# SERVICE MANUAL

# FE-2 CHASSIS

| MODEL | COMMANDER | DEST | CHASSIS NO. | MODEL | COMMANDER | DEST | CHASSIS NO. |
|---|---|---|---|---|---|---|---|
| | | | | **KV-29FX30B** RM-887 | | FR | SCC-Q54J-A |
| | | | | **KV-29FX30E** RM-887 | | ESP | SCC-Q53K-A |
| | | | | **KV-29FX30K** RM-887 | | OIRT | SCC-Q51L-A |

# FD Trinitron



# TRINITRON ® COLOR TV

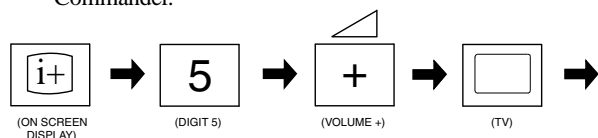# SONY ®

## 4-1. Electrical Adjustments

Service adjustments to this model can be performed using the suppliedemote Commander RM-887.

### How to enter into the Service Mode

1. Turn on the main power switch and enter into the stand-by mode.
2. Press the following sequence of buttons on the Remote Commander.

| i+ | → | 5 | → | + | → | ▭ | → |
|---|---|---|---|---|---|---|---|
| (ON SCREEN DISPLAY) | | (DIGIT 5) | | (VOLUME +) | | (TV) | |

'TT—' will appear in the upper right corner of the screen. Other status information will also be displayed.

3. Press 'MENU' on the remote commander to obtain the following menu on the screen.

```
Geometry
Service
Design
Status
Sound
IF adjust
Error Menu

FE-2 Stereo v1.30
Factory data    FFh    FFh
MSP Device : MSP3411G
```

4. Move to the corresponding adjustment item using the up or down arrow buttons on the Remote Commander.
5. Press the right arrow button to enter into the required menu item.
6. Press the 'Menu' button on the Remote Commander to quit the Service Mode when all adjustments have been completed.

**Note :**

- Before performing any adjustments ensure that the correct model has been selected in the 'Model Setting' menu.

- After carrying out the service adjustments, to prevent the customer accessing the 'Service Menu' switch the TV set OFF and then ON.

**ERROR MENU**

| E02 | OCP | (0, 255) | 0 |
|---|---|---|---|
| E03 | OVP N/A | (0, 255) | 0 |
| E04 | VSYNC | (0, 255) | 0 |
| E05 | IKR | (0, 255) | 0 |
| E06 | IIC | (0, 255) | 0 |
| E07 | NVM | (0, 255) | 0 |
| E08 | JUNGLE | (0, 255) | 0 |
| E09 | TUNER | (0, 255) | 0 |
| E10 | SOUNDP | (0, 255) | 0 |
| E11 | 8V | (0, 255) | 0 |

**WORKING TIME**

| HOURS | 2 |
|---|---|
| MINUTES | 11 |

**SERVICE**

| Offset-R | (0, 63) | Adj |
|---|---|---|
| Offset-G | (0, 63) | Adj |
| R-Drive | (0, 63) | 25 |
| G-Drive | (0, 63) | Adj |
| B-Drive | (0, 63) | Adj |
| Peak-Freq | (0, 3) | 0 |
| Luma-Delay | (0, 15) | 8 |
| SC0 | (0, 3) | 2 |
| White-Peak | (0, 15) | 15 |
| Subcont | (0, 15) | 4 |
| Subright | (0, 63) | 31 |
| Subcol | (0, 63) | Adj |
| Subsharp | (0, 63) | 31 |
| Cutoff Br. | (0, 63) | 60 |
| Br OSD | (0, 15) | 10 |
| Br TXT | (0, 15) | 9 |

