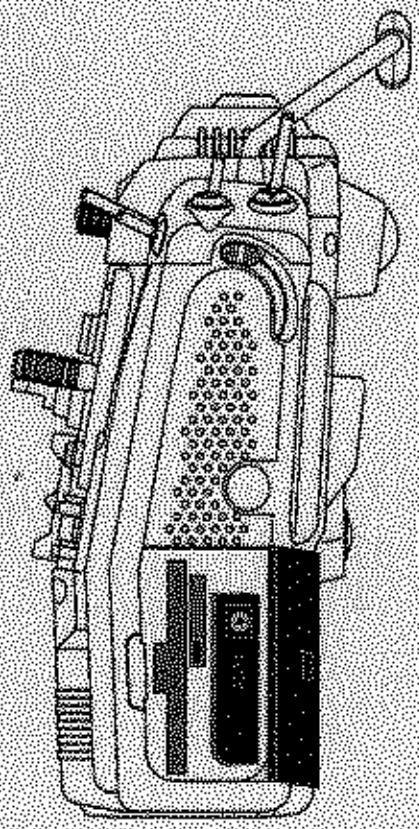
474902

Stylus

Advanced Technology Card System

EXTENDED FEATURE SET CARD FOR SAILPLANES



AIRTRONICS®

TABLE OF CONTENTS

(NOTE - Alphabetical index is in back of manual)

Basic Description and Special Considerations - READ THIS!

The Stylus GLID Card is used to install a greatly enhanced set of features for use with sailplanes. All of the features and functions of the basic Stylus system program for GLID 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 GLID type. (When the system is initialized with the GLID card, all four memory positions are allocated to the GLID type model set-up.)

Because all set-ups are allocated for extended feature set GLID types, ANY OTHER MODEL SETUP will be erased from the internal memory when you initialize the transmitter with the GLID 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 GLID card after programming a set-up (but without saving the set-up to the 50-Model Memory Card) and then remove the GLID card and re-initialize the transmitter for the three-model type program, the set-up you had programmed using the GLID 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 GLID extended feature set programs, and only need 4 model memory positions, then leave the card installed in the transmitter at all times.

Initializing the GLID Feature Card

Install the GLID 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:

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

IF YOU WANT TO USE THE GLID CARD, press the YES/+ key. The system will now initialize all 4 setups for use with the extended feature set GLID set-ups.

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 GLID 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 Cards(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 (GLID, HELI or AERO) 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 approprate 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.

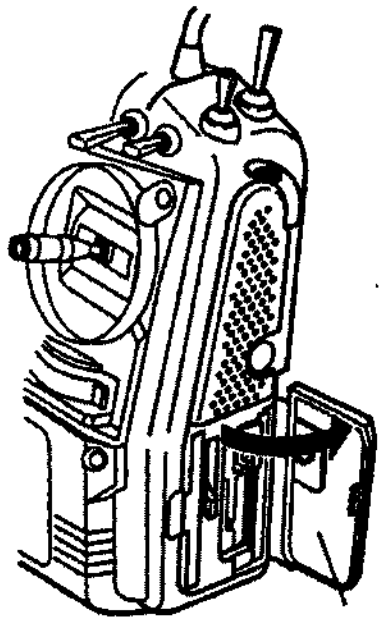
Keep the card terminals protected at all times from any dirt, oil or other contamination.

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 GLID 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.

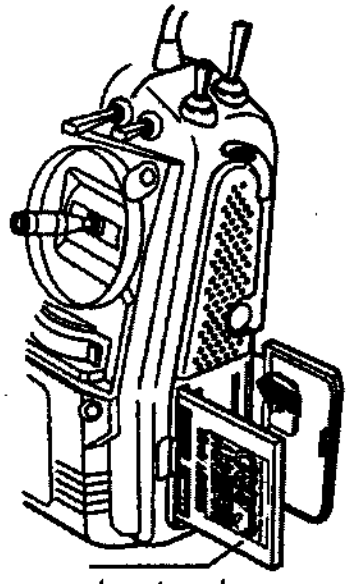


Card Slot access door

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 squarley with the slot will be enough to engage the connectors.

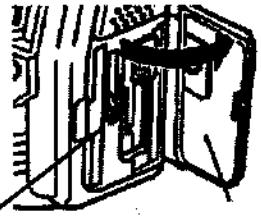
When fully seated, the outer edge of the card will be flush with the surrounding area of the case.



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

GLID Card Primary Menus

Menu Sample

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

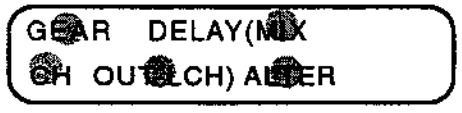
First Position ..... Present Model Type
Second Position .. Designates Internal Timer or Stopwatch
Third Position ..... Stopwatch/Timer Display, Minutes:Seconds
Fourth Position .... Present Model Name
Fifth Position ..... Transmitter battery pack voltage

First Position ..... Servo Centering menus
Second Position .. Elevator Pre-Set menus
Third Position ..... Trim Memory menus
Fourth Position .... Mix menus
Fifth Position ..... Launch Elevator menu
Sixth Position ..... Launch Camber menu
Seventh Position . Launch Flap menu

First Position ..... Landing menus
Second Position .. Reflex Elevator menu
Third Position ..... Reflex Camber menu
Fourth Position .... Differential Adjustment menu
Fifth Position ..... Dual Rate menus
Sixth Position ..... Exponential/Variable Trace Rate menus

First Position ..... Compensation Mixers menus
Second Position .. Model Selection menus
Third Position ..... Camber Settings menus
Fourth Position .... Wing Type menus
Fifth Position ..... V-Tail Option menus

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



First Position ..... Landing Gear menus
Second Position .. Mixer Delay menus
Third Position ..... Channel Delay menus
Fourth Position .... Out-Launch Delay menus
Fifth Position ..... Alternate Set-up function menus

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

(Continued on next page)

GLID Card Primary Menus — *continued*

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

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

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 GLID 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 may not be repeated here.

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

If you are just starting with your Stylus and will be using the GLID 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 GLID 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 wing type, servo direction, endpoints and switch assignments.

Initial Screen

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.

CONTROL CENTERING

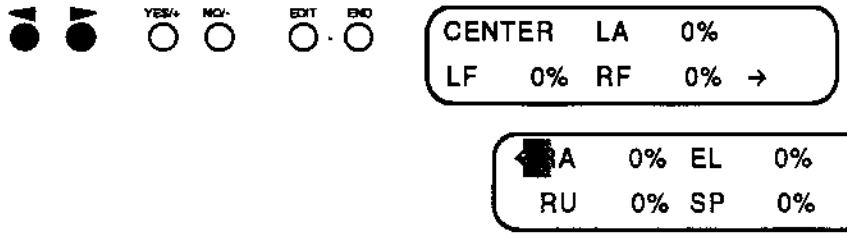
The Stylus allows you to fine-tune the CENTER or neutral position of all flight control servos. After hooking up your controls and mechanically centering all linkages to the approximate positions, press the EDIT key to arrive at the following screen:

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

It is desireable 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.

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:

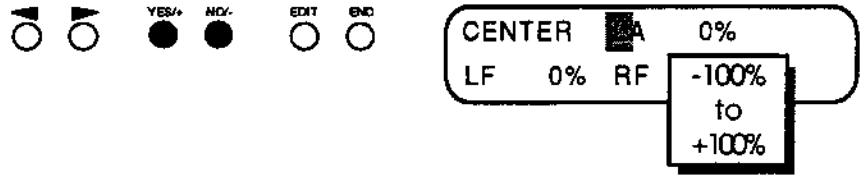
LA = Left Aileron
LF = Left Flap
RF = Right Flap
RA = Right Aileron
EL = Elevator
RU = Rudder
SP = Spoiler

The value displayed as percentage (%) to the right of each channel abbreviation shows the present centering adjustments. Default position is 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 Left Aileron servo; so position the cursor over the LA 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.

It is desireable 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 at neutral.

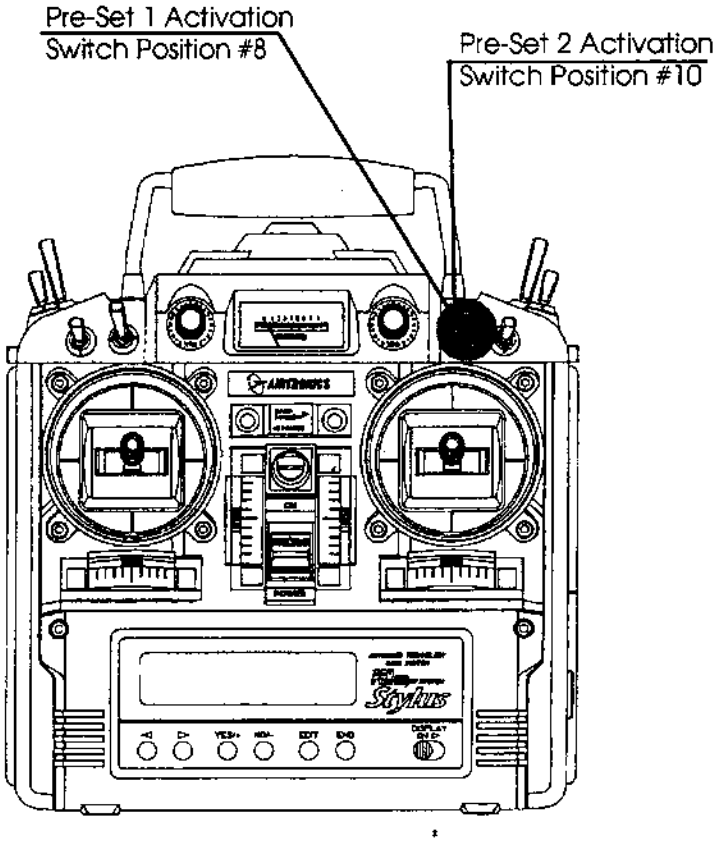
Using a very large amount of electronic centering adjustments will decrease the total throw available for that channel. In particular, centering adjustments greater than + or - 50% will tend to make the extreme stick position on one end less responsive.

ELEVATOR PRE-SET TRIM

Stylus allows the sailplane pilot to select three elevator trim states during flight in the NORMAL Flight Mode. The first elevator trim state is the trim as set with the elevator stick trim lever with both Elevator Pre-Sets turned off.

To allow selection of differing elevator trim states without changing the elevator stick trim lever position, Stylus has two selectable ELEVATOR PRE-SETs available. Pre-Set 1 is activated by the #8 switch position, Pre-Set 2 is activated by the #10 position. (These functions can be reassigned to different switches if desired, see 'Switch Assignment' section.)

Using these functions, you can select from three elevator trim positions while in the NORMAL flight mode, without disturbing the trim for the other flight modes.



The Elevator Pre-Set functions can be reassigned to different switches if desired, see 'Switch Assignment' section.

NOTE: To see the effects of adjustments made to either Elevator Pre-Set menu, you MUST set the Flight Mode switch to be in the NORMAL flight mode (default switch position #18) AND make sure that the Flap/Spoiler stick is in the full up - or flaps neutral - position. Elevator Pre-Set settings have no effect on the Reflex, Launch and Land flight modes, since these modes each have their own elevator trim settings in their respective menus.

Elevator Pre-Set Trim...

To program the Elevator Pre-Sets, press the EDIT key to reach this screen:

Press the > key to position the cursor over the E-PST position.

Press the YES/+ key to see the E-PST screen:

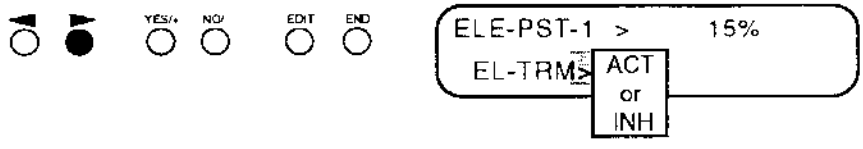
The '0' to the left of the cursor position indicates that neither Elevator Pre-Set switch is presently set to the ON position. To program the Elevator Pre-Set #1, turn on switch #8. The display will change as follows:

Pre-Set #1 ALWAYS has priority over Pre-Set #2. If both Pre-Sets are in the ON position, no matter which was activated first, Pre-Set #1 will be active.

You can now set the elevator trim for ELE-PST 1 by pressing the YES/+ or NO/- keys. Actual flight testing will be required to find the optimum setting.

In the same manner, turn on switch #10 to program Elevator Pre-Set #2 for surface deflection status.

Press the > key to move the cursor to the EL-TRM position:



Pressing the YES/+ or NO/- key will toggle the Elevator Trim from ACT (active) to INH (inhibit). When set to ACT, the elevator trim lever will work normally when either of the ELE-PST functions is turned on. When set to INH, the Elevator trim lever will NOT affect the position of the elevator when ELE-PST 1 or 2 is activated.

Always be certain which elevator trim is activated before launching your sailplane!

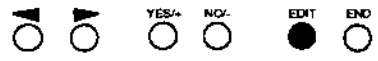
Pre-Set #1 ALWAYS has priority over Pre-Set #2. If both Pre-Sets switches are in the ON position, no matter which was activated first, Pre-Set #1 will be active.

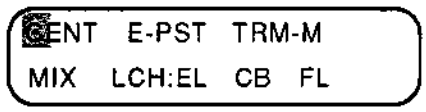
Always be certain which elevator trim is activated before launching your sailplane!

TRIM MEMORY

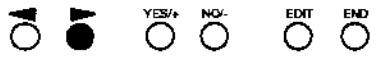
Stylus offers a Trim Memory function for all flight control channels. This function allows the trim levers to be re-set to the center positions while maintaining the trimming information in memory. This is useful because the pilot can then ensure that the trims are in the proper position just by checking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

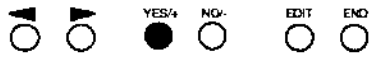
Trim Memory is used after flight testing and trimming the aircraft. When trimming is complete, program Trim Memory as follows: press the Edit key to reach this screen...



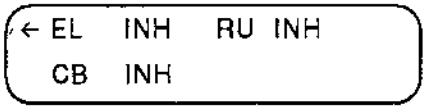


Press the > key to position cursor over TRM-M, then press YES/+ key to display the TRM-M screen.





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



To use Auto DTM, you must activate the control functions that you wish to have adjusted by the Auto DTM function.

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.

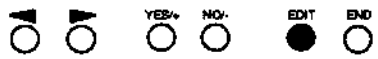
To inhibit a value stored in any function's trim memory, position the cursor over that function in TRIM-M and press both the YES/+ and NO/- keys simultaneously so that it reads "INH."

MIX MENU

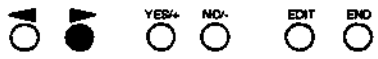
- •AI→RU
- •EL→CB
- •FL→EL
- •LA→LF
- •RA→RF
- •CB→EL
- •GE→EL
- •SP→EL

Stylus with GLID card installed offers a group of advanced mixing options for sailplanes, grouped within the MIX menu.

Press the EDIT key to display the following screen:

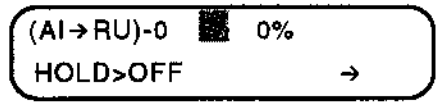


Press the > key to position the cursor over the MIX position.



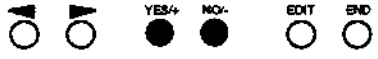
•AI→RU

Press the YES/+ key to see the first MIX screen:



This Mix allows you to program rudder to respond with aileron stick movement to achieve coordinated turns. There are two AI>RU mixes available. In order to program either of these, you must activate the function by turning the assigned switch to the ON position. Move switch 1/2/3 to the #1 position. Note that the top line in the menu changes to show that AI>RU Mix #1 is now active:

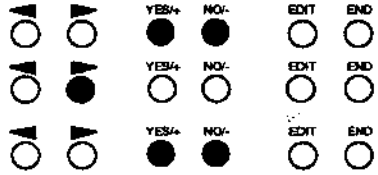
Press the YES/+ or NO/- keys to program the amount of mixing you want. In this example we'll use 20%.

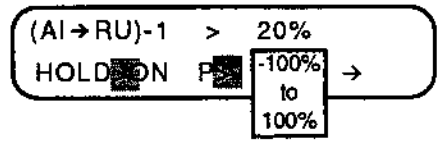


The rudder will now respond to Aileron Stick movement as well as to movement of the Rudder Stick. The range of mixing available is from 0% to 150%. To program the AI>RU#2 mix, move the switch to the #3 position and set the mixing as desired.

NOTE: In Landing mode, the default settings cause the higher rate of AI>RU mixing to take effect, regardless of which of the mixers (if any) are active.

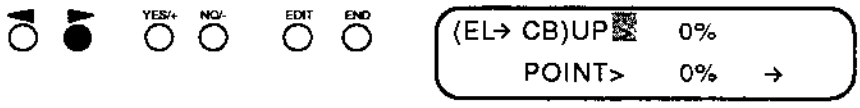
The "Hold" function, when activated, causes the rudder to "hold" the maximum position that it's driven to by the active AI >RU mix response to Aileron stick movement. With the cursor on the HOLD position, press the YES/+ or NO/- key to activate the function. Press the > key to move to the value setting. The "P" value sets the elevator position (Where full down is -100% and full up is +100%) ABOVE which the mix hold is released. Experiment to get the desired response.





MIX Menu ...
•EL→CB

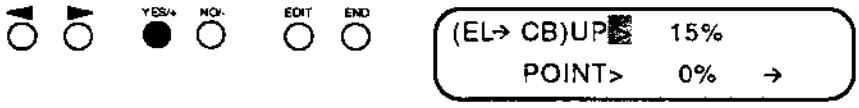
From the first Mix screen, press the > key to move to the next screen:



The EL>CB mix is on when switch #4,5 is in the #5 position.

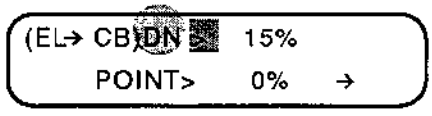
The EL>CB mix is used to achieve a camber response to elevator input. When this function is on, the amount of mixing is set in this menu.

Press the YES/+ key to set the UP mix to 20%:



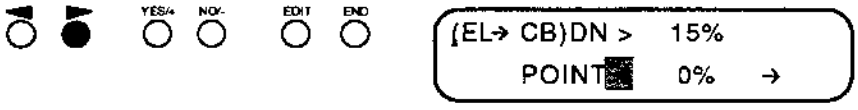
Note that the trailing edge servos (both flap servos and both aileron servos) will now respond to UP elevator commands. The higher the number you set, the more response. (Range is from 0% to 100%)

To set the amount of Camber response that will occur with DOWN elevator stick movement, push the Elevator Stick forward. The menu will change to show that you are now setting the DOWN mix.

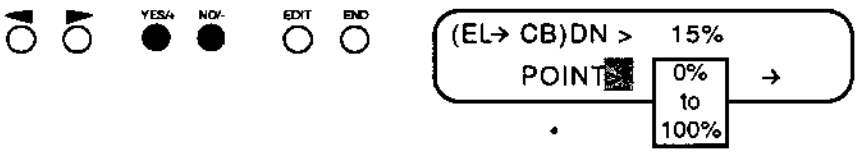


As with the UP mix, use the YES/+ and NO/- keys to set the desired amount of mixing. (in this example it is set to 15%)

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



This menu determines at what POINT in the travel of the elevator stick the mixing will start to take place. (The points are set individually for UP and DOWN mixing). Use the YES/+ or NO/- keys to set the mixing point. Range available is from 0% to 100%.

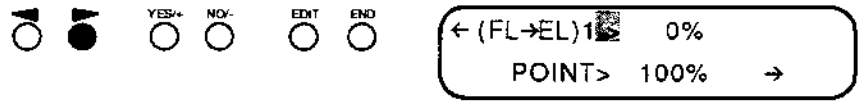


In this example we are setting the Point for DOWN elevator; if we set the Point value at 30%, no mixing will take place until the Elevator stick is moved past 30% of the distance from neutral to full down elevator.

