
AIRTRONICS
Get The Advantage
Function Display
DEC/-
INC/+
ENTER
Key-lock
Trm 3
Trm 1
Trm 2
Display
Dial
Sw 1
M11
Operating Manual

Safety

These instructions are intended to asquaint you with the many unique feachures of the state of the art equipment. Please read them carefully so that you may obtain maximum success and enjoyment from its operation.

We ask that yo pay particular attention to the design of the transmitter. Notice that it has been human engineered for the most natrual and precise control of your choice of operating cars, tucks and boats.

Be certain to read all the material in this manual.

SAFETY FIRST FOR YOURSELF, FOR OTHERS AND FOR YOUR EQUIPMENT

“SAFETY FIRST” is more than just a slogan when operating radio controlled models.

FOR YOUR SAFETY:

AT THE TRACK, LAKE or anywhere other people are using radio control equipment that you DO NOT turn on your transmitter untill you know your frequance is clear. YOU MUST NOT TURN ON YOUR TRANSMITTER WHEN SOMEONE ELSE IS USING THE SAME FREQUANCY YOUR TRANSMITTER IS ON. Only one person can use a given frequancy at one time.

Observe all the rules at the field or track you are at.

FREQUANCY IDENTIFICATION AND DISPLAY SYSTEM

The Federal Communications (F.C.C.) specifies radio frequancies in MHz units. For convenience, the frequancies are designed by CHANNEL numbers and or by colored flags. Numbered channel markers on the transmitter identify the specific channel. A yellow wind streamer identifis a 75 MHz transmitter.

This equipment has been designed for 27 or 75 MHz only and can only be used for surface use and can not be used for any aircraft use at all.

WARING: The 75 MHz frequancies allocated for model radio control use are exclusive; however, they are in close proximity to other types of radio usage in certain areas. Before operating your model, check with the FCC regional office in your area to determine wheather there is a potential danger or interference from other radio users. The FCC offices are usually listed in your telephone directory under the section designated to United States Government Offices. When dealing with the FCC, you should state the type of activity you are involved in (i.e., radio control of model boats or cars) and inquire if there are any commerical RF transmitters on or close to your frequancy in Megahertz (MHz). Do not use R/C channel numbers since the FCC will not be able to correlate them with actual frequancy. “Outside” radio interferance may cause you to lose control of your model, possibly resulting in injury to yourself or others, or property.

SO REMEMBER:

DO NOT OPERATE your transmitter at the track or lake, untill you are certain your frequancy is clear.

DISPLAY your frequancy flag and channel identification on the antenna of your transmitter.

REMENBER that flags do not usually state the frequancy on them and sometimes the colors are hard to distingguish. If you have an eyesight limitation or defect such as color blindness, double check the frequancy flag designations with someone else.

TURN YOUR TRANSMITTER ON ONLY IF YOUR FREQUANCY IS CLEAR.

WARING: your model will go out of control and may cause some series injury or damage if someone else turns on a transmitter on your frequancy while you are operating your model.

RESPECT ALL THE RULES of the operating site.

AT ANY TIME during the operation of your model, should you sense, feel or observe any erratic operation or abnormality, end your operation as quickly and safely as possible. DO NOT operate again until you are certain the problem has been corrected. TAKE NO CHANCES.

Contents

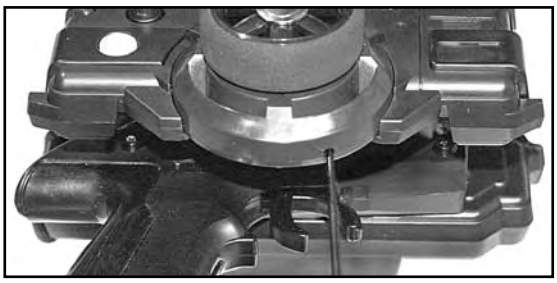
Before Using the M11

Driving Position Adjustments

Every effort has been made to provide optimum transmitter weight balance on your M11. The wheel and trigger are placed on the same axis, permitting you to focus on steering and throttle control. The driving position and steering/throttle tension are adjustable to maximize driving precision.

Steering Wheel Tension

The steering spring tension can be adjusted using a 1.5 mm hex wrench as shown in the photo. Steering spring tension will increase as you tighten the hex bolt. Note: The spring tension is factory set at the lowest (softest) position.



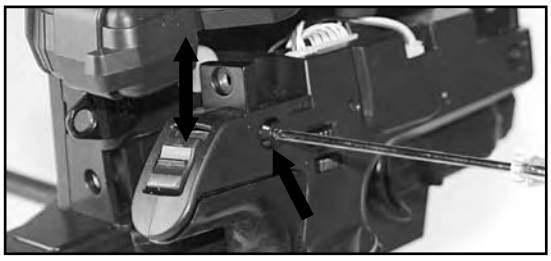
Driving Position

1. Remove the 4mm hex socket head cap screws on each side of the transmitter using a 3mm hex wrench.

2. Detach the grip downward from the upper transmitter unit. Be careful to avoid damaging the lead wires that are connected on both units.

3. There are four (4) Phillips screws holding each side of the grip bracket. Remove the screws and reset the bracket screw hole at the lower screw hole. This sets the racket to the higher height position. Note: The grip bracket is factory set to the lower height position.

4. After resetting the driving position, retighten the grip bracket screws. Attach the upper part of the transmitter unit into position with two (2) 4mm hex socket head cap screws and a 3mm hex wrench.



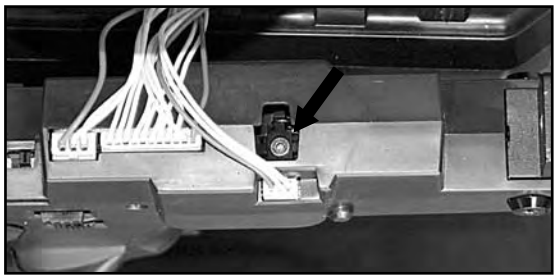
Throttle Trigger Tension

1. Remove the 4mm hex socket head cap screws on each side of the transmitter using a 3mm hex wrench.

2. Detach the grip downward from the upper transmitter unit. Be careful to avoid damaging the lead wires that are connected on both units.

3. Adjust the throttle trigger spring tension using a 1.5 mm hex driver. Location of the 1.5mm hex bolt is shown in the photo. Throttle trigger spring tension increases as you tighten the hex bolt. Note: The spring tension is factory set to the lowest (softest) position.

4. After resetting the throttle trigger spring tension, align the upper transmitter unit into place. Tighten using the 3mm hex wrench and two (2) 4mm hex socket head cap screws per side.



Trim Position

Trim position may be adjusted (5 positions) by rotating the trimmer unit.

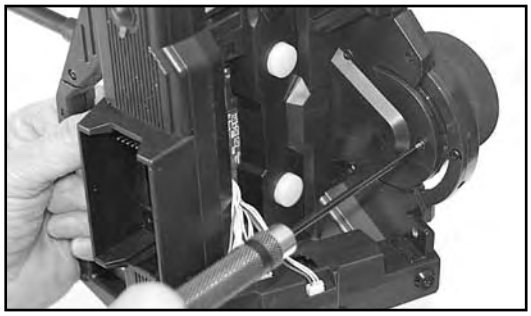
1. Remove the 4mm hex socket head cap screws on each side of the transmitter by using 3mm hex wrench.

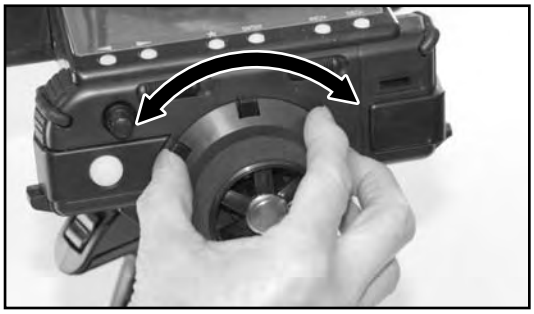
2. Detach the grip downward from the upper transmitter unit. Be careful to avoid damaging the lead wires that are connected on both units.

3. Remove the three hex socket head cap screws (M2.6) from the backside of the trimmer unit (i.e. behind the steering wheel as shown on the photo.)

4. Rotate the trimmer unit to the desired position. Trim position may be selected from five (5) positions. Set the trimmer unit at optimum trim position. After selecting the position, retighten the hex socket head cap screws (M2.6).

5. After resetting the trimmer position, attach the upper transmitter unit back into place. Tighten using a 3mm hex wrench and two (2) 4mm hex socket head cap screws per side.





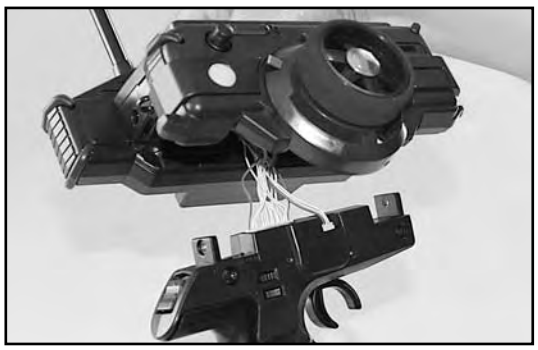
Switching Right Driving position to Left Driving Position (Dominant hand)

In order to change to a left handed driving position, rotate the grip as follows:

1. Remove the 4mm hex socket head cap screws on each side of the transmitter using a 3mm hex wrench.

2. Detach the grip downward from the upper transmitter unit. Be careful to avoid damaging the lead wires that are connected on both units.

3. Set the Left/Right selector switch to L. (As shown on the photo)



4. Rotate the grip by 180 degrees.

5. After rotating the grip, align the upper transmitter unit into place. Tighten using a 3mm hex wrench and two (2) 4mm
hex socket head cap screws per side.

NiCd Batteries

Safety Precautions When Charging A Nicd Battery. (Optional part)

CAUTION!
* Please read the charging procedures listed below to ensure safe and correct use of your NiCd battery.
* The battery is not charged when purchased. It is necessary to charge the battery before operation.
* Before charging NiCd batteries, double check power switches are in the off position on the transmitter and/or receiver.

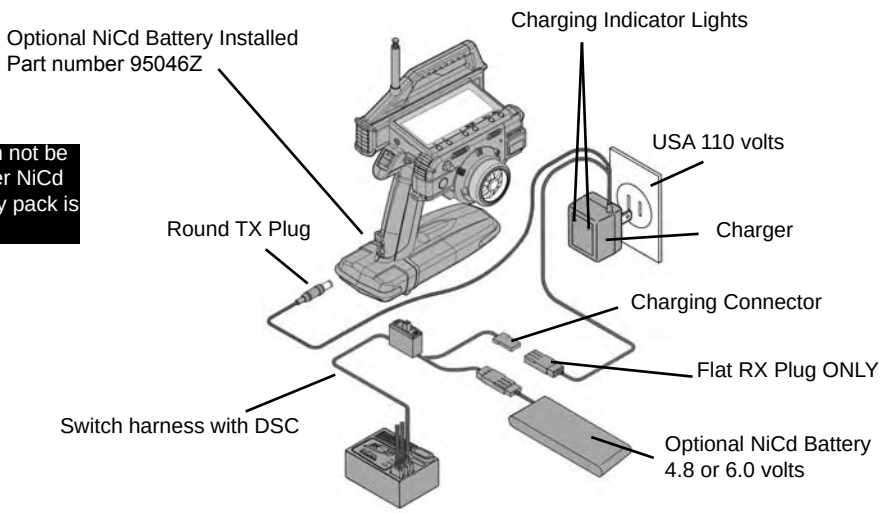
Charging the Transmitter/Receiver NiCd Batteries.

1. Connect the supplied charger to AC 120 V power outlet.
2. Charging the transmitter NiCd battery: Connect the round charger jack to the transmitter-charging outlet.
3. Charging the receiver NiCd battery: Connect the square plug on the charger to the connector on the receiver (for an engine powered model) NiCd battery, or to the charging connector on the switch harness.

* Make sure that the charging indicator LED light is on.

Charging a battery for the specified period may not result in a full charge if you have a new battery or have not used the battery for an extended period of time. In this case, you can activate the battery for use by running it through two or three charge cycles.

NOTE: The receiver plug can not be used to charge the transmitter NiCd battery pack when the battery pack is out side the transmitter.



WARNING: To prevent serious personal injury and/or damage to property, you must observe the following precautions when handling NiCd batteries.

Incorrect use can result in electrolyte spills, overheating, and bursting.
* Use only the supplied charger for charging your niCd batteries and never charge for more than the specified amount of time.
* Overcharging damages a battery and can result in overheating, bursting, and electrolyte spillage. This may cause personal injury and/or to property (i.e. burns, fire, or damage to the eyes.)
* Do not plug the supplied charger (95033Z) into anything other than AC 120 V power outlet. Plugging the charger into anything other than AC120 V outlet may result in smoking, sparks, or fire.
* When connecting the charger connector to the receiver NiCd battery or switch harness, be careful to avoid reversing the polarity or shorting the connector.
* Do not dispose of the battery in any fire or allow it to overheat.
* Do not short-circuit the positive terminal or the negative terminals with wire or any other object.
* Do not remove the outer tube. This is for protection and prevents scratches or other damage.
* Do not throw the battery or abuse in any manner.

Changing Bands

WARNING

Use only genuine Airtronics FM Crystals.
Use of crystals, other than specified, may result in frequency errors and possible runaway operation.

Replacing the Transmitter Crystal

1. Remove the crystal cap from the TX module, pull out the crystal, and insert the crystal for the desired frequency.
2. Replacement of the TX module is necessary in order to switch between the 27 MHz and 75 MHz bands.
3. When removing the TX module, pull it out toward the front while pressing the side tabs inward.

Replacing the Receiver Crystal

1. Pull out the crystal, install the silicone ring on the replaced crystal and plug it into the receiver.
2. Receiver replacement is necessary in order to switch between the 27 MHz and 75 MHz bands.

NOTE

* The 93327 or 93375 TX modules are for use exclusively with the M11. They are not compatible with any other TX modules.

* Crystals are marked for use with transmitters (TX) or receivers (RX). Be careful to use them in the correct module or receiver.

* Make sure that the TX module is securely installed. Improper installation can result in damage to the equipment. If the module does not install smoothly, inspect it for possible damage.

* When changing bands, you must replace the band plate on the transmitter.
* The TX module will become warm during operation; this is normal and is not a problem.
* On the TX module, be sure to install the silicone ring on the crystal cap.
* On the receiver crystal, be sure to install the silicone ring for micro receivers.

The special silicone compound protects the crystal from shock and vibration.

* List of Bands and Frequencies Used

	Channel #	Frequency
27 MHz band	1	26.995 MHz
	2	27.045 MHz
	3	27.095 MHz
	4	27.145 MHz
	5	27.195 MHz
	6	27.255 MHz

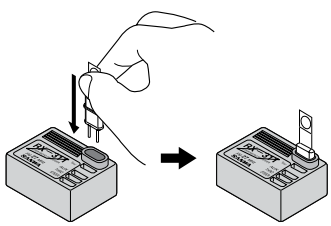
	Channel #	Frequency
75 MHz band	61	75.410MHZ
	62	75.430MHZ
	63	75.450MHZ
	64	75.470MHZ
	65	75.490MHZ
	66	75.510MHZ
	67	75.530MHZ
	68	75.550MHZ
	69	75.570MHZ
	70	75.590MHZ
	71	75.610MHZ
	72	75.630MHZ
	73	75.650MHZ
	74	75.670MHZ
	75	75.690MHZ
	76	75.710MHZ
	77	75.730MHZ
	78	75.750MHZ
	79	75.770MHZ
	80	75.790MHZ
	81	75.810MHZ
	82	75.830MHZ
	83	75.850MHZ
	84	75.870MHZ
	85	75.890MHZ
	86	75.910MHZ
	87	75.930MHZ
	88	75.950MHZ
	89	75.970MHZ
	90	75.990MHZ

Handling of Receiver Crystals

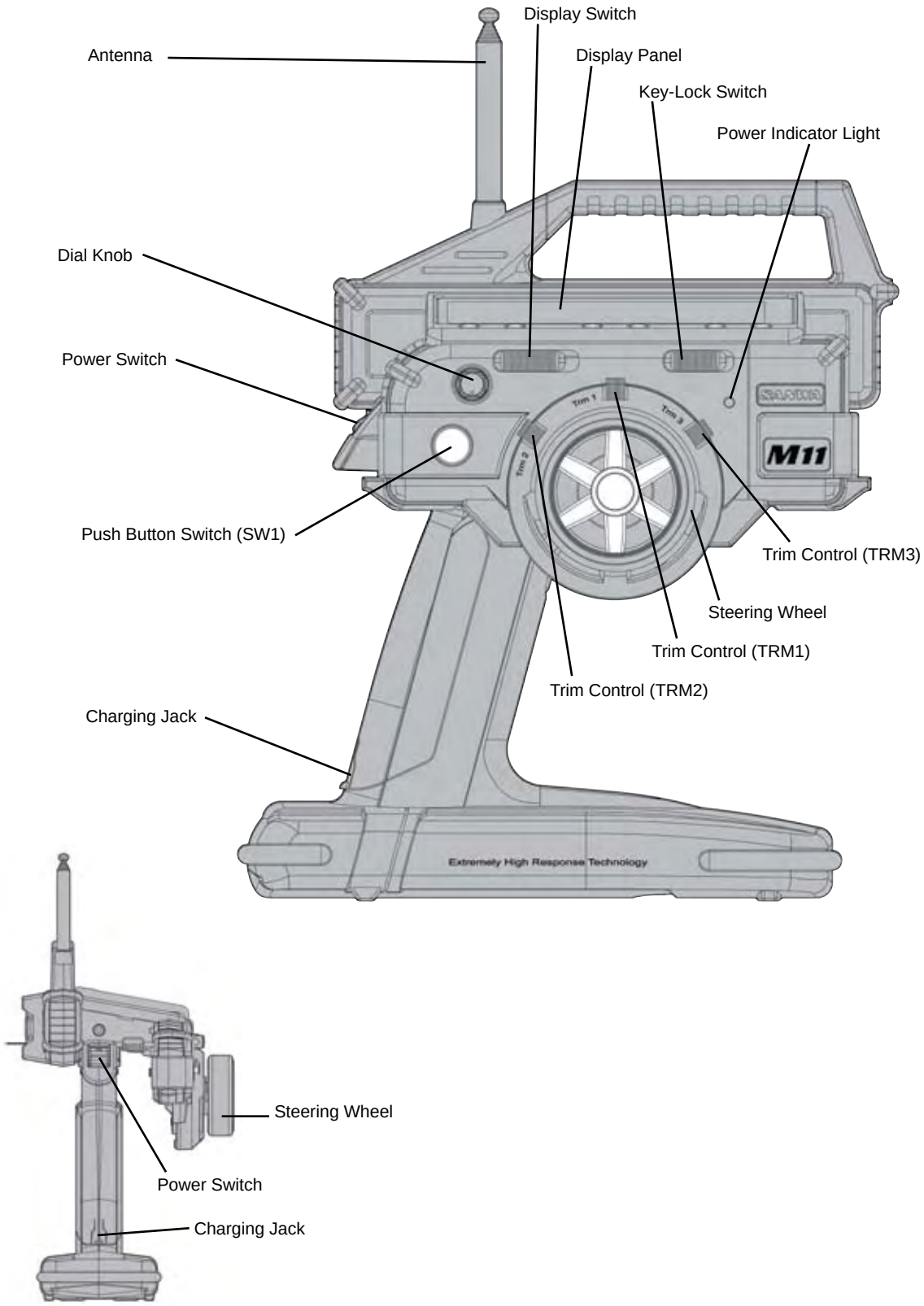
With receiver crystals, be sure to install the silicone ring. This ring contains special silicone compound that protects crystals from shock, vibration and dust.

