

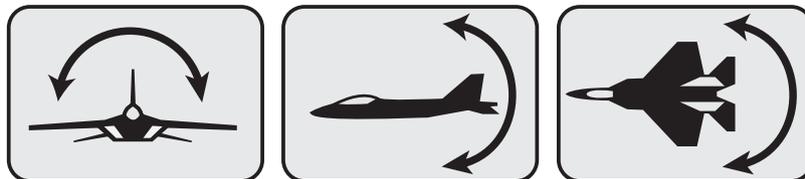
Gyro Program Box

GPB-1

Ver. 5.2

Software Update Functions

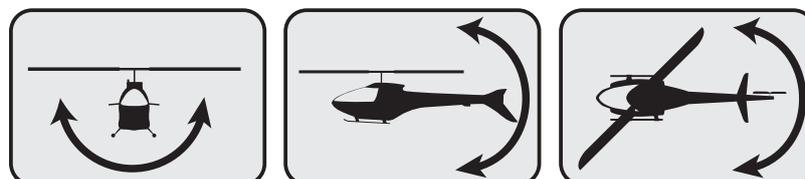
GYA 553



CGY 770R

CGY 760R

CGY 755



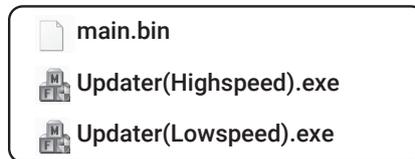
GPB-1 Software Update Procedure

GPB-1 UPDATE

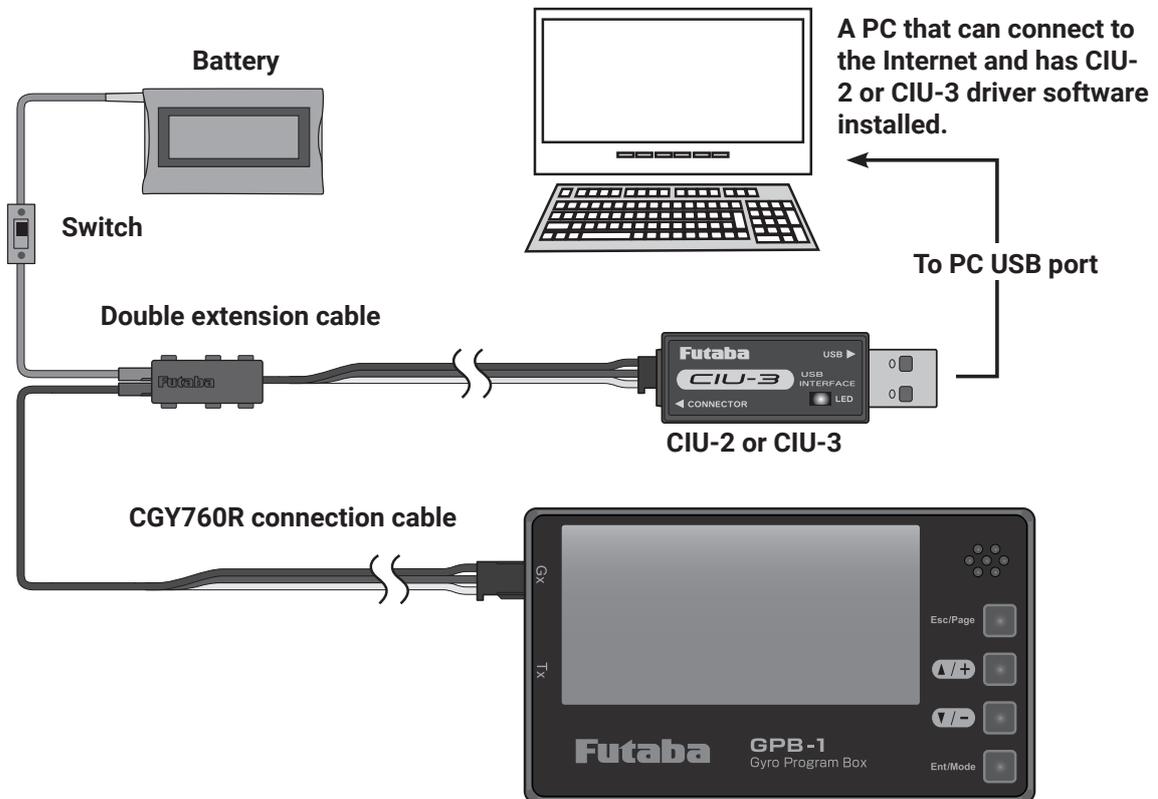
The GPB-1 can be updated from PC using CIU-2 or CIU-3.

- * The following optional products are required for the update.
 - CIU-2 or CIU-3
 - Cable for CGY760R / GY701 / GY520 or DSC cable for update
 - Receiver battery

1. Download the CGY760R update file from our website or your local distributor's website.
2. Extract the zip file on your computer.



3. Connect as shown in the figure.



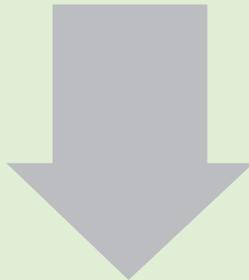
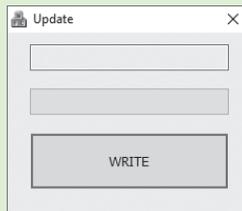
PC side

4. Start an executable file by a PC.

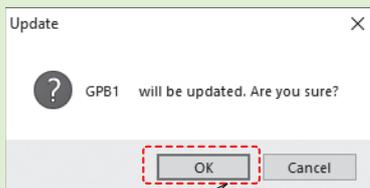
CIU-3  Updater(Highspeed).exe

CIU-2  Updater(Lowspeed).exe

Double
-click

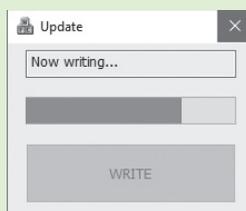


WRITE



Click [OK]

OK



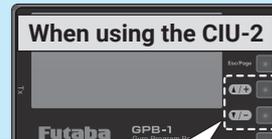
GPB-1 side

5. When using the CIU-3, hold down the [Enter] and [Esc/Page] keys of the GPB-1 and turn on the power. Release the [Enter] and the [Esc / Page] keys when the backlight of the screen lights up.

