

JVC

SERVICE MANUAL

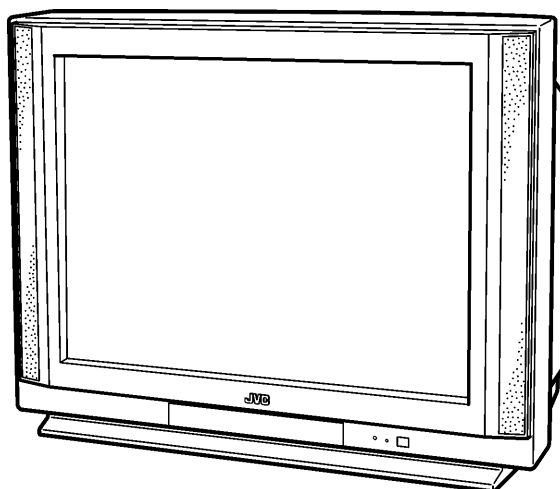
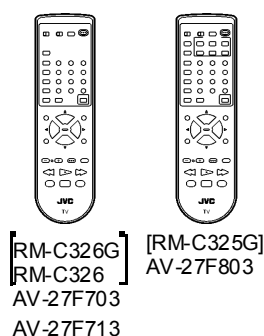
COLOR TELEVISION

AV-27F703¹/_S AV-27F713¹/_S AV-27F803¹/_S

BASIC CHASSIS

GJ
(No.A111)

UBE



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SPECIFICATIONS

| Items | Contents |
|--|---|
| Dimensions (W × H × D) | 29-7/8" × 23"-3/8" × 19-3/4" (758mm × 593mm × 500mm) |
| Mass | 94.6 lbs (43.0 kg) |
| TV System and Color System | TV RF System CCIR(M) Color System NTSC Sound System BTSC System (Multi-Channel Sound) |
| TV Receiving Channels and Frequency | VL Band (02~06) 54MHz ~88MHz VH Band (07~13) 174MHz~216MHz UHF Band (14~69) 470MHz~806MHz |
| CATV Receiving Channels and Frequency | Low Band (02~06, A-8) by (02~06&01) High Band (07~13) by (07~13) Mid Band (A~1) by (14~22) Super Band (J~W) by (23~36) Hyper Band (W +1~W+28) by (37~64) Ultra Band (W +29~W+84) by (65~125) Sub Mid Band (A8, A4~A1) by (01, 96~99) |
| | (54MHz~ 804MHz) |
| TV/CATV Total Channel | 180 Channels |
| Intermediate Frequency | 45.75MHz |
| Video IF Carrier | 41.25MHz (4.5MHz) |
| Sound IF Carrier | 41.25MHz (4.5MHz) |
| Color Sub Carrier | 3.58MHz |
| Power Input | 120V AC, 60Hz |
| Power Consumption | 140W |
| Picture Tube | 27" (68cm) Measured Diagonally |
| High Voltage | 30.0kV ± 1.3kV (at zero beam current) |
| Speaker | 2" × 4-3/4" (5 × 12cm) Oval type × 2 |
| Au dio Power Output | 5W + 5W |
| Input terminals | Input 1 (Rear) S-Video Y : 1V(p-p) Positive (Negative sync provided, when terminated with 75 Ω) C : 0.286V(p-p) (Burst signal, when terminated with 75 Ω) |
| | Video 1V(p-p), 75 Ω |
| | Au dio (L/MONO, R) 500mV(rms) (-4dBs), High Impedance |
| | Input 2 (Rear) Video 1Vp-p, 75 Ω |
| | Component video Y : 1V(p-p) Positive (Negative sync provided, when terminated with 75 Ω) P _B , P _R : 0.7V(p-p), 75 Ω |
| | Au dio (L/MONO, R) 500mV(rms) (-4dBs), High Impedance |
| | Input 3 (Front) Video 1V(p-p), 75 Ω |
| | Au dio (L/MONO, R) 500mV(rms) (-4dBs), High Impedance |
| Input 4 (Rear) (For AV-27F803) | Component video Y : 1V(p-p) Positive (Negative sync provided, when terminated with 75 Ω) P _B , P _R : 0.7V(p-p), 75 Ω |
| | Au dio (L/MONO, R) 500mV(rms) (-4dBs), High Impedance |
| | Fix Audio Output 500mV(rms), (-4dBs), LOW Impedance (400Hz when modulated 100%) |
| AV compulink III Input | 3.5mm mini jack |
| Antenna terminal | 75 Ω (VHF/UHF) Terminal, F-Type Connector |
| Remote Control Unit | RM-C326G(AV-27F703) / RM-C326(AV-27F713) /RM-C325G(AV-27F803) (AA/R6/UM-3 battery × 2) |

Design & specifications are subject to change without notice.

SAFETY PRECAUTIONS

- The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- Use isolation transformer when hot chassis.**
 The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
- Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
 Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (\perp) side GND, the ISOLATED(NEUTRAL) : (⏏) side GND and EARTH : (\oplus) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
 If above note will not be kept, a fuse or any parts will be broken.
- If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k Ω 2W resistor to the anode button.
- When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

10. Isolation Check

(Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.

(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

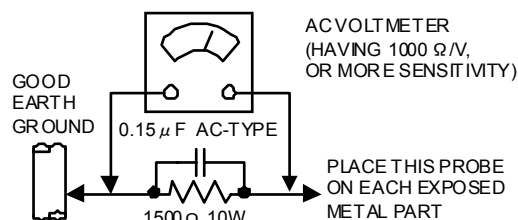
(2) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

● Alternate Check Method

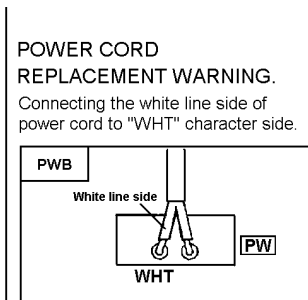
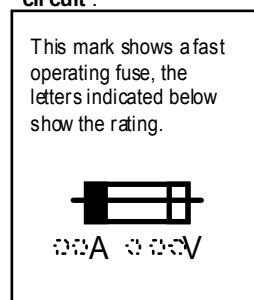
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500 Ω 10W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.). However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



11. High voltage hold down circuit check.

After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.

See item "How to check the high voltage hold down circuit".



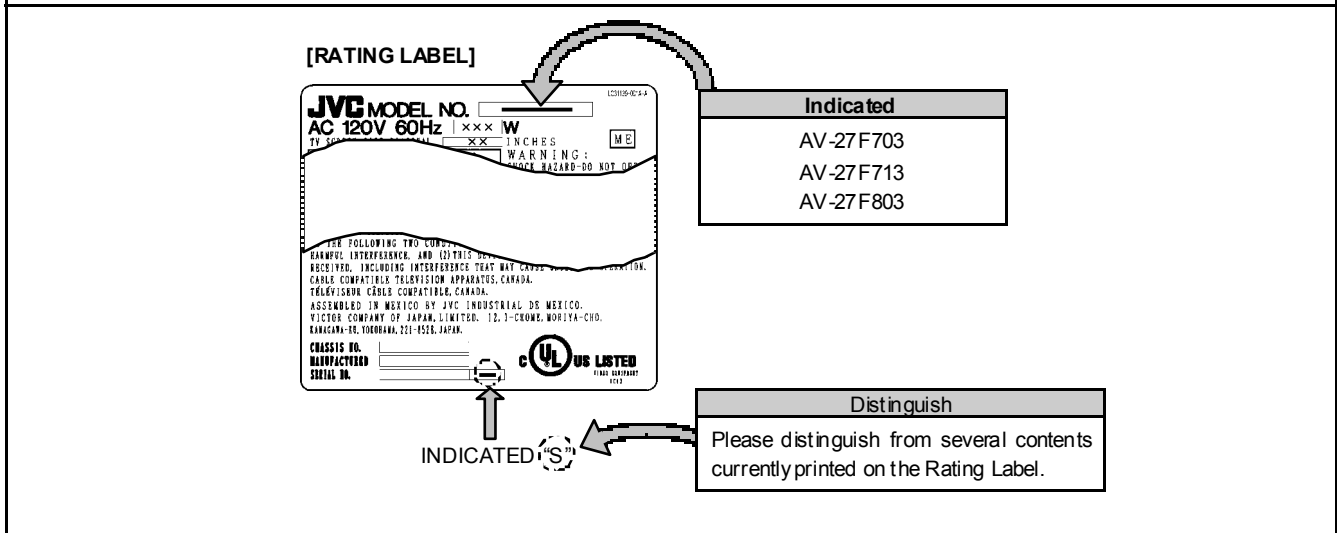
AV-27F703
 AV-27F713
 AV-27F803

FEATURES

- New chassis design enables use of a single board with simplified circuitry.
- Users can make fun to connect the DVD player with the component video signal input terminal.
- Provided with miniature tuner (TV/CATV).
- Multifunctional remote control permits picture adjustment.
- Adoption of the CHANNEL GUARD function prevents the specific channels from being selected, unless the "ID number" is key in.
- I²C bus control utilizes single chip ICs.
- Adoption of the VIDEO STATUS / THEATER PRO. function.
- Adoption of the ON/OFF TIMER and SLEEP TIMER function.
- Built-in V-CHIP system.
- Closed-caption broadcasts can be viewed.
- Built-in MTS system, BBE / HYPER-SURROUND system.
- S-VIDEO input terminal for taking best advantage of Super VHS.
- Digital Comb filter Improved picture quality.
- Built-in EZ SURF system.(AV-27F803)
 By pushing the EZ SURF key, Back Program Information can be displayed in written from program Information uses a CALL LETTER (broadcasting station ID), a Network name and a Program name of XDS data, and collect's tuning of the tuner for PIP one by one.