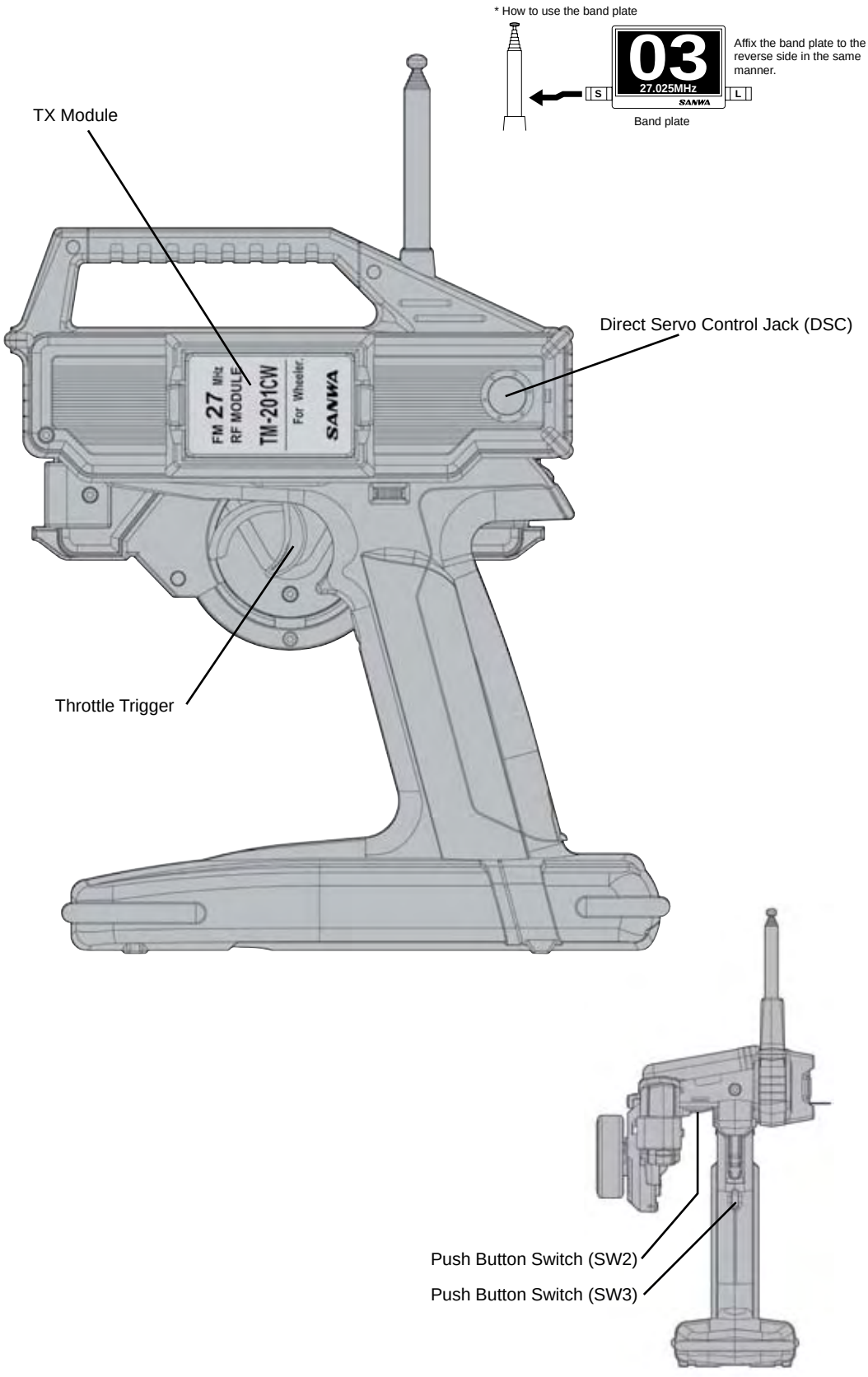
When installing receiver crystals in the receiver, press the ring with your thumb and forefinger to prevent it from slipping off.

When installing the crystal, make sure that the top of the silicone ring is level with the top of the receiver case. If the ring protrudes outward, press it into the case.



Transmitter Features and Controls

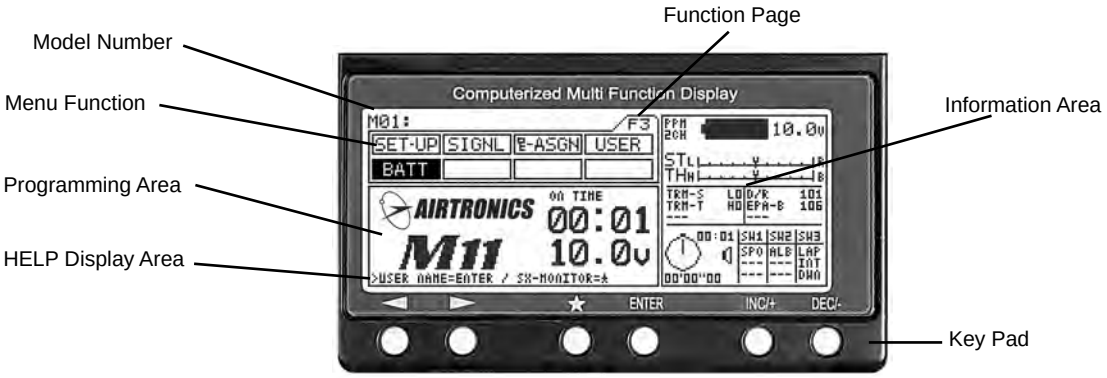



* How to use the band plate
03
27.025MHz
SANWA
S
L
Band plate
Affix the band plate to the reverse side in the same manner.
TX Module
Direct Servo Control Jack (DSC)
FM 27 MHz
RF MODULE
TM-201CW
For Wheeler.
SANWA
Throttle Trigger
Push Button Switch (SW2)
Push Button Switch (SW3)

Key Pad Menu Buttons

Using the Key Pad Menu Buttons

The M11 has 6 keys for menu operations. You will find the use of the 6 keys summarized below.



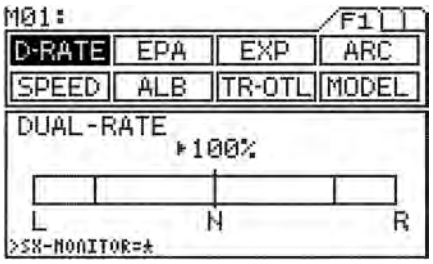
Key	Name	Function
	Function select Key (Left)	Moves the Menu Function cursor left to the previous (backwards) menu function.
	Function select Key (Right)	Moves the Menu Function cursor right to the next (forward) menu function.
	Function Page select Key sequence	Pressing down on both keys will scroll through function pages in order. F1, F2 and F3. The menu function cursor will highlight the first function on that page.
	★ Scroll Key	Will move the menu key backwards in the programming area. Also used in the HELP display area.
	Enter Key	Will move the menu key forward in the programming area. Also used in the HELP display area.
	INC+ Key (Increase)	Increases number values in programming area. Scrolls up selection list.
	DEC- Key (Decrease)	Decreases number values in programming area. Scrolls down selection list.
	INC+ and DEC- (Reset)	Resets selection to factory default setting.

Function Pages

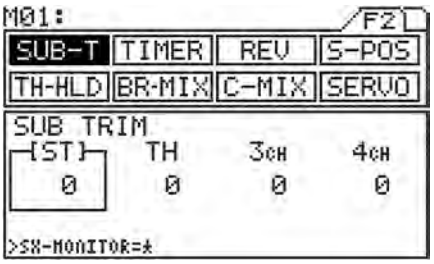
Menu Function Pages / Information Area

The functions of the M11 span three pages, F1 to F3, and can be selected directly using just the < and > keys. The first function on successive pages can be easily displayed in the sequence F1 > F2 > F3 > F1 . . . by pressing the < and > keys at the same time.

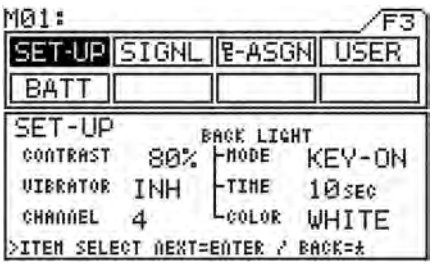
Function Menu Page 1



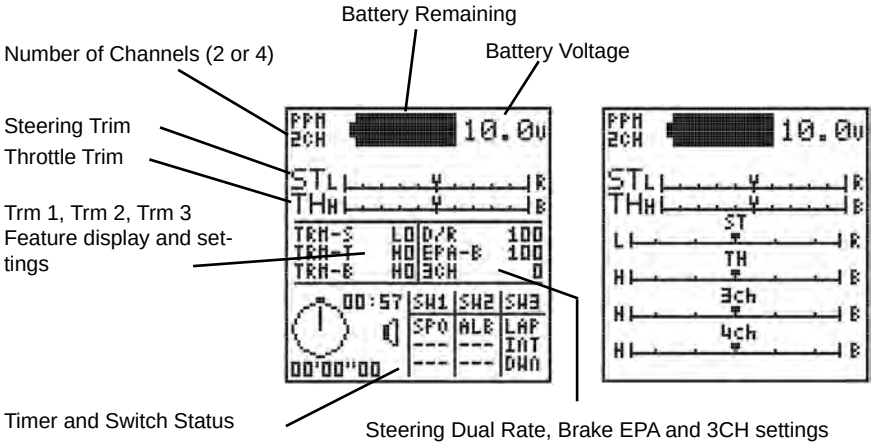
Function Menu Page 2



Function Menu Page 3



A constant display area is provided on the right side of the screen. This makes it possible to determine, at a glance, the current setting status of various functions from any menu screen. Further, you can display the servo monitor screen by pressing the star key.

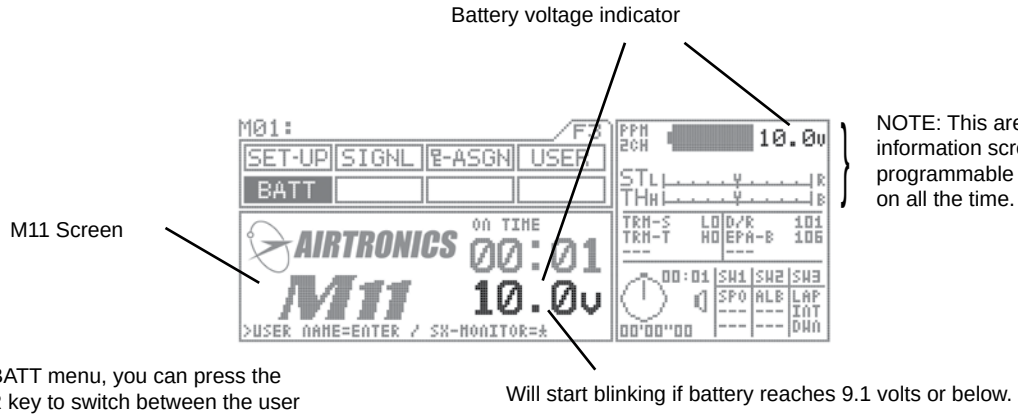


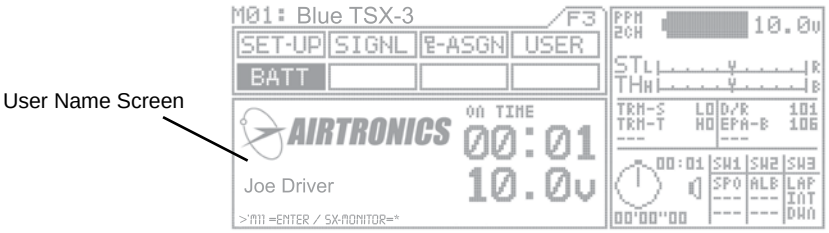
Optional information screen can be changed using the ★key.
Note: can only be changed when the help screen shows SX-MONITOR=*

Battery / Operation Timer

The transmitter battery voltage can be seen in two separate windows and measures 0.01 of a volt.

1. BATT Menu
2. Information Menu

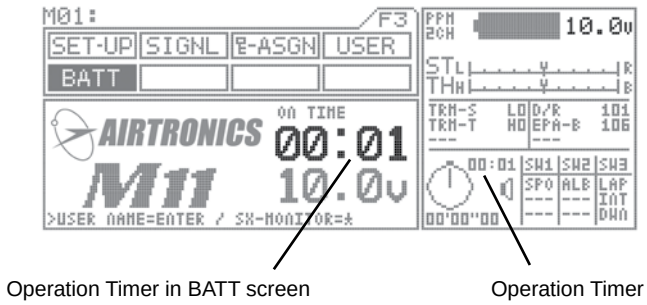




When the transmitter battery runs down to 9.1 volts, the transmitter will start beeping and vibrating if the vibration feature is on and will continue every 30 seconds. When this happens, promptly stop operation and charge or replace the transmitter batteries.

Operating Timer

The operating timer is a up timer that records the time the transmitter has been on in hours and minutes. This timer can be reset to 00:00 by pressing both the (INC/+) (DEC/-) keys at the same time. By resetting the Operating timer after you have charged or replaced the transmitter battery will give you the amount of time the current battery has been in use.



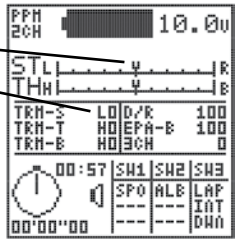
Dual Rate Steering

Dual Rate is used to change the amount of servo movement compared to the amount of movement with the steering wheel. Increasing the amount of dual rate will make the steering more sensitive or feel faster and decreasing the dual rate will make the steering more insensitive or feel slower.

When setting up a new car or truck, follow the directions below to properly setup your steering dual rate.

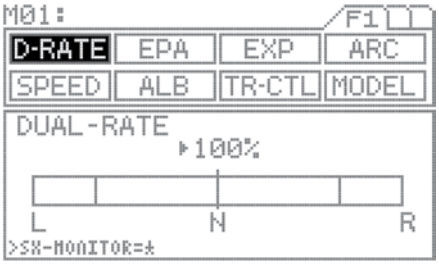
1. Set the digital steering trim to “0” by using (Trm 1). You can see when the trim reaches center by viewing one or both screens.

Steering trim factory default location: (Trm 1)

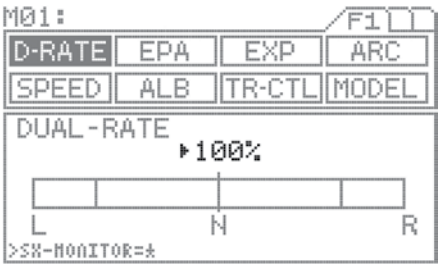


2. Press the function select key to move the cursor to (D-RATE). As you move the steering wheel from side to side, you can set the bar graph move to the dual rate limit lines. Default setting is 100%.

   Adjust the dual rate by pressing the INC+ or DEC- keys to increase or decrease dual rate amount. At this time, set the dual rate to 125%. This will increase the servo movement my 25% in both left and right directions.
   NOTE: Pressing both the INC and DEC keys together will set the dual rate to the default setting of 100%.

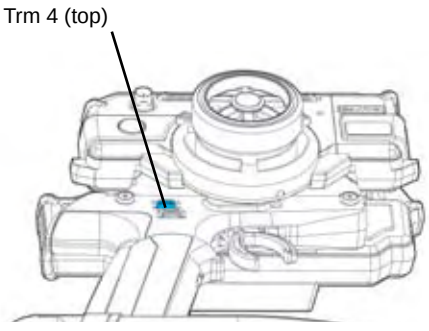


3. Attach the steering linkage to the servo arm as the car manufacturer recommends. Be sure to have all steering linkage, trim and servo arm as close to center as possible. Doing so will cut out a lot of steering problems later.
   Now move the steering wheel left and right to full. If your steering binds at both ends, this means you have to much movement coming from the servo. Use the dual rate to reduce or increase the amont of steerings to reach the steering stops.