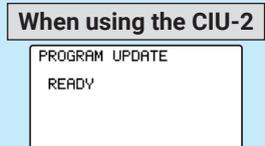
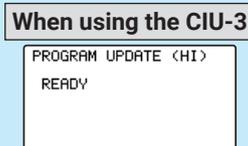


Press the [Enter] and [Esc/Page] keys next turn ON

When using the CIU-2, hold down the [▲/+] and [▼/-] keys of the GPB-1 and turn on the power. Release the [▲/+] and [▼/-] keys when the backlight of the screen lights up.

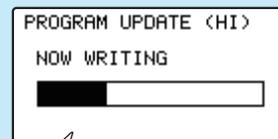


Press the [▲/+] and [▼/-] keys next turn ON



⚠ CAUTION

⊘ Do not turn off the power or remove the battery while updating. GPB-1 may be damaged.

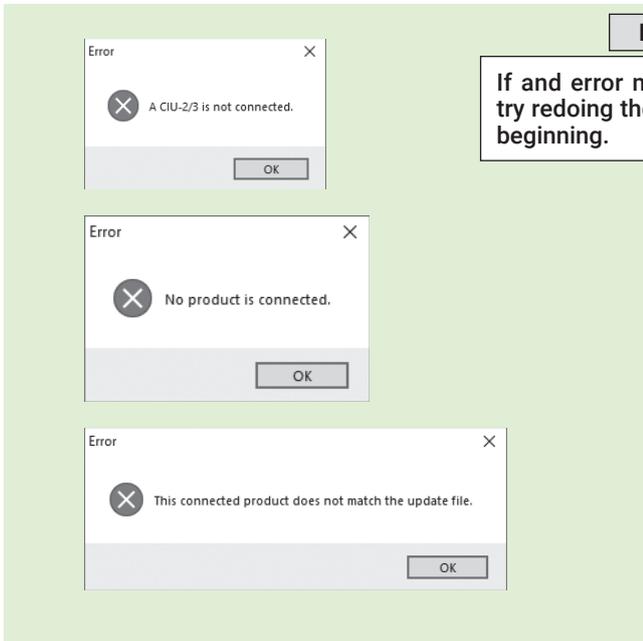
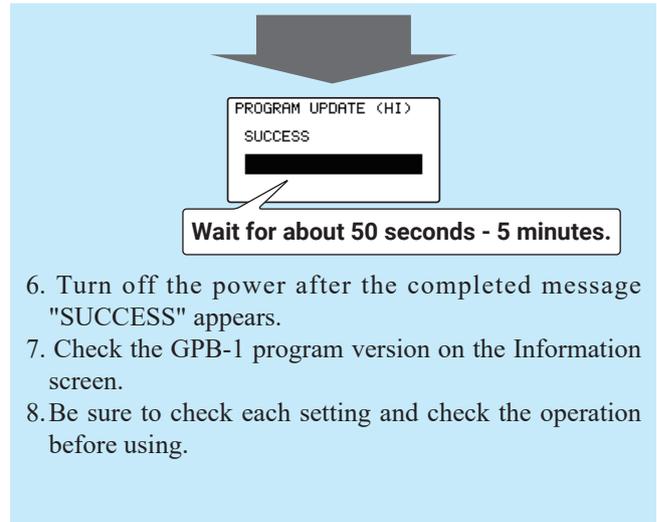


Wait for about 50 seconds - 5 minutes.
Don't turn on the power !

PC side



GPB-1 side



Error

If and error message appears, try redoing the update form the beginning.



If the cable disconnects or a contact failure occurs during the update, the update stops halfway. In that case, please try updating again from the beginning.

If the GPB-1 fails to update or does not start, please have it serviced.

Ver.5.2

Supported servo type change of S-HC501.

Ver.5.1

Added function of gyro GYA553 V4~ for Airplane

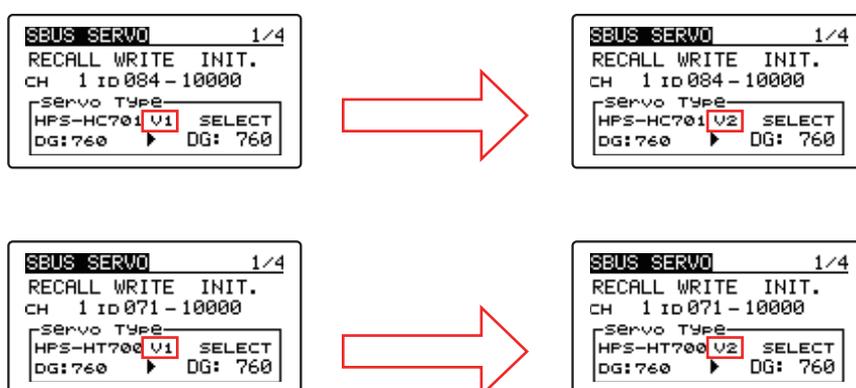
GPB-1-GYA553 setup manual on page 7 and onwards

Ver.5.0

Added function of gyro CGY770R for helicopter

Ver.4.4

1. Supported servo type change of HPS-H701.
2. Compatible with Ver.2.0 of HPS-HC701 and HPS-HT700.
Before the update, V1 will be displayed, and after the Ver.2.0 update, V2 will be displayed.



Ver.4.3

Supported servo type change of HPS-HC701 and HPS-HT700.

