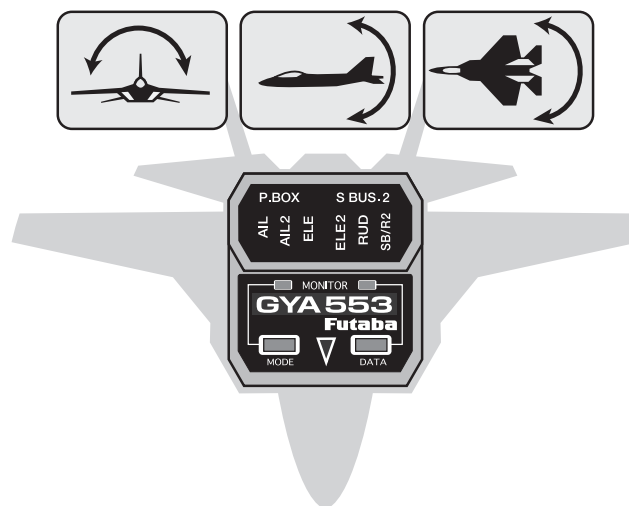




Gyro Program Box

GPB-1

GYA553



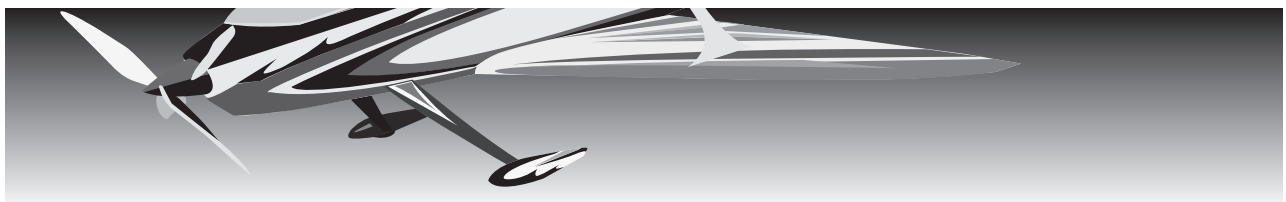
GPB-1 Ver.4.2

GYA553

Setting manual

Futaba

1M23Z07906



By installing the latest software (Ver4.2 ~) on the gyro program box GPB-1, you can setting the airplane gyro GYA553 on the GPB-1.

GPB-1 Software Update Procedure

GPB-1 UPDATE

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

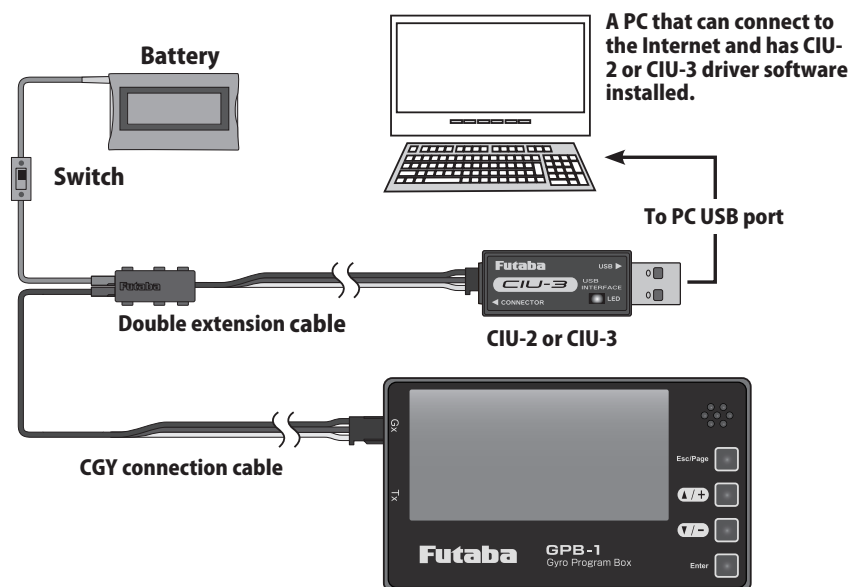
* The following optional products are required for the update.