4. After the dual rate has been set, adjust the independent left and right end points using the EPA feature.

Trm 4 (top)

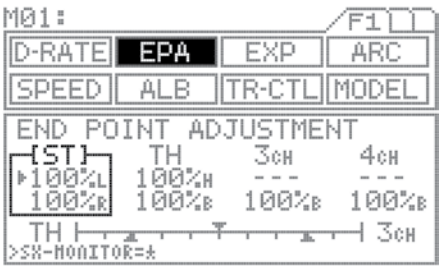


End Point Adjustment

End point adjustment is used to adjust the proper amount of servo movement on the model's steering angle to steer left and right and/or adjust the carburetor throttle arm stroke, the high point of an ESC and brake stroke.
While the M11 is set for 4 channels, this EPA function is also adjustable for 3rd BRAKE or AUX Channel) and for 4th channel of brake.

[ST] Steering End Point Adjustment

A model's turning radius can differ from left to right because of variations in linkage, suspension balance, tire diameter or weight distribution of the vehicle. In such cases, the left and right servo steering angle is adjustable.

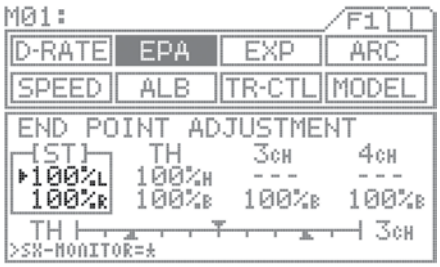


1. Before making the end point adjustment, you must set the servo to the neutral position. To find the center position, adjust the servo horn to approximately center position, and then make fine adjustments using the sub-trim.

2. Next, press the function select key and move the cursor to [ST] in EPA.

3. To set the steering end point on the right side, turn the steering wheel fully clockwise and depress the Inc.+ or Dec.- key. To set the left steering end point, do the same with the steering wheel turned fully counterclockwise.

   Setting range 0% to 150%
   Default setting 100%

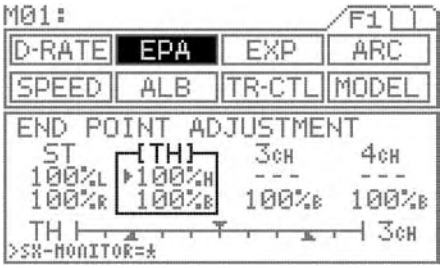


IMPORTANT
Note: Setting the steering dual rate and steering end points excessively high may cause a dead point on the servo, resulting in improper operation.

[TH] Throttle End Point Adjustment

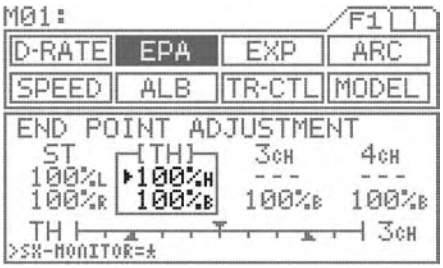
Throttle end point adjustment is used to adjust the carburetor stroke, high point of an ESC, or the brake stroke.

1. Press the function select key and move the cursor to [TH] in EPA.

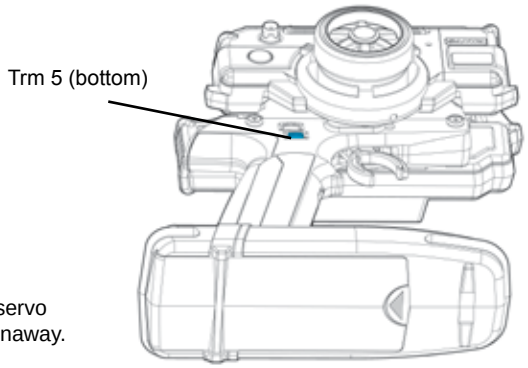


2. To adjust the high end of throttle movement on a gas -powered car, pull the throttle trigger all the way to the high side and adjust by pressing the Inc.+ or Dec.- key.
   To adjust the brake side, push the throttle trigger all the way to the brake side and adjust by pressing the Inc.+ or Dec.- key.
   With an ESC, the high side and brake side are both ordinarily set to 100% and then the high point and brake point are set on the ESC.
   (Setting procedures may vary depending on the type of ESC.)

   Setting range 0% to 140%
   Brake side 0% to 160%
   Standard setting 100%



3. Test run your vehicle to arrange the brake adjustment by using TRM5 switch on the grip. You can vary the setting at EPA-B by adjusting with TRM5. While the M11 is set for 4 channels, setting value may vary at the same time.



NOTE
With gas-powered model linkage, if the linkage stroke is set too wide, the servo may lock up. This results in fatal damage and may cause the vehicle to runaway.

TIP
Brake adjustment TR5 switch can be assignable with other trim switches.

[3ch] AUX End Point Adjustment (with 3ch - BRAKE INH)

NOTE: I order to set any functions for AUX 3 and AUX 4, you must first set the channel setting from 2 to 4 channel. To change from 2 to 4 channel, go to the F3 page on the transmitter, move the function menu cursor to SET-Up and change the channel number in the programming area on the transmitter screen.

The AUX channel can be used for functions such as needle control or for other uses. The end point adjustment allows fine adjustment of the maximum servo travel. Further, the high end point and low end point can be set independently, which provides great flexibility of adjustment.

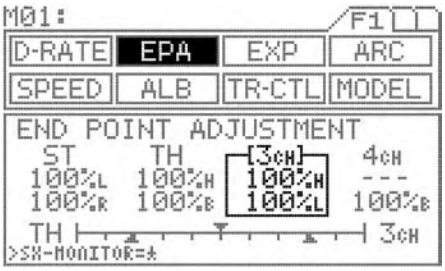
1. Be sure that channel 4 is selected in the set-up menu and that 3CH-BRAKE is set to INH in the BR-MIX menu. It is essential to set the M11 as “4channel” in order to use these functions.

2. Press the function select key and move the cursor to [3ch] in EPA.

3. To select the low side AUX setting, turn the dial counterclockwise and depress the Inc.+ or Dec.- key. To select the high side setting, do the same after turning the dial clockwise.

   Setting range 0% to 150%
   Standard setting 100%

   TIP
   The standard setting of the AUX key assign trim function is on DIAL. * This dial can be assignable with other trim switches such as TRM 1 to TRM5.



[3ch] 3CH-BRAKE End Point Adjustment (with 3ch - BRAKE ACT)

When using 3rd channel as the additional BRAKE channel, the end point adjustment can be separately set from the other BRAKE channel.

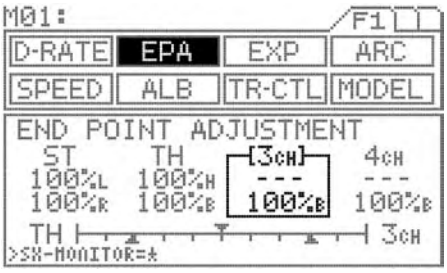
1. Make sure that the channel 4 is selected in the set-up menu and that 3CH-BRAKE is set to ACT in the BR-MIX menu. It is essential to set this function in order to activate this set up menu.

2. Press the function select key and move the cursor to [3ch] in EPA.

3. Push the throttle trigger all the way to the brake side and then adjust by pressing the Inc.+ or Dec.- key.

   Setting range 0% to 160%
   Standard setting 100%

4. If it is necessary to arrange the EPA brake adjustment during the operation of the vehicle, use trimmer TRM5 on the grip.



IMPORTANT
* Since this channel is exclusively for braking purpose, setting of EPA covers only at the BRAKE side.

[4ch] 4CH - BRAKE End Point Adjustment

The 4th channel is exclusively for braking purpose only. When using the 4th channel as the additional BRAKE channel, end point adjustment can be separately set from the other BRAKE channel.

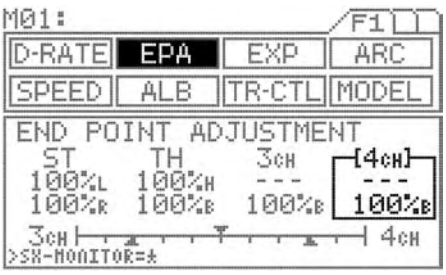
1. Be sure that the channel 4 is selected in the set-up menu. It is essential to set this function in order to activate this set up menu.

2. Press the function select key and move the cursor to [4ch] in EPA.

   Push the throttle trigger all the way to the brake side and then adjust by pressing the Inc.+ or Dec.- key.

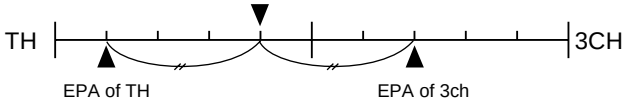
   Setting range 0% to 160%
   Standard setting 100%

3. If it is necessary to arrange the EPA brake adjustment, during the operation of the vehicle, use trimmer TRM5 on the grip.



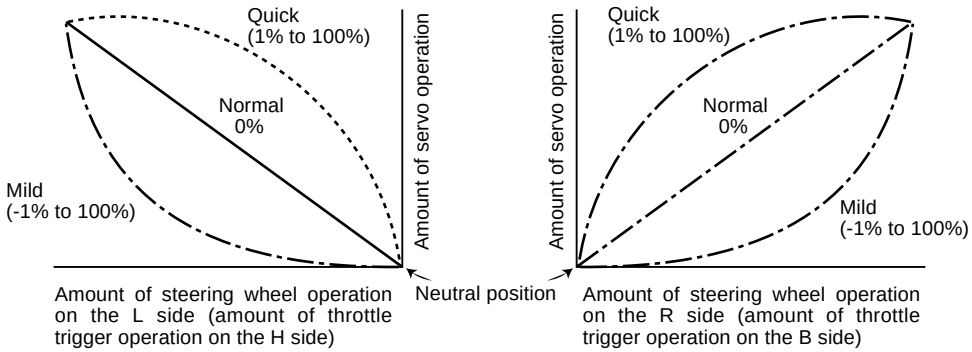
IMPORTANT
Since this channel is exclusively for braking purpose, setting of EPA covers only at the BRAKE side.

TIP
Balance bar graph
The bar graph appearing at the bottom of the screen is useful when setting the brake on more than two channels.
The graph indicates the center position of two EPA values. Use it as a guide to finding a good brake balance. The lower triangles in the graph indicate the respective EPA values.
When 3CH-BRAKE is set to ACT, the ENTER key switches the balance display between TH-3CH and 3CH-4CH. When 3CH-BRAKE is set to INH, the bar graph shows only the TH-4CH balance.



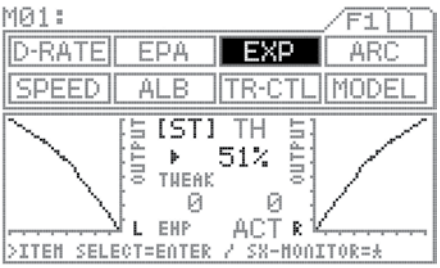
Exponential

This function varies the amount of servo action with respect to manipulation of the steering wheel or throttle trigger based from the neutral position. Increasing the numeric value makes action quicker, while reducing it makes action slower.



[ST] Steering Exponential

Three settings, Mild, Linear and Quick, allow you to set the most effective steering response for your model vehicle. Generally, if your model vehicle over-steers, reduce the numeric value. If it under-steers, increase the numeric value.



1. Press the function select key and move the cursor to [ST] in EXP.

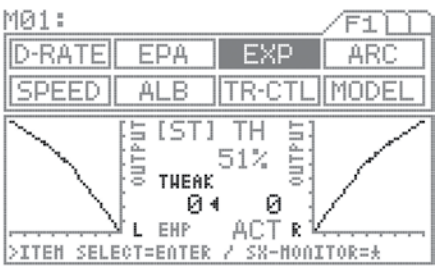
2. Set the EXP quantity by pressing the Inc.+ or Dec.- key.

   Setting range -100% to 100%
   Standard setting 0

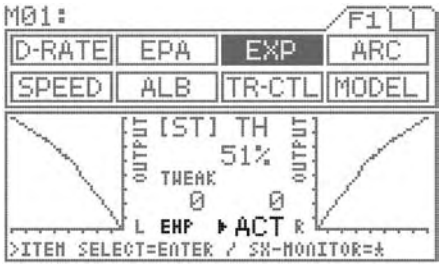
   TWEAK setting

3. Use the TWEAK setting when you want to fine-tune the left-right steering balance.
   First, move < or > to below TWEAK with the ENTER key.
   To adjust the left side steering, turn the steering wheel to the left and set the arrow direction to <. To adjust the right side steering, turn the steering wheel to the right and set the arrow direction to >.
   Set the TWEAK quantity by pressing the Inc.+ or Dec.- key.

   Setting range -20 to 20
   Standard setting 0

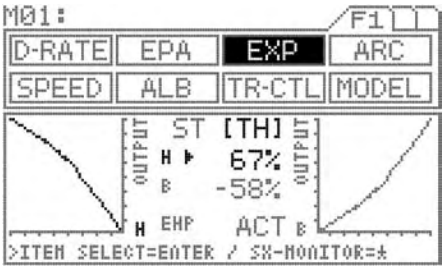


4. INH/ACT setting of EXP
   In order to activate the EXP function, select ACT; to deactivate, select INH.
   Using the ENTER key, move > to the right side of EXP.
   Select INH or ACT by pressing the Inc.+ or Dec.- key.



[TH Throttle Exponential

Throttle exponential can be adjusted from Mild, Linear and Quick. Generally, reduce the numeric value on a slippery track or with models that have powerful response. Increase the numeric value on a high-grip track or with power units that have lower torque. The high side and brake side can be set independently.



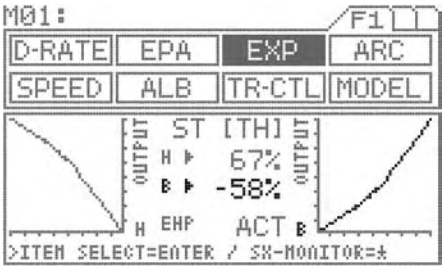
1. Press the function select key and move the cursor to [TH] in EXP.

2. Make sure that > appears to the right of H, and then set the EXP amount for the high side of TH by pressing the Inc.+ or Dec.- key.

   Setting range -100% to 100%
   Standard setting 0

3. Move > to the right of B using the ENTER key, and then set the EXP amount for the brake side of TH by pressing the Inc.+ or Dec.- key.

   Setting range -100% to 100%
   Standard setting 0

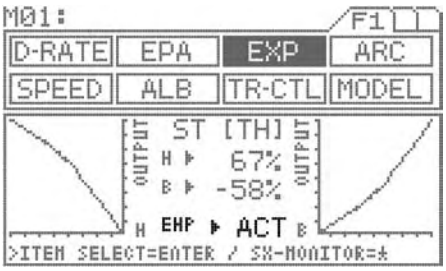


4. INH/ACT setting in EXP
   Select ACT to activate the EXP function. Select INH to deactivate.

   Using the ENTER key, move > to the right side of EXP.
   Select INH or ACT by pressing the Inc.+ or Dec.- key.

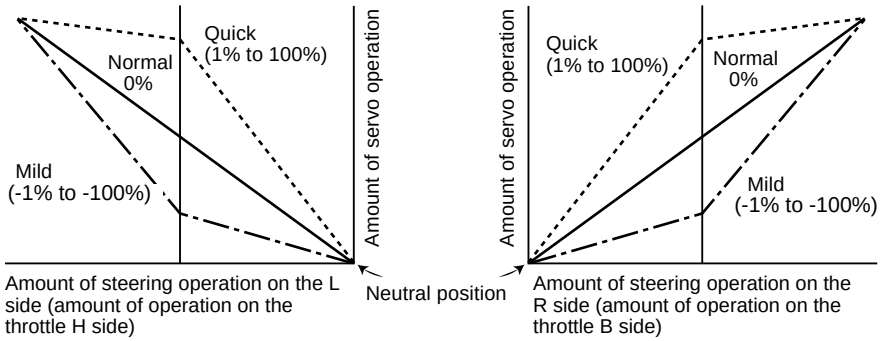
   IMPORTANT

   About the INH/ACT setting of EXP
   The INH/ACT setting of EXP in the menu can also be switched to any desired key switch by using the key assigning function. By using this function, switching the EXP “ON” or “OFF” can be selected during operation.



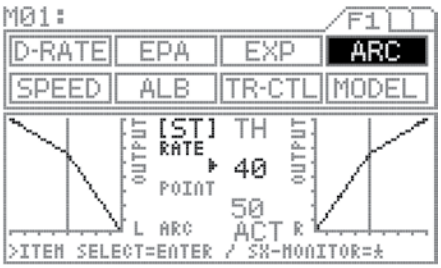
Adjustable Rate Control

This function varies the amount of servo action with respect to manipulation of the steering wheel or throttle trigger.
Increasing the rate setting makes action quicker, while reducing it makes action milder.
The changeability of the variable point on the ARC enables to adjust delicate steering and throttle work during the operation.



[ST] Steering Adjustable Rate Control

Steering response can be variably adjusted from mild through liner or to quick. In general, if the model vehicle tends to have over-steers, reduce the numeric value, and if the vehicle tends to have under-steers, increase the numeric value.

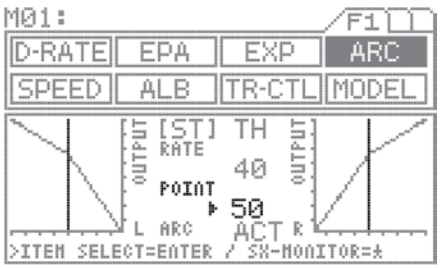


RATE SETTING

1. Press the function select key and move the cursor to [ST] in ARC.

2. Be sure that arrow points to the RATE, and then set the RATE for ARC by pressing the Inc.+ or Dec.- key.

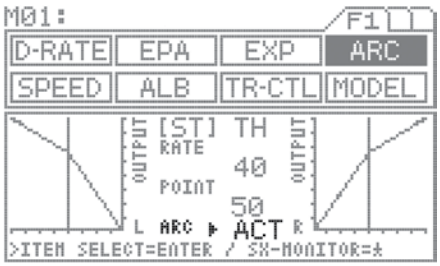
   Setting range -100% to 100% (Default setting 0)



   POINT setting

3. Move arrow to POINT with the ENTER key, and then set the POINT value by pressing the Inc.+ or Dec.- key.

   Setting range 5 to 95 (Default setting 50)

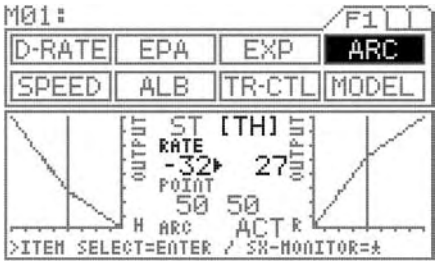


4. INH/ACT setting for ARC
   In order to activate the ARC function, select ACT, and to deactivate, select INH.

   Using the ENTER key, move the arrow to the left side of ARC.
   Select INH or ACT by pressing the Inc.+ or Dec.- key.