Ver.4.2

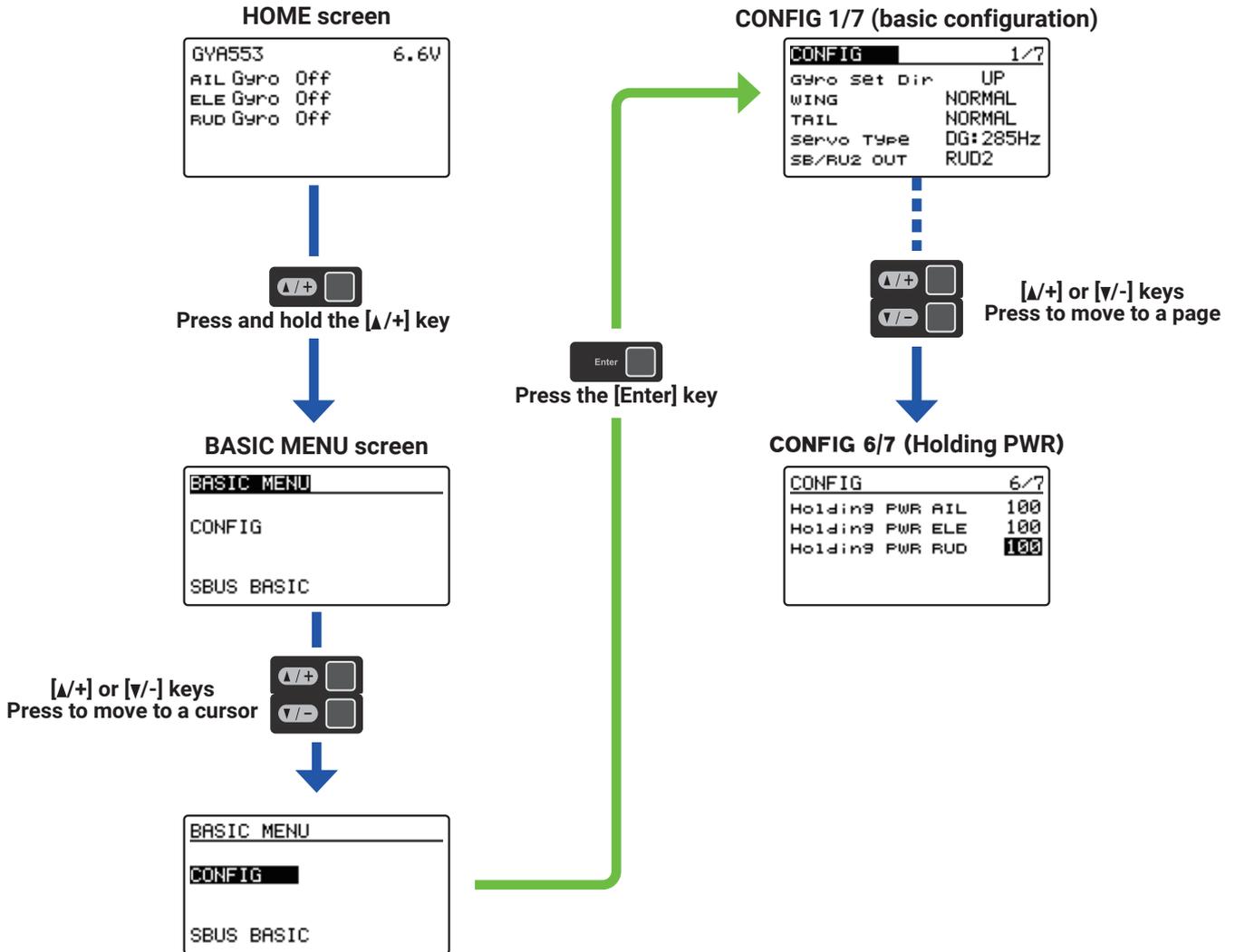
Added function of gyro GYA553 for airplane

1. Added Aileron 3/Aileron 4.
2. S.BUS(HS)---SV servo and S.BUS(STD)---S3175HV, DLPH-1, etc. can be selected with SB/RU2 output (S.BUS output).

GYA553 --- Added AIL / ELE / RUD "Holding PWR" setting to parameter setting

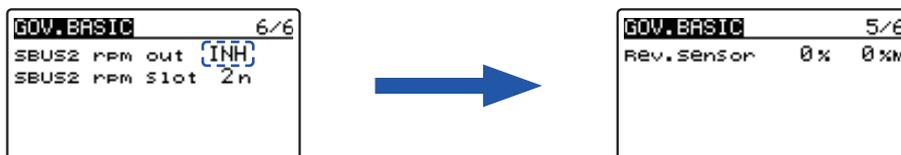
You can adjust the attitude holding force of the aircraft in AVCS mode.

Decreasing the value weakens the holding power and makes the operation feeling closer to the normal mode.



CGY760R / 755 --- GOV Basic Menu 5/6 "Rev. Sensor" screen

Even if the "SBUS 2rpm out" setting is set to INH in the GOV basic menu 6/6 of the CGY760R / 755, the rotation speed sensor test is now possible on the "Rev. Sensor" screen.





