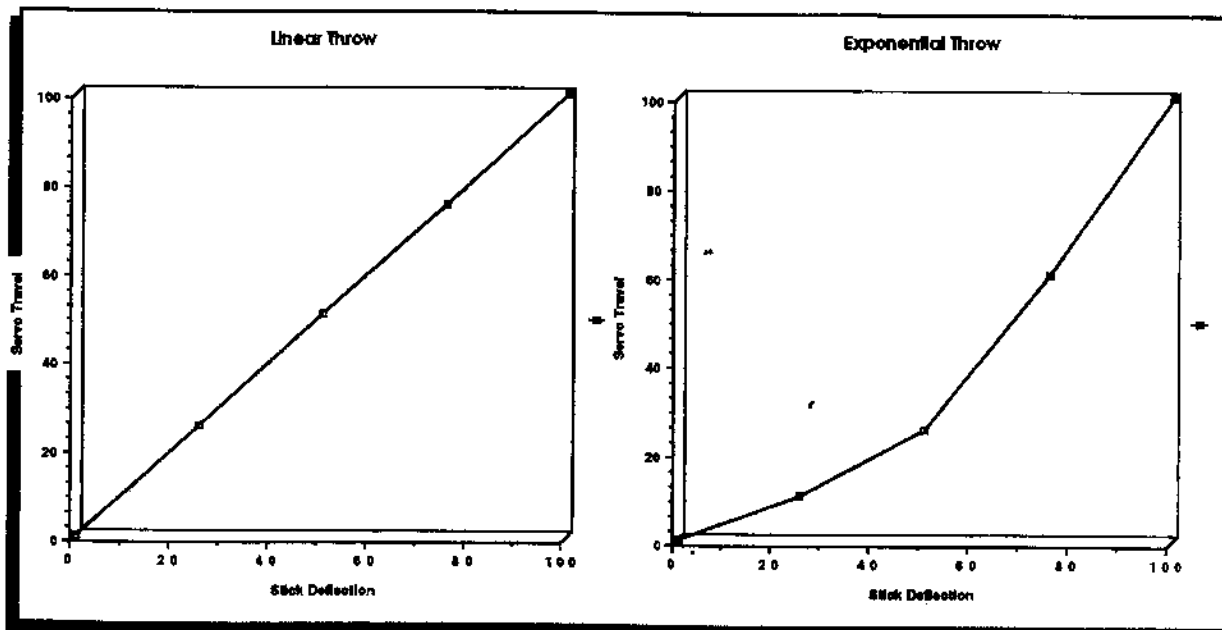
For maximum flexibility in the set-up of your aircraft, you will want to study the instructions for setting EXPONENTIAL, VTR and ALTERNATE MODES before completing rates for the Dual Rate function. VTR/Exponential Throw options are Flight-Mode specific, or you may decide to alter any or all of your control settings with one switch by using the Alternate Mode option.

EXP/VTR
Exponential
Variable Trace Rate

Stylus with HELI Card allows the pilot to choose Five settings for Exponential Throw for Aileron, Elevator, and Rudder. Also available (ONLY with the card installed) is an option for "VTR," or Variable Trace Rate, control response. First we'll look at the Exponential option.

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.

Exponential ...

Exponential Throw is activated in the same manner as Dual Rates; each Flight Mode has its own adjustment for Expo on each flight control. Selecting a Flight Mode automatically activates any rate or expo settings you have programmed for that Flight Mode.

Press the Edit key to bring up the following screen:



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



Press the YES/+ key.

The first Exponential screen will appear as shown below:



These screens tells you which Flight Mode is being adjusted (shaded position above) the present Expo/VTR status and, when a Flight Mode switch is set to an ON position, the setting for that control function or functions for the present Flight Mode.

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

The first cursor position (shaded above) shows the Flight Mode for the present screen. Press the YES/+ or NO/- keys to select the Flight Mode you wish to make adjustments to. For this example we'll leave the Flight Mode as is to change the expo setting for the Normal Flight Mode. Press the > twice key to move the cursor to the bottom line:



Set the amount of Exponential for Aileron (in Normal Flight Mode) by pressing the YES/+ or NO/- keys.

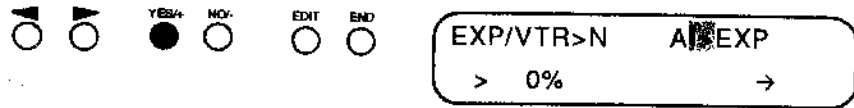


Press the > key to move to the second (Elevator) or third (Rudder) Expo/VTR screens.

Variable Trace Rate

For any flight control function, in each flight mode, you can choose between Expo or VTR response types.

The second cursor position in the Exp/VTR screen will show EXP by default. To change the response type from Expo to VTR, press the YES/+ key while the cursor is on the second position:



The screen will change to the default screen for VTR. The menu positions are described below:

First position shows which Flight Mode, and thus which rates are presently active. In this example the "N" display means that this screen is set for Flight Mode N.

The second position reads VTR, which indicates that VTR has been chosen as the response type for THIS function.

Present RATE of response when stick movement goes beyond the POINT setting. This is adjustable from 0% to 150%



Use > key to move to next screens (EL and RU)

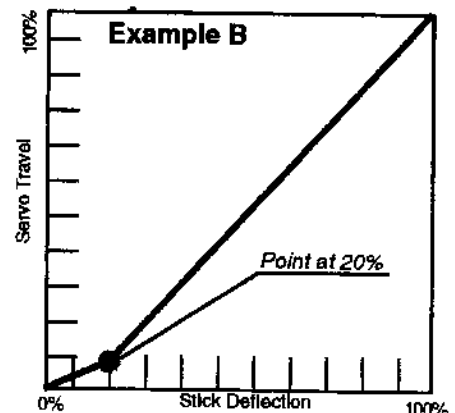
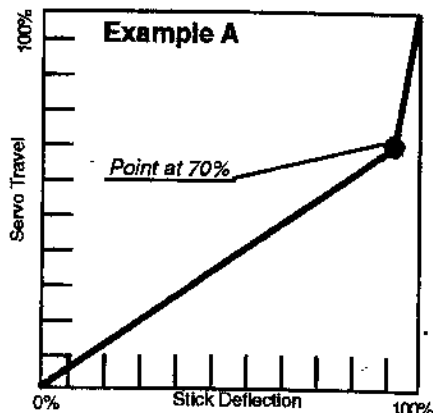
The "POINT" adjustment determines at what point, expressed as a percentage of total stick travel, the rate of response will change from the normal rate to the rate defined within this menu (when THIS Flight Mode switch is set to the on position). Range is from 5% to 95%.

What is VTR?

VTR, or Variable Trace Rate, is a function that allows you to define two different LINEAR control response rates, with the change in rates occurring at a point in the stick travel that you define. You could think of it as a sort of "Dual Rate" that is turned on or off depending on stick position. VTR is commonly used in two ways; See the examples below and charts at bottom of page:

(A) If you set the "Point" fairly high and the "Rate" to achieve maximum desired control deflection, you can have a less sensitive control response for normal maneuvering with the extreme rate "kicking in" only when you reach extreme stick deflection.

(B) If you set the "Point" fairly low and set the "Rate" for the control response desired for normal maneuvering response, you can achieve a lower rate of response for movement very near the center or "neutral" stick position.



**Variable Trace
Rate ...**

EXP/VTR>N AI>VTR
RA>100% PNT>80% →

By using the YES/+ and NO/- keys while the cursor is in the first position (shaded above), you can change the menu to make adjustments to Flight Mode 1, 2, 3, and 4 for the Expo/VTR settings for Aileron.

Press the > key to scroll to the next two screens where you can program Expo/VTR settings for Elevator and Rudder. Again, these settings are independently programmed for all 5 Flight Modes.

NOTES:

If you use both dual rates AND Exponential settings be very careful to make sure that there is adequate control response in the lower-rate portion of the VTR response.

Also, make certain whenever you are making VTR or Exponential adjustments that you first check to ensure that you are making adjustments for the desired Flight Mode.

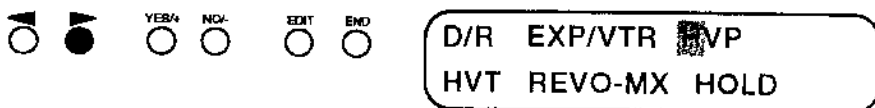
HVP Hovering Pitch

Stylus offers two methods for adjusting 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 pitch curves, 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:



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



Press YES/+ key to access the HVP screen.



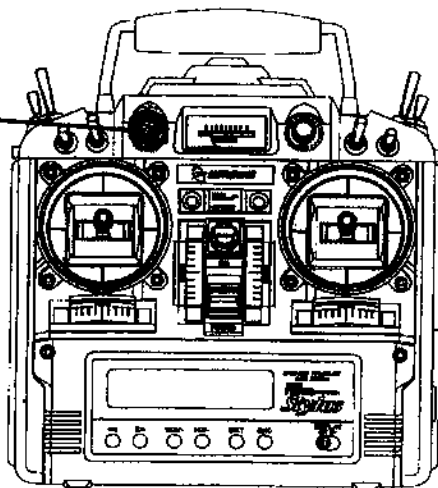
The value displayed will be 0% IF the Hovering Pitch Potentiometer is set at the zero, or neutral, position. The screen will indicate "INH" if Flight Mode 1,2, 3 or 4 is activated. You may now adjust the Hovering Pitch point by using the YES/+ or NO/- keys. The range possible is from -25% to +25%. When you adjust the HVP setting, points 1, 2 and 3 of the Pitch Curves are shifted accordingly. PL and PH are not affected by HVP settings.

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 assumed, for the purpose of the HVP and HVT functions, to be the P2 position on the Collective Pitch Curve. If P1 and P3 are active, they will also be affected by HVP adjustments.)



HOVERING THROTTLE

Stylus 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/+ key to access the HVT screen.

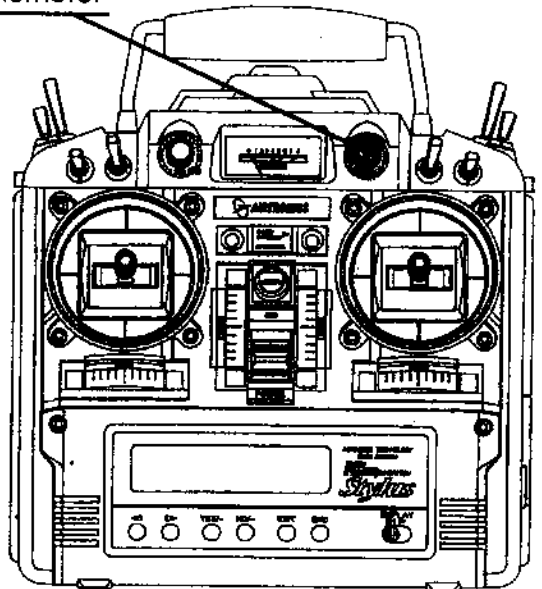


You may now adjust the Hovering Throttle point by using the YES/+ or NO/- keys. The range possible is from -25% to +25%. When you adjust the HVT setting, points 1, 2 and 3 of the Throttle Curves are also shifted accordingly.

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 throttle at the hover position; turning the control counter-clockwise will decrease throttle at the hover position.



REVO-MIX

Stylus with the HELI card installed adds a great deal of power and flexibility to the REVO-MX function. Each Flight Mode now has its own 5-point curve for adjusting tail rotor position in response to throttle/collective stick movements.

To access the REVO-MIX functions, press the edit key to display the following screen:



Place the cursor over the REVO-MIX position with the > key.

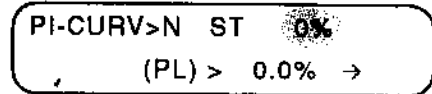


Press YES/+ key to access the first REVO-MIX screen.



The first cursor position (shaded above) indicates the Flight Mode for which the present REVO-MIX points are set. This position will read either N, 1, 2, 3 or 4. Select the Flight Mode you wish to program, using the YES/+ or NO/- keys.

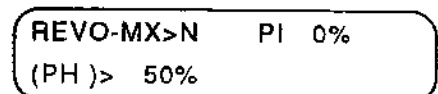
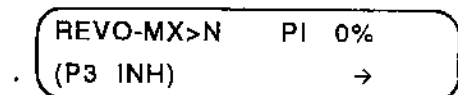
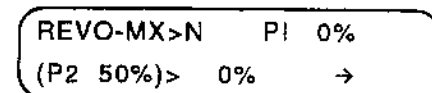
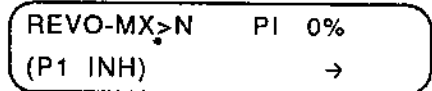
The next display item (shaded below) shows the PRESENT position of the Throttle/Collective stick.



The other cursor position in this screen allow adjustment of the PL REVO-MIX setting. Use the > key to place the cursor over the PL point, then adjust with the YES/+ and NO/- 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 screens to become visible as shown below.



Revo-Mix ...

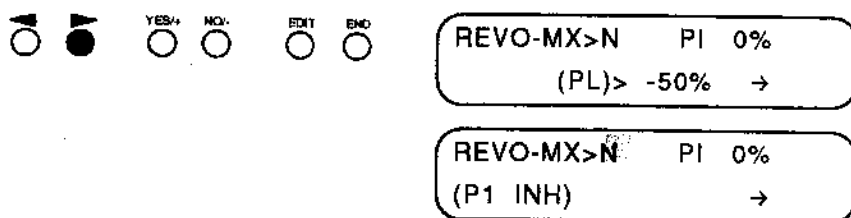
Use the YES/+ and NO/- keys to adjust the Revo-Mix setting for the P2 and PH settings in the same manner as for the PL screen above.

The P1, P2 and P3 screens allow you to set both the VALUE and the POSITION of the points in each flight mode.

The stick position that corresponds to the values for P1, P2 and P3 can be adjusted to suit your needs. By default, the P2 position is mid-stick, or 50% stick position. P1 and P3 are inhibited but can be activated to "fine-tune" your setup.

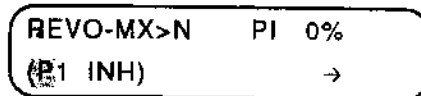
To activate and set a position and value for P1, proceed as follows:

From the first REVO-MX screen press the > key to move to the second, or "P1" screen.

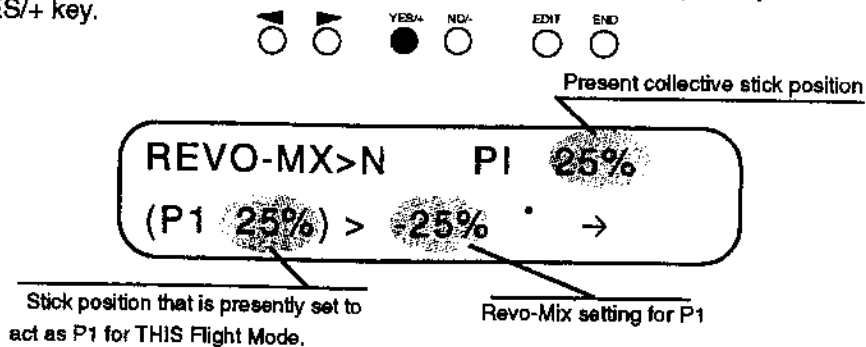


The cursor will be over the first position, where you select the Flight Mode for which you wish to make adjustments. Always check that you are adjusting the point for the desired flight mode!

Press the > key once to move the cursor to the P1 position, which presently displays "INH" for Inhibit.



Move the throttle/collective stick until the display on the top line reads 25%. (Which is one-fourth of the way UP from full low stick position.) Now press the YES/+ key.

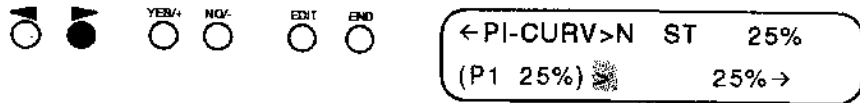


As the above illustration shows, the lower display changes to show that P1 is now at 25% instead of INH. There is also now a VALUE shown (lower right display position) for P1. Note that the initial value will be extrapolated in a linear fashion to result in a value that is between PL and P2. In this example, since we set the POSITION for P1 as 25%, it is exactly half way between PL and P2 (P2 in Normal Flight Mode is 0% by default). Thus the VALUE is half of the difference between PL (-50%) and P2 (0%).

Revo-Mix ...

To change the stick position that corresponds to P1, simply move the collective stick to the desired position and press the YES/+ key again while the cursor is over the P1 position.

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



Now you can adjust the value for the P1 position by pressing the YES/+ or NO/- keys. (See chart on Page 8 for range of values available).