HOW TO IDENTIFY MODELS

• How to recognize from the appearance of the model concerned is written below. Please distinguish from several contents currently printed on the rating label.

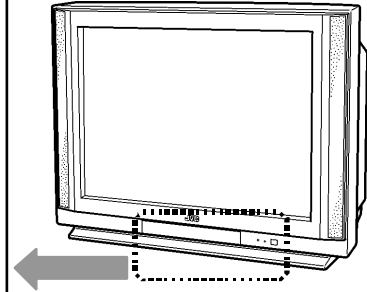
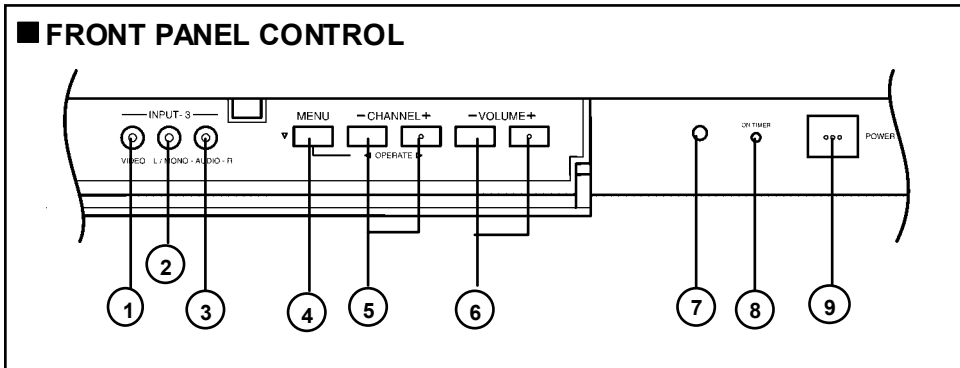


MAIN DIFFERENCE LIST

| △ | Model name | AV-27F 703/s | AV-27F 713/s | AV-27F 803/s |
|---|-----------------------|----------------|----------------|----------------|
| | Parts Name | | | |
| | MAIN PWB | SGJ-1004A-M2 | SGJ-1003A-M2 | SGJ-1002A-M2 |
| | PIP PWB | × | × | SGJ-4001A-M2 |
| | AV SEL PWB | SGJ-5002A-M2 | ← | SGJ-5001A-M2 |
| | 3D Y/C SEP MODULE PWB | × | × | SGJ0Y001A-M2 |
| △ | FRONT CABI. ASSY | LC10878-003B-A | LC10878-004A-A | LC10878-003B-A |
| | JVC MARK | CM48006-008-C | CM48006-009-C | CM48006-008-C |
| △ | DOOR | LC20628-001C-A | LC20628-002A-A | LC20628-001C-A |
| △ | KNOB (POWER) | LC31237-001A-A | LC31237-002A-A | LC31237-001A-A |
| | OPERATION SHEET | LC31238-004A-A | LC31238-005A-A | LC31238-004A-A |
| △ | CONTROL KNOB | LC20217-004B-A | LC20217-006A-A | LC20217-004B-A |
| △ | TERMINAL BOARD | LC20899-004A-A | LC20899-004A-A | LC20899-005A-A |
| | REMOCON UNIT | RM-C326G-1A | RM-C326-1A | RM-C325G-1A |
| | INPUT TERMINAL | INPUT1~INPUT3 | ← | INPUT1~INPUT4 |

FUNCTIONS

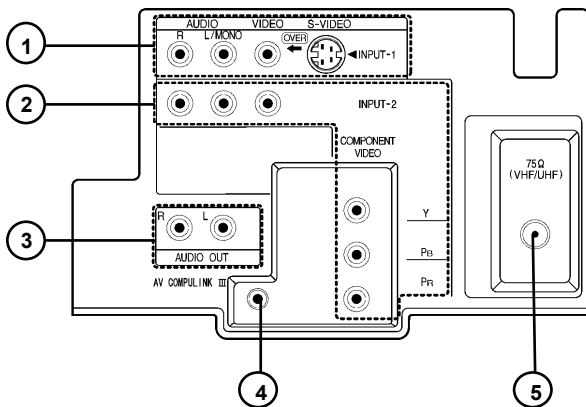
FRONT PANEL CONTROL



| | |
|--|-------------------------|
| ① INPUT3 VIDEO terminal | ⑥ VOLUME +/- buttons |
| ② INPUT3 AUDIO L / MONO terminal | ⑦ SENSOR REMOTE CONTROL |
| ③ INPUT3 AUDIO R terminal | ⑧ ON TIMER LED |
| ④ MENU button (▼) | ⑨ POWER button |
| ⑤ CHANNEL +/- buttons OPERATE ◀/▶ buttons (use MENU screen) | |

REAR TERMINAL

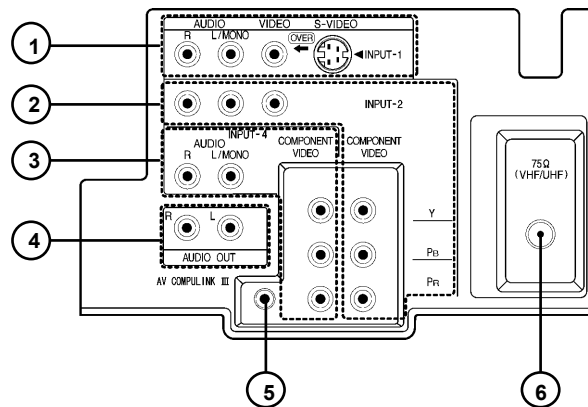
[AV-27F703/s, AV-27F713/s]



[AV-27F703/s, AV-27F713/s]

- ① INPUT 1 (S-VIDEO, V, L/MONO, R) terminals
- ② INPUT 2 (V, L / MONO, R) terminals
/ COMPONENT VIDEO(Y, P_B, P_R) terminals
- ③ AUDIO OUT(L, R) terminals
- ④ AV COMPULINK III
- ⑤ VHF / UHF terminal

[AV-27F803/s]

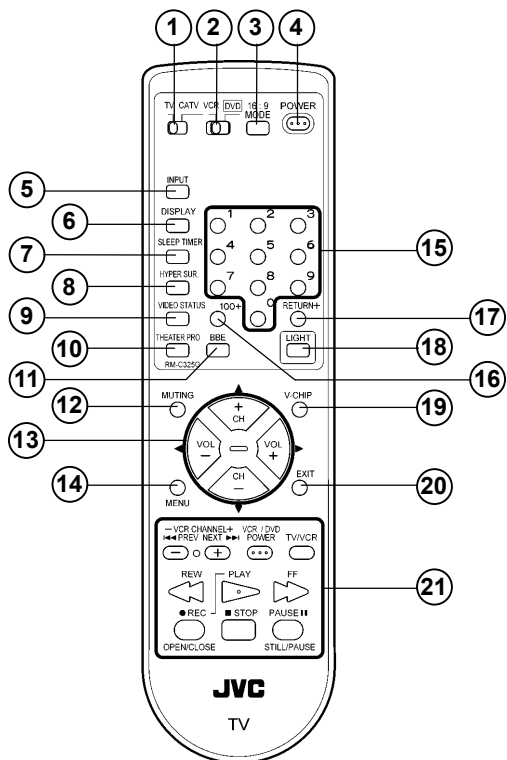


[AV-27F803/s]

- ① INPUT 1 (S-VIDEO, V, L/MONO, R) terminals
- ② INPUT 2 (V, L / MONO, R) terminals
/ COMPONENT VIDEO(Y, P_B, P_R) terminals
- ③ INPUT 4 (L, R) terminals
/ COMPONENT VIDEO(Y, P_B, P_R) terminals
- ④ AUDIO OUT(L, R) terminals
- ⑤ AV COMPULINK III
- ⑥ VHF / UHF terminal

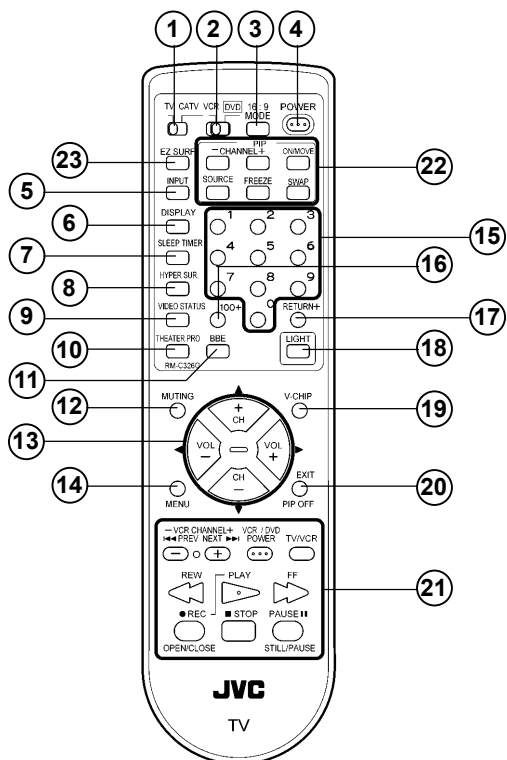
■ REMOTE CONTROL UNIT

RM-C326G : AV-27F703/s
RM-C326 : AV-27F713/s



- ① TV / CATV switch
- ② VCR / DVD switch
- ③ 16 : 9 MODE Key
- ④ POWER Key
- ⑤ INPUT Key (\square TV \rightarrow VIDEO1 \rightarrow VIDEO2 \rightarrow VIDEO3 \square)
- ⑥ DISPLAY Key
- ⑦ SLEEP TIMER Key (\square 0 \rightarrow 15 \rightarrow 30 $\dots\dots$ 165 \rightarrow 180 \square)
- ⑧ HYPER SUR. Key (Can be changed ON / OFF)
- ⑨ VIDEO STATUS Key
- ⑩ THEATER PRO key
- ⑪ BBE key (Can be changed ON / OFF)
- ⑫ MUTING Key
- ⑬ FUNCTION Key (CH -/+ / VOL -/+)
The FUNCTION keys operate CHANNEL and VOLUME normally.
These keys are also used to navigate MENU system.
- ⑭ MENU Key
- ⑮ NUMBERS Key
- ⑯ 100+ Key
- ⑰ RETURN+ Key
- ⑱ LIGHT Key
- ⑲ V-CHIP Key
- ⑳ EXIT Key
- ㉑ VCR / DVD Keys