- CIU-2 or CIU-3
- Cable for CGY connection cable or DSC cable for update
- Receiver battery

1. Download the GPB-1 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.

main.bin
Updater(Highspeed).exe
Updater(Lowspeed).exe

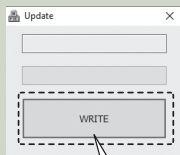
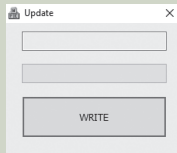


PC side

4. Start an executable file by a PC.

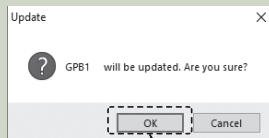
CIU-3 Updater(Highspeed).exe
CIU-2 Updater(Lowspeed).exe

Double-click



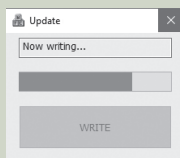
Click [WRITE]

WRITE



Click [OK]

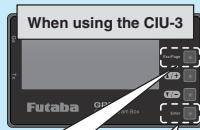
OK



GPB-1 side

GPB-1

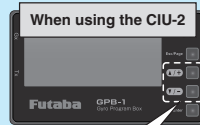
5. When using the CIU-3, hold down the [Enter] and [Esc/Page] keys of the GPB-1 and turn on the power. Release the [Enter] and the [Esc / Page] keys when the backlight of the screen lights up.



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



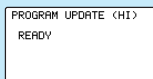
When using the CIU-2, hold down the [▲/+] and [▼/-] keys of the GPB-1 and turn on the power. Release the [▲/+] and [▼/-] keys when the backlight of the screen lights up.



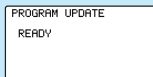
Press the [▲/+] and [▼/-] keys next turn ON



When using the CIU-3

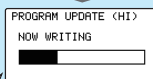


When using the CIU-2



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.

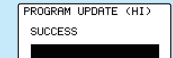
Don't turn off the power !

PC side



Click [OK]

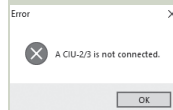
GPB-1 side



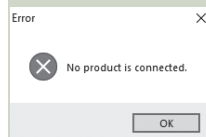
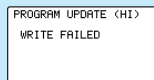
Wait for about 50 seconds - 5 minutes.

- Turn off the power after the completed message "SUCCESS" appears.
- Check the GPB-1 program version on the Information screen.
- Be sure to check each setting and check the operation before using.

Error

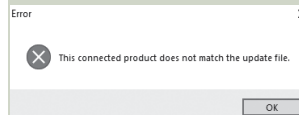


If and error message appears, try redoing the update form the beginning.

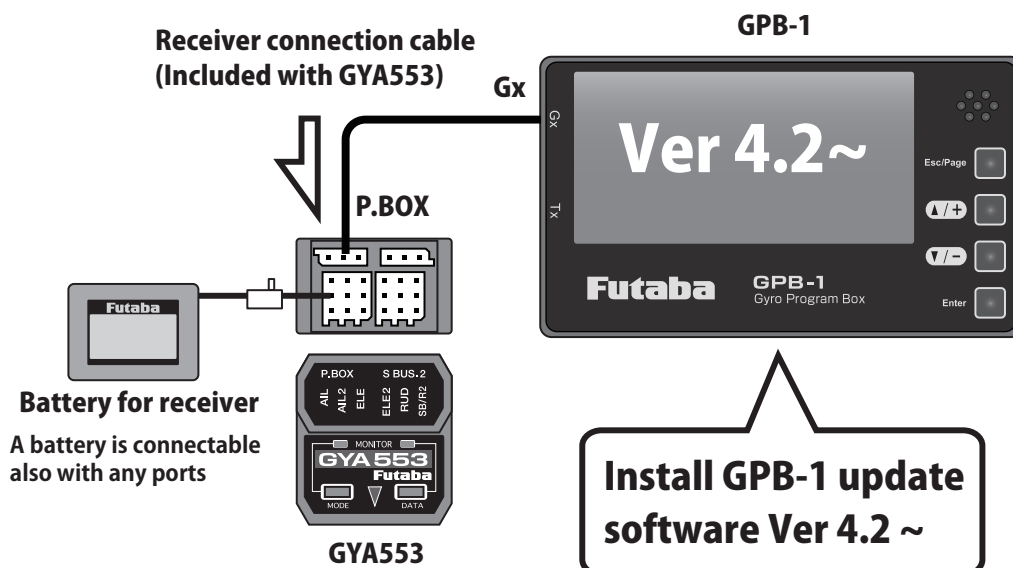


If the cable disconnects or a contact failure occurs during the update, the update stops halfway. In that case, please try updating again from the beginning.

