Gyro Program Box

GPB-1

for GYA553/573 (Ver.6.0)

## *Software Update Functions*

GYA553 / GYA573

# Futaba
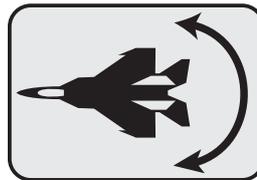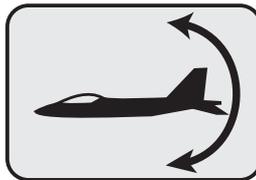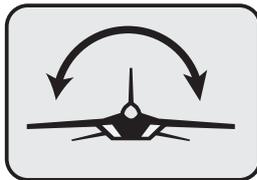
GPB-1 Software Update Procedure

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 distribtor's website.

2. Extract the zip file on your computer.

> main.bin
> Updater(Highspeed).exe
> Updater(Lowspeed).exe
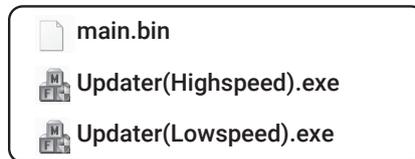
3. Connect as shown in the figure.

Battery

Switch

Double extension cable

CGY760R connection cable

A PC that can connect to the Internet and has CIU-2 or CIU-3 driver software installed.

To PC USB port

CIU-2 or CIU-3

GPB-1
Gyro Program Box
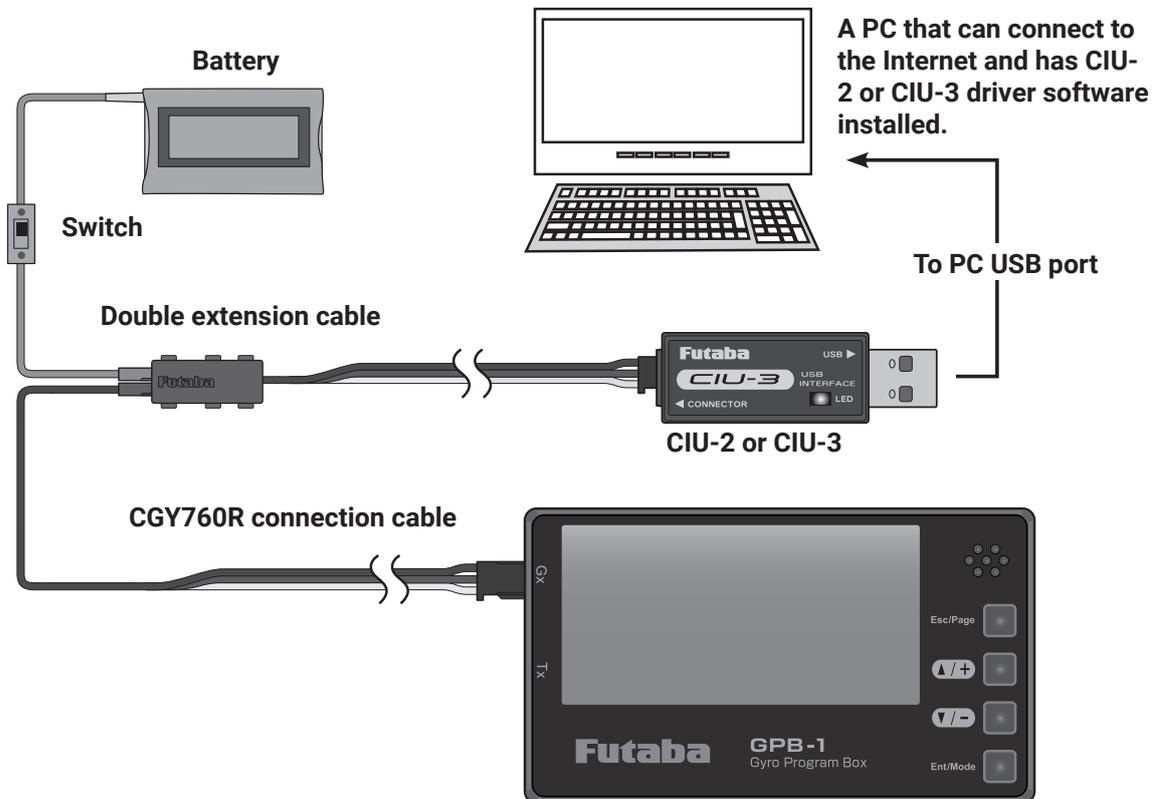
PC side

PC

5. Start an executable file by a PC.

CIU-3 Updater(Highspeed).exe

CIU-2 Updater(Lowspeed).exe

Double-click

Update	×
WRITE	

Update	×
WRITE	

Click [WRITE]

WRITE

| Update	×
? GPB1 will be updated. Are you sure?	
OK	Cancel

Click [OK]

OK

| Update	×
Now writing...	
WRITE	
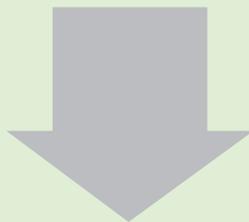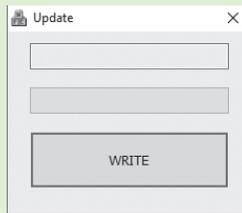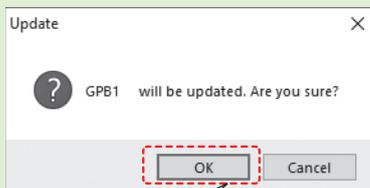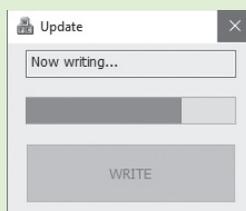
GPB-1 side

GPB-1

4. 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.

When using the CIU-3

PROGRAM UPDATE (HI)
READY

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.

When using the CIU-2

PROGRAM UPDATE
READY

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

When using the CIU-3

PROGRAM UPDATE (HI)
READY

**When using the CIU-2**

PROGRAM UPDATE
READY
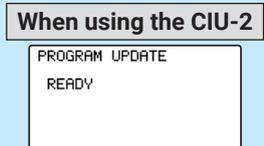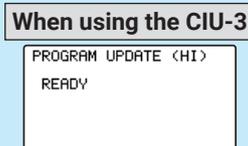
⚠CAUTION
**⊘Do not turn off the power or remove the battery while updating. GPB-1 may be damaged.**

PROGRAM UPDATE (HI)
NOW WRITING
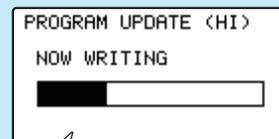
Wait for about 50 seconds - 5 minutes.
Don't turn on the power !