In a similar manner, you can set or adjust both the Position and/or Value for the P2 and P3 points.

Application Notes:

The most effective use of the REVO-MIX curves would generally be to set P2 for each flight mode at the same stick position as you have set for your hovering position. Then you can use mechanical adjustments and the Centering menus to allow the REVO-MIX P2 position at 0% mixing in the hovering (normal) Flight Mode.

If you follow the generally accepted practice of hovering at the same stick position in all Flight Modes, then the REVO-MX P2 should remain at 0% for all Flight Modes. The PL and PH points will vary depending on the torque loads generated by your pitch and throttle curves in each Flight Mode.

HOLD Throttle Hold

Flight Mode 4 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 and alarm functions to be either active or inactive.

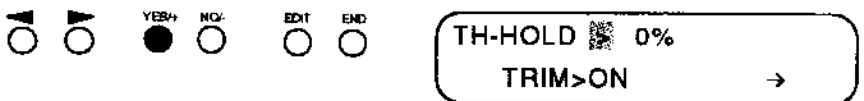
To set the Throttle Hold position, press the Edit to display the following screen:



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

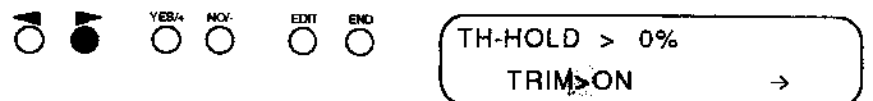


Now press the YES/+ key to display the HOLD screen.



The first cursor position allows setting the throttle position for Flight Mode 4, Throttle Hold. Use the YES/+ or NO/- 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 TRM position using the > key.



You may now toggle the trim from ON to OFF using the YES/+ or NO/- keys. In either case the throttle stick will control only the collective pitch while in Throttle Hold (Flight Mode 4.)

Use the > key to move the cursor to the next screen.



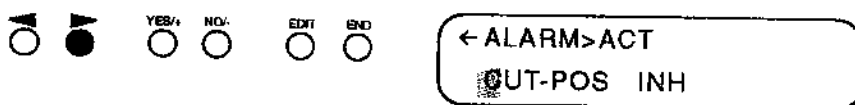
You may now toggle the alarm from ACT to INH using the YES/+ or NO/- keys. If set to ACT (active) an alarm will sound if Throttle Hold (Flight Mode 4) is turned ON while Flight Mode 1, 2, or 3 are active.

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.

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

HOLD ...

Press the > key to move the cursor to the CUT-POS position.



The CUT-POS function allows you to specify a point on your throttle/collective stick below which Throttle Hold will activate (when the Flight Mode #4 switch is on.) This allows you to activate the Throttle Hold switch while in flight and then concentrate fully on your autorotation entry. When you then move the stick below the specified CUT-POS setting, the Throttle Hold function is activated.

To specify the stick position for the CUT-POS setting, move the throttle/collective stick to the desired position and press the YES/+ key. The display will change to show the position.



To turn off the CUT-POS function, press both the YES/+ and NO/- keys at the same time. The display will change back to INH, indicating that the function has been inhibited.

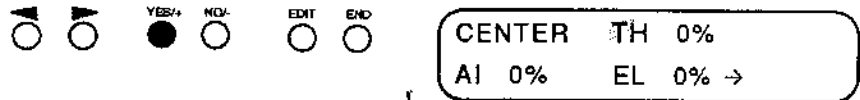
NOTE that the CUT-POS is a "triggering" switch and not an on-off switch! When you activate the Flight Mode 4 (Throttle Hold) switch and then move the throttle/collective stick below the defined CUT-POS position, Flight Mode 4 becomes active and will STAY ACTIVE until you move the Flight Mode 4 switch to the off position – regardless of throttle/collective stick position. This is necessary to allow you to practice flaring and arresting your descent during autorotation.

CENTERING

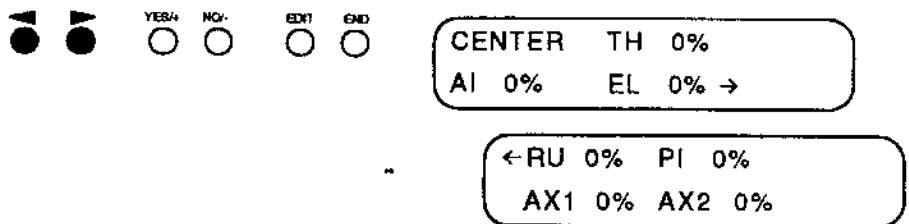
Stylus allows you to fine-tune the CENTER or neutral position of all flight control servos. After hooking up your controls and mechanically centering all linkages to the approximate positions, press the EDIT key to arrive at the following screen:



Now press the YES/+ 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.



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

TH Throttle
AI Aileron
EL Elevator
RU Rudder
PI Pitch (Collective)
AX1 Auxiliary Channel 1
AX2 Auxiliary Channel 2

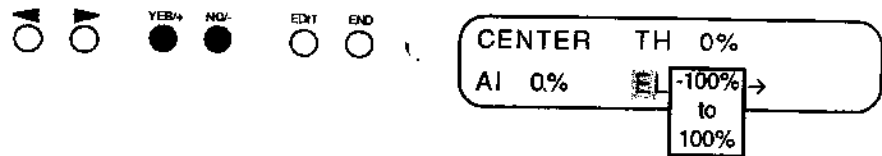
The value displayed as percentage (%) to the right of each channel abbreviation shows the present centering adjustments. Default position is zero. Press the YES/+ and NO/- keys simultaneously to restore a setting to zero.

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/+ or NO/- 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/+ or NO/- keys, set the centering for each channel.

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.

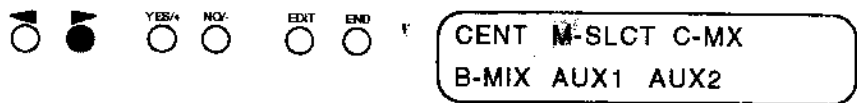
M-SLCT Model Select

Stylus has built in memory to store four Model set-ups . To use or modify one of the Model Set-ups you must first SELECT that set-up and load it as the presently active Model. This is done through the M-SLCT function.

To select a specific Model, press the EDIT key until the screen below is displayed:



Press the > key to move the cursor to the M-SLCT position.



Press the YES/+ key to bring up the M-SELECT screen.



"S-HELI-A" on the top line shows the name of the presently loaded model. The cursor will be at the first position on the second line of the menu. Pressing the YES/+ key will select the second model:



(Pressing the YES/+ or NO/- keys will move you up or down through the list of available Model Set-ups.)

At this point S-HELI-A is still loaded, as shown by the top menu line. To change to Model number two (B) - or any other model you have selected - press the > key to move the cursor to the "Y?" position:



Now press the YES/+ key to Select and Load the "S-HELI-B" model. The top line of the menu will change to reflect that "S-HELI-B" is the presently active Model set-up.



Note that the Names you have assigned to these model setups (if any) will appear in these screens rather than "HELI-A, HELI-B," etc.

C-MIX Compensation Mixers

Compensation Mixers have the same function with the HELI card installed as in the basic Stylus program without the card; to allow a program that causes a secondary channel (slave) to respond along with the primary (Master) channel when the Master channel's stick or switch is moved.

With the HELI card installed, you gain additional C-Mix functions (8 total) and each C-MIX has added capabilities. Five of the mixers utilize a multi-point mix function that is activated whenever their assigned Flight Mode is active.

Note that to use a C-Mix function you must assign and activate a switch or set the C-Mix to be always ON from within the SW menus.

A common use of a C-MIX would be to set a mix so that tail-rotor inputs automatically create a slight increase in throttle to compensate for the added load, thus keeping torque to the main rotors constant.

To access the C-MIX functions, press the EDIT key to display this screen:



Press the > key to move the cursor to the C-MX position.



Press the YES/+ key to bring up the first C-MIX screen.

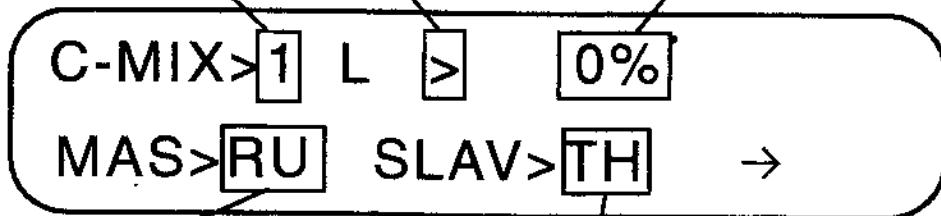


C-MIX SCREEN 1

Presently selected mixer - #1 through #3*. Select which with YES/+ or NO/- key.

Throw Direction Indicator - U or D, L or R, H or L, depending on which way you move the MASTER function's stick or switch.

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.

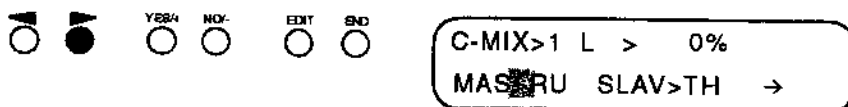
SLAVE Channel: Channel that will respond to the transmitter control function set as MASTER, in addition to its own, when mixing is active.

*C-MIX 4 through 8 are special types, covered next

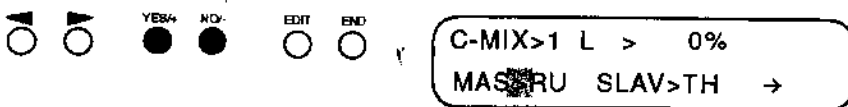
C-MIX Compensation Mixers ...

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/+ or NO/- keys to cycle through the channels available until you reach the desired MASTER channel. In this example we want the throttle to automatically respond when we move the rudder stick, so Rudder must be the MASTER channel.



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

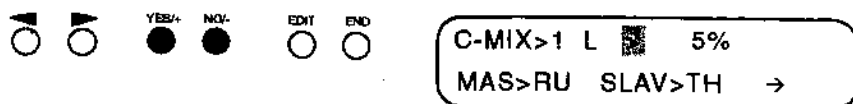


Remember, the MASTER channel is the channel that will drive both its own servo(s) AND the slave channel's servo when the Master channel's transmitter control is moved. The SLAVE channel's servo(s) will respond to the Master channel's transmitter control AS WELL AS responding normally to its own transmitter 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 L> cursor position using the < or > keys. By pressing the YES/+ or NO/- keys you can set the amount of Slave servo movement (throttle) that will occur with movement of the Master control. (In this case rudder.) 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 mixing for L (left rudder stick movement) at 5%. If the throttle moves opposite the direction desired, simply change the value to -5%. This will give the same amount of mixing, but in the opposite direction.

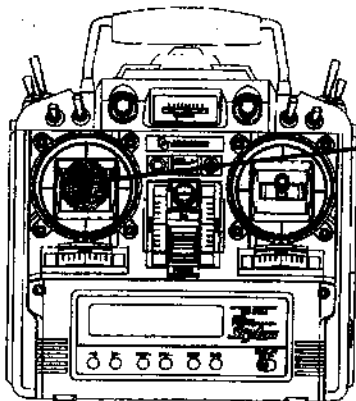


With L set at 5% you now have 5% mixing of throttle with rudder in ONE direction; i.e. left rudder stick will now give up throttle response PLUS left rudder response, but right rudder stick will not cause throttle movement.

(Continued on next page)

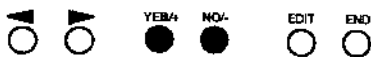
C-MIX Compensation Mixers ...

To program mixing for both directions of Master stick movement you must set both L and R. To change from L to R for programming, simply move the transmitter control for the MASTER channel. (In this example the Rudder stick). Note that when you move the left, "L" is displayed in the mixing screen, and when you move the control right "R" is displayed.



Move the Rudder stick to the right and "R" will be displayed in the mixing screen.

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



C-MIX>1 R > 5%
MAS>RU SLAV>TH →

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

Note that to use a C-Mix function you must assign and activate a switch or set the C-Mix to be always ON from within the SW menus.

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.

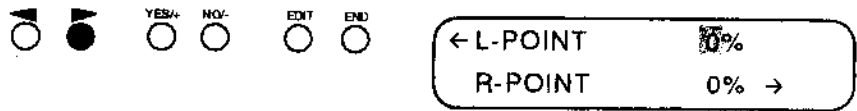
By changing the value from + to - for both R and L you will reverse the slave channels response to the master channel BUT NOT to it's own transmitter control.

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 as just described, where throttle is added regardless of which direction the Rudder stick is moved. By setting one of the L or R settings to +10 and the other to -10 (as determined by observing servo movement) you can set the mixing to cause increased throttle 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 this mixer is only on during hovering.

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.



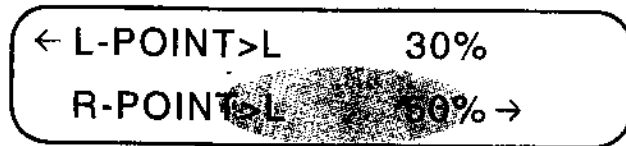
The display will show "L-POINT" and "R-POINT" if the Master control moves left and right, or H and L points (High and Low), or U and D points for elevator.

The "Points" can work in two different ways. If the value set for each menu position is in a direction that corresponds with the SAME direction as the Master control stick movement (first menu below, i.e. L-Point>L and R-Point>R), then the value entered will represent the amount of Master stick travel that will occur BEFORE mixing STARTS to occur.



If you set the values for the two points as shown above, mixing with LEFT travel of the master control will START after the stick reaches 30% of left travel or 50% of right travel. In between these points no mixing will occur. The amount of mix is determined by the settings in the first c-mix screen.

If a value is set so that the point display is on the OPPOSITE direction, as in the menu below where the bottom line reads "R-POINT>L," then the mix will act as if the Master control stick is offset to that point in the opposite direction.



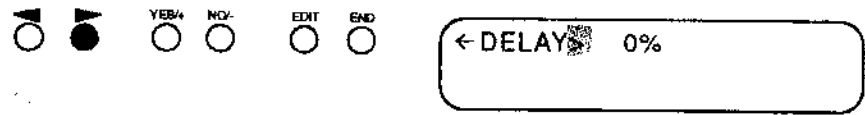
If the R-POINT is set as shown above, activating the C-Mix switch will cause the SLAVE control to offset as if the Master stick was moved 50% towards the LEFT, when the stick is at neutral. From that point (50% left movement of the Master control stick) to full left stick, the rate AND amount of mix will act according to the c-mix setting for Left travel of the Master Stick.

From that point (50% left movement of the Master control stick) to full RIGHT stick, the rate AND amount of mix will act according to the c-mix setting for RIGHT travel of the Master Stick.

As with any advanced function, proceed with caution and make certain that you have achieved the control response desired. Optimum settings will be determined by actual flight testing.

Compensation Mixers ...

The arrow to the right of the Points screen position indicates that there are more screens. Press the > key to move the cursor past the arrow and the next screen will appear.



The DELAY setting allows the user to program a time-delay for the response of the slaved function. This will slow the servo's response time to mixer inputs. The amount of mix remains unchanged.

To set a delay, use the YES/+ or NO/- keys to adjust the amount of delay, from 0% (no delay) to 100% (Approximately 10 seconds for full slave servo travel).



Slave servo response to its own control stick or switch is not affected by this delay setting.

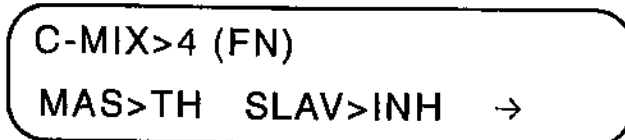
FLIGHT MODE SPECIFIC

The remaining five C-MIXER functions are flight mode specific; that is, each flight mode has its own dedicated Compensation Mixer that is activated whenever the flight mode is active. These C-Mixers are assigned as follows:

Compensation Mixers ...

C-MIX	Flight Mode
4	Normal
5	Flight Mode 1
6	Flight Mode 2
7	Flight Mode 3
8	Flight Mode 4

From the C-MIX screen, first cursor position, press the YES/_ key to move to C-MIX>4:



This screen shows which mixer and Flight Mode is active (C-Mix 4 and Flight Mode "N", top line) and the Master and Slave assignments for this C-Mixer.

Press the > key to scroll through the remaining screens. (Next Page)

FLIGHT MODE SPECIFIC

Compensation Mixers ...

