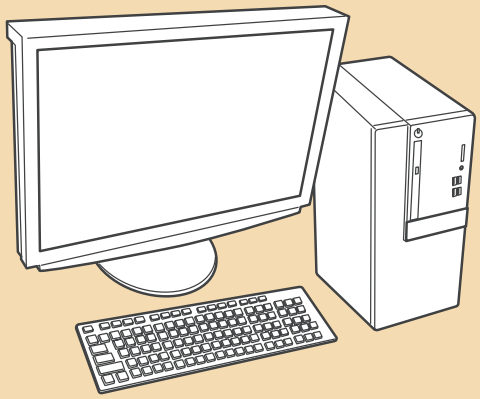
Futaba
1M23Z11308

T6PV Software Update Method

Whenever improvements and new functions are available, the software of your T6PV radio transmitter can be updated easily via online free of charge. The updated software file will be shown on our website. You can download it and make a copy on your microSD card. Below is the procedure for the software update.

Required for update (Purchase separately)



PC
(Access is possible by the web)

microSD card

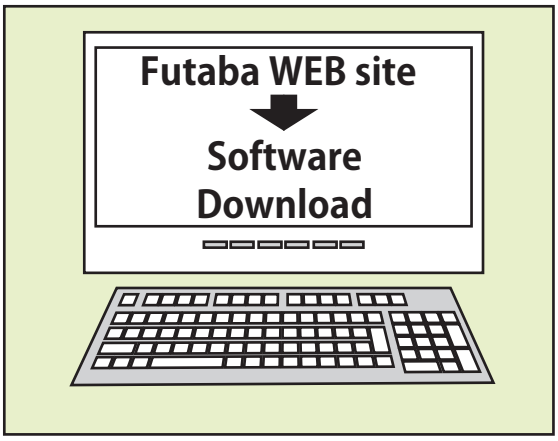
Note: Be careful not to allow the transmitter to reach low battery during the update.

Note: During the software update, the model data that is stored in the T6PV should be kept without any change. (NOT erased and NOT changed.) However, for your safety, making a backup of your model data before the software update is highly recommended.

Updating procedure

1. **Download the zip file of the update data from our website or your local distributor's website.**

https://futabausa.com/

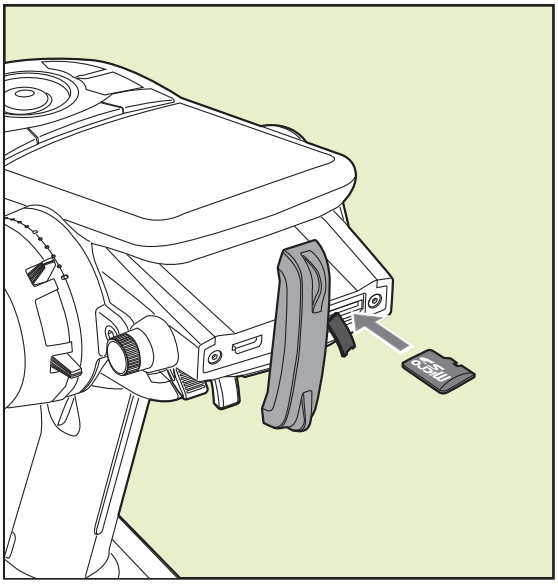


2. **Extract the zip file on your computer.**

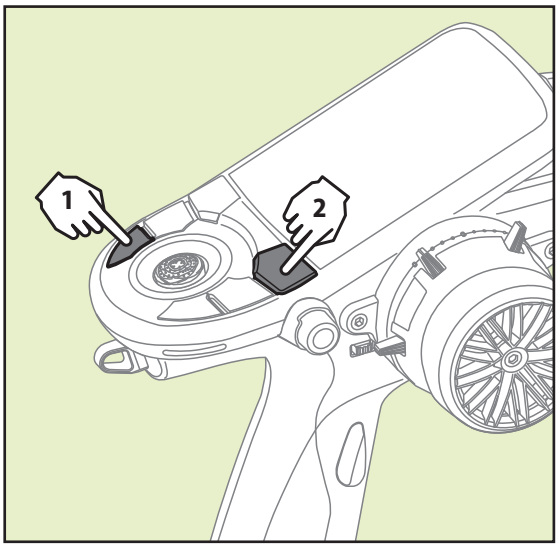
3. **Insert the micro SD card into the PC and copy the FUTABA folder expanded on the PC to the micro SD card.**

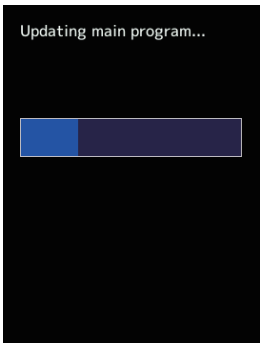
If you already have a microSD card FUTABA folder, overwrite it.

4. **Insert the micro SD card with the copied FUTABA folder into the T6PV.**

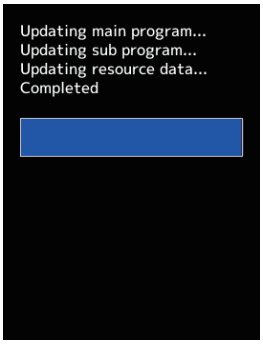


5. **Turn on the transmitter power while pressing down the "END" button. The update screen appears on the LCD display of your T6PV and the software update is started.**





6. **When the software update is completed, "Completed" message is shown on the LCD display of your T6PV. (Show below picture.)**



7. **Turn off the power of T6PV.**

Possible Problems

When one of the error messages shown below appears on the LCD screen your T6PV, the software update will not be completed.

"Low battery."

Software update is postponed because of low battery. Retry the software update after the battery is recharged.

"Update file not found."

The T6PV cannot find the update file on the microSD card. Check to be sure all the update files have been copied onto the microSD card.

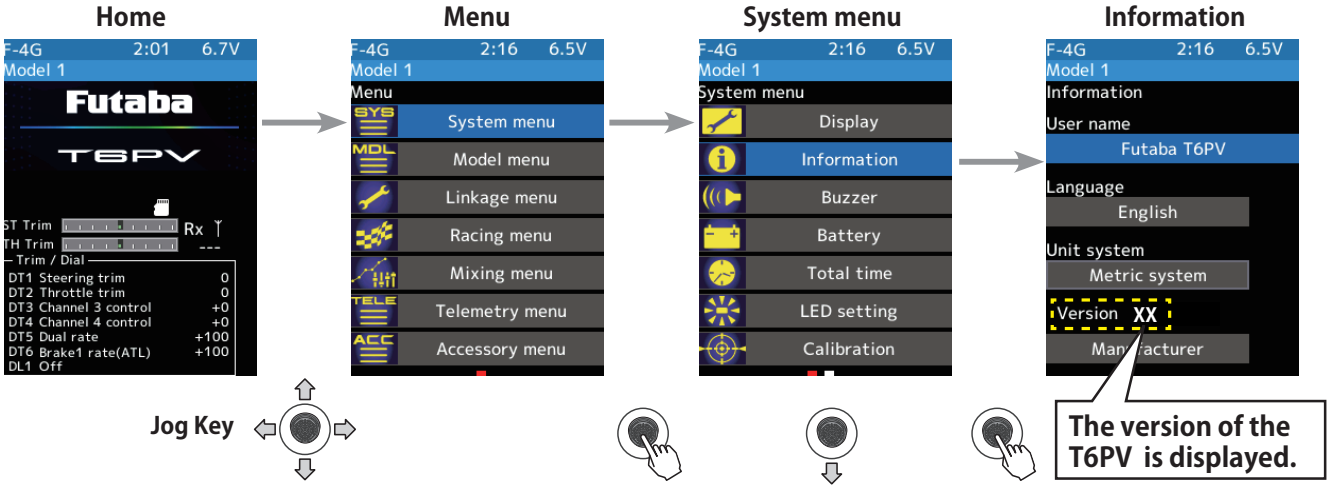
"Broken file."

The T6PV detects the update file error. The update file may be broken or for another transmitter.

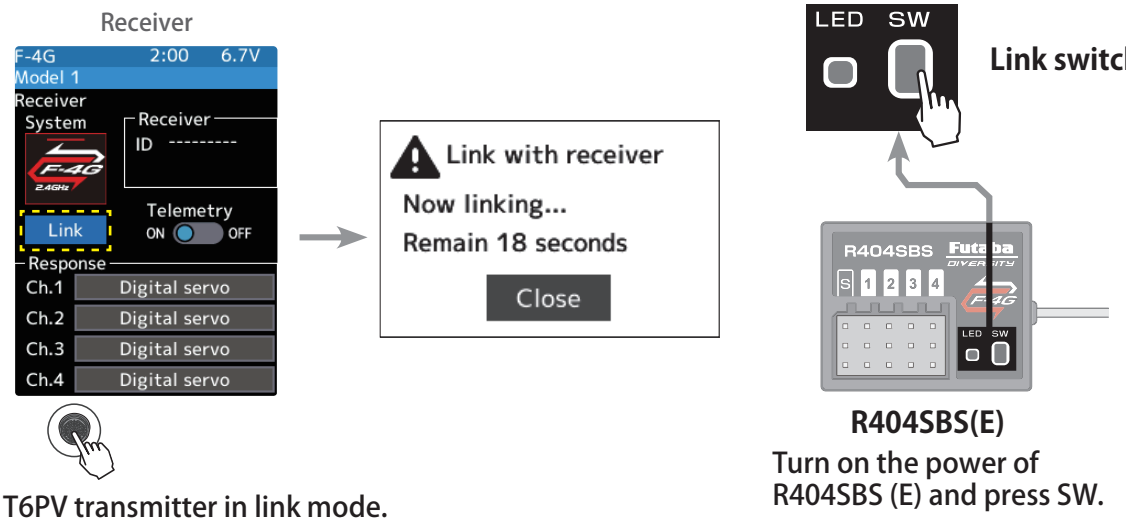
"Write error."

The software update procedure is stopped for an unknown reason. Contact your local service center when this error message appears on the LCD screen of your T6PV.

