This software update modifies features found on the 14SG. If you have questions about these updated directions, please consult your instruction manual or futaba-rc.com for further details. Refer to the original manual where applicable but replace the steps indicated below with these instructions.

1.Sound Data

The version of the sound data is Ver.2.0. Vario Melody of sink is improved. It is more continuously.

*Ver.4.x software of T14SG/FX-22 is not able to play the Ver.1 sound data. After updating to Ver.4.x , please install the Ver.1 sound data to T14SG/FX-22.

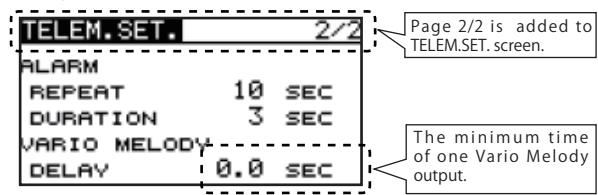The version of the sound data which has installed can be checked at TELEM.SET screen.

```
TELEM.SET.              1/2
SPEECH        ENGLISH
VERSION       Ver.  2
INTERVAL        0   SEC
LOGGING       INH  --
INTERVAL        0   SEC
```

2.VARIOMETER (Vario Melody Setting)

Vario Melody Setting is added to the variometer of the Altitude Sensor and GPS sensor.
(SBS-01A, SBS-01G, GPS-F1675, VARIO-F1712, VARIO-F1672)

*At GPS-F1675, VARIO-F1712 and VARIO-F1672, the MODE1-MODE2 setting of ACT/INH button has been deleted.

■ *RANGE*

This is the variable range of the Vario Melody.

↑ **(Climb side)** : When the variometer is greater than this value, Vario melody is not variable.
  Setting range : OFFSET value 〜 +50m/s (SBS-01A, SBS-01G)
         OFFSET value 〜 +50.0m/s (GPS-F1675, VARIO-F1712)
         OFFSET value 〜 +300.00m/s (VARIO-F1672)

↓ **(Sink side)** : When the variometer is less than this value, Vario melody is not variable.
  Setting range : -50m/s 〜 OFFSET value (SBS-01A, SBS-01G)
         -50.0m/s 〜 OFFSET value (GPS-F1675, VARIO-F1712)
         -300.00m/s 〜 OFFSET value (VARIO-F1672)

■ *OFFSET*

This is the changing point of climb and sink. When the variometer is greater than this value, Vario Melody is climb type. When the variometer is less than this value, Vario Melody is sink type.

Setting range : RANGE ↑ setting value 〜 RANGE ↓ setting value

■ *DEADBAND*

Vario Melody is not output in this range.

↑ **(Climb side)** : When the variometer is less than this value, Vario melody is not output.
  Setting range : 0m/s 〜 +50m/s (SBS-01A, SBS-01G)
         0.0m/s 〜 +50.0m/s (GPS-F1675, VARIO-F1712)
         0.00m/s 〜 +300.00m/s (VARIO-F1672)

↓ **(Sink side)** : When the variometer is greater than this value, Vario melody is not output.
  Setting range : -50m/s 〜 0m/s (SBS-01A, SBS-01G)
         -50.0m/s 〜 0.0m/s (GPS-F1675, VARIO-F1712)
         -300.00m/s 〜 0.00m/s (VARIO-F1672)

*These settings can be set each sensors.

Climb side value of RANGE
Page 3/3 is added.

```
VARIO                   3/3
MELODY
  RANGE       ↑
        +50m/s      -50m/s ↓
  OFFSET            +0m/s
  DEADBAND ↑           ↓
        +0m/s       +0m/s
```

Current variometer value
Sink side value of RANGE
The changing point of climb and sink
Sink side value of DEADBAND
Climb side value of DEADBAND

[The relation of Vario Melody settings]

	OFFSET	
Climb side (Discontinuous sounds)		Sink side (Continuous sounds)
Fixed melody	Variable melody	Not sound	Variable melody	Fixed melody	(m/s)