C-MIX> (FN)
MAS>TH SLAV>INH →

←>4 (FN) MAS 50%
(PL) > 0% →

←>4 (FN) MAS 50%
(P1 INH) →

←>4 (FN) MAS 50%
(P2 50%) > 50% →

←>4 (FN) MAS 50%
(P3 INH) →

←>4 (FN) MAS 50%
(PH) > 100% →

← DELAY > 0%

As you can see, these C-MIX screens allow you to set a 5-point curve for the mixing output. They work in the exact same manner as the REVO-MIX screens, except that instead of being pre-assigned to have Throttle as Master and Rudder as Slave, with the C-MIX functions you can assign ANY control to be the master and any other control to be the slave. Master and Slave channels are assigned in the first screen as with the other (#1 through #3) C-Mixers.

The Delay screen works the same for these 5 C-MIXes as for the first 3 C-Mixers.

Refer back to the REVO-MIX section for specific step-by-step instructions on activating and positioning the P1 and P3 points, and moving the position of the P2 point, and for setting the mixing values for any point.

Remember, C-MIX 4 through 8 are ALWAYS ON when you switch to their respective Flight Mode, and ONLY affect that specific Flight Mode.

The first menu position in the first screen (shaded at top of page) allows you to select between C-MIX #4 through #8 using the YES/+ or NO/- keys.

The top line of every menu screen except the delay screen reminds you which mixer/Flight Mode the current screens will affect.

B-MIX

Bi-Directional Mixers ...

Stylus provides one Bi-Directional Mixer for advanced, user-assigned mixing functions. Bi-Directional mixing means that two channels are mixed so that inputs to either channel cause servo movements for both channels. This type of mixing is rare on a helicopter but if you need it, it's available.

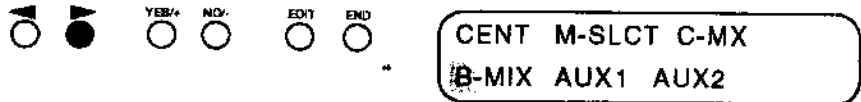
Besides being far simpler to adjust electronically than mechanically, using a B-MIX function is also far easier to install and service, saves weight, and eliminates control hookup slop inherent in mechanical installations.

Since Bi-Directional Mixing is normally used to establish primary flight control setups, these mixers are usually set to be ON at all times; however the B-MIX functions can be assigned to a switch. At any rate, no mixing will occur unless you have set the B-MIX to be on (in the SW menus) or assigned it to a switch that has been activated.

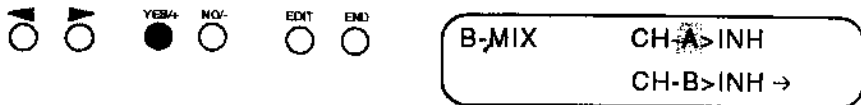
To access the B-Mix functions press the Edit key to display this screen:



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



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



The CH-A and CH-B positions will show INH for "inhibit" in the default mode. These positions are where you program which flight channels you wish to mix together for this B-Mix. Channels that can be assigned to either CH-A or CH-B are:

THR	Throttle
AIL	Aileron
ELE	Elevator
RUD	Rudder
PIT	Pitch
GYR	Gyro
AX1	Auxiliary 1
AX2	Auxiliary 2

Bi-Directional Mixers ...

Due to the nature of Bi-Directional mixers it makes no difference which control function is assigned to Channel A or Channel B; both channels will respond to their own control stick or switch AS WELL AS to the control stick or switch for the mixed channel.

Use the > key to position the cursor over the CH-A position, then press YES/+ key to assign the desired control to CH-A. Now press the > key to move to the CH-B position and use the YES/+ key to set CH-B for as desired.

NOTE: When using a B-MIX function the rotation of the servos must be checked before making control linkage hookups.

B-MIX — Centering

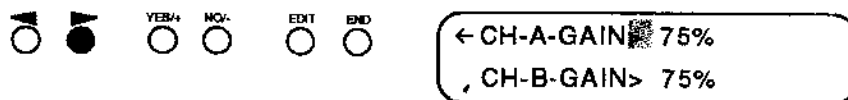
The CENTER menus will affect only the servo(s) normally assigned to a receiver channel when a B-MIX is active. This allows for electronic adjustments to center each of the controls independently.

B-MIX — End Point Adjustments

The EPA menus for BOTH channels assigned to a B-Mix will affect ALL servos involved in the B-Mix function. Total servo throw available for each function used in a B-MIX will be somewhat reduced (as compared to non-mixed functions).

NOTE: Any MIX or C-MIX that affects one of the channels assigned to a B-MIX will affect ALL servos assigned to that B-MIX.

B-Mix functions can be further adjusted to yield the exact control response desired for each of the control functions being mixed. While in the B-Mix screen, press the > key to scroll to the next window.



This screen allows you to adjust the "gain" level for both of the channels you have assigned to this B-Mix function. The first cursor position is for adjusting Channel A Gain, the second position is for adjusting the Channel B Gain. Default setting is 75% for both of the channels.

The "gain" settings determine the amount of relative authority that will be assigned to the functions that are assigned to the mixer channels. Turning the gain setting down for one channel will decrease the amount of response of all servos in response to THAT channel's control stick or switch movement.

Turning the gain setting up for one channel will increase the amount of response of all servos in response to THAT channel's control stick or switch movement.

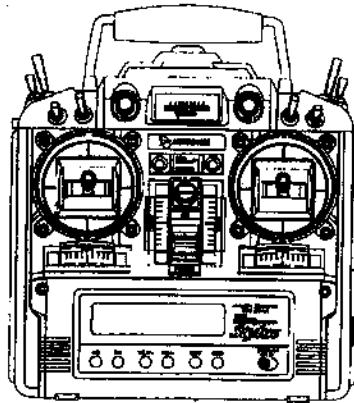
The gain for either channel can be set from 100% (maximum response) to 0% (no response). If we set the Channel A gain to 100% and the Channel B gain to 50%, then the servos will both respond with twice as much movement when the Elevator (channel A) stick is moved than when the Aileron stick is moved.

If both gain settings are set to 100%, the servos will run out of available travel when one stick is moved to its limit, leaving no room for further movement in response to the second control stick's movements. It is usually best to adjust the gain settings so that maximum deflection of one of the control sticks still leaves some available control response for movement of the other control stick. Also note that the EPA settings will affect the amount of total servo travel available for either of the control sticks.

A switch must be assigned to the B-MIX function, or the B-MIX must be set to "on," in the SW menu before the mixer will work.

AUX 1 Auxiliary 1

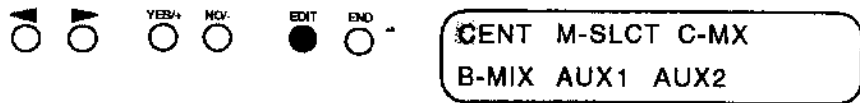
Auxiliary 1 is set in the default assignments to act as a trimmer for High Collective pitch in the Normal Flight Mode. This allows for adjustment of the maximum collective during flight. This function is adjusted with the slider on the right side of the Transmitter.



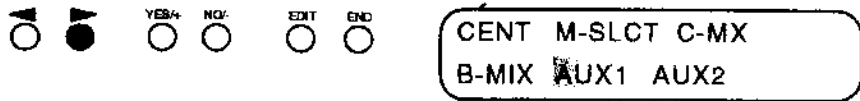
High Pitch Trim is adjusted with the slider on the right side of the Stylus transmitter.

This function is active by default but can be turned off in the AUX-1 screen.

Press the EDIT key to display the following screen:



Press the > key to move the cursor to the AUX1 position.



Press the YES/+ key to display the AUX1 screen.



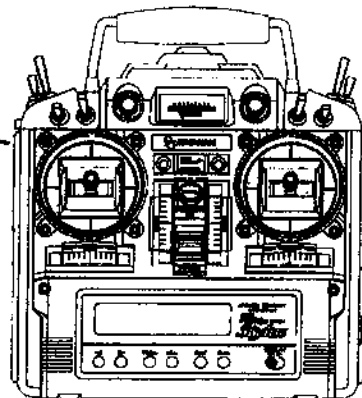
You can now use the YES/+ or NO/- key to turn the High Pitch Trimmer on or off.



AUX 2 Auxiliary 2

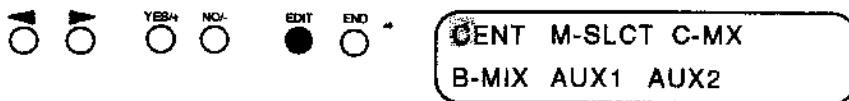
Auxiliary 2 is set in the default assignments to act as a trimmer for Low Collective pitch in the Normal Flight Mode. This allows for adjustment of the low collective during flight. This function is adjusted with the slider on the left side of the Transmitter.

Low Pitch Trim is adjusted with the slider on the left side of the Stylus transmitter.

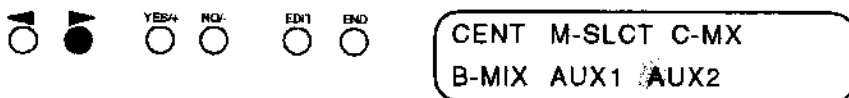


This function is active by default but can be turned off in the AUX-2 screen.

Press the EDIT key to display the following screen:



Press the > key to move the cursor to the AUX2 position.



Press the YES/+ key to display the AUX2 screen.



You can now use the YES/+ or NO/- key to turn the Low Pitch Trimmer on or off.



AUTOMATIC DYNAMIC TRIM MEMORY

(A-DTM)

When activated, Automatic Dynamic Trim Memory allows you to make trim changes while in any flight mode WITHOUT affecting any other flight mode.

NOTE! In order for the A-DTM function to operate, you must first go to the Trim Memory menus and **ACTIVATE** Trim Memory for those controls that you want to have respond to the A-DTM function.

Automatic Dynamic Trim Memory (A-DTM) is an advanced function that can be used in conjunction with the Flight Mode* options. When activated, Automatic Dynamic Trim Memory allows you to make trim changes while in any flight mode **WITHOUT** affecting any other flight mode.

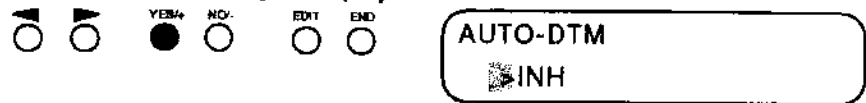
Flight Modes are used to allow activation of Automatic Dynamic Trim Memory and/or Automatic Offset functions. A switch position can be assigned within the SW settings for up to Five flight modes, as follows:

- Normal
- Flight Mode #1
- Flight Mode #2
- Flight Mode #3
- Flight Mode #4 (Throttle Hold)

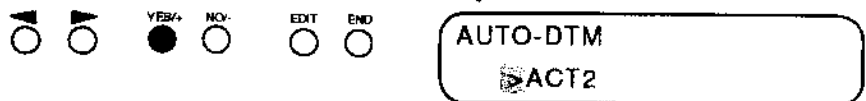
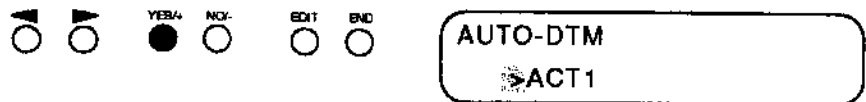
To activate Automatic Dynamic Trim Memory, press the EDIT key to display the following menu:



Press the YES/+ key to display the A-DTM screen:



Press the YES/+ key to activate the A-DTM function:



Activating AUTO-DTM 1 will allow trim changes made in Flight Mode 1 to affect **ONLY** that mode. If you press the YES/+ key again, the display will read ACT2; in this state the trim changes in **ANY** Flight Mode including Normal will only affect the Flight Mode that is active when you make the changes.

Once activated, the A-DTM function is transparent to the pilot. Simply activate a Flight Mode (for instance, "Normal") and trim the aircraft for stable hover. Then switch to another Flight Mode - and re-position the trim levers as desired. **NOTE** - when you change Flight Modes, the servos affected by the A-DTM function will return to the original neutral positions regardless of the trim lever position at that time.

Any trim adjustments made in one Flight Mode will **ONLY** affect that Flight Mode and not the others.

If desired, you can manually re-center the trim sliders after turning the transmitter off. **NONE** of the flight modes will be affected by this; when you turn the transmitter back on the trims will remain where they were for each Flight Mode.

AUTOMATIC OFFSETS

(A-OFST)

Automatic Offset is an advanced function that can be used in conjunction with the Flight Mode* options. When activated, Automatic Offsets allows you to assign flight control surface offsets while in any flight mode WITHOUT affecting any other flight mode.

Flight Modes are used to allow activation of Automatic Dynamic Trim Memory and/or Automatic Offset functions. A switch position can be assigned within the SW settings for up to Five flight modes, as follows:

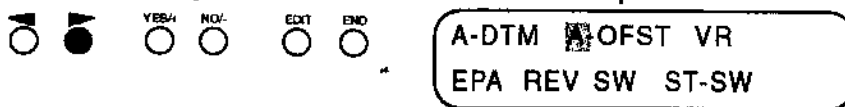
- Normal
- Flight Mode #1
- Flight Mode #2
- Flight Mode #3
- Flight Mode #4 (Throttle Hold)

You will also need to assign a switch position to activate the A-OFST function.

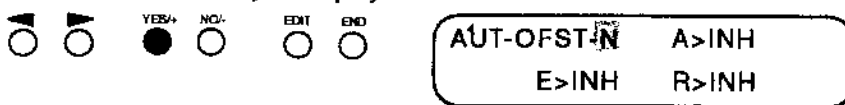
To activate Automatic Offsets, press the EDIT key to display the following menu:



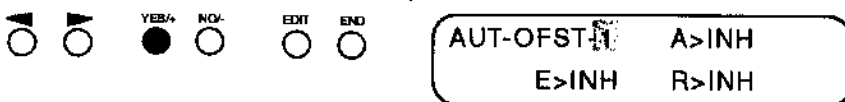
Press the > key to move the cursor to the A-OFST position.



Press the YES/+ key to display the A-OFST screen:



The cursor is over the Flight Mode indicator. EACH Flight Mode has options for activating Auto-Offsets for each flight control. Press the YES/+ key to change the display to the Flight Mode #1 options.



The next cursor position, presently reading "A>INH" to show that the A-OFST function is inhibited for Aileron in this Flight Mode. To enable A-OFST for Aileron in Flight Mode #1, press the YES/+ key.



The display will now read "ACT," as shown above. NOTE THAT YOU MUST ACTIVATE EACH CONTROL - IN EACH FLIGHT MODE - that you wish to enable for A-OFST. At this point we have enabled the A-OFST functions for Aileron only, and only in the present flight mode. To activate A-OFST for Aileron in any of the other flight modes, move the cursor back to the first position and use the YES/+ or NO/- keys to change Flight Modes. Then activate the desired options for those Flight Modes.

Automatic OFFSETS ...

Once activated in the A-OFFST menus, the A-OFFST function is ready to use. Activate a Flight Mode (for instance, #1). While the aircraft is in flight, hold the control sticks to achieve the desired aircraft attitude. With the sticks held in this position, activate the A-OFFST switch. The system will memorize and store the stick position WHEN YOU ACTIVATE the A-OFFST switch, and the menu for that function will display the value stored for that flight mode. A "beep" will sound when the sticks are released.

For instance, the below menu example shows that - for this flight mode - there is an offset of 10% stored for the Aileron control.

AUT-OFFST-1 A > 10%
E > INH R > INH

To RESET an offset amount, move the cursor to the value position for that offset and press both the YES/+ and NO/- keys at the same time. Remember, this will only clear the value for one function in one flight mode - to reset the function for any other flight modes select that flight mode switch position and repeat the above process.



AUT-OFFST-1 A > 0%
E > INH R > INH

NOTE - when you change Flight Modes, the servos affected by the A-OFFST function will return to the original positions. To store offset(s) amounts for a different flight mode, activate that Flight Mode, hold the control sticks as desired and again activate the A-OFFST switch.

Any OFFST adjustments made in one Flight Mode will ONLY affect that Flight Mode and not the others.

IMPORTANT - The Auto Offset function causes the assigned control surfaces to move by the amount you set, in the direction you set, WHENEVER you activate that Flight Mode. This occurs REGARDLESS of the position your control sticks are in at that time. You can think of the A-OFFST function as moving the center, or neutral, point, of the servo.

This function can be used along with the A-DTM function or as a stand-alone function. The amount of offset available is 100% of stick throw in either direction.

CAUTION: Since the A-OFFST function can affect the entire amount of surface throw, you should always be aware of any offset amounts you have programmed!