PC side

Update ☒

ℹ This update succeeded.

OK

Click [OK]

GPB-1 side


```
PROGRAM UPDATE (HI)
SUCCESS
███████████████
```

Wait for about 50 seconds - 5 minutes.

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

Error ☒

❌ A CIU-2/3 is not connected.

OK

Error ☒

❌ No product is connected.

OK

Error ☒

❌ This connected product does not match the update file.

OK

Error

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

```
PROGRAM UPDATE (HI)
WRITE FAILED
```

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.6.0

Compatible with airplane gyro GYA573. Ver.6.0 is for airplanes only. Helicopter gyros cannot be used.

Ver.5.2

Supported servo type change of S-HC501.

Ver.5.1

Added function of gyro GYA553 V4~ for Airplane

Ver.5.0

Added function of gyro CGY770R for helicopter

Ver.4.4

1. Supported servo type change of HPS-H701.

2. Compatible with Ver2.0 of HPS-HC701 and HPS-HT700.
   Before the update, V1 will be displayed, and after the Ver2.0 update, V2 will be displayed.

```
SBUS SERVO        1/4          SBUS SERVO        1/4
RECALL WRITE  INIT.            RECALL WRITE  INIT.
CH  1 ID 084 - 10000           CH  1 ID 084 - 10000
 Servo Type                     Servo Type
HPS-HC701 V1  SELECT           HPS-HC701 V2  SELECT
DG:760    ▶  DG: 760           DG:760    ▶  DG: 760
```

```
SBUS SERVO        1/4          SBUS SERVO        1/4
RECALL WRITE  INIT.            RECALL WRITE  INIT.
CH  1 ID 071 - 10000           CH  1 ID 071 - 10000
 Servo Type                     Servo Type
HPS-HT700 V1  SELECT           HPS-HT700 V2  SELECT
DG:760    ▶  DG: 760           DG:760    ▶  DG: 760
```
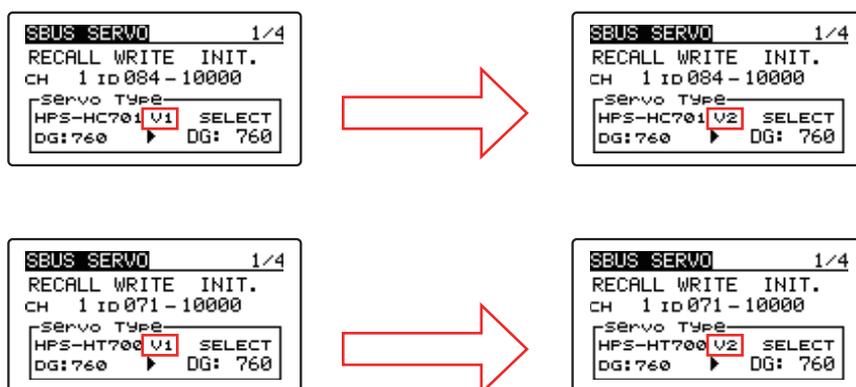
Ver.4.3

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).

Futaba

Ver.4.1

### 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.

HOME screen

```
GYA553          6.6V
AIL Gyro  Off
ELE Gyro  Off
RUD Gyro  Off
```

Press and hold the [▲/+] key

BASIC MENU screen

```
BASIC MENU

CONFIG

SBUS BASIC
```

**[▲/+] or [▼/-] keys
Press to move to a cursor**

```
BASIC MENU

CONFIG

SBUS BASIC
```

Press the [Enter] key

CONFIG 1/7 (basic configuration)

```
CONFIG              1/7
Gyro Set Dir      UP
WING            NORMAL
TAIL            NORMAL
Servo Type     DG:285Hz
SB/RU2 OUT       RUD2
```

**[▲/+] or [▼/-] keys
Press to move to a page**

CONFIG 6/7 (Holding PWR)

```
CONFIG              6/7
Holding PWR AIL    100
Holding PWR ELE    100
Holding PWR RUD    100
```
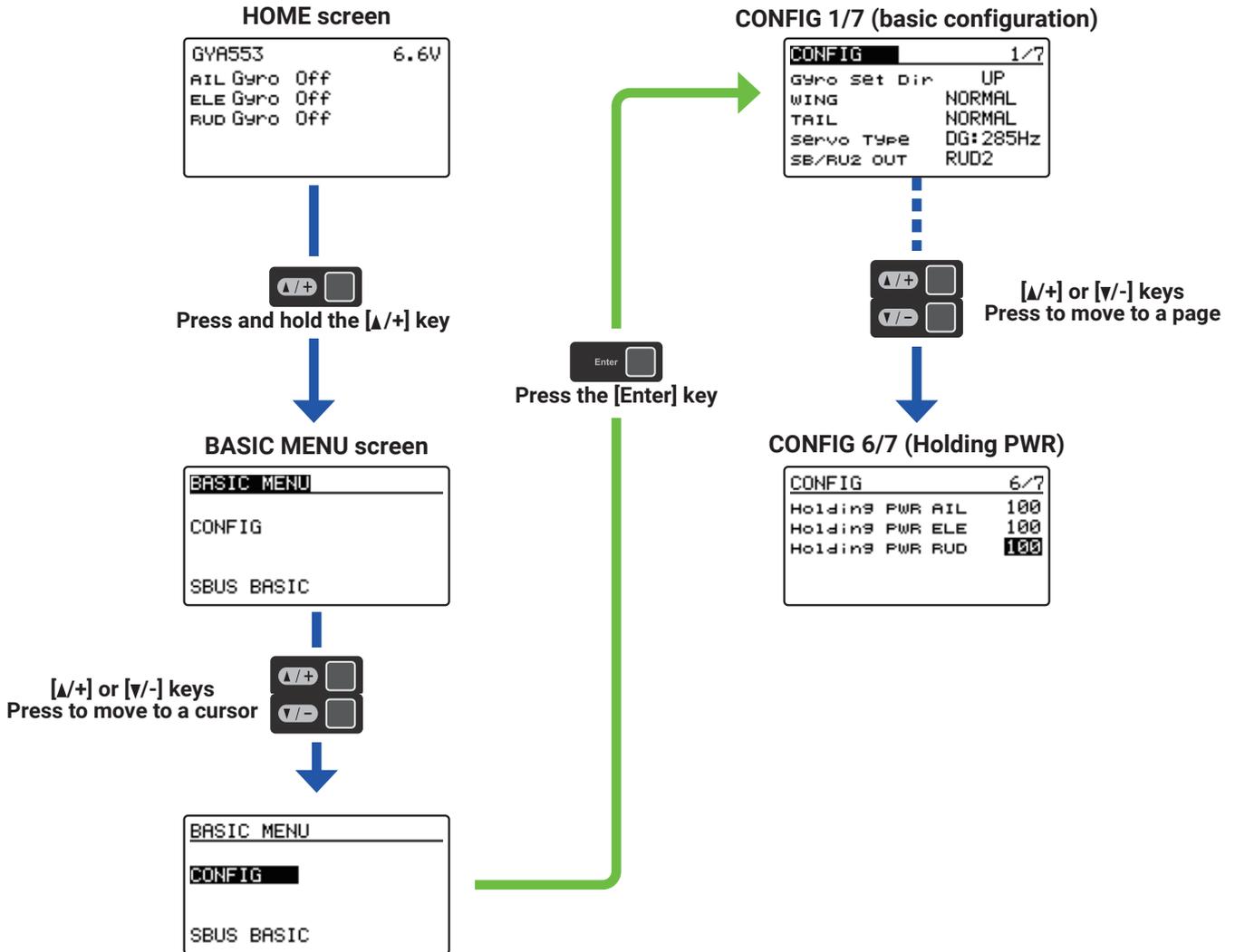
CGY760R / 755 --- GOV Basic Menu 5/6 "Rev. Sensor" screen