[RM-C325G : AV-27F803/s]



- ① TV / CATV switch
- ② VCR / DVD switch
- ③ 16 : 9 MODE Key
- ④ POWER Key
- ⑤ INPUT Key(\square TV \rightarrow VIDEO1 \rightarrow VIDEO2 \rightarrow VIDEO3 \rightarrow VIDEO4 \square)
- ⑥ DISPLAY key
- ⑦ SLEEP TIMER Key (\square 0 \rightarrow 15 \rightarrow 30 $\dots\dots$ 165 \rightarrow 180 \square)
- ⑧ HYPER SUR. Key (Can be changed ON / OFF)
- ⑨ VIDEO STATUS Key
- ⑩ THEATER PRO key
- ⑪ BBE key(Can be changed ON / OFF)
- ⑫ MUTING Key
- ⑬ FUNCTION Key (CH -/+ / VOL -/+)
The FUNCTION keys operate CHANNEL and VOLUME normally.
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- ⑭ MENU Key
- ⑮ NUMBERS Key
- ⑯ 100+ Key
- ⑰ RETURN+ Key
- ⑱ LIGHT Key
- ⑲ V-CHIP Key
- ⑳ EXIT / PIP OFF Key
- ㉑ VCR / DVD Keys
- ㉒ PIP Key
- ㉓ EZ SURF Key (Back Program Information can be displayed.)

SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

1. Disconnect the power plug from wall outlet.
2. As shown in the Fig.1, remove the **12** screws marked **(A)**.
3. Withdraw the rear cover backward.

REMOVING THE TERMINAL BOARD

- After removing the rear cover.
1. As shown in Fig.1, remove the screws marked **(B)**.
 2. Withdraw the terminal board toward you.

REMOVING THE CHASSIS

- After removing the rear cover / terminal board.
1. Slightly raise the both sides of chassis by hand and remove the **2** claws under the both side of the chassis from the front cabinet.
 2. Withdraw the chassis backward.
(If necessary, remove the wire clamp, connectors etc.)

REMOVING THE SPEAKER

- After removing the rear cover.
1. As shown in Fig. 1, removing the **4** screws marked **(C)**, then remove the speaker.
 2. Follow the same steps when removing the other hand speaker.

NOTE : When removing the **4** screws marked **(C)** of the speaker, remove the lower side screw first, and then remove the upper one.

REMOVING THE LED & POWER SW PWB

- After removing the rear cover & terminal board.
1. Remove the **2** screws marked **(D)** as shown in Fig. 1.
 2. Withdraw the LED & POWER SW PWB toward you.
- * If necessary, remove the wire clamp, connector etc.

REMOVING THE FRONT CONTROL PWB

- After removing the rear cover & terminal board.
1. Remove the **2** screws marked **(E)** as shown in Fig. 1.
 2. Withdraw the FRONT CONTROL PWB toward you.
- * If necessary, remove the wire clamp, connector etc.

CHECKING THE CHASSIS

To check the PW Board from back side.

1. Pull out the chassis (refer to REMOVING THE CHASSIS).
2. Erect the chassis vertically so that you can easily check the back side of the PW Board.

[CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the wire connector is properly connected.
- **When conducting a check with power supplied, be sure to confirm that the CRT EARTH WIRE (BRAIDED ASS'Y) is connected to the CRT SOCKET PW board.**

WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together.
Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

This exploded view describes about the AV-27F803/S.
 You can use the exploded view for disassembling the
 AV-27F703/S AV-27F713/S in the same step as for
 this one.

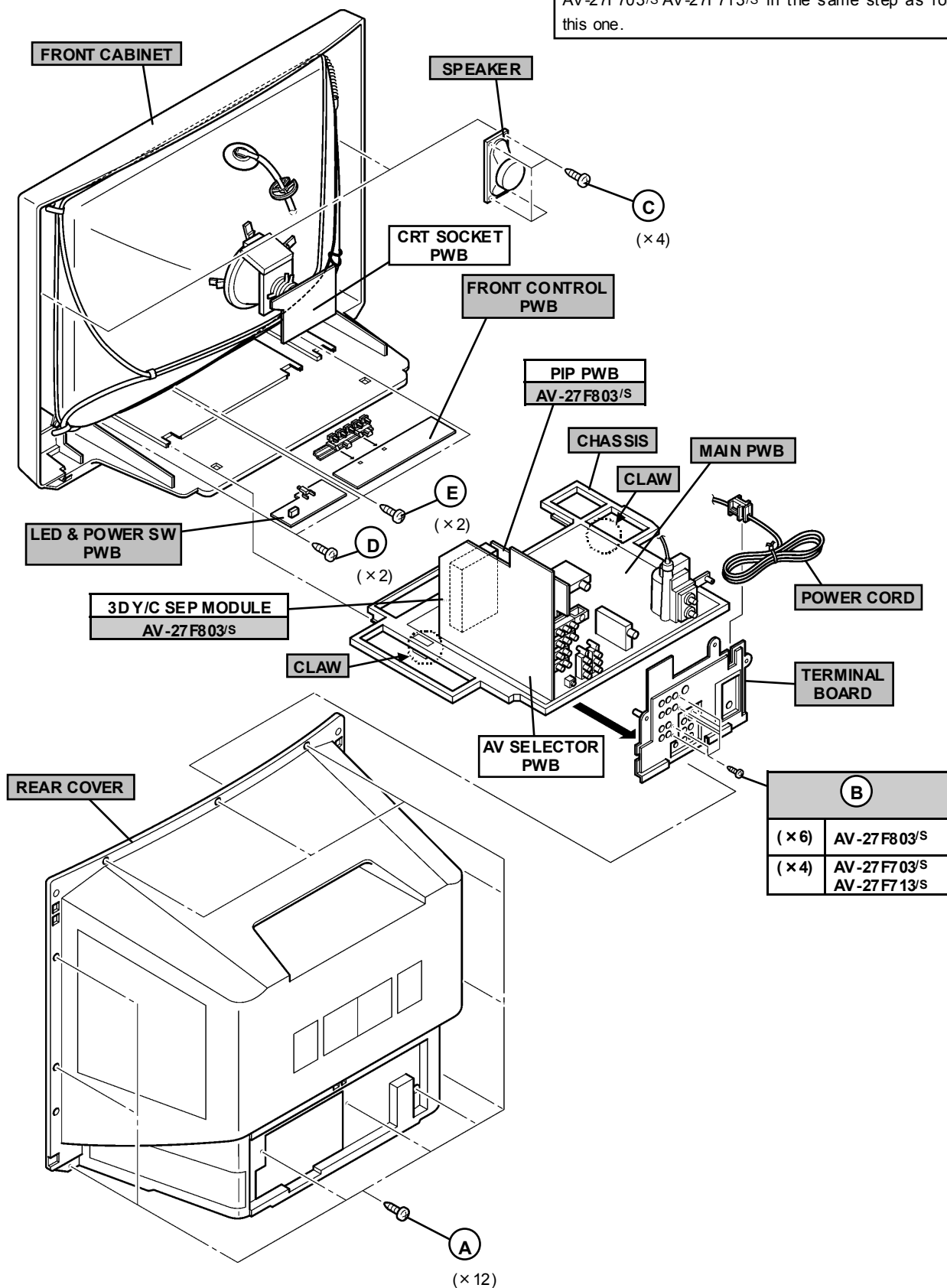


Fig.1

MEMORY IC REPLACEMENT

1. Memory IC

This TV uses memory IC.
 This memory IC stores data for proper operation of the video and deflection circuits.
 When replacing the memory IC, be sure to use an IC containing this (initial value) data.

2. Memory IC replacement procedure

(1) Power off

Switch off the power and disconnect the power cord from the wall outlet.

(2) Replace the memory IC

Be sure to use a memory IC written with the initial setting data.

(3) Power on

Connect the power cord to the wall outlet and switch on the power.

(4) Confirm the system constant value

- 12.SYSTEM (SYS) do not adjust normally.
- The adjustment should not be done without signal.

■ How to enter the SERVICE MENU.

- 1) Press the **SLEEP TIMER** key and set **SLEEP TIMER** for 「0 min」.
- 2) Before disappear the display of **SLEEP TIMER** settings, simultaneously press the **DISPLAY** key and **VIDEO STATUS** key of the remote control unit.
- 3) The SERVICE MENU screen will be displayed as shown Fig. 1.

■ How to enter the 12. SYSTEM(SYS).