[TH] Throttle Adjustable Rate Control

Throttle characteristic can be variably adjusted from mild through linear or to quick. In general, reduce the numeric value on slippery track or with models that have powerful response, and increase it on high-grip track or with power units that have lower torque. The high side and brake side can be set independently.



1. Press the function select key and move the cursor to [TH] in ARC.

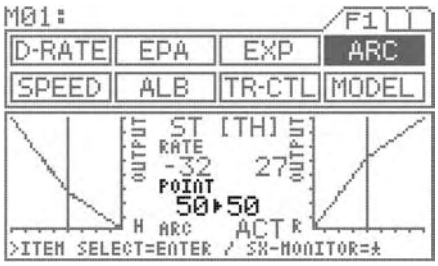
RATE SETTING

2. Be sure that the arrow appears below RATE.
   To adjust the high side throttle setting, pull the throttle trigger all the way to change the arrow direction to the throttle rate.

   To adjust the brake side throttle setting, push the throttle trigger all the way to the brake side, and watch the arrow direction change to the brake side.

   Set the RATE by pressing the Inc.+ or Dec.- key.

   Setting range -100 to 100 (Default setting 0)



POINT SETTING

3. Move the arrow to below POINT with the ENTER key.
   To adjust the high side throttle setting, pull the throttle trigger all the way to the high side, this will change the arrow to the throttle side.

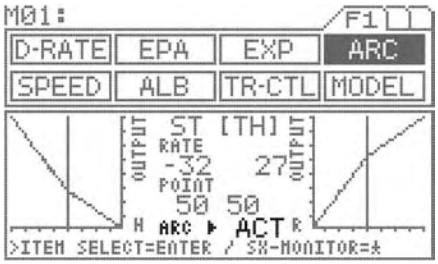
   To adjust the brake side throttle setting, push the throttle trigger all the way to the brake side, and the arrow will change to the brake side.

   Set the POINT value by pressing the Inc.+ or Dec.- key.

   Setting range 5 to 95 (Default setting 50)

4. INH/ACT setting for ARC
   To activate the ARC function, select ACT, and to deactivate, select INH.

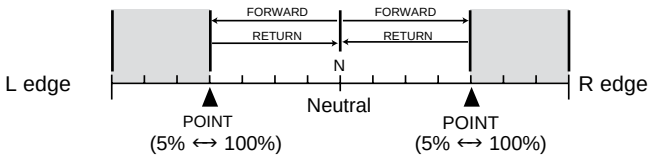
   Using the ENTER key, move > to the right side of ARC.
   Select INH or ACT by pressing the Inc.+ or Dec.- key.



IMPORTANT
About the INH/ACT setting of ARC
The INH/ACT setting of ARC in the menu can be also switch to any desired key switch by using the key assign function. By using this function, Activation ,of the ARC “ON” or “OFF” can be selected during the operation.

This function slows down the steering servo speed during steering. Speed can be set separately for steering movement say from neutral to certain point and return directions. But note that actual steering operation is slower than in its set speed of the servo, this function does not affect any.

[ST] Steering Servo Speed



The SPEED setting does not affect steering when the wheel is located within the shaded areas outside the POINT positions.

The SPEED setting does not affect steering when the wheel positioning is located within the shaded areas outside the POINTS.

1. Using the function select keys, move the cursor to [ST] in SPEED.

   FORWARD SETTING
2. Make sure that the arrow appears to the right of FORWARD, and then set the FORWARD value by pressing the Inc.+ or Dec.- key.

   Setting range 0 to 100 (Default setting 0)

3. RETURN SETTING
   Move arrow to RETURN with the ENTER key, and then set the RETURN value by pressing the Inc.+ or Dec.- key.

   Setting range 0 to 100 (Default setting 0)

4. POINT SETTING
   Move the arrow to the right of POINT with the ENTER key, and then set the POINT value by pressing the Inc.+ or Dec.- key.

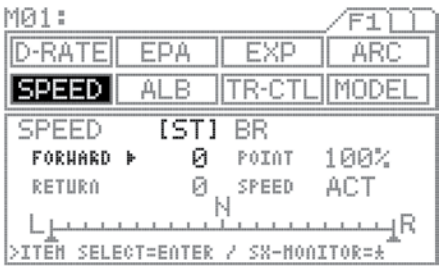
   Setting range 5% to 100% (Default setting 100%)

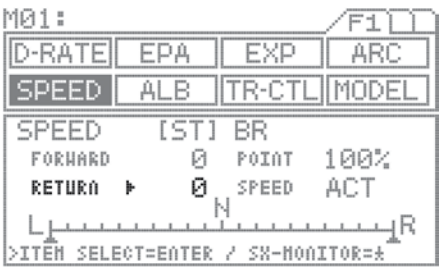
5. INH/ACT SPEED
   To activate the SPEED function, select ACT, and to deactivate, select INH.

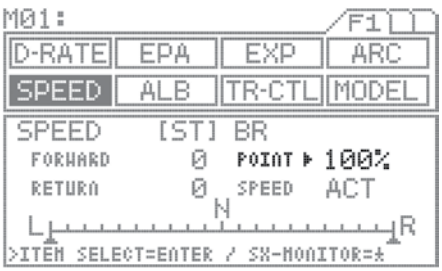
   Using the ENTER key, move > to the right of SPEED.
   Select INH or ACT by pressing the Inc.+ or Dec.- key.

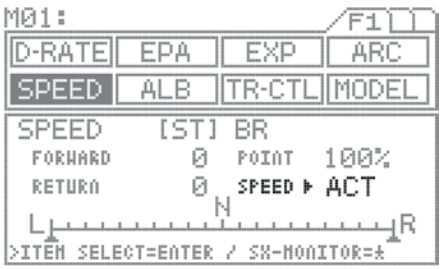
   NOTE
   When driving a model vehicle, proper steering is vital, and excessive steering is to be avoided at all times. The steering speed setting helps to limit excessive steering, which will enable you to achieve smoother cornering.

   It is advisable to use both Steering Speed & Exponential functions together which enable you to achieve the best combination of steering operation.





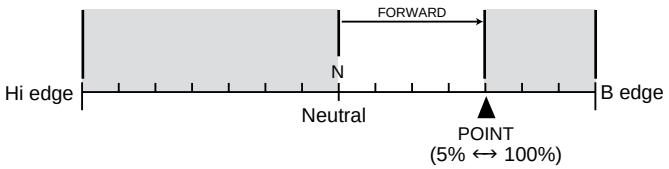




[TH] Throttle Servo Speed

This function slows down the throttle servo during throttle operation. This setting affects only the FORWARD side of the brake.

The SPEED setting does not affect throttle operation when the throttle trigger positioning is located within the shaded areas outside the POINT. (Only affect from the neutral to the point set at.)

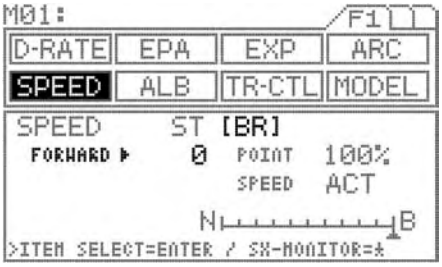


The SPEED setting does not affect throttle operation when the throttle trigger is located within the shaded areas outside the POINT positions.

1. Using the function select keys, move the cursor to [BR] in SPEED.

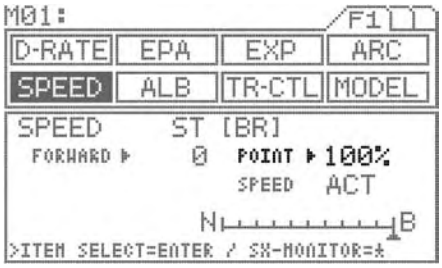
   FORWARD SETTING
2. Make sure the arrow appears to the right of FORWARD, and then set the FORWARD value by pressing the Inc.+ or Dec.- key.

   Setting range 0 to 100 (Default setting 0)



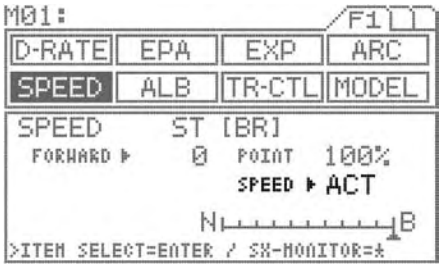
3. POINT SETTING
   Move the arrow to the right of POINT with the ENTER key, and then set the POINT value by pressing the Inc.+ or Dec.- key.

   Setting range 5% to 100% (Default setting 100%)



4. INH/ACT SPEED
   To activate the SPEED function, select ACT, and to deactivate, select INH.

   Using the ENTER key, move the arrow to the right of SPEED.
   Select INH or ACT by pressing the Inc.+ or Dec.- key.



NOTE
It is advisable to use both Throttle's Speed & Exponential functions together which enable to achieve best combination of the steering operation for the model vehicle.

IMPORTANT
About the INH/ACT setting for SPEED
The INH/ACT setting of SPEED in the menu can be also switch to any desired key switch by using the key assign function. By using this function, switching the SPEED "ON" or "OFF" can be selected during the operation.

Anti-Lock Braking (For Gas powered model only)

Anti-lock braking makes it possible to achieve stable braking even on a slippery track. With stable braking, the model vehicle may be able to trace an exact line as desired for corners.

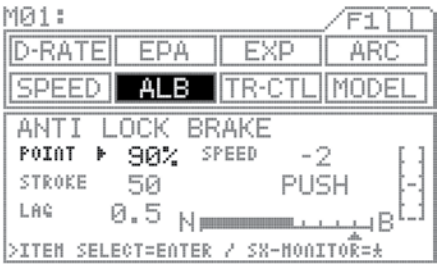
This function also enables you to set the different Braking characteristics depending on the model vehicle for on road racing or the off road buggy .

1. Using the function select keys, move the cursor to ALB.

   POINT SETTING
2. Be sure that arrow appears to the right of POINT, and then set the POINT value by pressing the Inc.+ or Dec.- key.

   POINT: The position where ALB activates.

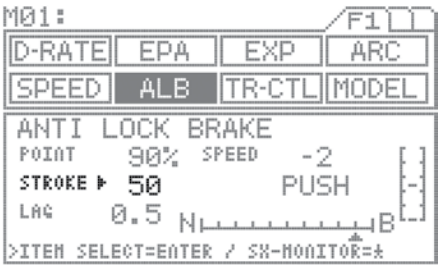
   Setting range 0% to 100% (Default setting 90%)



3. STROKE SETTING
   Move the arrow to the right of STROKE with the ENTER key, and then set the STROKE value by pressing the Inc.+ or Dec.- key.

   STROKE: The width of repeated operation.

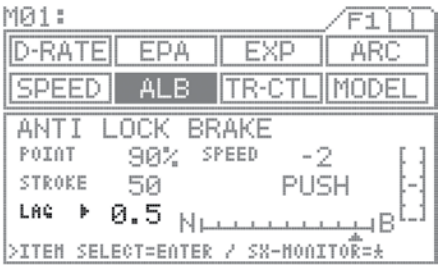
   Setting range 0 to 100 (Default setting 50)



4. LAG SETTING
   Using the ENTER key, move the arrow to the right of LAG.
   Set the POINT value by pressing the Inc.+ or Dec.- key.

   LAG: The time lag before ALB activates.

   Setting range 0.0 to 2.0 (Default setting 0.5)



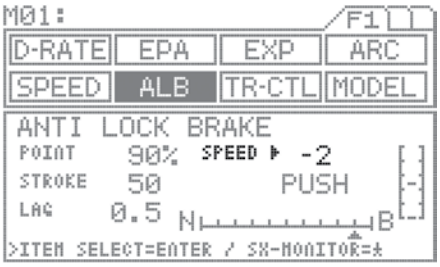
4. SPEED SETTING
   Move the arrow to the right of SPEED with the ENTER key, and then set the SPEED value by pressing the Inc.+ or Dec.- key.

   SPEED: The speed of repeated operation.

   Setting range -1 to -30 (Default setting -2)

   NOTE
   Set the hardest brake can be obtain from your model vehicle but carefully set the anti-lock braking at the point where right before the tires get fully locked but not to slip and lose the traction at the track.

   Anti-lock braking is effective only as long as the ALB switch is depressed.

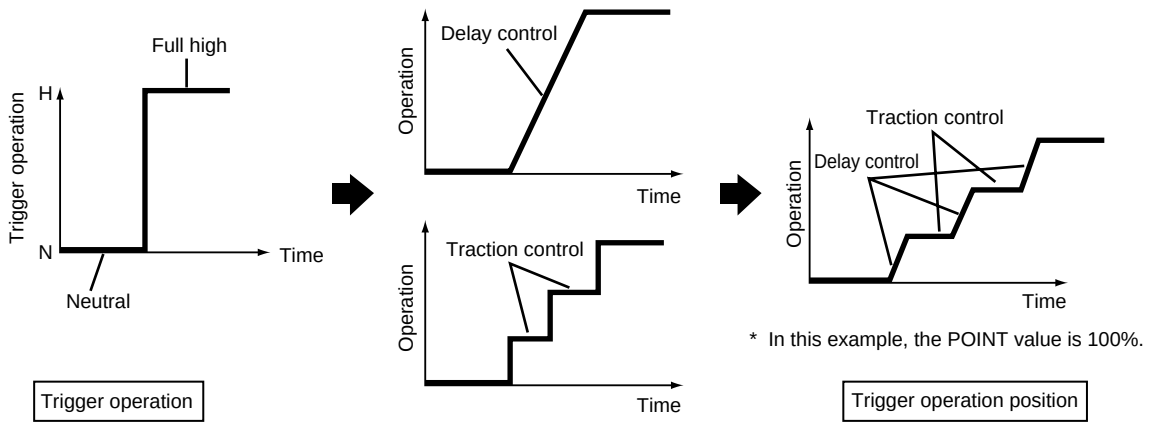


Traction Control

Traction control helps assure faster, smoother starts even when the trigger is applied abruptly by not having wheel spins.

Even the model vehicle is on the forward motion, it contributes the stability during acceleration, providing smoother running.

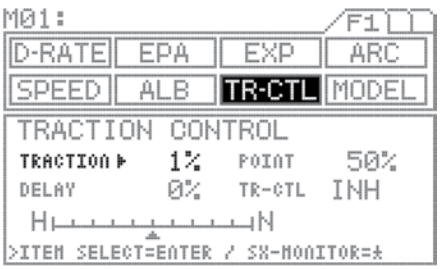
Ideal smoothness can be further refined by adjusting for intermittent locking in addition to normal servo speed delay adjustment. By making point settings and switch assignments (with the key assign function), traction control can be applied whenever necessary, at just the places if necessary.
* This function operates only when the throttle is moved from Neutral to the Hi direction.



Trigger operation

* In this example, the POINT value is 100%.

Trigger operation position



1. Using the function select keys, move the cursor to TR-CTL..

TRACTION SETTING

2. Be sure the arrow appears to the right of TRACTION, and then set the TRACTION value by pressing the Inc.+ or Dec.- key.

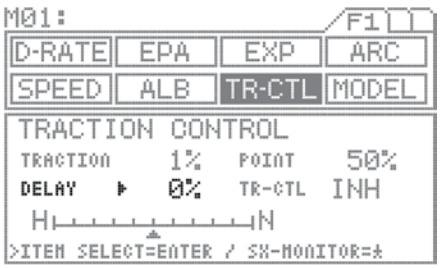
Setting range 1% to 100% (Default setting 1%) (off)
Full throttle position

POINT position (Bar graph (allows verification of output)

DELAY SETTING

3. Move the arrow to the right of DELAY with the ENTER key, and then set the DELAY value by pressing the Inc.+ or Dec.- key.

Setting range 0% to 100% (Default setting 0%)



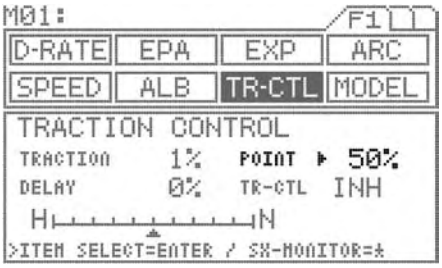
POINT SETTING

4. Move the arrow to the right of POINT with the ENTER key, and then set the POINT value by pressing the Inc.+ or Dec.- key.

   Setting range 5% to 100% (Default setting 50%)

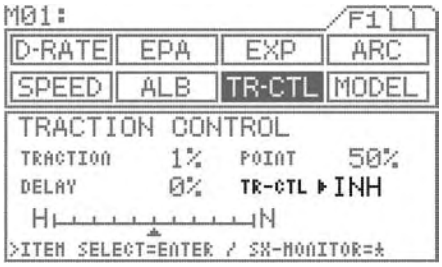
   Traction control applies only in the range from neutral to the set point.

   NOTE
   The point referred to here is the operational output point, not the trigger operation point..



4. INH/ACT setting for TR-CTL
   To activate the traction control function, select ACT, and to deactivate, select INH.
   Using the ENTER key, move > to the right of TR-CTL.
   Select INH or ACT by pressing the Inc.+ or Dec.- key.

   IMPORTANT
   The INH/ACT setting of traction control in the menu can be also switched to any desired key switch by using the key assign function. By using this function, switching the TR-CTL “ON” or “OFF” can be selected during the operation.



