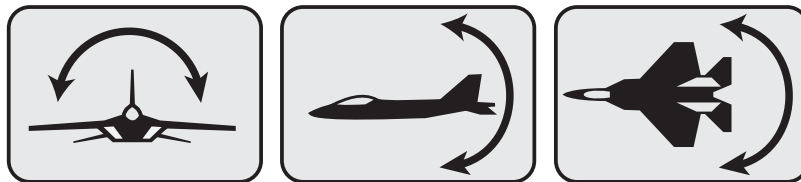


Gyro Program Box
GPB-1

Ver. 5.2

Software Update Functions

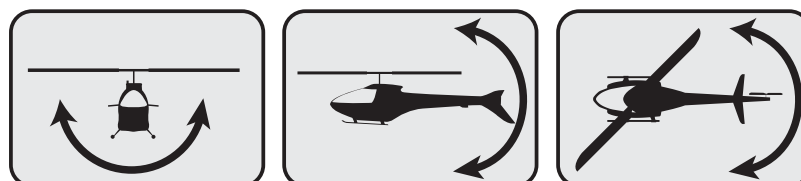
GYA 553



CGY 770R

CGY 760R

CGY 755



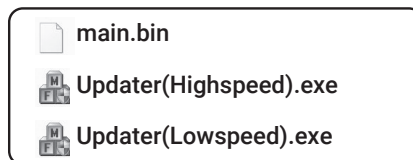
GPB-1 Software Update Procedure

GPB-1 UPDATE

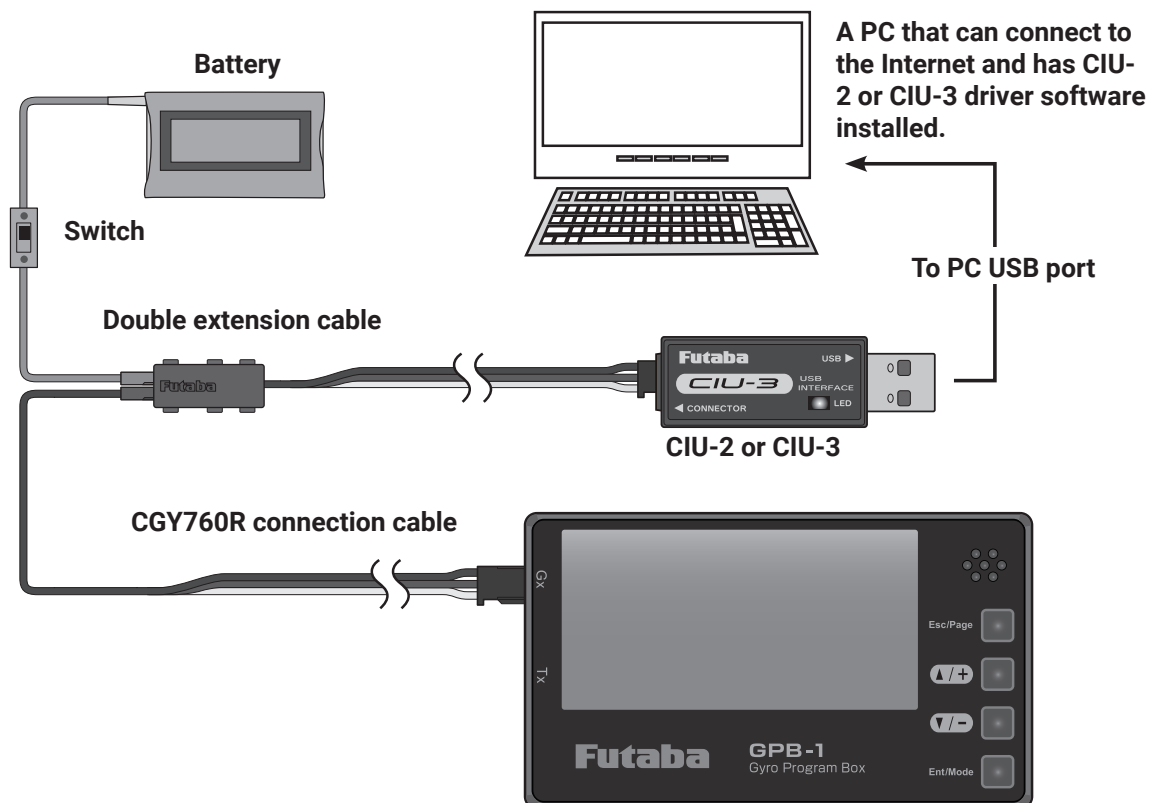
The GPB-1 can be updated from PC using CIU-2 or CIU-3.

- * 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.



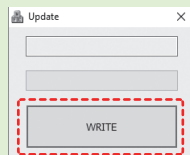
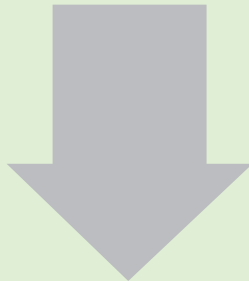
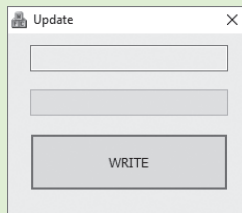
PC side

4. Start an executable file by a PC.

CIU-3  Updater(Highspeed).exe

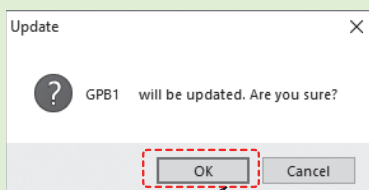
CIU-2  Updater(Lowspeed).exe

Double
-click



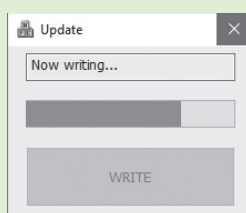
Click [WRITE]

WRITE



Click [OK]