VARIABLE RESISTOR TRIMMER ASSIGNMENTS

(VR)

Stylus with the extended feature set card installed allows the pilot to select the Variable Resistor Trimmer assignments for the High Pitch and Low Pitch and Aux 1 and Aux 2 functions. This lets you select the switch type and position that best suits your needs and preferences. You can CHANGE the VR assignments for each Flight Mode.

To use the Variable Resistor Trimmer assignments, press the Edit key to display the following menu:



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



Press the YES/+ key to display the first VR screen:



The first line displays the present Flight Mode. (VR-N, circled above, indicating that Flight Mode "Normal" is presently active.) EACH Flight Mode can have its own VR assignments.

To change to any other Flight Mode, activate the switch setting that you have programmed for that Flight Mode. The menu will change to indicate the present Flight Mode and the VR settings will show the present VR selections for the present Flight Mode.

The first cursor position in the VR screens is "ID-UP." This allows you to select one of the four VR trimmers to act as a trimmer for the throttle at low stick positions. (The regular trim slider will still operate normally). This trimmer will NOT affect throttle positions above approximately 10%.

The bottom line of the menu has options for "HP" and "LP," or High Pitch and Low Pitch trimmers, respectively.

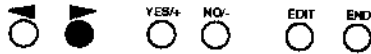
In the default settings HP is assigned to #11 and LP to #12 for ALL Flight Modes. If you do not wish for these trimmers to be active in any Flight Mode, select that Flight Mode by activating its switch position and change the HP and or LP assignments to read "0," using the > keys to select the function and the YES/+ or NO/- keys to change the assignment.

(VR Options are described and illustrated on the following page)

The arrow at the end of this screen indicates more options, press the > key to move to the next screen.

VARIABLE RESISTOR TRIMMER ASSIGNMENTS

(VR)



These menu positions allow you to assign VR trimmers to operate Auxiliary 1 (output channel 7) or Auxiliary 2 (output channel 8) with your choice of VR trimmers.

Note that it is possible to have the High and Low Pitch trim functions AND the auxiliary channels operate from the same trimmers.

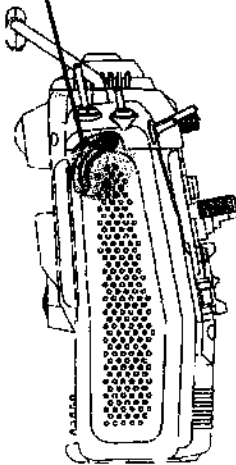
Also, remember that the Aux1 and Aux 2 trimmer assignments, as with the pitch trim assignments, are made for EACH INDIVIDUAL Flight Mode. So, you could have (for example) an Aux1 trimmer that operates only in one flight mode and an Aux 2 trimmer that is active in all Flight Modes.

The available variable rate trimmer switch assignments and their locations are:

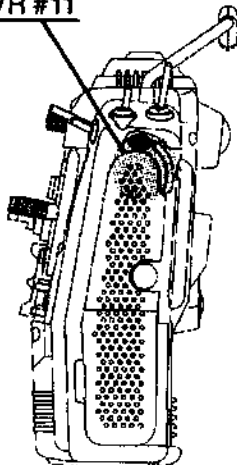
- 0 Off
- 9 Right Rotary Trimmer
- 10 Left Rotary Trimmer
- 11 Right Side Slider
- 12 Left Side Slider

Note that you will also need to use the AX1, AX2, and SW settings screens to adjust control response and to activate the functions.

VR #12

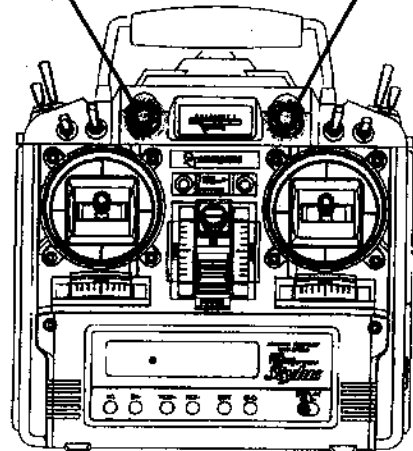


VR #11



VR #10

VR #9



EPA END POINT ADJUSTMENT

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

There is no EPA screen for channels 5, the GYRO sensitivity channel. This function has a separate dedicated menu that allows for adjustments.

Note that for the Collective and Throttle channels you can not exceed the total output defined in the EPA screens while setting the Hi and Low points in the pitch curve and throttle curve screens.

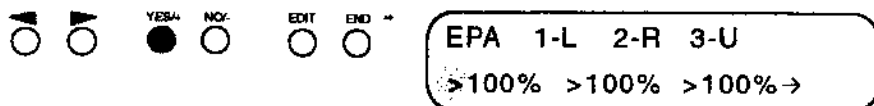
In general, it is best to use as close to 100 percent servo throw as possible. This allows for the best possible resolution and centering of all control surfaces. However, in some cases it is not possible to use full servo movement — such as those instances where short control horns must be used because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

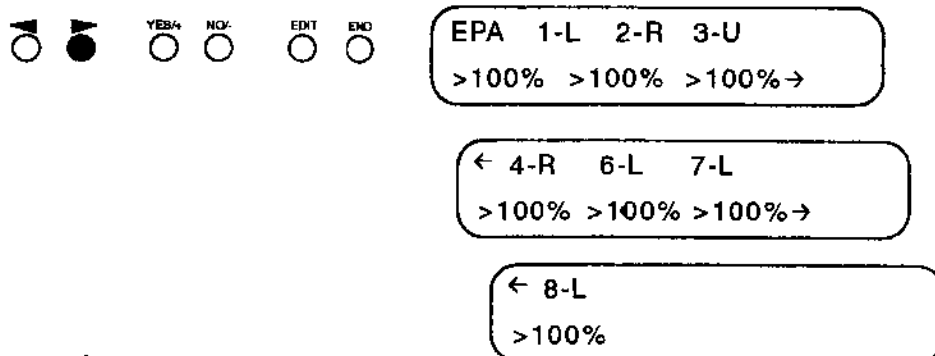
To electronically adjust End Points for servo travel, press the EDIT key to arrive at the following screen:



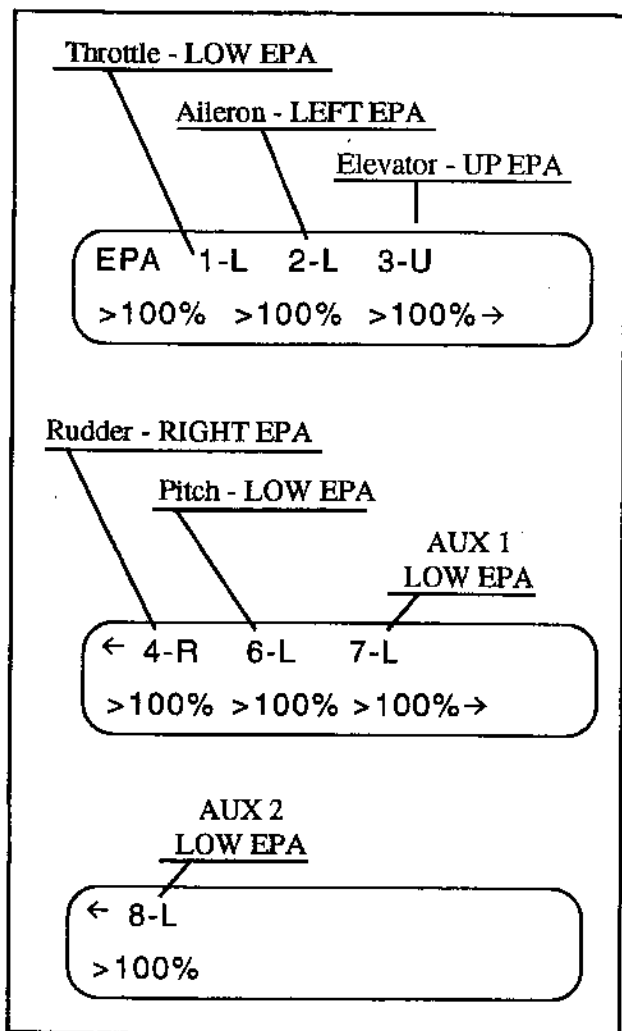
Now press the YES/+ key to see the first EPA screen.



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.



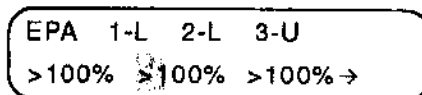
How To Use The EPA Screens



In the EPA screens, the top row shows the seven channels for which EPA adjustments are available AND the current End Point (High, Low, Right or Left) for which the adjustments can be made. The bottom row of data is the present setting for the currently displayed End Point.

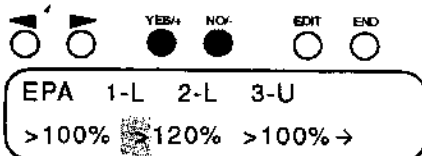
The order of functions displayed in the EPA menus is: Throttle, Aileron, Elevator, Rudder, Collective, Aux 1 and Aux 2 (from left to right in the EPA screens).

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

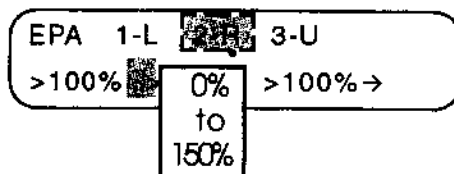
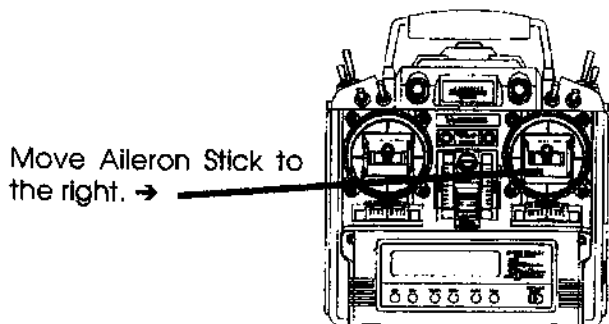


In this example, we have selected the EPA setting for the second function, Aileron. On the top row, the present display shows "2-L," which means you can now make changes in the LEFT travel limit for the Aileron servo.

Pressing the YES/+ or NO/- 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%.



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:



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 or switch in the direction of the desired End Point adjustment for any of the other channels.

REV Servo Reversing

Stylus 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.

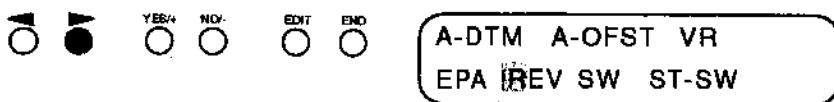
After installing your linkages, check to see if any of the controls move in the wrong direction when you move the transmitter controls. If so, proceed as follows.

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

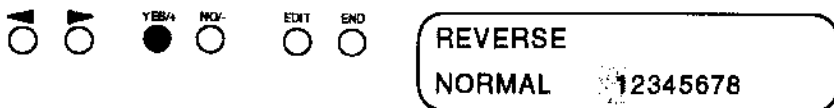
Stylus allows you to electronically REVERSE the direction of rotation for each of the servos in use.



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

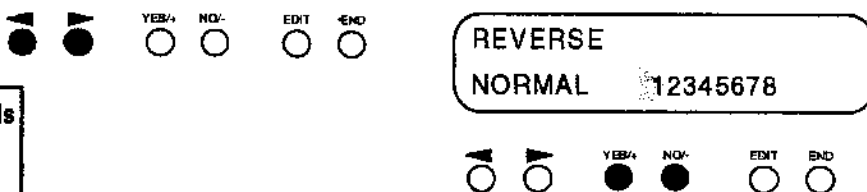


Now press the YES/+ key to see the REV screen.



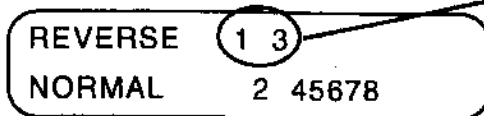
The default positions shown have all channels operating in the NORMAL direction, so all channel numbers are in the lower row as shown above.

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/+ or NO/- key to change that channel to the REVERSE direction.



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

Position	Reverses This
1	Throttle
2	Aileron
3	Elevator
4	Rudder
5	Gyro
6	Collective
7	Auxiliary 1
8	Auxiliary 2



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

NOTE: The reversing positions correspond to the receiver channel output assignments for any function. The specific control that will be reversed for a given REV menu position may depend on what options you have activated.

SWITCH ASSIGNMENTS

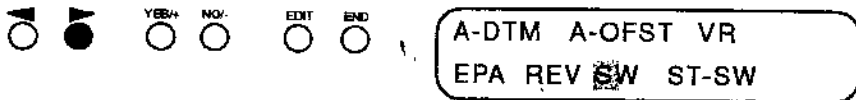
A very useful feature of Stylus is the ability to assign functions to switches however you prefer, rather than forcing you to adapt to one particular switch layout. With the HELI card installed, you can also assign logical operators to further customize the SW functions.

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

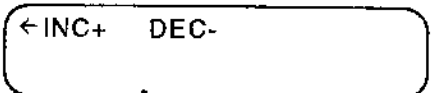
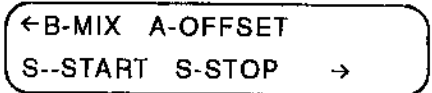
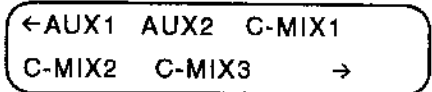
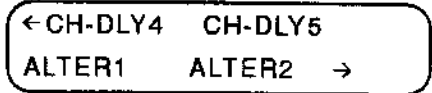
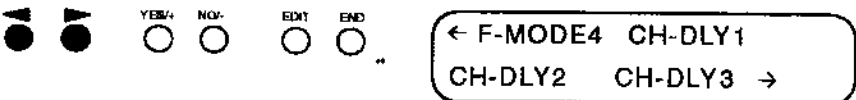
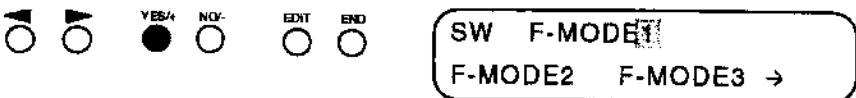


Press the > key to place the cursor over the SW position.

At each cursor location (designated by ">") you can change the switch assignment number that follows to any switch number from 1 to 19, or '0' for inhibit, or 'On' to turn the function on at all times, or to SS1 through SS6 for stick-switches.



Now press the YES/+ key to see the first SW screen. There are a total of SIX 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.



At each cursor location (designated by ">") you can change the switch assignment number that follows to any switch number from 1 to 19, or '0' for inhibit, or 'On' to turn the function on at all times, or to SS1 through SS6 for stick-switches.

Note that more than one function may be assigned to a single switch.

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!!

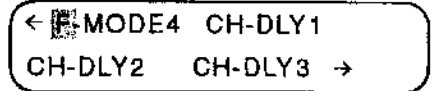
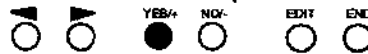
(Continued on next page)

Switch Assignment Chart (Default Settings)

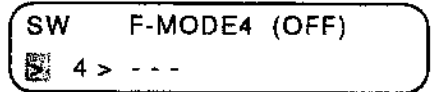
Write Your SW Choice In Below Lines:

SCREEN ONE Default	_____ Set
F-MODE 1	18 _____
F-MODE 2	19 _____
F-MODE 3	0 _____
SCREEN TWO	
F-MODE 4	4 _____
CH-DLY 1	0 _____
CH-DLY 2	0 _____
CH-DLY 3	0 _____
SCREEN THREE	
CH-DLY 4	0 _____
CH-DLY 5	0 _____
ALTER 1	0 _____
ALTER 2	0 _____
SCREEN FOUR	
AUX 1	1 _____
AUX 2	0 _____
C-Mix 1	0 _____
C-Mix 2	0 _____
C-Mix 3	0 _____
SCREEN FIVE	
B-MIX	0 _____
Auto-Offset	0 _____
Start	15 _____
Stop	15 _____
SCREEN SIX	
INC/+	0 _____
DEC/-	0 _____

To assign or change a SW assignment, move the cursor to the function and press the YES/+ key.



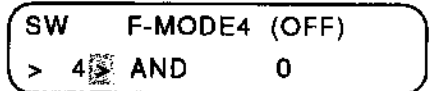
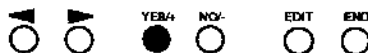
The SW assignment menu for that function will appear.



The top line shows that we are in the SW menus and that the current function is for F-MODE 4, which is presently OFF. (If you move the switch to the #4 position, the display will change to "ON.")

You can use the YES/+ or NO/- keys to change the SW assignment in the first position on the bottom menu line, which is the present SW setting to activate this function.