RANGE ↑   DEADBAND ↑   DEADBAND ↓   RANGE ↓
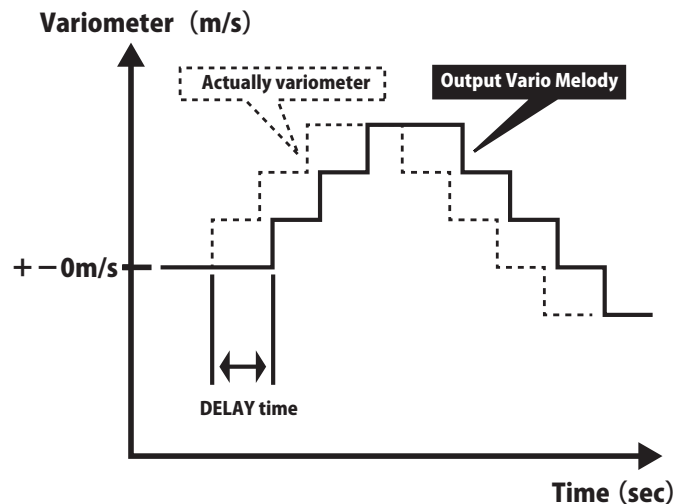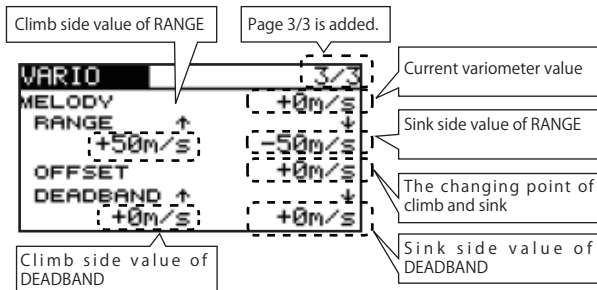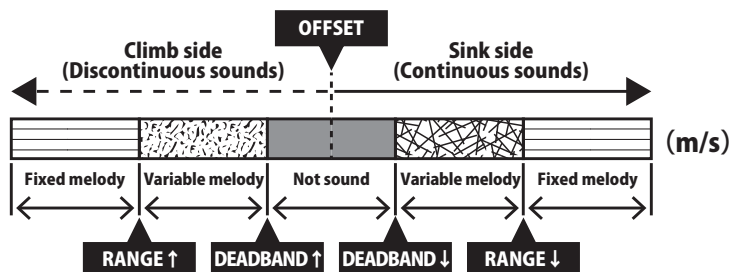
■ *DELAY*

The output vario melody does not change during the delay time. In other words, this is a minimum time of Vario melody output.

Setting range : 0.0, 0.5, 1.0, 1.5 sec

*This parameter is effective to all variometers. It is set at "TELEM.SET." screen.

```
TELEM.SET.              2/2
ALARM
  REPEAT        10  SEC
  DURATION       3  SEC
VARIO MELODY
  DELAY        0.0  SEC
```

Page 2/2 is added to TELEM.SET. screen.
The minimum time of one Vario Melody output.

[Vario Melody Delay]

Variometer（m/s）
Actually variometer
Output Vario Melody
+−0m/s
DELAY time
Time（sec）

3.SOUND (Vario Melody Volume)

The Vario Melody volume is added. The Vario Melody Volume is added to adjust by the hardware. **(stick, trim, lever, switch)**

■ *VARIO MELODY*

This is the volume of Vario Melody only.

Setting range : 0 (silent) 〜 30 (maximum)

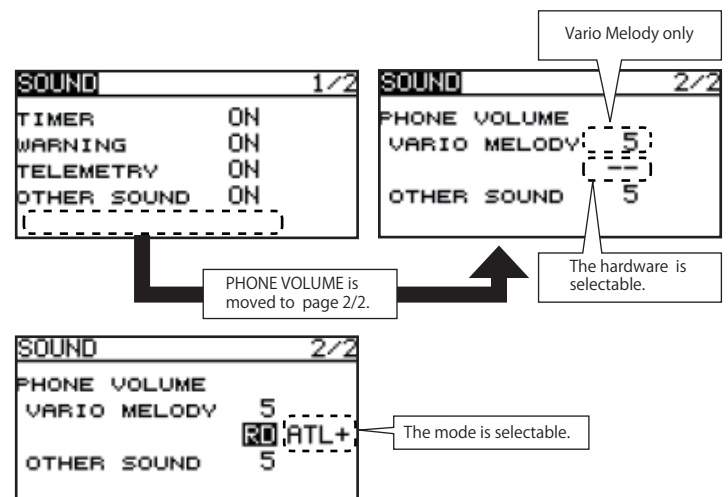The hardware for the adjustment is selectable.

