

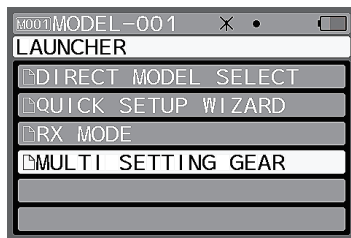
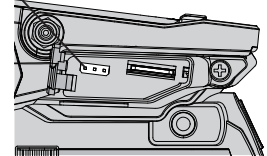
MULTI SETTING GEAR

Multi Setting Gear

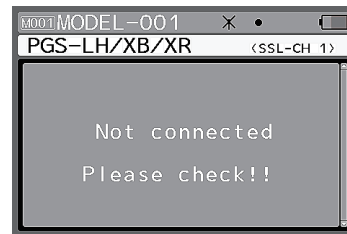
PGS servos can connect to M17 servo port and set program by the Multi Setting Gear function. Turn the power switch ON while pressing SW2. Select Multi Setting Gear from LAUNCHER.

- 1) Please connect PGS servos (PGS-LH/XB/XR/CL/CX) to the servo port, and tap enter "MULTI SETTING GEAR" on the screen.
- 2) After tap enter, show "Read OK?" on the screen, and tap "YES" and start "Device read."
*DO NOT turn off transmitter or disconnect the servos during device reading. It is possible to be servo firmware broken or abnormal values was set in PGS servos.
- 3) If correctly connected servo, move to "View and Edit" mode (P.25).
* if incorrectly connected servos or choose "No", move to top menu.

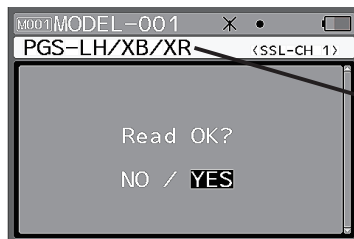
Servo port



ENTER ↓ ↑ BACK



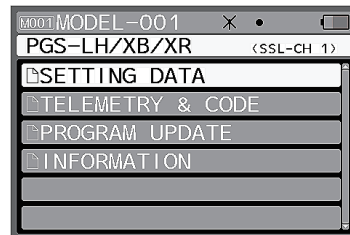
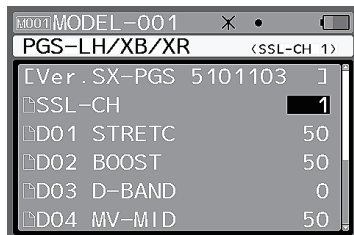
In case of no connected or incorrectly connection, display will indicate error as above picture.



In case connected with PGS-CL or CX, display "PGS-CL/CX"

ENTER ↓

NO ↘



TOP MENU

[Top Menu]

Top menu have 4 contents in the below.

1. SETTING DATA: set current connected servo contents (refer [SETTING DATA])
2. TELEMETRY & CODE: customize telemetry & code setting (P. 27)
3. PROGRAM UPDATE: update PGS servo firmware from file from SD card (P.28)
4. INFORMATION: check current connected PGS servo firmware version

MULTI SETTING GEAR

SETTING DATA

TOP MENU

[SETTING DATA]

Setting data have 6 contents for compatible servos in the below.

1. READ: Read connected servos data
2. LOAD (SD): Load setting data from Micro SD card (if data for PGS servos were saved)
3. VIEW & EDIT: Check setting values and change servo settings.
4. WRITE: Write servo settings to connected servos.
5. SAVE (SD): Save current setting values to Micro SD card.
6. DATA FACTRY CLEAR: Reset connected servos setting data to factory setting (default setting).

[1. READ]

Read menu is for reading servos data.

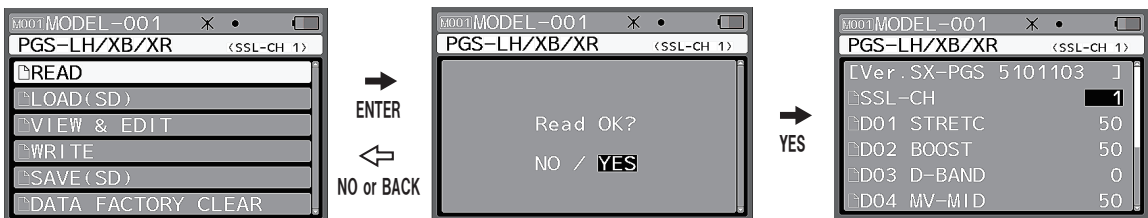
Enter Read menu, then display "Read OK?"