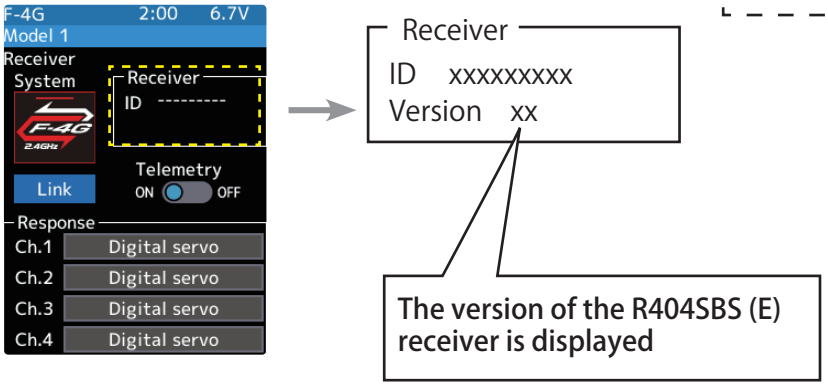
T6PV Version check



R404SBS(E) Version check



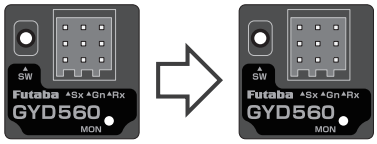
When using the UR servo, ensure it is Ver2.0 or later.
Ver1.0 cannot be set wirelessly for UR servo, so upgrade to Ver2.0 or later.



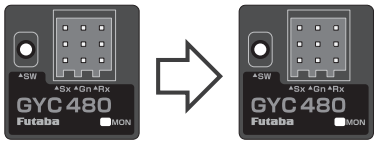
T6PV Software Update
Ver.5.0

1. Added copying Gyro Setting Data.

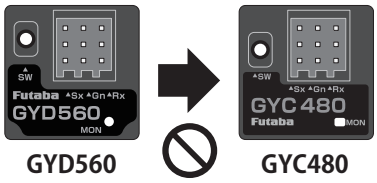
The Gyro link screen now allows you to copy setting values between gyros of the same model.



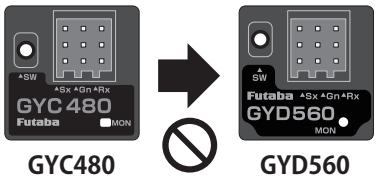
The settings data of one GYD560 (A) can be copied to another GYD560 (B) of the same model.



The settings data from one GYC480 (A) can be copied to another GYC480 (B) of the same model.



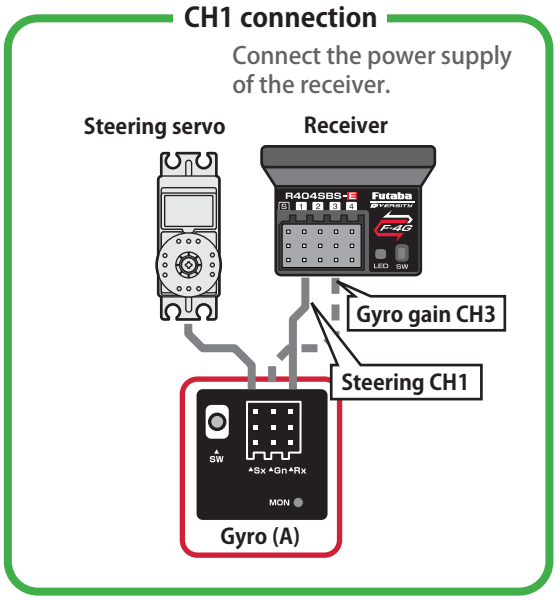
Settings data from a different model, such as the GYD560, cannot be copied to the GYC480.

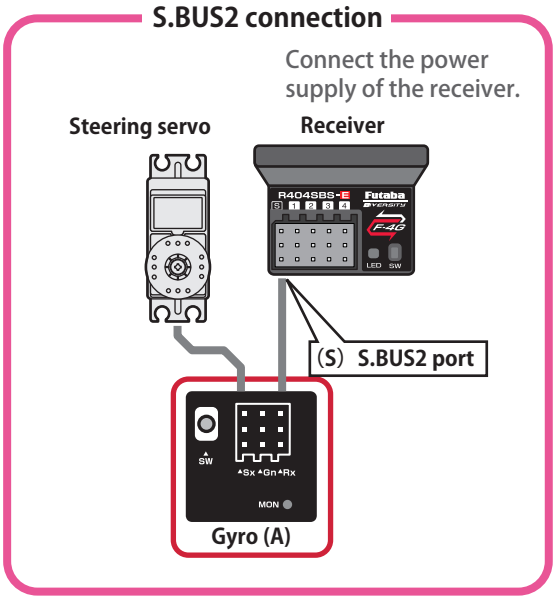


Settings data from a different model, such as the GYC480, cannot be copied to the GYD560.

● Example: Copying Settings Data from Gyro (A) to Gyro (B)

1. Connect the receiver to Gyro (A).

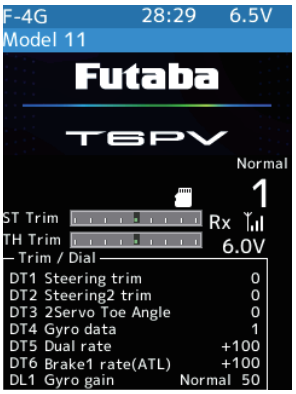




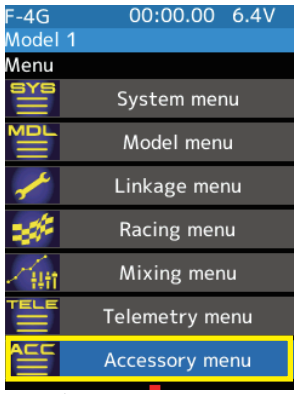
2. Access the "Gyro link" function on the transmitter.