Setting range : J1, J2, J3, J4, T1, T2, T3, T4, SA, SB, ,SC, SD, SE, SF, SG, SH, LS, LD, RD, RS, (SI, SJ) * ( ) is for FX-22 only.

The operation mode of the adjustment hardware is selectable.

ATL+ : When the operation direction is right or down or C.W. , the volume is increased.

ATL- : When the operation direction is right or down or C.W. , the volume is decreased.

SYM. : The center position is minimum volume. The both end points are maximum volume.

```
SOUND                   1/2
TIMER            ON
WARNING          ON
TELEMETRY        ON
OTHER SOUND      ON
```

```
SOUND                   2/2
PHONE VOLUME
VARIO MELODY      5
                 --
OTHER SOUND       5
```

Vario Melody only
The hardware is selectable.
PHONE VOLUME is moved to page 2/2.

```
SOUND                   2/2
PHONE VOLUME
VARIO MELODY      5
              RD ATL+
OTHER SOUND       5
```

The mode is selectable.

4.TELEM.SET. (Telemetry Alarm Duration and Repeat time)

The repeat time and duration time for the telemetry alarm (buzzer, vibration and speech) can be set.

■ *REPEAT*

It is a repeat time of an alarm output.

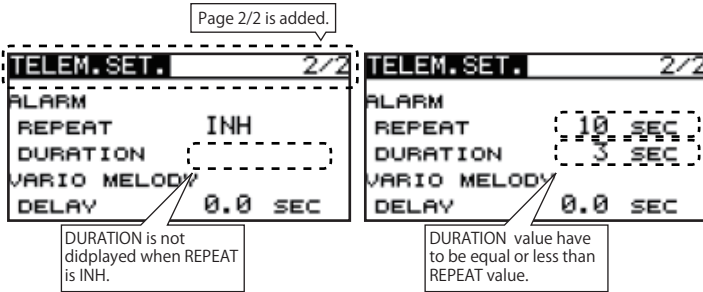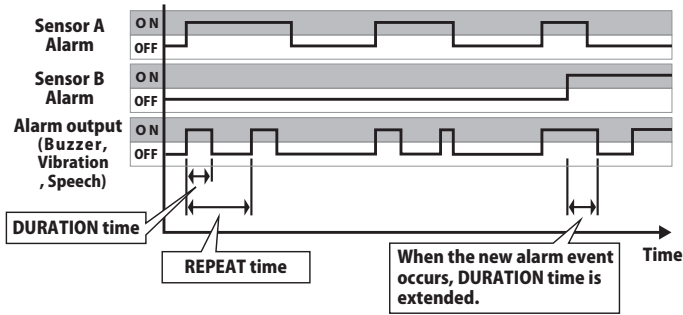Setting range : INH, 1s ～ 240s

■ *DURATION*

It is an alarm output time.

Setting range : 1s ～ 30s

*DURATION value has to be less than REPEAT value.

*DURATION time is extended when the other alarm event occurs.

Page 2/2 is added.

```
TELEM.SET.        2/2
ALARM
  REPEAT      INH
  DURATION
VARIO MELODY
  DELAY     0.0 SEC
```

DURATION is not didplayed when REPEAT is INH.

```
TELEM.SET.        2/2
ALARM
  REPEAT      10 SEC
  DURATION     3 SEC
VARIO MELODY
  DELAY     0.0 SEC
```

DURATION value have to be equal or less than REPEAT value.

[Duration and Repeat time for Telemetry Alarm]

Sensor A Alarm / Sensor B Alarm / Alarm output (Buzzer, Vibration, Speech)

DURATION time

REPEAT time

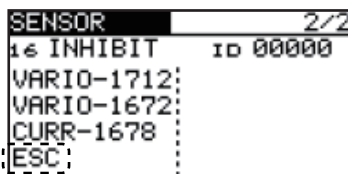When the new alarm event occurs, DURATION time is extended.