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.

```
GOV.BASIC          6/6
SBUS2 rpm out   INH
SBUS2 rpm slot   2n
```

```
GOV.BASIC          5/6
Rev.sensor    0%   0%M
```

6
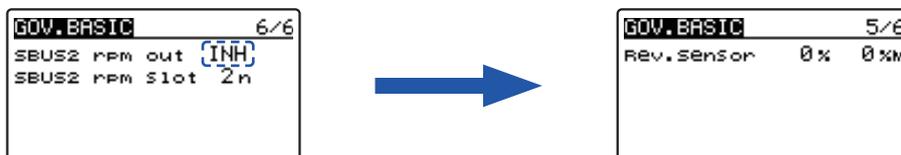
Gyro Program Box

GPB-1
GYA553
GYA573

GPB-1 for GYA553/573 (Ver.6.0 ～)

GYA553 Ver.3 ～ Ver.4
GYA573

Setting manual

*GPB-1 for GYA553/573 (Ver.6.x) is for use only with GYA573, GYA553 Ver.3 and Ver.4.
It cannot be used to configure helicopter gyros (CGY760R and CGY770R).

Connection GPB-1 and GYA

Receiver connection cable (Included with GYA)

Gx

GPB-1

GPB-1 for
GYA553/GYA573
(Ver.6.0~)

Futaba GPB-1
Gyro Program Box

Esc/Page
▲/+
▼/−
Enter

P.BOX

Futaba

Battery for receiver

A battery is connectable also with any ports

P.BOX | S.BUS 2
AIL | AIL2 | ELE | E2/TH | RUD | SB/R2 /TH
MONITOR
GYA573
Futaba
MODE ▽ DATA

**GYA573
GYA553**

Install GPB-1 update software GPB-1 for GYA553/573 (Ver.6.0~)

⚠ CAUTION
❶ Be sure to connect and disconnect the GYA 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 Enter to enter the setting mode. ▲/+ or ▼/− key to change the setting contents. When you are done, press [Enter] key Enter to exit setting mode.

GPB-1 for
GYA553/GYA573
(Ver.6.0~)

Futaba GPB-1
Gyro Program Box

Gx
Tx
Esc/Page
▲/+
▼/−
Enter

Page change

SBUS BASIC   2/2

AutoRecovery.sw **CH10**

RESET   RESET

Cursor :black frame

Move the cursor with these two keys

Press the Enter key to change to a white frame : change mode

SBUS BASIC   2/2

AutoRecovery.sw CH10

RESET   RESET

In this state :change mode

▲/+
▼/−

Value changes with this key

Each menu screen

Esc/Page

[Esc/Page] Press and hold

↓

Home screen

Data saving screen

After setting change the following screen will be displayed when saving data. (Note that this is only displayed a short period of time.)

NOW SAVING DATA...
⟩▶⟩⟩▶⟩⟩▶⟩▶⟩⟩▶⟩

Pless [Enter]

Enter

Press the Enter key to confirm the value.

EXECUTE:"Enter"(1sec)

Follow the instructions for the above display.

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

Opening Screen

```
Gyro Program Box
GPB-1 for GYA553/573
Futaba Corporation

[ESC]WRITE [▲/+]SERVO
[ENT]START
```

[Enter] Press and hold

[Enter]

Read the setting data of the connected GYA into GPB-1 and save it.

```
Gyro Program Box
GPB-1 for GYA553/573
Futaba Corporation

Connecting...
```

```
MODEL SEL.
  MODEL IS CHANGED
 CGV760R ▶ GYA553
   Are you sure?

  YES        NO
```

[▲/+] Press

[▲/+]

```
MODEL SEL.
  MODEL IS CHANGED
 CGV760R ▶ GYA553
   Are you sure?

  YES        NO
```

[Enter] Press

[Enter]

```
EXECUTE:"Enter"(1sec)
  MODEL IS CHANGED
 CGV760R ▶ GYA553
   Are you sure?

  YES        NO
```

[Enter] Press and hold

[Enter]

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

Home Screen

[▲/+] Press and hold

[▲/+]

[▲/+] Press and hold

[Esc/Page]

[Esc/Page] Press and hold

[Esc/Page]

[Esc/Page] Press and hold

Write the current setting data of the GPB-1 to the GYA.

```
WRITE
GYA553        WRITE
```

WRITE screen

*It is not possible to write the data of the CGY heli gyro to the data of the GYA gyro.

*GPB-1 can only save the data for the last loaded one model.

*Once writing is complete, turn the gyro off and then on again. The data for the added functions will be deployed.

Parameter setting menu for S.BUS servo.

```
SBUS SERVO       1/4
RECALL
CH  1 ID000-00000
┌servo Type┐
Unknown
└────────┘
```

SBUS SERVO screen

*GPB-1 can set the servo parameters by connecting the S.BUS / S.BUS2 servo and the battery to the Gx port with a 2-way hub.

*GYA573 data cannot be written to GYA553.

> **Using it for the first time or if the heli Gyro CGY data is loaded in GPB-1, change to GYA with this procedure. This step is skipped when using with GYA from the second time onward.**

⚠ **CAUTION**

❗ Since the data of GYA or GPB-1 is rewritten each power up, always check the operation key.