As with the mixing amount settings, to program the point for UP elevator simply move the elevator stick in the "UP" elevator direction and the menu will change from "DN" to "UP" so you set the Point for Up Elevator.

MIX Menu ...
•FL→EL

From the first Mix screen, press the > key several times until you reach the third Mix screen:



This screen lets you program a mix where the elevator automatically responds to compensate for flap position changes. This mixer is always on and does not need to have a switch assigned to it.

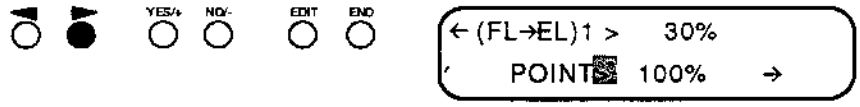
The first cursor position is where the amount and direction of mix is set. The range of mixing available is from -100% to 100%, so you can set any amount of elevator response in either direction, as desired.

Use the YES/+ or NO/- keys to set the amount of mixing:

In the above example we have set the mixing to 30%. Note that when you move the flap/spoiler stick to the full "flap down" position, the elevator servos responds with 30% "down" elevator.

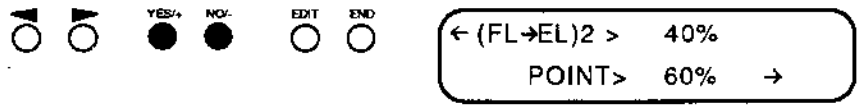
The optimum amount and direction of elevator mixing can only be determined by flight testing. Start with small amounts and adjust as needed.

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



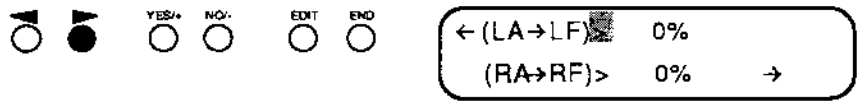
The "Point" setting allows you to define at what point in flap stick travel, if any, the second FL→EL mixer takes affect. If the Point setting is left at 100%, then ONLY FL→EL1 is available. If you set the Point setting to 60%, then when you pull the flap stick BELOW 60% (0% is the high-stick, or no-flap, position and 100% is stick down or full-flap) then the display will change to show FL→EL2. This allows you to set a different rate of mixing for large vs. small amounts of flap spoiler deployment.

To program FL→EL2 mix, move the cursor back to the top line and use the YES/+ or NO/- keys to set the amount of mixing in the same manner as for FL→EL1 mix.



MIX MENU
- **LA→LF**
- **RA→RF**

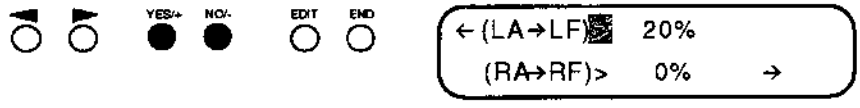
From the first Mix screen, press the > key several times until you reach the fourth Mix screen:



This screen contains two mixer functions; one for mixing the Left Flap to respond to Left Aileron input, and one to mix the Right Flap to respond to Right Aileron Input. These mixers are always on (except when you are in Landing Mode) and do not need to have a switch assigned.

These mixers will normally be used to increase roll response, by causing the flap surfaces to respond to aileron stick movements.

Ues the YES/+ or NO/- keys to set the amount of mix for LA→LF:

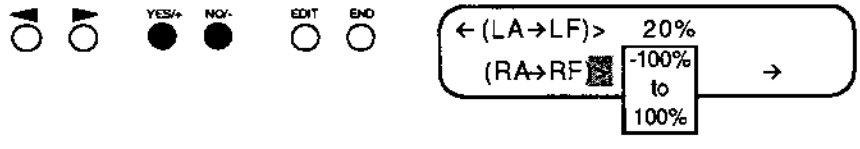


In this example we have set the mix for Left Aileron to Left Flap to result in 20% movement of the left flap surface when we move the aileron stick. The amount and direction of mix are both set with this screen; range available is from -100% to +100%.

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

This menu sets the amount of response of the Right Flap to aileron stick movement.

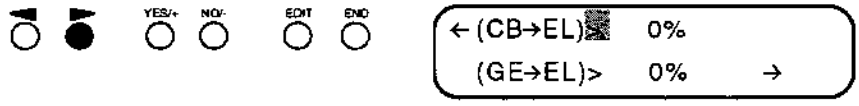
Ues the YES/+ or NO/- keys to set the amount of mix for RA→RF:



The optimum amount of mixing will be determined by flight testing.

MIX MENU
•CB→EL

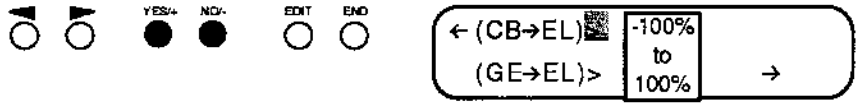
From the first Mix screen, press the > key several times until you reach the fifth Mix screen:



This screen contains two mixer functions. This first is the CB→EL mix, which allows you to set the elevator to respond to camber position changes to maintain pitch trim. The CB→EL mix is set to be ON in the SW menus; you can assign it to a switch if desired.

The CB→EL mix causes the elevator to respond to camber changes caused by moving the camber slider (slider on left side of transmitter).

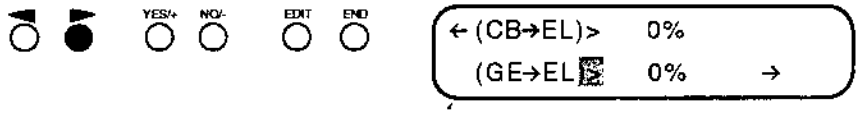
Ues the YES/+ or NO/- keys to set the amount of mix for CB→EL:



The range available is from -100% to +100%, so you can set the amount and direction of elevator response to camber controls.

•GE→EL

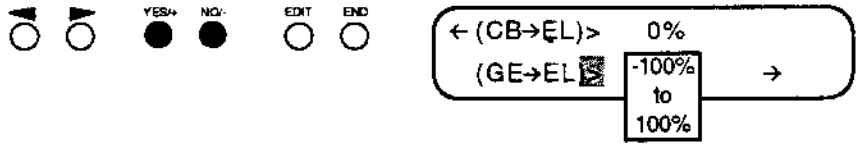
Press the > key to move to the next mixer setting:



The GE→EL mixer allows you to program a set amount of elevator response to occur when you activate the gear function. This allows automatic trimming for gear retraction or extension.

NOTE: If you use an electric motor for power with an on-off switch, you can activate the power switch with the Gear function. This allows you to set the GE→EL to trim for pitch changes between power on and power off.

Use the YES/+ or NO/- keys to set the amount of GE→EL mixing.

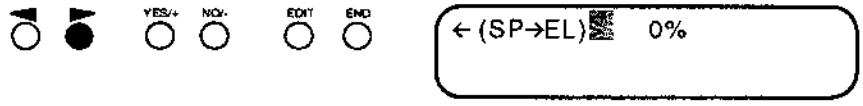


The range available is from -100% to +100%, so you can set the amount and direction of elevator response to Gear operations.

NOTE: You must assign a switch to the Gear function.

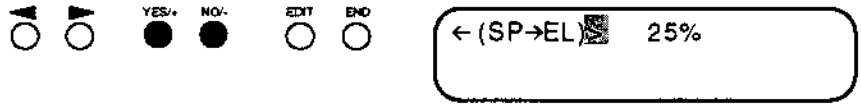
MIX MENU
•SP→EL

From the first Mix screen, press the > key several times until you reach the sixth and final Mix screen:



This screen contains the SP→EL mix, which allows you to set the elevator to respond to spoiler position changes to maintain pitch trim. The SP→EL mix is always ON.

Ues the YES/+ or NO/- keys to set the amount of mix for SP→EL:



In the above example we have set the SP→EL mix to 25%. When the spoiler/ flap stick is pulled all the way down, 25% up elevator is automatically deployed to maintain pitch trim.

To change the direction of mix, change the setting from 25% to -25%. The range of mixing available is from -100% to 100%.

Notes - "Mix Menu" functions

For most of the mixers in the Mix menus, the amount of the slaved channel response is affected by several variables.

The setting you program in the specific mixer menu

The total throw available for the slaved channel as set in the EPA screens

Total throw of the master channel as set in the EPA screens

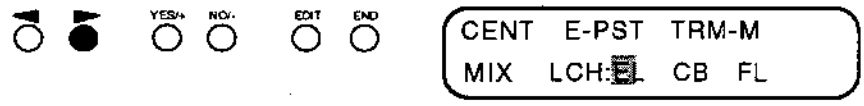
Amount of movement of the master control's stick or switch

Also, remember that changing the sign from + to - in the mixer settings will change the direction of the slaved channel's response to master channel stick or switch movement.

LAUNCH MODE •EL

Press the Edit key to reach this screen:

Press the > key to move the cursor to the LCH:EL position:



Press the YES/+ key to display the LCH:EL screen

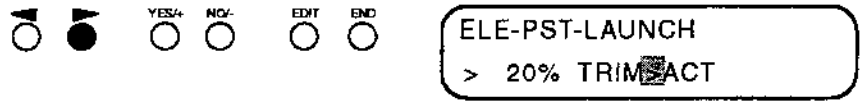
This menu adjusts the position of the elevator when the Flight Mode Switch is in the Launch position. Note that the rotary trimmer on the left face of the transmitter also trims the elevator for Launch; center that trimmer for now so the menu will display 0%.

Use the YES/+ key to set the elevator position. Move the Flight Mode switch to position #17 (Launch) to see the effects of your adjustments.

In this example we have set the elevator position for launch at 20%.

The range and direction of Elevator trim for Launch is adjustable from -100% to +100%.

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

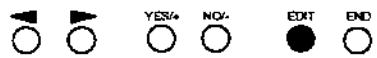


The Trim function is presently Active (Display reads "ACT"). This means that the rotary trimmer on the left face of the transmitter also trims the elevator for Launch. (The elevator stick trim lever is not active regardless of this menu setting).

To make the the rotary trimmer inactive, press the YES/+ or NO/- key to change the trim setting to "LOCK."

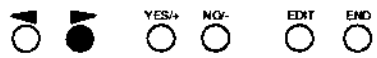
LAUNCH MODE •CB

Press the Edit key to reach this screen:



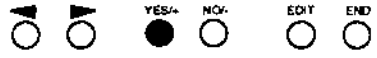

```
CENT  E-PST  TRM-M
MIX   LCH:EL  CB  FL
```

Press the > key to move the cursor to the LCH: CB position:




```
CENT  E-PST  TRM-M
MIX   LCH:EL  CB  FL
```

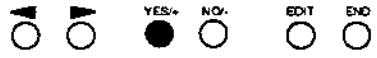
Press the YES/+ key to display the LCH: CB screen




```
CAMB-PST-LAUNCH
 0%      TRIM>ACT  →
```

This menu adjusts the position of the camber surfaces (Flaps, Ailerons) when the Flight Mode Switch is in the Launch position. Note that the slider on the right side of the transmitter also trims Camber for Launch; center that trimmer for now so the menu will display 0%.

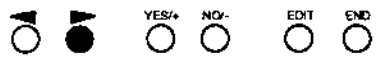
Use the YES/+ key to set the camber surfaces position. Move the Flight Mode switch to position #17 (Launch) to see the effects of your adjustments.




```
CAMB-PST-LAUNCH
 30%     TRIM>ACT  →
```

In this example we have set the Camber positions at 30%. Note the trailing edge surfaces position. Range available in this menu is from -100 to +100.

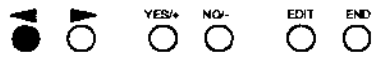
NOTE: The CAMB-PST-LAUNCH menu settings are also affected by the slider on the right side of the Stylus transmitter. The amount of affect that this slider has can be adjusted by the user. From the prior screen, press the > key twice to move to the final LCH:CB screen:




```
←TRIM-AUTH  100%
```

This screen allows you to set how much authority the right side slider has for trimming the camber surfaces while in Launch mode. Range available is from 0% (no trim affect) to 100%.

If you do not want the trimmer to be active, press the < key to move to the previous screen.



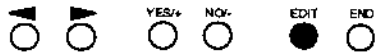

```
CAMB-PST-LAUNCH
>30%     TRIM>ACT  →
```

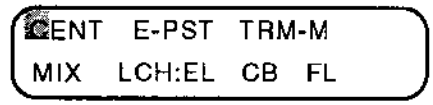
Press the YES/+ or NO/- key to toggle the TRIM function to LOCK.

```
CAMB-PST-LAUNCH
>30%     TRIM>LOCK
```

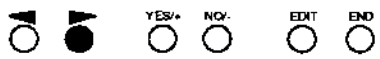
LAUNCH MODE
•FL

Press the Edit key to reach this screen:

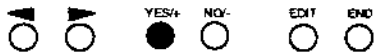




Press the > key to move the cursor to the LCH: FL position:

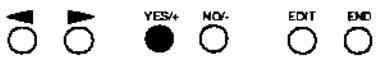


Press the YES/+ key to display the LCH: FL screen



This menu adjusts the position of the Flaps when the Flight Mode Switch is in the Launch position.

Use the YES/+ key to set the Flap position. Move the Flight Mode switch to position #17 (Launch) to see the effects of your adjustments.



Here we have set the flaps to deploy by 30% when the Launch Mode is activated. The range available is from -100% to +100%, so you can program full flap throw in either direction.

Remember, the Camber settings and trimmer can also affect the flap settings in Launch Mode.

NOTE:
There are a variety of settings that interact within the Launch Mode menus, and various external trimmers that can also be used to trim for Launch. Study the options before deciding on which methods and functions will best fit your flying style and aircraft.

ALSO: Different Wing types will respond in their own unique ways with regard to Flap(s) and Aileron(s) programs.

LANDING MODE

Press the Edit key to reach this screen:

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

SETTING the Land Point menu at 0% will de-activate the Landing Mode.

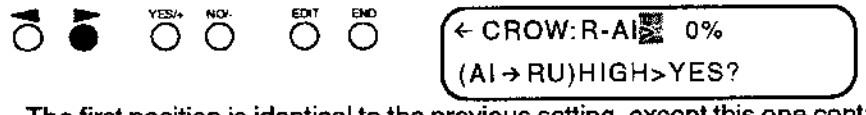
This pair of screens allow you to customize your Landing Mode options. (Landing Mode is automatically activated whenever the Flap stick is pulled below the LAND POINT position, and no external switch is assigned). The first cursor position is to set the LAND POINT. Default setting is 95%, meaning that Landing Mode is activated when you move the Flap stick below 95% of full-up position. If you set this menu to 60%, then the Landing Mode will be activated when the stick is moved below 60% of full up position. SETTING the Land Point menu at 0% will de-activate the Landing Mode.

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

This menu adjusts the amount of CROW response the Left Aileron will make when Landing Mode is active. Use the YES/+ or NO/- keys to set this value.

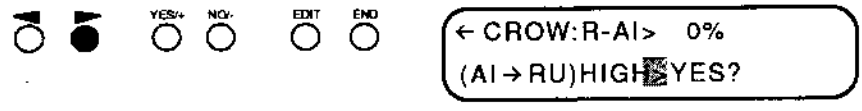
Here we have set CROW for the Left Aileron at 25%. The Left Aileron now raises 25% of it's travel upwards while the flaps deploy downwards while in Landing Mode. (Classic "Crow" configuration). Range available is from -100% to +100%.

Press the > key to move to the next screen:

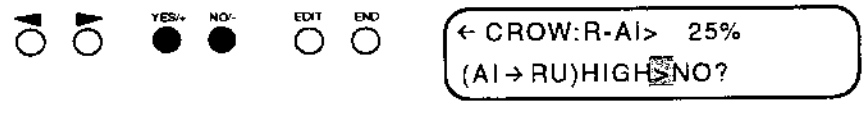


The first position is identical to the previous setting, except this one controls the amount of Crow response for the Right Aileron. Set it to 25%. Now both Ailerons respond identically to the Crow command.

Press the > button to reach the final setting on this screen:

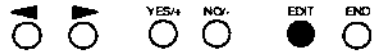


This menu lets you choose whether you want the highest of your programmed AI>RU mixers to automatically be activated with Landing Mode. If not, use the YES/+ or NO/- key to toggle this function to NO.



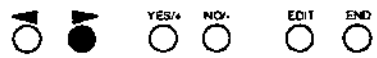
REFLEX MODE •EL

Press the Edit key to reach this screen:




```
LAND  REFL: EL  CB
DIFF  D/R   EXP/VTR
```

Press the > key to move the cursor to the REFL:EL position.



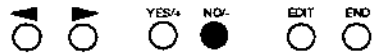

```
LAND  REFL:EL  CB
DIFF  D/R   EXP/VTR
```

Press the YES/+ key to display the REFL:EL screen:


```
ELE-PST-REFLEX
>  0%   TRM>ACT
```

This position allows you to program the desired Elevator Surface Position for the Reflex Flight Mode. The setting you program will take affect whenever you activate the Reflex Mode Switch - default position is SW #19. Note that the rotary trimmer on the right face of the transmitter also trims the elevator in Reflex Mode; center that trimmer for now so the menu will display 0%.

Use the YES/+ or NO/- key to set the elevator position. Move the Flight Mode switch to position #19 (Reflex) to see the effects of your adjustments.

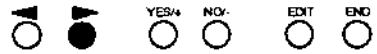



```
ELE-PST-REFLEX
>  -10%  TRM>ACT
```

In this example we have set the elevator position for Reflex at -10%.

The range and direction of Elevator frim for Reflex is adjustable from -100% to +100%.

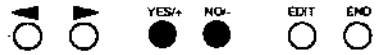
Press the > key to move the cursor to the Trim position.




```
ELE-PST-REFLEX
> -10%  TRM>ACT
```

The Trim function is presently Active (Display reads "ACT"). This means that the rotary trimmer on the right face of the transmitter also trims the elevator for Reflex.

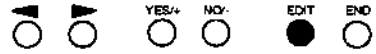
To make the the rotary trimmer inactive, press the YES/+ or NO/- key to change the trim setting to "LOCK."




```
ELE-PST-REFLEX
> -10%  TRM>LOCK
```

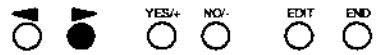
REFLEX MODE •CB

Press the Edit key to reach this screen:



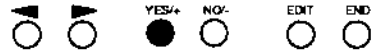

```
LAND  REFL: EL  CB
DIFF  D/R   EXP/VTR
```

Press the > key to move the cursor to the REFL:CB position.




```
LAND  REFL: EL  CB
DIFF  D/R   EXP/VTR
```

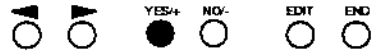
Press the YES/+ key to display the REFL:CB screen:




```
CAMB-PST-REFLEX
  0%
```

This menu adjusts the position of the camber surfaces (Flaps, Ailerons) when the Flight Mode Switch is in the Reflex position.

Use the YES/+ and NO/- keys to set the camber surfaces position. Move the Flight Mode switch to position #19 (Reflex) to see the effects of your adjustments.




```
CAMB-PST-REFLEX
  -30%
```

In this example we have set the Camber positions at -30%. Note the trailing edge position. Range available in this menu is from -100 to +100.

DIFFERENTIAL (Ailerons)

Differential (DIFF) refers to the ratio of up-to-down movement of each aileron. Many aircraft need more movement from the upward deflecting aileron than from the downward deflecting aileron in order to eliminate unwanted yaw when ailerons are applied.