Time

5.SENSOR (Apply to new ESC)

New Robbe's ESC which includes some sensors is applied.

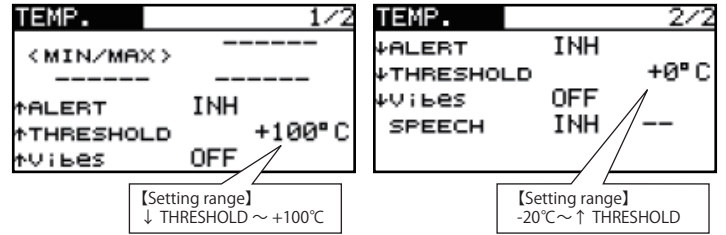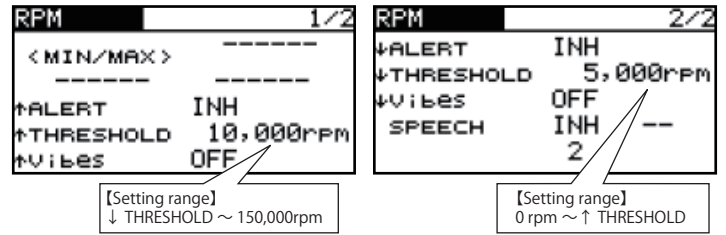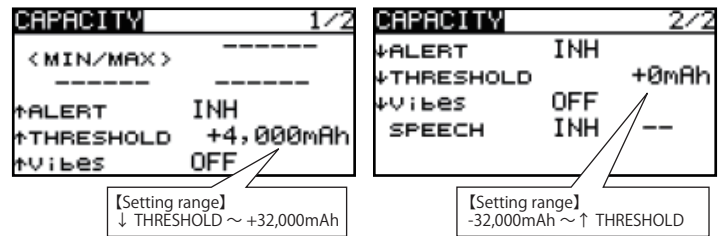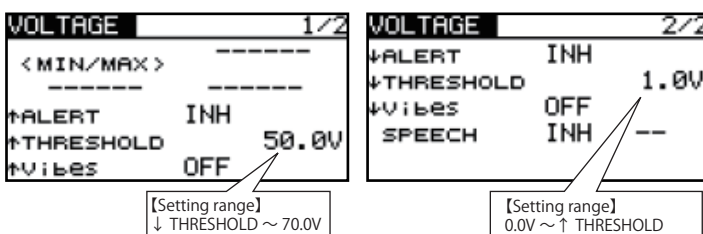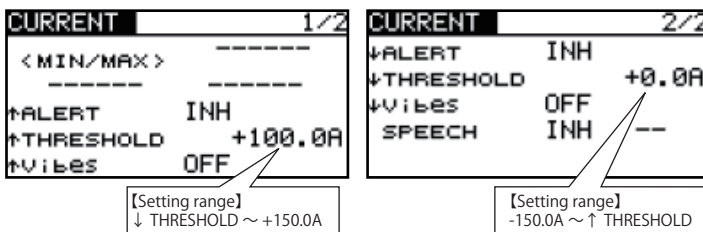Sensors : Current, Voltage, Current capacity, RPM and Temperature

The slot which can be registered : 1, 2, 3, 8, 9, 10, 11, 16, 17, 18, 19, 24, 25, 26, 27

Using slots : 5 slots

```
SENSOR            2/2
16 INHIBIT    ID 00000
VARIO-1712
VARIO-1672
CURR-1678
ESC
```

Please refer the instruction manual of T14SG / FX-22 for each setting.

```
CURRENT           1/2
<MIN/MAX>     ------
------     ------
↑ALERT      INH
↑THRESHOLD   +100.0A
↑Vibes      OFF
```

【Setting range】
↓ THRESHOLD ～ +150.0A

```
CURRENT           2/2
↓ALERT      INH
↓THRESHOLD   +0.0A
↓Vibes      OFF
 SPEECH     INH   --
```

【Setting range】
-150.0A ～ ↑ THRESHOLD

```
VOLTAGE           1/2
<MIN/MAX>     ------
------     ------
↑ALERT      INH
↑THRESHOLD   50.0V
↑Vibes      OFF
```