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



Connection GPB-1 and GYA553

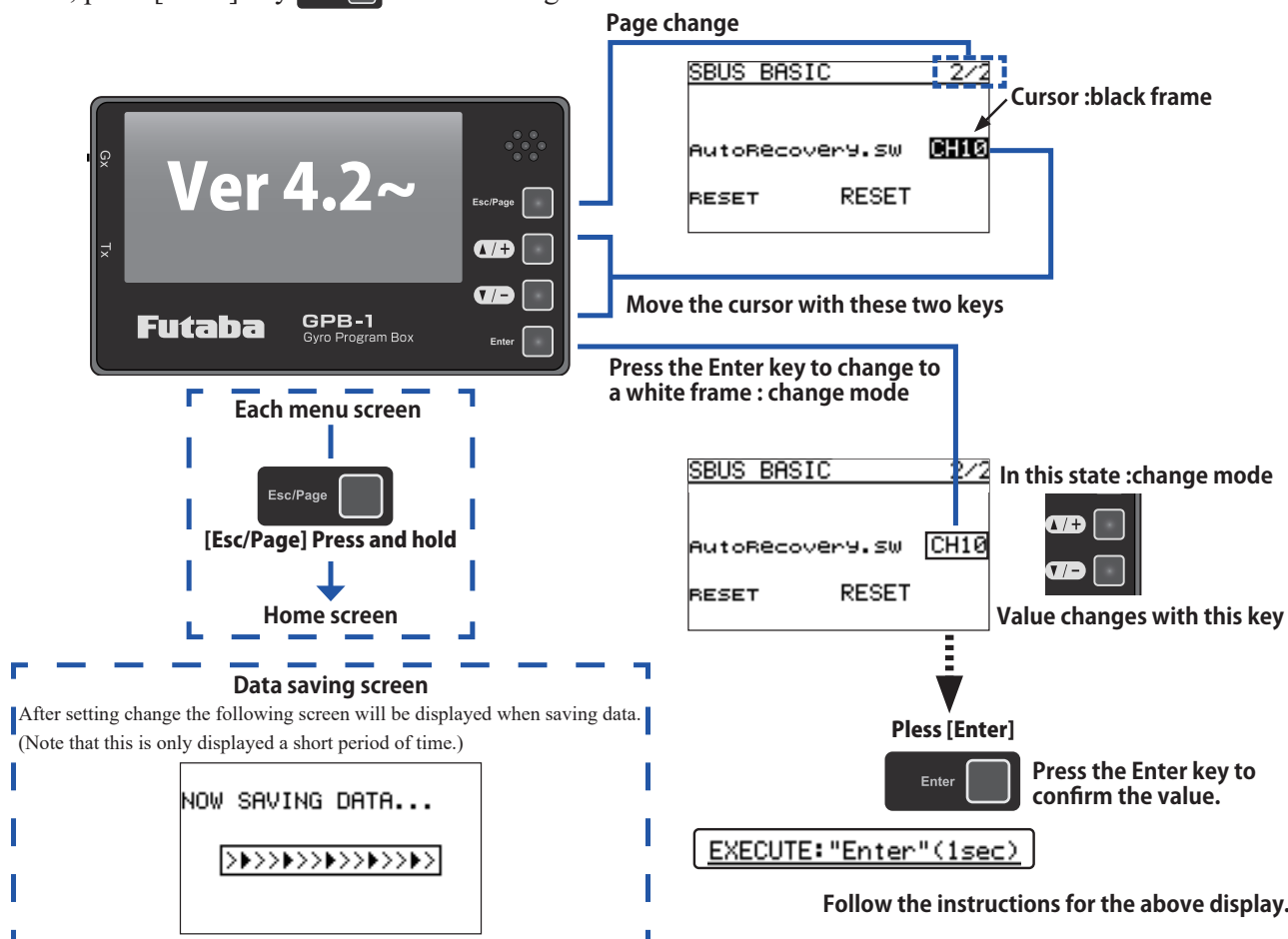


CAUTION

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

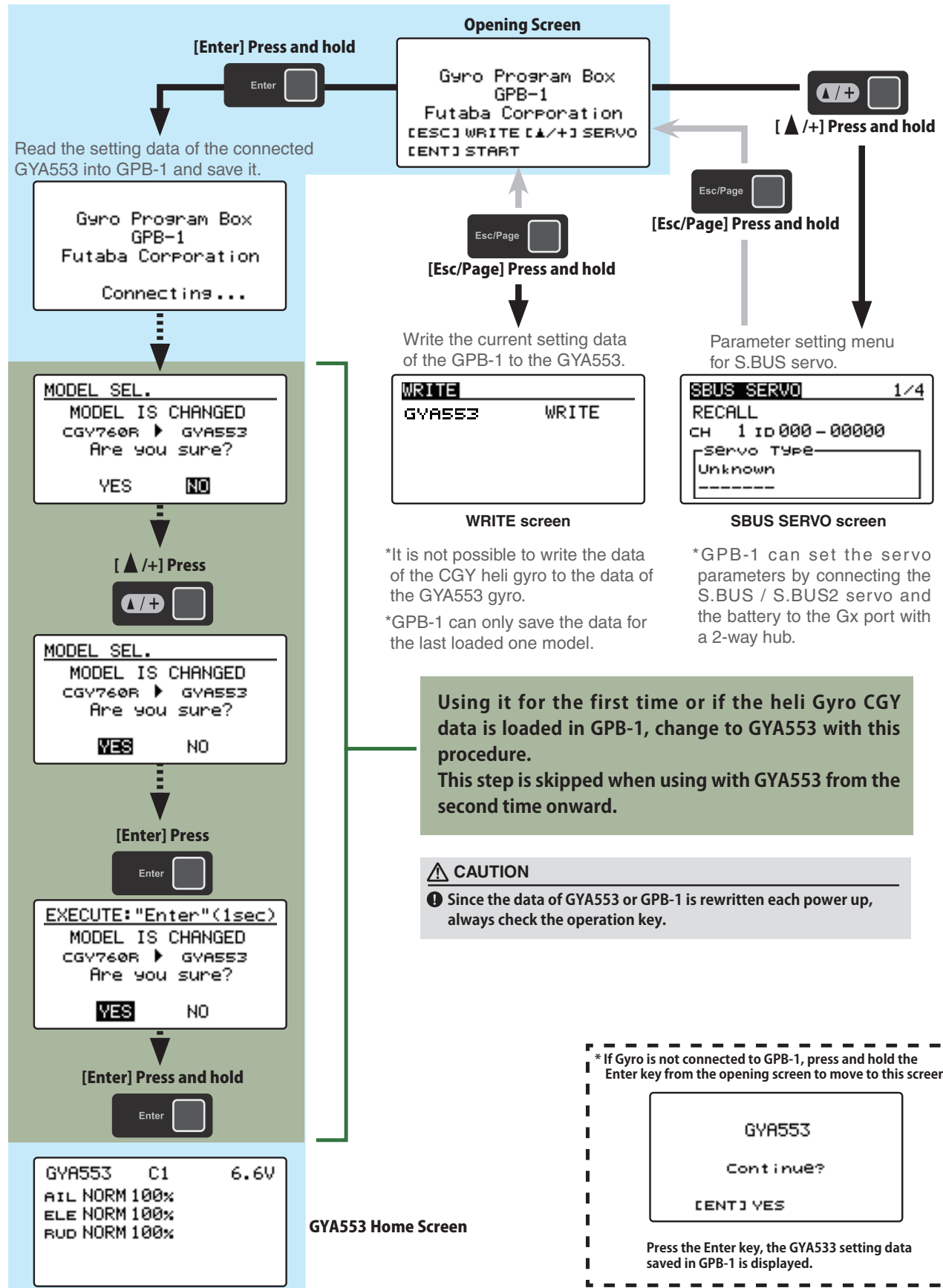
How to operate each menu screen

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 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 
[Esc/Page] Press and hold

Basic menu

```
BASIC MENU
CONFIG
SBUS BASIC
```

◆ Config

```
CONFIG 1/7
Gyro set Dir  UP
WING         NORMAL
TAIL         NORMAL
Servo Type   DG:285Hz
SB/RU2 OUT   S.BUS(HS)
```

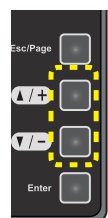
◆ S.BUS basic

```
SBUS BASIC 1/2
AIL CH1  Gain AIL CH5
ELE CH2  Gain ELE CH7
          Gain RUD CH8
RUD CH4  EL2    CH9
AI2 CH6  RD2    CH11
```