* If Gyro is not connected to GPB-1, press and hold the Enter key from the opening screen to move to this screen.

```
GYA553

Continue?

[ENT] YES
```

Press the Enter key, the GYA setting data saved in GPB-1 is displayed.

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

Product Name
Displays the product name (GYA553 or GYA573) of the loaded data.

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

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%
```

Basic menu for GYA553

Home screen

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

Esc/Page
[Esc/Page] Press and hold

[▲ /+] 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)
```

Esc/Page
[Esc/Page] 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
[Esc/Page] Press and hold

Home screen

```
GYA573    C1       6.6V
AIL NORM 100%
ELE NORM 100%
RUD NORM 100%
```

Esc/Page

[Esc/Page] Press and hold

[▲ /+] Press and hold

Basic menu

```
BASIC MENU

CONFIG
AIRBRAKE
CAMBER MIX
SBUS BASIC
```

P23

P24

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)
```

Esc/Page

[Esc/Page] 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

[Esc/Page] Press and hold

11
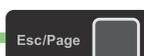
Config   1/9   Gyro set mounting direction

```
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.
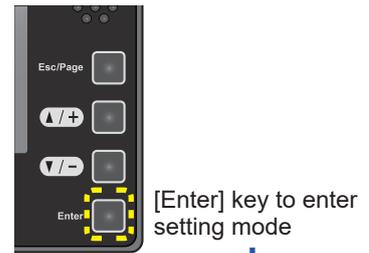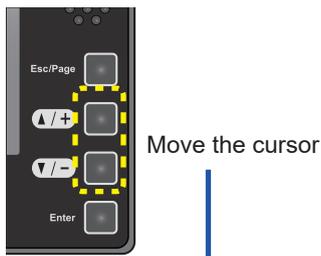
Move the cursor

[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)
```

UP

LEFT

Change with these keys

Confirm with Enter key

DOWN

RIGHT

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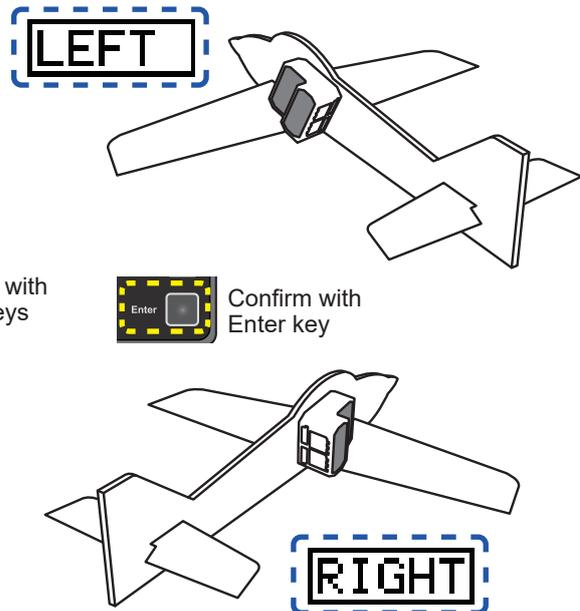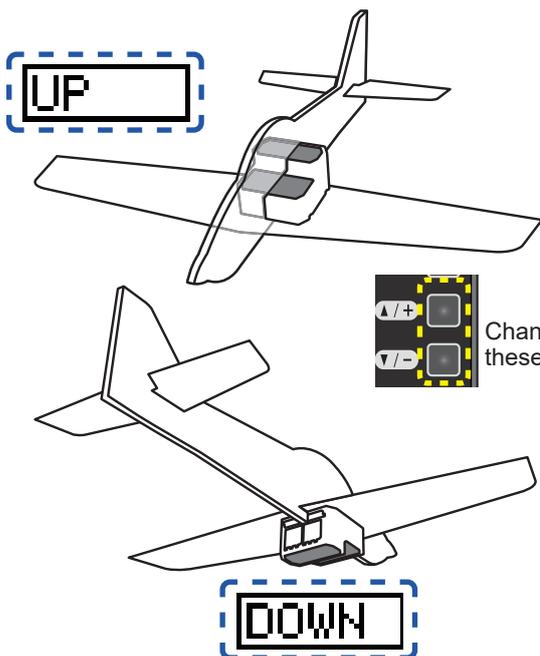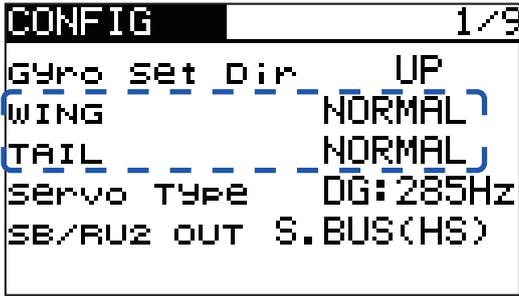
Set with the wing type/tail type of GYA. The wing type/tail type of the transmitter is not used and is normal.

● 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.
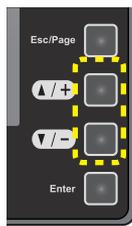
Move the cursor
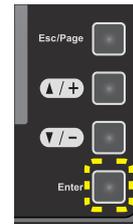
[Enter] key to enter setting mode

```
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)
```
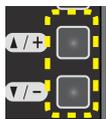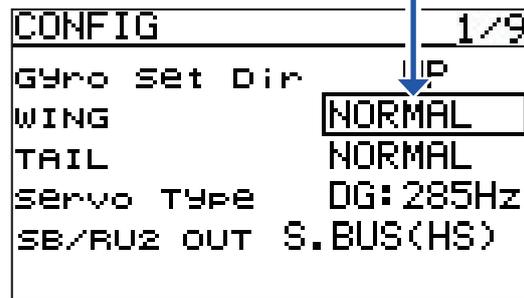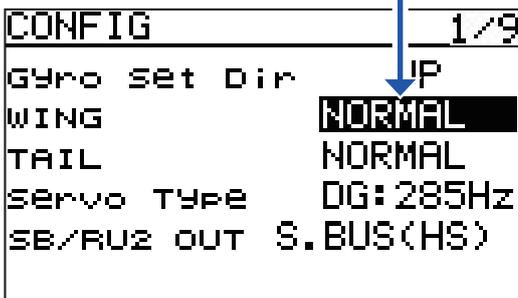
Change with these keys

Confirm with Enter key
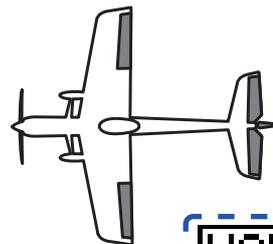
NORMAL

Select wing type

Select tail type

NORMAL

V-TAIL

ELEVON
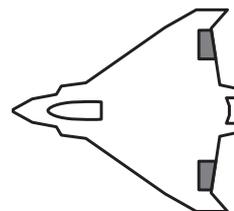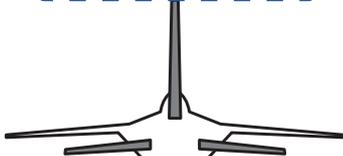
Config   1/9   Servo type