**GEOMETRY**

| V-Linearity | (0, 63) | Adj |
|---|---|---|
| V-Scroll | (0, 63) | 32 |
| Left-HBlk | (0, 15) | 8 |
| Right-HBlk | (0, 15) | 6 |
| V-Angle | (0, 63) | Adj |
| V-Bow | (0, 63) | Adj |
| H-Centre | (0, 63) | Adj |
| H-Size | (0, 63) | Adj |
| Pin-Amp | (0, 63) | Adj |
| U-Corner-Pin | (0, 63) | Adj |
| L-Corner-Pin | (0, 63) | Adj |
| Pin Phase | (0, 63) | Adj |
| V-Slope | (0, 63) | 35 |
| V-Size | (0, 63) | Adj |
| S-Correction | (0, 63) | Adj |
| V-Centre | (0, 63) | Adj |
| V-Zoom | (0, 63) | 23 |
| Magenta | (0, 63) | 40 |

**IF ADJUST**

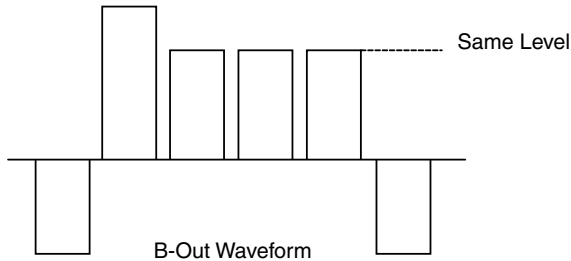| AGC Adjust | (-16, +15) | +0 |
|---|---|---|
| Automute | | 1 |
| Audio Gain | | 0 |
| L Gating | | 0 |

### Sub Brightness Adjustment

1. Input a Monoscope pattern.
2. Press 'TEST' 'TEST' 13 on the Remote Commander.
3. Adjust the 'Sub-Brightness' data so that there is barely a difference between the 0 IRE and 10 IRE signal levels.

### Sub Contrast Adjustment

1. Input a video signal that contains a small 100% white area on a black background.
2. Connect an digital voltmeter to Pin 10 of J701 [C Board].
3. Adjust the Sub-Contrast ['TT11'] to obtain a voltage of 105 +/- 5V (KV-29FX30) or 96 +/-5V (KV-25FX30).

## Sub Colour Adjustment

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to Pin 5 of CN003 [A Board].
3. Enter into the 'Service' service menu.
4. Adjust the 'Sub Colour' data so that the Cyan, Magenta and Blue colour bars are of equal levels as indicated below.
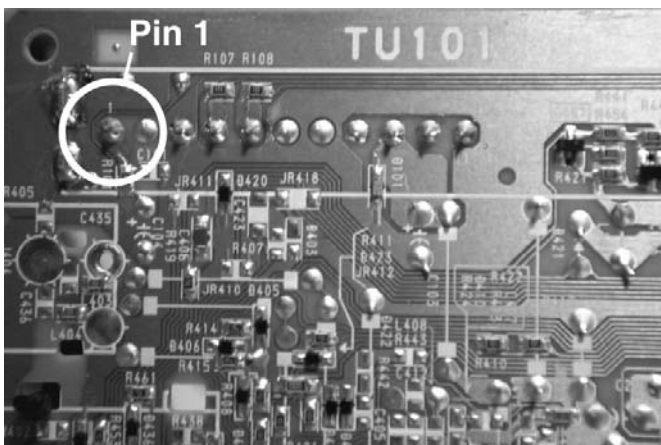
Same Level

B-Out Waveform

## Tuner AGC Adjustment

**Note:**

There should be no need to adjust the AGC as this is pre-adjusted during manufacture of the FRONTEND. If the AGC does need adjustment then follow steps 1. to 4. below.