- 1) While the SERVICE MENU is displayed, select the **12.SYSTEM(SYS)** item with FUNCTION (▼/▲) keys, and the FUNCTION (◀/▶) keys is pressed, the screen will be displayed as shown in Fig.2.
- 5) Refer to the SYSTEM (SYSTEM CONSTANT) TABLE 1 and check the setting items. If the value is different, select the setting item with the FUNCTION (▼/▲) keys and adjust the setting with the FUNCTION(◀/▶) keys. (The letters of the selected item are displayed in yellow.)
- 6) When adjustment has completed, the values store into memory IC automatically
- 7) Press the EXIT key to return the SERVICE MENU screen.
- 8) Then press the EXIT key again to return the normal screen.

(5) Receive the channel setting

Refer to the OPERATING INSTRUCTIONS (USERS GUIDE) and set the receive channels (Channels Preset) as described.

(6) User settings

Check the user setting items according to TABLE 2.
 Where these do not agree, refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the items as described.

(7) SERVICE MENU setting

Verify what to set in the SERVICE MENU, and set whatever is necessary(Fig.1).
 Refer to the SERVICE ADJUSTMENT for setting.

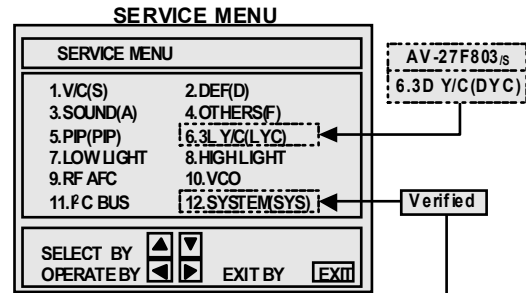


Fig.1

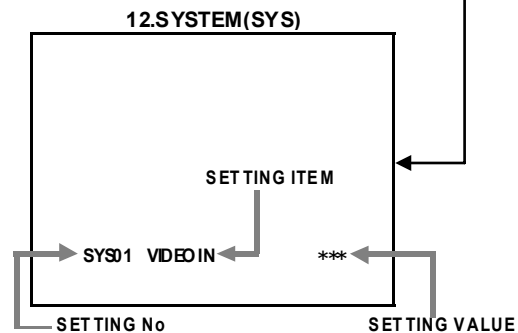
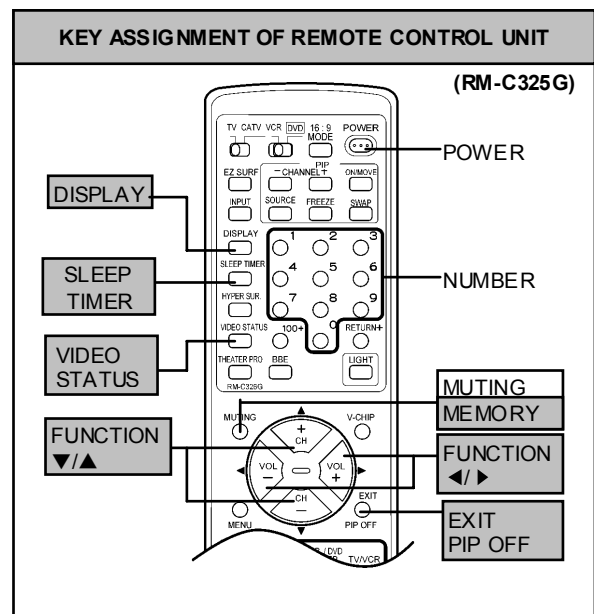


Fig.2



NOTE Although design is different, each remote controller has the same control function.

12.SYSTEM(SYS) 【System Constant setting】

| No. | Setting item | Initial setting value | | No. | Setting item | Initial setting value | |
|-------|--------------|-----------------------|-------------|-------|--------------|-----------------------|-------------|
| | | AV-27F803/S | AV-27F703/S | | | AV-27F803/S | AV-27F703/S |
| | | | AV-27F713/S | | | | AV-27F713/S |
| SYS01 | VIDEO IN | 04 | 03 | SYS13 | HYP SURR | 01 | 01 |
| SYS02 | PIP | 01 | 00 | SYS14 | 16:9 MD | 01 | 01 |
| SYS03 | 3D Y/C | 01 | 00 | SYS15 | HYP SCAN | 01 | 01 |
| SYS04 | Y CV | 01 | 01 | SYS16 | EZ SURF | 01 | 00 |
| SYS05 | CCD PCHK | 01 | 01 | SYS17 | ID DISP | 01 | 01 |
| SYS06 | PURITY | 00 | 00 | SYS18 | COMPULINK | 01 | 01 |
| SYS07 | VM | 01 | 01 | SYS19 | CCD | 01 | 01 |
| SYS08 | NOISE CR | 01 | 00 | SYS20 | VCHIP | 01 | 01 |
| SYS09 | CLR TEMP | 01 | 01 | SYS21 | VCHIP CA | 01 | 01 |
| SYS10 | THEATER | 01 | 01 | SYS22 | JVC LOGO | 01 | 01 |
| SYS11 | THEATER PRO | 01 | 01 | SYS23 | CMP IN | 01 | 01 |
| SYS12 | BBE | 01 | 01 | SYS24 | CXA1875 | 00 | 00 |

Table 1

User setting

| Setting item | Setting value | Setting item | Setting value |
|-----------------------------------|--|---------------------------|---|
| Use remote controller keys | | | |
| POWER | OFF | DISPLAY | OFF |
| CHANNEL | Cable-02 | VIDEO STATUS | DYNAMIC |
| VOLUME | 10 | HYPERSURROUND | OFF |
| TV/VIDEO | TV | BBE | ON |
| | | PIP SOURCE | Cable-04 (AV-27F803s) |
| Settings of MENU | | | |
| PICTURE MENU | | INITIAL SETUP MENU | |
| STANDARD | | LANGUAGE | ENG |
| TINT | CENTER | FRONT PANEL LOCK | OFF |
| COLOR | CENTER | V2 COMPONENT-IN | NO |
| PICTURE | CENTER+14 | AUTO SHUT OFF | OFF |
| BRIGHT | CENTER | CLOSED CAPTION | OFF (CC1 / T1) |
| DETAIL | CENTER / +14 (AV-27F803s) +10 (AV-27F703s / AV-27F713s) | AUTO TUNER SET UP | Unnecessary to set |
| COLOR TEMPERATURE | LOW | CHANNEL SUMMARY | Setting Channel Guard channel: All OFF |
| NOISE MUTING | ON | V-CHIP | OFF |
| SOUND ADJUST MENU | | SET LOCK CODE | (0000) Unnecessary to set |
| BASS | CENTER | XDS ID | ON |
| TREBLE | CENTER | / | |
| BALANCE | CENTER | | |
| MTS | STEREO | | |
| CLOCK / TIMERS MENU | | | |
| SET CLOCK | MANUAL | / | |
| | TIME ZONE : PACIFIC | | |
| | D.S.T. : OFF | | |
| ON / OFF TIMER | OFF | / | |

Table 2

SERVICE ADJUSTMENTS

ADJUSTMENT PREPARATION

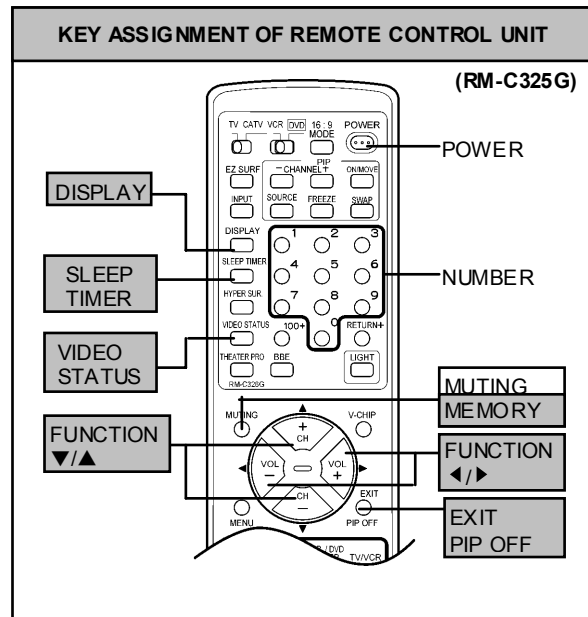
1. You can make the necessary adjustments for this unit with either the Remote Control Unit or with the adjustment tools and parts as given below.
2. Adjustment with the Remote Control Unit is made on the basis of the initial setting values, however, the new setting values which set the screen to its optimum condition may differ from the initial settings.
3. Make sure that AC power is turned on correctly.
4. Turn on the power for set and test equipment before use, and start the adjustment procedures after waiting for at least 30 minutes.
5. Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.
6. **Never touch any adjustment part** which are not specified in the list for this adjustment - variable resistors, transformers, initial setting value, etc.
7. Presetting before adjustment.
 Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit:

User menu preset value

| MENU ITEM | PRESET |
|--------------------------------------|----------|
| VIDEO STATUS | STANDARD |
| BASS, TREBLE, BALANCE | CENTER |
| HYPER SURROUND | OFF |
| TINT, COLOR, PICTURE, BRIGHT, DETAIL | CENTER |
| MTS | STEREO |

ADJUSTMENT EQUIPMENT

1. DC voltmeter (or digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [NTSC]
4. Remote control unit
5. TV audio multiplex signal generator.
6. Frequency counter