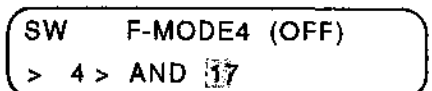
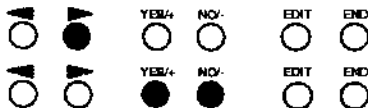
If you move the cursor to the second position and press the YES/+ key, you can choose from the logical operators that are available. (See below)



The Logical Operators available and their function are :

- | Operator | Description |
|----------------|--|
| AND | Use to make a switch active only when it AND another switch condition are active. |
| OR | Use to activate a function with one switch position OR another switch position. |
| SW# | Allows second and third switch to turn function ON. The second and third switch become secondary switches that act identical to the first. Any of the 3 switches ALONE will turn the function ON, but ALL 3 switches must be set to the "off" position to turn the function OFF. |

Now move the cursor to the third position and define the optional or supporting switch assignment using the YES/+ or NO/- keys.



Here we have made it possible to activate Throttle Hold (Flight Mode 4) ONLY when both Switch #4 and Switch #17 are selected. This arrangement, with the other switch assignments left in their defaults, would prevent you from accidentally selecting Flight Mode 4 while in either Flight Mode 1 or Flight Mode 2. (Unless you have assigned a switch to activate Flight Mode 3, in which case you could activate throttle hold while in that Flight Mode.)

STICK SWITCHES (ST-SW)

Stylus with the extended feature set card installed offers, in addition to the regular switches, the option of having a control stick position act as a switch. Any position on the Elevator, Aileron, Rudder or Throttle stick can be programmed as a Stick Switch point. This ST-SW can be used as the sole activation switch for a function (for instance, 90% aileron stick throw could activate a higher dual rate setting), or as a secondary switch. In either case, the ST-SW allows you to concentrate on flying rather than flipping a switch during times of high pilot work load.

To use the ST-Switch function, press the Edit key to display the following screen:

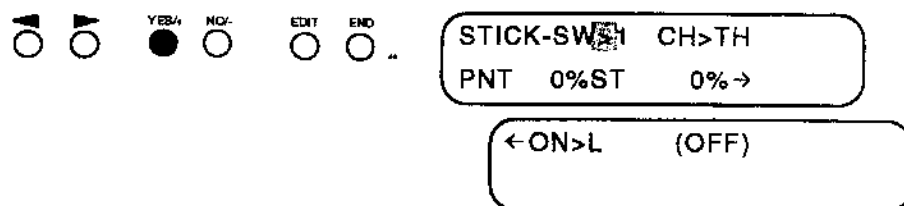


The ST-SW function allows you to concentrate on flying rather than flipping a switch during times of high pilot work load.

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



Now press the YES/+ key to see the first ST-SW screen. (There are two ST-SW screens as seen below. To move from one screen to another press the > or < keys to move the cursor past the arrow positions.



Explanation of Stick Switch Display

This position shows which of the six ST-Switches is presently selected. Use the YES/+ or NO/- keys to select ST-SW #1 through #6.

This position shows where the ST-SW activation point occurs as a percentage of stick travel. Move the control stick to the desired ST-SW position and press the YES/+ key to set this point.

Use the YES/+ or NO/- keys to select whether the switch is on with one stick direction or the other; i.e. here the display shows the switch will be ON when the TH stick is moved BELOW the PNT position.

This position shows which of the control sticks is being assigned a ST-SW position. Use the YES/+ or NO/- keys to choose from AI, EL, TH, or Rudder stick.

This display position shows where, in terms of percentage of travel, the selected control stick is PRESENTLY set. As you move the control stick this menu will change.

This position displays the present status of this ST-SW function; in this case, the ST-SW is off.

STICK-SW ...

As described in the preceding box "Explanation of Stick Switch Display," select which ST-SW (1 through 6) you wish to program. Move the cursor to the second position and select which control stick you want to have activate the ST-SW. (In this example we'll use ST-SW #1 and the TH, or throttle, stick.)

Now move the cursor to the PNT position:



This position allows you to define at which POINT in stick travel the ST-SW will be activated. Move the stick (in this example we've selected the throttle stick) to the desired position. Press the YES/+ key.



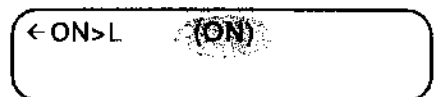
The PNT display will register the stick position as the POINT for this stick switch; in this case we've set the Point at 30% of throttle stick travel.

Press the > key to move to the next screen.



The first cursor position determines on which SIDE of the point the switch will be ON. It presently reads "L," meaning a stick position below the point will turn the switch ON. If you press the YES/+ or NO/- key you can change this to "H," meaning a stick position above the point will turn the switch ON. (For the other sticks the options are UP or DOWN, and LEFT or RIGHT)

If you move the throttle stick below 30%, the last menu reading will change to "ON". This position shows the current status of this ST-SW.



NOTE: So far all we have done is to assign a stick position - in this case any throttle stick position below 30% - to act as a switch, ST-SW#1. At present the switch has not been assigned to activate any actual function.

To use this stick switch, you must return to the SW menus and assign SS1 (Stick Switch #1). The Stick Switches can be either primary or secondary switches.

GYRO

Stylus with HELI card installed offers a very flexible arrangement for gyro sensitivity selection. Each Flight Mode has its own setting for gyro sensitivity, all accessed from the Gyro menu. So, you can set the sensitivity of your gyro (if you are using a gyro with adjustable sensitivity or "gain") to suit the type of flight you intend to do in each Flight Mode.

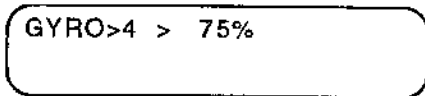
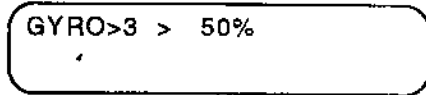
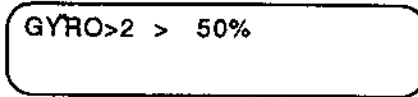
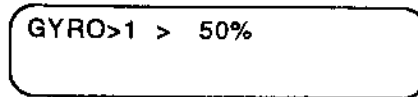
To access the Gyro settings, press the Edit key to display the following screen:



The cursor is over the GYRO position; press the YES/+ key to display the GYRO screen:



The first cursor position is for selecting and displaying the Flight Mode for which this Gyro setting will be programmed. Press the YES/+ or NO/- keys to scroll through the settings for all Flight Modes. (Defaults shown).



After selecting the Flight Mode for which you wish to make a Gyro gain adjustment, move the cursor to the next position and adjust using the YES/+ or NO/- keys.



This setting can either adjust gyro gain proportionally or can be used to switch between rates on a dual-rate gyro. Consult the instructions that came with your gyro to determine what its capabilities are.

DELAY

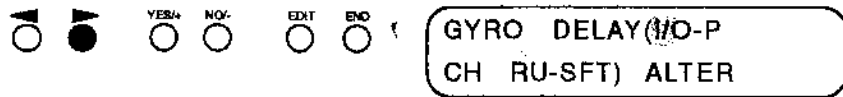
I/O Pitch CH RU-SFT

Stylus with HELI card installed has a powerful set of DELAY options that can be used to slow servo response in certain situations. The first of these types is the DELAY: I/O-P, which allows you to adjust the speed at which the collective servo moves when changing Flight Modes. This can reduce sudden torque changes and stress on the drive system.

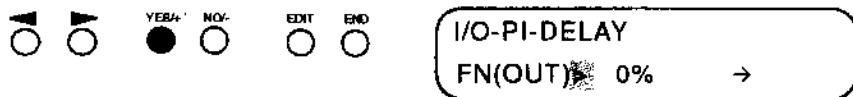
Press the EDIT key to display the following screen:



Press the > key to move the cursor to the I/O-P position.



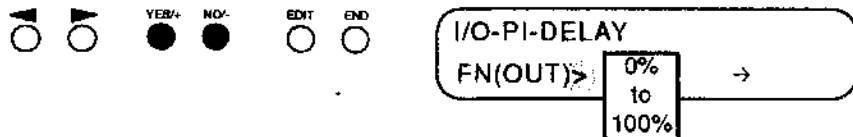
Press the YES/+ key to display the DELAY: I/O-P screen.



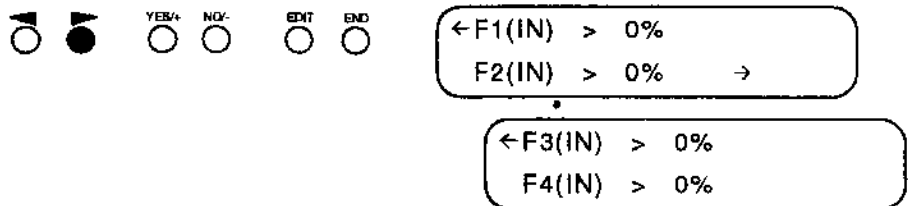
The first screen allows you to program a delay for the collective servo as it moves OUT of Normal Flight Mode into any other Flight Mode.

Note that the term "delay" does NOT mean that the action will not start to occur immediately when you change a Flight Mode; rather, the speed of servo movement will be slowed from its normal speed. The higher the amount of delay you program, the longer it will take for the servo to finish moving the prescribed amount. The amount of delay is from 0% (no delay) to 100% (about 10 seconds).

Set the FN(OUT) delay using the YES/+ and NO/- keys.



Press the > key continuously to scroll through the remaining screens:



These screens allow you to set a delay for collective servo movement whenever you switch INTO Flight Mode 1, 2, 3 or 4 - REGARDLESS of which Flight Mode you were in prior to switching. Move the cursor to the delay setting for the desired Flight Mode and adjust the amount of delay with the YES/+ or NO/- keys.

Note that when switching from Normal Flight Mode to another Mode, any delays set for "Normal Out" will ADD to "IN" delays set for the Mode switched to.

DELAY

I/O Pitch CH RU-SFT

Stylus with HELI card installed offers an extremely versatile group of options for assigning delays to various servo operations. These "delay" options allow you to extend the amount of time taken for the servo to move to its new location and/or return to it's former location. Note that the delay does NOT affect when the servo STARTS to respond to stick or switch movement, nor does it affect the total travel of the servo.

There are several obvious uses for channel delays, for instance slowing landing gear retraction and extension for a more realistic look, or slowing the shift from one gyro gain setting to another if you are using a piezo gyro.

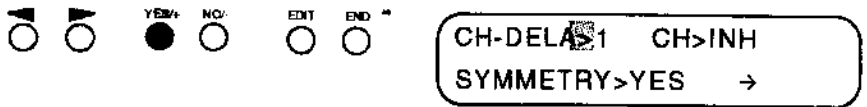
To use the Channel Delay options, press the Edit key to arrive at the following screen:



Press the > key to move the cursor to the CH-DELAY position:



Press the YES/+ key to display the first CH-DELAY screen:



Note that before you can use a CH-DELAY function you must first assign a switch for that delay from within the SW menus, or set the delay to be always on.

Channels that can be assigned a CH-DELAY are:

- TH Throttle
- AI Aileron
- EL Elevator
- RU Rudder
- PI Collective Pitch
- GY Gyro
- AX1 Auxiliary 1
- AX2 Auxiliary 2

Note that before you can use a CH-DELAY function you must first assign a switch for that delay from within the SW menus, or set the delay to be always on.

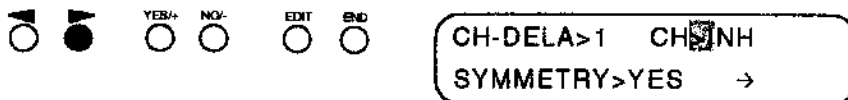
The first cursor position in the CH-DELAY menu is the indicator for which of the five CH-DELAY is presently displayed. In the sample menus it is set to "1" for channel delay #1.

Use the YES/+ or NO/- keys to scroll between the five available CH-DELAYS. For this example let's leave it on CH-DELAY 1.

DELAY

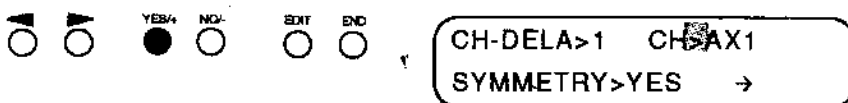
I/O Pitch
CH
RU-SFT

Press the > key to move the cursor to the CH position:



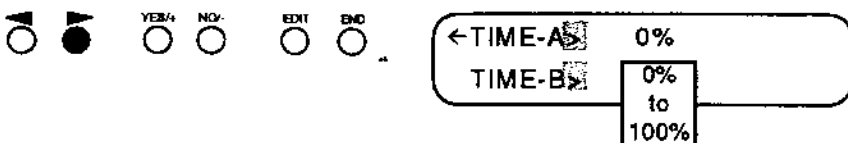
The CH position is where you assign which function you wish to use this CH-DELAY for. Use the YES/+ or NO/- keys to move through the functions for which delays are available, as listed on the previous page.

Press the YES/+ key to change the CH assignment to AX1 (for Gear:)



Now the programming we set for this CH-DELAY will affect the AX1, or retract, function. (Normally you will assign the delay be always ON for this type of function, but if you have assigned a switch setting for this delay, make sure it is turned on.)

The remaining three cursor positions must be used together to get the type and amount of delay desired. The SYMMETRY position can be set to YES or NO, by pressing the YES/+ or NO/- key. What this means is explained below. (Press the > key to scroll to the second CH-DELAY screen as shown below):



The Time-A and Time-B cursor positions can be set from 0% (no delay) to 100% (approximately 10 seconds delay) as desired, using the YES/+ and NO/- keys. The way these setting affect servo movement depends on the choice for SYMMETRY, either YES or NO, in the prior screen.

IF SYMMETRY IS SET TO YES, then:

Time-A Controls the speed of servo operation when the servo is moving **AWAY FROM** the servo CENTER (stick neutral) towards either end-point position.

Time-B Controls the speed of servo operation when the servo is moving **TOWARDS** the servo CENTER position from any position other than center.

IF SYMMETRY IS SET TO NO, then:

Time-A Controls the speed of servo operation when the servo is moving in **ONE** direction, without affecting travel in the other direction (regardless of whether the servo is moving from or towards center).

Time-B Controls the speed of servo operation when the servo is moving in **THE OPPOSITE** direction, without affecting travel in the other direction (regardless of whether the servo is moving from or towards center).

With little effort, you can adjust any control to have the amount and type of delay that best suits your tastes. Flip the AX1 switch to try your settings for this CH-DELAY program.

DELAY

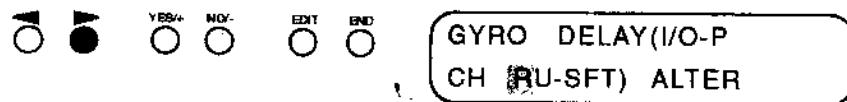
I/O Pitch CH RU-SFT

The third type of delay available with the HELI card installed is the RU-SFT; This allows you to adjust the speed at which the rudder servo moves when changing Flight Modes. (In response to Offsets, Mixer, or Trim differences)

Press the EDIT key to display the following screen:



Press the > key to move the cursor to the RU-SFT position.

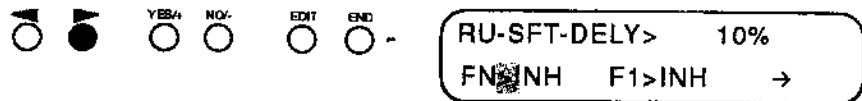


Press the YES/+ key to display the DELAY:I/O-P screen.



The first cursor position (shaded above) is where you set the amount of delay for the RU-SFT option. The range available is from 0-100%, or from no delay to approximately 10 seconds total delay. For now use the YES/+ key to set the delay to 10%

Press the > key to move to the FN>INH position.



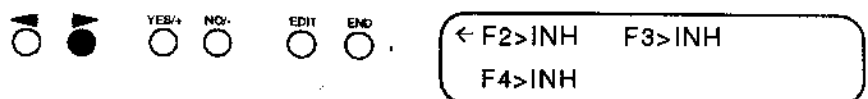
The remaining positions allow you to select which Flight Modes will be affected by the RU-SFT-DELY settings. The first position, "FN" selects whether the delay is active for the Normal Flight Mode. Press the YES/+ key to change the display to ACT, for Active.



If you have rudder offsets or trim differences between the Normal Flight Mode and other Flight Modes, you will note that when you move FROM Flight Mode Normal to another Flight Mode, the rudder servo moves to the new position at its normal speed. But when you switch BACK INTO Flight Mode Normal, the rudder servo takes about 1 second to move to it's neutral position.