Gyro Program Box

GPB-1

GYA553

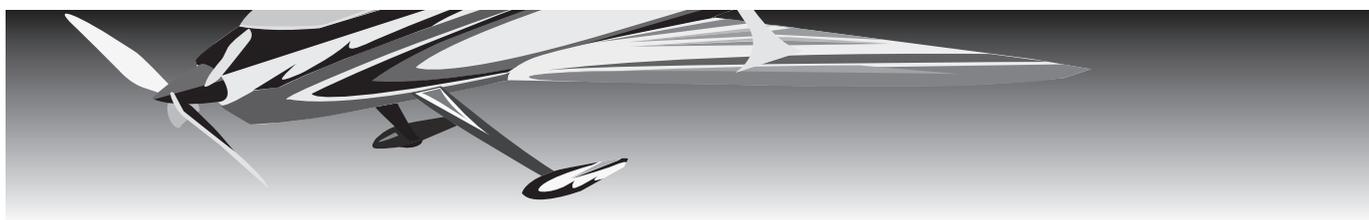


GPB-1 Ver.5.1~

GYA553 Ver.4~

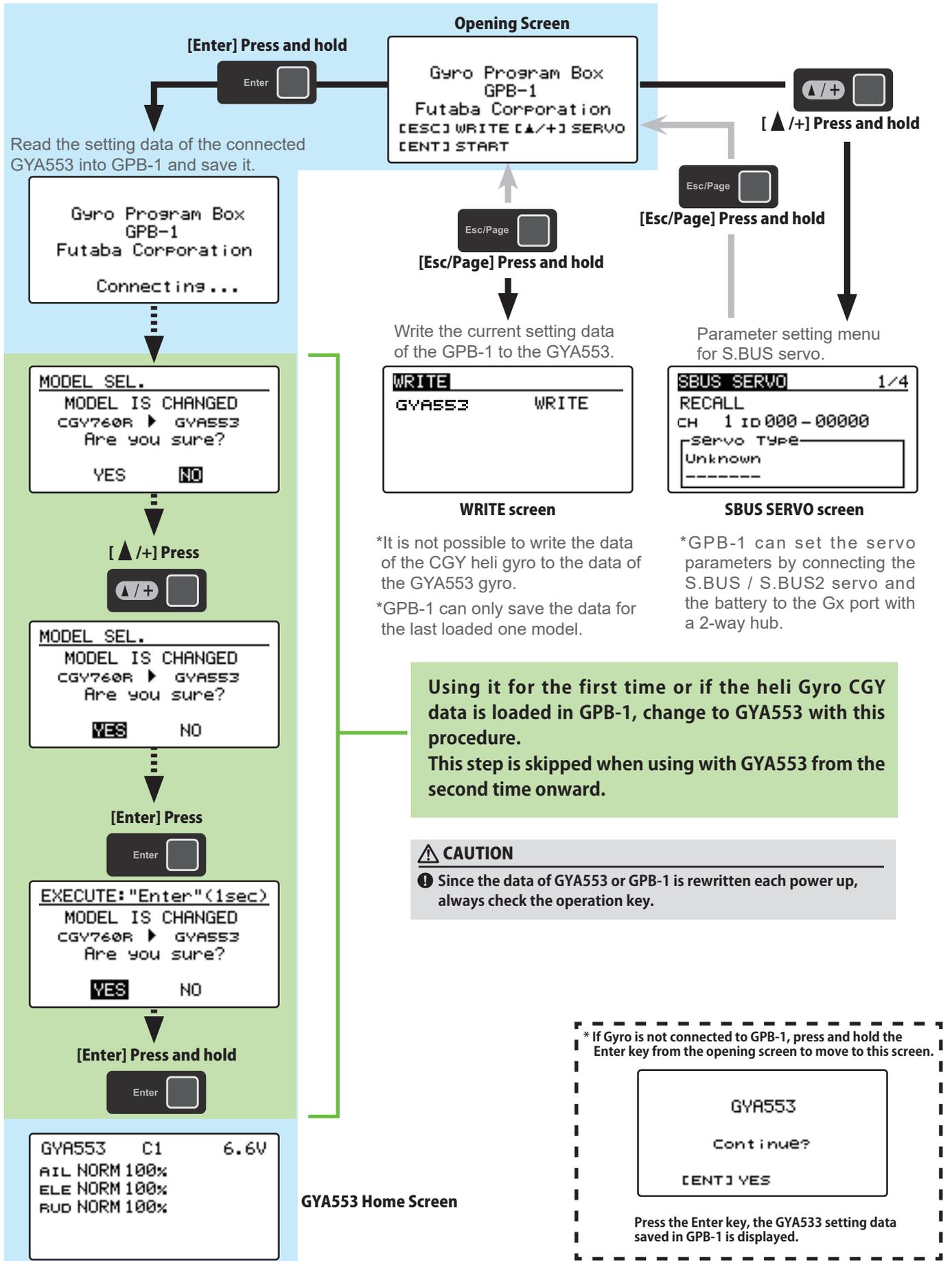
Setting manual

Futaba



Opening Screen

When GPB-1 starts up with power on, the opening screen is displayed first.



Home screen

On the home screen, basic information such as gyro operation mode, sensitivity, battery voltage are displayed.

Gyro operation mode / Gyro gain
Displays "AVCS" or "Normal" operation mode and gyro gain of aileron (roll), elevator (pitch) and rudder (yaw) axis.

```
GYA553  C1  6.6V
AIL NORM 100%
ELE NORM 100%
RUD NORM 100%
```

Battery voltage
Displays the voltage of the receiver battery connected to GYA.

Basic menu

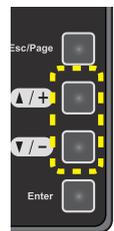
Home screen

```
GYA553  C1  6.6V
AIL NORM 100%
ELE NORM 100%
RUD NORM 100%
```

[Esc/Page] Press and hold

Basic menu

```
BASIC MENU
CONFIG
SBUS BASIC
```



Move the cursor



Press the Enter key

◆ Config

```
CONFIG 1/9
Gyro set Dir  UP
WING        NORMAL
TAIL        NORMAL
servo Type  DG:285Hz
SB/RU2 OUT  S.BUS(HS)
```

[▲/+] Press and hold

◆ S.BUS basic

```
SBUS BASIC 1/4
AIL CH1 : Gain AIL CH5
ELE CH2 : Gain ELE CH7
          : Gain RUD CH8
RUD CH4 : EL2   CH9
AI2 CH6 : RD2   CH11
```

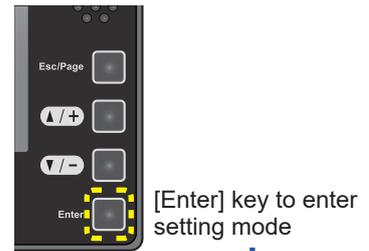
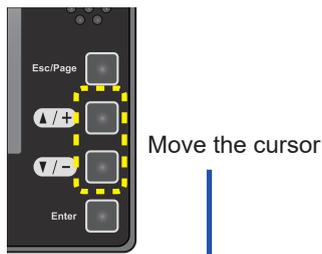
[Esc/Page] Press and hold

[Esc/Page] Press and hold

Config 1/9 Gyro set mounting direction

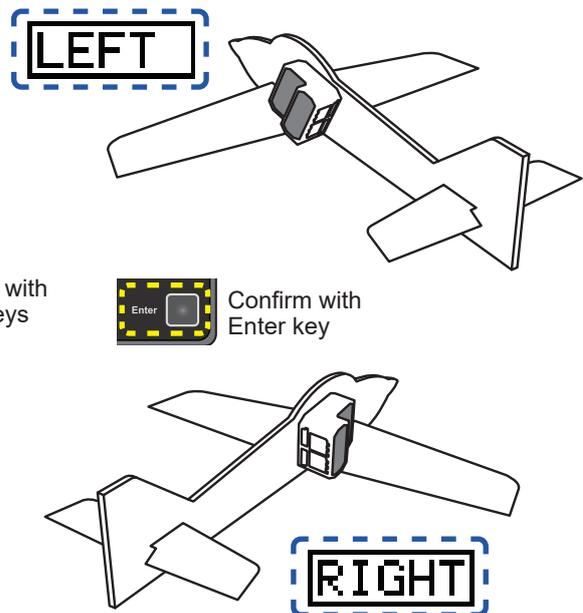
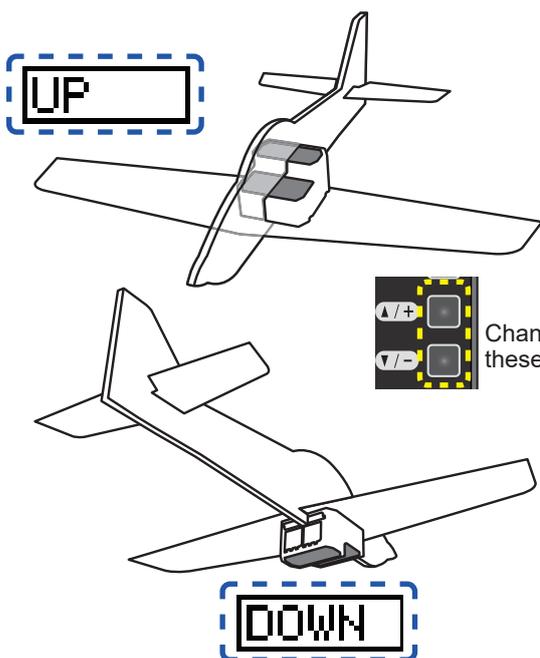
```
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
```

Set the mounting direction of GYA. Set mounting direction with reference to figure below.