1. Receive a signal of 62dBuV / 75 ohm terminated via the tuner antenna socket.
2. Connect a voltmeter to pin1 of TU101 [print side of A Board] or to the AGC pin of CN001 [mount side of A Board].
3. Confirm that the AGC voltage is 3.5volts +/- 0.3volts.
4. If adjustment is required, then re-adjust the AGC variable resistor (located at the top rear of the FRONTEND) to obtain a voltage of 3.5V +/- 0.3V.
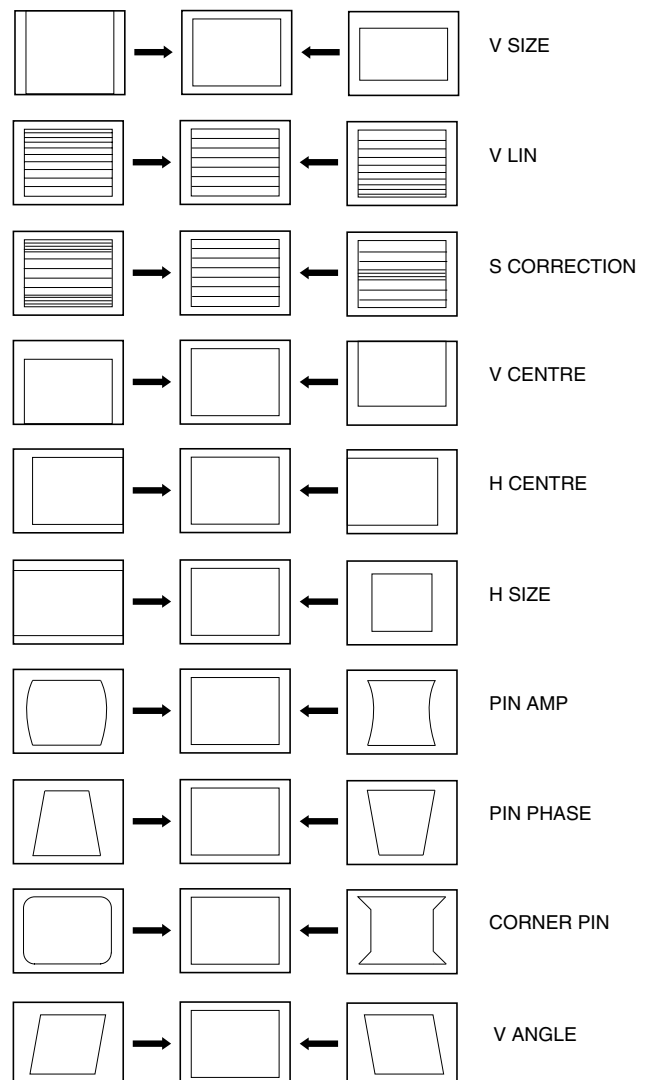
**[ Print side of A board ]**

## Deflection System Adjustment

1. Enter into the 'Geometry' service menu.
2. Select and adjust each item in order to obtain the optimum image.

**GEOMETRY**

| | | |
|---|---|---|
| V-Linearity | (0, 63) | Adj |
| V-Scroll | (0, 63) | 32 |
| Left-HBlk | (0, 15) | 8 |
| Right-HBlk | (0, 15) | 6 |
| V-Angle | (0, 63) | Adj |
| V-Bow | (0, 63) | Adj |
| H-Centre | (0, 63) | Adj |
| H-Size | (0, 63) | Adj |
| Pin-Amp | (0, 63) | Adj |
| U-Corner-Pin | (0, 63) | Adj |
| L-Corner-Pin | (0, 63) | Adj |
| Pin Phase | (0, 63) | Adj |
| V-Slope | (0, 63) | 35 |
| V-Size | (0, 63) | Adj |
| S-Correction | (0, 63) | Adj |
| V-Centre | (0, 63) | Adj |
| V-Zoom | (0, 63) | 23 |
| Magenta | (0, 63) | 40 |

V SIZE

V LIN

S CORRECTION

V CENTRE

H CENTRE

H SIZE

PIN AMP

PIN PHASE

CORNER PIN

V ANGLE

## 4-2. TEST MODE 1:

Test Mode 1 is available by pressing the 'TEST' button once, OSD 'T' appears. The functions described below are available by selecting the indicated keys. The 'T' is released automatically after each command is executed.