【Setting range】
↓ THRESHOLD ～ 70.0V

```
VOLTAGE           2/2
↓ALERT      INH
↓THRESHOLD   1.0V
↓Vibes      OFF
 SPEECH     INH   --
```

【Setting range】
0.0V ～ ↑ THRESHOLD

```
CAPACITY          1/2
<MIN/MAX>     ------
------     ------
↑ALERT      INH
↑THRESHOLD   +4,000mAh
↑Vibes      OFF
```

【Setting range】
↓ THRESHOLD ～ +32,000mAh

```
CAPACITY          2/2
↓ALERT      INH
↓THRESHOLD   +0mAh
↓Vibes      OFF
 SPEECH     INH   --
```

【Setting range】
-32,000mAh ～ ↑ THRESHOLD

```
RPM               1/2
<MIN/MAX>     ------
------     ------
↑ALERT      INH
↑THRESHOLD   10,000rpm
↑Vibes      OFF
```

【Setting range】
↓ THRESHOLD ～ 150,000rpm

```
RPM               2/2
↓ALERT      INH
↓THRESHOLD   5,000rpm
↓Vibes      OFF
 SPEECH     INH   --
             2
```

【Setting range】
0 rpm ～ ↑ THRESHOLD

```
TEMP.             1/2
<MIN/MAX>     ------
------     ------
↑ALERT      INH
↑THRESHOLD   +100°C
↑Vibes      OFF
```

【Setting range】
↓ THRESHOLD ～ +100℃

```
TEMP.             2/2
↓ALERT      INH
↓THRESHOLD   +0°C
↓Vibes      OFF
 SPEECH     INH   --
```

【Setting range】
-20℃ ～ ↑ THRESHOLD

6.S.BUS SERVO (SBD-1 CH setting)

CH setting of SBD-1 is available.

■ Please connect the SBD-1 and the battery to S.I/F port with 3 ways hub or Y harness.

 * In the case of FX-22, a battery is unnecessary.

■ Please select S.BUS SERVO menu in SYSTEM menu.

■ Please move to page 3/3.

■ Please operate RECALL button. (RECALL is chosen. ⇒ RTN is pushed. ⇒ RTN is pushed for 1 second.) SBD-1 setting screen is shown.
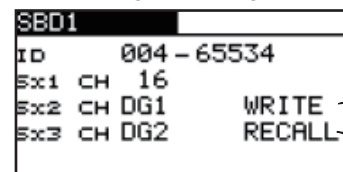
```
SBD1
ID      004 - 65534
Sx1 CH    1
Sx2 CH    2      WRITE
Sx3 CH    3      RECALL
```
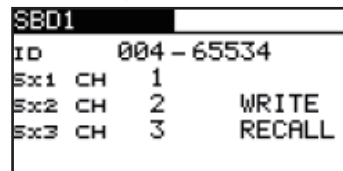
■ Please set CH to each port of SBD-1. (SX1, SX2 and SX3)

 * Setting range : CH1 ～ CH16, DG1, DG2

■ Please operate WRITE button. (WRITE is chosen. ⇒ RTN is pushed. ⇒ RTN is pushed for 1 second.)

■ The settings are changed.

```
SBD1
ID      004 - 65534
Sx1 CH   16
Sx2 CH  DG1      WRITE
Sx3 CH  DG2      RECALL
```

WRITE operation is writing CH setting to SBD-1.

RECALL operation is reading CH settings from SBD-1.

■ When the WRITE operation is success, the message "COMPLETED" is shown.

■ When the WRITE operation is failure, the message "FAILED" is shown.

7.S.BUS SERVO (OLP setting)

When the servo type is OLP mode, the torque and time for OLP can be set. When the load is greater than this setting torque and continues over this setting time, OLP works.

■ *Trq*

This is the torque for working OLP.

Setting range : 10% ～ 100% (100% is the maximum torque of the servo which you are setting.)

■ *TIME*

This is the time for working OLP.