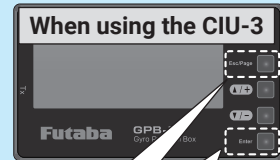
OK



GPB-1 side

GPB-1

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

When using the CIU-3

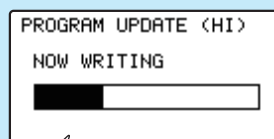
PROGRAM UPDATE <HI>
READY

When using the CIU-2

PROGRAM UPDATE
READY

CAUTION

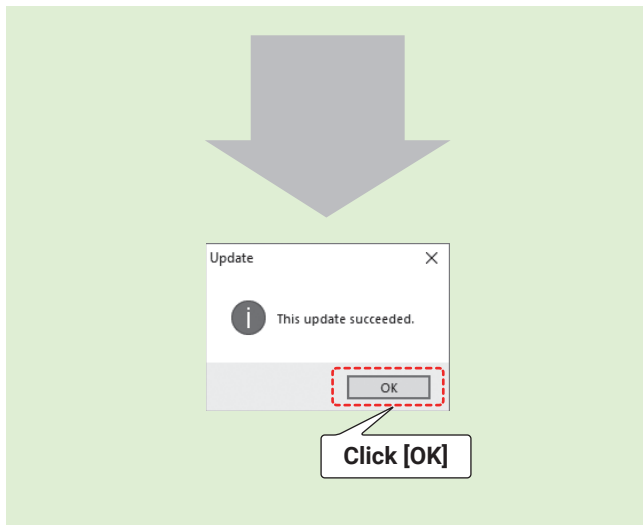
- Do not turn off the power or remove the battery while updating. GPB-1 may be damaged.



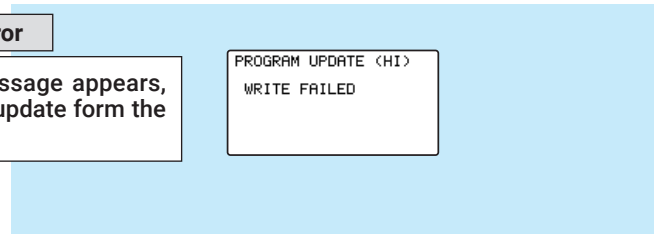
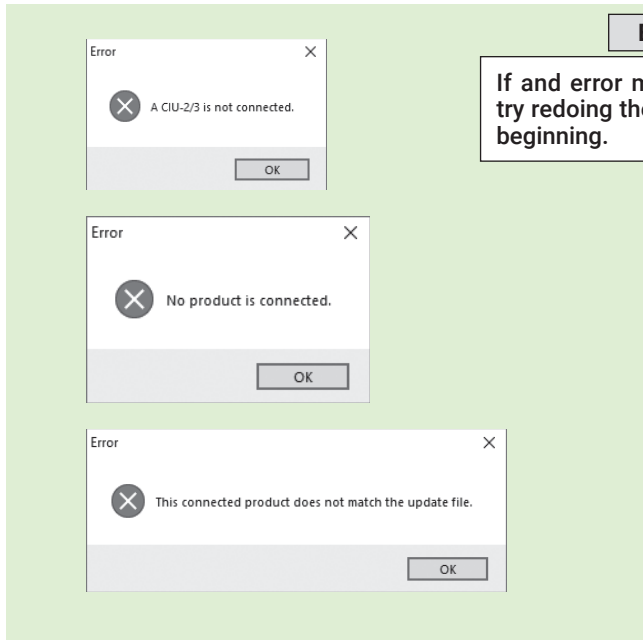
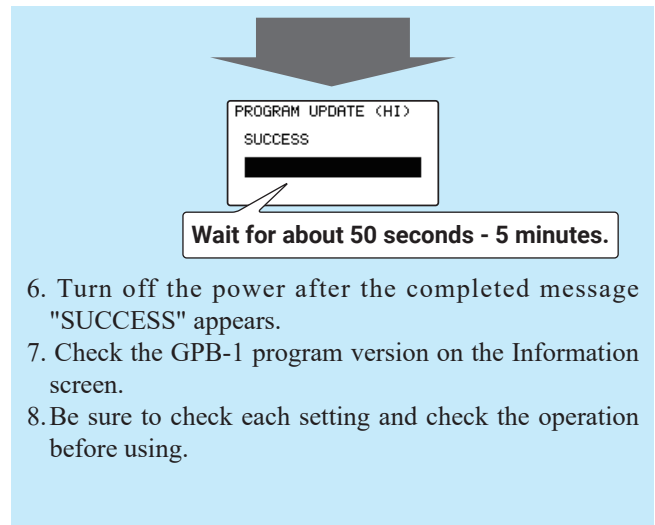
Wait for about 50 seconds - 5 minutes.

Don't turn on the power !

PC side



GPB-1 side



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

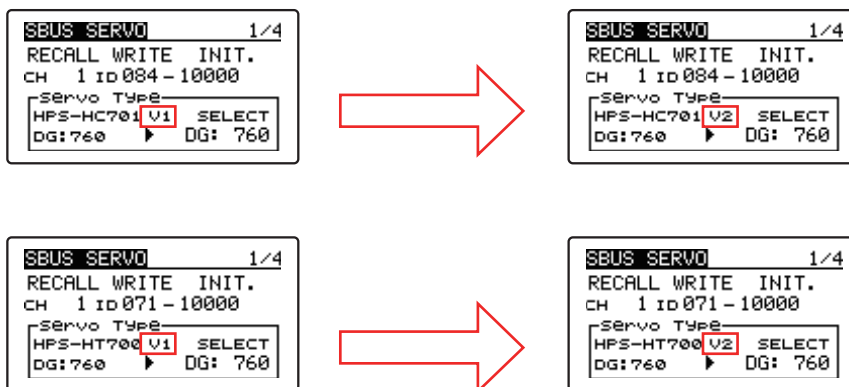
GPB-1-GYA553 setup manual on page 7 and onwards

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 Ver2.0 update, V2 will be displayed.