3. On the Gyro link screen, make a selection according to the connection method shown in the figure below.

● HOME

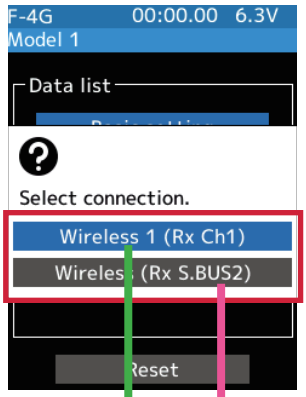


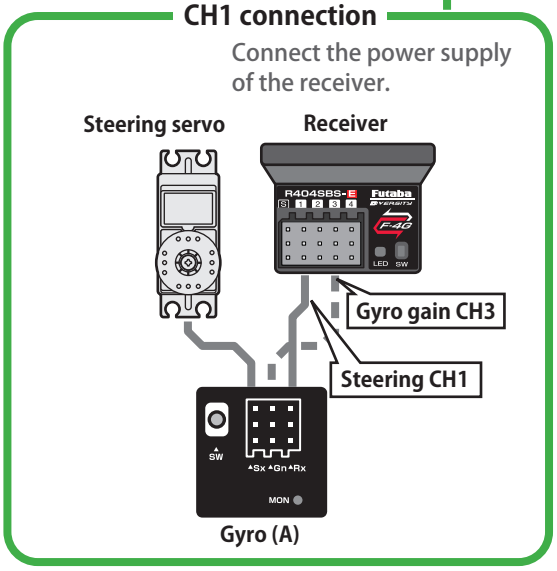
● MENU

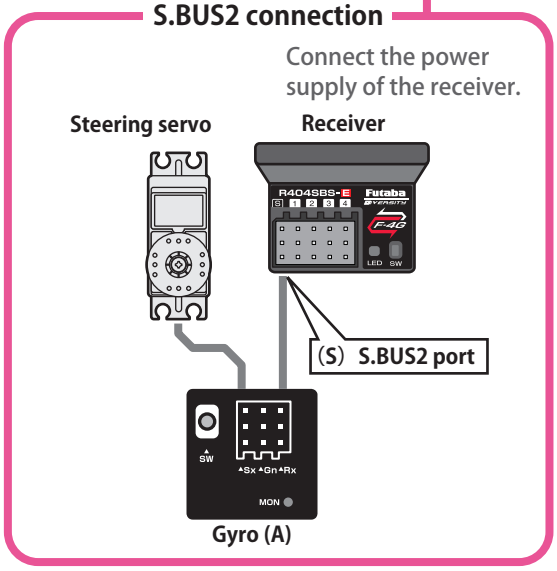


● Update

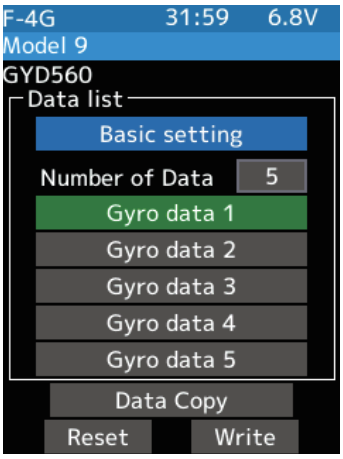
● Servo update



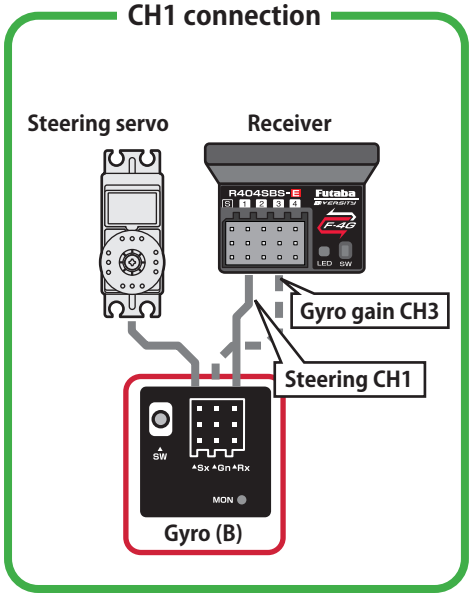


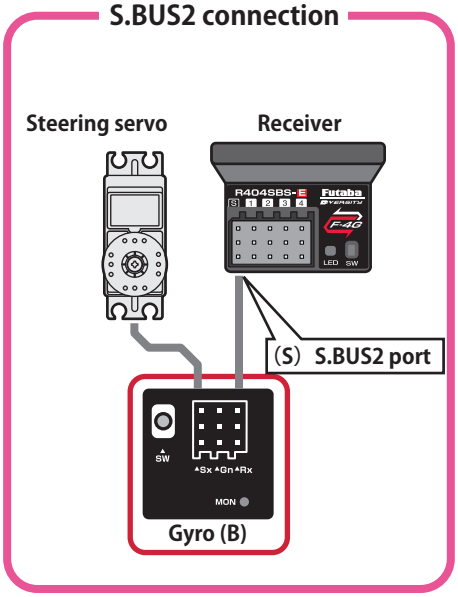


4. The data from Gyro (A) has been loaded into the transmitter.

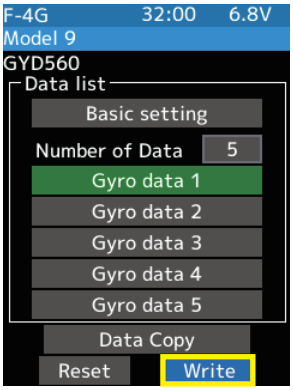


5. Connect the receiver to Gyro (B).





6. Press "Write"



7. Press "Yes"

8. A confirmation screen will appear. Press "Yes" to start copying to Gyro (B).

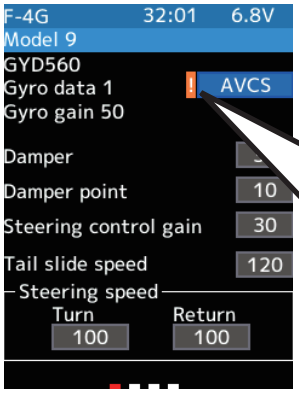
9. Copy complete. Press "Close"

2. Warning display for differing Normal/AVCS gyro sensitivity settings

On the Gyro link screen, a warning indicator now appears if the current sensitivity mode (Normal/AVCS) of the GYD560 or GYC480 gyro differs from the displayed setting.

Gyro sensitivity is "Normal"

Gyro sensitivity is "Normal"



This is displayed when the setting screen and the actual gyro sensitivity mode (Normal/AVCS) do not match.

3. Added a setting item for steering stop control in the Mini-Z (REAL TIME ICS Mini-Z) settings.

Added a configurable item (Mid.Ov.)

T6PV Software Update
Ver.4.0

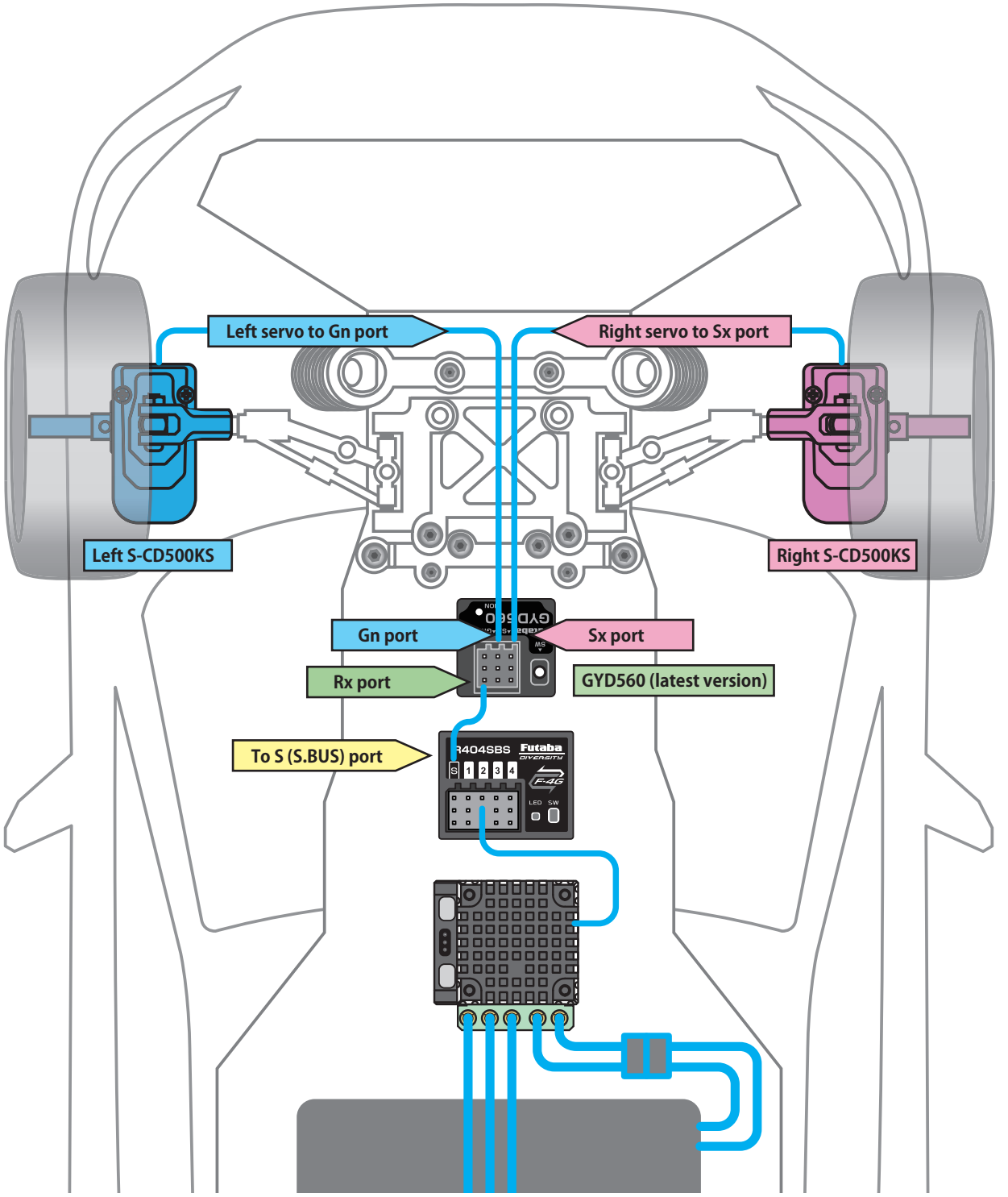
1. Compatible with S-CD500KS knuckle servo

Now compatible with the S-CD500KS steering knuckle servo for drift cars.

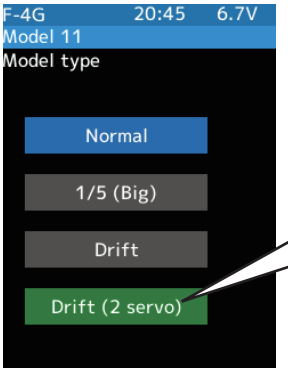
● Knuckle servo connection

Two knuckle servos are required for one car.

The knuckle servo requires one GYD560 updated to the latest version.



● Transmitter Settings



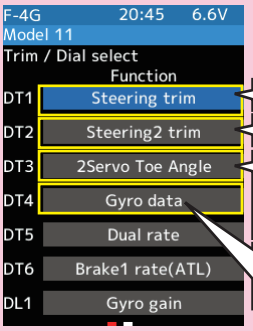
◆ Model menu → Model type

Drift (2 servo) added.

When using a knuckle servo, first select this model type.

Model type → Drift (2 servo) initial settings

● Trim/Dial select



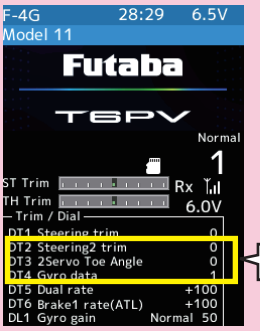
Right servo trim setting

Left servo trim setting

Simultaneous left and right servo trim
Left and right servos rotate in opposite directions, toe-in/toe-out setting possible

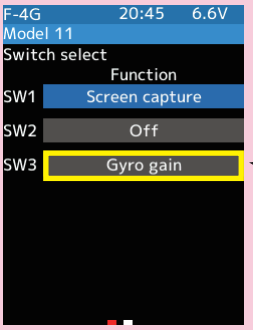
Gyro setting data group (gyro data) switching function

● Home



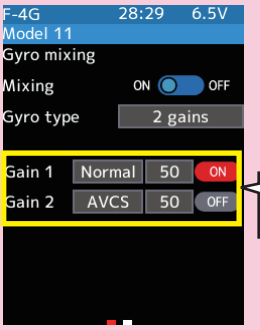
Home Display

● Switch Select



Gyro gain (AVCS/Normal) switching

● Gyro mixing



Gyro gain can be set to two rates (AVCS/Normal)