| KEY | T-MODE FUNCTION |
|---|---|
| volume + | volume maximum |
| volume - | Picture minimum |
| picture + | Picture maximum |
| picture - | Picture minimum |
| colour up | colour maximum |
| colour down | colour minimum |
| brightness - bright | brightness maximum |
| brightness - dark | brightness minimum |
| hue - purplish | hue - purplish |
| hue - greenish | hue - greenish |
| sharpness - sharp | sharpness maximum |
| sharpness - soft | sharpness minimum |
| balance left | balance full left |
| balance right | balance full right |
| treble up | treble maximum |
| treble down | treble minimum |
| bass up | bass maximum |
| bass down | bass minimum |

## 4-3. TEST MODE 2:

Test Mode 2 is available by pressing the 'TEST' button twice, OSD 'TT' appears. The functions described below are available by selecting the two numbers. To release the 'Test mode 2', press 00, 10, 20 ... twice or switch the TV set into Stand-by mode. In 'TT Menu' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the Menu to reappear. The function is kept even when the menu is not displayed on screen !!.

| | |
|---|---|
| 00 | 'TT' mode off |
| 01 | Picture maximum |
| 02 | Picture minimum |
| 03 | Set speaker/headphone Volume to 35% |
| 04 | Set speaker/headphone Volume to 50% |
| 05 | Set speaker/headphone Volume to 65% |
| 06 | Set speaker/headphone Volume to 80% |
| 07 | Ageing mode |
| 08 | Shipping Condition |
| 11 | Sub picture adjustment |
| 12 | Sub colour adjustment |
| 13 | Sub Brightness adjustment |
| 14 | Text H Position adjustment |
| 15 | Rotation Coil Test |
| 16 | Picture level 50% |
| 19 | Factory Mode Enable/Disable |
| 21 | Destination ADEKR |
| 22 | Destination BL |
| 23 | Destination ADEKR |
| 24 | Destination U |
| 25 | Destination ADEKR |
| 26 | Destination BL |

| | |
|---|---|
| 27 | Destination ADEKR |
| 28 | Destination ADEKR |
| 31 | Auto Shutoff Enable/Disable |
| 33 | Rotation ON/OFF |
| 35 | CRT 4:3 <> 16:9 ; Display TV status |
| 36 | Velocity Modulation (VM) OFF/ON test |
| 38 | G2 adjustment |
| 41 | Re-initialise NVM |
| 43 | Select Dual A sound |
| 44 | Select Dual B sound |
| 45 | Select Mono sound |
| 46 | Select Stereo sound |
| 48 | Set NVM as non virgin |
| 49 | Set NVM as virgin |
| 51 | Virtual Dolby on/off |
| 52 | Subwoofer / MPB (Bass enhancement) Enable |
| 54 | Dot structure C/M (chroma trap)ination ADEKR |
| 55 | Tuner selection (SONY/ALPS) |
| 56 | BBE enable/disable |
| 57 | BBE menu line enable/disable |
| 61 | Auto AGC Adjustment |
| 62 | AM from baseband enable/disable |
| 63 | Enable/Disable YC3 connector |
| 64 | Enable/Disable RGB priority |
| 65 | RGB auto-detect enable/disable |
| 66 | On timer enable/disable |
| 67 | Manual AGC Adjustment |
| 68 | Enable/Disable X26 countermeasure (N problem) |
| 69 | Enable/Disable ACI feature |
| 71 | Force PAL video |
| 72 | Un-force PAL (restore normal video condition) |
| 73 | Enable Zweiton D/K2 system (6.5/6.74) |
| 74 | Enable Zweiton D/K3 system (6.5/5.74) |
| 78 | Balance full left |
| 79 | Balance full right |
| 87 | Local keys test |
| 89 | Enable/Disable watchdog |
| 91 | Set 14:9 zoom mode |
| 92 | Set SMART zoom mode |
| 93 | Set 16:9 zoom mode |
| 94 | Set ZOOM mode |
| 95 | Set 4:3 zoom mode |
| 99 | Display Error and Working Time menu |