Ver.4.3

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

Ver.4.2

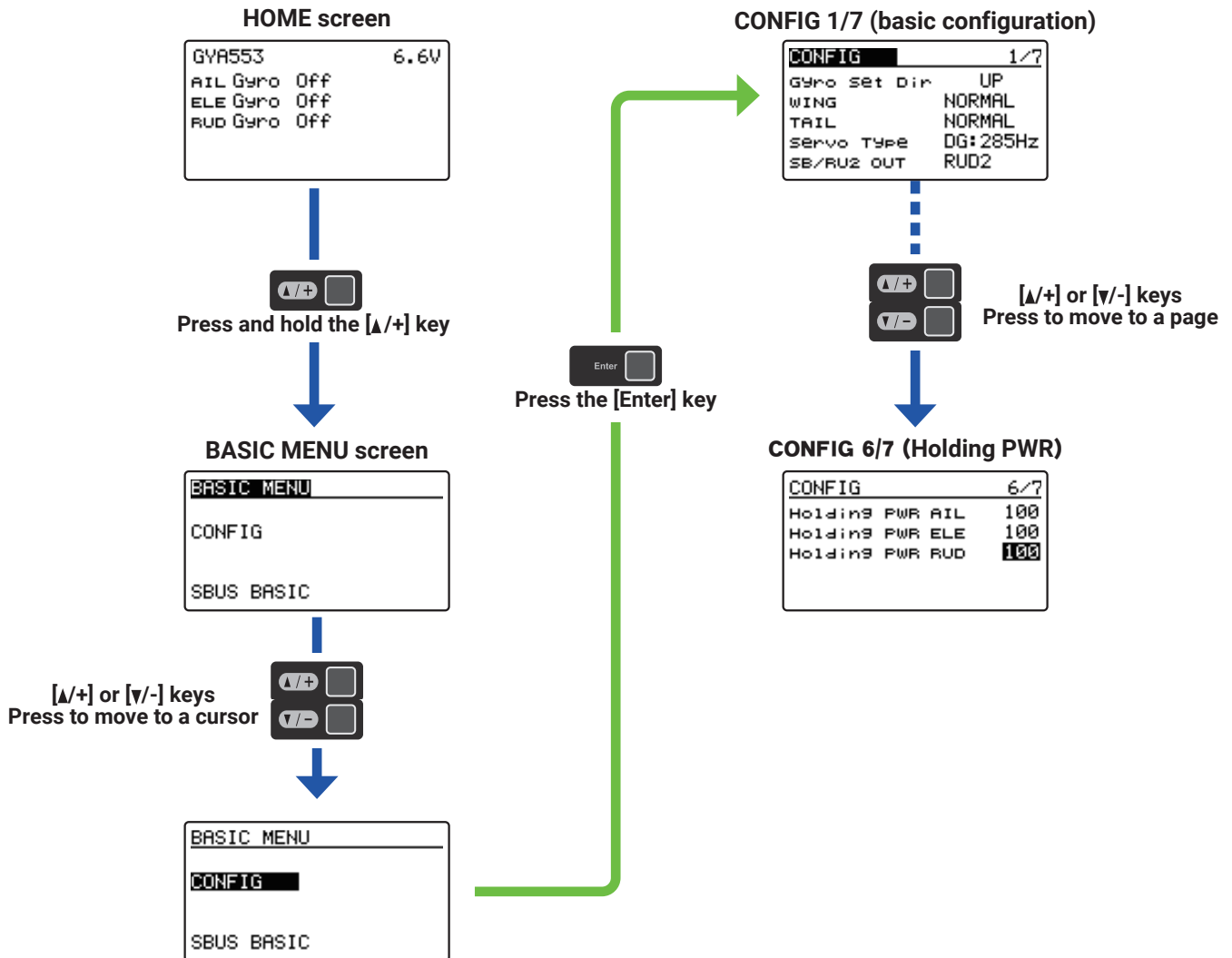
Added function of gyro GYA553 for airplane

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

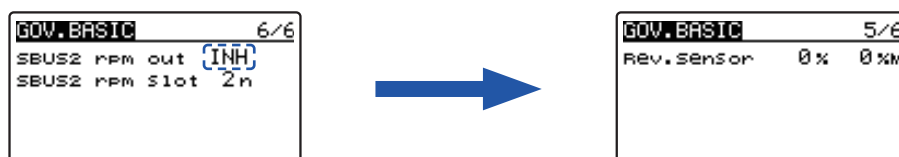
You can adjust the attitude holding force of the aircraft in AVCS mode.

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.