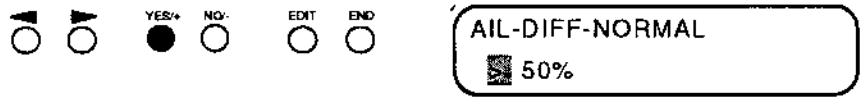
Press the Edit key to reach this screen:

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

Press the YES/+ key to display the DIFF screen:

Pressing the YES/+ button or NO/- buttons will adjust the differential throw in the ailerons. NOTE: It is only possible to electronically adjust differential when using TWO CHANNELS for aileron, with one servo on each side of the wing driving that wing's aileron. The display to the right of the cursor (default setting 0%) shows the amount of differential presently programed. The range is from -100% to +100%.

Press the YES/+ key to change the display to read 50%.



NOTE:
100% differential results in only upward movement of either aileron.

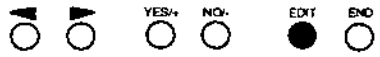
In this example the differential is set to +50 percent. This means that the downward-deflecting aileron will move half as far as the upward-deflecting aileron. The setting can be either positive or negative. Final adjustment will be determined by actual flight testing.

Change the Flight Mode switch to position #19. Note the display has changed to show you are now in the REFLEX Flight Mode, and the Differential setting is again 0%.

EACH of the Flight Modes (Normal, Reflex, Launch, and Landing) has it's own Differential setting. To program the differential for these flight modes, active the flight mode and then set the differential amount using the YES/+ and NO/- keys. The top line of the display will change to reflect the flight mode that is presently active and for which the present differential setting is in effect.

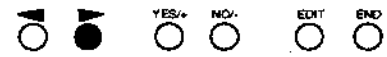
DUAL RATES

Press the Edit key to display the following screen:



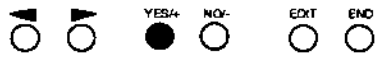

```
LAND  REFL: EL  CB
DIFF  D/R   EXP/VTR
```

Press the > key to move the cursor to the D/R position.




```
LAND  REFL: EL  CB
DIFF  D/R   EXP/VTR
```

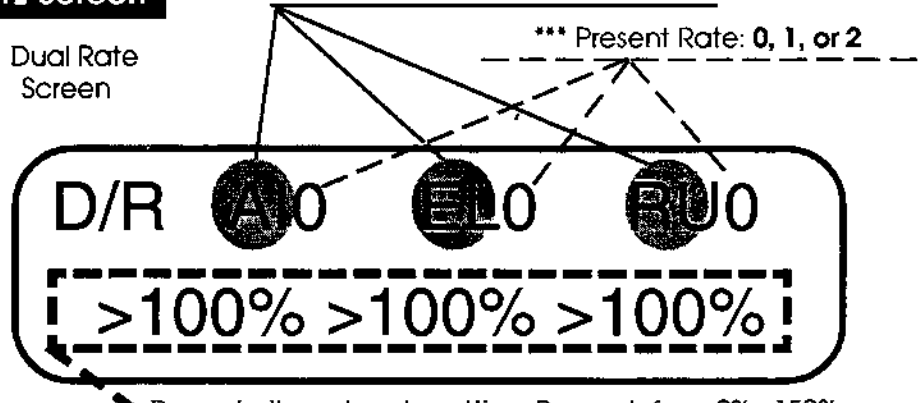
Press the YES/+ key to bring up the Dual Rate screen:




```
D/R  AI0   EL0   RU0
  >100% >100% >100%
```

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

The DUAL RATE Screen



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

*Abbrev.	Function	DR #1	* DR #2
AI	Aileron	7	6
EL	Elevator	14	13
RU	Rudder	**None	None

*Default switch assignments and positions.
**Rudder is not assigned to a switch but can be user set.

Dual Rates ...

You may wish to change the Dual Rate #2 positions above to be OFF (in the Switches menus) or assign the Dual Rate for a function or functions to a common switch so that you can activate any of the rates available from a single switch.

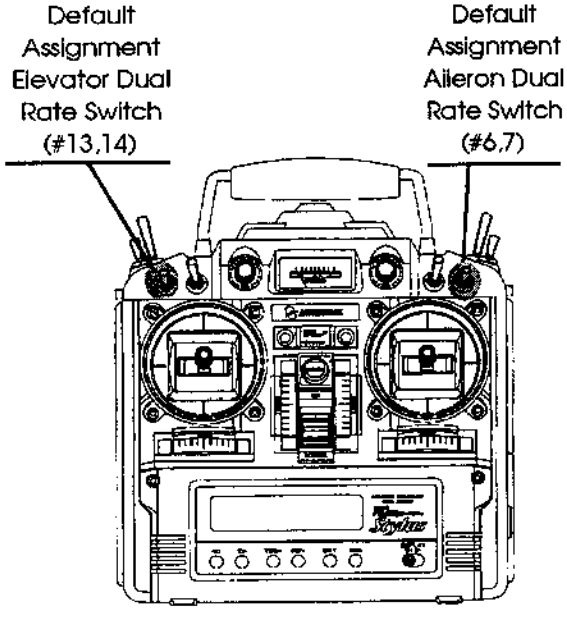
The Dual Rates operate the same with the GLID Card installed as with the basic Stylus program. Aileron, Rudder, and Elevator each have TWO Dual Rates plus the "normal" rate available.

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

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

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

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



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

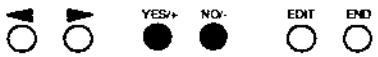
Dual Rates ...

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

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

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

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




```
D/R  AI1   EL1   RU0
     0%    00% >100%
     to
    +150%
```

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

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

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

If you wish to have Dual Rates available for all channels, and/or want to have three rates available for the flight control functions, you will need to change some switch assignments as shown in the "Switch Assignments" section of this manual. For now, assume that you have assigned switch #7 to activate the Dual Rate #1 function for Aileron and Elevator. (You may also assign Dual Rate #1 for Rudder to this switch). When you set the switch to the "On" position, both controls assigned to it will display the number "1" in the Dual Rate Screen.

You can now assign Dual Rate #2 positions to the #6 switch. In this example we'll assume that Dual Rate #2 for Aileron, Elevator and Rudder have all been assigned to the #7 switch position. When this switch is set to #6, you will see the present settings for Dual Rate #2, as shown below.

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

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

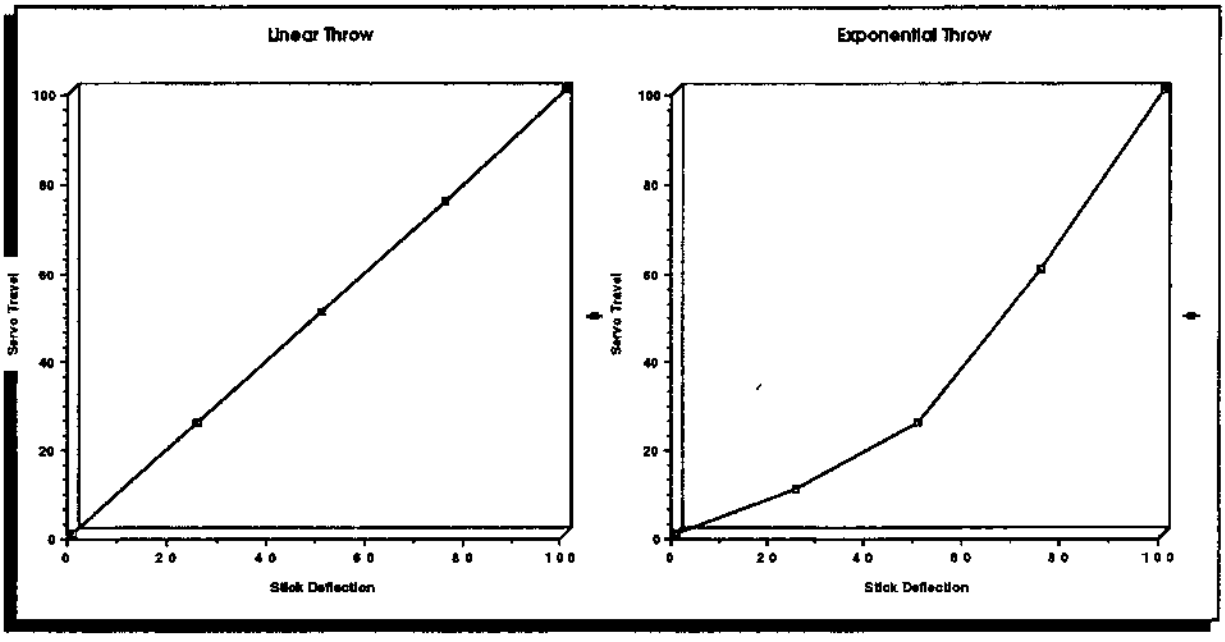
For maximum flexibility in the set-up of your aircraft, you will want to study the instructions for setting EXPONENTIAL/VTR and ALTERNATE MODE before completing switch assignments and rates for the Dual Rate function. You must assign Exponential Throw options to the same switch(es) as your Dual Rates,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

EXPONENTIAL/ VTR

Stylus with GLID Card allows the pilot to choose two settings for Exponential Throw for Aileron, Elevator, and/or Rudder. Also available (ONLY with the GLID 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.*

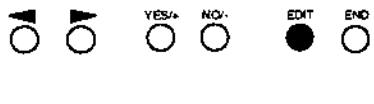


If you have not used Exponential functions before, you will want to start with a very small amount of Exponential (10% - 20%) to determine whether you like this sort of control response. Exponential is most useful where strong control response is desired at extreme stick positions, but softer response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

Exponential ...

To activate Exponential Throw you must have Dual Rates assigned to a switch. The positions for Exponential #1 and Exponential #2 for each flight control function correspond to the Dual Rates switch position(s) for those functions. In other words, if you have assigned the #7 switch position to turn on Dual Rate #1, then this same switch position will activate Exponential #1 settings for the same control functions. (Note, however, that you can leave the Dual Rates set at 100% so that switching a Dual Rate switch on will activate Exponential only.)

Press the Edit key to bring up the following screen:




```
LAND  REFL: EL  CB
DIFF  D/R   EXP/VTR
```

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


```
LAND  REFL: EL  CB
DIFF  D/R   EXP/VTR
```

Press the YES/+ key.

The first Exponential screen will appear as shown below:


```
AI1 EXP  > 0%
                →
```

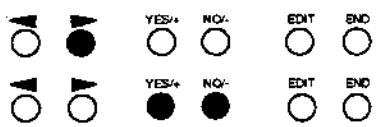
These screens tells you the present Expo/VTR status and, when a Dual Rate/Exponential switch is set to an ON position, the setting for that control function or functions. In this sample menu Aileron Dual Rate #1 is ON and the default setting is for expo (EXP) and is presently at 0%.

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

To set an Exponential rate for any of the three possible control functions, turn the switch for that function(s) to the Dual Rate 'On' position. Below we'll assume that the Aileron dual rate switch is in the on position — note that the number following the abbreviation "AI" displays"1."

```
AI1 EXP  > 0%
                →
```

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



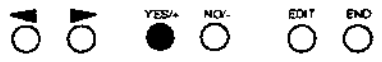

```
AI1 > EXP   0%
            to
            +100%
```

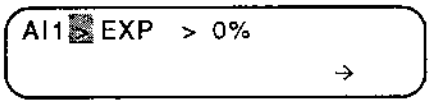
Press the > key to move to the second (Elevator) or third (Rudder) Expo/VTR screens.

Variable Trace Rate

For any Dual Rate function you can choose between Expo or VTR response types.

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





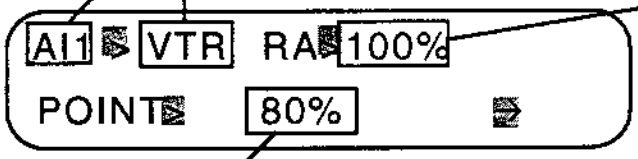
The screen will change to the default screen for VTR. The menu positions are described below:

First position shows which function and which rate are presently active. IN this example the "AI1" display means that the present function is Ailerons, and Rate #1 is presently turned on.)

(Which rate is active - if any - is determined by your present switch position.

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)

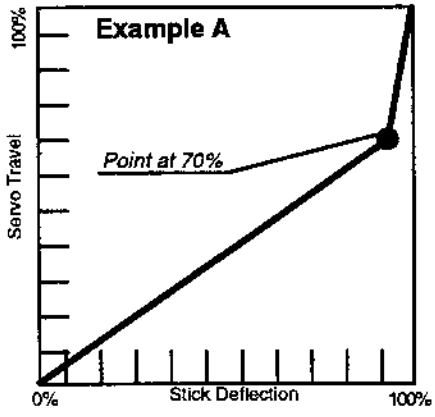
The "POINT" adjustment determines at what point, expressed as a percentage of total stick travel, the rate of response will change from the normal rate to the rate defined within this menu (when THIS dual rate switch is set to the on position). Range is from 5% to 95%.

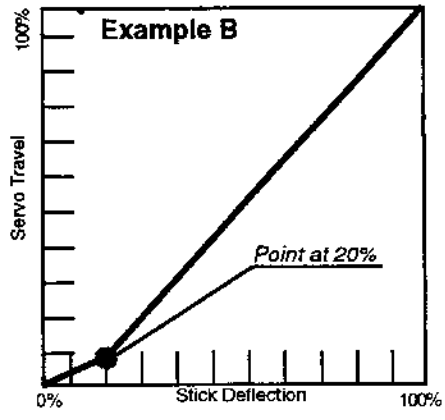
What Is VTR?

VTR, or Variable Trace Rate, is a function that allows you to define two different LINEAR control response rates, with the change in rates occuring 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.





COMPENSATION MIXERS

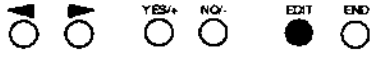
Each of these mixers can be assigned to a switch or can be set to remain active or inactive at all times.

Stylus has with the GLID card installed offers three Compensation Mixers to handle advanced mixing needs. Each of these mixers can be assigned to a switch or can be set to remain active or inactive at all times.

The C-Mix basic functions are identical with or without the GLID card installed. However, when using the GLID card there are several ADDITIONAL options available for each C-Mix.

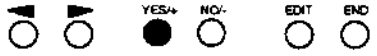
The purpose of the Compensation Mixer is to allow one transmitter control input to affect two flight functions. A common use would be to mix aileron and rudder to acheive coordinated turns without moving the rudder stick.

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




```
C-MX   M-SLCT   CAMB
WING-TYPE       V-TAIL
```

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




```
C-MIX 1  L  >   0%
MAS>SP      SLA>RU →
```

C-MIX SCREEN

Presently selected mixer - #1, #2 or #3. Select which with YES/+ or NO/- key.

Throw Direction Indicator - either L or R, U or D, or 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)

```
C-MIX>1  L  >   0%
MAS>SP      SLA>RU →
```

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.

Channels available as MASTER are:
- AI ..... Aileron
- FL ..... Flap
- EL ..... Elevator
- RU ..... Rudder
- SP ..... Spoiler
- GE ..... Gear
- CB ..... Camber

Channels available as SLAVE are:
- LA ..... Left Aileron
- LF ..... Left Flap
- RF ..... Right Flap
- RA ..... Right Aileron
- EL ..... Elevator
- RU ..... Rudder
- SP ..... Spoiler
- GE ..... Gear
- CB ..... Camber

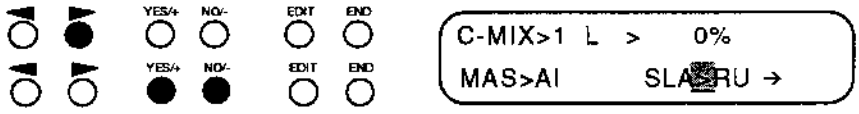
Compensation Mixers ...

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 rudder to automatically respond when we move the aileron stick, so Aileron must be the MASTER channel.

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.

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



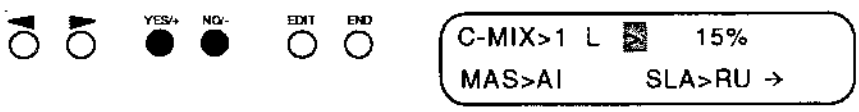
Remember, the MASTER channel is the channel that will drive both its own servo(s) AND the slave channel's servo when the Master channel's transmitter control is moved. The SLAVE channel's servo(s) will respond to the Master channel's transmitter control AS WELL AS responding normally to its own transmitter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

Having selected the Master and Slave channels, the next step is to set the amount of mixing and the direction of the Slave channel's response to the Master channel's transmitter control. Since "L" is displayed you will be adjusting the amount of rudder movement with left aileron.

NOTE:
Since there are ample mixers already built in for Aileron> Rudder mixing, you will not need to use a C-MIX function for this. However, the programming is the same for any custom C-MIX function you may wish to use.

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 (rudder) that will occur with movement of the Master control. (In this case aileron.) The range of adjustment available if 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 accomodate if the total of mixing and EPA for that servo exceed 150%.

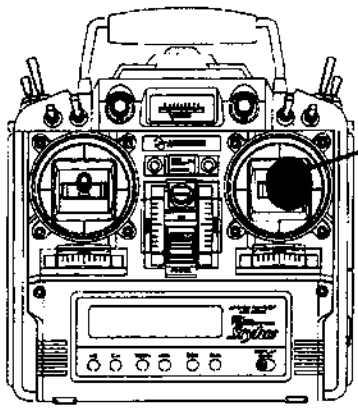
For now, set the mixing for L (left aileron stick movement) at 15%. If the rudder moves opposite the direction desired, simply change the value to -15%. This will give the same amount of mixing, but in the opposite direction.



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

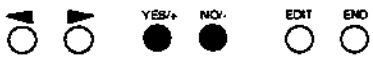
Compensation Mixers ...

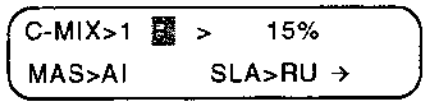
To program mixing for both directions of Master stick movement you must set both L and R. To change from L to R for programming, simply move the transmitter control for the MASTER channel (in this example the Aileron stick). Note that when you move the left, "L" is displayed in the mixing screen, and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



Move the Aileron 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.



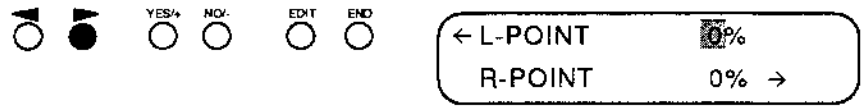


At this point you will have automatic rudder response along with aileron response whenever you move the Aileron stick on the transmitter. The rudder servo will still respond normally to movement of the transmitter's rudder stick.

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

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.

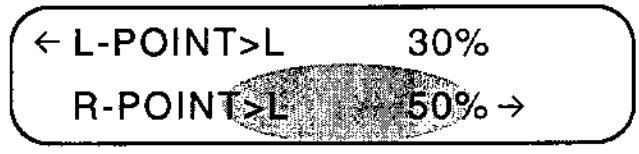


The display will show "L-POINT" and "R-POINT" if the Master control moves left and right, or H and L points (High and Low), or U and D points for elevator.

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.



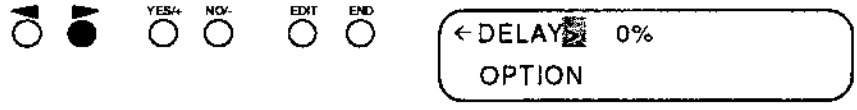
If the R-POINT is set as shown above, activating the C-Mix switch will cause the SLAVE control to offset as if the Master stick was moved 50% towards the LEFT, when the stick is at neutral. From that point (50% left movement of the Master control stick) to full left stick, the rate AND amount of mix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

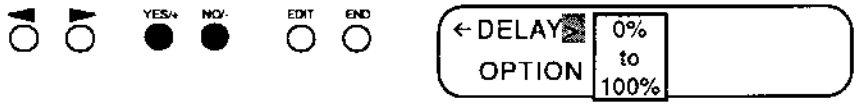
Compensation Mixers ...

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.