```
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.
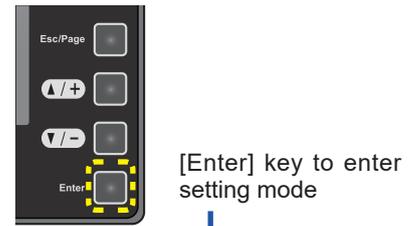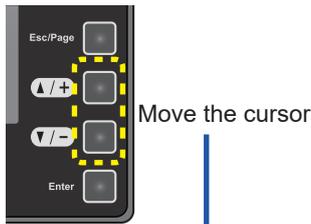
Move the cursor

```
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)
```

```
Servo TYPe     DG:285Hz
```
Digital servo
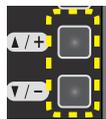
Change with these keys

Confirm with Enter key

```
Servo TYPe     AN: 70Hz
```
**Analog servo**

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)
```

Program box   S.BUS 2

MODE LED   DATA LED
MODE SW   DATA SW

GYA573
Futaba

Head direction mark

Aileron 1   S.BUS/Rudder 2
Aileron 2   Rudder
Elevator   Elevator 2
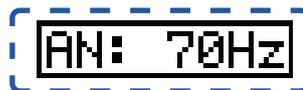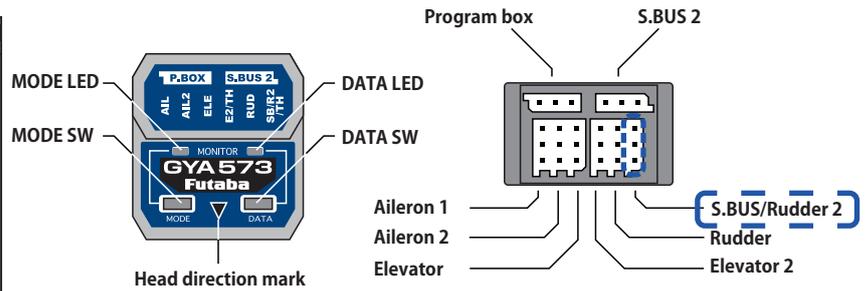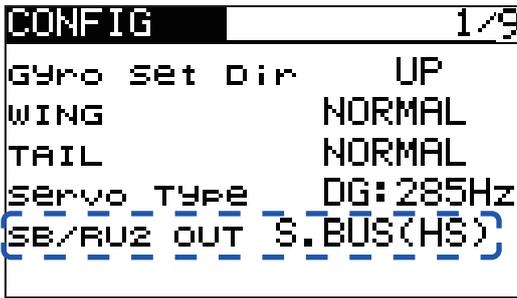
Select the SB / R2 port.

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)
```
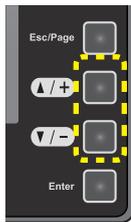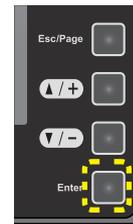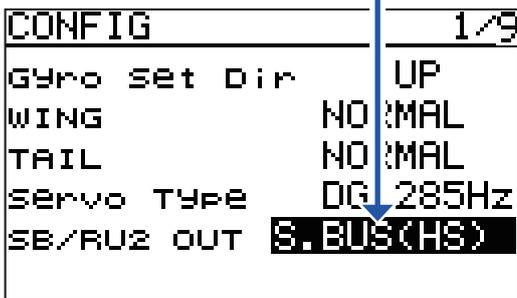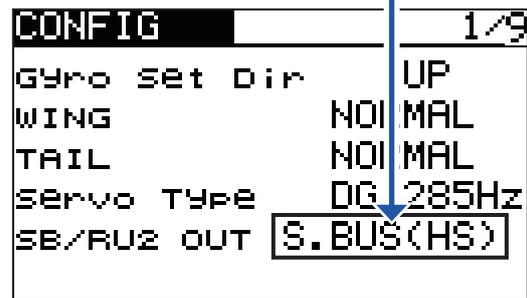
SB/RU2 OUT **S.BUS(HS)**   S.BUS(HS)   **Connect SV servo**
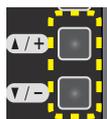
Change with these keys

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).**
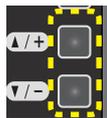
Change with these keys
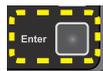
Confirm with Enter key

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.

```
CONFIG              2/9
Gyro Dir
AIL NORMAL   AI2 NORMAL
ELE NORMAL   EL2 NORMAL
RUD NORMAL   RD2 NORMAL
AI3 NORMAL   AI4 NORMAL
```
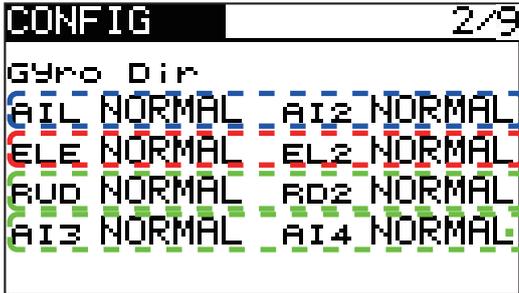
Key operation → How to operate each menu screen

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

Turn the airplane to the right on the ground and check that the rudder operates to the left.
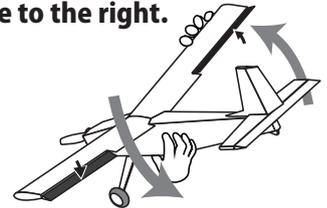
Tilt the airplane to the left on the ground and check that the 4-ailerons operate to the right.
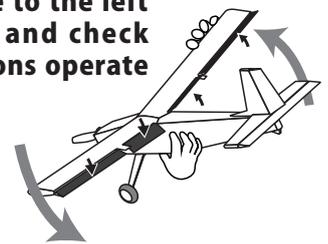
**Raise the airplane with its nose upward and check that the elevator operates downward.**

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 GYA 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.
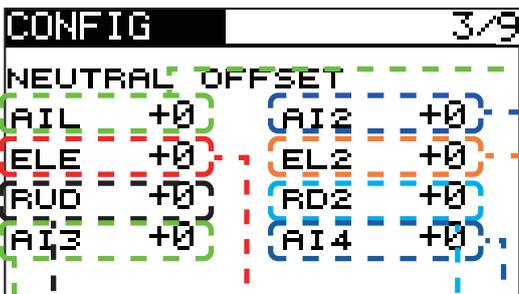
Key operation → How to operate each menu screen