The RU-SFT-DELY function applies the defined amount of delay to the rudder servo when moving INTO a flight mode for which the function has been set to ACT, or Active.

Press the > key to move to the F1 through F4 positions and activate the desired Flight Modes for this delay.



ALTERNATE

The ALTERNATE function is one of the more powerful functions of the Stylus. 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:

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

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 different pitch and throttle curves for flight controls, different rates and removal or addition of exponential characteristics on flight controls — all by flipping a single switch. The Alternate function can also be used for Switched Inverted if desired.

In order to use the ALTERNATE function, you must first assign it to a switch. (See Switch Assignments section). There are TWO ALTERNATE set-ups available when using the HELI card.

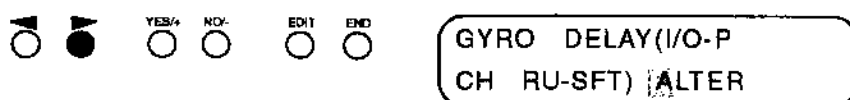
Next you need to have an ALTERNATE setup that is compatible to your standard setup. The recommended manner to achieve this is to start with a completely tested Model setup, then use the DATA COPY function to copy this setup to a new Model Setup that will be assigned as the Alternate setup.

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

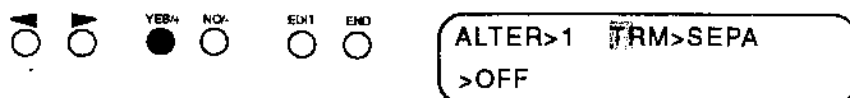
Press EDIT key until the following screen appears:



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



Press the YES/+ key to display the Alternate screen.



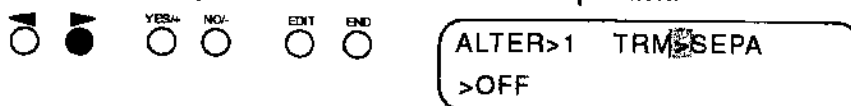
Make certain that you know which mode (normal or Alternate) you have selected at all times!

The first cursor position indicates which of the two Alternate Set-ups is presently selected for programming. Use the YES/+ or NO/- keys to change from Alternate #1 to Alternate #2. NOTE that you must have a switch assigned to activate either of these Alternate Set-ups, from within the SW menus.

For now, leave Alternate Set-up number one selected.

Alternate ...

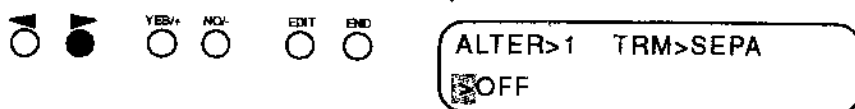
Press the > key to move the cursor to the next position:



This position allows you to select whether the trim functions will affect ONLY the present setup, (SEPA, for Separate Trims) or will affect any of the Primary and Alternate set-ups (COMB, for Combined). Use the YES/+ or NO/- keys to select your choice.

NOTE that the Trim function is selectable for each of the two Alternate Set-ups (ALTER>1 and ALTER>2) individually.

Press the > key to move to the next position.



The cursor location's display will read OFF, meaning that no Alternate Model is presently selected. By pressing the YES/+ or NO/- 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 B, named BARON30 -2, has been selected as the present Alternate 1 Model. (In actual use, the model designator of A,B,C, or D will always be displayed, but the characters after that will be whatever name you have assigned to the corresponding set-up. It is probably a good idea to name the Alternate set-up to help you recognize when you are working on the Alternate vs. the original set-up menus.)

You can now go back and change the first position to ALTER>2 to select a second Alternate set-up.

SPECIAL NOTES

To make changes to the setup that you have selected as your Alternate, first use the switch that you have assigned to activate that (Alternate) Model, then make any adjustments desired.

When using the HELI card, Stylus will warn you by sounding a tone if you turn the transmitter on while either of the Alternate Set-up is activated. To silence the warning tone, turn the Alternate Set-up switch to the off position.

REMINDER:

It is strongly recommended that you first set all of the parameters for your original set-up, including receiver channel assignments, centering, servo reversing, switch assignments, mixers and so on before attempting to assign an Alternate set-up. AFTER you have a suitable set-up programmed, then COPY that set-up into another position and use that copy as a starting point for your Alternate set-up. This will ensure that you start with a known compatible set-up for your Alternate set-up(s).

TRIM AUTHORITY

Stylus with HELI card installed allows you to adjust the amount of servo movement that will occur in response to movement of the primary control trim sliders and VR Trimmers. Trim Authority is independently selectable for each of the trimmers - Throttle, Aileron, Elevator, Rudder, HP, LP, HVP and HVT.

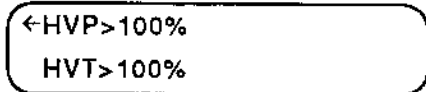
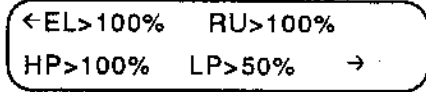
To adjust the Trim Authority settings, press the Edit key until the following menu is displayed:



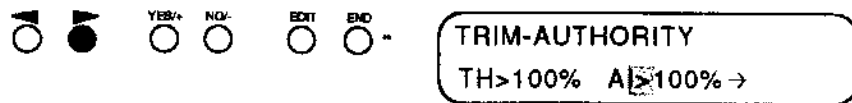
The cursor is over the TRIM-AUTH position. Press the YES/+ key:



(Press the > or < keys to move between the two Trim-Auth screens.)



Let's say we want to decrease the sensitivity of the Aileron trim. Press the > key to move the cursor to the AI position:



Now use the YES/+ or NO/- keys to change the Trim Authority setting. In this example set the Aileron Trim Authority to 50%. Now, moving the Aileron trim lever (in either direction) will cause half (50%) as much movement of the aileron servo(s).

The range available is from 0% (no trim lever response) to 100%.

Move the cursor to any other position for which you wish to change the trim authority and adjust as needed.

NOTES:

For initial flights it is best to leave the trim authority at 100% to allow for maximum ability to trim your aircraft. Be cautious in selecting very low Trim Authority settings. You are better off with slightly more trim than needed than to find you don't have enough! Set the trim authority for a fairly "soft" trim after test flights, usually around 50-70% is very comfortable.

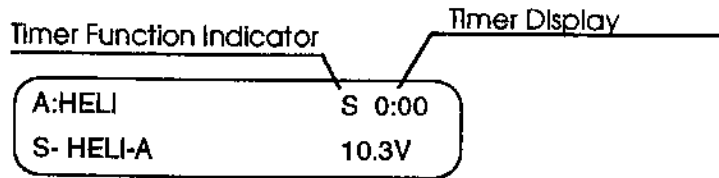
THROTTLE:

The trim lever for the throttle function is self-limiting at throttle stick settings above idle. Trim lever movements at full LOW throttle are adjusted with the Trim-Authority settings. At full HIGH throttle, the trim is not active; between low and high throttle stick settings the trim lever's effect is progressively reduced. (This is done so that you don't have to worry about limiting top end power or binding of the throttle linkage at full power regardless of trim lever settings).

STOPWATCH FUNCTION

Stylus 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 models, as below:



The Timer Function Indicator will read either "S," indicating the Stopwatch/Timer function, or "I," indicating Integral Timer function. The Timer Display reads the time for whichever function is presently selected as shown by the Timer Function Indicator.

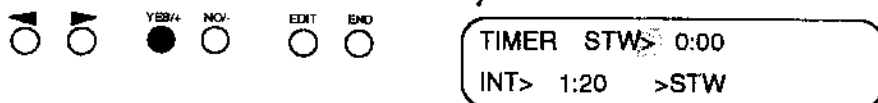
To use the timer or stopwatch functions, press EDIT to arrive at the following screen:



Press the > key to move the cursor to TIMER.



Press the YES/+ 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/+ 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 1 minute, 30 seconds as shown:



(Continued on next Page)

Stopwatch Function...

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

A:HELI	S 1:30
BARON 30	10.3V

Note that the Stopwatch display in the initial screen shows the 1:30 setting you just set.

Now activate the stopwatch function by pressing the assigned switch. (If no switch is presently assigned, see the SWITCH ASSIGNMENTS section.)

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.

A:HELI	S :10
BARON 30	10.3V

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.

If no switch is assigned, you can start and stop the countdown timer by pressing the YES/+ key while in the initial screen. You can reset the countdown timer to the original time by pressing the YES/+ and NO/- keys simultaneously.

INTEGRAL TIMER

The Integral Timer function of Stylus is activated each time the transmitter power switch is turned on, and continues to time up to 99 hours and 59 minutes at all times when the transmitter is turned on. This timer will give an excellent indication of how many hours of actual use your Stylus 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.

To change the Initial Screen timer display to show the Integral Timer, access the Timer Function:

◀ ○ ▶ ○ YES+ ● NO- ○ EDIT ○ END ○

TRIM-AUTH	TIMER
D-COPY	D-RESET

Now move the cursor to the last position and press the YES/+ key. The display will change from STW to INT.

◀ ○ ▶ ○ YES+ ● NO- ○ EDIT ○ END ○

TIMER	STW>	8:30
INT>	1:20	INT

A:HELI	1:20
BARON 30	10.3V

Integral Timer display in the Initial Screen indicates 1 hour and 20 minutes of elapsed time.

To reset the Integral Timer, return to the TIMER menu and position the cursor over the INT> button :

◀ ○ ▶ ● YES+ ○ NO- ○ EDIT ○ END ○

TIMER	STW>	8:30
INT	1:20	>INT

Now press both the YES/+ and NO/- keys simultaneously to reset the timer to zero.

◀ ○ ▶ ○ YES+ ● NO- ● EDIT ○ END ○

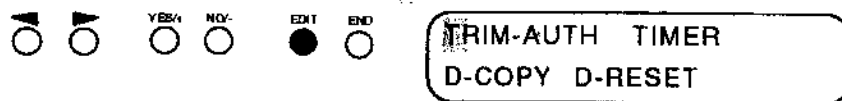
TIMER	STW>	8:30
INT>	0:00	>INT

DATA COPY

A valuable feature of the Stylus 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).

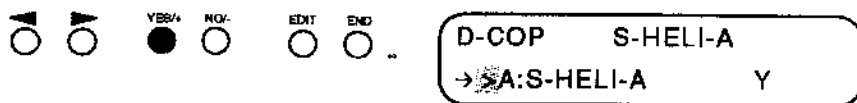
To use the Data Copy function, press the Edit key to reach this screen:



Press the > key to move the cursor to the D-COPY position:



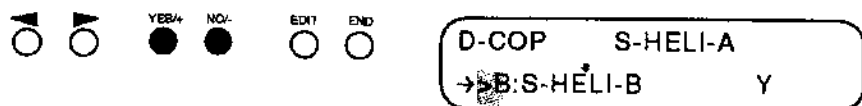
Press the YES/+ key to see the D-COPY screen.



The top line of the screen shows the PRESENTLY LOADED model; in this case "S-HELI-A" 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 S-HELI-A, which is the same as the source model. Pressing the YES/+ or NO/- keys allow you to set the DESTINATION for the data being copied.

You can select ANY of the three other available setups for a destination, regardless of the model type presently set for that setup.



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

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 S-HELI-A set-up into S-HELI-B, all data that was in S-HELI-B is REPLACED with the S-HELI-A data!

(Continued on next Page)

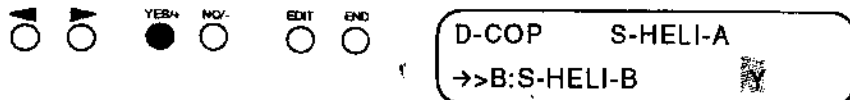
Data Copy ...

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

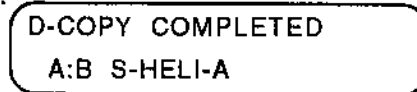
Press the > key to place the cursor over the >Y position as shown.



Press the YES/+ 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 A and Model B now have the same data (in this case, HELI-A).



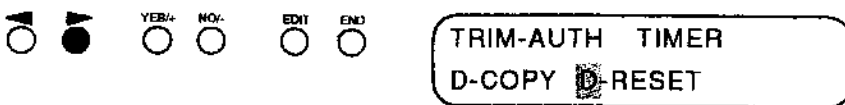
DATA RESET

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/+ key to display the D-RESET screen:



NOTE!

Using the Data Reset function will cause the Stylus to reset the switch assignments. It does NOT reset them to default positions!

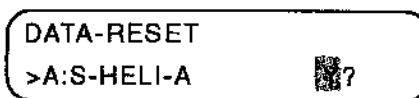
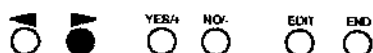
Always check switch assignments whenever loading a new model, changing model type or after using the Data Reset function.

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

The bottom line shows the name of the setup denoted by the selected Model No. (In this case S-HELI-A).

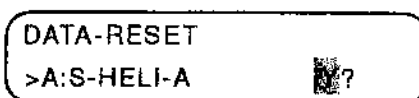
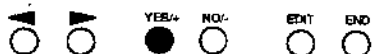
When you are certain that the selected Model setup is the one you wish to reset, press the > key to position the cursor over the >YES position.

Data Reset ...



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

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



Note that the bottom line now displays S-HELI-A — the default name for this Model setup. (This will replace any name you had assigned to this setup.) The data has now been reset to factory default settings.

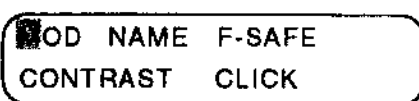
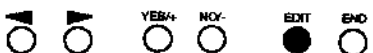
ALL OTHER Models in memory are unaffected by the DATA-RESET function, only the selected Model setup is affected.

MODULATION

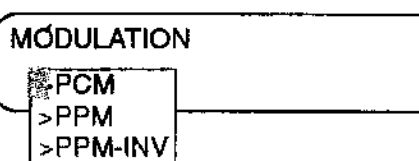
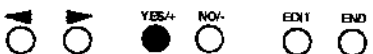
PCM
PPM
PPM-INV

Stylus allows you to transmit three different types of signal; PCM, PPM (FM) or PPM-INV (FM).

To set the desired type of Modulation, press the EDIT key until you reach this screen:



Press the YES/+ key, and this screen will appear:



PCM modulation can only be used if you are using a Stylus PCM receiver, Part Number 92185

This screen allows you to select PPM/FM operation or PCM/FM operation. You can also set PPM/FM Inverted operation for use with other brands of PPM/FM receivers that require this mode.

Press the YES/+ or NO/- key to change the currently displayed choice. *PCM modulation can only be used in conjunction with a P/N 92185 PCM receiver!*

NOTE: Your receiver will only respond to one of the three available modulation types! Be sure that you set the transmitter to the appropriate modulation type for the receiver being used!

Note also that you **MUST** use the Stylus PCM receiver (P/N 92185) in order to take advantage of the Failsafe function.

NAMING THE PRESENT HELICOPTER

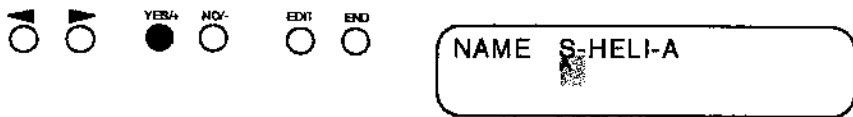
When you have set the proper modulation, press the END key to return to the prior screen. Press the > key to place the cursor over the NAME position.



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



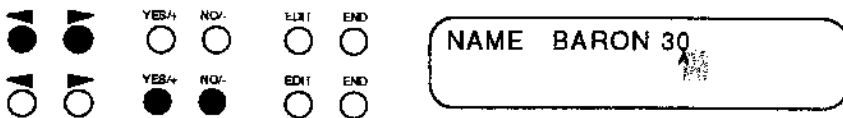
With cursor positioned over NAME, press the YES/+ key to reach this screen:



Press both the YES/+ and NO/- keys at the same time to RESET 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/+ or NO/- 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.

Keep in mind that the name you chose can help in keeping multiple aircraft or multiple set-ups for one aircraft organized.

For example, if you had an Alternate Set-up programmed for the helicopter above you might name it "BaronAlt1" or "BaronAlt2".

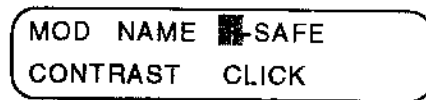
If you use different frequencies on your aircraft and switch transmitter modules to match the receivers, you may wish to append the channel number to the name for each plane, i.e. "Baron-24," "HUEY56" and so on.

FAIL SAFE

Press the EDIT key to bring up the menu below.