After enter "YES", start to read connected PGS servo data.

Then move to View and Edit mode.

****DO NOT** turn off transmitter or disconnect the servos during device reading. It is possible to be servo firmware broken or abnormal values was set in connected servos.

*if incorrectly connected servos, display "Not connected Please check!!" and back to Setting Data menu. Please check port at transmitter and connect correctly.



[2. LOAD (SD)]

Load menu for loading PGS servo data from Micro SD card.

Enter Load (SD), start to loading data on Micro SD card.

*Please **DO NOT** take off Micro SD card during loading file. It will be caused all files broken.

*If no data in Micro SD card or no Micro SD in the transmitter, display "No Card or No File."

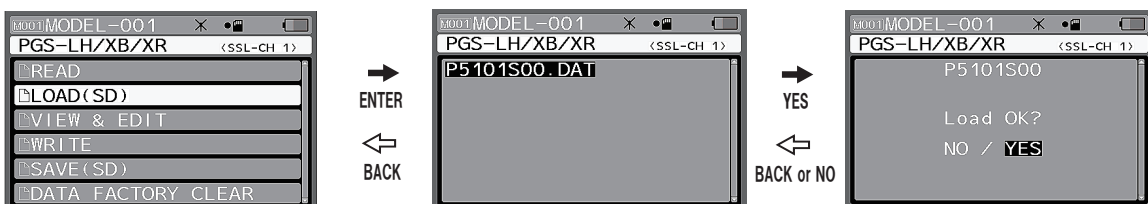
Please check by following the error message.

After loading, data for connected servos will be display and select data for apply.

* PGS-LH/XB/XR and PGS-CL/CX are different firmware. Transmitter read and apply servo firmware.

Setting data when using PGS-LH/XB/XR cannot apply to PGS-CL/CX.

Also, setting data when using PGS-CL/CX cannot apply to PGS-LH/XB/XR.



MULTI SETTING GEAR

SETTING DATA

TOP MENU

[3. View & Edit]

View & Edit mode can be checked connected servo setting values and change the servo settings.

(In case of connected PGS-LH/XB/XR, the display show PGS-LH/XB/XR. In case of connected PGS-CL/CX, the display show PGS-CL/CX.)

1. SSL-CH: SSL channel can be changed. Setting range: 0-4, 11-20

If SSL-CH set up [0], SSL operation will be turned off.

SSL-CH default setting is [1]. PGS Servo will be operated as steering (ST) when PGS servo connects to SSL port at receiver. Please set SSL-CH is [2] in case of using for throttle.

2. DO1 STRETC (Stretcher): Servo holding force can be set by the stretcher. If the value sets high, torque handling force is increased. If sets the value near [100], it will be caused to hunting near neutral but it depends on other setting. Setting range: 0-100

3. DO2 BOOST: Initial torque power can be set by boost. If value sets high, the initial stage torque is increased. If value sets too high, it would be haunting. Setting range: 0-100

4. DO3 D-Band (Dead-Band): Dead zone range when servo starts moving. If the value sets low, the dead zone range is narrow. If value sets too low, it would be caused to haunting. Setting range: 0 ~ 100

5. DO4 MV-MID: MV-MID is torque adjustment in middle range during operation. In case of steering, the function adjusts mid-range torque during cornering. If the value sets high, the function becomes more effective. Setting range: 0 ~ 100

6. DO5 MV-END: MV-END is torque adjustment in end range during operation. In case of steering, the function adjusts end-range torque during cornering. If the value sets high, the function becomes more effective. Setting range: 0 ~ 100

7. DO6 BRAKE: Set brake when stop the operation. If the value sets high, the brake is stronger and it is easy to stop at object point. If the value sets too high, operation speed becomes slow. Setting range: 0 ~ 100

8. DO7 MV-HLD (MV Hold): MV-HLD is torque adjustment from middle range to end-range. Set torque varying lengths of time from middle range to end range. If the value sets high, the torque varying lengths of time becomes long. Setting range: 0 ~ 100

9. DO8 MV-FRQ (MV Frequency): MV-FRQ is drive frequency adjustment. Set output signal frequency for motor control. If the value sets high, control response for external force becomes fast. Setting range: 0 ~ 100