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.
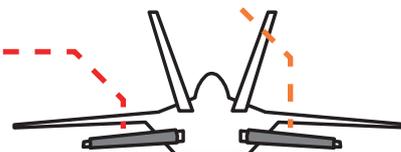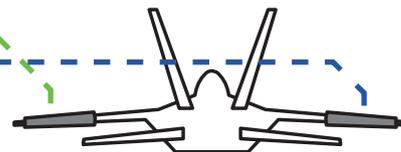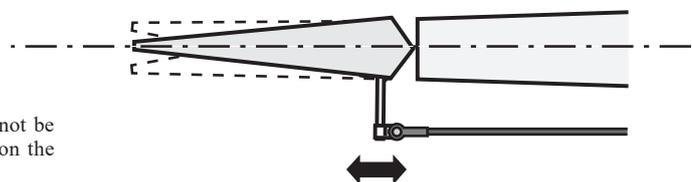
This will move the neutral to the desired position.

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 GYA 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

Maximum angle
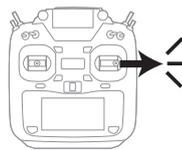
Stick to full right
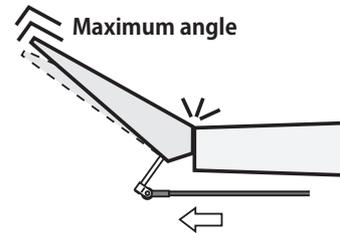
Adjust the value (%) to reach the maximum operating position

Stick to full left

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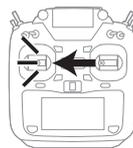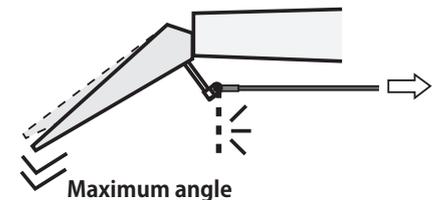
Adjust the value (%) to reach the maximum operating position

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

```
CONFIG              6/9

Holding PWR AIL  C1 100
Holding PWR ELE  C1 100
Holding PWR RUD  C1 100
```

With the switch button, the "holding power" of each rate (C1 to C5) can be displayed and adjusted.

```
SBUS BASIC          2/4

HD.P CH12   -100  0  +100
    C2    P2   |--■--|--|--|
    C3    P3   |--|--■--|--|
    C4    P4   |--|--|--■--|
    C5    P5   |--|--|--|--■
```

Display of holding power rate
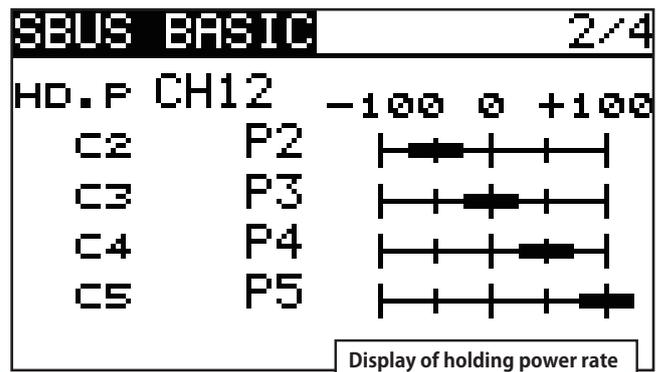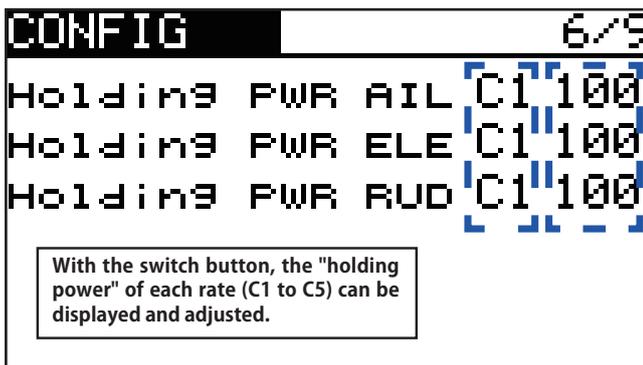
Key operation → How to operate each menu screen

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

C1

C5

Switch channel rate

-100%	-35%	0%	35%	100%
C1				C5
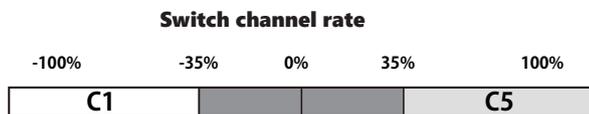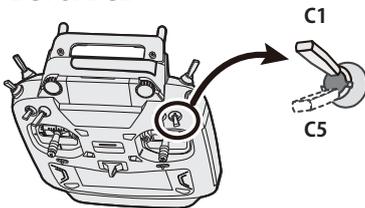
When set to dial or lever

Channel rate

-100%	-75%	-25%	0%	25%	75%	100%
C1	C2	C3	C4		C5	

100%
0%
-100%
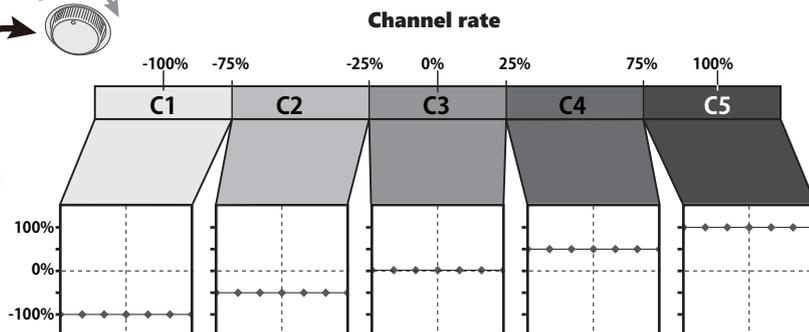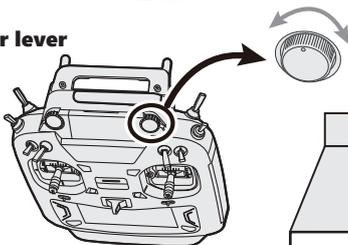
Config 7/9 4D Flight (Backward flight) Gyro Reverse Mode Adjustment

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
```

The setting screen will not be displayed on GYA553 ~Ver.3.

Setting is possible on GYA553 Ver.4~ or GYA573.

Config 9/9

For GYA553

```
CONFIG              9/9

DATA RESET    RESET
```

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

For GYA573

```
CONFIG              9/9

ELE2 Port   ELE2

DATA RESET    RESET
```

For GYA573, the E2/TH port can be set to ELE2 output or CH3 (THR) output.