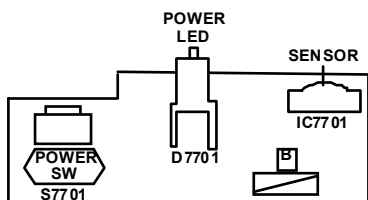


ADJUSTMENT ITEMS

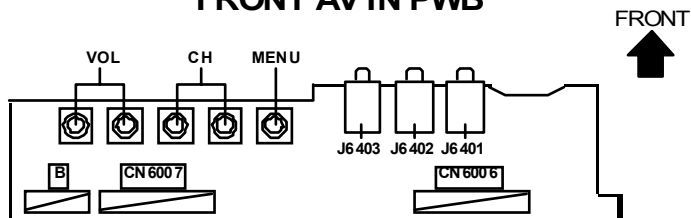
| | |
|---|---|
| ● CHECK OF B1 POWER SUPPLY | ● ADJUSTMENT OF VIDEO / CHROMA CIRCUIT |
| ● ADJUSTMENT OF VCO | WHITE BALANCE(High Light & Low Light) adjustment |
| MAIN VCO adjustment | PIP WHITE BALANCE(High Light) adjustment |
| SUB VCO adjustment | SUB BRIGHT adjustment |
| RF. AGC adjustment | SUB CONTRAST adjustment |
| ● FOCUS adjustment | SUB COLOR adjustment |
| ● ADJUSTMENT DEF CIRCUIT | SUB TINT adjustment |
| V. HEIGHT / V. CENTER(4:3) adjustment | ● ADJUSTMENT OF MTS CIRCUIT |
| V. HEIGHT / L. LIN(16:9) adjustment | MTS INPUT LEVEL adjustment |
| H. POSI, H. SIZE & SIDE PIN [(4:3) & (16:9)] adjustment | MTS SEPARATION adjustment |
| PIP DISPLAY POSI adjustment | ● HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT |

ADJUSTMENT LOCATIONS

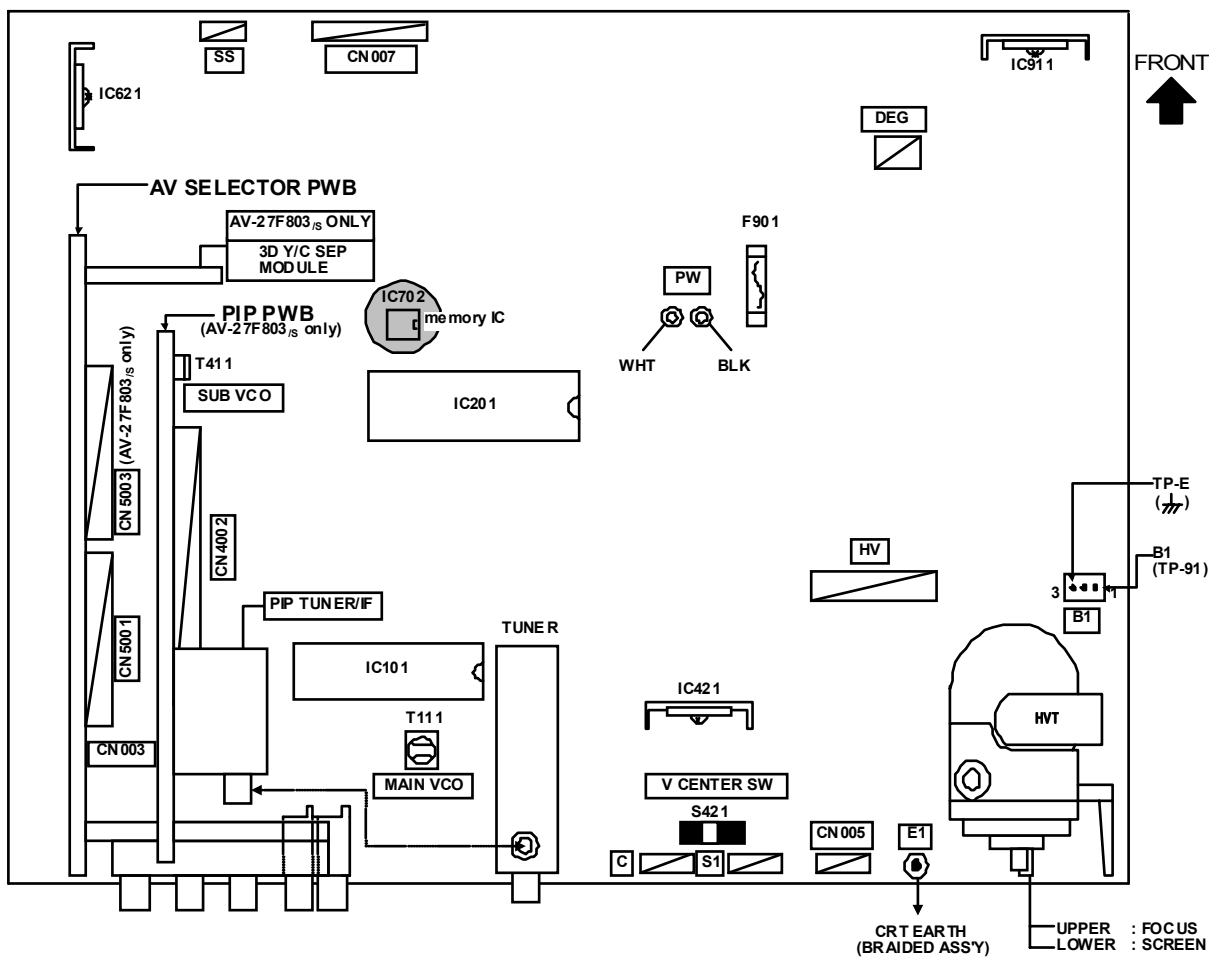
LED & PW SW PWB



FRONT AV IN PWB

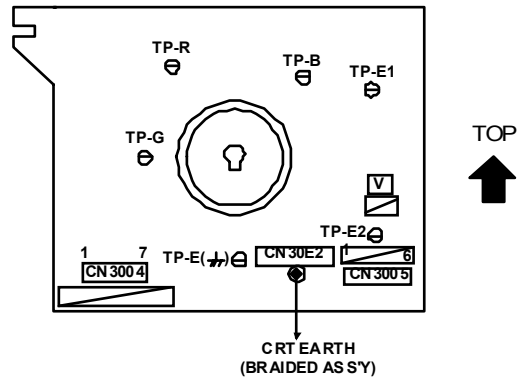


MAIN PWB

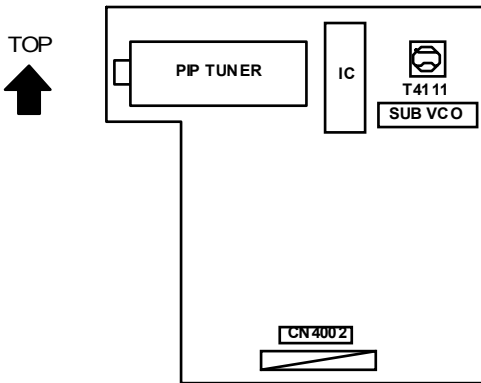


AV-27F703
 AV-27F713
 AV-27F803

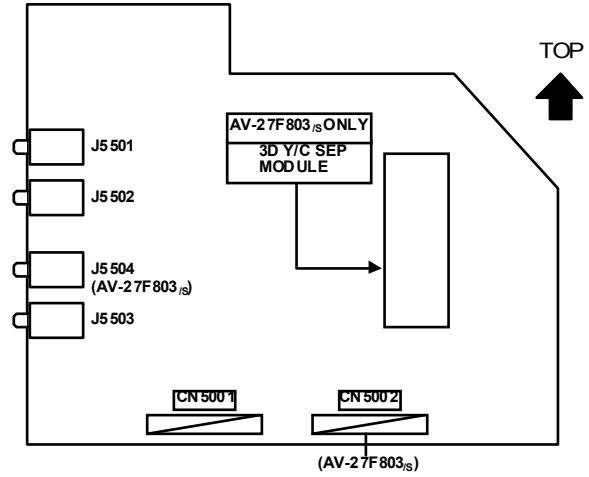
CRT SOCKET PWB



PIP PWB (AV-27F803/S)



AV SELECTOR PWB



BASIC OPERATION OF SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. In general, basic setting (adjustments) items or verifications are performed in the SERVICE MENU.

- (1) V/C (S) This set the setting values (adjustment values) of the VIDEO/CHROMA circuits.
- (2) DEF (D) This set the setting values (adjustment values) of the DEFLECTION circuit.
- (3) SOUND (A) This set the setting values (adjustment values) of the AUDIO circuit.
- (4) OTHERS (F) This is used when the OTHERS MODE is verified. **[Do not adjust]**
- (5) PIP (PIP) This set the setting values(adjustment values) of the PICTURE-IN-PICTURE circuit.
 (PIP is means as Picture In Picture) **[AV-27F803/S]**
- (6) 3L Y/C(LYC) / 3D Y/C(DYC) This is used when the 3L(or 3D) Y/C MODE is verified. **[Do not adjust]**
[3L Y/C(LYC)=AV-27F703_S, AV-27F713/S / 3D Y/C(DYC)=AV-27F803_S]
- (7) LOW LIGHT This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- (8) HIGH LIGHT This sets the setting values (adjustment values) of the WHITE BALANCE circuit
- (9) RF AFC This is used when the RF AFC MODE is verified. **[Do not adjust]**
- (10)VCO This is used when the IF VCO is adjusted.
- (11)I²C BUS This is used when ON/OFF of the I²C BUS CTRL is set. **[Fixed ON]**
- (12)SYSTEM (SYS) This is used when the SYSTEM is verified. **[Fixed value]**

3. Basic Operations of the SERVICE MENU

(1) How to enter the SERVICE MENU.

Press the **SLEEP TIMER** key and set the **SLEEP TIMER** for 「0 MIN」.