● Mixing Menu

Knuckle servo mixing added

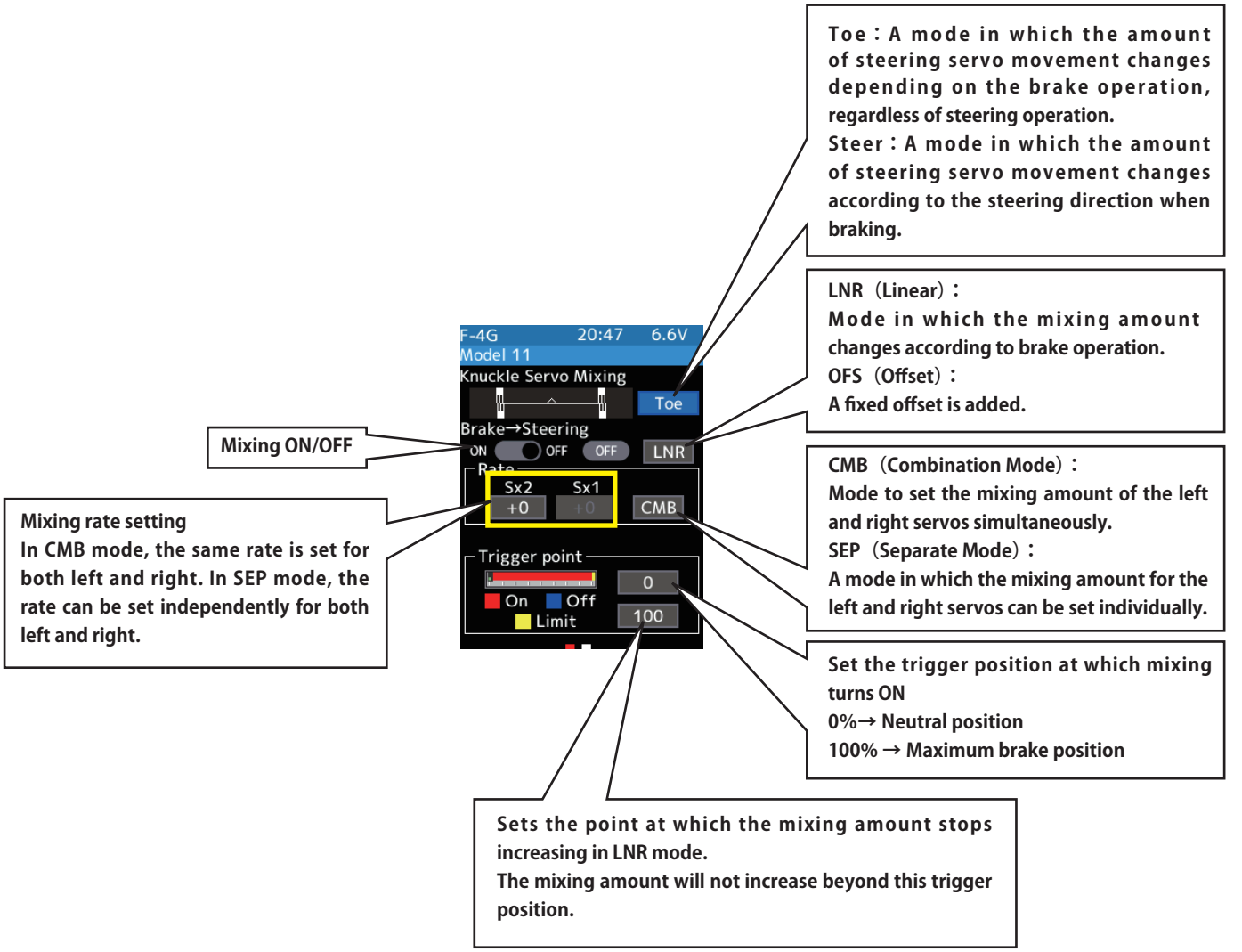
Compatible with S-CD500KS knuckle servo

● Knuckle servo mixing settings

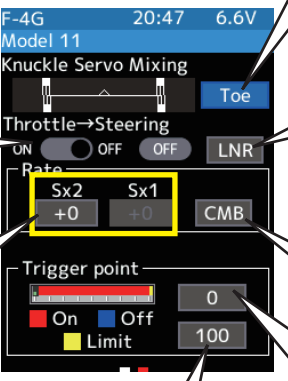
◆ Mixing menu → Knuckle Servo Mixing

The following mixing can be set here:
1/2: Mixing from brake operation to steering
2/2: Mixing from accelerator operation to steering

1/2 Brake to steering mixing settings



2/2 Throttle to steering mixing settings



Toe：A mode in which the amount of steering servo movement changes depending on the throttle operation, regardless of steering operation.
Steer：A mode in which the amount of steering servo movement changes according to the steering direction when throttle operation.

LNR（Linear）：
Mode in which the mixing amount changes according to throttle operation.
OFS（Offset）：
A fixed offset is added.

Mixing ON/OFF

CMB（Combination Mode）：
Mode to set the mixing amount of the left and right servos simultaneously.
SEP（Separate Mode）：
A mode in which the mixing amount for the left and right servos can be set individually.

Mixing rate setting
In CMB mode, the same rate is set for both left and right. In SEP mode, the rate can be set independently for both left and right.

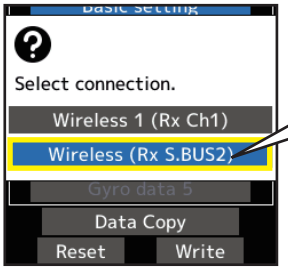
Set the trigger position at which mixing turns ON
0%→ Neutral position
100% → Maximum brake position

Sets the point at which the mixing amount stops increasing in LNR mode.
The mixing amount will not increase beyond this trigger position.

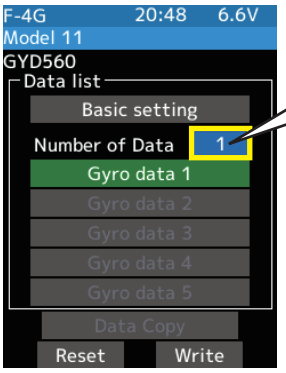
● Gyro settings

◆ Accessory menu → Gyro link

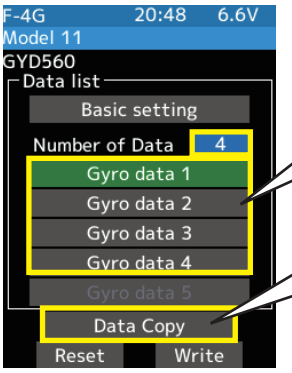
To setting the gyro, select Gyro link.



Select this when using a knuckle servo.



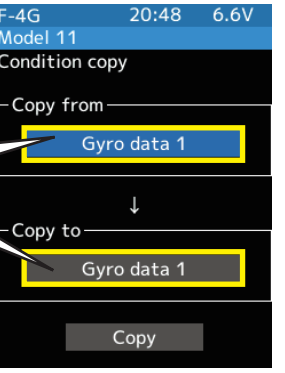
Set the number of gyro data to use.

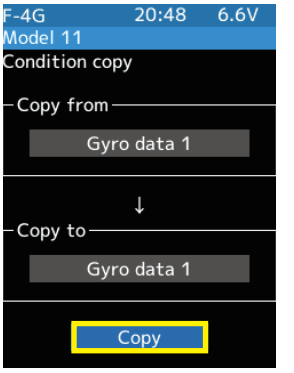


The setting button will be enabled according to the number of data you have set.

The copy function is useful when there are multiple pieces of data.

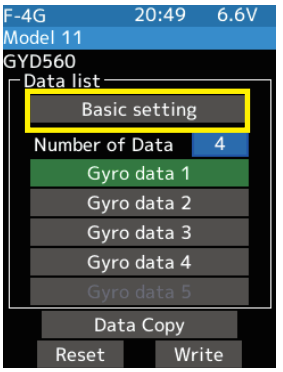
Set the copy source and copy destination.

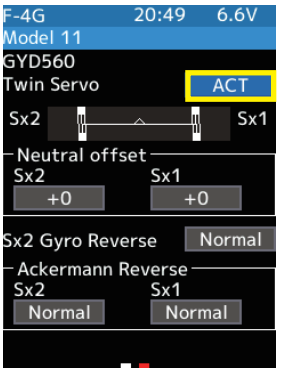




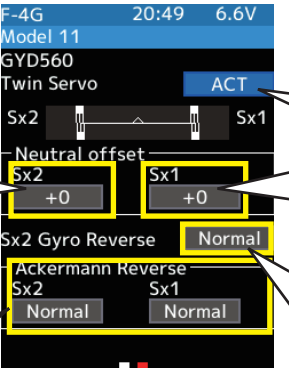
Touch [Yes] to execute the copy.

Touch [No] to cancel.





ACT: Knuckle servo
INH: Conventional single servo



When [ACT] is selected, the setting items for the 2nd servo are displayed.
Change this setting, power cycle the gyro.
The function will be enabled after rebooting.

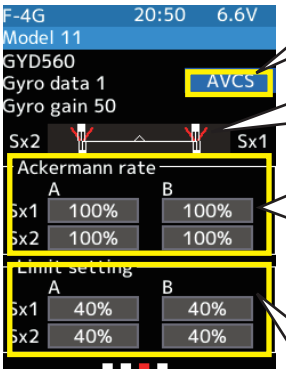
Neutral adjustment of 2nd servo (Sx2)

Neutral adjustment of 1st servo (Sx1)

This sets the gyro direction for the 2nd servo (Sx2).
The gyro direction for the 1st servo (Sx2) is set in Reverse on page 1/2.

Sets the direction of movement for Rate A and Rate B of the Ackermann rate in the gyro data settings. Normally, use Normal.

● Pages 3/4 and 4/4 have been added to the Gyro Data section of the Gyro Mixing menu.

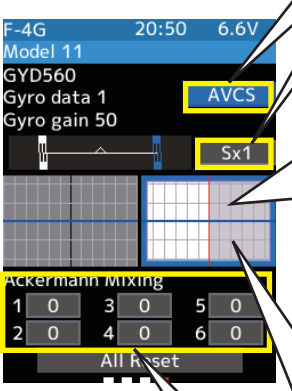


Setting data for AVCS and normal can be set separately. Use this button to switch between AVCS and normal.

The red line reflects the limit setting.

Ackermann movement can be set by creating a difference between the movement amounts of Rate A and Rate B.

Set the maximum movement amount of the 1st and 2nd servos. This can be set for each gyro data.



Setting data for AVCS and normal can be set separately. Use this button to switch between AVCS and normal.

Switch between Sx1 and Sx2

12-point curve can be added to the Ackermann movement. The final movement amount is determined by the rate value obtained by adding the rate from the curve and the Ackermann rate on page 3/4.

The background color of the graph in the direction of the setting point will be shown in white. Operating the steering wheel will switch the direction of the setting target and change the background color of the graph.

Turning the steering wheel will switch the curve setting target between right and left rotation.
(The setting point on the white side of the graph background is displayed.)