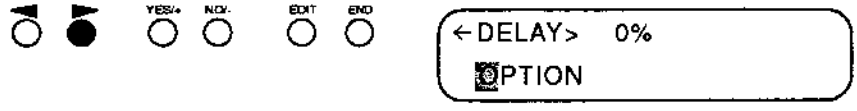
The DELAY setting allows the user to program a time-delay for the response of the slaved function. This will slow the servo's response time to mixer inputs. The amount of mix remains unchanged.

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).



NOTE: Slave servo response to it's own control stick or switch is not affected by this delay setting.

Move the cursor to the Option position:



Press the YES/+ key to display the menus for the mixer Options:

The C-Mix options menus allow for very sophisticated variable "trimming" of the C-Mix. Using these options you can add or subtract from a C-mix output based on the movement of ANY of the variable rate strick, trims or trimmers.

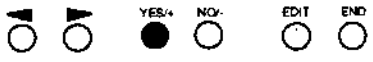
The first setting (shaded above) is where you choose which stick or trimmer will act as the Variable Rate (VR) control for the C-Mix. The range is from 0-12 as follows:

MODE 2	MODE 1
0 ..... No Trimmer	0 ..... No Trimmer
1 ..... Flap Stick	1 ..... Elevator Stick
2 ..... Flap Trim	2 ..... Elevator Trim
3 ..... Aileron Stick	3 ..... Aileron Stick
4 ..... Aileron Trim	4 ..... Aileron Trim
5 ..... Elevator Stick	5 ..... Flap Stick
6 ..... Elevator Trim	6 ..... Flap Trim
7 ..... Rudder Stick	7 ..... Rudder Stick
8 ..... Rudder Trim	8 ..... Rudder Trim
9 ..... Right Potentiometer	9 ..... Right Potentiometer
10 ..... Left Potentiometer	10 ..... Left Potentiometer
11 ..... Right side Slider	11 ..... Right side Slider
12 ..... Left side Slider	12 ..... Left side Slider

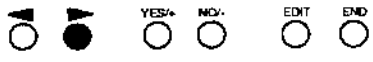
Compensation Mixers ...

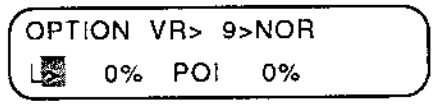
The C-Mix options are an extremely flexible and powerful group of functions that generally allow any mixing operation you can imagine. For purposes of this explanation we'll use an extremely simple operation, assigning the potentiometer on the right side of the face of the transmitter as our VR trimmer. You might use such a set-up while testing to determine how much mixing your aircraft needs for optimum trim, OR to allow adding to or subtracting from a trim for specific manuevers.

Press the YES/+ key to change the VR position to "9."



Press the > key twice to move the cursor to the L positon in the menu.



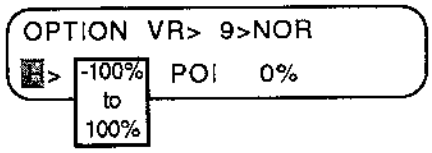


This position is where you set the amount of mixer trim for the "L" direction of trimmer control movement. "L" is the following direction of VR movement:

Downwards deflection of a control stick, trim lever or slider
Rightwards deflection of a control stick or trim slider
Counter-clockwise movement of a potentiometer

The range available for this value is from -100% to 100%. The value set will be combined with the values set in the C-mix main menu for EACH direction of master stick movement; the AMOUNT of this value added to your C-mix settings will vary from NONE, when the VR trimmer is centered, to the FULL amount when the VR trimmer is moved to full throw in the L direction.

The amount of trimming is variable at independent rates for trimmer control travel in either direction. Move the trimmer in the opposite direction (compared to above directions for "L" movement) to change the menu display to "H."



Again, the range available for "H" is from -100% to +100%.

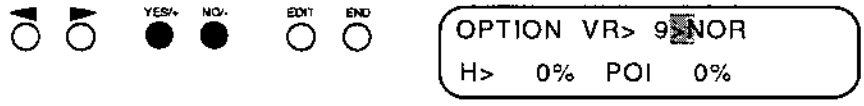
Let's assume we have a C-mix setting for this mixer of -50% for left rudder and +25% for right rudder. (A mix where rudder is master, and elevator responds in the up-elevator direction, at different amounts, for either direction of rudder stick movement.)

Set the VR option for L to 25% and for H to -25% for this example. Now, if we hold full right rudder while the VR trim is centered the elevator will move 25% up. If we move the trimmer fully counter clockwise (L direction) we add the +25 from the mixer setting and the +25 from the VR setting - resulting in +50% mix with full right rudder. Full left rudder will combine the -50% from the mixer setting with the +25% from the VR menu, resulting in -25% mixing with full left rudder.

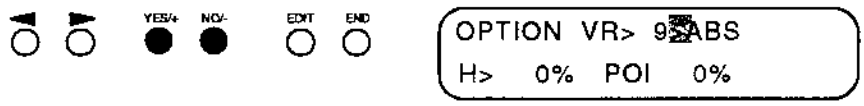
Moving the VR trimmer fully clockwise (H-direction) will result in: Full right rudder results in +25% from c-mix setting plus -25 from VR setting = no mixing. Full left rudder combines -50% from the c-mix setting plus -25 from VR setting = 75% total mixing. (Remember, partial movement of the VR trimmer results in a proportional amount of adjustment to the settings in the C-mix screen).

Compensation Mixers ...

You have an option to change the way in which the C-mix setting and the VR settings are combined. Move the cursor to the NOR position.



Press the YES/+ or NO/- key to change the display to "ABS."



Let's still assume we have a C-mix setting for this mixer of -50% for left rudder and +25% for right rudder. (Same as before).

Leave the VR option for L at 25% and for H at -25% for this example.

The ABS option stands for "Absolute Value." Rather than combining the values from the C-mix menus with the values in the VR menus, (including their signs, + or -), with ABS selected the trimmer either ADDS or SUBTRACTS the amount programmed in the VR screens to or from the C-Mix settings. Whether it adds or subtracts the value depends on the SIGN (+ or -) in the VR menu.

Study the C-mix options carefully and make certain that the control surfaces respond as intended when the C-mix and VR trimmers are operated.

Example: If we hold full right rudder while the VR trim is centered the elevator will move 25% up. If we move the trimmer fully counter clockwise (L direction) we add the +25 from the mixer setting and the +25 from the VR setting - resulting in +50% mix with full right rudder. Full left rudder will add the +25% from the VR menu with the -50% from the mixer setting , resulting in -75% mixing with full left rudder.

Moving the VR trimmer fully clockwise (H-direction) will result in: Full right rudder results in +25% from c-mix setting MINUS (-)25 from VR setting = no mixing. Full left rudder combines -50% from the C-mix setting LESS -25 from VR setting = -25% total mixing. (Remember, partial movement of the VR trimmer results in a proportional amount of adjustment to the settings in the C-mix screen).

The final position in the Options menu is the "POI," or "point" setting. The adjustment lets you choose the position of the VR trimmer that will act as the zero point; i.e. the point at which the VR trimmer doesn't affect the mixing settings. By default it is at 0%, meaning the center position of the stick or trimmer. If you want to have finer control in one direction than the other, you can offset the neutral point to any position you desire.

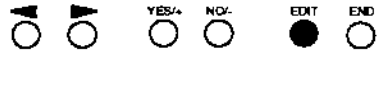
Use the > key to move the cursor to the POI position. Now move the control that is assigned as the VR trimmer for this C-mix to the desired POINT position. Press the YES/+ key. This is now the center, or no-trim position, for this VR trimmer. The display will show the position you have chosen. (You can also adjust this setting with the YES/+ or NO/- keys).

M-SELECT

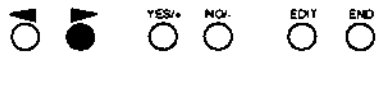
Stylus has built in memory to store four Model set-ups. To use or modify one of the Model Set-ups you must first SELECT that set-up and load it as the presently active Model. This is done through the M-SELECT function.

When the GLID card is installed and initialized, ALL four of the model set-ups will be for the same type of aircraft; i.e. all will be extended feature set sailplane set-ups.

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



Assume that you want to select a second Model to use as an GLID set-up. Press the > key to move the cursor to the M-SELECT position:

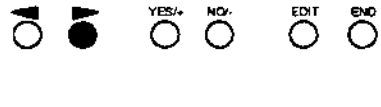


Press the YES/+ key to bring up the M-SELECT screen.

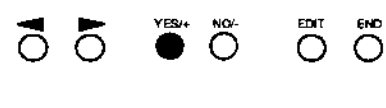
"S- GLID-A" on the top line shows the name of the presently loaded model. The cursor will be at the first position on the second line of the menu. Pressing the YES/+ key will select the second model:

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

At this point GLID-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:



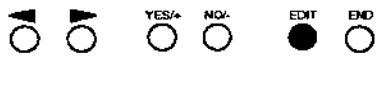
Now press the YES/+ key to Select and Load the "S-GLID-B" model. The top line of the menu will change to reflect that "S-GLID-B" is the presently active Model set-up.



CAMBER

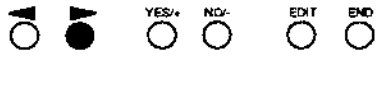
Stylus allows the sailplane pilot to independently define the amount of camber response mixed into each of the aileron and flap servos. This allows you to fine-tune the amount of response each surface has to camber inputs so the entire trailing edge of the wing will move the same amount when camber is used.

To access the camber settings, press the EDIT key to display the following:



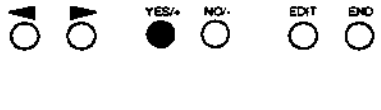

```
C-MX  M-SLCT  CAMB
WING-TYPE     V-TAIL
```

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



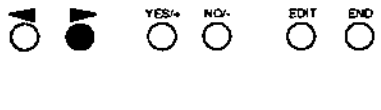

```
C-MX  M-SLCT  CAMB
WING-TYPE     V-TAIL
```

Press the YES/+ key to display the first CAMB menu.




```
CAMBER:LA  100%
LF>100% RF>  100%→
```

Press the > three times key to move the cursor to the second menu screen.




```
CAMBER:LA  100%
LF>100% RF>  100%→
```

```
←RA  100%
```

The four cursor positions, shaded above, allow setting the camber response for the trailing edge control surface's servos. The abbreviations are:

LA	**Left Aileron**
LF	**Left Flap**
RF	**Right Flap**
RA	**Right Aileron**

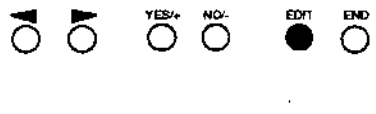
For each AILERON servo, the camber setting can be from -100% to +100%, allowing you to define the direction and amount of aileron response to Camber commands.

For each FLAP servo, the amount of Camber response can be set from 0% to 100%.

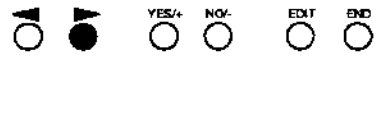
WING TYPE

Stylus with the GLID card installed allows the sailplane pilot to select from a list of "Wing Types," so you can assign the channel outputs to provide the best match for your aircraft and receiver types.

To access the Wing Type options, press the EDIT key to display the following:



Press the > key to move the cursor to the Wing Type position.



IMPORTANT: Changing the Wing Type will cause a complete data reset for the currently active model. You should select the desired Wing Type template BEFORE any programming is performed.

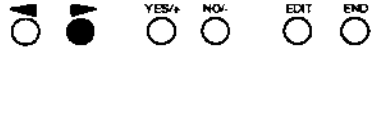
Press the YES/+ key to display the Wing Type menu.

The top line displays the default Wing Type, 2A2FER. The cursor is positioned on the bottom line at the Wing Type options position. Pressing the YES/+ or NO/- keys will scroll through the three Wing Type Options:

2A2FER .....2 Aileron, 2 Flap, 1 Elevator and 1 Rudder
2A1FER•F5B .....2 Aileron, 1 Flap, 1 Elevator and 1 Rudder (F5B Style)
2A/2F<>E2R .....2Aileron, 2 Flap/Elevator, 2 Rudder (Flying Wing)

To change Wing Type, press the YES/+ key to display your choice:

The WIng Type on the top line is still the same, because you need to confirm the new choice. Press the > key to move the cursor to the YES position.



Press the YES/+ key to confirm your choice:

Note that the top menu line now indicates that the new choice for Wing Type has been activated.

Channel assignments for the three wing types are noted in the table on the following page.

WING TYPE ...

IMPORTANT: Changing the Wing Type will cause a complete data reset for the currently active model. You should select the desired Wing Type template BEFORE any programming is performed.

Additional notes regarding the two "less standard" optional wing type options are:

2A/2F<>E2R **2Aileron, 2 Flap/Elevator, 2 Rudder (Flying Wing)**

- Two new channel assignments, Right Rudder and Left Rudder. Each has its own Centering, Reversing and EPA adjustments.
- Independent elevator mix to each flap and aileron.
- Independent camber mix to each rudder
- Camber trim authority

2A1FER•F5B 2 Aileron, 1 Flap, 1 Elevator and 1 Rudder (F5B Style)

- Two new channels, AX1 (aux) and MO (motor)
- Adjustable motor EPA
- Single flap channel
- Motor channel delay
- Motor to elevator mixer and mixer delay

Menus for each of the new features above are located with the "standard" Stylus features; for example, the MO-EL mix above is found in the standard Mix menu when the **2A1FER•F5B Wing Type is active.**

Some menus within the programming screens will be different from those illustrated in this manual if you select the 2A1FER•F5B or 2A/2F<>E2R Wing Type templates.

The receiver output assignments, with these Wing Types active will be as follows:

Rec'r Output :	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2A2FER	R. Aileron	L. Aileron	Elevator	Rudder	R. Flap	L. Flap	Spoiler	Gear
2A1FER•F5B	Motor	L. Aileron	R. Aileron	Elevator	Rudder	•Flap	Spoiler	Aux 1

For the above wing types, the REV (servo reversing) menu order will be the same as the channel output order.

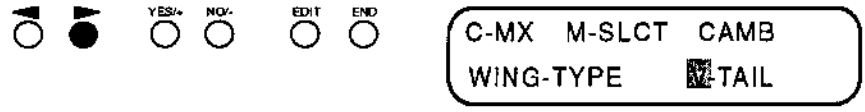
2A/2F<>E2R	Spoiler	L. Aileron	L. Rudder	R. Rudder	Gear	L. F<>E	R. Aileron	R. F<>E
REV Positions:	7	2	3	4	8	6	1	5

V-TAIL

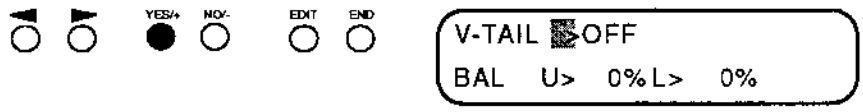
Stylus with the GLID card installed allows the sailplane pilot to select two types of "V-TAIL" type operation so you can assign the channel outputs to provide the best match for your aircraft. This option is generally used when you have two tail surfaces that act as both Elevator and Rudder controls.

To access the V-TAIL options, press the EDIT key to display the following:

Press the > key to move the cursor to the V-TAIL position.



Press the YES/+ key to display the V-TAIL menu.



The first menu position allows you to select from three options:

OFF .. V-Tail option is not active

A ..... V-Tail operation where the servos move in OPPOSITE directions of rotation in response to Elevator commands, and operate in the SAME direction of rotation in response to Rudder commands.

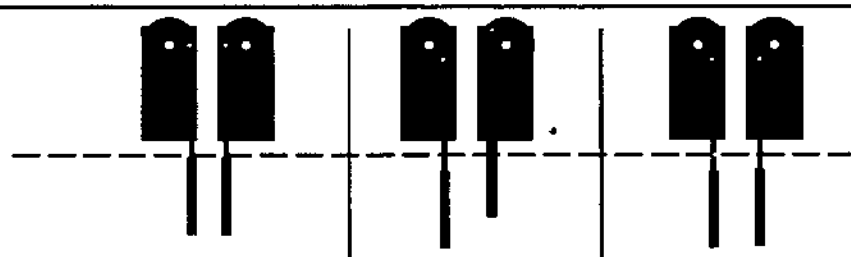
B ..... V-Tail operation where the servos move in the SAME direction of rotation in response to Elevator commands, and operate in OPPOSITE directions of rotation in response to Rudder commands.

With either the type "A" or "B" V-Tail operation, the Reversing functions for CH 3 reverse BOTH servos' elevator response and CH 4 reverses BOTH servos' Rudder response.

The choice of "A" or "B" type of V-Tail operation depends on the way you have installed your servos and linkages. If the linkages are installed in identical fashion, (both pushrods coming from the left, or both from the right side of the servo) use type B. If the linkages are symmetrical, (pushrods on "outside" or "inside" on both servos) use type A.

V-TAIL SERVO HOOKUP

With the GLID Card installed, ushrods can be connected to the servos in a symmetrical OR identical manner. In this case they are symmetrical, so you would choose V-TAIL Type "A."



NEUTRAL
Both tail surfaces at neutral positions.

RUDDER
Tail Surfaces deflect in OPPOSITE directions for rudder control.

ELEVATOR
Tail Surfaces deflect in SAME direction for elevator control.

V-TAIL...

Press the YES/+ key to change the V-Tail Type position to "A".

You have now activated the Type "A" V-Tail operation, and the tail servos will operate as described on the previous page.

The remaining two settings on this screen allow you to fine-tune the control response. They work the same regardless of which type of V-Tail operation you have activated.

Use the > key to move the cursor to the first position on the bottom menu line:

This setting adjust the "balance" of the two tail servos for elevator operation. The settings have no affect on the servos at neutral. Adjusting this value will cause the movement of one servo (presently in the "Up" elevator direction, as indicated by the "U") to increase and the other servo to have decreased throw in the present direction. This allows you to correct for minor variations in servo or pushrod installations.

(Move the elevator stick in the Down direction and the menu changes to display "D," allowing you to set the balance for the tail servos in response to down-elevator commands.)

Use the YES/+ or NO/- keys to achieve the desired balance between the tail servos for elevator operation.

To adjust the balance between the tail servos in response to rudder movement, press the > key to move the cursor to the final menu position. Again, move the stick in the direction for which adjustment is desired, then use the YES/+ or NO/- keys to adjust the balance.

The range of adjustment for the balance settings is from -20% to +20%.

NOTE: 2-channel V-Tail Operation

To use V-Tail operation in a plane without ailerons, while operating the controls with the aileron and elevator sticks, use V-Tail mixing and then set a C-MIX function to be ON (in the switch menus) and set a mix with Aileron as the master and Rudder as the slaved control. Set the mixing rate at 100% for both left and right aileron stick movement. You can now control the rudder functions of the V-Tail mix using the Aileron stick.

AUTOMATIC DYNAMIC TRIM MEMORY

(A-DTM)

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.

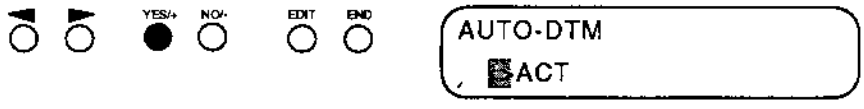
*In the GLID configuration, the Flight Modes are used to allow activation of Automatic Dynamic Trim Memory and/or Automatic Offset functions. A switch position can be assigned within the SW settings for up to three flight modes, as follows:

LAUNCH
NORMAL
REFLEX

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 ac tivate the A-DTM function:



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. A 3-position Flight Mode switch must also be assigned.

Once activated, the A-DTM function is transparent to the pilot. Simply activate a Flight Mode (for instance, "Launch") and trim the aircraft for straight and level flight. Then switch to another Flight Mode - Landing Mode, for instance - 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.

This function might be used to trim "up" elevator as needed for launch, while allowing your normal flight trim (in Normal mode) to remain unchanged.