Press the > key to move the cursor to the F-SAFE position.

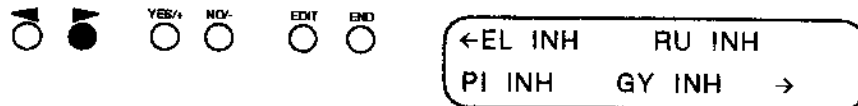


FAILSAFE is ONLY available when you are using a PCM receiver and transmitting in the PCM Modulation mode. If you are transmitting PPM FM you will not be able to enable the F-SAFE function.

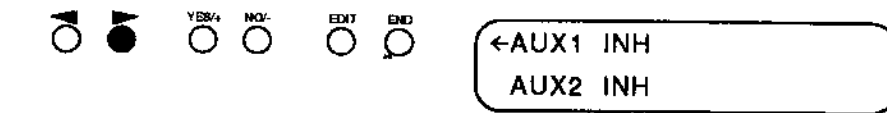
Press the YES/+ key to see this screen:



The arrow at the end of the second menu line indicates there are more screens for this function. Pressing the > Key will take you through all of the screens for the failsafe function, as follows:



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



The settings for the Fail-Safe menu positions can NOT be set by the +/- Keys. Instead, you program the desired Failsafe servo position for each by placing the control stick or switch in the desired position; for example, low throttle, slight up elevator, etc. Each control function is set individually. Start with the first Fail-Safe setting, TH (Throttle). The default setting is INH (inhibit). To assign a Fail-Safe position for the throttle servo, position the cursor as shown.



Now position the Throttle stick on the transmitter to the desired Fail-Safe position. Now press the YES/+ key to set the position in memory.

To turn off or inhibit one of the Fail-Safe setting, move the cursor to that menu position and press BOTH the YES/+ and NO/- keys at the same time.



To check your settings (after programming all of your failsafe positions) 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.

To turn off or inhibit one of the Fail-Safe setting, move the cursor to that menu position and press BOTH the YES/+ and NO/- keys at the same time.

CONTRAST

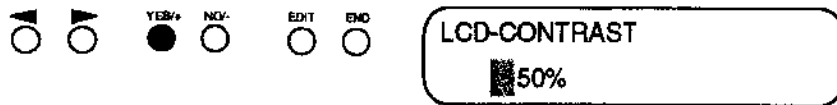
The CONTRAST of the Stylus Liquid Crystal Display can be adjusted for user preference. To adjust the contrast, press the EDIT key until you see the following screen:



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



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



The present, default setting for contrast is 100%. Maximum contrast setting is 100%; the contrast setting can be decreased to 0% by pressing the NO/- key. At the 0% setting you will barely see the menus - not a recommended setting! Pressing both the YES/+ and NO/- keys simultaneously will 'clear' the setting back to the default setting.

'CLICK' Transmitter Audio

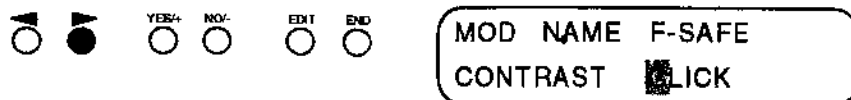
The Stylus normally is set to emit an audio tone whenever the programming cursor is moved, when screens are changed, when values are changed, for stick alarms and when the stopwatch function is started or stopped or reaches the final ten seconds of count-down.

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

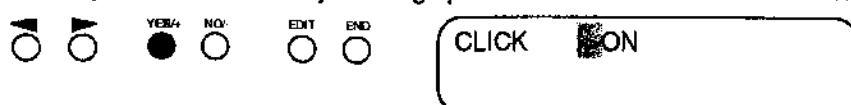
To set the 'Click' function, press the EDIT key until the following screen is displayed:



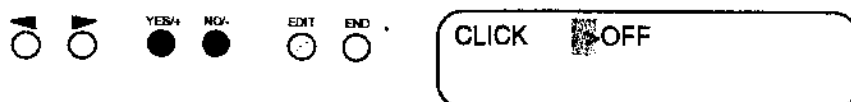
Press the > key until the cursor is over the CLICK function:



Now, press the YES/+ key to bring up the menu for the CLICK function:

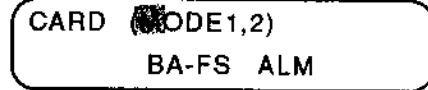


Press the YES/+ key or the NO/- key to change the present setting. The Click function is either set to be ON or OFF.



CARD

The CARD function is ONLY used with the 50-Model card, for storing or retrieving model set-ups to that card. This group of functions is completely described in the manual that comes with the 50-model card and is not repeated here.



(Mode1,2)

The (Mode1,2) menu allows you to make the necessary software changes to allow switching from Mode 2 to Mode 1 operation. This process is fully described in the Stylus Radio System Operating Manual

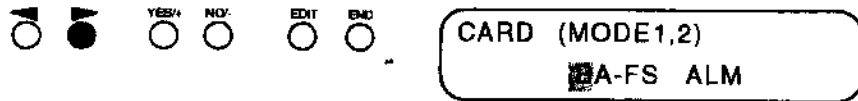
BATTERY FAIL SAFE (Receiver Pack)

Stylus offers a Fail Safe function to warn you of a low voltage condition in your receiver's battery pack. This function is only operable when using the PCM receiver (P/N 92185).

To activate the Battery Fail Safe function press the EDIT key until the following menu is displayed:



Press the > Key to move the cursor to the BA-F-SAFE position.



Press the YES/+ key to display the BA-F-SAFE menu.



There is only one cursor position in this menu. The default setting is INH, meaning that the Battery Fail Safe function is inhibited and will not function. To activate the Battery Fail Safe function press the YES/+ key.



IT IS RECOMMENDED THAT YOU LAND IMMEDIATELY if the receiver failsafe warns of low voltage conditions!

The display will change to "ACT," indicating that the BA-F-SAFE function is now Active. (Pressing either the YES/+ or NO/- key will toggle the function between the "INH" and "ACT" settings.)

When the BA-F-SAFE is set to "ACT," the PCM receiver will monitor the receiver pack voltage to warn you when it reaches the target level, approximately 4.7 volts. When the airborne battery hits this voltage, the throttle servo will move to a low throttle position for one second, 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!

ALARM Switch & Stick

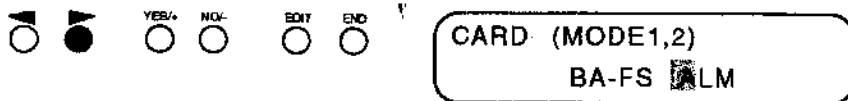
Stylus offers an "Alarm" function to warn you if you turn your transmitter on while an Idle Up or Alternate set-up switch is activated, and another to warn if you turn the transmitter on while the Throttle stick is in any position other than full-low throttle.

To activate the Alarm function press the EDIT key until the following menu is displayed:



The default, and generally recommended setting, is for both of these alarm functions to be "ACT," for Active.

Press the > Key to move the cursor to the ALM position.



Press the YES/+ key to display the ALARM menu.



There are two settings in the Alarm menu; the first cursor position is for the Switch Alarm function, which will warn you with a tone if you turn the transmitter on while an Alternate Set-up switch is on or if ANY Flight Mode other than the Normal Flight Mode is active,

The second cursor position is the Throttle Stick Alarm option. This alarm sounds a warning tone if you turn the transmitter on while the Throttle stick is in any position other than full-low throttle.

The default, and generally recommended setting, is for both of these alarm functions to be "ACT," for Active.

If you wish, you can turn off either of these functions by pressing the YES/+ or NO/- keys while the cursor is over the desired function.

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EXTENDED FEATURE CARD SUPPLEMENT

Thank you for purchasing Airtronics new Extended Feature card for helicopters. You will find that this card has the latest software programming available on the market today. In this manual we have listed all the features the 96812 Feature Card has as well as all the new Features of the 96813 Feature Card. Below is a list of features that have been changed from the 96812 Feature Card and a list showing all the added features in the 96813 feature card.

Changed Features

Main Screen Display
Throttle / Pitch Position Indicator
 On in all Screens
Gyro 1 and 2
9 C-Mix, 4 Normal Mixing and 5 Curve Mixing
Up and Down Timer, Integral Timer

Added Features

Swash Plate 9 Types
 Normal
 CP3F, B, R, L
 CP4F, B, A, X
Servo Limit
CP3- Delay
CP- Linear
CP- EPA
CP-SDelay

Please remember that this is a supplement manual and is to be used along with the **EXTENDED FEATURE SET-UP CARD FOR HELICOPTERS** manual. A list of all features and descriptions will be listed on page 2 of this manual.



Main and Primary Menu Screens

	Main Screen	<ol style="list-style-type: none"> 1. Primary Model (A, B, C, D) 2. Program Acro, Heli, Glid 3. S/I Stop Watch or Integral Clock 4. Timer 5. Alternate Model Selected 6. Model Name 7. Battery Voltage 8. Throttle / Pitch Position
	Screen 1	<ol style="list-style-type: none"> 1. Pitch Curve 2. Throttle Curve 3. Dual Rate 4. End Point Adjustment 5. Expo / Variable Trace Rate
	Screen 2	<ol style="list-style-type: none"> 1. Gyro 2. Revo Mixing 3. Trim Memory 4. AUX 1 High Pitch Trim 5. AUX 2 Low Pitch Trim
	Screen 3	<ol style="list-style-type: none"> 1. Trim Authority 2. Input Output Flight Mode Delay 3. Channel Delay 4. Rudder Shift
	Screen 4	<ol style="list-style-type: none"> 1. Compensation Mixers 2. Bi-Directional Mixers 3. Servo Centering 4. Servo Reverse 5. Stick Switch 6. Switch Programming
	Screen 5	<ol style="list-style-type: none"> 1. Throttle Hold 2. Alternate 3. Automatic Offsets 4. Aileron Offset 5. Elevator Offset 6. Rudder Offset 7. Timer
	Screen 6	<ol style="list-style-type: none"> 1. Hover Pitch 2. Hover Throttle 3. VR Trimmer 4. Automatic Dynamic Trim Memory 5. Screen Contrast
	Screen 7	<ol style="list-style-type: none"> 1. Swash Plate Type (Normal Screen) 2. CCPM Delay (On with Cp3 Active) 3. CCPM Liner Settings (On with CP3/CP4 Active) 4. CCPM Servo Delay (On with CP3/CP4 Active)
	Screen 8	<ol style="list-style-type: none"> 1. CCPM End Point Adjustment (CP3/CP4 Active) 2. Servo Limit 3. Fail Safe (PCM Mode Only) 4. Battery Fail Safe 5. Modulation
	Screen 9	<ol style="list-style-type: none"> 1. Model Copy 2. Model Reset 3. Click Sound 4. Throttle and Switch Alarm 5. Model Name
	Screen 10	<ol style="list-style-type: none"> 1. Memory Card Menu 2. Mode 1 or 2 3. Model Select A, B, C, D

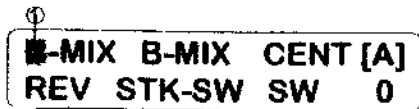
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Servo Limit.....	8
CP3-Delay.....	7
CP-Linear.....	7
CP-EPA.....	8
CP-SDelay.....	13
Receiver / Servo Layout.....	14

Compensation Mixers have the same function with the Heli card installed as in the basic Stylus program without the card. C-mix is to allow a program that causes a secondary channel (Slave) to respond along with the primary (Master) channel when the Master channel's stick or switch is moved.

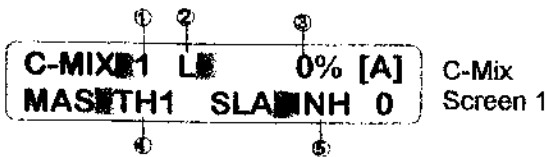
With the Heli card installed, you gain additional C-Mix functions (9 total) and each C-Mix has added capabilities. C-Mix 1~4 have normal mixing. C-Mix 5~9 utilize a multi-point mix curve. All 9 C-Mix's are programmable to any switch and flight modes.

To Active a C-Mix you must first assign it to a switch, see Heli Manual under SW (Switch) for proper Assignments. Remember if you need a C-Mix in a flight mode, Assign it to the same flight mode switch.



- From the Main screen, press the **EDIT** key 4 times to access Screen 4.

To enter C-Mix program, highlight the **C** as shown at left and press the **YES** key.



- C-Mix selector 1,2,3,4,5,6,7,8,9
- Master Control Direction Left, Right, Low, High, Up, Down
- Compensation percentage from Master Channel

4. Master Channel

- Throttle.....Th1, Th2, Th3
- Aileron.....A11, A12, A13
- Elevator.....E11, E12, E13
- Rudder.....Ru1, Ru2, Ru3
- Pitch.....Pi1, Pi2, Pi3
- Gyro.....Gy1, Gy2
- AUX1.....A1 1, A1 2, A1 3
- AUX2.....A2 1, A2 2, A2 3

5. Slave Channel

- Inhibited.....INH
- Throttle.....TH
- Aileron.....AL
- Elevator.....EL
- Rudder.....RU
- Pitch.....PI
- Gyro.....GY
- AUX 1.....A1
- AUX2.....A2

C-Mix SETUP

- Select C-Mix (1~4 Standard Mix) (5~9 Curve Mix)
- Select Master Channel
- Select Slave Channel
- Move Master Channel in both directions to set Compensation percentage.
Percentages are independent between directions.
Percentage can be set from -150% to +150% Total servo travel
(Note) Be careful not to overdrive your Slave Channel Servo

(Example)

- Th1 Master Channel will move Slave Channel normally with stick movement
- Th2 Master Channel will add any curve, trim and delays in master channel to Slave Channel
- Th3 Master Channel will add all of Th2 in master channel and will stop at Master End Points

(Note) when Example Th3 is used and compensation hits the Slave End Points, and the Slave channel if moved in the same direction as the compensation can still overdrive the servo.

(See chart on next page for all Master and Slave properties)

Master Channel			Master Data Transferred to Slave Channel
1.	Th1	Throttle 1	Normal stick movement
2.	Th2	Throttle 2	Th1 + Throttle Curve + Trim + Channel Delay
3.	Th3	Throttle 3	Th2 + EPA
4.	Ai1	Aileron 1	Normal stick movement
5.	Ai2	Aileron 2	Ai1 + EXP/VTR + DR
6.	Ai3	Aileron 3	Ai2 + EPA + Channel Delay + Offset + Trim
7.	Ei1	Elevator 1	Normal stick movement
8.	Ei2	Elevator 2	Ei1 + EXP/VTR + DR
9.	Ei3	Elevator 3	Ei2 + EPA + Channel Delay + Offset + Trim
10.	Ru1	Rudder 1	Normal stick movement
11.	Ru2	Rudder 2	Ru1 + EXP/VTR + DR
12.	Ru3	Rudder 3	Ru2 + EPA + Channel Delay + Offset + Trim
13.	Pi1	Pitch 1	Normal stick movement
14.	Pi2	Pitch 2	Pi1 + EXP/VTR + DR
15.	Pi3	Pitch 3	Pi2 + EPA + Channel Delay + Offset + Trim
16.	Gy1	Gyro 1	Gyro Data
17.	Gy2	Gyro 2	Gy1 + Channel Delay
18.	A11	Aux1 1	Aux1 Data
19.	A12	Aux1 2	A11 Data + EXP
20.	A13	Aux1 3	A12 + Channel Delay
21.	A21	Aux2 1	Aux2 Data
22.	A22	Aux2 2	A21 + EXP
23.	A23	Aux2 3	A22 + Channel Delay

Compensation Mixing Starting Point

H-POINT 0% [A]
 L-POINT 0% 0

 C-Mix
 Screen 2

H-POINT> 25% [A]
 L-POINT> -25% 0

 Example

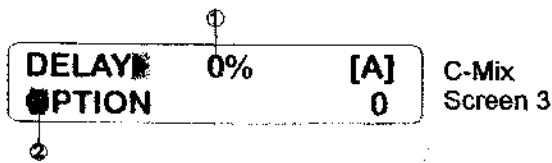
- Throttle Master**
- H-POINT.....High Throttle Stick
L-POINT.....Low Throttle Stick
- Elevator Master**
- D-POINT.....Down Elev Stick
U-POINT.....Up Elev Stick
- Ail or Rud Master**
- L-POINT.....Left Ail/Rud Stick
R-POINT.....Right Ail/Rud Stick

2. Compensation Starting Point Percentage

Use these settings if you would like to change the starting point of the C-Mix. When the C-Mix starts At 0%, the C-mix will move as the master channel moves from mid point. If you were to change the settings to +25% and -25%, you will see the C-mix slave not move until the master channel has moved 25%.