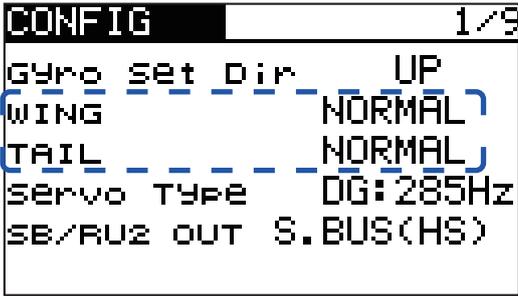


```
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
```

```
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
```

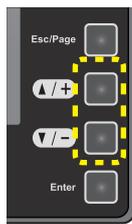


Config 1/9 WING/TAIL

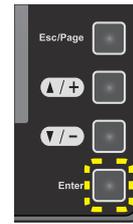


Set with the wing type/tail type of GYA553. The wing type/tail type of the transmitter is not used and is normal.

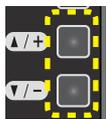
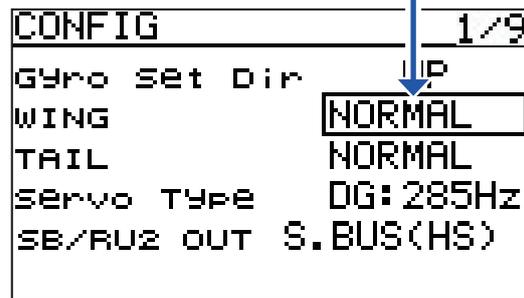
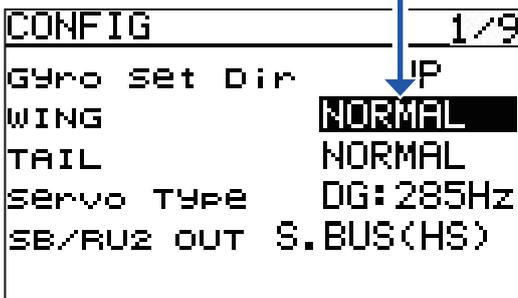
- Turn off the elevon / V-tail mixing on the transmitter side.
- Do not use transmitter sub-trim. Adjust using the gyro neutral offset.
- When using the S.BUS servo, you can also use the neutral offset function of the S.BUS servo setting parameters.



Move the cursor



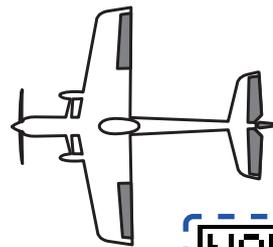
[Enter] key to enter setting mode



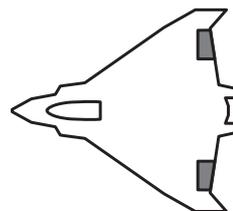
Change with these keys



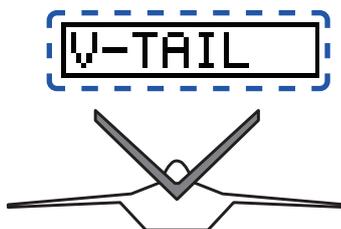
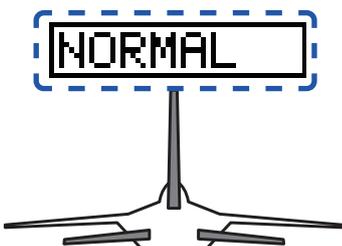
Confirm with Enter key



Select wing type



Select tail type



Config 1/9 Servo type

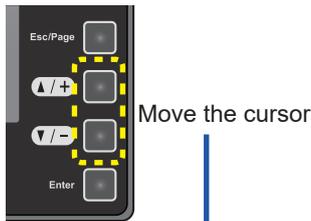
```
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo type DG:285Hz
SB/RU2 OUT S.BUS(HS)
```

Select the servo type according to the servo to be used.

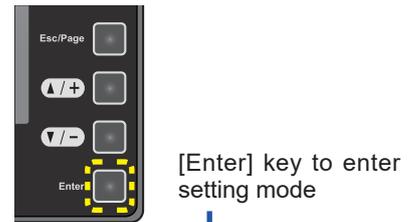
Digital servo → DG : 285 Hz

Analog servo → AN : 70 Hz

The stability of digital-servo mode of a flight increases in order to perform a high-speed control action.



```
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo type DG:285Hz
SB/RU2 OUT S.BUS(HS)
```

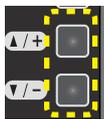


```
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo type DG:285Hz
SB/RU2 OUT S.BUS(HS)
```

servo type



Digital servo

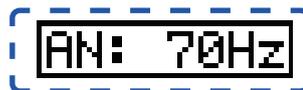


Change with these keys



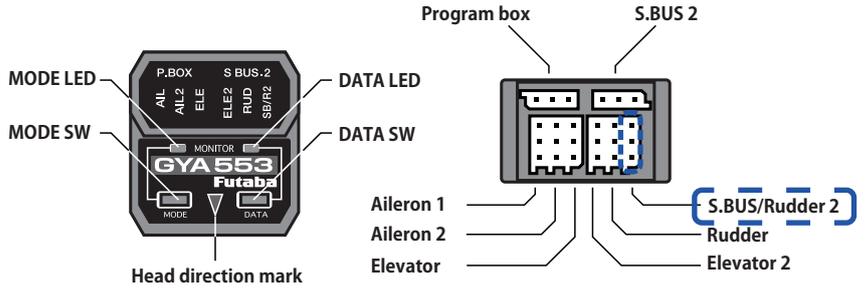
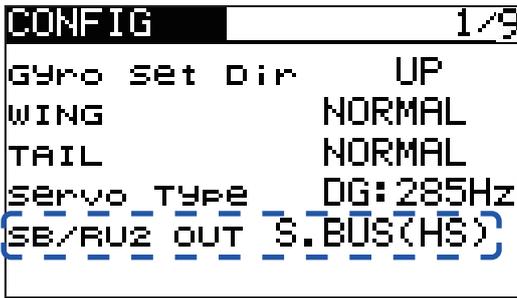
Confirm with Enter key