Then press the **DISPLAY** key and **VIDEO STATUS** key of the remote control unit at the same time to enter the SERVICE MENU screen.(FIG.1)

(2) SERVICE MENU screen selection

In SERVICE MENU, press the FUNCTION (▼/▲) key to select any of the SUB MENU items.

(The letters of the selected items are displayed in yellow.)

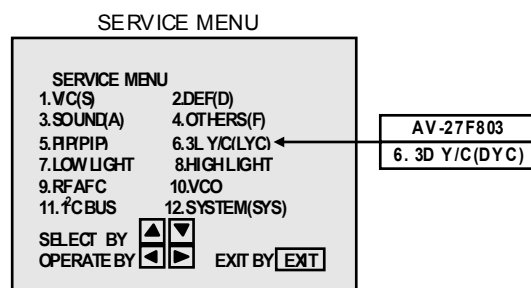


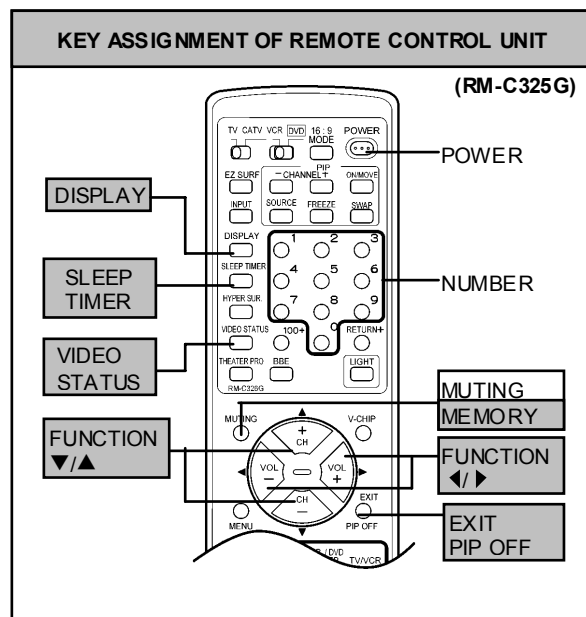
Fig.1

(3) Enter the any setting (adjustment) mode

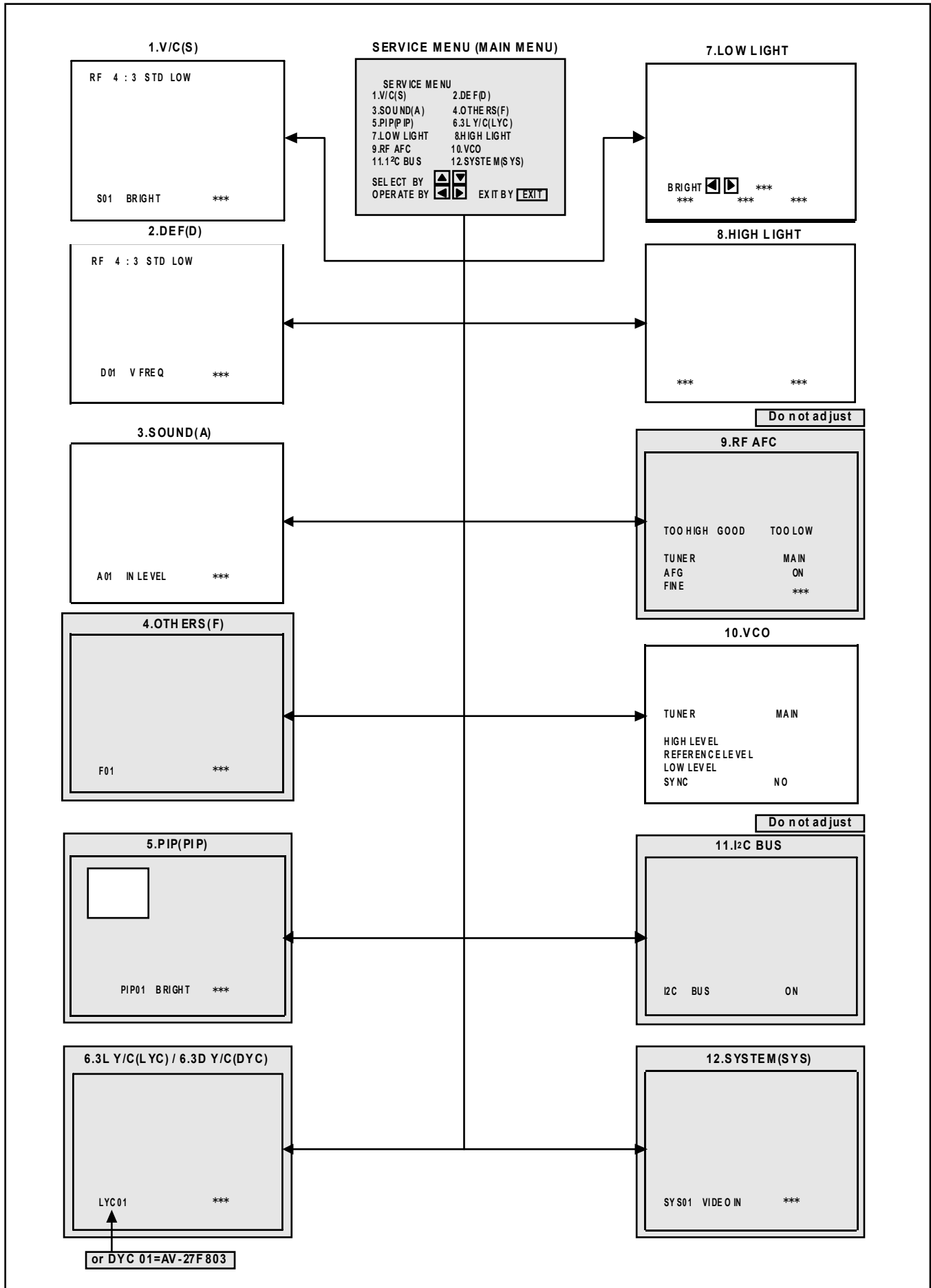
- 1. V/C(S), 2. DEF(D), 3. SOUND(A), 4. OTHERS(F), 5. PIP(PIP), 6. 3L Y/C(LYC) [AV-27F703_S / AV-27F713_S] / 3D Y/C(DYC) [AV-27F803_S], 7. LOW LIGHT, 8. HIGH LIGHT, 9. RF AFC, 10. VCO, 11. I²C BUS and 12. SYSTEM(SYS) mode.

- 1) If select any of 1. V/C(S) / 2. DEF(D) / 3. SOUND(A) / 4. OTHERS(F) / 5. PIP(PIP) / 6. 3L Y/C(LYC) [AV-27F703_S / AV-27F713_S] , 3D Y/C(DYC) [AV-27F803_S] / 7. LOW LIGHT / 8. HIGH LIGHT / 9. RF AFC / 10. VCO / 11. I²C BUS / 12. SYSTEM(SYS) items, and the FUNCTION (◀/▶) key is pressed from SERVICE MENU (MAIN MENU), the each screens will be displayed as shown in figure page later.

- 2) Then the settings or verifications can be performed

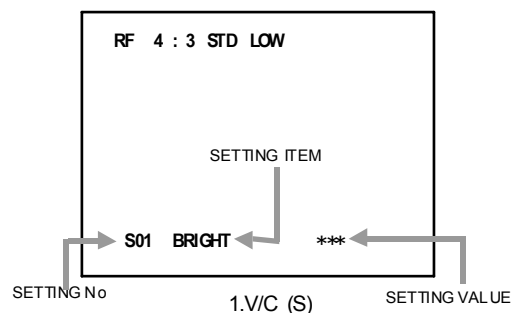


NOTE Although design is different, each remote controller has the same control function.



(4) Setting method

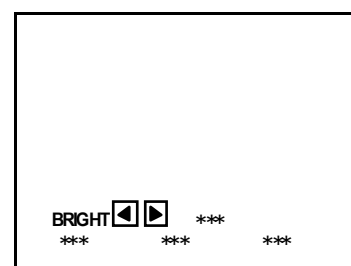
- 1) FUNCTION (▼/▲) key.
 Select the SETTING ITEM.
- 2) FUNCTION (◀/▶) key
 Setting (adjust) the SETTING VALUE of the SETTING ITEM.
 When the key is released the SETTING VALUE will be stored (memorized).
- 3) EXIT key
 Returns to the previous screen.



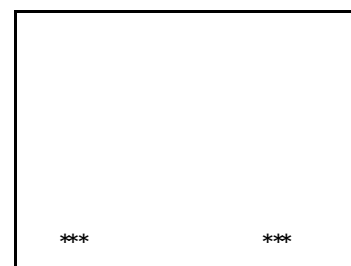
(5) Releasing SERVICE MENU

- 1) After returning to the SERVICE MENU upon completion of the setting (adjustment) work, press the EXIT key again.

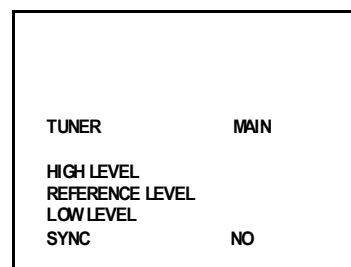
- ★ The settings for LOW LIGHT and HIGH LIGHT are described in the WHITE BALANCE page of ADJUSTMENT.
- ★ The setting for MAIN VCO are described in the VCO page of ADJUSTMENT .



7.LOW LIGHT



8.HIGH LIGHT



10.VCO

INITIAL SETTING VALUE OF SERVICE MENU

- Adjustment of the SERVICE MENU is made on the basis of the initial setting values ; however, the new setting values which set the screen in its optimum condition may differ from the initial setting.
- Do not change the initial setting values of the setting (adjustment) items not listed in "ADJUSTMENT".