 [▲/▼] Press and hold

Esc/Page 
[Esc/Page] Press and hold

Esc/Page 
[Esc/Page] Press and hold



Move the cursor



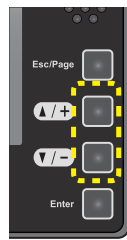
Press the Enter key

Config 1/7 Gyro set mounting direction

```

CONFIG 1/7
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```

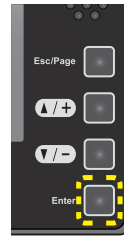
Set the mounting direction of GYA. Set mounting direction with reference to figure below.



Move the cursor

```

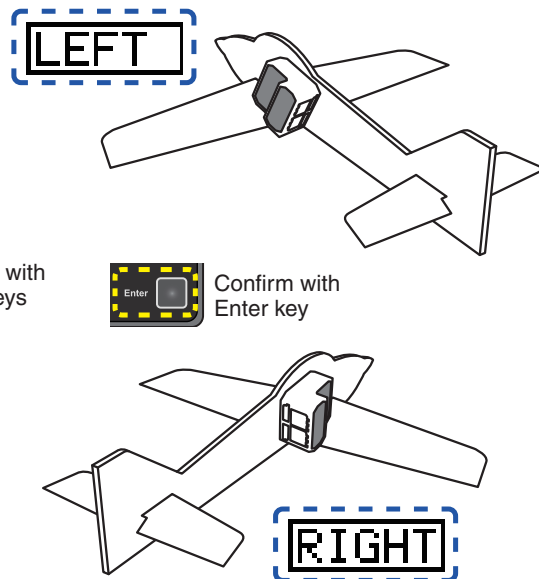
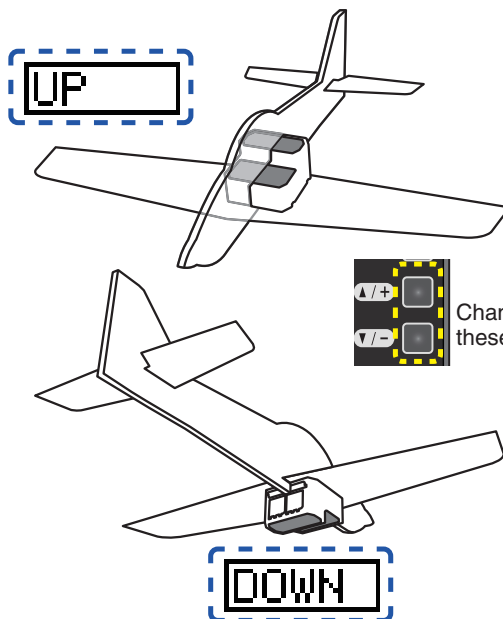
CONFIG 1/7
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```



[Enter] key to enter setting mode

```

CONFIG 1/7
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```



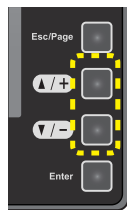
Config 1/7 WING/TAIL

```

CONFIG 1/7
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.

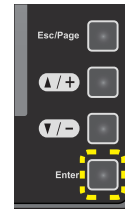
- Turn off the elevon / V-tail mixing on the transmitter side.
- Do not use transmitter sub-trim. Adjust using the gyro neutral offset.
- When using the S.BUS servo, you can also use the neutral offset function of the S.BUS servo setting parameters.



Move the cursor

```

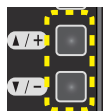
CONFIG 1/7
Gyro Set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```



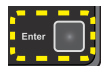
[Enter] key to enter setting mode

```

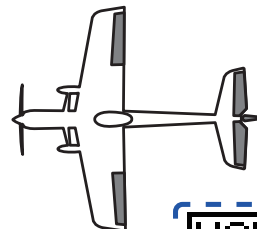
CONFIG 1/7
Gyro Set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```



Change with these keys

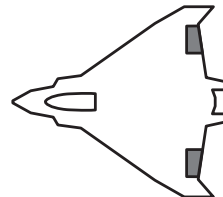


Confirm with Enter key



NORMAL

Select wing type



ELEVON

Select tail type

NORMAL

V-TAIL



Config 1/7 Servo type

```

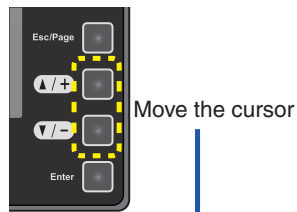
CONFIG 1/7
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```

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

Digital servo → DG : 285 Hz

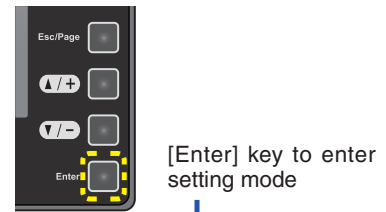
Analog servo → AN : 70 Hz

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