Setting range : 0.2, 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25, 30 sec

SBUS SERVO screen 2/3

```
SBUS SERVO        2/3
REVERS  NORM TYPE OLP
SMOOTHER ON
SOFTSTAT 3.00s/60DEG.
BOOST    5%      OFF
DAMPER   96
```

When TYPE is set to OLP at page 2/3, OLP trq and time is shown at page 3/3.

SBUS SERVO screen 3/3

```
SBUS SERVO        3/3
STRETCH  ×1.000
BUZZER   OFF
OLP Trq 10%  TIME 3s
INIT.  WRITE  RECALL
```

This is the torque for working OLP.

This is the time for working OLP.

*If the setting of OLP torque and time is decreased, it is easier to work OLP. Then, please be careful not to work OLP at usual operation.

*S3171SB・S9071SB・S9072SB・S9074SB・S9075SB can not be set to OLP. These servos apply to NORMAL mode and RETRACTABLE mode only.

8.MODEL TYPE (Addition of MULTIROTOR)

MUTIROTOR type is added to MODEL TYPE.

```
MODEL TYPE
TYPE        MULTIROTOR
```

■ When a model type is MULTIROTOR, an icon for exclusive use is displayed on HOME screen.

```
FUTABA CO. 00 00 6.0V
T1 00:00.00
T2 00:00.00
 14CH       MODEL-01
+0          00 00    +0
+0                   +0
```

■ When a model type is MULTIROTOR, the LINKAGE menu is below. Please refer the instruction manual of T14SG/FX-22 for each function.

```
LINKAGE MENU      1/2
SERVO      : SUB-TRIM
MODEL SEL. : REVERSE
MODEL TYPE : FAIL SAFE
SYSTEM     : END POINT
FUNCTION   : SRVO SPEED
```

```
LINKAGE MENU      2/2
T1-T4 SET. : SENSOR
STK ALARM  : DATA RESET
WARNING
TELEM.SET. :
TELEMETRY  :
```

■ When a model type is MULTIROTOR, the MODEL menu is below. Please refer the instruction manual of T14SG/FX-22 for each function.

*GYRO menu is same as GYRO for the airplane.

*CNTR ALARM is only for MULTIROTOR.

```
MODEL MENU
SERVO
DUAL RATE  :
PROG. MIX  :
GYRO
```

■ The default setting of CH and functions are below;

```
FUNCTION          1/4
        CTRL  TRIM
1 AIL   J1    T1
2 ELE   J2    T2
3 THR   J3    T3
4 RUD   J4    T4
```

```
FUNCTION          2/4
        CTRL  TRIM
5 MODE  SE    --
6 TILT  RS    --
7 PAN   LS    --
8 REC   SH    --
```

```
FUNCTION          3/4
        CTRL  TRIM
9 GYRO  --    --
10 AUX1 --    --
11 AUX1 --    --
12 AUX1 --    --
```

■ The functions which can be set are below.

FUNCTION	
Normal	Short
AILERON	AIL
ELEVATOR	ELE
THROTTLE	THR
RUDDER	RUD
GYRO	GYR
GYRO2	GYR2
GYRO3	GYR3
CAM TILT	TILT
CAMERA PAN	PAN
CAMERA REC	REC
MODE	MODE
AUXILIARY6	AUX6
AUXILIARY5	AUX5
AUXILIARY4	AUX4
AUXILIARY3	AUX3
AUXILIARY2	AUX2
AUXILIARY1	AUX1

```
FUNCTION          1/3
CH:1    AILERON
AILERON  : GYRO
ELEVATOR : GYRO2
THROTTLE : GYRO3
RUDDER   : CAM TILT
```

```
FUNCTION          2/3
CH:1    AILERON
CAMERA PAN : AUXILIARY5
CAMERA REC : AUXILIARY4
MODE       : AUXILIARY3
AUXILIARY6 : AUXILIARY2
```

```
FUNCTION          3/3
CH:1    AILERON
AUXILIARY1 :
```

*CAM TILT, CAMERA PAN, CAMERA REC and MODE which are added for MULTIROTOR do not have any special functions. They are same as AUXILIARY functons.