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)

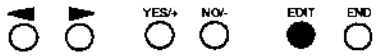
Automatic Offset is an advanced function that can be used in conjunction with the Flight Mode* options. When activated, Automatic Offsets allows you to assign flight control surface offsets while in any flight mode EXCEPT LANDING - without affecting any other flight mode.

*In the GLID configuration, the Flight Modes are used to allow activation of Automatic Dynamic Trim Memory and/or Automatic Offset functions. Switch position are assigned within the SW settings for four flight modes, as follows:

Launch - #17
Reflex - #19
Normal- #18 with Flap stick above Landing Point.
Landing - Flap stick below Landing Point position.

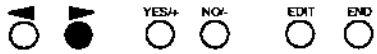
You will also need to assign a switch position to activate the A-OFST function.

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



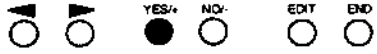

```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

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




```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

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




```
AUTO-OFFSET
 AI>INH>    0%      →
```

Press the > or < keys to move to the second A-OFST screen and back.

```
← EL>INH>    0%
  RU>INH>    0%
```

The first menu screen has one cursor position, presently reading "AI>INH" to show that the A-OFST funstion is inhibited for Aileron. To enable A-OFST for Aileron, press the YES/+ key.

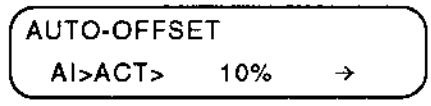

```
AUTO-OFFSET
 AI>ACT>    0%      →
```

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 Flight Mode switch to select another flight mode. The display will change back to INH. Press the YES/+ key to enable A-OFST for Aileron in the newly selected flight mode.

Automatic OFFSETS ...

Once activated in the A-OFST menus, the A-OFST function is ready to use. Activate a Flight Mode (for instance, "Normal"). 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-OFST switch. The system will memorize and store the stick position WHEN YOU ACTIVATE the A-OFST 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.



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 positon and repeat the above process.

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

Any OFST 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. For instance, if you have programmed an A-OFST amount of 10% Up Elevator for the Launch Flight Mode, then the elevator will move 10% in the "up" direction if the stick is at neutral, or 10% FURTHER in the "up" direction if you are already holding some up-elevator when the Launch Mode switch is activated. You can think of the A-OFST 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.

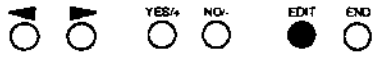
CAUTION: Since the A-OFST function can affect the entire amount of surface throw, you should always be aware of any offset amounts you have programmed!

VARIABLE RESISTOR TRIMMER ASSIGNMENTS

(VR)

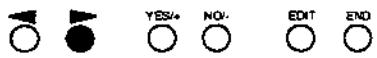
Stylus with the extended feature set card installed allows the pilot to select the Variable Resistor Trimmer assignments. This lets you select the switch type and position that best suits your needs and preferences.

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



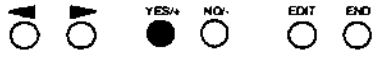

```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

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




```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

Press the YES/+ key to display the VR menus:



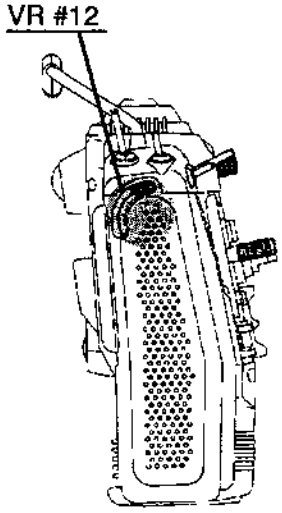

```
VR→CAMB-LCH>11
 CAMBER>12          →
```

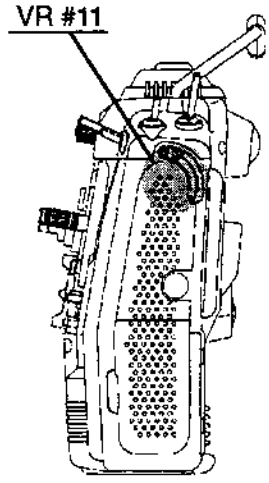
```
←CAMBER-TRIM> 0
 EL-PST-REF> 9      →
```

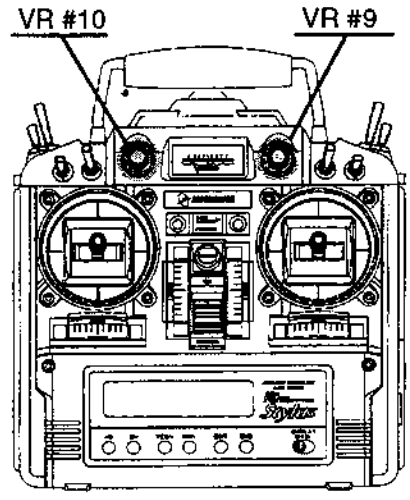
```
←EL-PST-LCH> 10
 AUX> 0
```

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







END POINT ADJUSTMENTS (EPA)

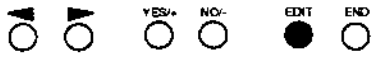
Stylus allows you to adjust the 'End Points,' or servo travel limits, for all flight channels.

There are no EPA screens for Landing Gear. That function has a separate menu that allow for adjustments.

If you are using two aileron servos there will be separate EPA adjustments for the Right Aileron and the Left Alleron servos. The screens in this example are for the default wing type of 2A2FER.

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.

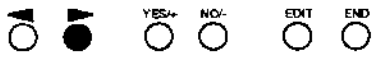
To electronically adjust End Points for servo travel, press the EDIT key to arrive at the following screen:




```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

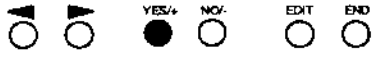
In general, it is best to use as close to 100 percent servo throw as possible. This allows for the best possible resolution and centering of all control surfaces.

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




```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

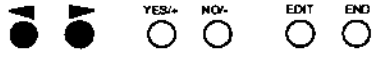
Now press the YES/+ key to see the first EPA screen.




```
EPA   LA-L   LF-D
      100%   >100%  →
```

Use the < and > keys to navigate between the three EPA screens.

```
←RF-D  RA-L  EL-U
>100%  >100% >100%  →
```

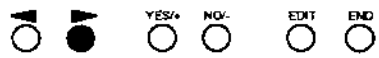


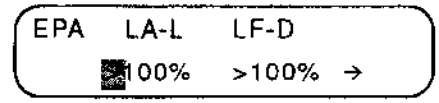

```
←RU-R  SP-L  CB-D
>100%  >100% >100%
```

In the EPA screens, the top row shows the channels for which EPA adjustments are available AND the current End Point (Up, Down, 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.

How To Use The EPA Screens

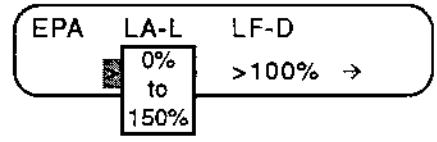
To set your individual End Points, use the < or > keys to position the cursor over the desired control function's present setting.



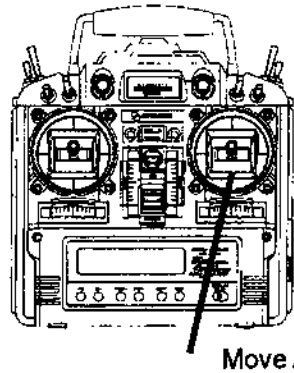


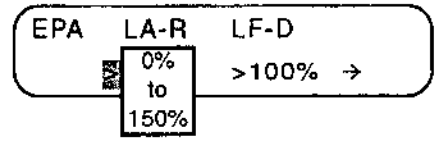
In this example, we have selected the EPA setting for the first function, Left Aileron. On the top row, the present display shows "LA-L," which means you can now make changes in the LEFT travel limit for the Left Aileron servo.

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 Left Aileron function, move the aileron stick to the right. Now the EPA screen will show as follows:





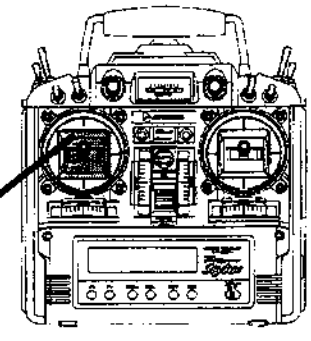
The **LA-R** now in the first position means that your End Point Adjustment will now apply to the RIGHT extreme of left aileron servo travel.

Move Aileron Stick to the right.

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

The FLAP (both Left and Right) and SPOILER End Point Adjustment positions are set by moving the Flap/Spoiler stick. The display will read either FL-N or FL-D depending on which way the control set, for Neutral or Down Flap EPA setting, respectively.

Move the Flap stick to set the direction for EPA adjustment for Right Flap, Left Flap and Spoiler



SERVO REVERSING

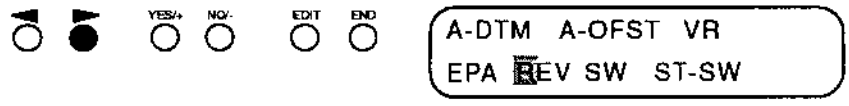
Stylus allows you to electronically REVERSE the direction of rotation for each of the servos in use. This allows you to hook up your control linkages and pushrods in the most mechanically desirable manner, without regard to the direction of servo movement.

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.

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

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

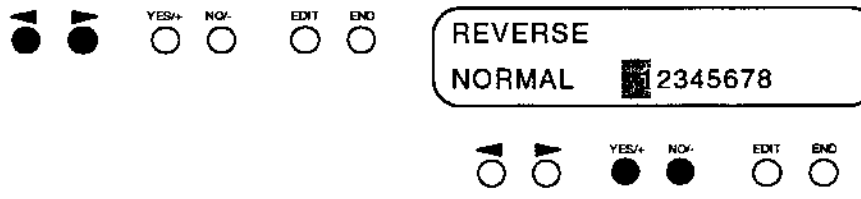
Press the > key to move the cursor to the REV position.



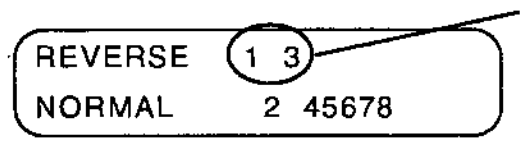
Now press the YES/+ key to see the REV screen.

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.



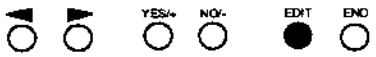
In this example, Channels 1 and 3 have been set for REVERSE rotation.

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 will depend on what options you have activated.

SWITCH ASSIGNMENTS

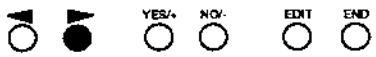
A very useful feature of Stylus is the ability to assign functions to switches however you prefer, rather than forcing you to adapt to one particular switch layout. With the GLID card installed, you can also assign logical operators to further customize the SW functions.

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




```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

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

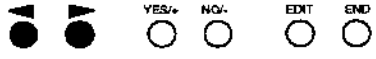



```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

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 NINE Switch Assignment screens as seen below. To move from one screen to another press the > or < keys to move the cursor past the arrow positions.


```
SW LAUNCH  REFLEX
AI-D/R1  AI-D/R2      →
```




```
←EL-D/R1  EL-D/R2
RU-D/R1  RU-D/R2  →
```

```
←AI→RU1  AI→RU2
ALTER1  ALTER2    →
```

```
←GEAR  AUX  E-PST1
E-PST2  AUT-OFST →
```

```
←C-MIX1  C-MIX2
C-MIX3  CB→EL     →
```

```
←CH-DLY1  CH-DLY2
CH-DLY3  CH-DLY4 →
```

```
←CH-DLY5  INC  DEC
O-LCH-DLY  EL→CB →
```

```
←START1  STOP1
 START2  STOP2   →
```

```
←RYTHM1  RYTHM2
 RYTHM3
```

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.

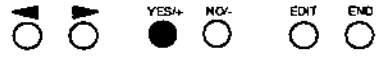
Note that more than one function may be assigned to a single switch. This can be useful in the case of similar functions, such as dual rates for Aileron, Elevator and Rudder all being assigned to a single switch. However, to avoid accidentally enacting a function, extreme care must be used when assigning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

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

Switch Assignment Chart (Default Settings)

Write Your SW Choice In Below Lines:		
SCREEN ONE ..... Default		Set
Launch 17		
Reflex 19		
AI-D/R1 7		
AI-D/R2 6		
SCREEN TWO		
EL-D/R1 14		
EL-D/R2 13		
RU-D/R1 0		
RU-D/R 0		
SCREEN THREE		
AI>RU1 1		
AI>RU2 3		
ALTER1 11		
ALTER2 0		
SCREEN FOUR		
GEAR 0		
AUX 0		
E-PST1 8		
E-PST2 10		
AUT-OFST 0		
SCREEN FIVE		
C-Mix 1 0		
C-Mix 2 0		
C-Mix 3 0		
CB>EL ..... ON		
SCREEN SIX		
CH-DLY 1 0		
CH-DLY 2 0		
CH-DLY 3 0		
CH-DLY 4 0		
SCREEN SEVEN		
CH-DLY5 0		
INC/+ 0		
DEC/- 0		
O-LCH-DLY 0		
EL>CB 5		
SC REEN EIGHT		
Start1 15		
Stop 1 15		
Start2 0		
Stop2 0		
SCREEN NINE		
RHYTHM1 0		
RHYTHM2 0		
RHYTHM3 0		

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




```
SW LAUNCH REFLEX
AI-D/R1  AI-D/R2      →
```

The SW assignment menu for that function will appear.

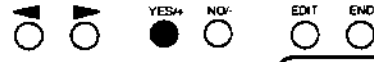
```
SW  AI-D/R1  (ON )
  >    7   > ---
```

The top line shows that we are in the SW menus and that the current function is for AI-D/R1, which is presently ON. (If you move the spring-loaded switch to the #6 position, the display will change to "OFF.")

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)

```
SW  AI-D/R1  (ON )
  >    7   --- 
```

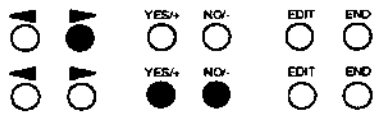



```
SW  AI-D/R1  (ON )
  >    7   OR     >0
```

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.



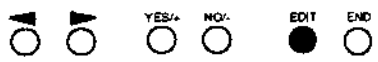

```
SW  AI-D/R1  (ON )
  >    7   >OR    13
```

Here we have made it possible to activate AI-D/R1 with EITHER the #7 OR the #13 switch position.

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, Camber or Flap 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 - for example, you could activate your gear switch as you enter downwind at moderate speed, and then have the gear activate when you lower flaps below a specified point when you turn on final. In either case, the ST-SW allows you to concentrate on flying rather than flipping a switch during times of high pilot workload.

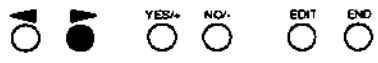
To use the ST-Switch function, press the Edit key to display the following screen:




```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

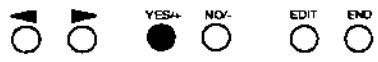
The ST-SW function allows you to concentrate on flying rather than flipping a switch during times of high pilot workload.

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




```
A-DTM  A-OFST  VR
EPA  REV SW  ST-SW
```

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.




```
STICK-SW#1  CH>SP
PNT   50%ST    0%→
```

```
←ON>L       (OFF)
```

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

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.

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.

```
STICK-SW#1  CH>SP
PNT   50%ST    0%→
```

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 FL stick is moved BELOW the PNT position.

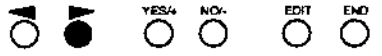
```
←ON>L       (ON)
```

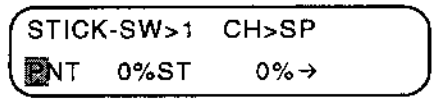
This position displays the present status of this ST-SW function; in this case, the ST-SW is on

STICK-SW ...

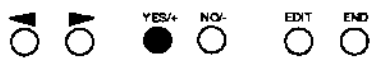
As described in the preceding box "Explanation of Stick Switch Display," select which ST-SW (1 through 6) you wish to program. Move the cursor to the second position and select which control stick you want to have activate the ST-SW. (In this example we'll use ST-SW #1 and the SP, or Spoiler/Flap, stick.)

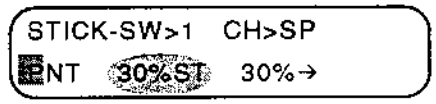
Move the cursor to the PNT position:





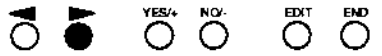
This position allows you to define at which POINT in stick travel the ST-SW will be activated. Move the stick (in this example we've selected the flap stick) to the desired position. Press the YES/+ key.

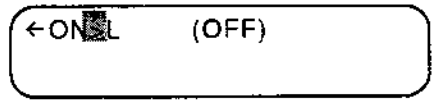




The PNT display will register the stick positon as the POINT for this stick switch; in this case we've set the Point at 30% of throttle stick travel.

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," maning 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 flap 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 flap 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. To use this SS1 as a secondary switch for AI-D/R1, go to the SW setting for AI-D/R1, presently SW #7. Leave the primary switch set to 7 and move the cursor to the middle position. Press the YES/+ key to select "AND" as the logical operator. Press the > key to move to the secondary SW position and press the YES/+ key to set this SW to "SS1."

Now, when you activate the AI-D/R1 switch while the flap stick is above 30%, the aileron rates will NOT change. When you reduce the flap setting to below 30%, you will have fullfilled the "SW7 AND SS1" conditions and the dual rate will deploy as specified in the AI-D/R1 menus. Moving the flap above 30% OR moving the SW7 to an off position will cause the rates to return to normal.

LANDING GEAR (MOTOR)

Airtronics offers a high-torque PROPORTIONAL retract servo, P/N 94739. With this servo and the STYLUS transmitter, End Point Adjustments for the retract servo are possible, independently setting the "Down" and "Up" lock positions. (These proportional retract servos still offer an advantage over "normal" servos in both torque and extended travel range. In most cases a standard servo is not recommended for retractable landing gear activation.)

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

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

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

The number after GEAR (in this case GEAR -2) denotes the present position of the GEAR switch - NOT THE SWITCH NUMBER. Position GEAR 2 is the default position for landing gear UP.

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

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

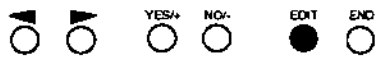
As for the GEAR 2 position, press the YES/+ or NO/- key to reach the desired pushrod travel for the gear down position.

NOTE: If you are using an electric motor with an electronic ON/OFF switch, you may want to use the Gear function to activate the switch. This will allow you to trim the elevator for power-on and power-off conditions by using the GE>EL mixer.

DELAYS
•MIXERS

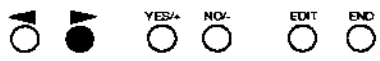
STYLUS with GLID card installed offers several DELAY functions. The menus for these functions are grouped in the Delay menu item and include: Mixer delays, Channel Delays, and the Out-Launch delay.

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



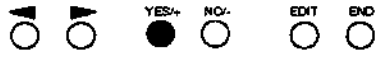

```
GEAR  DELAY(MIX
CH  OUT-LCH) ALTER
```

Press the > key to move the cursor to the Delay(Mix position:



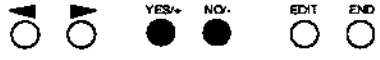

```
GEAR  DELAY(MIX
CH  OUT-LCH) ALTER
```

Press the YES/+ key to display the Mixer Delays:



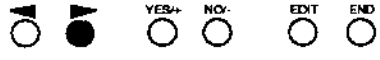

```
MIX-DELAY
 AI→RUREF   >  0%→
```

The first adjustments are for a delay function for the three AI>RU mixers. The first position in this menu (shaded above) is to select which of the three mixers you wish to set a delay for. The mixers are: REF (Reflex mode), AI>RU1, and AI>RU2. Press the YES/+ or NO/- keys to scroll through the choices. Then set the menu to "1," for AI>RU Mix #1.



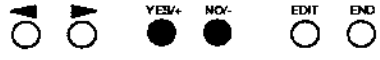