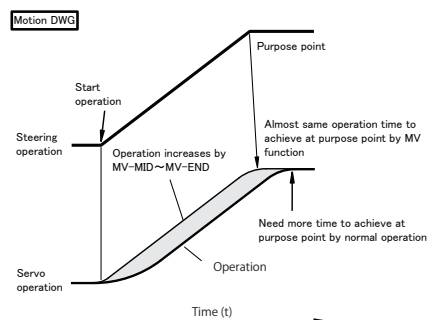
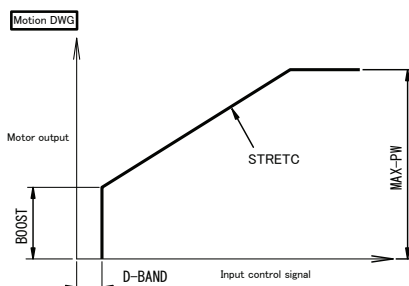
10. DO9 MAX-PW (MAX Power): Set maximum power of torque in all range. If the value sets high, the power is increased. Setting range: 0 ~ 100

11. WRITE TO DEVICE: Please choose Enter after set each setting value, and display will be "Write OK?" Then, tap "Yes" to write setting value to PGS servos.

*DO NOT turn off transmitter or disconnect servo during the writing. It will be caused servo firmware broken.

SSL CH setting

CH setting	Setting Value
CH setting OFF	0
CH1 [ST]	1
CH2 [TH]	2
CH3	3
CH4	4
AUX1 CODE01	11
AUX1 CODE02	12
AUX1 CODE03	13
AUX1 CODE04	14
AUX1 CODE05	15
AUX1 CODE06	16
AUX1 CODE07	17
AUX1 CODE08	18
AUX1 CODE09	19
AUX1 CODE10	20



MULTI SETTING GEAR

SETTING DATA TOP MENU

[4. WRITE]

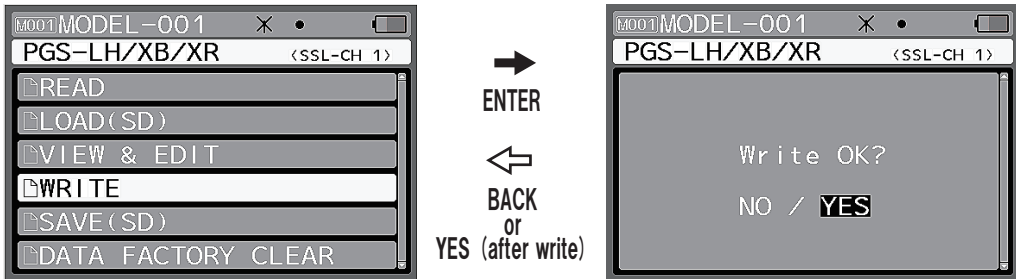
Write menu is for writing current View & Edit data to PGS servos.

Enter Write menu, display "Write OK?" and select "YES" to start writing data to PGS servos and back to setting data menu.

*If enter "NO" or not connected PGS servo, back to setting data menu.

*If connect wrong version, display show "Wrong version."

(PGS-LH/XB/XR firmware and PGS-CL/CX firmware are different.)

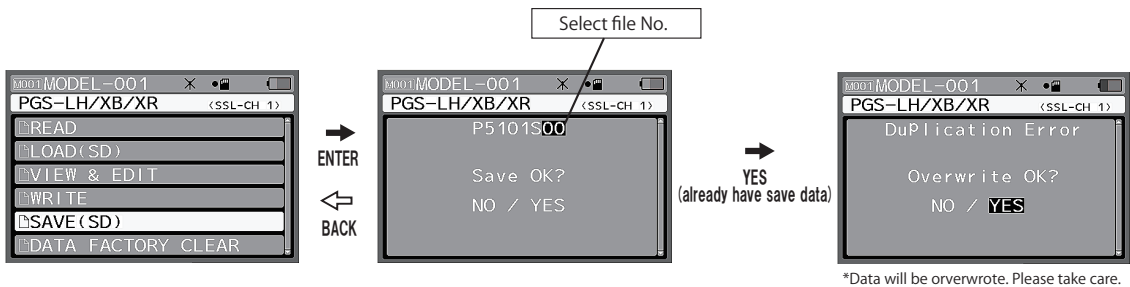


[5. SAVE (SD)]

Save menu is for saving current View & Edit data to Micro SD card.

A Micro SD card can be saved each 50 datas for PGS-LH/XB/XR firmware and PGS-CL/CX firmware.