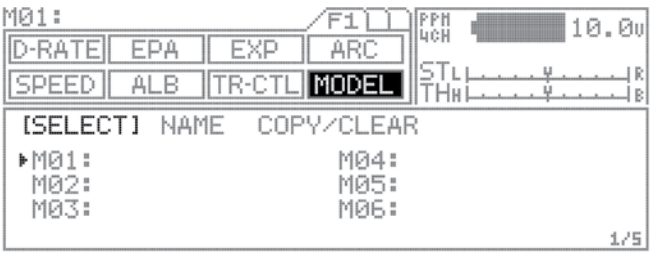
This menu enables you to make settings related to model select (SELECT), model name (NAME), and model copy/model clear (COPY/CLEAR) functions.
Data for up to 30 models, M01 to M30, can be stored in the M11's high capacity, built-in EEPROM memory.

[SELECT] Model Select

Data can be easily stored for any models M01 to M30.
Since the previous model memorys are stored automatically, there is no risk for accidental erasing.

1. Using the function select keys, move the cursor to [NAME] in MODEL.
2. Select the model to be recalled by pressing the Inc.+ or Dec.- key.

   Setting range M01 to M30



NOTE
The model changes immediately upon selection.
Pages can be flip through in sequence such as M01->M07->M13->M19->M25->M1…by simultaneously pressing the Inc.+ and Dec.- keys.

! CAUTION
Do not attempt to change the model when the model vehicle's receiver is being turned on under the actual operational condition resulting that Model vehicle may go runaway or the servo may be damaged being set with other servo setting.

[NAME] Model Name

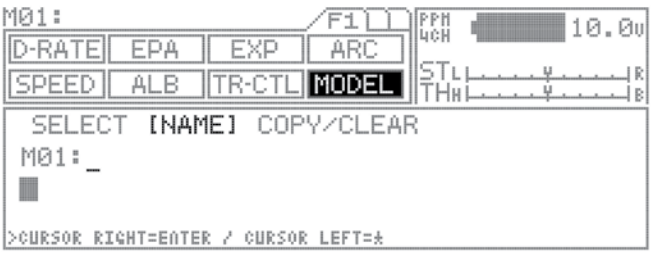
Model names can be registered as consisting of up to 12 letters, numerals, or symbols.

1. Using the function select keys, move the cursor to [NAME] in MODEL.
2. Using the asterisk key or the ENTER key, move the cursor ("_") to the point when you want to enter text.
3. Select a character by pressing the Inc.+ or Dec.- key.
4. Repeat steps 2) and 3) for each subsequent character.

   Setting range A – Z, a – z, 0 – 9, symbols, space

   NOTE
   Group of characters can be flip through in sequence A->a->0->!->space-> by simultaneously pressing the Inc.+ and Dec.- keys.

   When entering a character in a position occupied by a space, group can be selected from the preceding character by first pressing the Dec./- key. This is useful when entering several characters from the same group.



[COPY/CLEAR] Model Copy / Model Clear

This function enables you to copy data from the currently selected model to another, or to copy another model's data into the model currently selected. Data can be cleared (initialize) on the current model that being selected.

COPY MODEL DATA

1. Using the function select keys, move the cursor to [COPY/CLEAR] in MODEL.

2. To copy data from the current selected (Master) model to another model (Slave), use the INC/+ or DEC/- keys to change the model numbers up or down to the model number you would like to copy the current model (Master) to.

3. After you have selected the model number you wish to copy the current model (Master) to, press the ENTER key. The screen will now change and ask you:

   YES=<INC> and NO=<DEC>

   Press the INC/+ key to copy the current (Master) model to the new model (Slave) you have selected. Press the DEC/- key to return to the previous screen.

4. To copy data from another model to the one your currently using, use the star key to change the current model (Master) to (Slave). In turn the model you would like to copy from will now show (Master). The (Master) will always overwrite the (Slave).

5. Select the model (Master) you want to copy from using the Inc.+ or Dec.- keys and then press the ENTER key.

   A confirmation screen appears, allowing to confirm that choice is correct. To proceed with copying, press Inc.+, or to cancel press Dec.- key. During copying, the message EXECUTING! appears until copying is completed.

CLEARING MODEL DATA

6. Using the function select keys, move the cursor to [COPY/CLEAR] in MODEL.

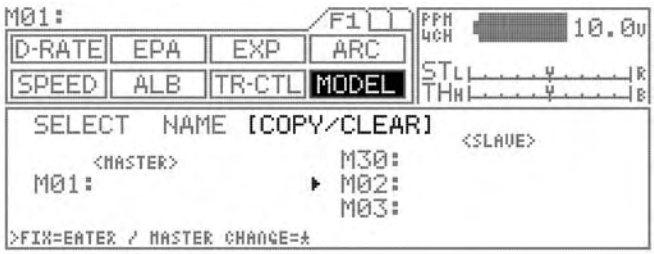
7. Using the star key, change the current model (Master) to (Slave).

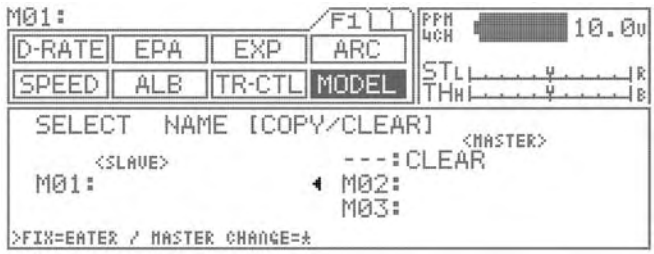
8. Press both INC/+ or DEC/- keys simultaneously to select the (- - -:CLEAR) model.

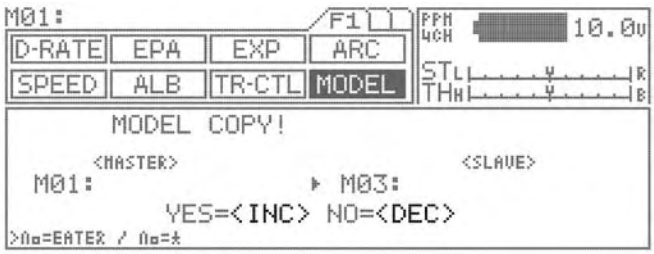
9. Now press the ENTER key to select. The screen will change and ask, YES=<INC> or NO=<DEC>. Select yes to clear the current model or no to return to the previous screen. This operation clears all data for models M01 to M30.

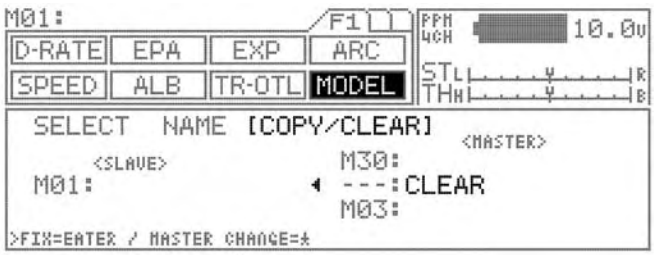
   NOTE:
   CLEAR can be selected by simultaneously pressing Inc/+ and Dec/-.

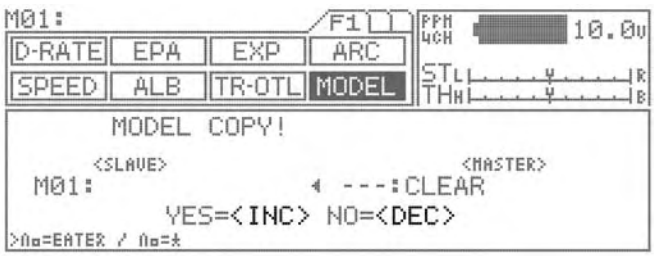
   While clearing is in progress, the message EXECUTING! appears until operation is completed.







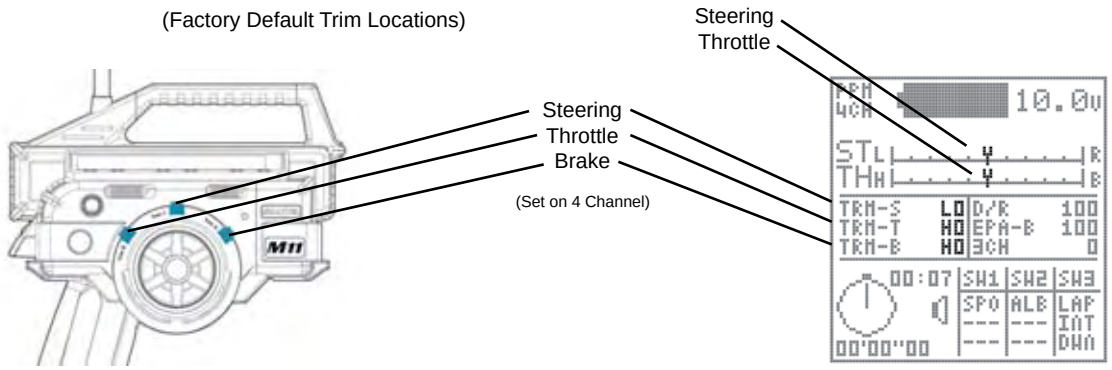




Sub-Trim

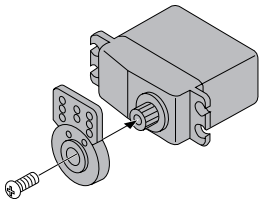
Corrects trim neutral for steering and throttle, making it possible to use the main trim from the center position. When adjusting linkages, this sub-trim allows to fix the position in accurate center position.
* This can also be used for brake sub-trim when using 4 channels. In this case, channels 3 and 4 can be set independently.

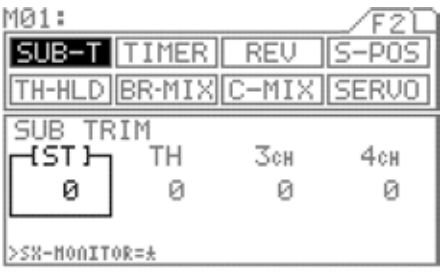
(Factory Default Trim Locations)



1. Before adjusting linkage, be sure to set the main trimmers to center position (0).
2. Attach the servo arm (servo saver arm) to the servo unit in the position that is closest to neutral.
3. Using the function select keys, move the cursor to [ST] in SUB-T.
4. Adjust the sub-trim to center the servo arm the the servo.

   Setting range 100L to 100R (Default setting 0)
5. Adjust the other sub-trim settings in the same manner.





! CAUTION
Be sure that the servo is as nearly centered as possible before making this adjustment. If the sub-trim and main trim settings are both offset to one side, an operational dead spot (a spot where the servo does not operate) may result.

Three types of timers are provided for measuring lap, interval, and down (or up) times, and these three timers can be used simultaneously.
A high degree of freedom and convenience is provided by the ability to use the key assign switch to perform simultaneous or independent operation.
Separate tones can be assigned to each of the timers, making it easy to distinguish between them during simultaneous operation.

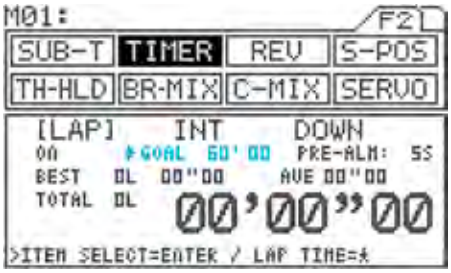
The audible signal provided by the tone is complemented by a vibrator, which can be set to operate either in concert with the tone, or simultaneously.
The operational status of the timers can also be checked from other menus (in the constant display area).

[LAP] Lap Timer

Allows you to measure and record times for up to 99 laps (all models).
Features a pre-alarm (PRE-ALM) that lets you set a pre-goal alarm time.
Provides real-time display of the best lap (BEST), average lap (AVE), and total (TOTAL) lap times.

1. Using the function select keys, move the cursor to [TH] in TIMER.

2. Turning the lap timer (ON/OFF)
Be sure that arrow appears below LAP, and then press Inc.+ or Dec.- to set the timer ON or OFF.



Setting the goal time (GOAL)
3. Press the ENTER key to move the arrow to GOAL, and then set the goal time by pressing the Inc.+ or Dec.- key.

Setting range 00’10 to 60’00 In 00’10 increments (Default setting 60’00)

Setting the pre-alarm (PRE-ALM)
4. Press the ENTER key to move the arrow to PRE-ALM, and then set the pre-alarm by pressing the Inc.+ or Dec.- key.

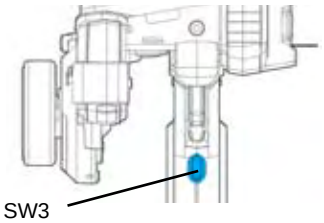
The pre-alarm is an alarm that sounds a few seconds before the goal time.

Setting range OFF, 1s to 20s (Defailt setting 5s)

5. With the standard configuration, the lap timer switch is set to SW3. Pressing SW3 starts measurement.

Lap time is measured each time you press SW3. Once you press the switch, it is deactivated for 3 seconds.

IMPORTANT
About the timer switch
The timer switch can be freely assigned to another switch using the key assign function. Set the switch to the position that is most suitable.



ENDING MEASUREMENT

6. End measurement can be set in three different ways.
   By pressing the switch after the goal time is reached.
   By pressing the switch after the goal time is reached.
   By pressing and holding the switch for 3 seconds.

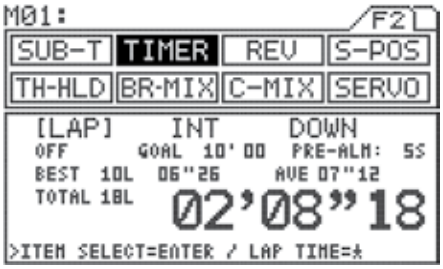
VERIFYING MEASUREMENT RESULTS

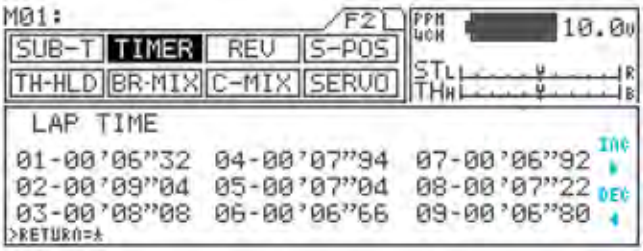
7. Measurement results can be checked using the star key in the TIMER [LAP] menu while the timer is stopped.
   The display shows times for 9 laps at a time, Pages can be flip by using the Inc.+ or Dec.- key.

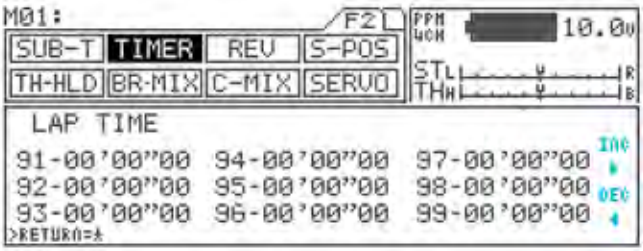
   Pressing Inc.+ and Dec.- simultaneously returns display to the first 9 laps.

CONSTANT DISPLAY AREA

8. The timer status appears in the constant display area, and can also be checked from other menus.
   The timers appear in the timer display area in the order FUNC1>FUNC2>FUNC3, as set with the key assign switch. In the example at right, LAP appears as assigned to FUNC1.

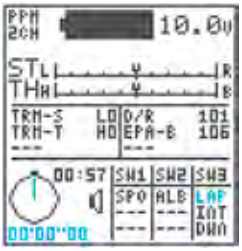






! CAUTION
When measurement is started, the previous LAP measurement is cleared. There is no function that is provided for clearing the lap time.

When measurement ends, the timer's ON/OFF status changes to OFF. To re-start the timer, turn in ON as described in step 2).



[INT] Interval Timer

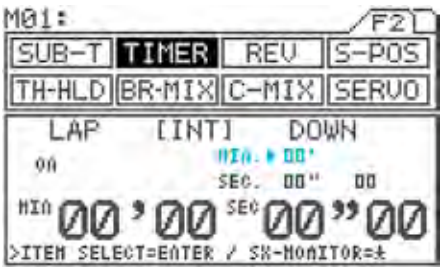
The interval timer notifies when a set interval elapses while you are driving, giving you an idea how close you are to your target time. Interval timers are provided separately for minutes and seconds, and both can be used simultaneously. Timer tone can be also set separately for each two timers.

1. Using the function select keys, move the cursor to [INT] in TIMER.

2. Turning the interval timer ON/OFF
   Make sure that the arrow appears below LAP, and then press Inc.+ or Dec.- to set the timer ON or OFF.

   Setting the interval minute timer (MIN)

3. Press the ENTER key to move the arrow to the right of MIN, and then set the timer by pressing the Inc.+ or Dec.- key.



   The interval minute timer will not function when it is set as 00'.

   Setting range 00' to 99' 01' increments (1-minute increments)

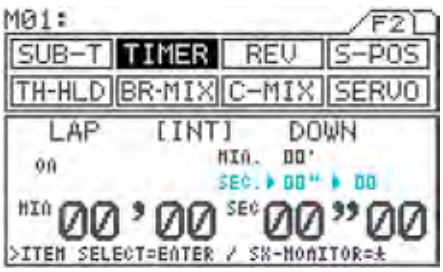
   (Default setting 00')

   Setting the interval second timer (SEC)

4. Press the ENTER key to move the arrow to the right of SEC, and then set the timer by pressing the Inc.+ or Dec.- key.

   Setting range 00" to 59" 01" increments (1-second increments)

   (Default setting 00')



   1/10-Seconds Setting

4. Press the ENTER key to move the arrow to the left of 00", and then set the timer by pressing the Inc.+ or Dec.- key.

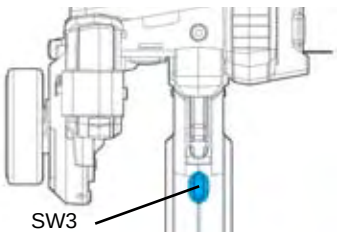
   Setting range 00 to 90 Increments of 10 (1/10-second increments)

   (Default setting 00)

   The interval second timer will not function when it is set as 00"00.