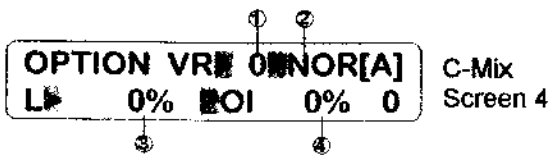
Reversing the point percentage numbers will allow the C-mix to be at full deflection when the master channel is at mid point and will decrease the C-mix as the master channel is moved from center.

Settings are from -100 to +100



1. C-Mix Servo Delay
2. (VR) C-Mix Options

C-Mix Delay is used to slow down or delay the slave channel movement



1. Variable Resister 0~12
2. Normal or Reverse
3. VR Adjustment percentage (2 settings)
Low / High
4. VR Center Position

This feature will allow you to set a Variable Resister or better known as a Knob or Slider to adjust the amount of C-Mix added externally. See Heli Manual for a list of Variable Resistors and their locations.

Normal or Reverse the direction of the C-Mix. Normal is when the VR is moved from center position, the more C-Mix is added. Reverse will change more to less C-Mix from center position.

VR Percentage is to allow you to adjust the amount of sensitivity the VR has to the C-Mix. Adjustment percentages are for -100 to +100. Adjustments from 0~100 will give you total movement from center to low side of VR and 0~-100 will give you total movement on the high side of the VR.

You can change the VR centering by moving the cursor to the P in the POI location, Re-position the VR you selected to a new position and press the YES key. This will off-set the neutral position of the VR. For example you want to change the default setting of (+100 0 -100) to (+100 +30 -100).

SWASH CP3-DELAY [A]
CP-LNR CP-SDELAY 0

CP3-Delay
Screen 1

CP3-DELAY 0% [A]
0

CP3-Delay
Screen 2

1. Delay Percentage 0~100

This feature is only available with the following swash plate types.

CP3F, CP3R, CP3B, CP3L

This delay was designed to equalize the elevator control feel to equal the aileron control. In some helicopters when using CCP Mixing you will find that the elevator is a little more sensitive than the ailerons. CP3-Delay will slow down the 2 forward channels on the CCPM to give you more of the same feel as aileron control.

CP-Linear

SWASH CP3DELAY [A]
CP-LNR CP-SDEAY 0

CP-Linear
Screen 1

CP-LINEAR 0% [A]
0

CP-Linear
Screen 2

1. Liner Percentage 0~100%

CP-Linear will help correct any cyclic movement caused by off center control arms when at full positive or negative end points.

Example

If you were to take a measurement of the cyclic when the servos are at there neutral position and you moved your ailerons from left to right, you may see the cyclic move 15 degrees left and 15 degrees right. Now move the cyclic up to full pitch and make the same measurement. The cyclic maybe not at 15 degrees left or right. Now use the CP-Linear to set the cyclic at 15 degrees when at full pitch.

(Note) For proper initial settings, all cyclic servos must be at the servos center or neutral settings, not transmitter stick or hover center.

CP-EPA SV-LIMIT [A]
F-SAFE BA-FS MOD 0 CP-EPA
Screen 1

CP-EPA AI-L 100% [A]
EL-L 100% 0 CP-EPA
Screen 2

CP-EPA PI-L 100% [A]
0 CP-EPA
Screen 3

CP- End Point Adjustments

1. Aileron High / Low
2. Elevator High / Low
3. Pitch High / Low

After initial setup with all cyclic servo arms and linkages set in the neutral position, check the cyclic for centering and levelness. After all is adjusted move the pitch control all the way positive pitch and check the cyclic. If cyclic has changed, adjust back to level using the Aileron, Elevator or Pitch EPA. Next move the cyclic to full negative and check. Adjust to make cyclic level.

Servo-Limit

Extreme Servo Limits

SV-Limit CP-EPA SV-LIMIT [A]
F-SAFE BA-FS MOD 0 SV-Limit
Screen 1

SV-Limit SV-LMT TH-L AI-L [A]
150% 150% 0 SV-Limit
Screen 2

SV-Limit EL-L RU-R PI-L [A]
150% 150% 150% 0 SV-Limit
Screen 3

SV-Limit GY-R A1-R A2-R [A]
150% 150% 150% 0 SV-Limit
Screen 4

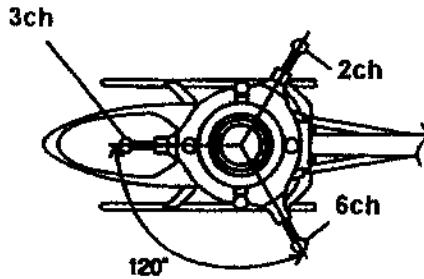
1. Throttle Servo
2. Aileron Servo
3. Elevator Servo
4. Rudder Servo
5. Pitch Servo
6. Gyro Servo
7. AUX 1 Servo
8. AUX 2 Servo

Used when the servo at its extreme end points are hitting or binding. By default the servos have a maximum travel of 150%. If binding occurs, you can move the servo to its extreme end point by moving all sticks in the direction that will move the servo to the max and adjust that servo with Servo Limit. All servos have 2 adjustments High and Low.

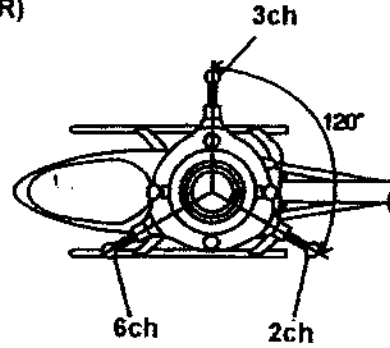
CCP Channel Layout

Use the following diagram to select the correct CCP for your Helicopter. This feature card has a total of 9 different configurations to choose from. Normal layout is not shown, use the setup from the helicopter manual to configure normal servo layout.

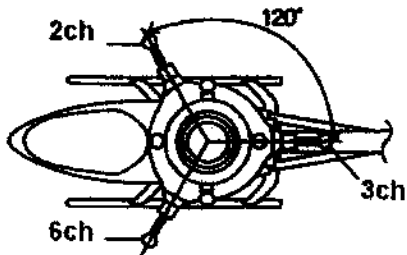
CP3 (F)



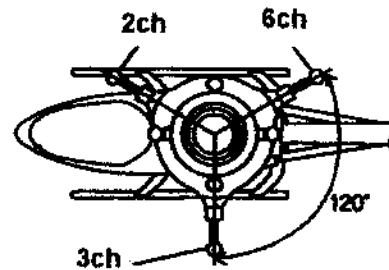
CP3 (R)



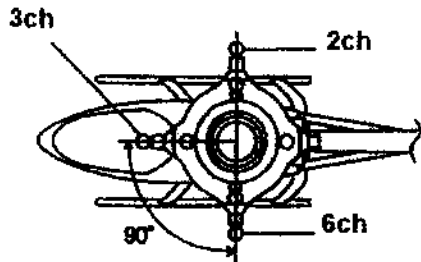
CP3 (B)



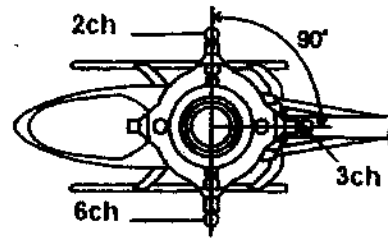
CP3 (L)



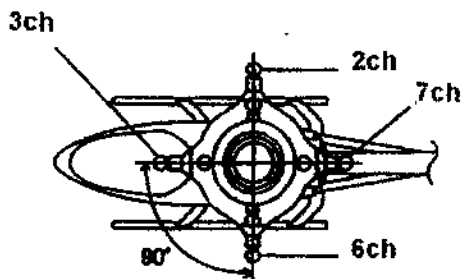
CP4 (F)



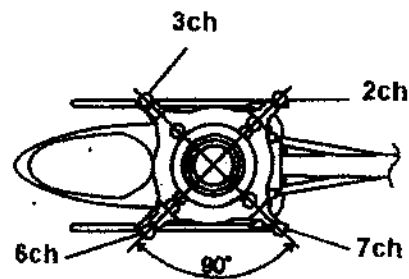
CP4 (B)



CP4 (A)



CP4 (X)



HOLD ALTER A-OFS[A]
OFS: A E R ■MER 0

Timer
Screen 1

TIMER ST ■ U ■ 0:00 [A]
STK ■% SND ■ OFF 0

Timer
Screen 2

TIMER INT ■ 0:00 [A]
SCREEN ■ STW 0

Timer
Screen 3

1. Up or Down timer select
2. Time set Min and Sec
3. Stick Position to start, stop timer
4. Sound on or off
5. Integral Time
6. Timer Display Stop Watch or Integral Time

You can select the (1) timer to count up or down by pressing the YES or NO keys. Select the amount of time to count (2) in minutes and seconds.

The throttle stick maybe used (3) to start and stop the timer. Adjust the throttle stick to the desired position and press the YES key to set. You can change the settings by moving the throttle stick again and repressing the yes key. To inhibit the Stick switch press both the YES and NO keys together.

(4) Sound on or off. This will sound the alarm "one Beep" when the stick passes the stick position you selected. The alarm will only sound if the timer is set in the (6) STW mode.

(Trick)

You can use the timer as a mid throttle stick beep for hover. Set the STK at 50%, turn the SND ON, and set the SCREEN to STW. This trick will not work if the SCREEN is set to INT.

(6) Screen will display in the main menu, (S) for Stop Watch or (I) for Integral Clock.

To reset the Integral timer move cursor to number (5) and press both the YES and NO keys together.

Gyro 1 -2

GYRO REVO-MIX [A]
TRM-M AUX1 AUX2 0

Gyro
Screen 1

1. Flight Mode N, 1, 2, 3, 4
2. Gyro 1 Settings
3. Gyro 2 Settings
4. Selected Gyro 1 or 2

GYRO N 1 100 * [A]
2 100 0

Gyro
Screen 2

Your gyro is adjustable in all flight modes and has 2 independent rates for each flight mode. By default, gyro number 2 is inactive. To activate gyro 2, go to main menu screen 4 and highlight (SW). Press yes and move the cursor to gyro 2 and select a switch. This switch will now turn on gyro 2 and turn off gyro 1. (4) asterisk star will indicate which gyro is active.

Alternates 1 - 2

HOLD ALTER A-OFS[A]
OFS: A E R TIMER 0

Alternate
Screen 1

1. Alternate Select 1, 2
2. Trim Setting Separate or Combine
3. Alternate Model Selected OFF
4. Alternate Model Selected A, B, C, D

ALTER 1 TRM SEPA[A]
OFF 0

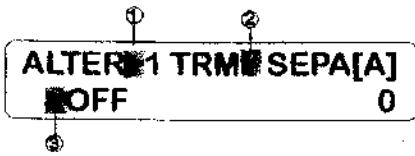
Alternate
Screen 2

ALTER>1 TRM> SEPA[A]
A: S-HELI-A 0

Alternate
Screen 3

The alternate feature is a great way for pilots that would like separate flight programs. For example you want a setup for your model that is for strictly hovering and lite acrobatics and another setup for very aggressive 3D. With alternates 1 and 2 you can have the total of 3 completely separate programs.

As a default, both Alternates 1 and 2 are inhibited. See next page for proper setup of the alternate feature.



Alternate Screen 2

The alternate feature utilizes 2 other models that are not in use in the model memory.

Step 1

Select a Model (A, B, C, D) as your main program for your helicopter. For this example I will use Model A. Complete setup and test fly your model. Setup all flight modes and do all your adjustments. Model A I will setup for Hovering and light acrobatics. Name your model example: (Mercury 60)

Step 2

After Model A is all setup you can now copy Model A to Model B and Model C. Make sure you do not have any other programming done for other models in Model B and C. This will copy all of your programming to Models B and C.

Step 3

Go to Main menu screen 4 and choose (SW). Move the cursor to ALTER 1 and select a switch. Do the same for ALTER 2. Example I picked switch 9 for Alter1 and 10 for Alter2. When the switch is all the way up (Switch 8) I am in my normal model A.

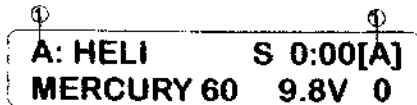
Step 4

You can Combine or Separate your trims between models. Combining the trims will make your trim adjustments to continue in to the other models. Separating them will allow you to have different trim settings per model.

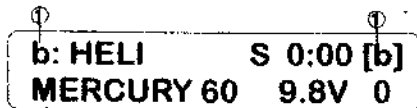


Alternate Screen 3

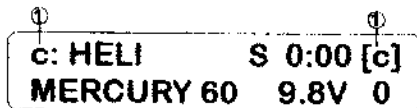
When changing between Alternate Models, you will see your main screen change to notify you which alternate model you are in.



Main Model A



Alternate 1 Model B



Alternate 2 Model C

1. Letters will change depending on Alternate model

SWASH CP3DELAY [A]
CP-LNR ■ P-SDELAY 0

Servo Delay
Screen 1

1. Aileron Servo Delay
2. Elevator Servo Delay
3. Pitch Servo Delay

CP-SDLY AI ■ 0% [A]
EL ■ 0% PI ■ 0% 0

Servo Delay
Screen 2

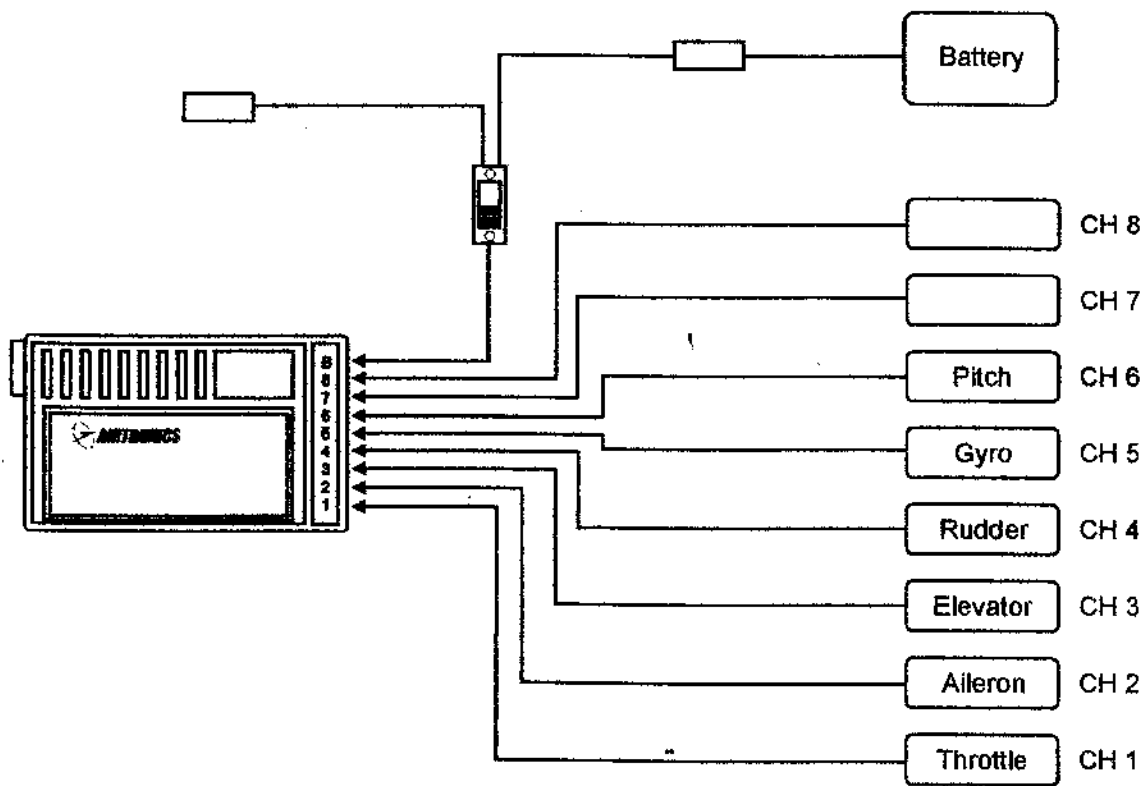
Independent Aileron, Elevator and Pitch servo delay feature. This feature will allow you to delay any of the CCP servos independently.

Example

Afer your initial setup you find one servo moving the cyclic at a reduced speed, you can slow down the other 2 servos to match to speed of the slower servo. You can not speed up the slow servo only slow down the faster ones. If you do not have matching servos for the cyclic or do to a linkage problem, the transit time between the servos do not match, you can use the servo delay to closer match up the speeds.



Receiver Setup



Example Piezo Gyro setup