servo type

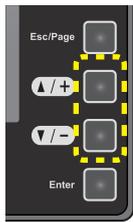


Analog servo

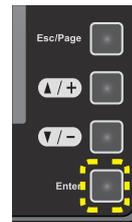
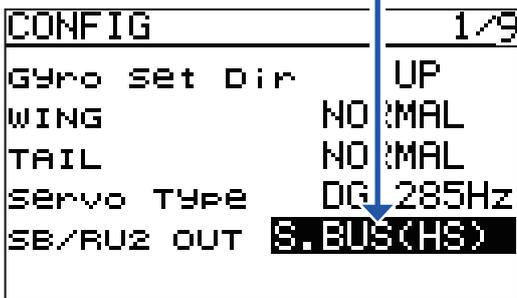
Config 1/9 SB/R2 OUT



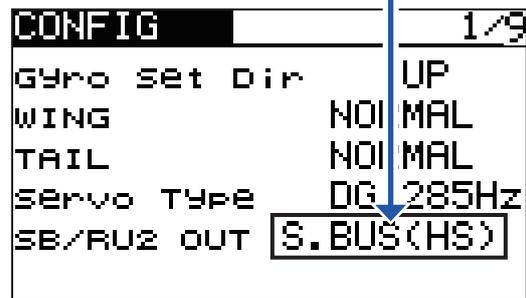
Select the SB / R2 port.



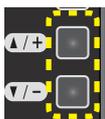
Move the cursor



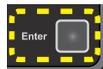
[Enter] key to enter setting mode



SB/RU2 OUT **S.BUS(HS)** S.BUS(HS) Connect SV servo



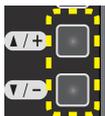
Change with these keys



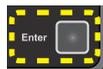
Confirm with Enter key

SB/RU2 OUT **S.BUS(STD)** S.BUS(STD)

If S3175HV, DLPH-1, etc. do not work with S.BUS(HS), use S.BUS(STD).



Change with these keys



Confirm with Enter key

SB/RU2 OUT **RUD2** Rudder 2



When using two rudder servos

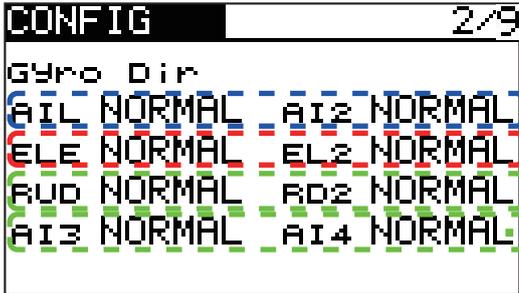
SB/RU2 OUT **CH3(THR)** CH3(THR)

Use this port for throttle.

Config 2/9 Gyro direction

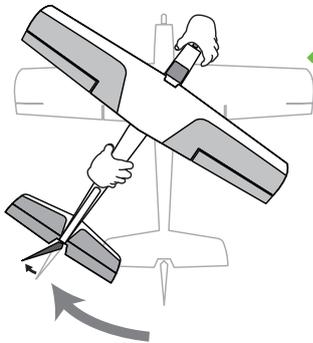
It is the direction setting of the gyro. Be careful as it will crash if the direction is reversed.

For dual aileron, dual elevator, and dual rudder aircraft, check the operating direction of each second aileron/elevator/rudder.

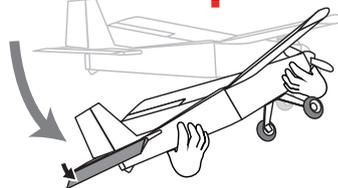


Key operation → [How to operate each menu screen](#)

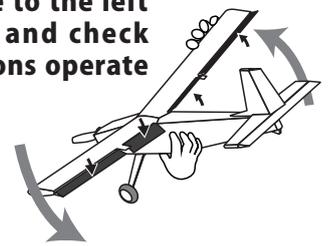
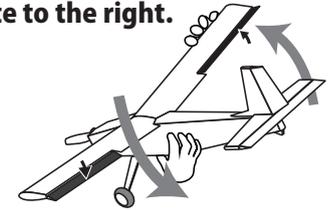
Turn the airplane to the right on the ground and check that the rudder operates to the left.



Raise the airplane with its nose upward and check that the elevator operates downward.



Tilt the airplane to the left on the ground and check that the 4-ailerons operate to the right.

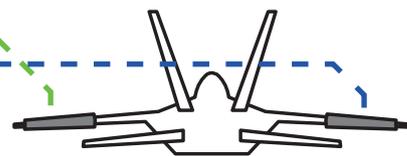
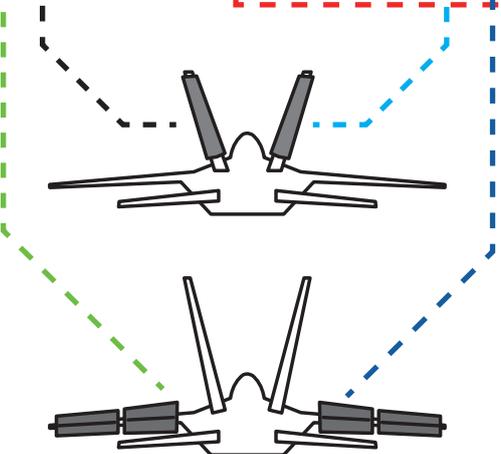
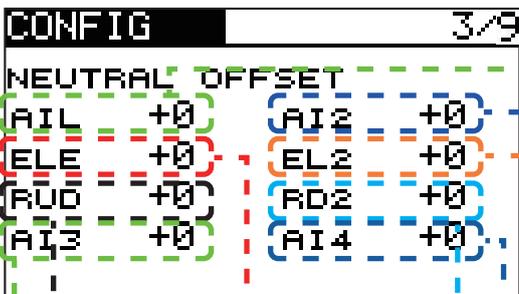


If the SB/R2 port output is set to "S.BUS(HS)" or "S.BUS(STD)", the setting menu will display AIL3 and AIL4 setting items.

* AIL3 and AIL4 settings cannot be set with the button settings on the GYA553 main unit.