2. F-4G response setting ESC mode added

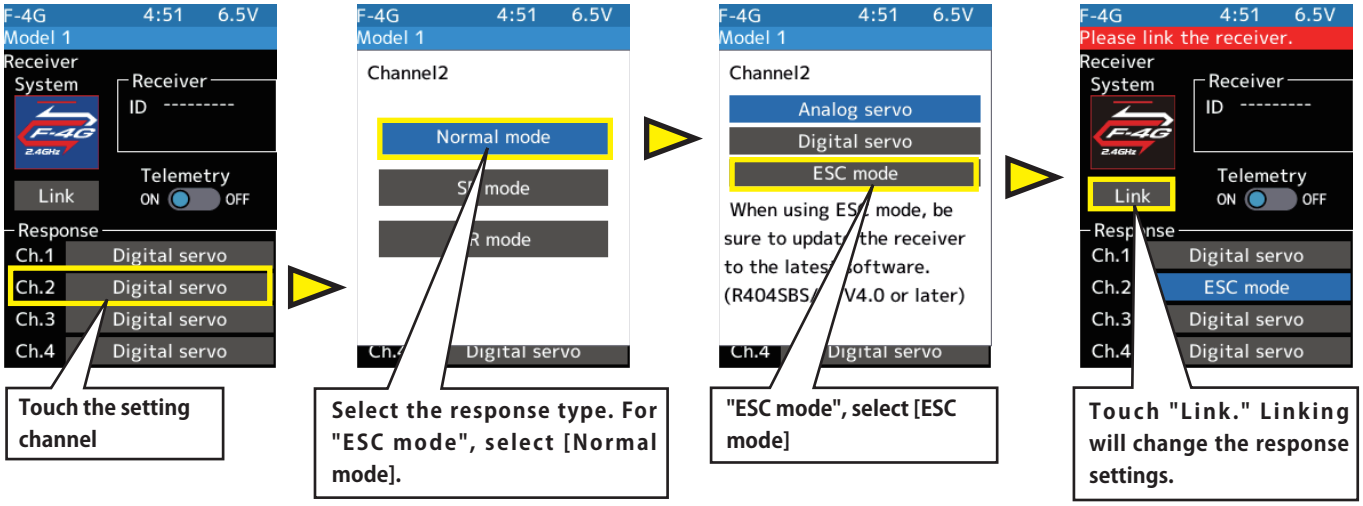
"ESC Mode" has been added to the response settings for the F-4G. When the channel to which the ESC is connected is set to **"ESC Mode"**, the ESC operation response is improved compared to the previous "Digital (High Speed Mode)."

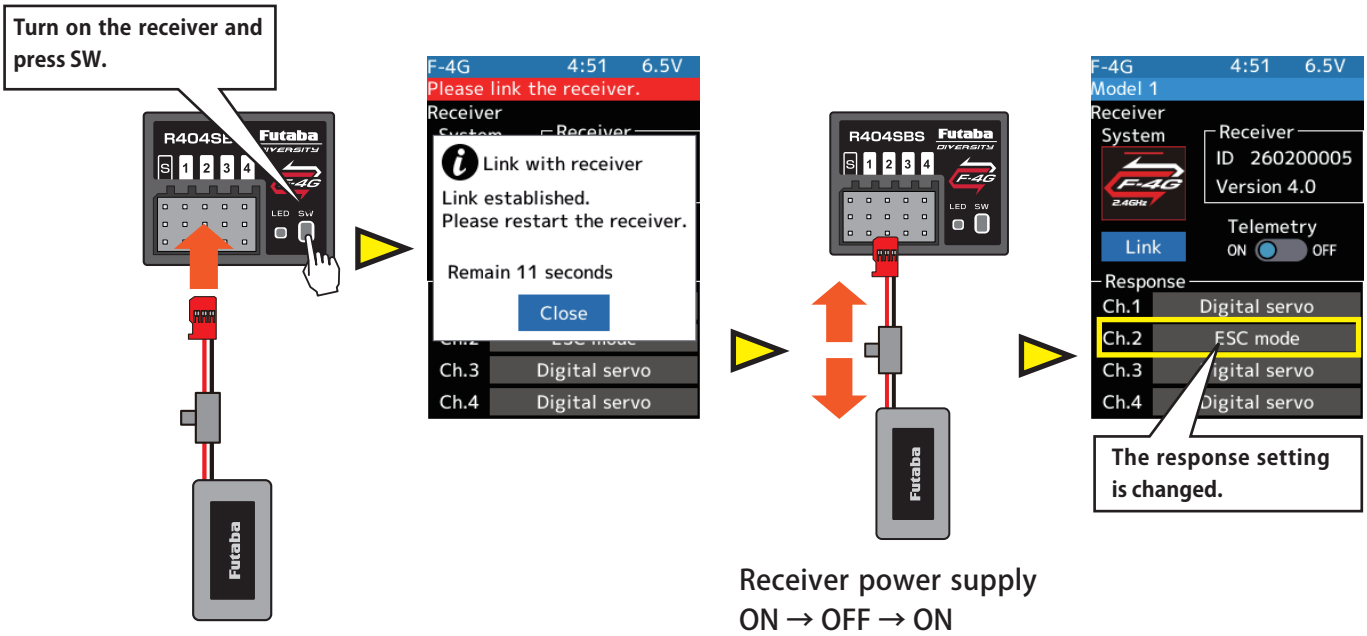
- When using ESC mode, be sure to update the receiver software to a compatible version. Setting ESC mode to a receiver that does not support ESC mode may cause malfunction.

ESC mode compatible receiver → **R404SBS/R404SBS-E V4.0~**

- If your ESC does not work in ESC mode, set the transmitter response setting to "Digital (High Speed)" or "Analog (Normal)."
- If using analog servos, set the response setting to "Analog (Normal)."

● How to set it up





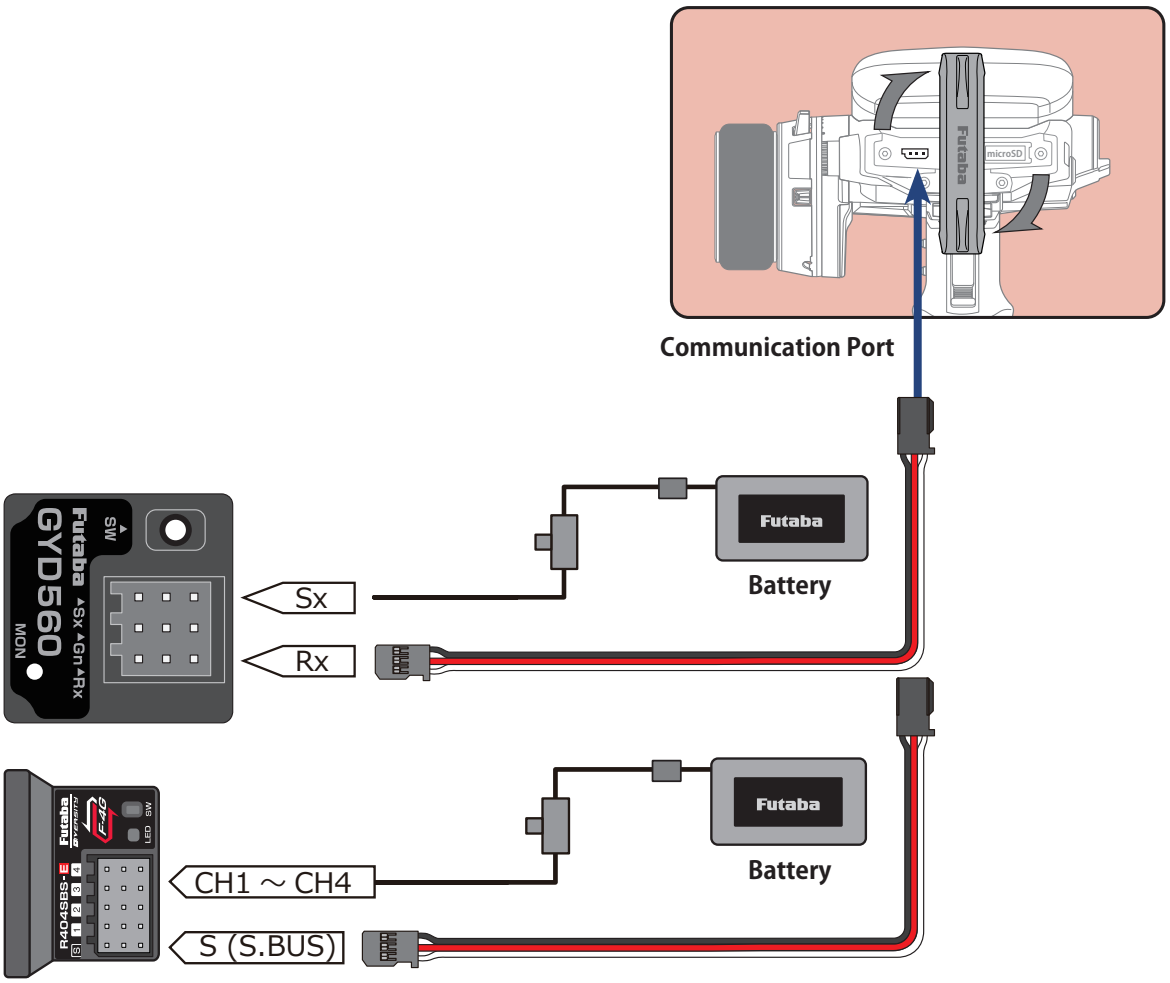
3. Added gyro update from transmitter and changed receiver update

Update the gyro and receiver software from the transmitter.