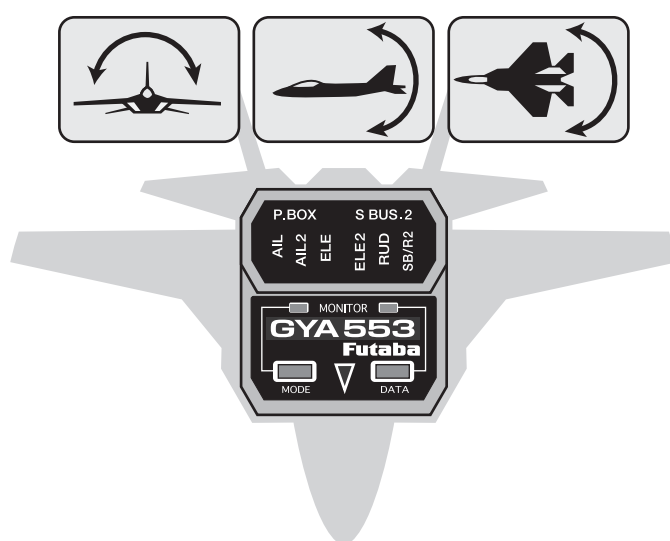




Gyro Program Box

GPB-1

GYA553

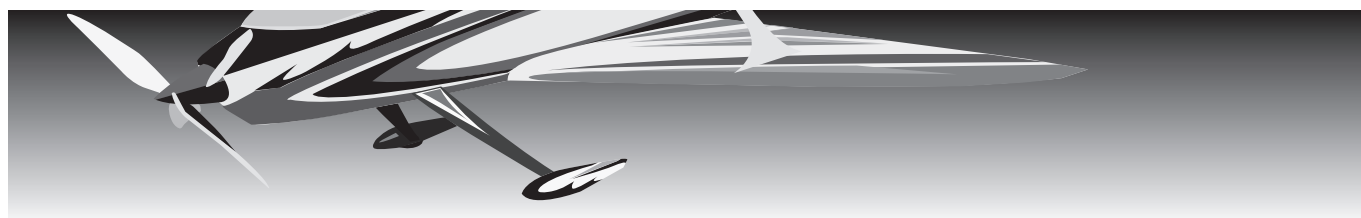


GPB-1 Ver.5.1~

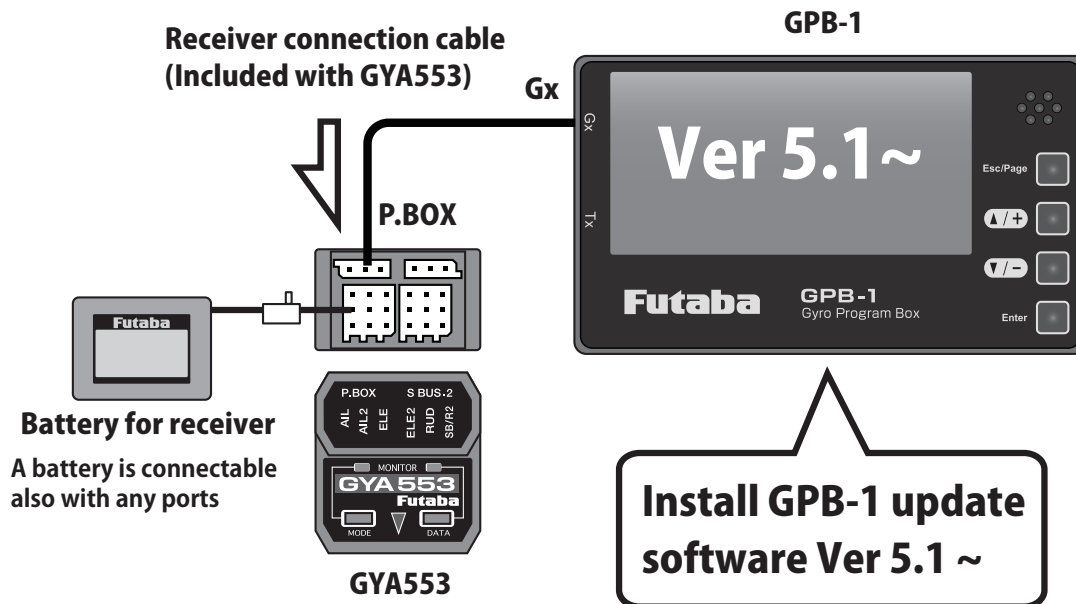
GYA553 Ver.4~

Setting manual

Futaba



Connection GPB-1 and GYA553

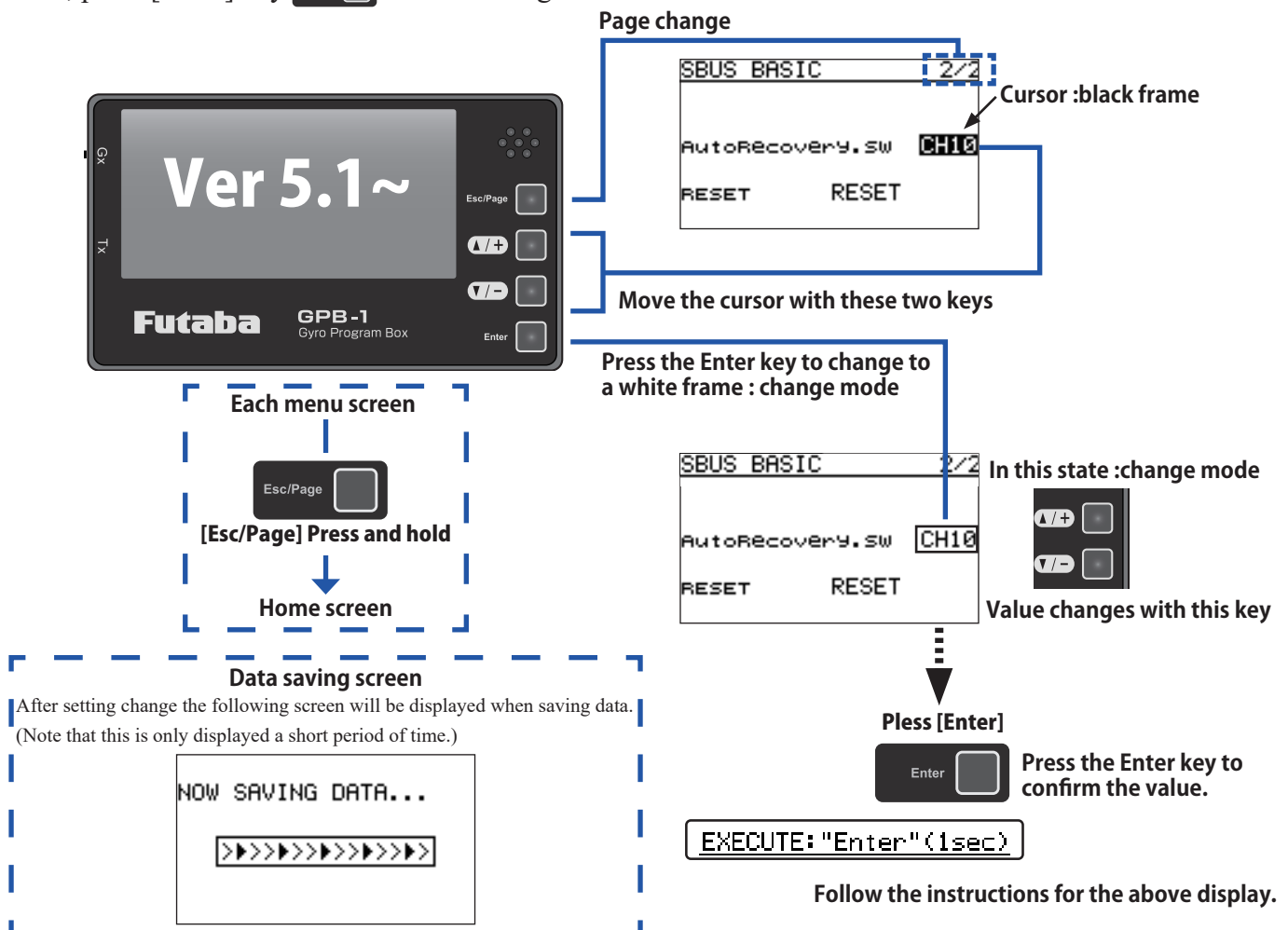


CAUTION

❗ Be sure to connect and disconnect the GYA553 and GPB-1 connection cable with the power off.

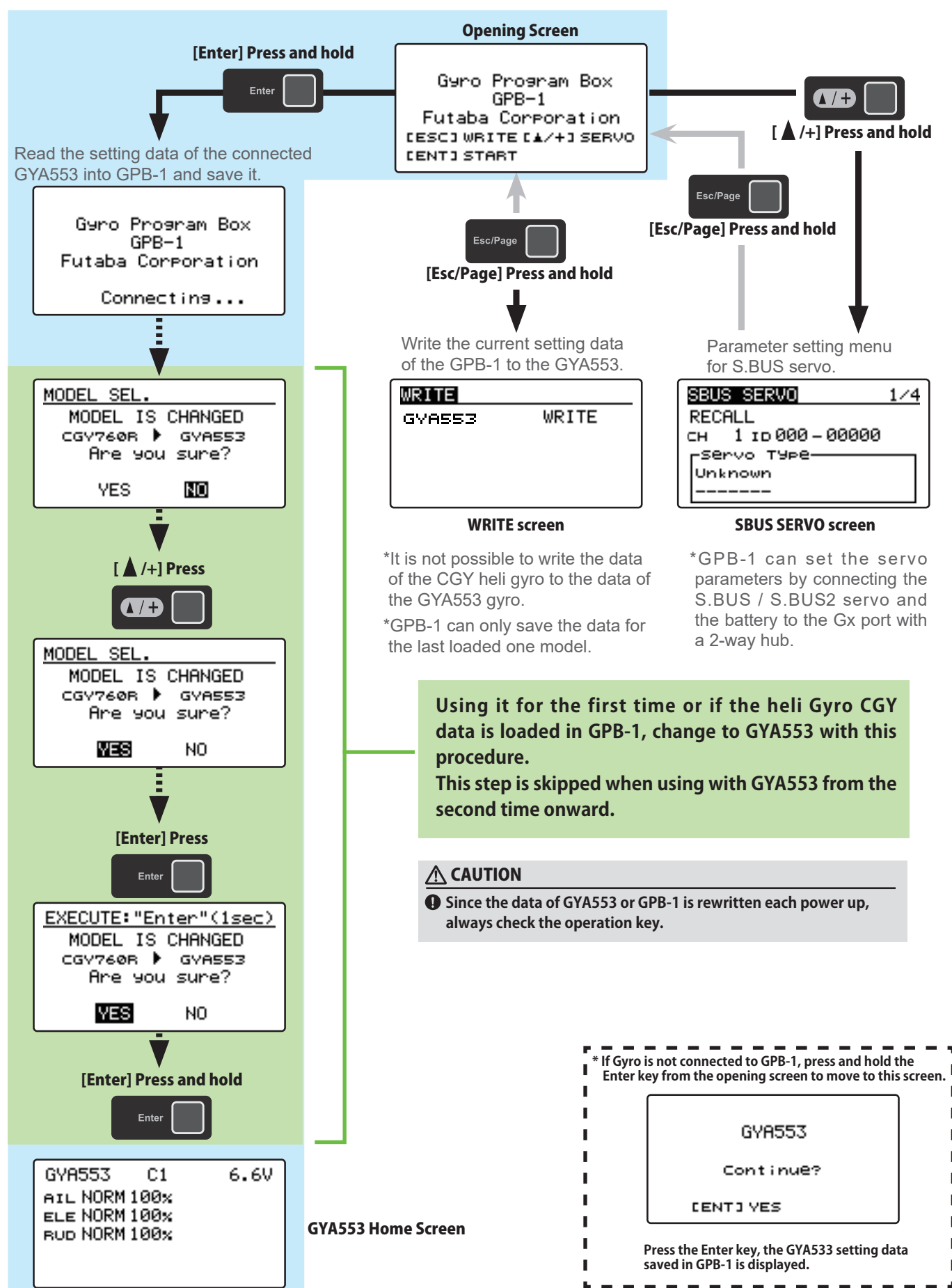
How to operate each menu screen

Use the or key to move the cursor to the setting item on the screen and press the [Enter] key to enter the setting mode. or key to change the setting contents. When you are done, press [Enter] key to exit setting mode.



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

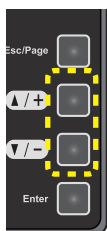
```
GYA553  C1  6.6V
AIL NORM 100%
ELE NORM 100%
RUD NORM 100%
```



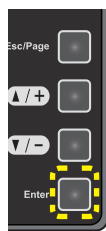
[Esc/Page] Press and hold

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
AIL CH6 : RD2   CH11
```



[Esc/Page] Press and hold



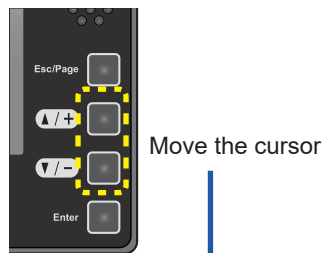
[Esc/Page] Press and hold

Config 1/9 Gyro set mounting direction