5. With the standard configuration, the lap timer switch is set to SW3. By pressing the SW3 starts measurement.

   Each time you press SW3, the interval timer is reset and measurement re-starts from 0 minutes, 0 seconds.



ENDING MEASUREMENT

6. End of measurement can be deactivated in two different ways.
   From the menu, by simultaneously pressing the Inc.+ and Dec.- key.
   By pressing and holding the switch for 3 seconds.

IMPORTANT
When measurement ends, the timer's ON/OFF status changes to OFF. To re-start the timer, turn in ON as described in step 2).

About the timer switch
The timer switch can be freely assigned to another switch using the key assign function. Set the switch to the position that is most suitable.

[DOWN] Down Timer

This timer can notify the idea of model vehicle's battery or fuel consumption (running time).
The timer accepts settings of up to 99' 59" 90 in 1/10-second increments.
Once the down timer has run out, the up timer starts. This allows you to check the time elapsed since the timer ran out.
(This timer has an alarm that sounds every minute.)

1. Using the function select keys, move the cursor to [DOWN] in TIMER.

Turning the down timer ON/OFF

2. Be sure that arrow appears below LAP, and then press Inc.+ or Dec.- to set the timer ON.

Setting the down timer (minute)

3. Press the ENTER key to move the arrow to (minute), and then set the timer by pressing the Inc.+ or Dec.- key.

Setting range 00' to 99' 01" increments (1-second increments)

(Default setting 00")

Setting the down timer (second)

4. Press the ENTER key to move the arrow to (second), and then set the timer by pressing the Inc.+ or Dec.- key.

Setting range 00" to 59" 01" increments (1-second increments)

(Default setting 00")

Setting the down timer (1/10-second)

5. Press the ENTER key to move the arrow to (1/10-second), and then set the timer by pressing the Inc.+ or Dec.- key.

Setting range 00 to 90 Increments of 10 (1/10-second increments)

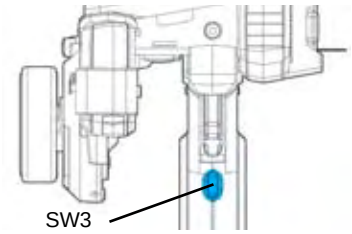
(Default setting 00")

The timer will not function when it is set at 00" 00.

IMPORTANT
When measurement ends, the timer's ON/OFF status changes to OFF. To re-start the timer, turn in ON as described in step 2).
About the timer switch
The timer switch can be freely assigned to another switch using the key assign function. Set the switch to the position that is most suitable for you.

With the standard configuration, the down timer switch is set to SW3. Pressing SW3 starts measurement.

Each time you press SW3, the interval timer is restored to its preset value, and the countdown re-starts from that setting.



6. ENDING MEASUREMENT
End of measurement can be deactivated in two different ways.
From the menu, by simultaneously pressing the Inc.+ and Dec.- key.
By pressing and holding the switch for 3 seconds.

IMPORTANT
*When measurement ends, the timer's ON/OFF status changes to OFF. To re-start the timer, turn in ON as described in step 2).
*About the timer switch
The timer switch can be freely assigned to another switch using the key assign function. Set the switch to the position that is most suitable for you.

[REV] Servo Reversing

This function is to switch the direction of servo operation, and is used in situations when controls such as the steering wheel or throttle operate in the opposite direction .

Servo reversed can be individually adjusted for each of the 4 channels.

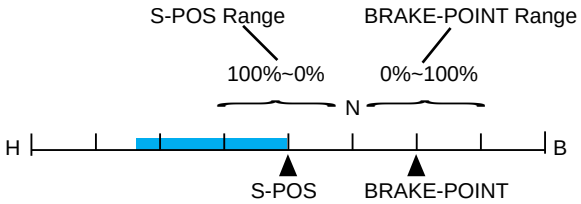
1. Using the function select keys, move the cursor to [ST] in REV.
2. Set the direction of servo operation by pressing the Inc.+ or Dec.- key.

   Setting range NOR/REV
   Standard setting NOR

3. Make settings for the other channels in the same manner.

Start Position

With engine-powered models, by revving the idling a little, it makes easier to start up the engine. When using a channel other than 2CH for braking, a certain degree of braking can be applied independently of trigger operation, making it possible to obtain safer engine starts. (This works when the S-POS switch is ON. Trigger operation starts at the point determined by the S-POS setting.



TIP When the S-POS switch is OFF, the S-POS position is at N (neutral).

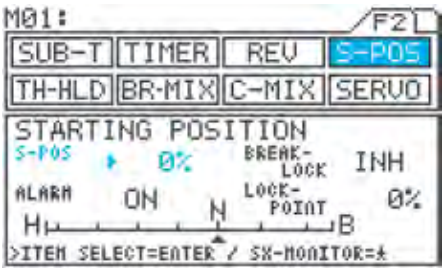
1. Using the function select keys, move the cursor to S-POS.

S-POS level setting

2. Be sure that arrow appears to the right of S-POS, and then set the S-POS value by pressing the Inc.+ or Dec.- key.

Turning the alarm ON/OFF

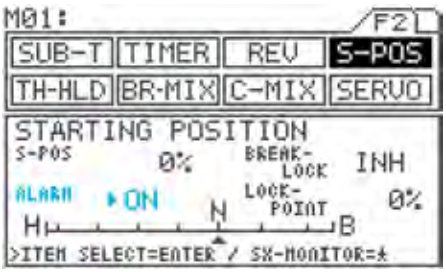
3. Press the ENTER key to move the arrow to the ALARM, and then set the alarm by pressing the Inc.+ or Dec.- key.
Ordinarily, leave the alarm ON.



BRAKE-LOCK setting

3. Press the ENTER key to move the arrow to BREAK-LOCK, and then choose the setting by pressing the Inc.+ or Dec.- key.

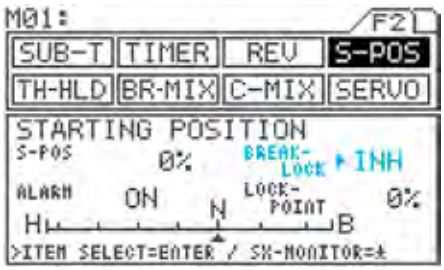
The BRAKE-LOCK setting is effective when channel 4 is selected, and the S-POS switch is ON or ACT selected, the brake channel is fixed at the LOCK-POINT value regardless of trigger operation.



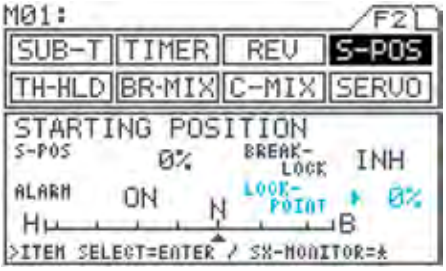
LOCK-POINT setting

4. Press the ENTER key to move the arrow key to LOCK-POINT, and then choose the setting by pressing the Inc.+ or Dec.- key.

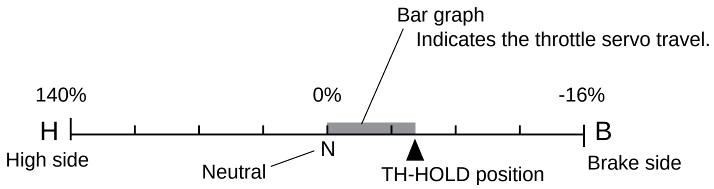
Setting range 0% to 100%
(Defualt setting 0%)



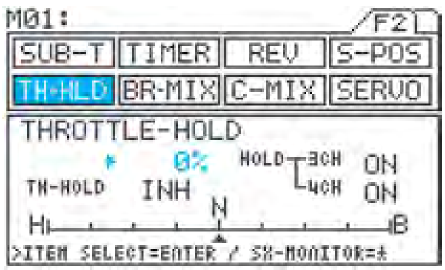
IMPORTANT
About the S-POS switch
The S-POS switch can be freely assigned to another switch using the key assign function. Set the switch to the position that is most suitable for you.

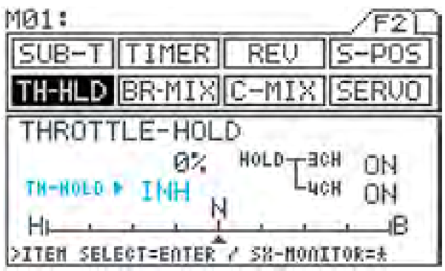


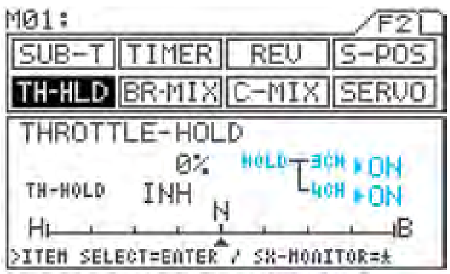
* This function enabled to stop the engine by pressing the button switch for the models such as RC boats. (As known as “ENGINE CUT”)
* This can be used as an emergency brake while driving a model vehicle by pressing the switch, trigger is disabled as long as the switch is depressed.
* With engine-powered models, “THROTTLE HOLD” function enabled to set the throttle slightly open to hold the steady engine idling. This will prevent the engine from stopping during refueling on the pit stop.



1) First, assign TH-HLD to the switch wherever switch location desired by using key assign function. (☞ page 44)
   * The throttle hold function works only when the TH-HLD switch is depressed.
2) Using the function select keys, move the cursor to TH-HOLD.
3) Make sure that ▶ appears to the left of the percentage value, and then set the TH-HOLD percentage by pressing the Inc.+ or Dec.- key.
   * Setting range -160% to 140%
   * Original setting 0
   * When TH-HLD is ON, the servo is locked to the preset position, regardless of the current trigger position.
4) Setting INH/ACT for TH-HOLD
   Move ▶ to the right of TH-HOLD with the ENTER key, and then select INH or ACT by pressing the Inc.+ or Dec.- key.
   * Ordinarily, select INH to use this function. When ACT is selected, pressing the switch cancels throttle hold.
5) Setting HOLD-3CH
   Move ▶ to the right of HOLD-3H with the ENTER key, and then select the setting by pressing the Inc.+ or Dec.- key.
   * This setting is effective only when 3CH-BRAKE is active. (BR-MIX ☞ page 34)
6) Setting HOLD-4CH
   Move ▶ to the right of HOLD-4CH with the ENTER key, and then select the setting by pressing the Inc.+ or Dec.- key.
   * This setting is effective only when 4CH is selected.

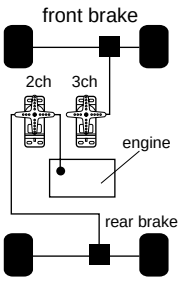
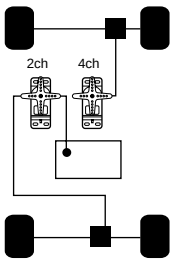
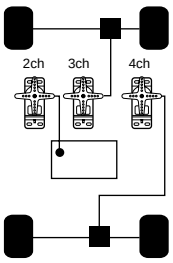
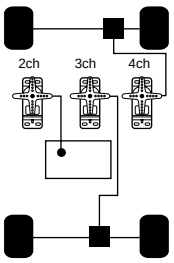






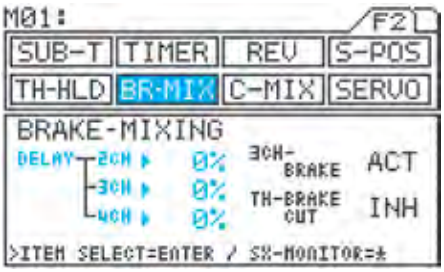
Brake Mix

* This function makes it possible to adjust servo mixing with models which requires two servos for braking, such as 1/5-scale engine-powered models.
* REV, EPA, SUB-T, and delay can be set independently for each channel, providing flexibility for adjustment of different model types.
* Brake trim is provided separately from throttle trim.
* If intended not to use the brake on 2nd channel, (2CH), brake side can be disabled.
  (TH-BRAKE CUT function)

* Settings for various model types	 1ch: Steering	 1ch: Steering 3ch: AUX	 1ch: Steering	 1ch: Steering
Receiver type	3channel	4channel	4channel	4channel
3CH-BRAKE	ACT	INH	ACT	ACT
TH-BRAKE CUT	INH	INH	ACT	ACT

* A variety of other model types are also supported.

1) Using the function select keys, move the cursor to BR-MIX.



2) Setting DELAY

<2CH>

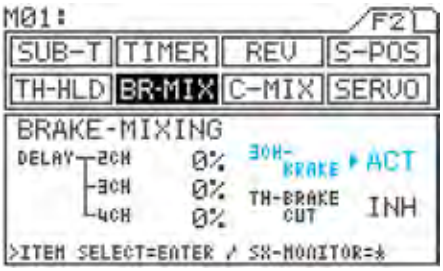
Be sure that ▶ appears to the right of DELAY-2CH, and then set the DELAY value by pressing the Inc.+ or Dec.- key.

<3CH>

Move ▶ to the right of DELAY-3CH with the ENTER key, and then set the DELAY value by pressing the Inc.+ or Dec.- key.

<4CH>

Move ▶ to the right of DELAY-4CH with the ENTER key, and then set the DELAY value by pressing the Inc.+ or Dec.- key.



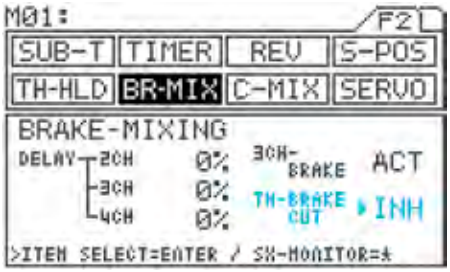
3) Setting INH/ACT for 3CH-BRAKE

Move ▶ to the right of 3CH-BRAKE with the ENTER key, and then select INH or ACT by pressing the Inc.+ or Dec.- key.

* This setting determines whether channel 3 is used for brakes or as an AUX channel.
It is a brake channel when ACT is selected.

4) Setting INH/ACT setting for TH-BRAKE CUT.
Move ▶ to the right of TH-BRAKE CUT with the ENTER key, and then select INH or ACT by pressing the Inc.+ or Dec.- key.

* If intended not to use brake side of the throttle channel (2CH), servo operation can be disabled on the brake side by selecting ACT. This reduces the time lag of servo operation compared to that when using the throttle channel (2CH) for braking.

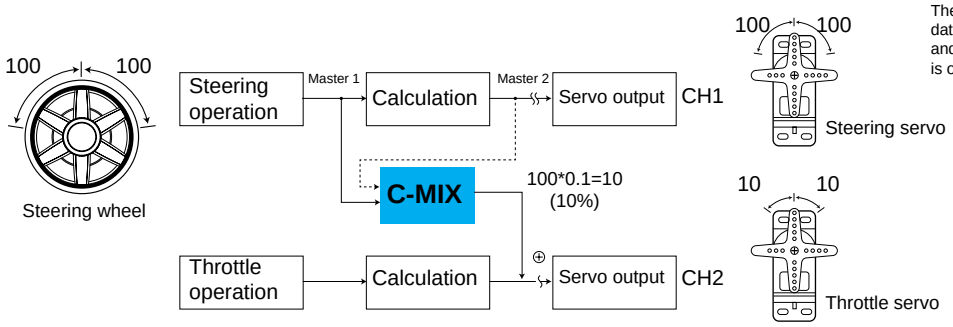


IMPORTANT

- Do not use the TH-BRK CUT function when 2CH is selected.
- Be sure to set the menu as 4channel! If 2CH is selected, function can be used partially.
- Select 4CH (through the SET-UP menu) and Be sure to set the 3CH-BRAKE first, before the adjusting linkage. (Before adjusting REV, EPA, and SUB-T.)

* This function allows you to mix channels and to apply mixing to the channels themselves.
* On the master channel, you can select from between direct data, and data that includes calculations and trim.
* There are two groups of C-MIX settings, and you can use the two simultaneously.
* Using the offset function, you can move the origin for master mixing.
* You can easily turn the C-MIX function ON or OFF while driving (with the key assign switch).
* Graphic indication makes it easy to understand setting of mixing.

Example) MASTER:ST1, L:10%, R:10%, SLAVE:TH, OFFSET:0



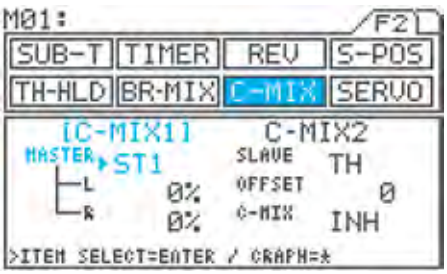
The uncompensated steering data is output as Master 1, and the data after calculation is output Master 2.

NOTE

* With normal steering, control has a flow that starts with steering wheel manipulation, proceeding through calculation, to servo output (CH1). With the C-MIX function, if the steering is moved by a certain amount (for example, 100 as shown in the figure above), 10% of that amount is applied to the CH2 servo, so that the CH2 servo moves by 10 as the steering servo moves by 100. The channel on which steering operation takes place is referred to as the “MASTER” , and the channel that operates at 10% of the master level is referred to as the “SLAVE”.

1) Using the function select keys, move the cursor to C-MIX1.

2) Make sure that ▶ appears to the right of MASTER, and then set the master channel by pressing the Inc.+ or Dec.- key.