● V / C MODE

-- can not be adjustment

| No. | Setting item | RF | | | | | | STANDARD(4:3) | | | |
|-----|--------------|-------------|-----------|---------------|-------------------------|-----------|---------------|-----------------|----------------------------|-------------|----------------------------|
| | | AV-27F803/s | | | AV-27F703/s,AV-27F713/s | | | EXTERNAL (S,CV) | | COMPONENT | |
| | | STD(4:3) | STD(16:9) | THEATER (4:3) | STD(4:3) | STD(16:9) | THEATER (4:3) | AV-27F803/s | AV-27F703/s AV-27F713/s | AV-27F803/s | AV-27F703/s AV-27F713/s |
| S01 | BRIGHT | 64 | -- | -- | 64 | -- | -- | -- | -- | -- | -- |
| S02 | PICTURE | 60 | -- | -- | 60 | -- | -- | -- | -- | -- | -- |
| S03 | COLOR | 50 | -- | -- | 50 | -- | -- | -- | -- | 46 | 46 |
| S04 | TINT | 68 | -- | -- | 68 | -- | -- | -- | -- | 72 | 72 |
| S05 | DETAIL | 38 | -- | -- | 33 | -- | -- | 40 | 35 | 45 | 40 |
| S06 | BRIGHT +- | -- | ± 00 | +01 | -- | ± 00 | +01 | -01 | -02 | ± 00 | ± 00 |
| S07 | PICT+- | -- | -08 | -10 | -- | -08 | -10 | ± 00 | ± 00 | ± 00 | ± 00 |
| S08 | COLOR+- | -- | ± 00 | -03 | -- | ± 00 | -03 | -02 | -02 | -- | -- |
| S09 | TINT+- | -- | ± 00 | -03 | -- | ± 00 | -03 | +11 | +05 | -- | -- |
| S10 | DETAIL+- | -- | -- | ± 00 | -- | -- | ± 00 | -- | -- | -- | -- |

| No. | Setting item | Initial setting value | | | | | | | |
|-----|--------------|-----------------------|------|---------|------|-----------|------|---------|------|
| | | RF/EXT (S,CV) | | | | COMPONENT | | | |
| | | STANDARD | | THEATER | | STANDARD | | THEATER | |
| | | LOW | HIGH | LOW | HIGH | LOW | HIGH | LOW | HIGH |
| S11 | R CUT OFF | 30 | -- | -- | -- | -- | -- | -- | -- |
| S12 | G CUT OFF | 30 | -- | -- | -- | -- | -- | -- | |
| S13 | B CUT OFF | 30 | -- | -- | -- | -- | -- | -- | |
| S14 | R DRIVE | 64 | -- | -- | -- | -- | -- | -- | |
| S15 | B DRIVE | 64 | -- | -- | -- | -- | -- | -- | |
| S16 | R CUT +- | -- | ± 00 | ± 00 | ± 00 | -10 | -- | -- | |
| S17 | G CUT +- | -- | ± 00 | ± 00 | ± 00 | ± 00 | -- | -- | |
| S18 | B CUT +- | -- | ± 00 | ± 00 | ± 00 | -10 | -- | -- | |
| S19 | R DRV+- | -- | +05 | +13 | +07 | ± 00 | -- | -- | |
| S20 | B DRV+- | -- | +06 | -25 | -09 | ± 00 | -- | -- | |
| S21 | NTSC MAT | 03 | 03 | 01 | 01 | 02 | 02 | 01 | |
| S22 | BLACK ST | 02 | -- | 02 | -- | -- | -- | -- | |
| S23 | DCREST | 01 | -- | 01 | -- | -- | -- | -- | |
| S24 | DCRSW | 01 | -- | 01 | -- | -- | -- | -- | |

| No. | Setting item | Initial setting value | | |
|-----|--------------|-----------------------|----------|-----------|
| | | RF | EXTERNAL | COMPONENT |
| S25 | ASY SHRP | 04 | 04 | 04 |
| S26 | BPF FO | 00 | 00 | -- |
| S27 | KILR OFF | 00 | 00 | -- |
| S28 | KILR SEN | 01 | 01 | -- |

| No. | Setting item | Initial setting value | No. | Setting item | Initial setting value |
|-----|--------------|-----------------------|-----|--------------|-----------------------|
| S29 | RGB MUTE | 00 | S39 | Y MUTE | 00 |
| S30 | BLUE B | 00 | S40 | SVM GAIN | 03 |
| S31 | VIDEO SW | 03 | S41 | SVM PH | 01 |
| S32 | CMP ABCL | 00 | S42 | WPL | 00 |
| S33 | OSD ABCL | 00 | S43 | COL GMM | 00 |
| S34 | OSD CONT | 07 | S44 | V1 GAIN | 04 |
| S35 | SUB CONT | 05 | S45 | AGC ADJ | 63 |
| S36 | ABL GAIN | 00 | S46 | VMOFF DE | +03 |
| S37 | ABL PNT | 03 | S47 | APC CLK | 01 |
| S38 | Y GAMMA | 01 | | | |

● DEF MODE

-- can not be adjustment

| No. | Setting item | Initial setting value | | | No. | Setting item | Initial setting value | | |
|-----|--------------|--|--------------|--------------|-----|--------------|--|--------------|--------------|
| | | AV-27F803/s,AV-27F703/s AV-27F713/s | | | | | AV-27F803/s,AV-27F703/s AV-27F713/s | | |
| | | RF (4:3) | RF (16:9) | EXT (4:3) | | | RF (4:3) | RF (16:9) | EXT (4:3) |
| D01 | V FREQ | 00 | 00 | 03 | D18 | WVMT BTM | 00 | 01 | 00 |
| D02 | AFC GAIN | 00 | 00 | 02 | D19 | EWCR TOP | 12 | -- | 12 |
| D03 | H POSI | 20 | -- | 20 | D20 | EWCR T+ | -- | 00 | -- |
| D04 | H POSI+- | -- | 00 | -- | D21 | EWCR BTM | 14 | -- | 14 |
| D05 | V PHASE | 00 | -- | 00 | D22 | EWCR B+- | -- | 00 | -- |
| D06 | V PH+- | -- | 00 | -- | D23 | EW PARA | 36 | -- | 36 |
| D07 | V SIZE | 75 | -- | 75 | D24 | EW PARA+- | -- | -15 | -- |
| D08 | V SIZE+- | -- | -30 | -- | D25 | V EHT | 00 | -- | 00 |
| D09 | V CENTER | 32 | -- | 32 | D26 | V EHT+- | -- | 00 | -- |
| D10 | V CENT+- | -- | 00 | -- | D27 | H EHT | 00 | -- | 00 |
| D11 | V S CORR | 09 | -- | 09 | D28 | H EHT+- | -- | 00 | -- |
| D12 | V S CO+- | -- | 00 | -- | D29 | TRAPEZ | 31 | -- | 31 |
| D13 | V LIN | 10 | -- | 10 | D30 | TRAPEZ+- | -- | 00 | -- |
| D14 | V LIN+- | -- | 00 | -- | D31 | V AGC | 00 | 00 | 00 |
| D15 | H SIZE | 33 | -- | 33 | D32 | BLANK SW | 00 | 00 | 00 |
| D16 | H SIZE+- | -- | 00 | -- | D33 | VRMP BI | 00 | 00 | 00 |
| D17 | WVMT TOP | 00 | 01 | 00 | | | | | |

● SOUND MODE

| No. | Setting item | Initial setting value |
|-----|--------------|-----------------------|
| A01 | IN LEVEL | 10 |
| A02 | LOW SEP | 32 |
| A03 | HI SEP | 32 |
| A04 | SAPC | 00 |
| A05 | BBE BASS | ±00 |
| A06 | BBE TRE | -03 |

AV-27F703
 AV-27F713
 AV-27F803

Setting item do not display

● OTHERS MODE (Do not adjust)

| No. | Setting item | Initial setting value | | No. | Setting item | Initial setting value | |
|-----|--------------|-----------------------|----------------------------|-----|--------------|-----------------------|----------------------------|
| | | AV-27F803/s | AV-27F703/s AV-27F713/s | | | AV-27F803/s | AV-27F703/s AV-27F713/s |
| F01 | OSD POSI | 37 | 37 | F15 | VCSN 1 | 00 | 00 |
| F02 | OSD PREQ | 90 | 90 | F16 | VCSN 2 | 10 | 10 |
| F03 | CCD POSI | 39 | 39 | F17 | VCSN 3 | 20 | 20 |
| F04 | CCD FREQ | 91 | 91 | F18 | VCSN STP | 02 | 02 |
| F05 | CCD CONT | 04 | 04 | F19 | VN DAT A | +08 | +08 |
| F06 | PURWBCK | 00 | 00 | F20 | VM DAT B | -08 | -08 |
| F07 | PUR CONT | 02 | 02 | F21 | VM DAT C | -20 | -20 |
| F08 | SN TYPE | 01 | 02 | F22 | VM DAT D | -32 | -32 |
| F09 | YCSN TM | 05 | 05 | F23 | VM DAT E | 01 | 01 |
| F10 | YCSN E | 05 | 05 | F24 | VMOFF TY | 02 | 02 |
| F11 | YCSN F | 16 | 16 | F25 | YC VMOFF | 255 | 255 |
| F12 | YCSN G | 32 | 32 | F26 | EZSF TM | 40 | 40 |
| F13 | VNR CHK | 03 | 03 | F27 | XDSID TM | 15 | 15 |
| F14 | VCSN TM | 05 | 05 | F28 | FM TRAP | 01 | 01 |