Config 3/9 Neutral offset

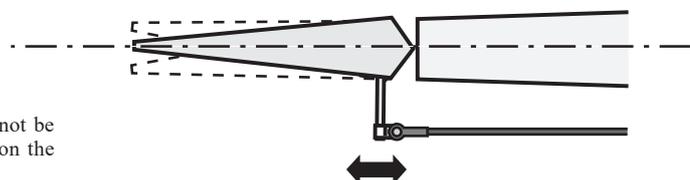
Neutral position setting for each servo.



Key operation → [How to operate each menu screen](#)

If the SB/R2 port output is set to "S.BUS(HS)" or "S.BUS(STD)", the setting menu will display AIL3 and AIL4 setting items.

* AIL3 and AIL4 settings cannot be set with the button settings on the GYA553 main unit.



This will move the neutral to the desired position.

Config 4/9 5/9 Servo limit

CONFIG		4/9
SRV.Limit		
AIL	100 %	100 %
ELE	100 %	100 %
RUD	100 %	100 %
AI3	100 %	100 %

CONFIG		5/9
SRV.Limit		
AI2	100 %	100 %
EL2	100 %	100 %
RD2	100 %	100 %
AI4	100 %	100 %

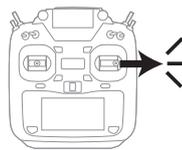
Key operation → [How to operate each menu screen](#)

If the SB/R2 port output is set to "S.BUS(HS)" or "S.BUS(STD)", the setting menu will display AIL3 and AIL4 setting items.

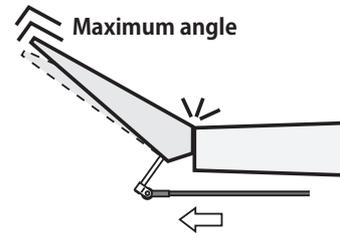
* AIL3 and AIL4 settings cannot be set with the button settings on the GYA553 main unit.

This is the limit setting for each servo. The position of the maximum operation is read into the gyro in the first setting.

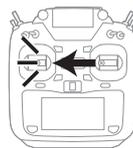
Aileron example



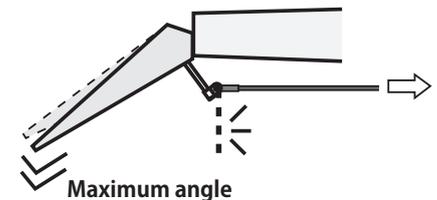
Stick to full right



Adjust the value (%) to reach the maximum operating position



Stick to full left



Adjust the value (%) to reach the maximum operating position

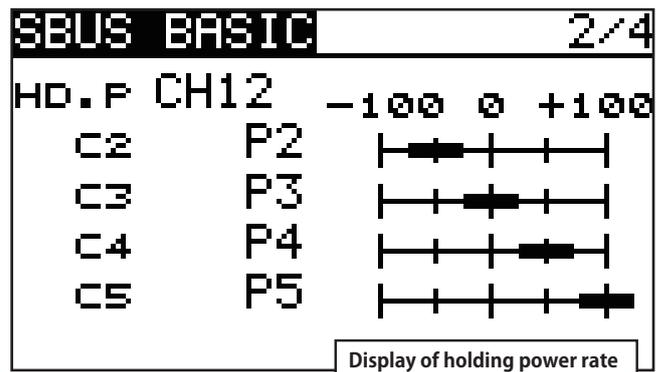
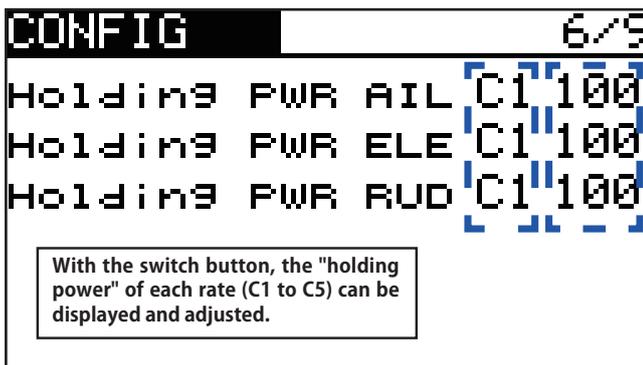
Config 6/9 Holding Power

It is a function to adjust the posture holding force of the aircraft in AVCS mode. Decreasing the value weakens the holding power and makes the operation feeling closer to the normal mode.

The current rate numbers C1 to C5 are displayed by operating the channel of the transmitter.

Like the flight condition function of the transmitter, you can set up to 5 different data for the attitude holding force rate of the aircraft in AVCS mode by operating the switch from the transmitter, and switch between them. You can set the holding power rate selector switch to the channel with the AFR function of the transmitter, and set the point for each rate on the AFR point curve to switch. It is also possible to use the flight condition function to work with the flight condition switch.

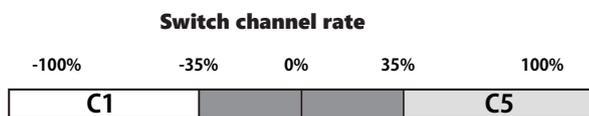
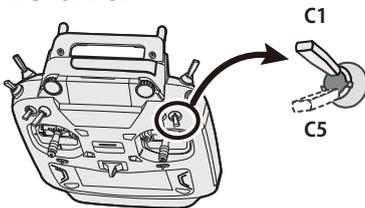
S.BUS Basic 2/3



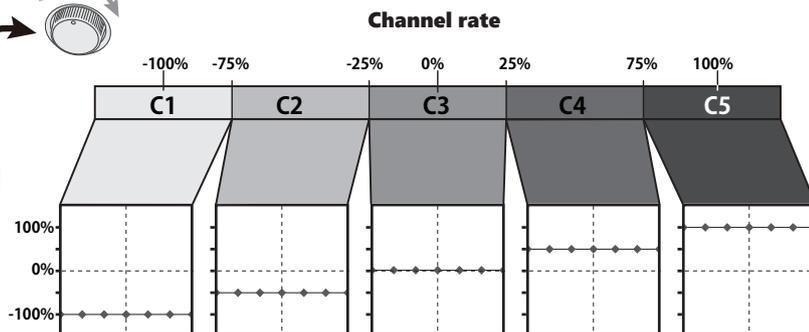
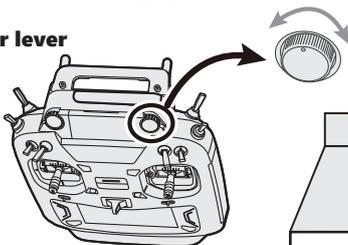
Key operation → [How to operate each menu screen](#)

Display and adjust the current rate numbers C1 to C5 by operating the channel on the transmitter.