■ The default settings of TRAINER at MULTIROTOR are below. It is easy to set TRAINER, when the student radio is used for camera gimbal control.

```
TRAINER           1/4
INH   MODE RATE STU.CH
1 AIL  OFF
2 ELE  OFF
3 THR  OFF
4 RUD  OFF
```

```
TRAINER           2/4
INH   MODE RATE STU.CH
5 MODE OFF
6 TILT FUNC 100% CH3
7 PAN  FUNC 100% CH4
8 REC  FUNC 100% CH5
```

```
TRAINER           3/4
INH   MODE RATE STU.CH
9 AUX1  OFF
10 AUX1 OFF
11 AUX1 OFF
12 AUX1 OFF
```

```
TRAINER           4/4
INH   MODE RATE STU.CH
   ACT       INH
   SW        --
   CH MODE   8CH
```

*Please do not use REVERSE, END POINT and any other Mixers at student transmitter.

9.GYRO (Corresponding model type : AIRPLANE / GLIDER and MULTIROTOR)

The fine tuning hardware setting is added to GYRO for AIRPLANE and GLIDER.

Setting range：

GY type : Setting rate ± 20% (The actual rate has not to be greater than 100%.)

NORM type : Setting rate ± 10.0% (The actual rate has not to be greater than 100%.)

```
GYRO          ACTIVE#1
# 1        %      %
GYRO   AVCS  80< 70>RD
GYRO2  AVCS  80< 96>LD
GYRO3  AVCS  80< 75>LS
TYPE GY      ON     SC
```

This is an actual rate. It is not greater than 100%.

The hardware is selectable.

10.STICK ALARM (Corresponding model type : All Model Types)

An alarm (single beep) can be sounded at the specified stick position.

■ Alarm function ON/OFF can be set by switch.

```
STK ALARM
    ACT INH
    SW  --
    STK J3
    POS 50%<  0>
```

ON/OFF switch is selectable.

Stick is selectable.　(J1, J2, J3, J4)
The default setting :
Mode 1 → J2　　Mode 2 → J3

The stick position for an alarm

Current stick position

```
            100%

J1 J4 0% ←⊙→ 100%

            0%
          J2  J3
```
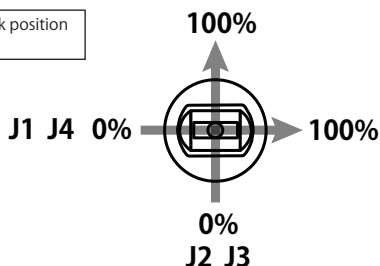
11.TIMER (ST1 and ST2 speech function)

Speech function is added to TIMER (ST1 and ST2).
It is phone output only.
It outputs voice 20 seconds before reaching to the target time.
(twenty seconds)
It is counted down by voice from 10 seconds before reaching to the target time.
(ten, nine, eight・・・three, two, one)
It sounds a long beep at reaching the target time.

Alarm each minute

■ ↑ *mode*
The voice outputs each minute of the time elapsed from timer start.

■ ↓ *mode*
The voice outputs each minute of the time remaining up to the alarm time.

*The voice alarm of timer is delayed from the actual time.

*During logging telemetry data, the voice alarm is delayed more.

*The priority of the timer speech is higher than the telemetry speech. Then, the telemetry speech is stopped and the timer speech is outputted, when the telemetry speech is outputted.

*Usually, the priority of the speech of ST1 is higher than ST2. However, the timer which has started 10 seconds countdown is given the priority. However, the timer which has started 10 seconds countdown is given the priority.

*The telemetry speech can not be outputted during 10 seconds countdown.

```
TIMER
ST1    00:00.00 RESET
MODE  UP     START --
ALARM 10:00↑ STOP --
MEMORY OFF    RESET --
Vibes OFF   SPEECH INH
```

```
TIMER
ST2    00:00.00 RESET
MODE  UP     START --
ALARM 10:00↑ STOP --
MEMORY OFF    RESET --
Vibes OFF   SPEECH INH
```

12.DG1,DG2 at FASSTest 14CH mode

When R7008SB can be set to Mode C or Mode D, and it is FASSTest 14CH mode, DG1 is output from CH13 (CH5 port) and DG2 is output from CH14 (CH6 port).

*Regarding R7008SB operation mode, please refer the instruction of T14SG/FX-22 and R7008SB.