```
MIX-DELAY
 AI→RU1     >  0%→
```

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




```
MIX-DELAY
 AI→RU>1    0%→
```

This is the position where the actual amount of delay is programmed. The range available is from 0% (no delay) to 100% (maximum delay). Use the YES/+ and NO/- keys to adjust this setting:




```
MIX-DELAY
 AI→RU>1    45%→
```

In this example we have set the delay to 45%. Activate AI>RU Mix 1 and move the Aileron stick. Note that the rudder servo moves at a much slower speed than the aileron servos.

The AI>RU Mix Delays slow the servo speed of the slaved servo. Servo endpoints and centering are not affected. Note that the AI>RU Mix 1 function at the Mix menu must have a value assigned in order for the delay to operate.

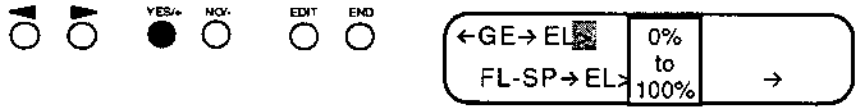
Set the delays for AI>RU Mix 2 and REF as desired, in the same manner as above.

DELAYS
•GE>EL

From the prior screen, press the > key to move the cursor to the next screen:

The top line and current cursor position allow you to assign a delay to the elevator response to (only) the GE>EL mixer. To see the effects of this setting, you must have an amount for GE>EL mixing programmed in the GE>EL menu.

Use the YES/+ key to set the GE>EL Delay:



The range available is from 0% (no delay) to 100% (maximum delay). Use the YES/+ and NO/- keys to adjust this setting.

NOTE: The elevator response to other mixer inputs AND to the elevator stick will NOT be affected; only the elevator response caused by the GE>EL mixer is affected by this setting.

DELAYS
•FL-SP>EL

Press the > key to move the cursor to the next line in this screen:

The bottom line (current cursor position) allows you to assign a delay to the elevator response to (only) the FL-SP>EL mixer. To see the effects of this setting, you must have an amount for FL-SP>EL mixing programmed in the FL>EL and/or SP> EL menus.

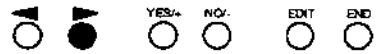
Use the YES/+ key to set the FL-SP>EL Delay:

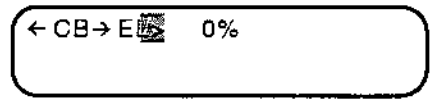
The range available is from 0% (no delay) to 100% (maximum delay). Use the YES/+ and NO/- keys to adjust this setting.

NOTE: The elevator response to other mixer inputs AND to the elevator stick will NOT be affected; only the elevator response caused by the FL>EL and/or SP> EL mixers are affected by this setting.

DELAYS
•CB>EL

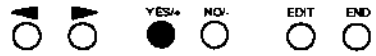
From the prior screen, press the > key to move the cursor to the next screen:

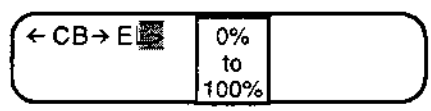




This cursor position allows you to assign a delay to the elevator response to (only) the CB>EL mixer. To see the effects of this setting, you must have an amount for CB>EL mixing programmed in the CB>EL menu.

Use the YES/+ key to set the CB>EL Delay:





The range available is from 0% (no delay) to 100% (maximum delay). Use the YES/+ and NO/- keys to adjust this setting.

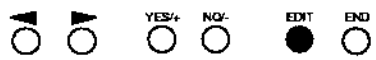
NOTE: The elevator response to other mixer inputs AND to the elevator stick will NOT be affected; only the elevator response caused by the CB>EL mixer is affected by this setting.

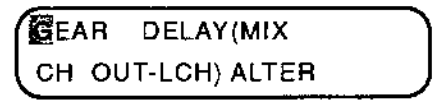
DELAYS CHANNEL DELAYS

Stylus with GLID card installed offers an extremely versatile group of user-defined 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.

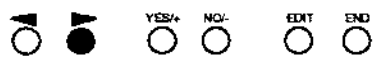
There are several obvious uses for channel delays; slowing landing gear retraction and extension for a more realistic look, allowing a slower flap deployment to minimize the pitch trim changes, and so on.

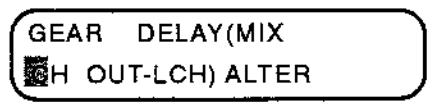
To use the Channel Delay options, press the Edit key to arrive at the following screen:



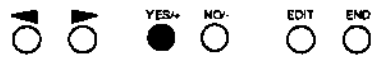


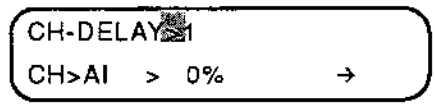
Press the > key to move the cursor to the Delay(CH position:





Press the YES/+ key todisplay the Channel Delays:





DELAYS
CHANNEL
DELAYS

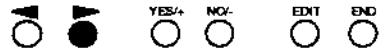
The first cursor position in the CH-DELAY menu is the indicator for which of the five CH-DELAY is presently displayed. In the sample menus it is set to "1" for channel delay #1.

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.

```
CH-DELAY 1
CH>AI   >  0%        →
```

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.

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



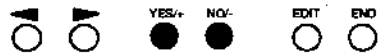

```
CH-DELAY>1
CH AI   >  0%        →
```

This cursor position (CH) is where you choose which of the functions this delay will affect.

Channels that can be assigned a CH-DELAY are:

AI ..... Aileron
FL ..... Flap
EL ..... Elevator
RU ..... Rudder
SP ..... Spoiler
GE ..... Gear
CB ..... Camber

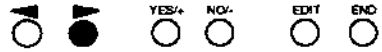
Ues the YES/+ or NO/- keys to select the desired function:




```
CH-DELAY>1
CH FL   >  0%        →
```

In this example we've selected the Flap function for CH-DELAY 1.

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



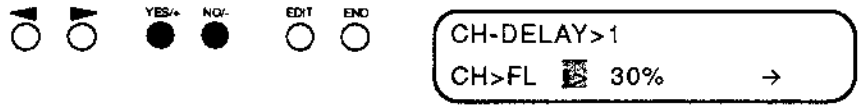

```
CH-DELAY>1
CH>FL    0%          →
```

This cursor position is where you set the amount of delay for this CH-DELAY function. Use the YES/+ or NO/- keys to set the desired delay for Flaps.


```
CH-DELAY>1
CH>FL   30%          →
```

(Continued on next Page)

DELAYS
Channel
Delays...

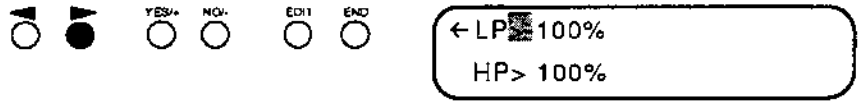


In this example we have set the delay for Flaps at 30%. Activate the switch that you assigned to CH-DLY1 and move the Flap stick; note that the servo speed is reduced.

The range available is from 0% (no delay) to 100% (maximum delay). Use the YES/+ and NO/- keys to adjust this setting.

NOTE: The Flap servo(s)' response to mixer inputs or camber settings will NOT be affected; only the Flap response caused by Flap stick movement is affected by this setting.

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



These settings, LP and HP, affect the point at which the delay settings take affect. The default settings of -100% for LP and +100 for HP result in the delay being constant throughout the servo's movement.

As these two settings approach 0, the servo's movement approaches the "normal" speed.

The LP setting determines at which point in stick travel - away from center, in one direction only - the delay becomes active. If LP is set to -40, for example, then movement of the servo will be delayed in response to stick movement from neutral to 40% away from neutral in one direction. From 40% stick movement through full deflection, the servo will operate at normal speed.

If HP is set at +40%, then the response to stick movement in the OTHER direction will be affected in the same manner.

Within the range of stick movement where the delay is active, the delay will have affect for servo movement in either direction.

If the VALUE (+ or -) of the LP and HP settings are reversed, (for example, LP is +40 and HP is -40), then the delay will be active WHEN the stick is moved beyond that point of travel but not between the two activation points.

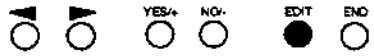
In this case, the delay will NOT be active for servo movement TOWARDS neutral in either direction.

DELAYS •OUT-LCH

Stylus with GLID card installed also offers a group of user-defined options for assigning delays to various servo operations in response to moving the Flight Mode Switch out of the Launch Mode position.

Note that the delay does NOT affect when the servo STARTS to respond to switch movement, nor does it affect the total travel of the servos.

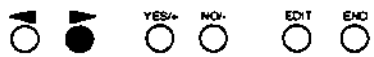
To use the the OUT-LCH Delay options, press the Edit key to arrive at the following screen:




```
GEAR  DELAY(MIX
CH  OUT-LCH) ALTER
```

Note that in order to see the affects of the OUT-LCH delays, you will first need to assign a switch to the O-LCH-DLY function from within the SW menus and activate the switch.

Press the > key to move the cursor to the Delay(OUT-LCH) position:




```
GEAR  DELAY(MIX
CH  UT-LCH) ALTER
```

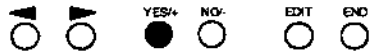
Press the YES/+ key to display the OUT-LCH Delays:


```
OUT-LCH-DELAY
EL  0%   CB> 0%   →
```

```
←FL>  0%
```

The first cursor position is for setting the amount of delay for the elevator servos. Note that in order to see the affects of the OUT-LCH delays, you will first need to assign a switch to the O-LCH-DLY function from within the SW menus and activate the switch.(Or set it to be always on.)

Ues the YES/+ and NO/- keys to set the elevator delay.




```
OUT-LCH-DELAY
EL  35%  CB> 0%   →
```

In this example, the OUT-LCH delay for elevator has been set to 35%. Now, when you move the Flight Mode switch to Reflex or Normal Mode, the elevator will respond more slowly to the new neutral position. The range available is from 0% (no delay) to 100% (maximum delay).

In the same manner, use the > key to move to the OUT-LCH Delay setting for CB (Camber) or FL (Flaps). Adjust the OUT-LCH Delay settings for these functions using the YES/+ and NO/- keys.

Remember, the Elevator, Camber, and Flap surfaces will only be affected by the OUT-LCH Delay settings when you switch OUT of the Launch Flight Mode. Servo response to stick or trimmer movements or to other mixer outputs will not be affected.

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 landing trim for elevators, gear down, high rate for flight controls and removal or addition of exponential characteristics on flight controls — all by flipping a single switch.

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

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

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

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

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.

Alternate ...

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

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

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

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.

In the above example the bottom line shows that Model B, named S-GLID-B, has been selected as the present Alternate 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.)

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

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 GLID 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:

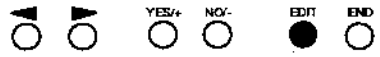
It is strongly recommended that you first set all of the parameters for your original set-up, including receiver channel assignments, centering, servo reversing, switch assignments, mixers and so on before attempting to assign an Alternate set-up. AFTER you have a suitable set-up programmed, then COPY 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 know compatible set-up for your Alternate set-up.

TRIM AUTHORITY

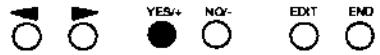
Stylus with GLID card installed allows you to adjust the amount of servo movement that will occur in response to movement of the primary control trim sliders. Trim Authority is independantly selectable for each of the trimmers - Spoiler/Flap, Aileron, Elevator and Rudder.

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




```
TRIM-AUTH  TIMER
D-COPY  D-RESET
```

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

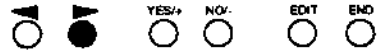



```
TRIM-AUTHORITY
SP>100%  AI>100%→
```

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

```
←EL>100%  RU>50%
```

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




```
TRIM-AUTHORITY
SP>100%  A>50%→
```

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%.

NOTES:
For initial flights it is best to leave the trim authority at 100% to allow for maximum ability to trim your aircraft.

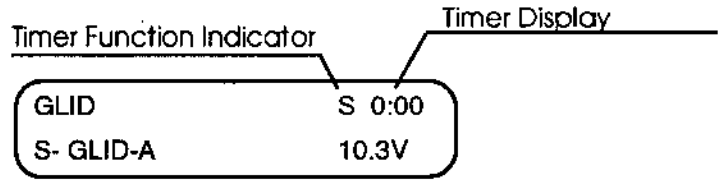
Be cautious in selecting very low Trim Authority settings. You are better off with slightly more trim than needed than to find you don't have enough! Set the trim authority for a fairly "soft" trim after test flights, usually around 50% is very comfortable.

Flap/Spoiler Trim:
The trim lever for the Flap/Spoiler function adjust the amount of trim lever response for both the Flap and Spoiler servos.

STOPWATCH FUNCTION

Stylus with GLID card offers two separate built-in timer functions, and allows the pilot to use a stopwatch function in either elapsed-time mode or in count-down mode or both. The count-down timer is activated by the Start 1 and Stop 1 switches; in the default settings these switches are assigned to the #15 position of the spring loaded switch #15-16.

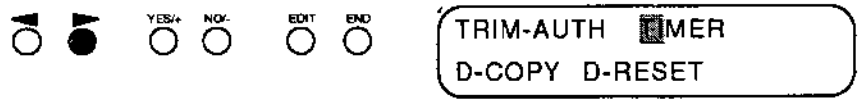
The Stopwatch and Timer displays are shown in the initial screen of all aircraft types, as below:



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.

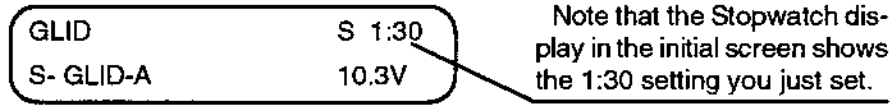
The cursor is positioned over the STW, or STOPWATCH position. This position is where you will program the Timer starting point for the countdown timer. Whatever setting you program will be the default countdown timer starting time whenever you power up the transmitter.

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)

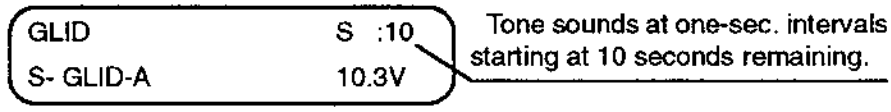
Stopwatch Function...

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



Now activate the stopwatch function by pressing the assigned switch. (SW#15)

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.

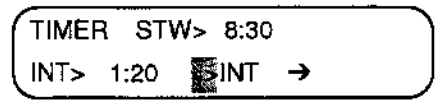


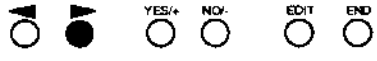
You can stop, then re-start the countdown timer whenever desired by pressing the assigned switch each time you wish to either start or stop the countdown. After the Stopwatch reaches zero, if the function is not deactivated, it will continue to act as a timer counting upwards in one-second intervals.

Second Timer

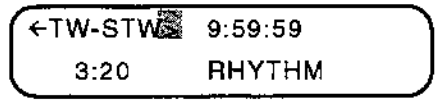
Stylus with the GLID card has a secondary timer funtion that is operated by the START2 and STOP 2 switch assignments. Normally you would assign START2 and STOP 2 to SW position #16. (To use this timer you need to assign switches to START2 and STOP 2 since they are not assigned in the default settings.)

From the TIMER screen, press the > key to move the cursor into the second TIMER screen:





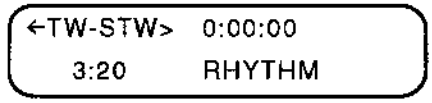
The first cursor position in this screen (shaded above) is not an adjustment, but is the display position for the secondary timer. To start Timer Two, push the switch for START2 to the on position. The timer will start and the display in the above screen will display the elapsed time.



In the above screen, Timer Two shows 9 minutes, 59 seconds and 59/100s as the elapsed time. The maximum time available is 59 minutes 59 seconds.

To stop the timer, move the STOP2 switch to the active position.

You will need to return to this menu to check the total duration for Timer Two.

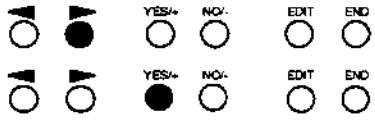


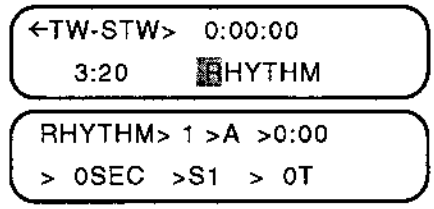
If you want to use the STW Timer #1 as a timer (for example, to measure - AND display in the intro screen - flight duration) you can set the STW function to 00:00 . Then, when you activate the stopwatch function by pressing the assigned switch, the timer display will count up to a maximum of 59 minutes, 59 seconds. Pressing the STW switch a second time will cause the timing to stop.

The bottom line of the screen has two position; the first displays the time for Timer #1. No programming is done in this position.

RHYTHM FUNCTION

Move the cursor to the RHYTHM position and press the YES/+ key.



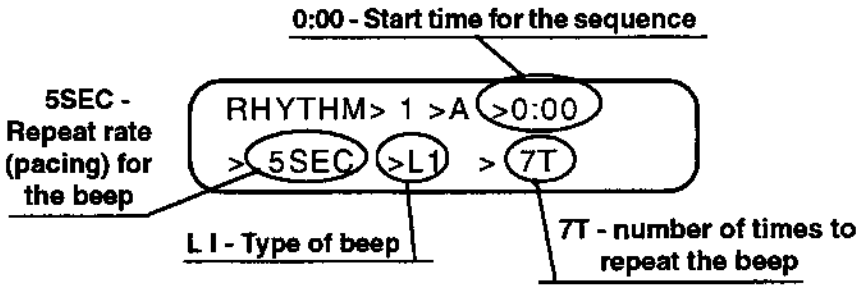


Before the rhythm generator can be used, it needs to be assigned to a switch in the SW menus.

The RHYTHM function provides for a user-selected sequence of beeps, which can be used for pacing aerobatics or for practicing precision landings. Three rhythm generators are available. Before the rhythm generator can be used, it needs to be assigned to a switch in the SW menus.

Each rhythm program has five different elements (labeled A through E). For each element you can specify the start time (where 0:00 is the time the switch assigned to the rhythm generator is pressed), repeat interval, beep type and number of times to repeat the beep.

For example, we can set element A to make a long beep every five seconds over a 30 second interval:

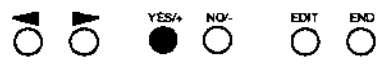


The start time can be set to any value from 0:00 (instant start) to 9:59 (minutes:seconds). The pacing can be set from 1 to 60 seconds. Four different beep types are available - S 1 (single short beep), L1 (single long beep), S2 (double short beep) and L2 (double long beep). The beep can be made to repeat (at the pacing interval) from 1 to 60 times.

INTEGRAL TIMER

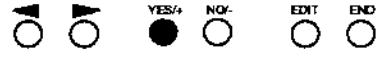
The Integral Timer function of Stylus is activated each time the transmitter power switch is turned on, and continues to time up to 99 hours and 59 minutes at all times when the transmitter is turned on. This timer will give an excellent indication of how many hours of actual use your Stylus transmitter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



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.

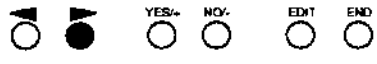


TIMER STW> 8:30
INT> 1:20 INT →

GLID I 1:20
S- GLID-A 10.3V

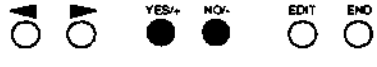
Integral Timer display in the Initial Screen indicates 1 hour and 20 minutes of elapsed time.

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



TIMER STW> 8:30
INT 1:20 >INT →

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



TIMER STW> 8:30
INT> 0:00 >INT →

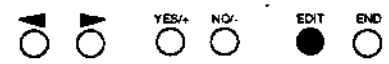
DATA COPY

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).

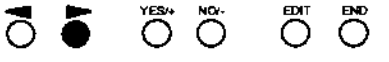
Having copied your control set-up, you can now use M-SELECT to load the Model 2 program, and then make control changes to that set-up. This allows you to experiment with different control options without changing your original parameters.

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



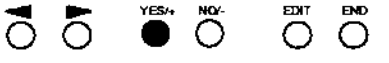

```
TRIM-AUTH   TIMER
D-COPY  D-RESET
```

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




```
TRIM-AUTH   TIMER
D-COPY  D-RESET
```

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



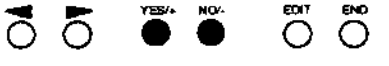

```
D-COP       S-GLID-A
→A:S-GLID-A          Y
```

The top line of the screen shows the PRESENTLY LOADED model; in this case "S-GLID-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 (A through D) the presently loaded data will be copied INTO. It is presently set as S-GLID-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.

MAKE CERTAIN that this Model set-up is not one you wish to save, because when you copy the GLID1 set-up into GLID2, all data that was in GLID2 is REPLACED with the GLID1 data!