When set to SW of DG1 or DG2



When set to dial or lever



Config 7/9 4D Flight (Backward flight) Gyro Reverse Mode Adjustment

Page 7 is for setting the gyro reverse mode. This is a special setting for 4D backward flight. Select whether to reverse the control direction of the aileron, elevator, and rudder when flying backward. Normally, when flying backward, the steering direction of all the rudder is reversed, so the control direction of the gyro is also reversed.

Switching between forward (FW) and reverse (BK) uses the same CH12 signal as the holding force. Up from near the midpoint of the throttle stick is forward, and down is reverse.

For details on setting the switching point, please refer to the transmitter settings.

In gyro reverse mode, the gyro controls in the same direction as the aircraft's tilt. Switch between forward and reverse to check that the gyro control direction changes correctly.

Config 7/9

CONFIG		7/9
4D Flight	AIL	INH
4D Flight	ELE	INH
4D Flight	RUD	INH

S.BUS Basic 3/4

SBUS BASIC		3/4
4D	CH12	-100 0 +100
BK		+ + +

Config 8/9 4D Flight (Backward flight) Mode Adjustment

Page 8 is for setting the gyro reverse mode. This is a special setting for 4D backward flight.

The AET (BK) and AET (FW) functions estimate the aircraft's flight attitude during forward and backward transitions and optimize gyro control. If the aircraft's attitude changes quickly, decrease the value. If the attitude changes slowly, increase the value. The correction values for forward and backward transitions can be set independently. The setting range is 0 to 30. The OPC parameter adjusts the speed when the control amount increases and decreases. The setting range is 0 to 27. The values in the setting example are the standard setting values for SkyLeaf-ST. The optimal value will vary depending on the aircraft characteristics and flight style.

Config 8/9

CONFIG		8/9
4D Flight		
AET<BK>	12	AET<FW> 8
OPC	Inc 6	Dec 6
OPC ELE	Inc 6	Dec 6
OPC RUD	Inc 6	Dec 6

Config 9/9 Reset

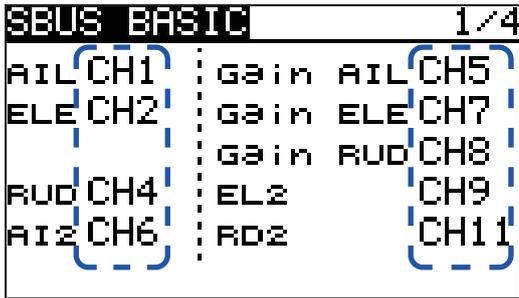
Config 9/9

CONFIG		9/9
DATA RESET	RESET	

Reset each Config item. It returns to the initial value.

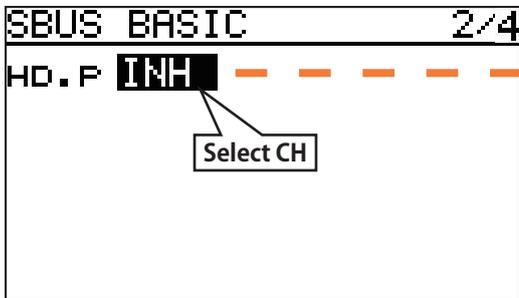
SBUS Basic menu

Set the CH for each function according to the transmitter to be used.
Any unused functions should be set to INH (Inhibited).



Move the cursor to each function to change the channel.

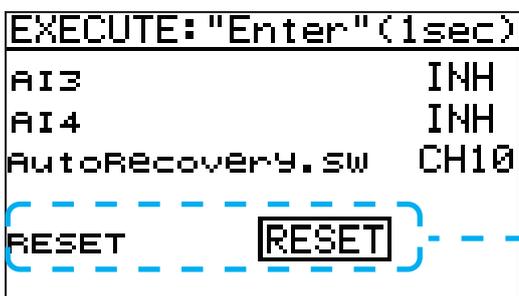
Key operation → [How to operate each menu screen](#)



Key operation → [How to operate each menu screen](#)



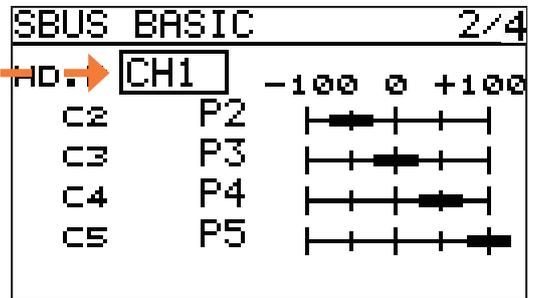
Key operation → [How to operate each menu screen](#)



⚠ WARNING

① Always verify that the S.BUS function assignments match your transmitter's function (in the FUNCTION menu) assignments. If any changes are made within the transmitter function assignments, then it will also be necessary to make the changes within the S.BUS function assignments. To change the channel, GYA553 and GPB-1 must be connected.

Holding power rate display

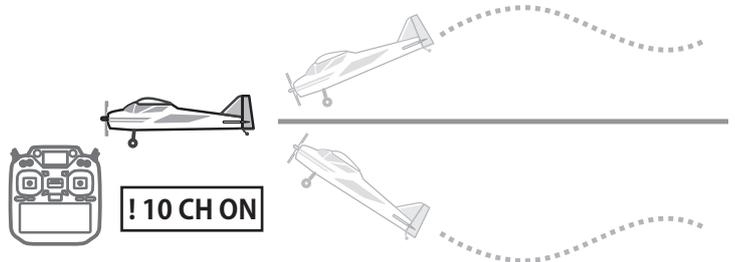


CH setting items for AIL3 and AIL4 are displayed on the final screen of the S.BUS basic setting screen. By setting the operation CH of AIL3 and AIL4, the gyro-controlled signal is output to the corresponding CH of the S.BUS output.

* Match the operation CH and CH setting on the function setting screen on the transmitter side.

*When the AIL3 and AIL4 CH settings are INH, the gyro control is not performed and the data sent from the transmitter is output as is.

ON-OFF channel for auto recovery.



Reset each S.BUS function. It returns to the initial value.

1. Use the [▲/+] or [▼/-] key to move the cursor to the [RESET] on the screen and press the [Enter] key to enter the setting mode.
2. As shown on the left screen, [EXECUTE: "Enter" (1sec)] is displayed.
3. Press and hold the [Enter] key to reset.