```

CONFIG 1/7
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
    
```



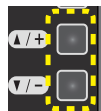
```

CONFIG 1/7
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

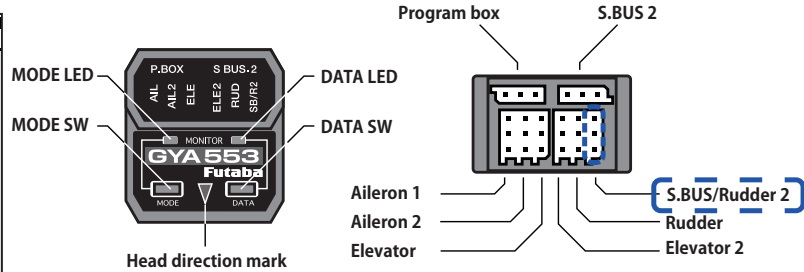
Analog servo

Config

Config 1/7 SB/R2 OUT

```

CONFIG 1/7
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

```

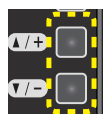
CONFIG 1/7
Gyro set Dir UP
WING NORMAL
TAIL NORMAL
Servo Type DG:285Hz
SB/RU2 OUT S.BUS(HS)
  
```

[Enter] key to enter setting mode

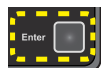
```

CONFIG 1/7
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



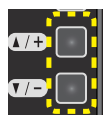
Change with these keys



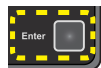
Confirm with Enter key

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

Config 2/7 Gyro direction

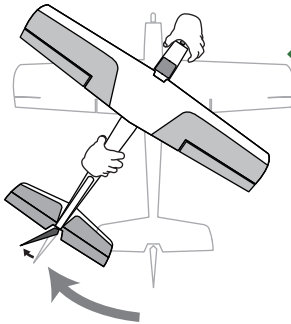
It is the direction setting of the gyro. Be careful as it will crash if the direction is reversed.

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

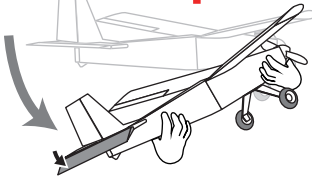
CONFIG		2/7
Gyro Dir		
AIL NORMAL	AI2 NORMAL	
ELE NORMAL	EL2 NORMAL	
RUD NORMAL	RD2 NORMAL	
AI3 NORMAL	AI4 NORMAL	

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

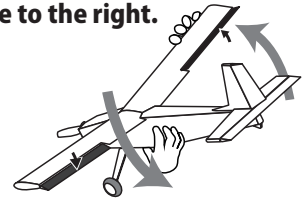
Turn the airplane to the right on the ground and check that the rudder operates to the left.



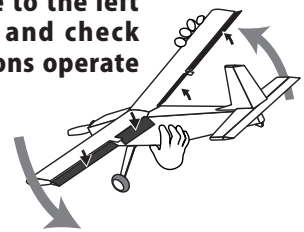
Raise the airplane with its nose upward and check that the elevator operates downward.



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.



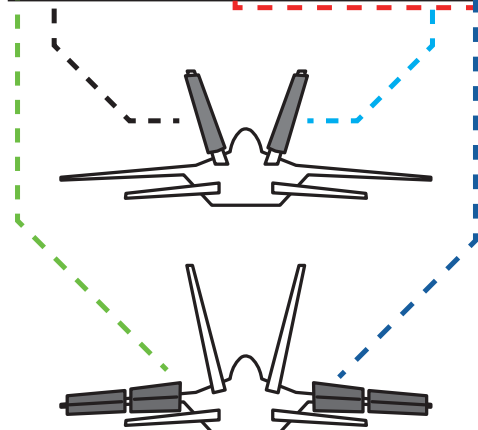
If the SB/R2 port output is set to "S.BUS(HS)" or "S.BUS(STD)", the setting menu will display AIL3 and AIL4 setting items.

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

Config 3/7 Neutral offset

Neutral position setting for each servo.