1. Preparing for the update

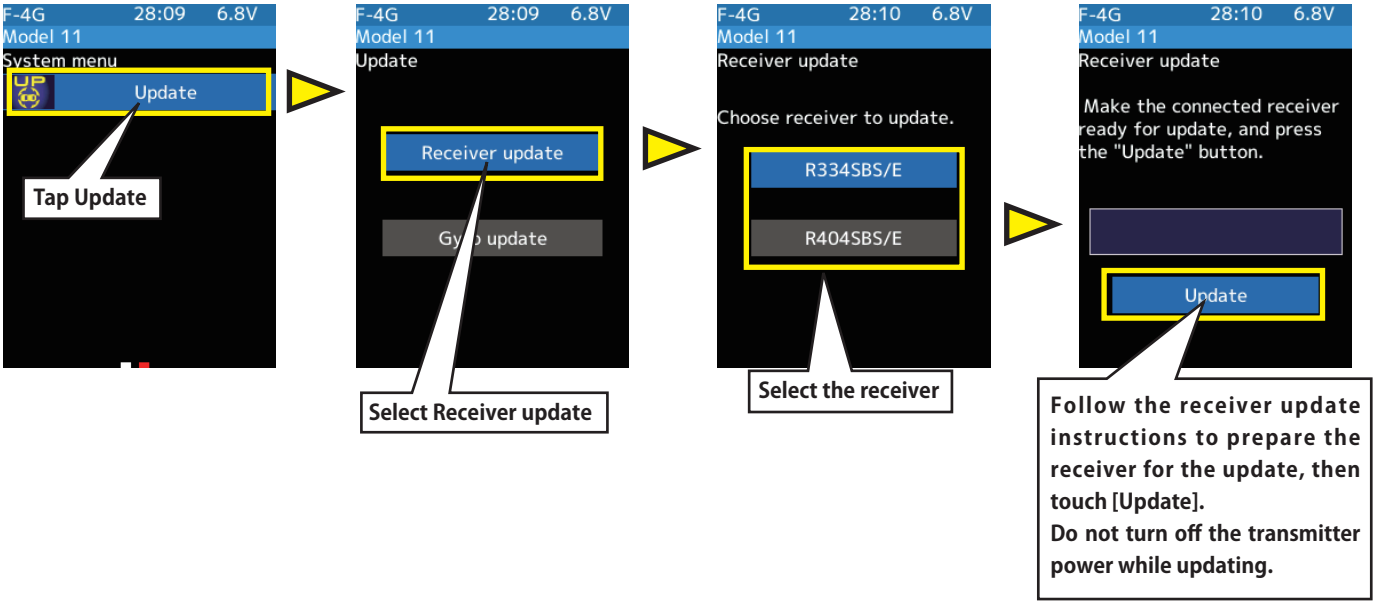
Download the zip file of the update data from our website or your local distributor's website.
Extract the zip file on your computer. Copy the “FUTABA” folder into your microSD card.

2. Connecting the Transmitter and Gyro/Receiver

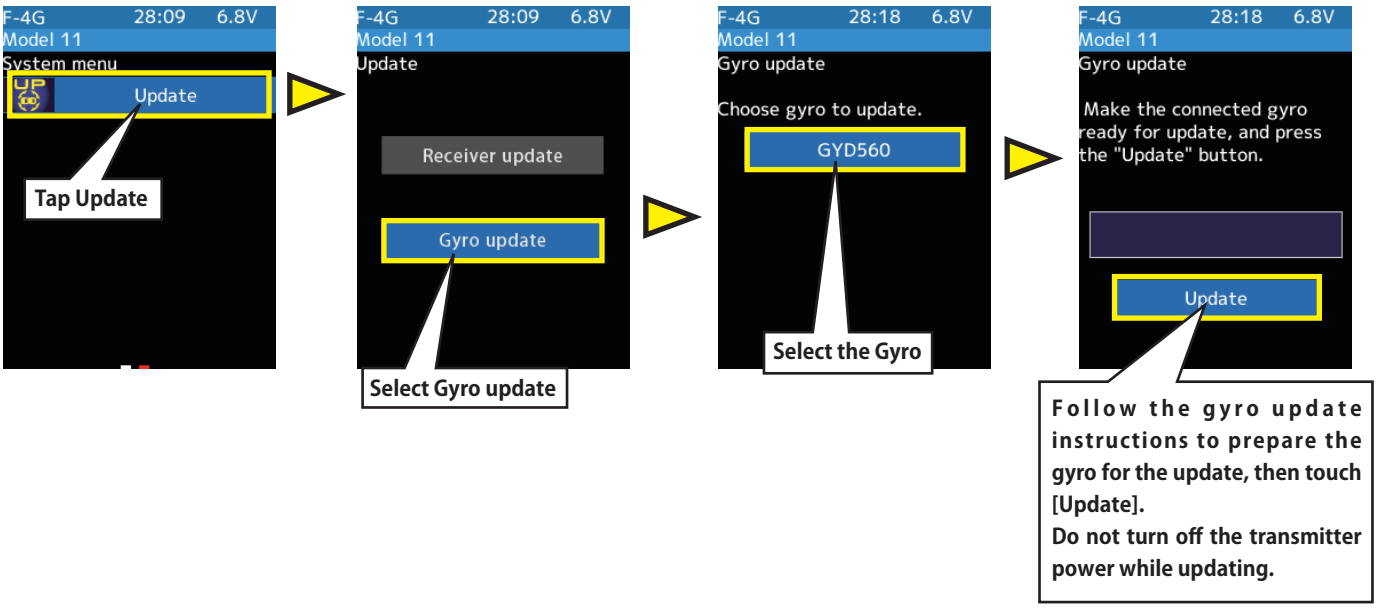


3. Transmitter Operation

○ Receiver update operation



○ Gyro update operation



4. Verifying operation

A message will appear when the update is complete. Turn off the receiver/gyro.
Make sure it is working properly before using.

5. Completion

To exit, press the Home button to return to the system menu screen, or press and hold the Home button to return to the Home screen.

Error Messages

An error message will be displayed in the following cases: Check the situation and try again from the beginning.

- The receiver/gyro is not ready to update.
- The cable is not connected (disconnected).
- The power is turned off.
- A microSD card is not inserted.
- The update file has not been properly copied to the microSD card.

4. Improved communication quality in MINI-Z EVO2 mode.

T6PV Software Update

Ver.3.0

1. Tilt mixing added.

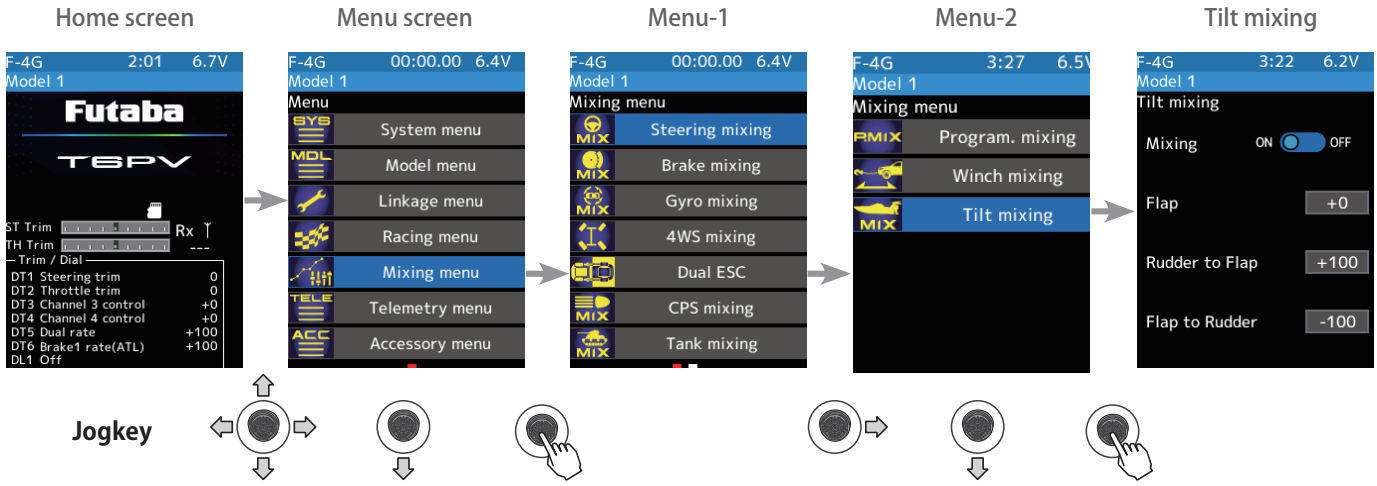
Tilt Mixing

Tilt mixing uses an outboard engine and applies bidirectional mixing from the rudder to flap and from the flap to rudder so that with a boat, rudder operation and tilt mixing operation can be performed with two servos.

Tilt mixing can be performed by rudder operation by the steering wheel and flap channel.

Effect of the set value of other functions on tilt mixing

> Steering end point function, curve function, speed function, or D/R function setup also effects flap channel operation. However, even if set, steering reverse function setup does not reverse the flap channel.



> When the number of channels is insufficient, cancel the other mixing.

Tilt mixing adjustment

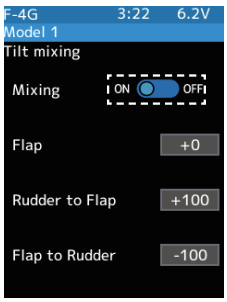
(Preparation)

- Use the "Trim/Dial select" function to select the flap channel operation dial. (Linkage menu)

1 (Function ON/OFF)

Use the jog key to move the cursor to mixing ON/OFF. Use the [+] or [-] button to select ON/OFF.

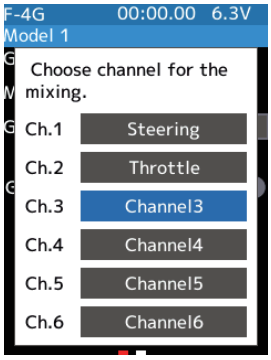
"OFF": Mixing function OFF
"ON": Mixing function ON



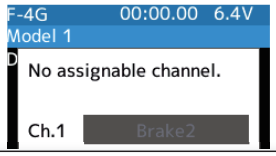
2 (Channel setup)

The channel list screen used for the tilt is displayed. Press jog key the auxiliary channel that connected the flap.

- When all channels are in use, a screen saying "No assignable channel" is displayed, please turn off other mixing and make an unused channel. You can check the mixing used on the channel setting screen (Linkage menu).



The number of channels varies depending on the selected system.



If there is no assignable channel, select [Close]. Turn off other mixing and make assignable channels.

3 (Flap rate check and adjustment)

Select and press "Flap" with the jog key, then use the [+] and [-] buttons to adjust the amount of flap rate.