(Ver for PGS-LH/XB/XR+S00-49 or Ver for PGS-CL/CX+S00-49)

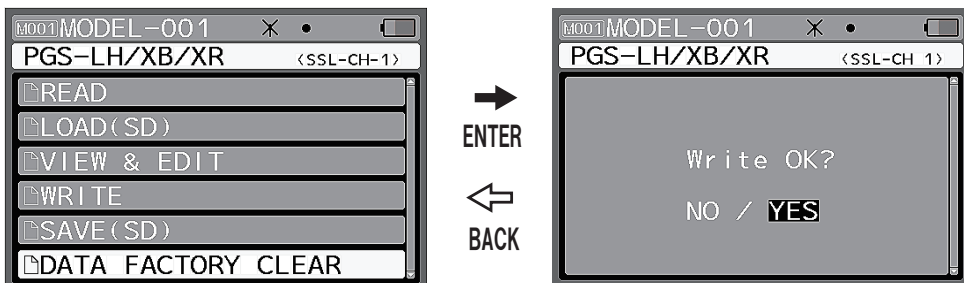


*Data will be overwrite. Please take care.

[6. DATA FACTORY CLEAR]

Data factory clear menu is for reset PGS servos setting data to factory setting (default setting).

* Current PGS servo save data will be back to the default setting. Please save current data if needed.



MULTI SETTING GEAR

TELEMETRY & CODE

TOP MENU

[TELEMETRY & CODE]

Telemetry & Code menu is for telemetry and code assign setting.

It is able to switch telemetry data on transmitter display. It is also able to switch, turn on and off functions to adjust in AUX CODE.

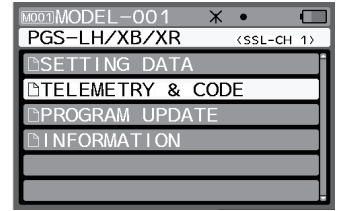
Please insert Micro SD Card to use the functions.

[Telemetry Setting]

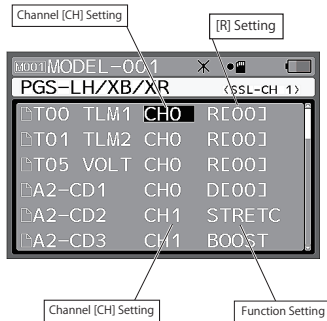
Telemetry data on transmitter are 3 functions: (T00) TLM1, (T01) TLM2, and (T05) VOLT

Telemetry information on the display can set channel and contents by [R] (return) value.

Default setting is no telemetry setting.

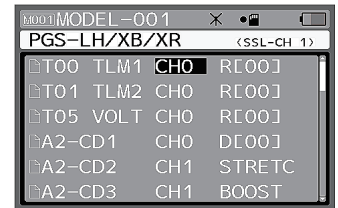


↓ ENTER ↑ BACK



T00 TLM1, T01, TLM2, T05 VOLT setting

Telemetry Display Function [R]	Setting Value
Off Function	00
Servo current values	01
Amount of operation	02
Amount of input operation + effect	03
Amount of servo operation	04
Motor output	05
CPU operation	06
Power current voltages	07



[CODE AUX Setting]

CODE AUX Setting can be change CODE10 function contents from transmitter on CODE AUX 2.

A2-CD1 (AUX2 CODE01)- [SSL-CH] (SSL-Channel) set as the default setting.

A2-CD2 (AUX2 CODE02)- [STRETC] (Stretcher) set as the default setting.

A2-CD3 (AUX2 CODE03)-[BOOST] set as the default setting.

A2-CD4 (AUX2 CODE04)-[D-BAND] (Dead band) set as the default setting.

A2-CD5 (AUX2 CODE05)-[MV-MID] set as the default setting.

A2-CD6 (AUX2 CODE06)- [MV-END] set as the default setting.

A2-CD7 (AUX2 CODE07)-[BRAKE] set as the default.

A2-CD8 (AUX2 CODE08)- No setting as the default.

A2-CD9 (AUX2 CODE09)- No setting as the default.

A2-CD10(AUX2 CODE10)- No setting as the default.

※ Please, do not set same function to several CODEs not to be into the trouble.

CODE AUX settings Contents
SSL-CH (SSL Channel)
STRETC (Stretcher)
BOOST
D-BAND (Dead band)
MV-MID
MV-END
BRAKE
MV-HLD (MV-Hold)
MV-FRQ (MV-Frequency)
MAX-PW (MAX-Power)

WRITE TO DEVICE: Please choose Enter after set each setting value, and display will be "Write OK?"