```

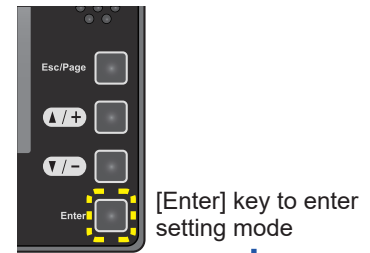
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```

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



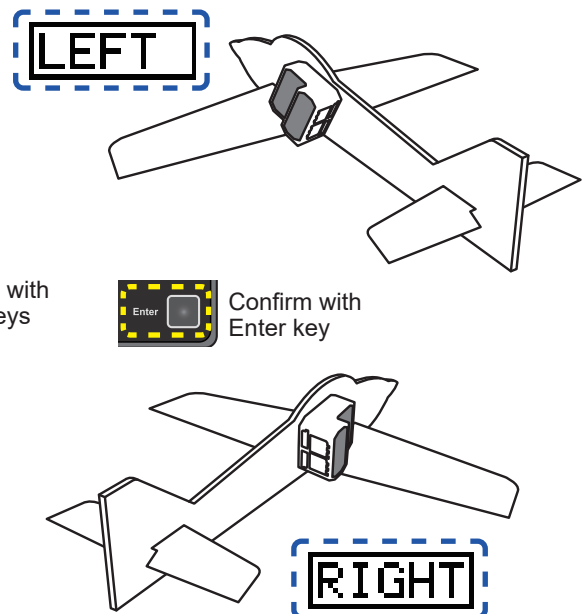
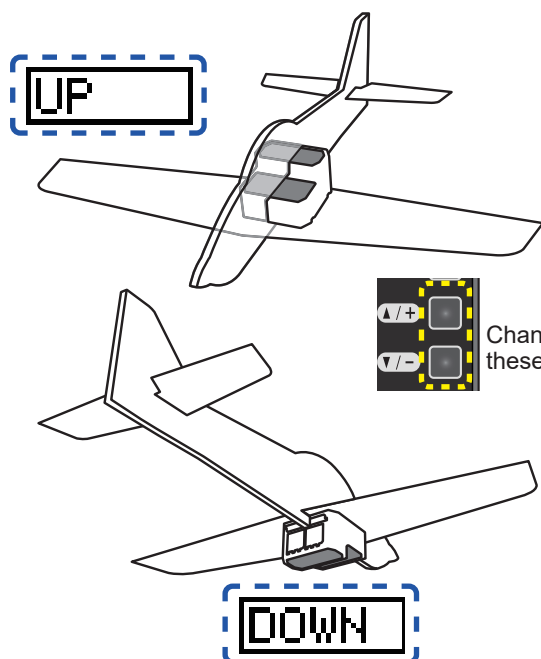
```

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)
    
```



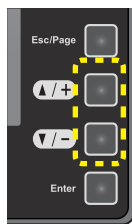
Config 1/9 WING/TAIL

```

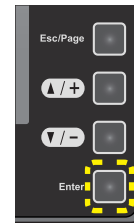
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
Servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```

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



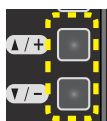
[Enter] key to enter setting mode

```

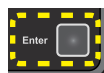
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
Servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```

```

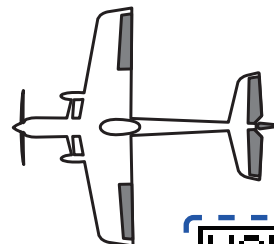
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
Servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```



Change with these keys

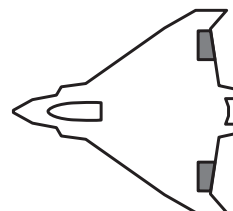


Confirm with Enter key



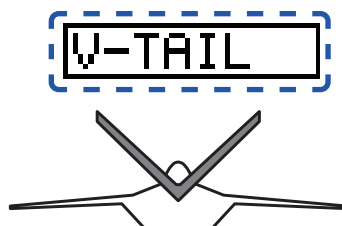
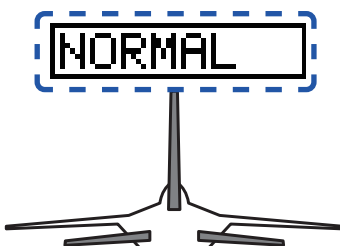
NORMAL

Select wing type



ELEVON

Select tail type



Config 1/9 Servo type

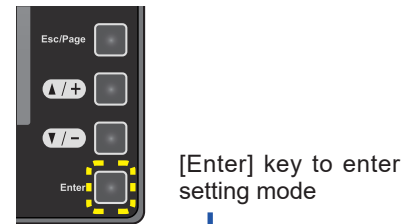
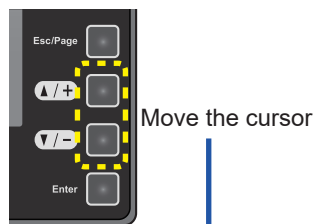
```
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
Servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
```

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.



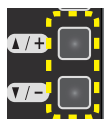
```
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
Servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
```

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

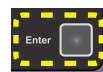
Servo Type

DG:285Hz

Digital servo



Change with these keys



Confirm with Enter key

Servo Type

AN: 70Hz

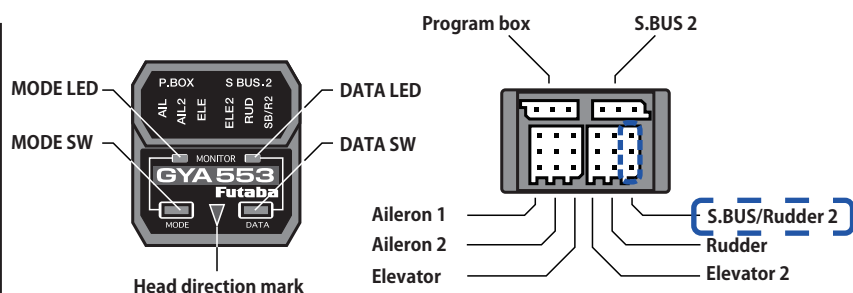
Analog servo

Config

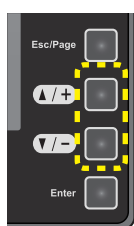
Config 1/9 SB/R2 OUT

```

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



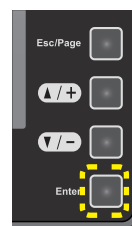
Select the SB / R2 port.