4 (Rudder to Flap mixing amount adjustment)

Select and press "Rudder to Flap" with the jog key, then use the [+] and [-] buttons to adjust the amount of mixing rate.

5 (Flap to Rudder mixing amount adjustment)

Select and press "Flap to Rudder" with the jog key, then use the [+] and [-] buttons to adjust the amount of mixing rate.

6

When finished, return to the Mixing menu screen screen by pressing the END button, or press and hold the END button to return to the Home screen.

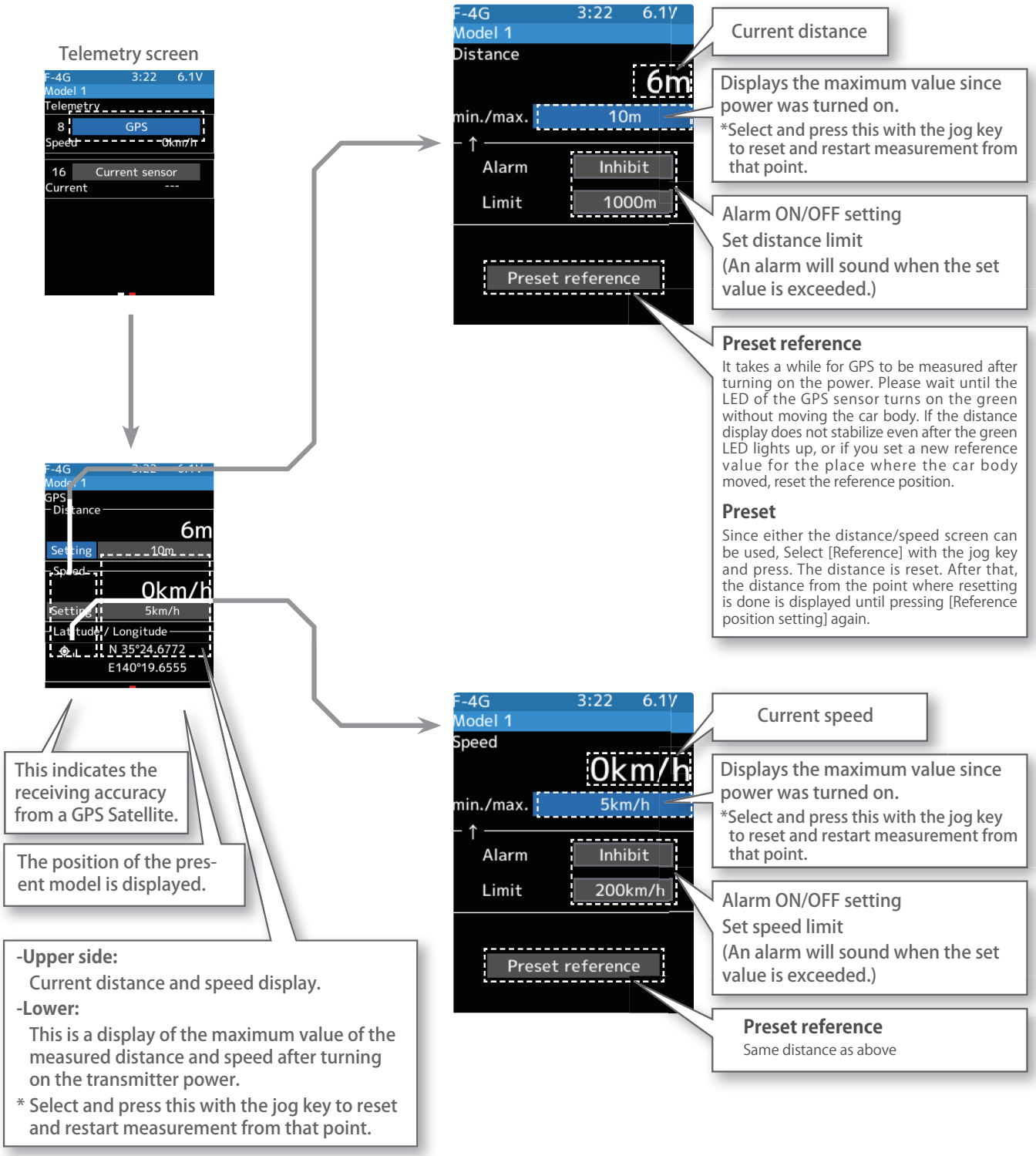
Trim/Dial Setting

The mixing rate amount can be controlled with the digital dial or digital trim, using the trim/dial select function. (Linkage menu)

2. Compatible with Futaba GPS unit “SBS-01G/02G”

When SBS-01G/02G (GPS sensor) sold separately is mounted on the model, you can receive radio waves from GPS satellites and display information on the distance and speed of the model.

* A GPS sensor must be installed in the model. Install and connect the sensor following the sensor instruction manual.
* When powered up, the SBS-01/02G begins to acquire GPS satellite data. This process can take several minutes. Please do not move the model during this process. During acquisition, the LED on the SBS-01/02G will blink green; after the satellite’s signals have been acquired, the LED will become solid green, and the GPS signal strength display on the transmitter will show three bars.
  Moving the model before the satellites are fully acquired will cause a delay in acquiring the satellite signal.
* Since GPS satellites are basically used, accurate distances and speeds may not be displayed depending on the surrounding environment or the conditions of the course. It cannot be used indoors.
* Telemetry voice function is not supported.
* Vibrator function is not supported.
* The alarm direction can only be set on the upper limit side. (There is no setting for the lower limit side.)



Ver.2.0

1. Compatible with HPS-CD701, S-CD400, S-C401

HPS-CD701, S-CD400, S-C401 have been added to the UR mode / SR compatible servos.

*For S-CD400 and S-C401, only UR1 can be used in UR mode. UR2, UR3, UR4 cannot be used.

***Frequency** cannot be set for S-CD400 and S-C401.

*When S-CD400 and S-C401 is set to UR1 mode, the upper limit of **Stretcher** setting value is **4.000**.

2. Changing the REAL TIME ICS MiniZ parameter settings Kyosho MINI-Z EVO2 Receiver Unit V2(82046)

The following two points have been changed in the throttle item of the REAL TIME ICS MiniZ parameter settings.

- **[FWD punch] Change the setting value from 0~10 to 0~100 (1 step)**
- **[Motor Timing] Change the setting value from 0~8 to 0~7**

3. Compatible with GYD560 and GYC480

Wireless parameter settings for the GYD560 and GYC480 car gyros can now be made using the transmitter.

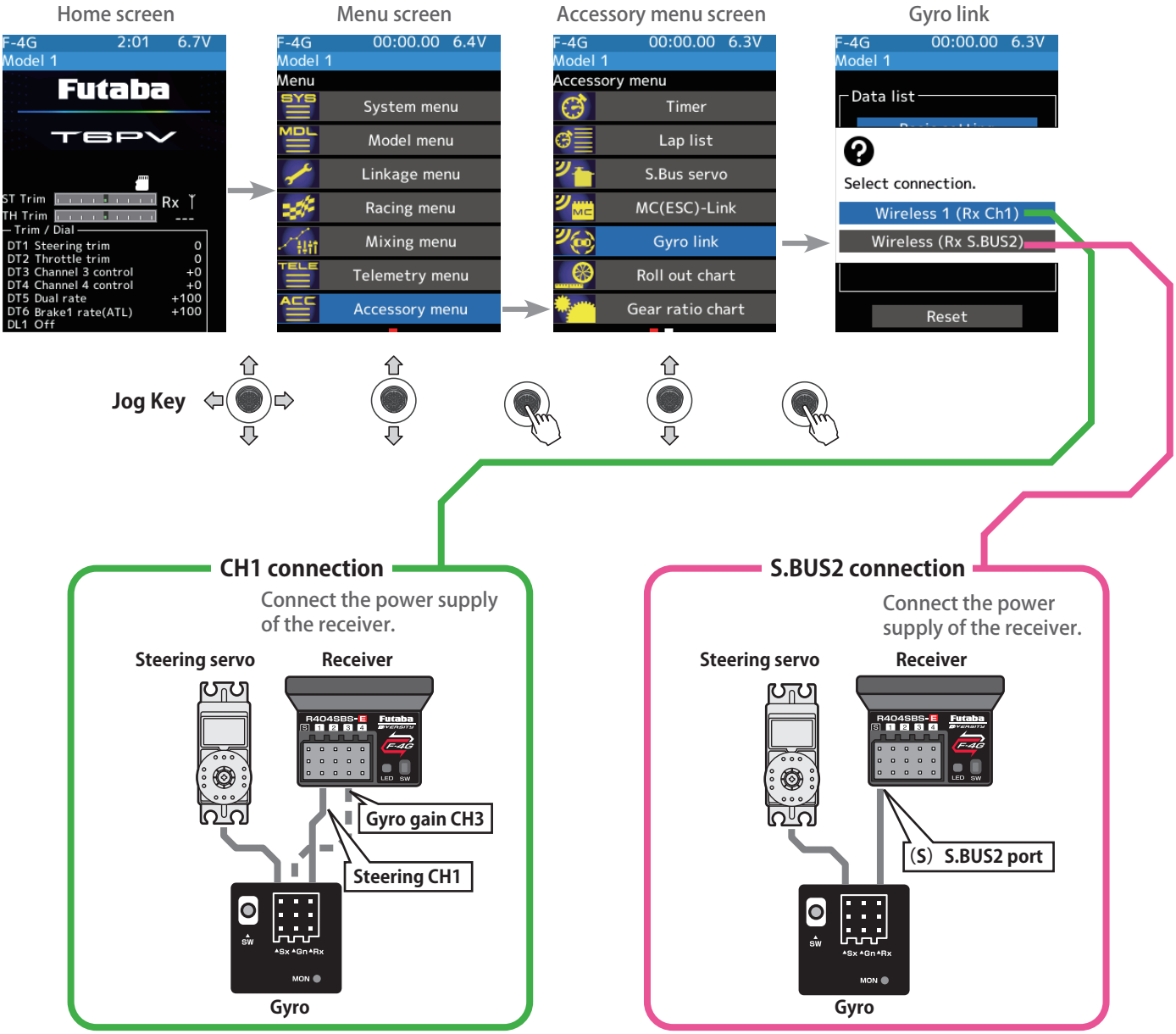
*Wireless settings are only supported on the T6PV(Ver.2.0~) and T10PX(Ver.14.0~) F-4G systems (R404SBS series Ver.3.0~).