Then, tap "Yes" to write setting value to cunnected servos.

*Setting change will not apply until writing the setting value to connected servo.

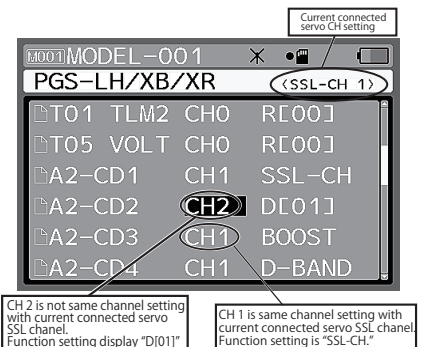
* A2-CD1 can be set only [SSL-CH].

*Display contents as [STRETC] is depended on current connected servo channel setting. In case channel setting is different, function setting display "D[**]" is invalid for connected servo.

Please check connected SSL-CH setting before set function setting.

* Connected servo information is when transmitter read the servo.

If you edit and write conncted servo SSL-CH setting after read the connected servo, please read the connected servo again before you set Telemetry & CODE AUX setting.



MULTI SETTING GEAR

PROGRAM UPDATE

TOP MENU

[PROGRAM UPDATE]

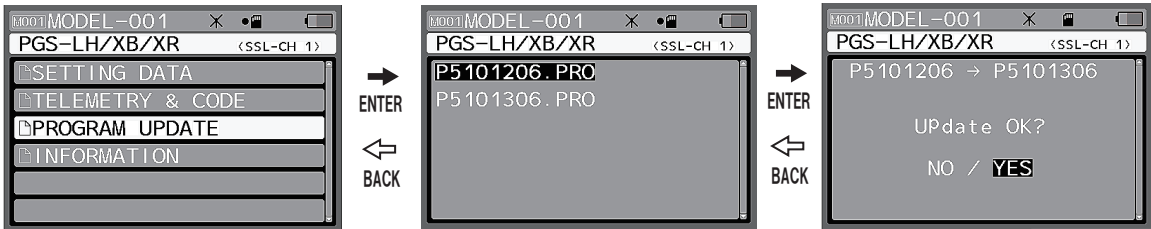
Program update is for updating servos firmware. Program update require to use Micro SD Card.

*We upload servo firmware if we updated the servo firmware on our website.

Please check, download, and save the latest firmware in Micro SD Card from our website.

(<http://sanwa-denshi.com>)

We will upload latest firmware with upload instruction.



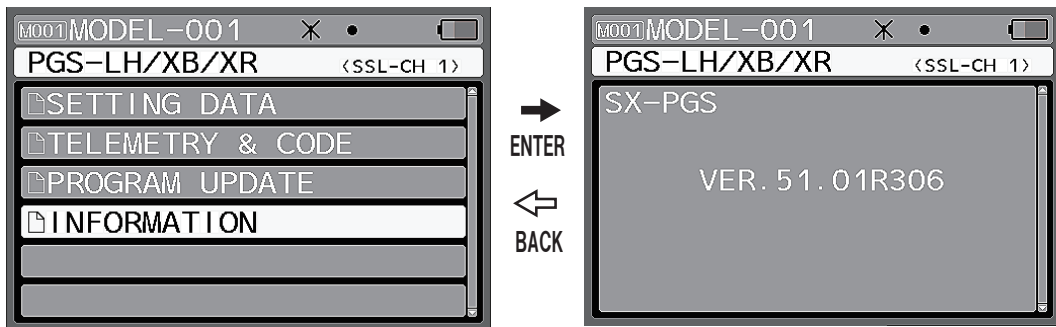
In case of update file in Micro SD card, display on "No File."

INFORMATION

TOP MENU

[INFORMATION]

Information menu is for checking current connected servo program.



IMPORTANT NOTIFICATION

[Important]

*Please DO NOT turn off transmitter and take off connected servos during reading, writing, and saving file.

It will be caused to be broken files and servos firmware.

*Please DO NOT take off Micro SD Card during updating firmware.

It will be caused to be broken files and servos firmware.

*About Micro SD Card, we recommend to use Micro SDHC CARD Class 6.

*If using lead harness (for extension), please use x1 SANWA lead harness.

*Please read the servo again if taking off the servo during setting.