```
CONFIG              9/9

ELE2 Port  [CH3(THR)]

DATA RESET    RESET
```

*For GYA573, air brake and camber mix settings will also be initialized.

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

```
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
```

Move the cursor to each function to change the channel.
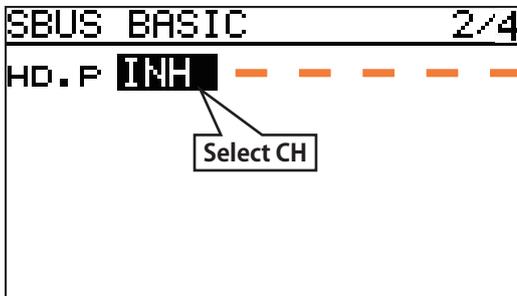
Key operation → How to operate each menu screen
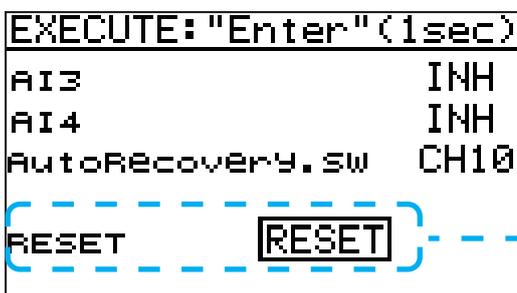
⚠ **WARNING**
❶ **Always verify that the S.BUS function assignments match your transmitter's function (in the FUNCTION menu) assignments. If any changes are made within the transmitter function assignments, then it will also be necessary to make the changes within the S.BUS function assignments. To change the channel, GYA and GPB-1 must be connected.**

Holding power rate display

```
SBUS BASIC        2/4
HD.P INH
```

Select CH

Key operation → How to operate each menu screen

```
SBUS BASIC        2/4
HD. CH1   -100  0  +100
 C2   P2
 C3   P3
 C4   P4
 C5   P5
```
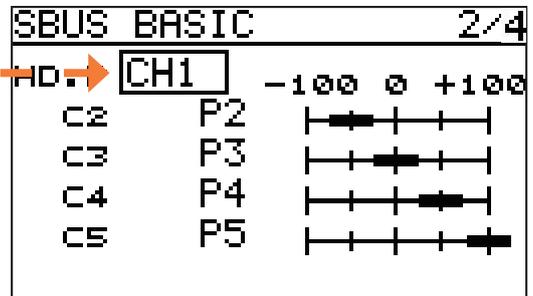
CH setting items for AIL3 and AIL4 are displayed on the final screen of the S.BUS basic setting screen. By setting the operation CH of AIL3 and AIL4, the gyro-controlled signal is output to the corresponding CH of the S.BUS output.

* 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.

```
SBUS BASIC        4/4
AI3              INH
AI4              INH
AutoRecovery.sw  CH10

RESET        RESET
```

ON-OFF channel for auto recovery.

Key operation → How to operate each menu screen

! 10 CH ON

```
EXECUTE:"Enter"(1sec)
AI3              INH
AI4              INH
AutoRecovery.sw  CH10

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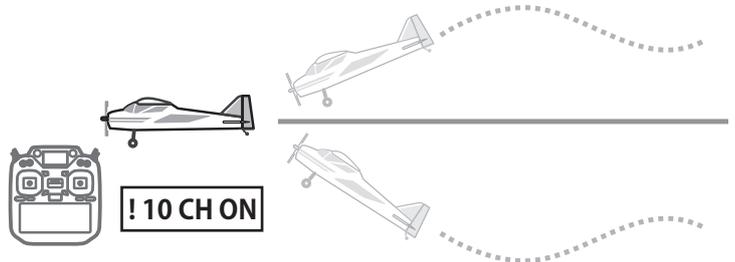
Reset each S.BUS function. It returns to the initial value.

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.

For GYA573

```
SBUS BASIC        4/4
AI3               INH
AI4               INH
AutoRecovery.sw_  CH10
Roll Flat sw      INH
RESET        RESET
```

This is the channel setting for the switch that turns roll flat ON/OFF.

The roll angle at which roll flat turns ON can be set by the pulse width at the ON position.

(Set using the AFR rate on the transmitter for this setting CH, etc.)

【Roll Flat】

This function keeps only the roll axis horizontal (roll angle 0°).

When used during landing approach, it keeps the roll axis horizontal, making aileron operation easier and allowing you to concentrate on throttle and elevator operation, making landing easier. It also maintains horizontality during inverted flight. The roll angle at which the roll flat function turns on should be set to 10° to 15° during landing, and 15° to 20° during normal flight, for a smooth flight.

Conditions for the roll flat function to be ON (when all of the following conditions are met)

1） Roll Flat Switch Channel is set (not INH)

2） When the roll flat switch channel is in the - position from neutral when viewed on the transmitter AFR setting screen.

3） When the roll flat switch channel operation position is viewed on the AFR setting screen of the transmitter, when the rate value is Wp (%), the roll angle of the aircraft is within Wp/2 (degrees).

4） When the aileron stick is in the neutral position.

5） When the aircraft pitch angle is ± 60° or less

【EX.】 When the roll flat switch channel is CH15, if the operating position of CH15 is the AFR rate -50%, the roll angle at which the roll flat function will be turned ON will be within ± 25°

When the Roll Flat Switch Channel is set to an AFR rate of -100% or less, the auto recovery mode operates.

When the roll flat switch channel is in the - rate side from neutral, the roll flat function becomes ACT.

The roll angle at which roll flat is ON is 1/2 the AFR rate of the roll flat switch channel operating position.

【EX.】 When the AFR rate of the roll flat switch channel operating position is -50%, if the roll angle is within ± 25°, the roll flat function is ON.

```
SBUS BASIC        4/4
AI3               INH
AI4               INH
AutoRecovery.sw   CH10
Roll Flat sw      INH
RESET        RESET
```

Reset the S.BUS basic items. After execution, the items will return to the factory default values.

Move the cursor to "Reset" and press the Enter key. Press and hold the Enter key for one second while in the screen on the left to reset to the initial value.

This function is the same as the air brake function of the transmitter. Two rates, A1 and A2, can be set.

(The amount of operation is slightly less than that of the air brake function of the transmitter. It can also be used in AVCS mode where the air brake function of the transmitter cannot be used.)