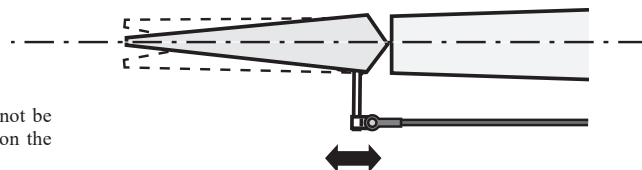
CONFIG		3/7
NEUTRAL OFFSET		
AIL +0	AI2 +0	
ELE +0	EL2 +0	
RUD +0	RD2 +0	
AI3 +0	AI4 +0	



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 4/7 5/7 Servo limit

CONFIG	4/7
Srv.Limit	
AIL 100 %	100 %
ELE 100 %	100 %
RUD 100 %	100 %
AIL 100 %	100 %

CONFIG	5/7
Srv.Limit	
AIL2 100 %	100 %
EL2 100 %	100 %
RD2 100 %	100 %
AIL4 100 %	100 %

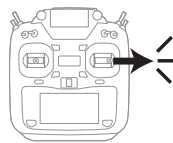
Key operation → [How to operate each menu screen](#)

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.

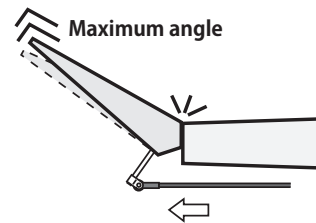
* AIL3 and AIL4 settings cannot be set with the button settings on the GYA553 main unit.

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

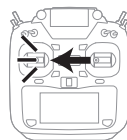
Aileron example



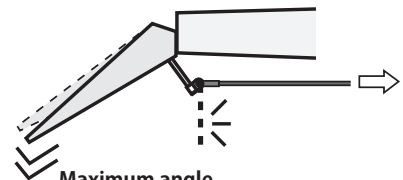
Stick to full right



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



Stick to full left



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

Config 6/7 Holding Power

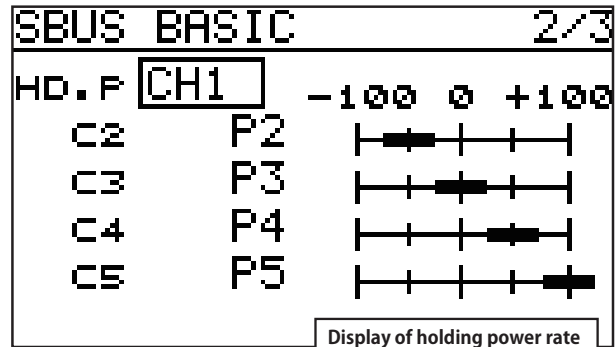
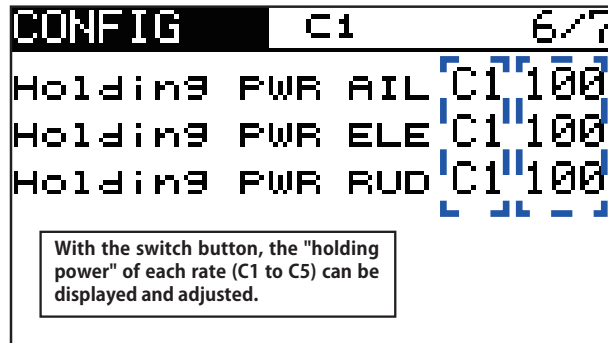
It is a function to adjust the posture holding force of the aircraft in AVCS mode.

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.

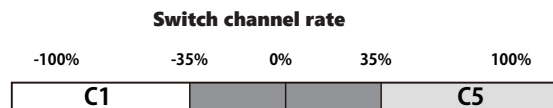
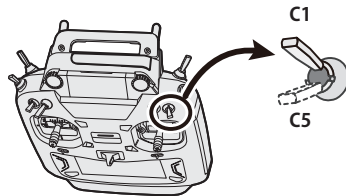
S.BUS Basic 2/3



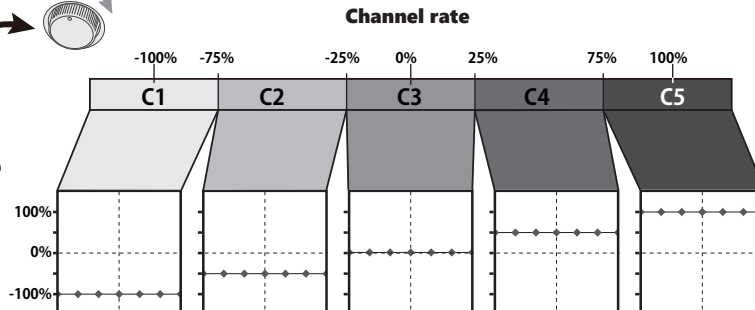
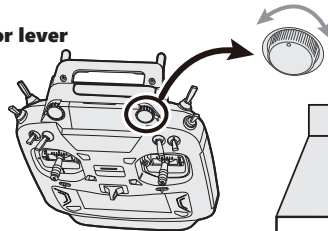
Key operation → [How to operate each menu screen](#)