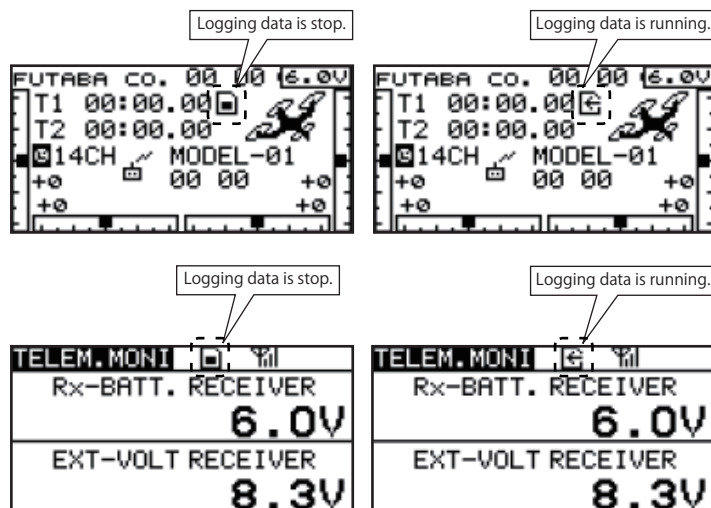*It is FASSTest 14CH mode only that DG1 and DG2 are output from CH13 and CH14.

R7008SB CH Mode table

Output connector	Channel			
	Mode A 1～8CH	ModeB CH	ModeC 9～16CH	ModeD 9～15CH
1	1	1	9	9
2	2	2	10	10
3	3	3	11	11
4	4	4	12	12
5	5	5	13	13
6	6	6	14	14
7/B	7	7	15	15
8/SB	8	S.BUS	16	S.BUS

DG1 is output from CH13 (CH5 port)

DG2 is output from CH14 (CH6 port)

13.TELEMETRY DATA LOG (icon)

The card icon indicates that the telemetry data logging function works at HOME screen and TELEM.MONI screen.

Logging data is stop.

Logging data is running.

```
FUTABA CO. 00 00 6.0V
T1  00:00.00 🔲  🚀
T2  00:00.00
🔲14CH  ✏  MODEL-01
+0           00 00      +0
+0                      +0
```

```
FUTABA CO. 00 00 6.0V
T1  00:00.00 🔁  🚀
T2  00:00.00
🔲14CH  ✏  MODEL-01
+0           00 00      +0
+0                      +0
```

Logging data is stop.

Logging data is running.

```
TELEM.MONI 🔲 📶
  Rx-BATT. RECEIVER
        6.0V
  EXT-VOLT RECEIVER
        8.3V
```

```
TELEM.MONI 🔁 📶
  Rx-BATT. RECEIVER
        6.0V
  EXT-VOLT RECEIVER
        8.3V
```

14.TELEM.MONI (The extension of the number of telemetry data which is shown)

The number of telemetry data which is displayed to TELEM.MONI screen is extended. It is 16 items (4 pages) maximum.
The page number is memorised automatically.
Then, TELEM.MONI screen shows the page which was shown at last time.

*The page is memorised even if the power is turned off.

```
TELEM.MONI 🔲 📶 1/4
  Rx-BATT.   6 BATTERY
    6.0V        6.0V
RECEIVER     SBS-01V
  EXT-VOLT   6 EXT-VOLT
    11.0V       11.1V
RECEIVER     SBS-01V
```

```
TELEM.MONI 🔲 📶 2/4
1 TEMP.      6 EXT-VOLT
    +32°C       11.1V
SBS-01T      SBS-01V
17 TEMP.     2 RPM
    +24°C       0rpm
SBS-01T      SBS-01RM/O
```

```
TELEM.MONI 🔲 📶 3/4
8 DISTANCE   8 ALTITUDE
  ------        +3 m
SBS-01G      SBS-01G
8 SPEED      8 VARIO
  ------        +0m/s
SBS-01G      SBS-01G
```

```
TELEM.MONI 🔲 📶 4/4
3 ALTITUDE
    +0 m
SBS-01A
3 VARIO
    +0m/s
SBS-01A
```

©FUTABA CORPORATION　2014, 4　(1)