```
D-COP       S-GLID-A
→B:S-GLID-B          Y
```

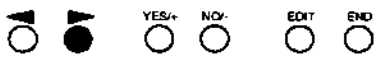
Above, the destination has been set to S-GLID-B. MAKE CERTAIN that this Model set-up is not one you wish to save, because when you copy the S-GLID-A set-up into S-GLID-B, all data that was in S-GLID-B is REPLACED with the S-GLID-A data! At this point S-GLID-B is still intact, so if you wish to change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

(Continued on next Page)

Data Copy ...

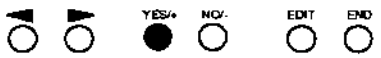
Having selected both the desired data source (S-GLID-A) AND the desired data destination (in this example, S-GLID-B) you can now proceed to confirm the D-COPY function.

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




```
D-COP      S-GLID-A
→ >B:S-GLID-B      Y?
```

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




```
D-COP      S-GLID-A
→ >B:S-GLID-B      Y?
```

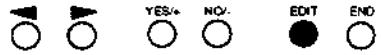
The screen will change to the following screen to inform you that the proces has been completed, and that Model A and Model B now have the same data (in this case, GLID-A).

```
D-COPY COMPLETED
  A:B S-GLID-A
```

DATA RESET

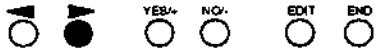
If you want to 'undo' all of your programmed parameters at one time, you can use the Data Reset function. This function will 'Reset' all settings to the factory default settings.

Press the Edit key to display the following screen:




```
TRIM-AUTH   TIMER
D-COPY  D-RESET
```

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



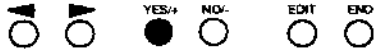

```
TRIM-AUTH   TIMER
D-COPY  D-RESET
```

NOTE!

Using the Data Reset function will cause the Stylus to reset the switch assignments. (Not necessarily the default switch settings).

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

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



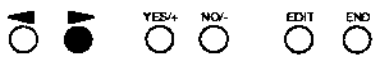

```
DATA-RESET
>A:S-GLID-A        Y?
```

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-GLID-A).

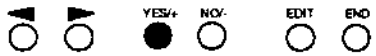
When you are certain that the selected Model setup is the one you wish to reset, press the > key to position the cursor over the >YES position.

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-GLID-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.

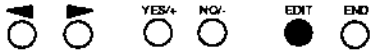
ALL OTHER Models in memory are unaffected by the DATA-RESET function, only the selected Model setup is affected.

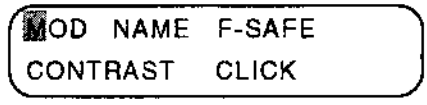
MODULATION

PCM
PPM
PPM-INV

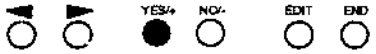
Stylus allows you to transmit three different types of signal; PCM, PPM (FM) or PPM-INV (FM).

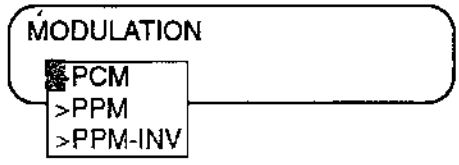
To set the desired type of Modulation, press the EDIT key until you reach this screen:





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





PCM modulation can only be used if you are using a P/N 92185 PCM receiver!

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.

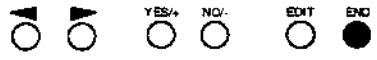
Press the YES/+ or NO/- key to change the currently displayed choice. *PCM modulation can only be used in conjunction with a P/N 92185 PCM receiver!*

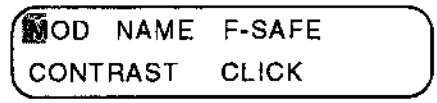
NOTE: Your receiver will only respond properly to one of the three available modulation types! Be sure that you set the transmitter to the appropriate modulation type for the receiver being used!

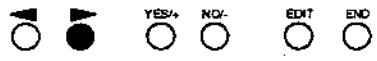
Note also that you MUST use the Stylus PCM receiver (P/N 92185) in order to take advantage of the Failsafe function offered by the Stylus transmitter.

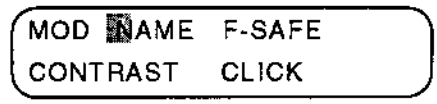
NAMING THE PRESENT AIRPLANE

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.



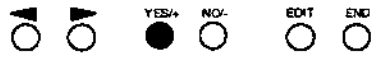


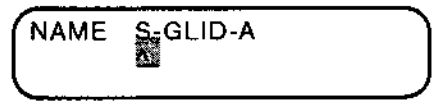




You may use any combination of LETTERS, NUMBERS, Colon (:), Dash (-) or Spaces up to a total of 10 characters.

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

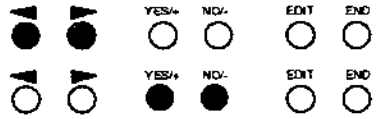




Press both the YES/+ and NO/- keys at the same time to RESET the present name, if any.

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.

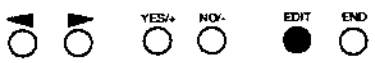
Keep in mind that the name you chose can help in keeping multiple aircraft or multiple set-ups for one aircraft organized.

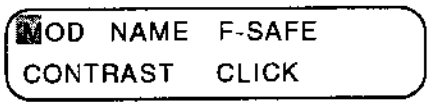
For example, if you had an Alternate Set-up programmed for the airplane aboveyou might name it "PEREGRINE1" or "PEREGRINE2".

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.

FAIL SAFE

Press the EDIT key to bring up the menu below.

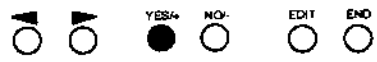




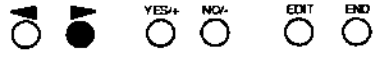
Press the > key to move the cursor to the F-SAFE position.

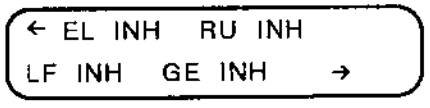
FAILSAFE is ONLY available when you are using a PCM receiver and transmitting in the PCM Modulation mode. If you are transmitting PPM FM you will not be able to enable the F-SAFE function.

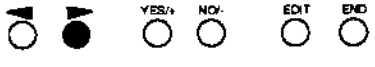
Press the YES/+ key to see this screen:

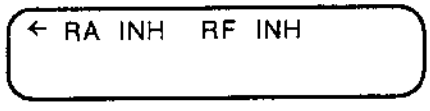


The arrow at the end of the second menu line indicates there are more screens for this function. Pressing the > Key will take you through all of the screens for the failsafe function, as follows:



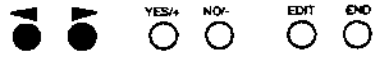






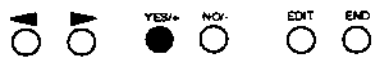
NOTE: If interference is present when Fail-safe is not active, in PCM Modulation, the receiver will 'hold' the last command received until the signal is again established.

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 flap, slight up elevator, etc. Each control function is set individually. Start with the first Fail-Safe setting, SP (Spoiler). The default setting is INH (inhibit). To assign a Fail-Safe position for the throttle servo, position the cursor as shown.



Now position the Spoiler 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.

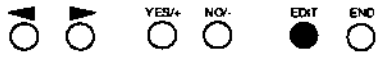


To check your settings (after programming all of your failsafe positions) simply turn the transmitter power switch OFF and check that the controls go to the preset positions. These are the positions the radio will assume if control is temporarily lost due to interference or transmitter problems.

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.

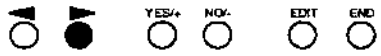
CONTRAST

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:



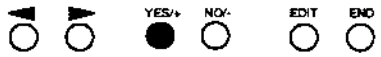

```
MOD  NAME  F-SAFE
CONTRAST   CLICK
```

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




```
MOD  NAME  F-SAFE
>ONTRAST   CLICK
```

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




```
LCD-CONTRAST
    >50%
```

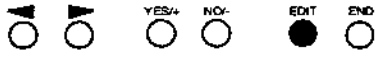
The present, default setting for contrast is 100%. Maximum contrast setting is 100%; the contrast setting can be decreased to 0% by pressing the NO/- key. At the 0% setting you will barely see the menus - not a recommended setting! Pressing both the YES/+ and NO/- keys simultaneously will 'clear' the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

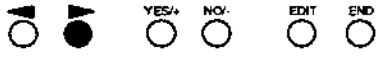
It is possible to disable the 'click,' or audio tone, using software settings. When the tone is disabled, ONLY the stopwatch countdown and stick/swicth alarms will still cause an audio tone to be emitted.

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



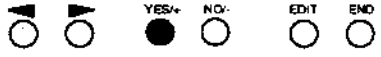

```
MOD  NAME  F-SAFE
CONTRAST   CLICK
```

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



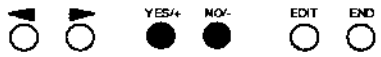

```
MOD  NAME  F-SAFE
CONTRAST   >LICK
```

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




```
CLICK      >ON
```

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




```
CLICK      >OFF
```

CARD

The CARD function is ONLY used with the 50-Model card, for storing or retreiving 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)

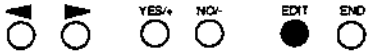
The (Mode1,2) menu allows you to make the necessary software changes to allow switching from Mode 2 to Mode 1 operation. This process is fully described in the Stylus Radio System Operating Manual

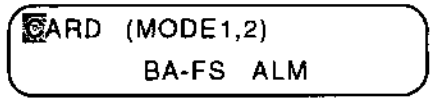
---

BATTERY FAIL SAFE (Receiver Pack)

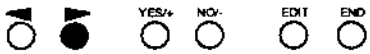
Stylus offers a Fail Safe function to warn you of a low voltage condition in your receiver's battery pack. This function is only operable when using the PCM receiver (P/N 92185).

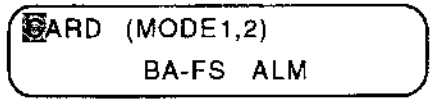
To activate the Battery Fail Safe function press the EDIT key until the following menu is displayed:



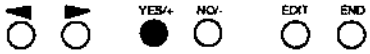


Press the > Key to move the cursor to the BA-F-SAFE position.

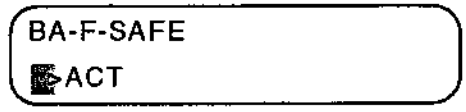




Press the YES/+ key to display the BA-F-SAFE menu.



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!

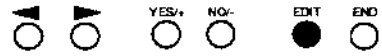
The display will change to "ACT," indicating that the BA-F-SAFE function is now Active. (Pressing either the YES/+ or NO/- key will toggle the function between the "INH" and "ACT" settings.)

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 right aileron servo will deflect for one second, and then return to normal. This cycling of this servo 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

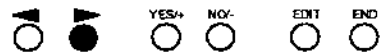
Stylus offers an "Alarm" function to warn you if you turn your transmitter on while an Alternate set-up switch is activated.

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




```
CARD (MODE1,2)
      BA-FS  ALM
```

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




```
CARD (MODE1,2)
      BA-FS  ALM
```

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