Move the cursor

```

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



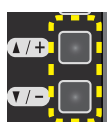
[Enter] key to enter setting mode

```

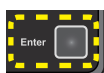
CONFIG 1/9
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
Servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```

SB/RU2 OUT S.BUS(HS)

S.BUS(HS) Connect SV servo



Change with these keys

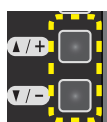


Confirm with Enter key

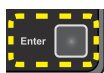
SB/RU2 OUT S.BUS(STD)

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)

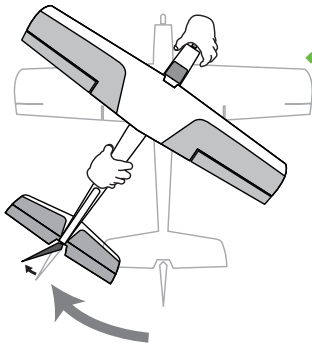
Use this port for throttle.

Config 2/9 Gyro direction

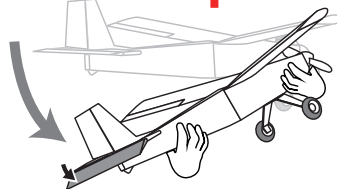
CONFIG		2/9
Gyro Dir		
AIL NORMAL	AI2 NORMAL	
ELE NORMAL	EL2 NORMAL	
RUD NORMAL	RD2 NORMAL	
AI3 NORMAL	AI4 NORMAL	

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

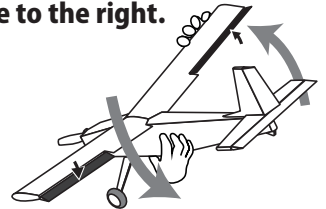
Turn the airplane to the right on the ground and check that the rudder operates to the left.



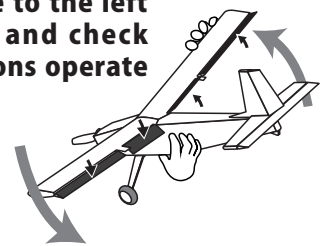
Raise the airplane with its nose upward and check that the elevator operates downward.



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



Tilt the airplane to the left on the ground and check that the 4-aileron operates to the right.



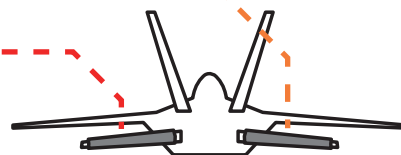
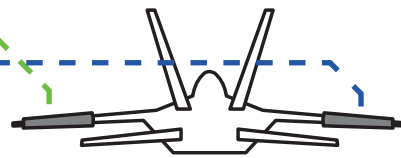
If the SB/R2 port output is set to "S.BUS(HS)" or "S.BUS(STD)", the setting menu will display AIL3 and AIL4 setting items.

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

Config 3/9 Neutral offset

CONFIG		3/9	
NEUTRAL OFFSET			
AIL	+0	AI2	+0
ELE	+0	EL2	+0
RUD	+0	RD2	+0
AI3	+0	AI4	+0

Neutral position setting for each servo.

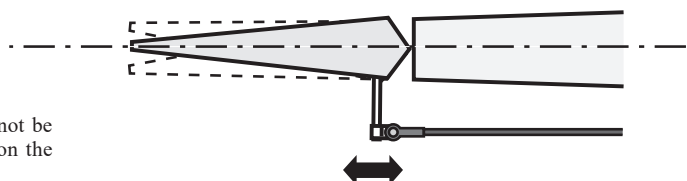


Key operation → [How to operate each menu screen](#)



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 %	

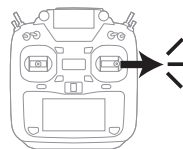
Key operation → [How to operate each menu screen](#)

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.

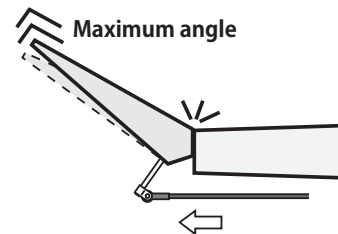
* AIL3 and AIL4 settings cannot be set with the button settings on the GYA553 main unit.

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

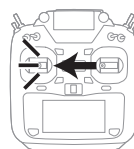
Aileron example



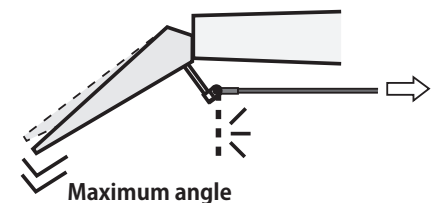
Stick to full right



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

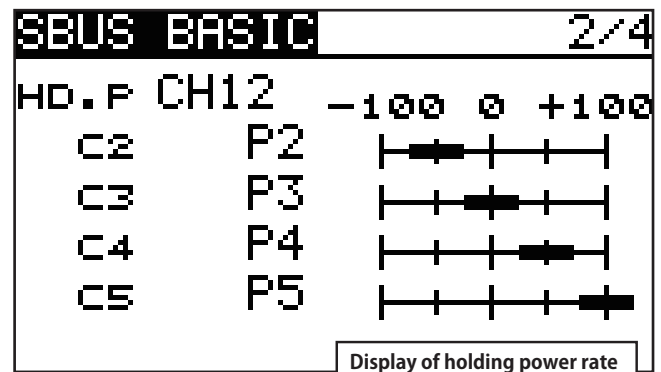
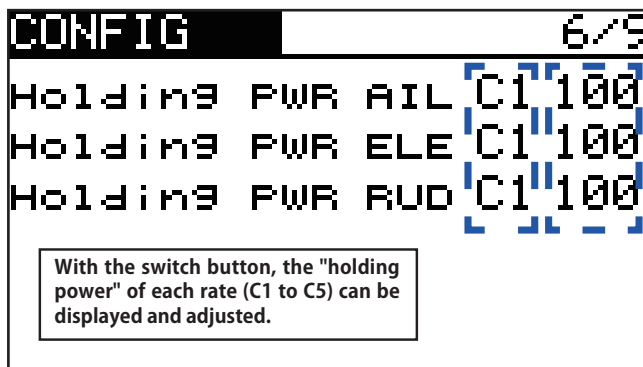
It is a function to adjust the posture holding force of the aircraft in AVCS mode.