GYD560 and GYC480 setting

1 Move the jog key to call up the menu. Next, use the jog key to select the [Accessory menu] and press it. Use the jog key to select [Gyro Link] and press it.

2 (Gyro read)

When you open the Gyro Link screen, the connection method selection screen is displayed. Select and press the jog key according to the connection method between the gyro and receiver. The Gyro type and currently set contents are read.

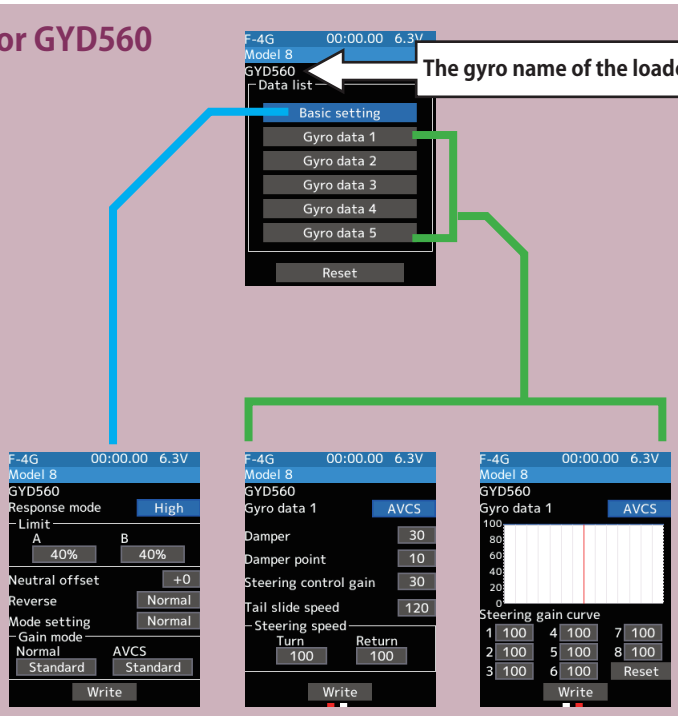


3 (Set up the gyro)

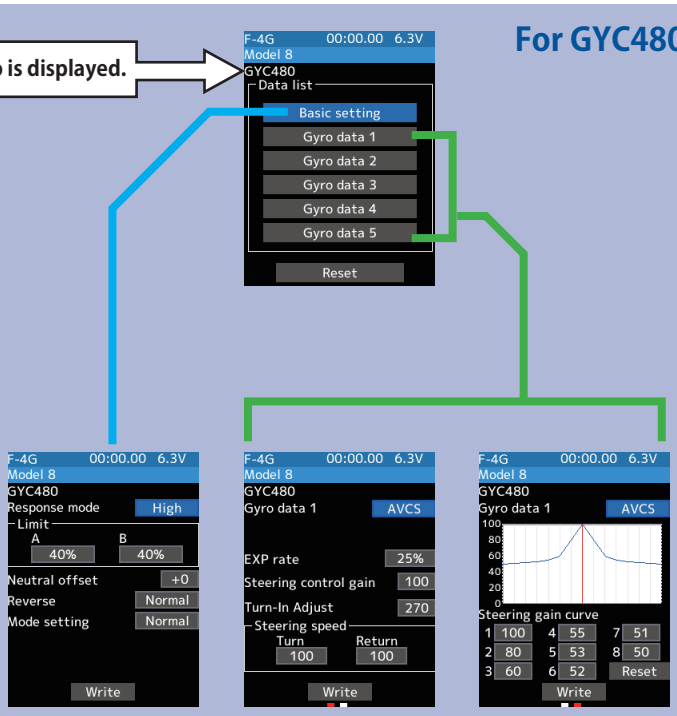
The gyro setting data is divided into the Basic setting and Gyro data (1 to 5) screens and displayed by the method shown on the next.

- When the S.BUS connection is not used, the gyro data switching function cannot be used, so only [Gyro data 1] is displayed.

For GYD560



For GYC480



Basic setting

Response mode

Gyro sensor response setting.

* Low ➤ Middle ➤ High speeds up response.
* In high mode, using the dead band angle is too small, the servo will work continuously, but there is no problem in running. However, if strong the servo will work continuously occurs, set to middle or low mode.

Limit

Adjustment function of maximum steering angle.

* Operate the steering and adjust the left and right separately so that the maximum steering angle is obtained as long as the tires do not interfere with the arms.
* If the adjustment value of the limit is small (the maximum steering angle is not adjusted), it becomes easier to spin.
* During limit adjustment, the steering angle is amplified by 1.5 times, but this is not a malfunction. However, perform drive after completing the limit adjustment.

Neutral offset

Neutral adjustment function of the steering servo.

* Do not use transmitter trim and sub trim. Make the neutral setting with a gyro.

Reverse

Gyro control direction setting.

* If the car is turned to the left by hand steering goes out on the right.

Mode setting

Normal ⇔ UR ⇔ SR mode settings

* Set mode setting to UR/SR only when using UR/SR mode with UR/SR compatible servos.

Gain mode

Gyro internal control gain switching.

* High gain is 1.5 times more sensitive than standard gain.
* Normally set to standard.
  Set to high gain if increasing the sensitivity setting of the transmitter to the maximum value is not enough.

Basic setting

Response mode

Gyro sensor response setting.

* Low ➤ Middle ➤ High speeds up response.
* In high mode, using the dead band angle is too small, the servo will work continuously, but there is no problem in running. However, if strong the servo will work continuously occurs, set to middle or low mode.

Limit

Adjustment function of maximum steering angle.

* Operate the steering and adjust the left and right separately so that the maximum steering angle is obtained as long as the tires do not interfere with the arms.
* During limit adjustment, the steering angle is amplified by 1.5 times, but this is not a malfunction. However, perform drive after completing the limit adjustment.

Neutral offset

Neutral adjustment function of the steering servo.

* Do not use transmitter trim and sub trim. Make the neutral setting with a gyro.

Reverse

Gyro control direction setting.

* If the car is turned to the left by hand steering goes out on the right.

Mode setting

Normal ⇔ UR ⇔ SR mode settings

* Set mode setting to UR/SR only when using UR/SR mode with UR/SR compatible servos.

For GYD560

Gyro data 1/2

AVCS and normal mode change button

The AVCS / NORMAL modes setting.

The gyro has 2 operating modes: NORMAL mode and AVCS mode.
In the AVCS mode, gyro control is firmer.
* The feel of operation is different, choose your favorite mode.
* NORMAL: The driver needs to perform counter-steer ➔ Operation opposite to the turn direction.

Damper

Hunting suppression

The higher the value, the stronger the hunting suppression. However, it will feel like the servo response has worsened.

Damper point

Adjust the servo response due to the effect of the damper against the gyro effect.

* The smaller the value, the stronger the influence of the Damper and the slower the servo speed.
* The higher the value, the slower the Damper will operate and the better the response, but the more likely it is that hunting will occur.

Steering control gain

Adjustment of intervention ratio of steering operation to gyro control.

When the numerical value is increased, the steering operation of the driver is largely reflected.
* The steering response feels fast.

Tail slide speed

Adjust the speed of the tail slide (shake the tail) when driving.

* Decreasing the numerical value decreases the speed of the tail slide, and increasing the numerical value increases the speed.
* Effective for adjusting the tail slide amount during steering operation.

Steering speed

The function to adjust servo speed for steering operation (same the function as servo speed of the transmitter).

* The smaller the value, the slower the servo speed.

Gyro data 2/2

Steering gain curve

Mixing to increase or decrease gyro gain in response to steering input. Eight points of gain can be set up to the endpoint based on neutral.

* It is set in conjunction with left-right symmetry.
* Tap [Reset] to initialize the settings.

For GYC480

Gyro data 1/2

AVCS and normal mode change button

The AVCS / NORMAL modes setting.

The gyro has 2 operating modes: NORMAL mode and AVCS mode.
In the AVCS mode, gyro control is firmer.
* The feel of operation is different, choose your favorite mode.
* NORMAL: The driver needs to perform counter-steer ➔ Operation opposite to the turn direction.

EXP rate

Steering exponential adjustment function

This function makes the operation near neutral quicker or smoother by operating the steering wheel.

Steering control gain

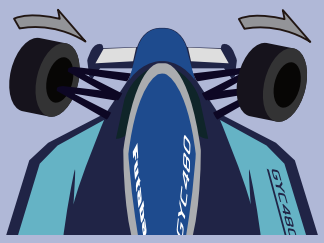
Adjustment of intervention ratio of steering operation to gyro control.

When the numerical value is increased, the steering operation of the driver is largely reflected.
* The steering response feels fast.

Turn-In Adjust (AVCS only)

Adjust the turn-in speed to adjust turning ability.

* A smaller number will slow down the turn-in speed, a larger number will make it faster.



Steering speed

The function to adjust servo speed for steering operation (same the function as servo speed of the transmitter).

* The smaller the value, the slower the servo speed.

Gyro data 2/2

Steering gain curve

Mixing to increase or decrease gyro gain in response to steering input. Eight points of gain can be set up to the endpoint based on neutral.

* It is set in conjunction with left-right symmetry.
* Tap [Reset] to initialize the settings.

*GYD560 has an increased amount of information, it takes longer to read and write data than the GYD550.

4 (Writing to Gyro)

Execute this function to write the setting data to the Gyro.

Press jog key the setting item [Write] on both the Basic setting screen and the Gyro data screen. After “Write Please wait” is displayed, an electronic sounds and writing ends. Be sure to write after changing the settings.

The write button is not displayed for the limit settings and neutral offset settings because the changed data is written to the gyro every time the setting value is changed.

- If "Failed" is displayed on the screen, communication with the gyro has not been performed normally. Check receiver, gyro and battery connections, transmitter and receiver power switches, and repeat [Write].

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