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

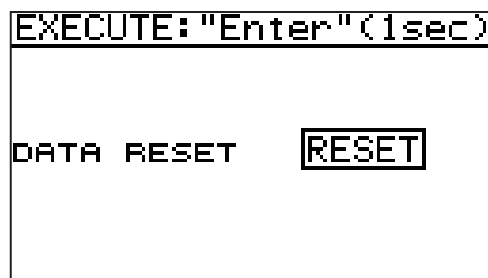
When set to SW of DG1 or DG2



When set to dial or lever



Config 7/7 Reset

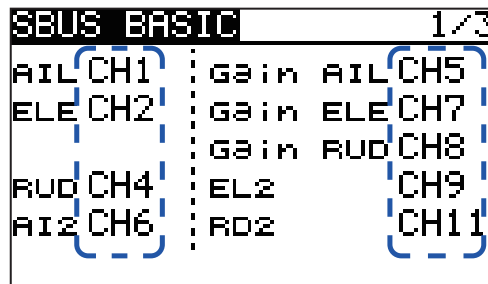


Reset each Config item. It returns to the initial value.

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.

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).

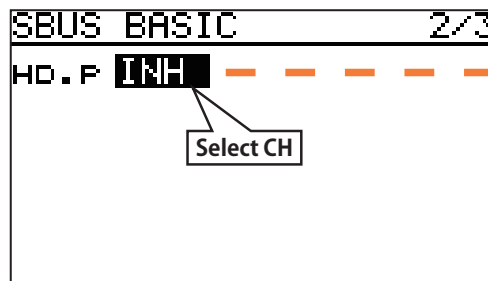


Move the cursor to each function to change the channel.

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

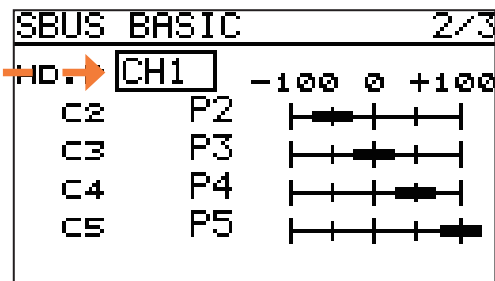
⚠ WARNING

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



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.

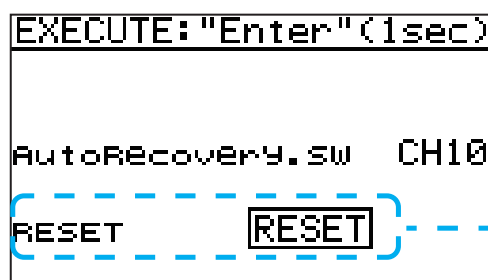
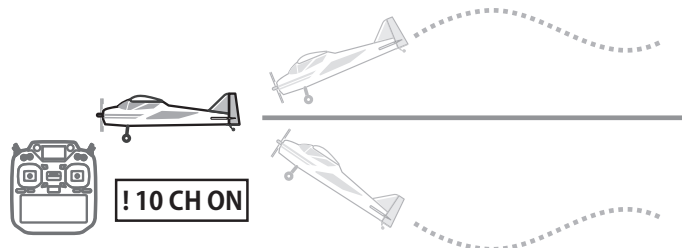
* Match the operation CH and CH setting on the function setting screen on the transmitter side.

*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.



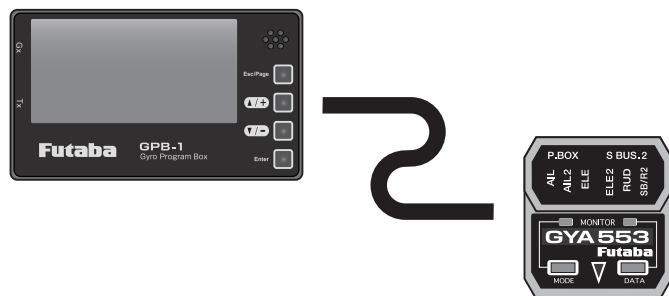
Key operation → [How to operate each menu screen](#)

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.



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