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.

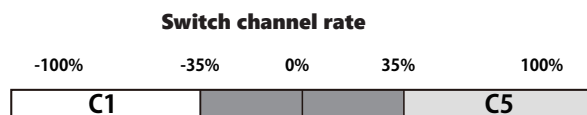
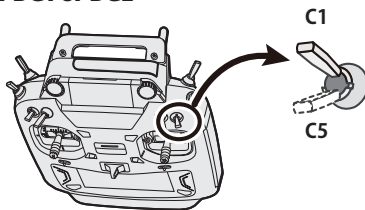
S.BUS Basic 2/3



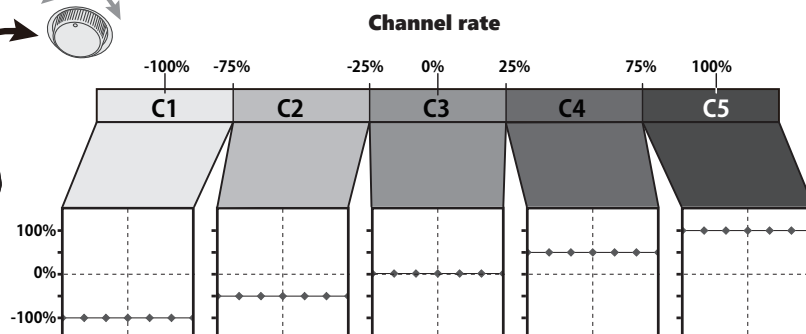
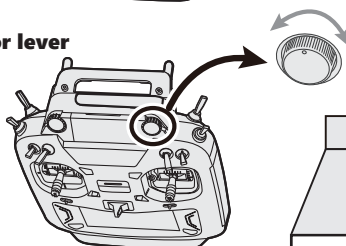
Key operation → [How to operate each menu screen](#)

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

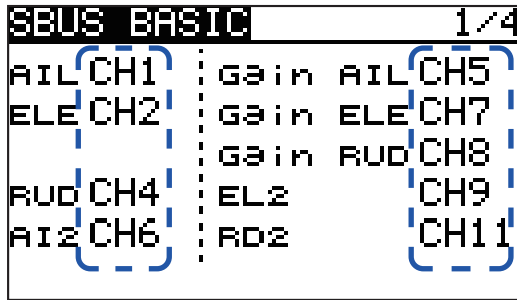
Config 9/9

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).

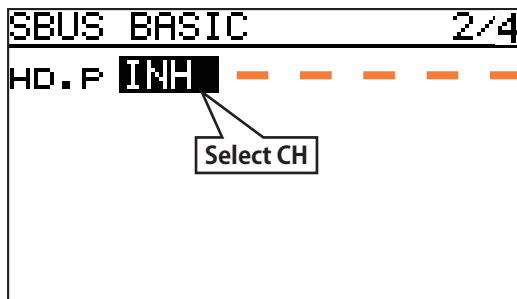


Move the cursor to each function to change the channel.

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

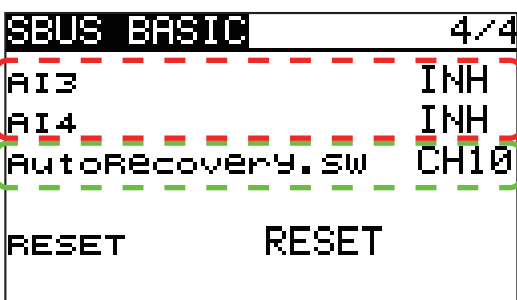
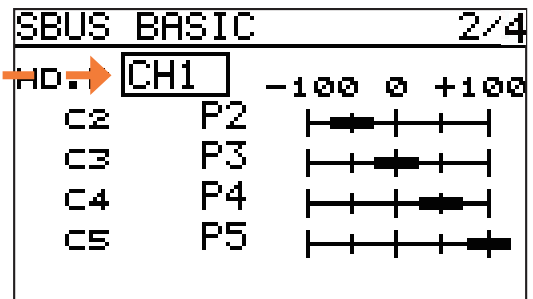
⚠ WARNING

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.



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

Holding power rate display



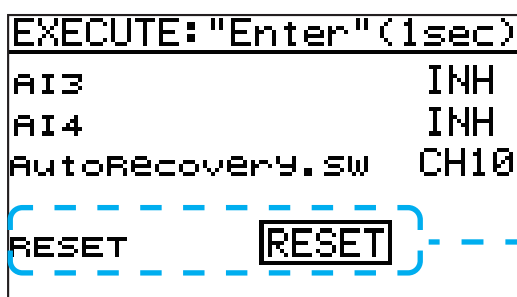
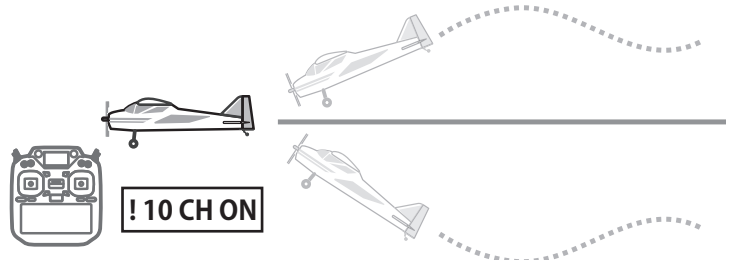
Key operation → [How to operate each menu screen](#)

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.