Setting	Name	Master output data
* ST1	Steering Master 1	Steering operation only
* ST2	Steering Master 2	Steering plus calculated amount of operation for SPEED, EXP, ARC, D/R, EPA, and trim (including sub-trim)
* TH1	Throttle Master 1	Throttle operation only
* TH2	Throttle Master 2	Throttle plus calculated amount of operation for SPEED, TR-CNT, BR-MIX, EXP, ARC, S-POS, EPA, and trim (including sub-trim)
* AUX1	AUX Master 1	AUX operation only
* AUX2	AUX Master 2	AUX plus calculated amount of operation for EPA

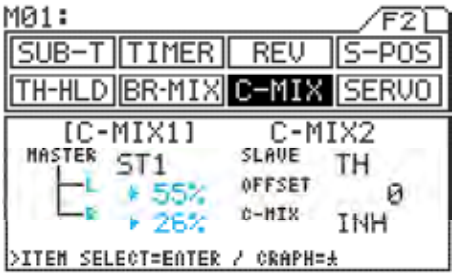
3) Setting the mixing level

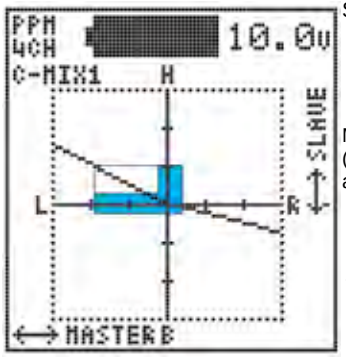
<Left side, High side>

Move ▶ to the right of L (or H) with the ENTER key, and then set the mixing level by pressing the Inc.+ or Dec.- key.

<Right side, Brake side, Low side>

Move ▶ to the right of R (or B or L) with the ENTER key, and then set the mixing level by pressing the Inc.+ or Dec.- key.





Slave is vertical axis

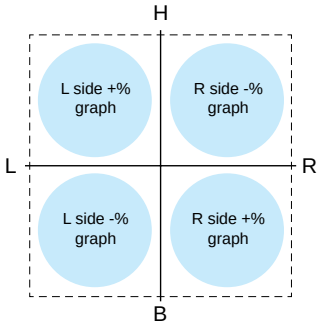
Graph display for L side setting (55%)

Mixing level bar graph for slave (Mixing level varies as indicated according to slope of graph.)

Bar graph of master operation

Graph display for R side setting (26%)

Master is horizontal axis



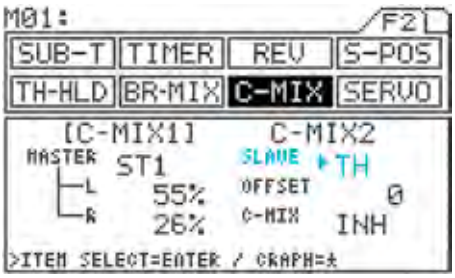
The ★ key displays the graph in the in the constant display area.

4) Setting the SLAVE channel

Move ▶ to the right of SLAVE with the ENTER key, and then select the SLAVE channel by pressing the Inc.+ or Dec.- key.

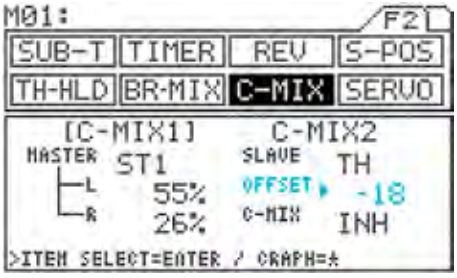
* Setting range ST, TH, AUX, BR

* The AUX channel always becomes the slave of the third channel, regardless of the ACT/INH setting of 3CH-BRAKE.



5) Setting the amount of OFFSET

Move ▶ to the right of OFFSET with the ENTER key, and then set the amount of offset by pressing the Inc.+ or Dec.- key.



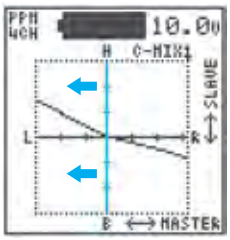
Using the Offset Function

(1) Correcting Master 2 trim deviation using OFFSET

Master ST3,SLAVE TH

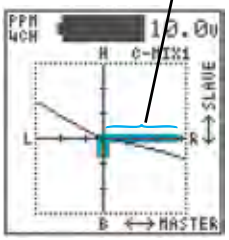
deviation

* When trim deviation appears in graph as shown above with steering at neutral position.



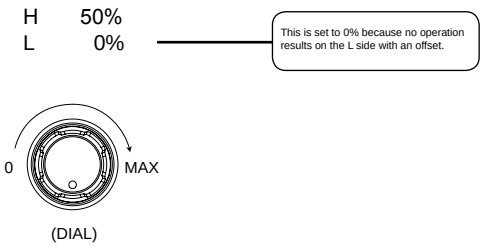
* Adjust offset value in negative direction, moving vertical axis to left and erasing bar graph.

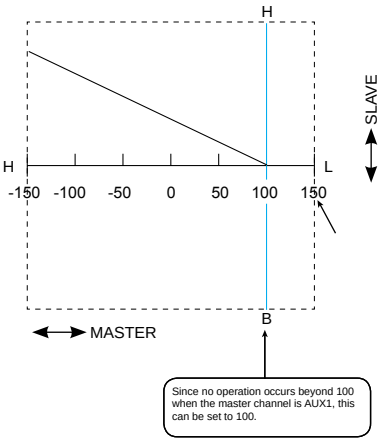
Bar graph shows extent of steering operation



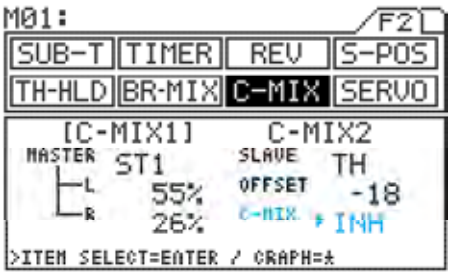
* By adjusting to the point where deviation disappears, the steering neutral position can become the origin for mixing.

(2) Adjusting the master mixing origin so that that no mixing occurs when the dial (AUX) is turned fully to the left, but maximum mixing occurs when it is turned fully to the right.





6) Setting INH/ACT for C-MIX
Move ▶ to the right of C-MIX with the ENTER key, and then select INH or ACT by pressing the Inc.+ or Dec.- key.



IMPORTANT

- About the INH/ACT setting of C-MIX
The INH/ACT setting of C-MIX can be changed using the key assign switch as well as through the menus. Using this function, adjustment is possible from any menu, C-MIX “ON” or “OFF” can be easily adjusted with the selected switch even during operation.

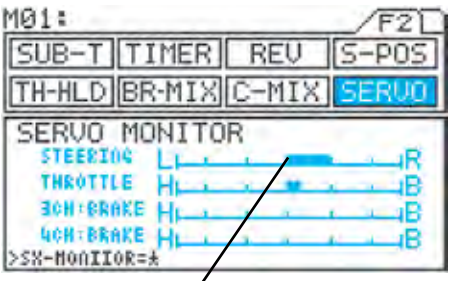
NOTE

* When the slave and master are both on the same channel, mixing takes place within the channel itself, causing the steering angle to increase for positive values, and to decrease for negative values. By switching mixing ON and OFF, you may want to choose with desired feeling of the steering during the driving.

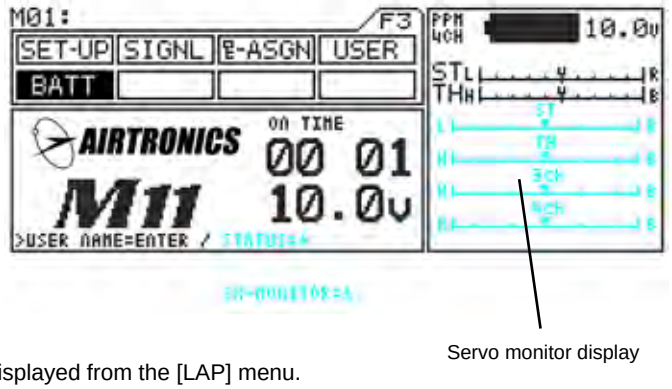
* This function displays the output levels of the various channels in bar graph form, allowing you to monitor model operation in a virtual manner.
* Using this feature while making function setting can make it easier to understand adjustments.
* The graph can be displayed in the constant display area, allowing it to be viewed while making settings of other features.
  (Some menus cannot be displayed.)

1) Using the function select keys, move the cursor to SERVO.

2) Opening the constant display area
   You can open the constant display area from any menu by pressing the ★ key. Pressing the key a second time returns the display to normal.



Example)
BATT menu



* Menus you can open

F1	F2
(1)D-RATE	(1)SUB-T
(2)EPA	*(2)TIMER
(3)EXP	(3)REV
(4)ARC	(4)S-POS
(5)SPEED	(5)HOLD
(6)ALB	(6)BR-MIX
(7)TR-CLL	(7)SERVO

* The graph cannot be displayed from the [LAP] menu.

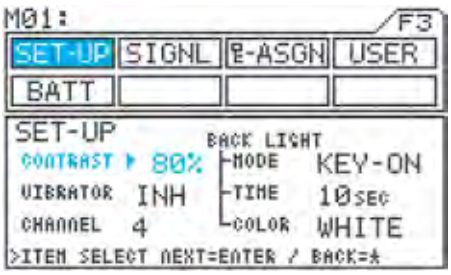
NOTE

* REV operation is not reflected in the servo monitor. Indication of the graph only shows the direction of the input control such as wheel and trigger movement.

* This section explains how to adjust the LCD contrast (darkness and lightness), turn the vibrator ON/OFF, and select between 2CH/4CH, backlight ON/OFF/Auto OFF, backlight color set as blue or white.

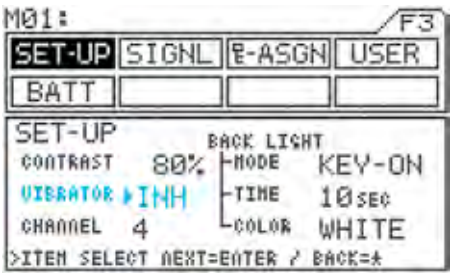
1) Using the function select keys, move the cursor to SET-UP.

2) CONTRAST setting
Move ▶ to the right of CONTRAST with the ENTER key or ★ key, and then adjust LCD contrast (darkness) by pressing the Inc.+ or Dec.- key.
   * Setting range 0% to 100%
   * Standard setting 80%

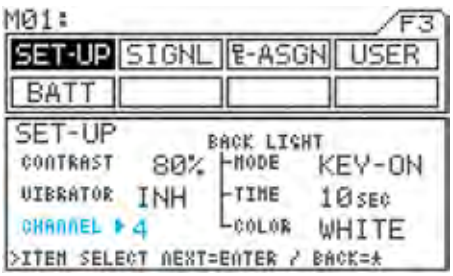


3) Setting INH/ACT for VIBRATOR
Move ▶ to the right of VIBRATOR with the ENTER key or ★ key, and then select INH or ACT for the vibrator by pressing the Inc.+ or Dec.- key.

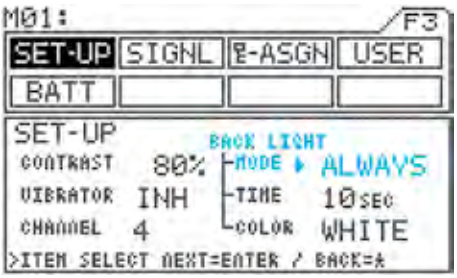
   * When ACT is selected, the vibrator buzzes at the same time as timer alarm or the battery alarm emit. It also buzzes when the Main power is turned on.



4) Making the CHANNEL setting
Move ▶ to the right of CHANNEL with the ENTER key or ★ key, and make the channel selection by pressing the Inc.+ or Dec.- key.
   * 2CH ch1 Steering (ST)
     ch2 Throttle (TH)
   * 4CH ch1 Steering (ST)
     ch2 Throttle (TH)
     ch3 AUX or brakes (BR)
     ch4 Brakes (BR)



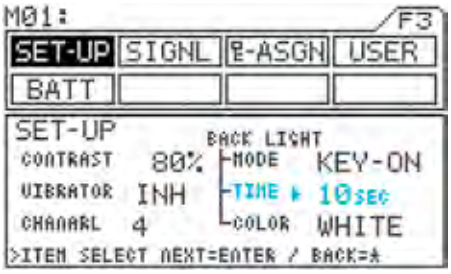
5) Making the BACK LIGHT setting
<MODE>
Move ▶ to the right of MODE with the ENTER key or ★ key, and then select the mode by pressing the Inc.+ or Dec.- key.
   * KEY-ON-ON The backlight goes OFF when the time set for TIME elapses without any menu key operation.
   * ALWAYS The backlight remains constantly ON.
   * OFF The backlight remains constantly OFF.



<TIME>

Move ▶ to the right of TIME with the ENTER key or ★ key, and then set the time by pressing the Inc.+ or Dec.- key.

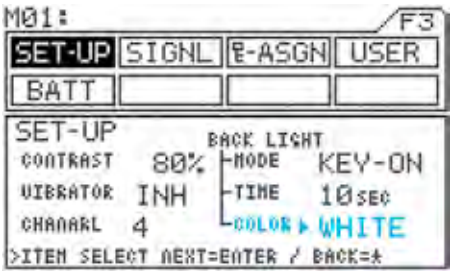
* This will not appear unless MODE is set to KEY-ON.
* Setting range 1SEC to 30SEC
* Standard setting 10SEC



<COLOR>

Move ▶ to the right of COLOR with the ENTER key or ★ key, and then select the backlight color by pressing the Inc.+ or Dec.- key.

* WHITE White backlight
* BLUE Blue backlight

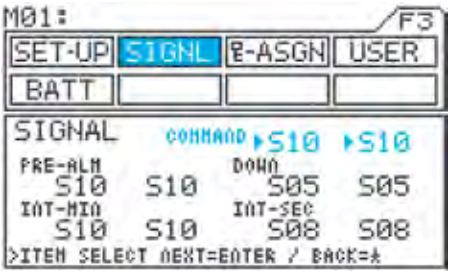


Audio Signal Sound

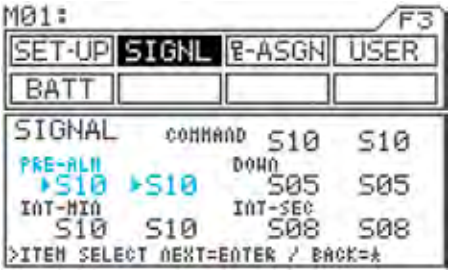
* This function allows you to set the key operation tone and alarm tones to be set independently in different tonal scale.
* Tonal scale of the each key operation or alarm can be set differently on two parts. Meaning, Tonal scale can be set separately for the first half and last half tones.
* Tone can be selectable among 10 tones, providing a total of 100 pattern combinations for the first half and last half of signals.

1) Using the function select keys, move the cursor to SIGNL.

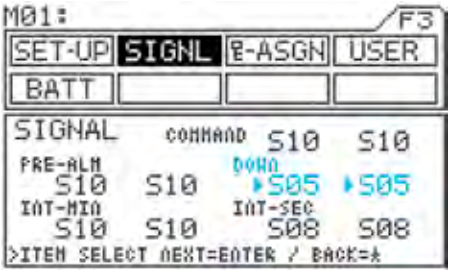
2) Command signal (COMMAND) tone setting
Move ▶ to the right of COMMAND with the ENTER key or ★ key, and then set the tone for the first half of the signal by pressing the Inc.+ or Dec.- key.
Next, move ▶ one position to the right with the ENTER key, and then set the tone for the last half of the signal by pressing the Inc.+ or Dec.- key.
   * Setting range S01 to S10 and MUTE (silent)
   * Standard setting First half: S10, Last half: S10
   * The command signal sounds when menu keys are pressed.



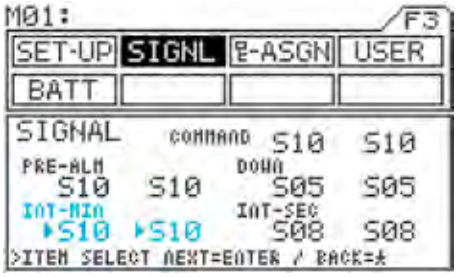
3) Making pre-alarm (PRE-ALM) tone settings
Move ▶ to the right of PRE-ALM with the ENTER key or ★ key, and then set the tone for the first half of the signal by pressing the Inc.+ or Dec.- key
Next, move ▶ one position to the right with the ENTER key, and then set the tone for the last half of the signal by pressing the Inc.+ or Dec.- key.
   * Setting range S01 to S10 and MUTE (silent)
   * Original setting First half: S10, Last half: S10
   * The pre-alarm signal is used with the lap timer.



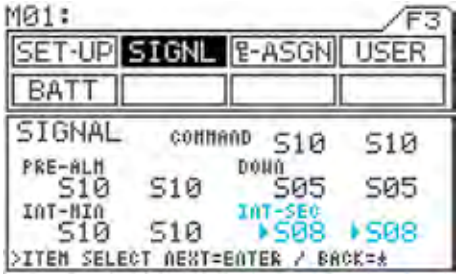
4) Making down alarm (DOWN) tone settings
Move ▶ to the right of DOWN with the ENTER key or ★ key, and then set the tone for the first half of the signal by pressing the Inc.+ or Dec.- key.
Next, move ▶ one position to the right with the ENTER key, and then set the tone for the last half of the signal by pressing the Inc.+ or Dec.- key.
   * Setting range S01 to S10 and MUTE (silent)
   * Standard setting First half: S05, Second half: S05
   * The down alarm signal is used with the down timer.



5) Making interval minute alarm (INT) tone settings
Move ▶ to the right of INT-MIN with the ENTER key or ★ key, and then set the tone for the first half of the signal by pressing the Inc.+ or Dec.- key.
Next, move ▶ one position to the right with the ENTER key, and then set the tone for the last half of the signal by pressing the Inc.+ or Dec.- key.
* Setting range S01 to S10 and MUTE (silent)
* Standard setting First half: S10, Last half: S10
* The interval minute alarm is used with the minutes portion of the interval timer.



6) Making interval seconds alarm (INT) tone settings
Move ▶ to the right of INT-SEC with the ENTER key or ★ key, and then set the tone for the first half of the signal by pressing the Inc.+ or Dec.- key.
Next, move ▶ one position to the right with the ENTER key, and then set the tone for the last half of the signal by pressing the Inc.+ or Dec.- key.
* Setting range S01 to S10 and MUTE (silent)
* Standard setting First half: S08, Second half: S08
* The interval seconds alarm is used with the second portion of the interval timer.