```
SW-ALARM  ACT
```

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.

The default, and generally recommended setting, is for the alarm function 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.

General Operating Notes

Stylus Sailplane Feature Card

(Note - all of the settings and processes outlined in the following narrative discussion are covered in detail, with menu illustrations, in the main body of the manual. Refer to those sections as needed.)

Four primary flight modes are recognized by Stylus, and a thorough understanding of each is very helpful in getting the most performance. The four flight modes are: Normal, Launch, Reflex and Landing.

Normal

Normal mode is just that; If you aren't launching, landing or going fast (reflex), you're probably in normal mode. Normal mode has the lowest priority - if you activate a switch or stick switch for any other flight mode, normal mode will be inactive.

Launch

Launch mode provides presets for camber, flap and elevator to provide maximum lift while on tow. Launch mode has the second highest priority (behind landing but ahead of reflex).

Reflex

Reflex mode is typically used to extend the available speed range of the sailplane by de-cambering (reflexing) the airfoil by a preset amount. Entering reflex mode will inhibit normal mode.

Landing

Landing mode provides extended control of high lift and high drag control surface positions using the "throttle" stick. Landing mode is entered by moving the throttle stick slightly below "full" throttle. Landing mode has the highest priority. Activating landing mode will override any other active flight mode.

Servo Travel

Originally, servos were designed so that they had enough travel range to accommodate the widely varying travel ranges of many types of analog (as opposed to computerized or digital) transmitters. The Stylus transmitter provides a much more precise generation of the servo control signals, allowing the full range of the servo movement to be used. A travel range of +/- 100% corresponds to the typical movement available using older style transmitters. To get the full range of movement the servo can provide (to allow for larger control throws, more precise positioning or easier airplane setup) the Stylus allows travel ranges of +/- 150% to be programmed.

Switches and Stick Switches

The various flight modes, presets and control mixes can be inhibited or activated by the many switches on the Stylus. They can also be controlled by threshold positions of the proportional controls (stick switches). The switch assignments can be changed so that any switch (or combination of switches)

can produce the desired mode.

Centering

The centering function provides control centering and alignment independent of trim or mixer settings. It is the electrical equivalent of a mechanical adjustment. The adjustment range is +/- 100% of nominal servo travel or about 70% of total movement range.

Total servo travel range is limited to +/- 150%, so centering settings greater than +/50% can result in reduced travel at one end of the range. Adjust servo arms and linkage lengths as desired, then use centering for fine tuning and preflight touch up.

Helpful Tips

Servo centering is valuable for touching up the control surface position prior to flight. Correct alignment for ailerons, flaps and rudder is simple to judge, but full flying stabs normally have no alignment reference. A small mark on the fin (made after the elevator trim is carefully adjusted) is helpful for precisely resetting the elevator trim.

The direction of surface movement you get with the + and - keys does not necessarily following the corresponding control stick (i.e. "up" elevator trim won't necessarily by produced by pressing the + key).

In many flight modes (such as Reflex and Launch) the elevator trim lever can be inhibited. Adjusting the flying trim with the center function will cause the trim change to be in effect in all flight modes.

General Operating Notes

Auto Dynamic Trim Memory

Three possible flight conditions result from the AUTO-DTM setting. If it is inhibited, the elevator trim lever is only active in normal and landing modes. Elevator trim adjustments in launch and reflex mode must be made using either the +/- keys (in the appropriate menus) or the assigned VR (variable rate) potentiometers.

If AUTO-DTM is enabled but trim memory is disabled (no trim memory settings are stored), the elevator trim lever will be active in launch and reflex modes (in addition to the normal and landing modes).

If both AUTO-DTM and trim memory are enabled, the full capabilities of Auto-DTM are unleashed. The trim lever setting (for all trim-memory activated channels) is remembered for each flight mode. When a new flight mode is activated, the present trim lever setting becomes the new "neutral" point for the new flight mode. For example, if you trim for very slow flight (lots of up trim) in normal mode and very fast flight (lots of down trim) in reflex mode, switching back to normal mode will return you to the "slow" trim setting even though the trim lever may be showing lots of "down" trim. At this point the transmitter can be turned off and the trim lever re-centered. This will allow full trim adjustment range when the transmitter is turned back on.

WARNING:

You can get in a situation where unflyable amounts of up trim can be programmed for one flight mode and unflyable amounts of down trim for another. When you return to the first flight mode (with the trim lever at full down) there won't be any more "down" movement available to properly trim the airplane. Use the AUTO-DTM / TRIM-MEM combination with caution.

General Setup Sequence Applications

Note: A number of "typical values" are listed for the control throw and mixing percentages. These should only be considered starting values. The actual values required for best performance can vary considerably based on aircraft design, radio installation, CG placement and personal preference.

Servo Installation

Follow the servo installation guidelines provided by the kit manufacturer. The only servo installation that requires special consideration (as it relates to the Stylus) is a V-tail installation as described below.

V Tail

The Stylus can be programmed for any arrangement of V-Tail servos, but two configurations work better than others. The "standard" configuration (V Tail mode A) assumes that the servos arms point to the outside of the plane, that the horns are on the bottom of the surfaces and that the right side / left side servos are plugged into channels 3 and 4, respectively.

The "alternate" configuration (V Tail mode B) assumes that both servo arms point to the left side of the plane, that the horns are on the bottom of the surfaces and that the right side servo / left side servo are plugged into channels 4 and 3, respectively.

Servo Channel Order

The channel assignments (default Wing Type) are as follows:

1	2	3	4	5	6	7	8
RA	LA	EL	RU	RF	LF	SP	GE

Connect the servos to the appropriate channels. For single flap servo applications either servo channel (RF or LF) can be used. *(See page 41 for channel assignments for other Wing Type templates)*

Data Copy /Data Reset

If a similar aircraft to the one you are programming already exists in the Stylus, you can save some time by modifying a copy of the existing setup rather than starting from scratch. Use D-COPY to copy the setup to an unused (or unwanted) memory location.

If a new airplane is going to be programmed into the memory occupied by a very different type of airplane, it might be best to use D-RESET to set the memory contents to a known state. Otherwise, some unexpected "feature" (such as an unusual preset) may be unintentionally inherited by the new model.

Name

A good first step (after the memory location for the new model is selected) is to set the name of the model. Having the same name for two models (after a data copy, for example) can lead to accidental changes to the wrong model memory.

General Operating Notes

Modulation

The next step is to set the modulation (PCM/PPM/PPM-INV) for the transmitter to match the receiver. The PCM receiver (model 92185) is the only PCM receiver (at present) that is compatible with the Stylus. All other Airtronics FM receivers are compatible with the PPM mode (although the channel order may be different on some receivers). Receivers from other manufacturers will probably require the PPM-INV setting for correct operation.

First Time Turn-On

Center the four trim levers, the two front panel VR knobs (#9 and #10) and the right-hand slider. Set the left-hand (camber) slider all the way to the top (fully clockwise). Center the spoiler (throttle) stick. Center the flight mode, EPST and rudder coupling switches (18, 9 and 2, respectively). Turn on the transmitter and receiver.

READY TO PROGRAM

Servo Reverse

1. Wiggle the sticks and verify that all of the servos move. Navigate through the menu choices to find the REV (servo reverse) menu.

2. Move the right stick to the right and verify that the right aileron rises. Use the reversing function to obtain the proper travel direction.

3. Go through the remaining channels and set the proper travel directions.

Center the Servo Arms

Set the spoiler (throttle) stick fully forward. Move the servo arms so that the arms are perpendicular to the push rods at neutral. In order to get full flap travel, the flap arms my need to be angled back toward the flap a bit (about 30 degrees is all that is usually required). Adjust the linkage for approximate centering on all control surfaces.

Centering

Go to the CENTER menu. Use the +/- keys to accurately align the surfaces to their neutral positions.

Switches

Several menu choices cannot be reached unless the switch that controls that choice is already selected and active. It is a good idea to set all the switches to the desired values before doing any serious programming. Only the switch settings that need to be (or are typically) changed from the defaults are listed below.

Dual Rates

The dual rate switches can select between exponential (EXP), variable trace rate (VTR) and straight dual rates. If dual rates are not desired (or if only one type of control is desired, such as exponential) the first dual rate switch for each function should be turned on (i.e. set AI-D/RI, EL-D/RI, RU-D/R1 to ON). If switchable rates are desired the switch assignments can be left set to the defaults.

General Operating Notes

Rudder Coupling

In normal flight mode, three different AI>RU coupling percentages can be selected (None - 0%, AI>RU1 and AI>RU2). If you only want one rudder coupling setting for normal flight, turn on AI>RU1. You still get to select a different coupling setting in reflex (speed) mode. If you want to be able to turn rudder coupling off or select a different setting during flight, leave the switch assignments set to the defaults. Many flyers prefer to turn rudder coupling on permanently since it is one less thing to forget.

Mixers

The CMIX functions are normally disabled (the default switch setting is 0, or permanently off). If they are used (for example, to implement a nonstandard mix) the switch assignment should be set to either ON or the number of the controlling switch.

Timers and Rhythm Generators

The Rhythm generators are normally disabled with a switch assignment of 0. If a rhythm generator sequence is desired (for precision landing pacing) the rhythm generator should be assigned to the "start" momentary switch (switch 15).

Presets

EPST

If elevator presets are desired ("thermalling trim", for example), go to the EPST menu and activate the desired EPST (1 or 2) with the assigned switch. Enter the desired percentage. At this point you can also activate or inhibit the action of the elevator trim lever when EPST is active. It is usually a good idea to activate the trim lever so that large amounts of trim (possibly needed for level flight) are not "switched off" when the EPST switch is activated. Note: Large EPST percentage settings can result in an instant loop (inside or outside) when the switch is activated. The EPST should only be programmed for small, usable, controllable amounts of elevator trim.

Launch

The launch presets are adjusted from the LAUNCH menu. Suitable starting values are 20 degrees for aileron camber (set with the CAMB-PST), 25 degrees for flap camber (set with the FLAP-PST) and zero percent elevator preset (set with the ELE-PST). Unless you are going to use the camber and elevator preset trim levers, it is a good idea to disable them (by selecting the LOCK setting).

Note: Before setting the launch or reflex preset, it is a good idea to adjust the camber function (so that the flaps and ailerons are synchronized). The instructions for adjusting the camber mix are found under the Mixers heading below.

Reflex

The REFL menu is used to adjust the camber and elevator presets for reflex mode. Starting values for camber preset are about 5 degrees of reflex (for typical thermal airfoils) to O degrees of reflex (for high speed airfoils). As with

General Operating Notes

the launch preset trim levers, it is a good idea to disable them to prevent large, unexpected trim changes at the flick of a switch.

DUAL RATES

D/R, Exponential and VTR

If any of these functions are desired, go to the D/R or EXP/VTR menu and adjust the control movement percentages for each function. For exponential, a good starting percentage is 25% (this gives smooth control around center stick without making the control overly "soft").

Differential Aileron Travel

Move the aileron stick from side to side and observe the ratio of up to down travel. Typical thermal planes require 2 - 3 times more up travel than down travel to produce a coordinated turn. In reflex (speed) mode or on faster sailplanes, a differential of 1.5 - 2 is frequently more suitable. The differential can be set to different values for all four flight modes. Adjust the differential percentage setting until the desired travel is produced. Typical settings are 60% for normal and launch modes, -50% for landing mode and 40% for reflex mode.

End Point Adjustment

The EPA should be used as a "fine adjustment" on servo travel range. If EPA percentages of less than 75% are needed, it's a sign that a mechanical change (to produce less surface travel) should be made. Using the full movement range of the servo will result in the most precise control setup.

Elevator and Rudder

Adjust the EPA for these functions to achieve the recommended surface travel. If enough travel is available to allow the servo to jam against an obstruction, every attempt should be made to repair the situation mechanically. If this cannot be done then the EPA can be adjusted to remove any remaining binding at the end of travel.

Ailerons

Use the EPA to reduce the total aileron travel. Both the left and right travel percentages should be set to the same value (allowing the DIFF function to control differential travel).

Flaps

Use the EPA to set the maximum down travel for the flaps (LF-D, RF-D). Adjusting the up travel will cause the neutral point for the flaps to move. Typically this is not required.

Camber

The camber EPA adjusts the camber travel produced when the camber side-slider is moved. The default setting (100%) will produce far more camber movement than is useful (3 degrees, or 1/8" on a typical open class flap is all you need). Move the camber slider to full camber and then adjust the EPA for the maximum desired camber. Typical settings for this value are 20 - 40%.

MIXERS

Camber

With the camber lever set to its neutral position, align the flaps and ailerons to their neutral positions. Move the camber lever until the maximum desired camber is produced. If the trailing edge is not even (flaps and ailerons are no longer aligned) go to the CAMBER menu and reduce the percentage on the surface or surfaces that are moving too far.

Camber to Elevator

If adding camber causes a significant elevator trim change, the camber to elevator mix can be used to cancel the undesired trim. Go to the MIX / CB>EL menu and adjust the percentage as required. Typically, introducing small amounts of camber will only produce a small amount of "up" trim. Since adding camber is usually done when you want to slow down and "hang", this up trim is usually desirable.

Aileron to Rudder

Three different aileron to rudder mixes can be programmed. The first two (AI>RU1 and AI>RU2) are selected (by default) with switch 1-2-3. Go to the MIX menu and activate the desired rudder coupling switch. Enter the mix percentage - a good starting point is 50%. Activating reflex mode (using switch 19, by default) will allow you to adjust the rudder coupling in reflex mode. A good starting percentage for this mix is 25%.

Elevator to Camber

Elevator to camber mix is useful for getting tighter turning performance out of slope racing sailplanes and crisper square loops out of acrobatic sailplanes. It can also be used to get a little more thermalling performance by giving a little more performance when up elevator is used at low speed. A little of this mix goes a long way; 3 degrees of deflection (about 1/8" on a typical open class plane) is probably plenty. Go to the MIX / EL>CB menu and set the percentage. A 10% mix (up, and if desired, down) is a good starting point.

Flap to Elevator

Two flap to elevator mixes are available. Go to the MIX / FL>EL menu and set mix 1 to the desired percentage (a reasonable starting percentage is 50%). Go to the POINT setting and enter the value for the stick position for the transition to mix 2 (typical values are 50 - 70%, or just a bit above center stick). When the stick is moved below this point mix 2 can be adjusted. Mix 2 is applied as a percentage of mix 1. For example, if mix 2 is set to 50%, one half of the mix ratio (set in mix 1) is used when the stick is below the transition point. This allows the mix to better follow the requirements of the sailplane (i.e. lots of mix during the first 1/3 to 1/2 of flap deflection followed by a lower mix rate for the remaining flap deflection). If mix 2 (two point mix) is not required, leave the POINT setting at its default value of 0%.

Aileron to Flap

Aileron to flap mixing is used to make roll (aileron) control a little more responsive and reduce drag for a given roll rate. The mix percentage is set using the MIX / LA>LF and RA>RF. Good results are obtained by having the flaps move about half as much as the ailerons.

General Operating Notes

Landing Mode

The LAND menu will allow you to adjust the amount of "crow" (up aileron) that is deployed when the flaps are brought down in landing mode. A good starting point for this setting is 25% (if crow is desired). The percentage for each aileron can be adjusted to allow roll trim to be added in landing mode. Two other settings can be adjusted from this menu. The first is landing point. It sets the dead-band (range of stick movement that produces no servo movement) at the top of stick travel, preventing trim changes if the stick is not pushed "hard" against the upper travel limit. The second adjustment controls aileron to rudder mix in landing mode. If this setting is set to YES, the highest programmed mix will come into effect in landing mode.

V Tail

Go to the V Tail menu and activate mode A or B, depending on the mechanical setup of the sailplane. Use servo reversing to get the controls moving in the correct direction. Note that the servo reversing reverses the function direction, rather than the direction of movement for each individual servo.

Advanced Setups

Flaps following ailerons in Landing Mode

When landing mode is entered the aileron to flap mix is automatically disabled. Roll rate in landing mode can be greatly improved by using a compensation mixer. In addition, this mix can be made to automatically increase as the flaps are deployed (i.e. more aileron to flap mix as more flap travel range becomes available).

Go to the SW menu and set the switches for CMIX1 and CMIX2 to ON. Go to the CMIX menu and set C-Mix 1 and 2 to the following values (as a starting point):

C-MIX 1

MAS: AI	SLAV: LF	L: 10% R:10%
POINT L: 0%	POINT R: 0%	DELAY: 0%

OPTION

VR: 1 MODE: NOR H: 0% L: 20% POI: 90%

C-MIX 2

MAS: AI	SLAV: RF	L: -10% R:-15%
POINT L: 0%	POINT R: 0%	DELAY: 0%

OPTION

VR: 1 MODE: NOR H: 0% L: -20% POI: 90%

Some explanation of these settings is in order. The MAS (master) and SLAV (slave) channels define the source and destination for the control mix. The L and R percentages determine both the mix amounts and the direction of the mix. Note that these values may need to be changed in sign (swapped + for -) in your application to get the surfaces going the right direction. The percentage values will also need to be adjusted to get the best performance. The VR setting (1) tells the mixer to adjust its mix based on VR #1 (the throttle stick if Mode II). The H and L settings tell the mixer how much to adjust the mix as a

percentage of stick position. The POI setting sets the point at which the mixer switches from the H percentage to the L percentage. It is set at 90% to match the default setting for the landing threshold (so the mixer is activated at the same time that landing mode is entered). Note: The landing threshold is actually 95%, but it is measured as a percentage of total stick travel. The POI setting uses full forward stick = 100% and full back stick = - 100%. This is why 90% (instead of 95%) is used.

Mixing Delays

Mixing delay is very useful in getting the response time of the slave channel to match that of the master channel. For example, much of the transient trim changes that are experienced when flaps are suddenly deployed are produced by the mismatch in speed between the flap drive and elevator drive. The flap servos are heavily loaded and have a long way to go, leading to a long response time (perhaps 4/10ths of a second). In contrast, the elevator servo is lightly loaded and only has a small distance to go, leading to an almost instant response (under 1/10th of a second). Adding a small delay to the flap to elevator mix will match the movement speeds, giving smooth control at any rate of flap deployment. Keep in mind that although the setting is described as a delay, it is actually an adjustment to the response rate. It sets the speed at which the servo moves to the final position.

Go to the DELAY I MIX I FL*SP>EL menu and adjust the delay percentage. A good starting value is 40%, giving a delay (time to reach full mix) of about 3/10ths of a second.

Rhythm Generator

The rhythm generator can be used to generate a sequence of beeps familiar to any thermal duration pilot. Go to the SW menu and set the RHYTHM 1 switch to 15. Go to the TIMER I RHYTHM menu and enter the following values:

1>A	0:00	5 SEC	L1	4T
1>B	0:20	1 SEC	S1	7T
1>C	0:27	1 SEC	L1	3T
1>D	0:30	1 SEC	S1	1T

Don't worry about 1>E. If you like someone to yell "You're LATE, LATE, LATE!" set it to:

1>E	0:31	1 SEC	L2	5T

This will make long double beeps until you turn it off..

With the above settings, when you hit switch 15, you get a long beep at 0:30, 0:25, 0:20, 0:15, then short beeps for 0:10, 0:09, ..., 0:05, 0:04, then long beeps at 0:03, 0:02, 0:01, then a short beep at 0:00.

Camber Preset

The Stylus only provides one "camber" preset (the reflex flight mode). The camber slider is normally used to provide a variable camber adjustment. A fixed camber preset can be produced using a C-MIX and the GEAR function.

Go to the SW menu and assign a switch to the gear function (using the same setting as one of the EPST switches is a good choice, because it then allows a combined camber and elevator preset). Go to the GEAR menu and change the end point values to 0% (for the preset off position) and 100% (for the preset on position). Go to the CMIX menu and assign one of the mixes using GE as the master channel and CB as the slave. Adjust the mix percentage to give the desired amount of camber preset.

Trim Authority

For most applications, the trim authority does not need to be adjusted. The sensitivity to trim lever position is pretty much the same as most transmitters (when the authority is set to 100%) and so the trim "feel" will be familiar. If the trim is too sensitive (i.e. one click of trim produces a large change in flight speed or attitude) the sensitivity can be reduced.

One application for trim authority adjustment is in cross country flying. Typical cross country sailplanes are set up nose heavy enough so that the plane will automatically pull out of just about any dive (important when the plane is very high and very far away). If the elevator trim sensitivity is reduced, the sailplane can be made "safe" for any trim position. Reduce the trim authority until full down trim results in a stable, high speed (perhaps 70 mph). Combined with a forward CG, this trim range adjustment will result in a plane that can only be trimmed for safe (as opposed to "flutter and explode") speeds.

FLIGHT TRIMMING

Differential and Rudder Coupling

Aileron differential and rudder coupling (aileron to rudder mix) are used to combat the adverse yaw (yaw away from the direction of turn) that is generated as a byproduct of aileron deflection. At low speeds, much of the drag produced by the wing is "induced" drag (i.e. it is drag that is induced in the process of generating lift). Adverse yaw is produced (primarily at low speeds) because the down-going aileron tries to produce more lift (and significantly more drag) on the wing that should be rising. Aileron differential (the term for more up than down travel) works by reducing the lift on one wing to a far larger degree than the increase in lift on the other wing. The goal is to adjust the mixing so that the aileron input produces a "pure" roll response (without any yaw) in any flight mode and at any speed.

Stylus allows individual differential and rudder coupling settings to be programmed for each flight mode. In general, the majority of the adverse yaw should be removed using aileron differential, with rudder coupling used to provide fine-tuning. The effect of differential and rudder coupling also changes with speed. At low speeds aileron differential is much more effective than rudder coupling at controlling adverse yaw. At higher speeds the opposite is true - the rudder is very effective at correcting any yaw problems under these conditions.

In normal mode, the best handling from the airplane is required at very low speeds (so that you don't get any surprises when working light air). To adjust the differential and rudder coupling in normal mode, trim the plane to fly fairly slowly in a straight line overhead. Use the ailerons to rock the wings. The fuselage should stay straight when the wings are rocked (aileron input only produces roll and no yaw). Trim the plane for a good cruising speed and

repeat the test. If the plane has large amounts of adverse yaw at both low and high speeds, increase the differential (up to a practical limit of about 4:1 up to down movement ratio) and the rudder coupling. If adverse yaw exists at low speed and proverse yaw (yaw into the turn) at high speeds, reduce the rudder coupling and increase the differential. No one setting will be perfect at all speeds, but a reasonable compromise (that favors low speed handling) can be achieved.

The setup for reflex mode is similar to normal mode, except the settings are optimized for axial rolls at high speed. A good starting point for the reflex setup is to use about 1/2 the differential and rudder coupling found for the normal mode. Adjust the rudder coupling until the rolls are pure.

For launch mode, large amounts of both differential and rudder coupling will provide the best stability and control on tow. The same values found for normal mode are usually suitable for this mode.

In landing mode, reverse aileron differential produces the most positive control when crow is used. Setting the differential to a negative value will cause the ailerons to move down more than up, producing both more lift and less drag compared to the aileron-up crow position. Adjust the rudder coupling so that the roll control response is pure with the flap stick centered. Adjust the landing mode differential so that the roll response is pure with full flaps deployed. The actual differential used is a smooth mix of the normal mode differential (at zero flap) and the landing mode differential (at full flap). That is why the landing mode differential is adjusted at full flap.

Flap-Elevator

Flap-based glide path control does some pretty strange things to the balance of forces that keep our airplanes stable in the pitch axis. Flaps increase both the downwash (which blows down on the tail, pitching the nose up) and pitching moment (which pitches the nose down). The travel rate for the servos also plays a big part (more on this later). The challenge is to get the plane to fly slightly "nose down" over the required range of flap settings, regardless of flap setting, entry speed or sudden flap changes. Two types of adjustment can be made on the Stylus to achieve that goal.

The first adjustment is the mix from flap to elevator. Stylus allows adjustment of the mix ratio above and below an arbitrary flap setting. Set the mix 1 to mix 2 transition point to 50%, which corresponds to 1/2 flap stick. Fly the plane at 1/2 flap and adjust the mix (mix 1) until the desired flight speed is achieved. Move the flap stick to full flap and adjust mix 2 until the same or similar flight speed is achieved. With this type of setup in place, the flap stick should control rate of descent without having a large change in airspeed.

NOTE: The FL>EL mix adjustment range is 0% to 100%. If more than 100% mix is desired, put the additional mix percentage in the SP>EL function. This percentage will need to be negative (i.e. -10% will give 10% additional down elevator at full flap stick.) This is because the SP>EL mixer allows -100% to 100% mix, while the FL>EL mix assumes that only down elevator is desired.

The second adjustment is to the flap to elevator mix delay. Fly the airplane at a medium fast speed (with plenty of altitude) and snap the stick to full flap. With no delay, the plane will dive suddenly (due to the fast response of the elevator compensation) and then slowly recover. Increasing the delay will lessen the dive until no pitch change is seen when the flaps are suddenly deployed. With too much delay the plane will balloon (due to the down elevator coming in too late) and then settle down. With the correct setting, the plane

General Operating Notes

will go from smoking fast to a crawl without pitch change. The delay also works in the opposite direction - on a conventional setup you get a balloon/ stall when you suddenly retract the flaps (down mix goes away before flaps). With the delay the down mix is held in just long enough that real flying speed is achieved.

Crow

In landing mode, the flaps provide large amounts of both lift and drag. This causes the plane to fly very slowly and descend gently. On very light sailplanes the rate of descent may be so low that the plane tends to "float right past" the landing spot. Crow (both ailerons up) adds quite a bit of drag while decreasing lift. This increases the rate of descent (steepens the glide slope) and improves controllability. The value should be adjusted to suit personal preference. In general, higher wing loading planes require less crow because the rate of descent will probably already be high enough.

V Tail Differential

V Tails usually produce a small amount of unintended up elevator when the rudder is moved. This is because the opposing surface acts as a winglet for the up-going side of the V, causing the "up" side to generate slightly more force than the "down" side. This effect can be observed by moving the rudder stick from side to side. A pure yaw movement is expected, but a slight amount of up elevator is also usually produced. This pitch up can lead to tip stalling when entering a turn at low speed. The cure for this is to add a small amount of differential (more down than up) to the movement of each surface. Go to the VTAIL menu and adjust the L and R values to produce more down than up travel. A good starting value is 10 percent differential. Fly the plane and watch for pitch changes with rudder input. It is usually easier to adjust for the correct amount by adding enough differential to produce a definite down pitch with rudder input and then backing off until no more down pitch is noticed. Slight amounts of residual down pitch are preferable to any up pitch.

Launch Mode

The goal of the launch setup is to produce a well behaved configuration that is capable of producing maximum lift to maximize launch height. The launch setup and launch performance is greatly influenced by the placement of the towhook. The launch camber and elevator preset can be assigned to their respective trim levers for adjustment during launch. Once suitable settings are found, the trims should be locked to prevent accidental changes from occurring.

Camber and Flap

Adjust the launch camber preset to give approximately 30 degrees of camber full span. A little better handling can be achieved by reducing the aileron camber about 5 degrees relative to the flap camber. This is done by reducing the camber by 5 degrees and adjusting the flap preset to add another 5 degrees of deflection to the flaps. The camber can be fine tuned by launching and trying to estimate line tension (and thus lift). Increases in camber (accompanied by changes in the launch elevator preset) will result in increased line tension, up to a point. The goal is to find that point.

EPST

Initially, the launch elevator preset should be set to 0. While on tow (at a suitable, safe height) try adding some up elevator. If the plane stalls or starts to "hunt" in pitch, the EPST is probably already correct. If the line tension increases and the handling is still good, try increasing the EPST a few percent and launch again.

TABLE OF CONTENTS