Roll Flat function works even when the air brake is on.

```
AIRBRAKE          1/2
 A1
AI3  AIL  AI2  AI4
 +0   +0   +0   +0
      ELE  EL2
       +0   +0
```
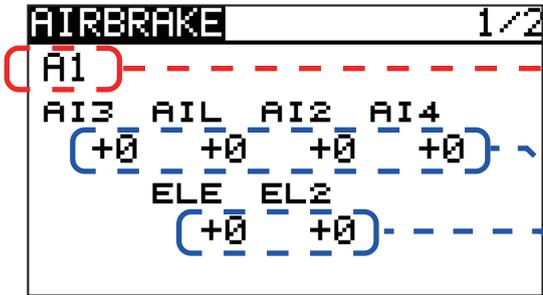
Air brake mix rate No. display
The air brake can be set to two rates: A1 and A2.

Operation rate (-250 ～ 0 ～ +250)

```
AIRBRAKE          1/2
 A2
AI3  AIL  AI2  AI4
 +0   +0   +0   +0
      ELE  EL2
       +0   +0
```

```
AIRBRAKE          2/2
 A1
SPEED        IN      OUT
    AIL       0        0
    ELE       0        0
AIRBRAKE SW          INH
```
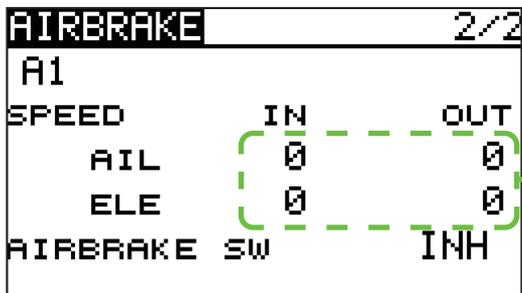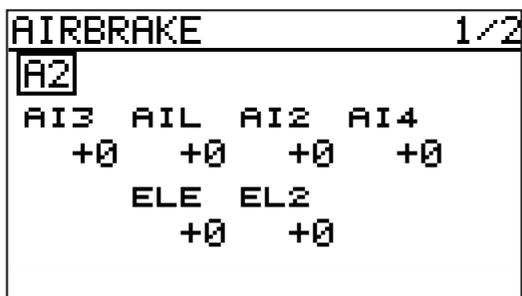
Setting the operating speed of each servo
Setting range : 0 ～ 27
IN is the operating speed when the air brake mix is turned ON.
OUT is the speed when the air brake mix is turned OFF.
When switching between A1 ⇔ A2, the speed setting of the one that is turned ON (IN side) takes priority.

```
AIRBRAKE          2/2
 A1
SPEED        IN      OUT
    AIL       0        0
    ELE       0        0
AIRBRAKE SW         CH14
```
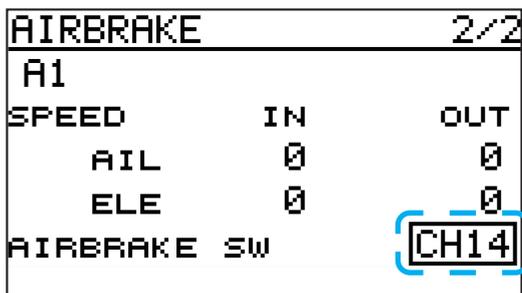
Air brake Mix ON/OFF CH setting
Setting range: INH, CH1-CH16, DG1, DG2
A1 and A2 rates change with the pulse width of the same CH
Set with AFR on the transmitter
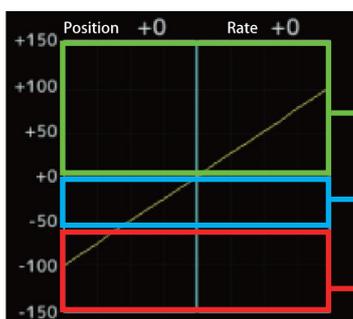
A1 and A2 are in the OFF region (neutral to +rate side)

Area where A1 is ON and A2 is OFF ((neutral to -50% side)

Area where A1 is OFF and A2 is ON (-50% or less)

This function is equivalent to the camber mixing function of the transmitter.

It can also be used in AVCS mode where the transmitter's camber mixing function cannot be used.

```
CAMBER MIX
ACT INH sw        RATE
MASTER  INH        AIL
SPEED  IN  OUT
AIL     0    0     ELE
ELE     0    0
```

Camber Mix ON/OFF setting
[Display]
INH : INH
**OFF** : Camber Mix is ACT, but Master CH is not set
ON : Camber Mix is set to ACT and the master channel is also set, but the ON/OFF channel is not set (Mixing is active).
ACT : Camber Mix is set to ACT with both the master channel and the ON/OFF channel set.

Camber Mix operation speed setting (0 to 27)
Mixing OFF ⇒ When ON or when the master CH is operated while ON, it operates at the IN side rate.
Mixing ON ⇒ When OFF, it operates at the OUT side rate

Position +0   Rate +0

Area where camber switch is ON (-50% or less)
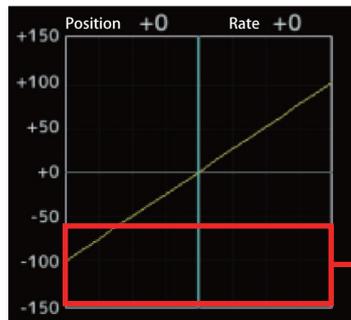
```
CAMBER MIX
ACT ON  sw INH   RATE
MASTER  CH16      AIL
SPEED  IN  OUT
AIL     0    0    ELE
ELE     0    0
```

Camber Mix ON/OFF CH setting

Range : INH, CH1-CH16, DG1, DG2

```
CAMBER MIX
ACT ACT sw CH15  RATE
MASTER  CH16      AIL
SPEED  IN  OUT
AIL     0    0    ELE
ELE     0    0
```

AIL setting screen transition button

```
CAMBER MIX
ACT ACT sw CH15  RATE
MASTER  CH16      AIL
SPEED  IN  OUT
AIL     0    0    ELE
ELE     0    0
```

ELE setting screen transition button

```
CMB (AIL)
       RATE1    RATE2  ACT
AIL    +0%      +0%
AI2    +0%      +0%
AI3    +0%      +0%
AI4    +0%      +0%
```

```
CMB (ELE)
       RATE1    RATE2  ACT
ELE    +0%      +0%
EL2    +0%      +0%
```

AIL Operation Rate (-100 ～ 0 ～ +100)
Up and down sides can be set separately

ELE Operation Rate (-100 ～ 0 ～ +100)
Up and down sides can be set separately