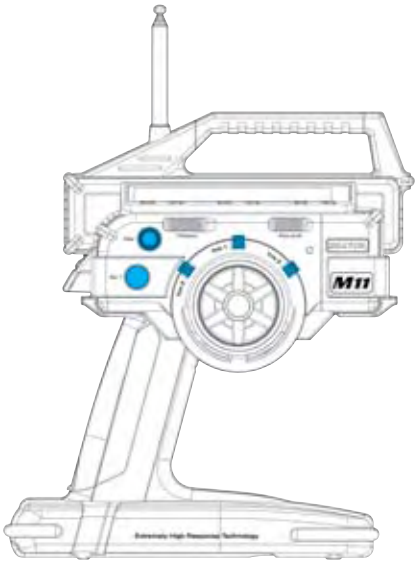
IMPORTANT

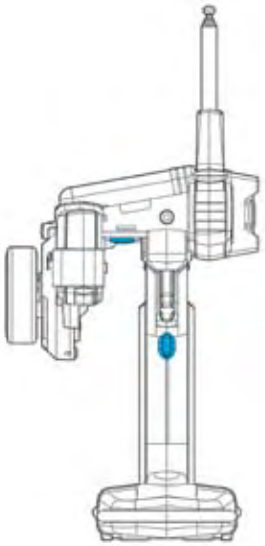
- If two signals overlap, they sound as a single tone. The longer tone may not sound.
- If you do not want a signal tone, select MUTE for both the first and last halves of the tone. If you mute only half the tone, the half will sound.
- The buzzer icon displayed in the constant display area changes to if both halves of the command setting are muted.

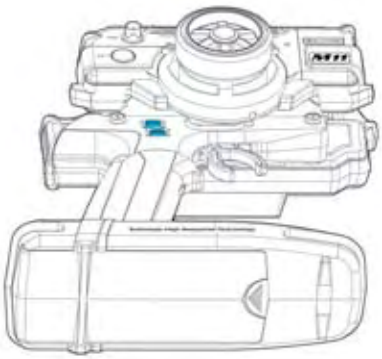
Switch / Trim Assignment

* Functions and trim settings (adjustments to function settings) can be freely assigned to SW1-SW3, trimmers TRM1-TRM5, and the dial control on the transmitter.

* Locations of switches and trimmers





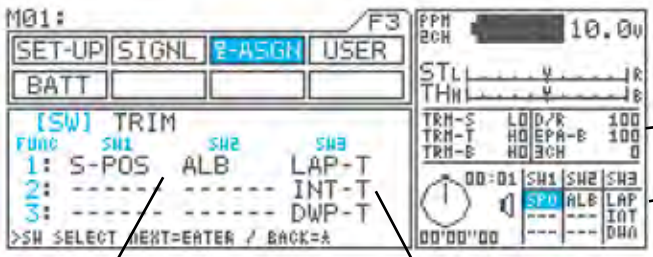


* Functions originally assigned to switches at the factory

TRM1: Steering trim	SW1: Starting position
TRM2: Throttle trim	SW2: Anti-lock braking
TRM4: Dual rate	SW3: Timer
TRM5: End point adjust, brake	

[SW] Key Assign Switch

* ON/OFF control of various functions can be assigned to SW1-SW3, making it easy to use those functions during operation.
* Up to three functions (FUNC1-FUNC3) can be assigned to a single switch, allowing all of those functions to be controlled at once.



When the function is turned ON, character be displayed .

Function status is also displayed in the constant display area.

Up to three functions can be assigned to a single switch.

Here, LAP-T, INT-T, and DWP-T can all be turned ON/OFF together.

1) Using the function select keys, move the cursor to [SW] in E-ASGN.

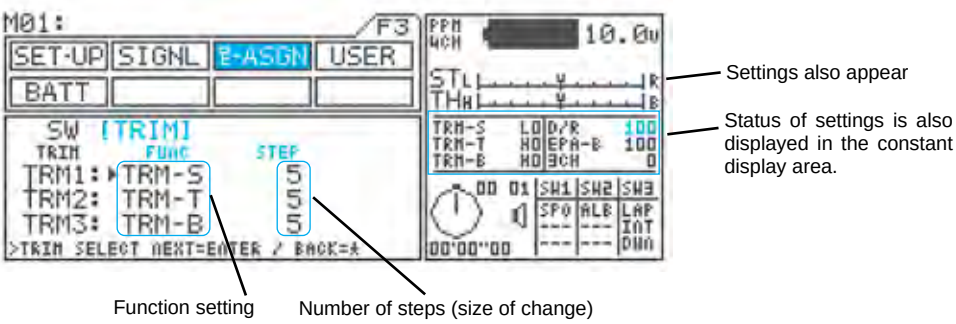
2) Using the ★ key or the ENTER keys, move ▶ to the switch to be assigned, and then assign functions to the switch by pressing the Inc.+ or Dec.- key.

* Assignable functions

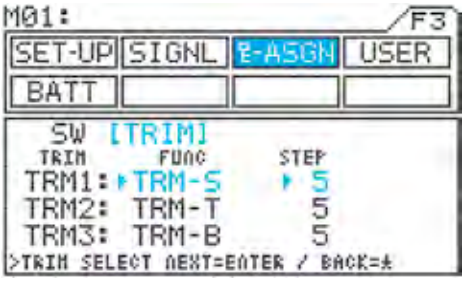
Function	Menu screen	Constant display area	Factory default
Exponential steering	EXP-ST	EXS	
Exponential throttle	EXP-TH	EXT	
Adjustable rate control, steering	ARC-ST	ARS	
Adjustable rate control, throttle	ARC-TH	ART	
Speed steering	SPD-ST	SPS	
Speed braking	SPD-BR	SPB	
Anti-lock braking	ALB	ALB	[SW2]
Traction control	TR-CTL	TRC	
Lap timerl	LAP-T	LAP	[SW3]
Interval timer	INT-T	INT	[SW3]
Down timer	DWN-T	DWN	[SW3]
Starting position	S-POS	SPO	[SW1]
Starting position, brake lock	BR-LCK	BRL	
Throttle hold	TH-HLD	HLD	
Compensation mixing 1	C-MIX1	CX1	
Compensation mixing 2	C-MIX2	CX2	

[TRIM] Trim Assignment

* Setting of function can be varies by using trimmers TRM1 to TRM5 and the dial.
* The size of the STEP can be set and each setting width can be changed by pressing a key.
* Functions can be freely assigned to any of 6 positions, allowing you to choose the controls that are best suited to your situation.
* The values of function settings made using key assign trim can be displayed in the constant display area, allowing them to be confirmed from any menu.

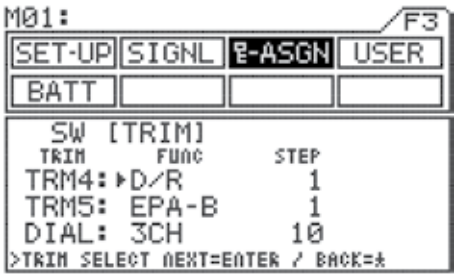


1) Using the function select keys, move the cursor to [TRIM] in -ASGN.



2) Function selection
Using the ★ key or the ENTER keys, move ▶ to the trimmer function to be selected, and then select a function by pressing the Inc.+ or Dec.- key.

3) Setting the number of steps
Using the ★ key or the ENTER keys, move ▶ to the STEP for the trimmer you want to adjust, and then set the number of steps by pressing the Inc.+ or Dec.- key.



* The number of steps determines the amount of trim that is applied for one click of the trimmer switch.

* Selectable functions and step ranges

Function	Menu screen	Constant display area	Factory default
Dual rate	D/R	1 - 10	[SW4]
End point adjustment, brake	EPA-B	1 - 10	[SW5]
Exponential steering	EX-S	1 - 10	
Exponential throttle, high	EX-H	1 - 10	
Exponential throttle, brake	EX-B	1 - 10	
Adjustable rate control, steering rate	AR-S-R	1 - 10	
Adjustable rate control, steering point	AR-S-P	1 - 10	
Adjustable rate control, throttle high rate	AR-H-R	1 - 10	
Adjustable rate control, throttle brake rate	AR-B-R	1 - 10	
Adjustable rate control, throttle high point	AR-H-P	1 - 10	
Adjustable rate control, throttle brake point	AR-B-P	1 - 10	
Speed steering forward	SP-S-F	1 - 10	
Speed steering return	SP-S-R	1 - 10	
Speed steering point	SP-S-P	1 - 10	
Speed brake forward	SP-B-F	1 - 10	
Speed brake point	SP-B-P	1 - 10	
Anti-lock braking point	ALB-PT	1 - 10	
Anti-lock braking stroke	ALB-ST	1 - 10	
Anti-lock braking lag	ALB-LG	1 - 10	
Anti-lock braking speed	ALB-SP	1 - 10	
Traction control, traction	TRC	1 - 10	
Traction control, delay	TRC-DY	1 - 10	
Traction control, point	TRC-PT	1 - 10	
Starting position	SPOS	1 - 10	
Throttle hold	HLD	1 - 10	
Brake mixing delay, 2CH	BM-2CH	1 - 10	
Brake mixing delay, 3CH	BM-3CH	1 - 10	
Brake mixing delay, 4CH	BM-4CH	1 - 10	
Compensation mixing 1, offset	CX1-OF	1 - 10	
Compensation mixing 1, high	CX1-Hi	1 - 10	
Compensation mixing 1, low	CX1-Lo	1 - 10	
Compensation mixing 2, offset	CX2-OF	1 - 10	
Compensation mixing 2, high	CX2-Hi	1 - 10	
Compensation mixing 2, low	CX2-Lo	1 - 10	
Steering trim	TRM-S	1 - 10	[TRM1]
Throttle trim	TRM-T	1 - 10	[TRM2]
Brake trim	TRM-B	1 - 10	
3CH (AUX)	3CH	1 - 10,20,50,100,200	

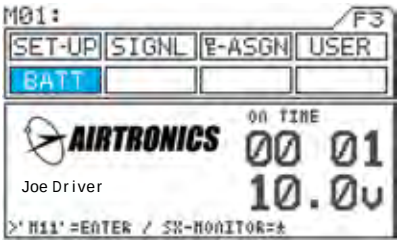
User Name

You can put a user name in the M11. Up to 12 letters, numbers and or symbols.
The user name will stay in the transmitter even if you reset model memory.

1) Using the function select keys, move the cursor to USER.
2) Using the ★ key or the ENTER key, move the cursor ("_") to the point when you want to enter text.
3) Select a character by pressing the Inc.+ or Dec.- key.
   * Setting range A – Z, a – z, 0 – 9, symbols, space
4) Repeat steps 2) and 3) for each subsequent character.

NOTE

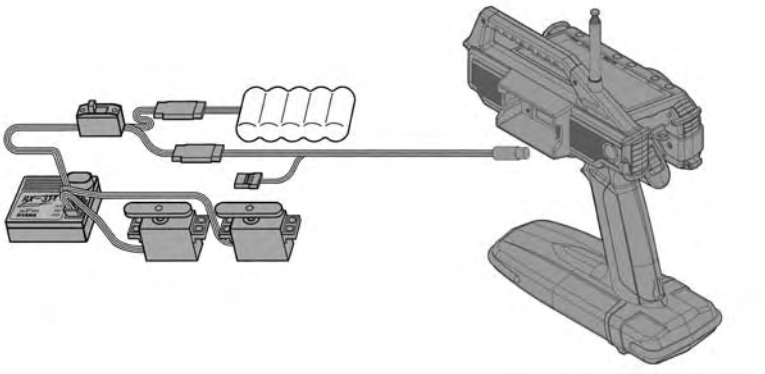
* Group of characters can be flipped in the sequence A → a → 0 → ! → space → by simultaneously pressing the Inc.+ and Dec.- keys.
* When entering a character in a position occupied by a space, Group of the preceding character can be selected by first pressing the Dec./+ key. This is useful when entering several characters from the same group.
* Under the BATT menu, indication of the display can be switch between display of the M11 logo and the user name by using the ENTER key.



In order to check the model vehicle's Linkage during the race or at the situation when the radio transmission is prohibited, such setting arrangement can be done by using the DSC cable.

Using the DSC cable with DSC switch harness equipped on Gas powered type models

1) Connect the supplied DSC cable to the DSC jack at the opposite side of the wheel of the M11.
   * The display appears.

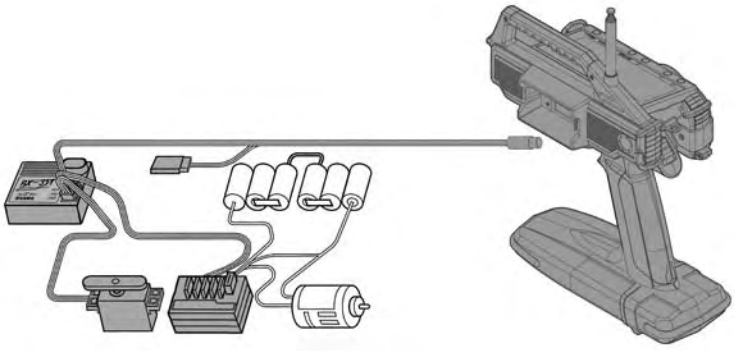


(* Prevent from possible risk from other radio transmission, remove the receiver crystal.)

2) Connect the DSC cable (female connector) to the charging connector (male) on the DSC switch harness.
3) Turn on the Display switch at M11 thence turn on the power at DSC switch harness.

Using the DSC Switch Harness with an FET Speed Controller

1) Connect the supplied DSC cable to the DSC jack at the opposite side of the wheel of the M11.
   * The display appears.



(* Prevent from possible risk from other radio transmission, remove the receiver crystal.)

2) Connect the DSC Cable's male connector to the Battery/DSC channel on the receiver.
3) Turn on the Display switch at M11 thence turn on the Power at ESC 's switch harness.
4) Ready for DSC operation.

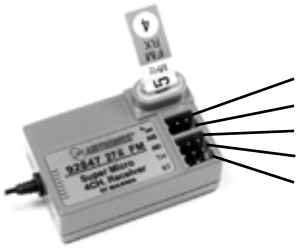
CAUTION

- Never turn on the power switch on the transmitter while using the DSC harness.
  [RF activate for radio transmission which may occur trouble to others.]
- When using the DSC cable, connect the power battery of the E/P car and/or connect the receiver battery to receiver for G/P models.
- When using the DSC cable, be sure that the transmitter battery is installed.
- After using the DSC cable, be sure to disconnect the DSC cable at both end.

Receiver Connection and Installation

Connector Locations on the receiver

B/DSC	Battery / Direct Servo Controller	(3 Channel Receiver)
AUX1	Channel 3	92837Z FM 3 Ch (27 MHz)
TH	Channel 2 (Throttle)	92827Z FM 3 Ch (75 MHz)
ST	Channel 1 (Steering)	



B/DSC	Battery / Direct Servo Controller	(4 Channel Receiver)
AUX2	Channel 4	92847Z FM 3 Ch (27 MHz)
AUX1	Channel 3	92846Z FM 3 Ch (75 MHz)
TH	Channel 2 (Throttle)	
ST	Channel 1 (Steering)	

CAUTION

Use only genuine Airtronics FM Crystals.

Using of crystals other than those specified may result in frequency errors and possible runaway operation.

There is a danger of runaway operation, if connectors shake loose while driving. Make sure that receiver, servo, and-switch connectors are securely fitted.

A danger of runaway operation exists with shorter antennas, due to reduced receptivity. Do not cut any length of antenna wire.

The receiver susceptible to vibration, shock and moisture. Take appropriate measures to protect against vibration and water. Failure to take appropriate measures could result in runaway operation or to damage to the receiver.
Keep the receiver antenna away from motors, battery, and ESC and make sure that antenna stick out from the model vehicle vertically.

When installing the receiver, don't let it come in contact with any carbon or metal chassis.

Contact between metal parts mounted on a model can result in electrical noise, adversely affecting receiver performance and possibly resulting in runaway operation or damaged to your model vehicle.

With electrically-powered models, be sure to fit the motor with a noise suppression capacitor. Without a noise suppression capacitor, excessive noise generation can cause runaway operation. And/or result of damage to the model vehicle.

Use rubber anti-vibration absorbers with servos. Direct transmission of engine vibration to servos can cause servo failier and possibly result in runaway operation with damaging your model vehicle.

The manufacturer disclaims all responsibility for damages resulting from use of components other than genuine AIRTRONICS/SANWA components.

The M11 can be switched between 2ch and 4ch operation.

Note that 4ch operation is not possible when using the 92836 or 92837 receivers were being used.

Troubleshooting

Symptom		Cause	Remedy
Does not Transmit		Batteries low or not fully charged.	Replace or charge batteries
Power sometimes goes off		Intermittent connector contact.	Contact Airtronics for service.
Alarm does not stop	Alarm gives off a series of beeps.	Battery voltage low.	Replace or charge transmitter batteries.
	Alarm gives off continuous double beep.	S-POS switch is in the ON position.	Turn S-POS switch to the OFF position.
	Alarm gives off a periodic double beep.	The interval timer is ON.	Check the INT timer.
No key sound when press keys.		Command signals are disabled.	Check command signal settings.
No change in display when pressing keys		Key lock switch is ON	Turn lock key switch OFF.
Servo movement is slow		A negative value is set in the servo speed.	Check servo speed settings
		Low battery	Replace or charge transmitter batteries.
		Linkage stiff	Adjust linkage to work freely.
Left and right steering angles are different even if settings are the same.		Trim or Sub Trim not centered	Align trim and Sub Trim.
Servo will not move to the end of its range.		D-RATE and EPA settings are too large.	Reset linkage on the servo for more travel from servo and reset settings.
Servo does not move when using trim.		Trim is outside of operational range.	Reset trim to 0 and center the servo horn and linkage on servo.
Lap timer and interval timer do not function		Timers are set in the OFF position	Turn timers ON.

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