● 3L Y / C MODE (Do not adjust)

| No. | Setting item | Initial setting value |
|-------|--------------|-------------------------|
| | | AV-27F703/s,AV-27F713/s |
| LYC01 | MODE | 04 |
| LYC02 | VENH | 01 |
| LYC03 | PDSOFF | 00 |
| LYC04 | CB | 00 |
| LYC05 | VNLR | 02 |
| LYC06 | GSEL0 | 00 |
| LYC07 | GSEL1 | 01 |
| LYC08 | COR | 00 |
| LYC09 | TRAP | 01 |
| LYC10 | CHTRAP | 00 |
| LYC11 | CBPF | 00 |
| LYC12 | ENHOFF | 00 |

● 3DY / C MODE [AV-27F803/s]

| No. | Setting item | Initial setting value | No. | Setting item | Initial setting value |
|-------|--------------|-----------------------|-------|--------------|-----------------------|
| DYC01 | D7-0 | 21 | DYC15 | D7-0 | 09 |
| DYC02 | D7-4 | 00 | DYC16 | D7-0 | 241 |
| DYC03 | D1-0 | 00 | DYC17 | D7-0 | 37 |
| DYC04 | D7-0 | 193 | DYC18 | D7-0 | 08 |
| DYC05 | D7-3 | 04 | DYC19 | D7-0 | 68 |
| DYC06 | RF CDL | 02 | DYC20 | D7-0 | 48 |
| DYC07 | EXT CDL | 02 | DYC21 | D7-0 | 08 |
| DYC08 | D7-0 | 42 | DYC22 | D7-0 | 51 |
| DYC09 | D7-0 | 36 | DYC23 | D7-0 | 200 |
| DYC10 | D7-0 | 34 | DYC24 | D7-0 | 74 |
| DYC11 | D7-0 | 01 | DYC25 | D7-0 | 236 |
| DYC12 | D5-0 | 22 | DYC26 | D7-0 | 00 |
| DYC13 | D7-0 | 00 | DYC27 | D7-0 | 00 |
| DYC14 | D7-0 | 15 | DYC28 | 3DYC | 01 |

● PIP MODE (Do not adjust)[AV-27F803/s]

| No. | Setting item | Initial setting value | No. | Setting item | Initial setting value |
|-------|--------------|-----------------------|-------|--------------|-----------------------|
| PIP01 | BRIGHT | 00 | PIP27 | UVPOLAR | 00 |
| PIP02 | PICTURE | 30 | PIP28 | MAT | 01 |
| PIP03 | TINTI | 42 | PIP29 | YCOR | 01 |
| PIP04 | COLOR | 06 | PIP30 | XFREQF | 01 |
| PIP05 | R CUTOFF | 00 | PIP31 | WTCHDG | 01 |
| PIP06 | G CUTOFF | 00 | PIP32 | COLON | 00 |
| PIP07 | B CUTOFF | 00 | PIP33 | ACQNEW | 00 |
| PIP08 | R DRIVE | 63 | PIP34 | DSTDET | 01 |
| PIP09 | G DRIVE | 65 | PIP35 | CRIBEOK | 00 |
| PIP10 | B DRIVE | 65 | PIP36 | FCBEOK | 00 |
| PIP11 | L POSI | 22 | PIP37 | NOCRID | 00 |
| PIP12 | R POSI | 15 | PIP38 | NONSED | 00 |
| PIP13 | UPR POSI | 12 | PIP39 | PIP ADJ | 04 |
| PIP14 | LWR POSI | 11 | PIP40 | BRI EXT | 00 |
| PIP15 | PICT LCK | 01 | PIP41 | PCT EXT | 00 |
| PIP16 | SELDEL | 00 | PIP42 | TNT EXT | 00 |
| PIP17 | AGCFIX | 01 | PIP43 | COR EXT | 00 |
| PIP18 | AGCADST | 00 | PIP44 | R-D EXT | 00 |
| PIP19 | AGC | 07 | PIP45 | G-D EXT | 00 |
| PIP20 | BLKINVB | 00 | PIP46 | B-D EXT | 00 |
| PIP21 | BLKINVR | 00 | PIP47 | BRT COMP | 00 |
| PIP22 | VSPDEL | 00 | PIP48 | PCT COMP | 00 |
| PIP23 | VSPISQ | 01 | PIP49 | TNT COMP | 40 |
| PIP24 | RGBIN | 00 | PIP50 | COR COMP | 05 |
| PIP25 | FRSEL | 01 | PIP51 | R-D COMP | 00 |
| PIP26 | OUTFOR | 00 | PIP52 | G-D COMP | 00 |
| | | | PIP53 | B-D COMP | 00 |

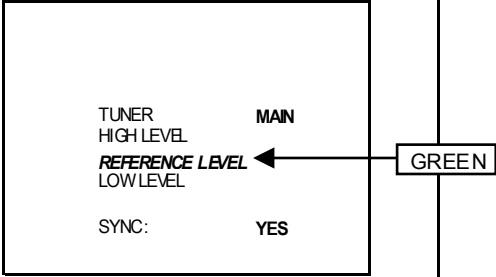




NOTE The AV-27F703/s, AV-27F713/s model do not have PIP function, But, if memory data is out of variable range, occasionally some problems happen. Then we need to input these data.

■ ADJUSTMENTS

B1 POWER SUPPLY

| Item | Measuring instrument | Test point | Adjustment part | Description |
|--------------------------|----------------------|---|-----------------|--|
| Check of B1 POWER SUPPLY | DC Voltmeter | 【B1】 Connector (pin1 & pin3) TP-91(pin1) TP-E(⚡):(pin3) | | 1. Receive the black-and-white signal. (color off) 2. Connect the DC voltmeter to 【B1】 connector pin 【1】 (TP-91) and TP-E(⚡) (B1 connector pin 【3】). 3. Confirm that the voltage is DC134.5V±2V. |

ADJUSTMENT OF VCO

| Item | Measuring instrument | Test point | Adjustment part | Description |
|--|----------------------|------------|---|--|
| MAIN VCO adjustment  | Signal generator | | 10:VCO MAIN CW TRANSF(T111) [MAIN PWB] | <ul style="list-style-type: none"> It must not adjust without signal 1. Receive color bar signal. 2. Enter the SERVICE MENU mode. 3. Press the  key, and select the 10:VCO mode from the SERVICE MENU. 4. Push the FUNCTION  key, and select MAIN. 5. Confirm that the color change from HIGH LEVEL to LOW LEVEL by CW TRANSF T111 at MAIN PWB, and check the SYNC : YES . 6. Adjust until REFERENCE LEVEL mark turns green. And then confirm that the SYNC : YES again. 7. Press the EXIT key to get out SERVICE MENU. |
| SUB VCO adjustment (AV-27F803 ONLY) | Signal generator | | 10:VCO | <ul style="list-style-type: none"> It must not adjust without signal 1. Receive color bar signal. 2. Enter the SERVICE MENU mode. 3. Press the FUNCTION () key, and select the 10:VCO mode from the SERVICE MENU. 4. Push the left / right () key, and select SUB. 5. Confirm that the change from HIGH LEVEL to LOW LEVEL by CW transformer T4111 at PIP PWB, and check the SYNC : YES . 6. Adjust until REFERENCE LEVEL mark turns green. And then confirm that the SYNC : YES again. 7. Press the EXIT key to get out SERVICE MENU screen. |

ADJUSTMENT OF RF AGC

| Item | Measuring instrument | Test point | Adjustment part | Description |
|--------------------|----------------------|------------|-----------------|--|
| RF. AGC adjustment | | | S45:AGC ADJ | <ol style="list-style-type: none"> 1. Receive a black and white signal (color off). 2. Select S45:AGC ADJ of the V/C MODE. 3. Press the MUTING key and turn off color. 4. With the FUNCTION ◀ key to get the noise in the screen picture (zero side of setting value). 5. Press the FUNCTION ▶ key several times and step when noise disappears from the screen (at that time, not to increase the value too much). 6. Change to other channels and make sure that there is no irregularity. 7. Press the MUTING key and get color out. |

| No. | Setting item | Variable range | Initial setting value |
|-----|--------------|----------------|-----------------------|
| S45 | AGC ADJ | 0~127 | 63 |

ADJUSTMENT OF FOCUS

| Item | Measuring instrument | Test point | Adjustment part | Description |
|------------------|----------------------|------------|-------------------|---|
| FOCUS adjustment | Signal generator | | FOCUS VR [In HVT] | <ol style="list-style-type: none"> 1. Receive the cross-hatch signal. 2. While looking at the screen, adjust the FOCUS VR to the vertical and horizontal lines will be thinnest and sharpest center horizontal line. 3. Make sure that the picture is in focus even when the screen gets darkened. |

ADJUSTMENT OF DEFLECTION CIRCUIT

| Item | Measuring instrument | Test point | Adjustment part | Description |
|---|----------------------|------------|--|---|
| V. HEIGHT V. CENTER adjustment (4:3) | Signal generator | | D05:V PHASE D07:V SIZE V. CENTER SW (S1421) [MAIN PWB] | <ol style="list-style-type: none"> 1. Receive the cross-hatch signal. 2. Enter the SERVICE MENU. 3. Select the D05:V PHASE of the 2.DEF (D) item, and it checks that the value of D05:V PHASE is 0. 4. Adjust the vertical screen size of the visible screen top to 90.0% with the D07:V SIZE and V CENTER SW S1421. <p>* Bottom is to be located with 85%~95% range. * It adjust it by DEF SERVICE D13: V LIN. And D11: VS CORR. when vertical linearity is not even.</p> |

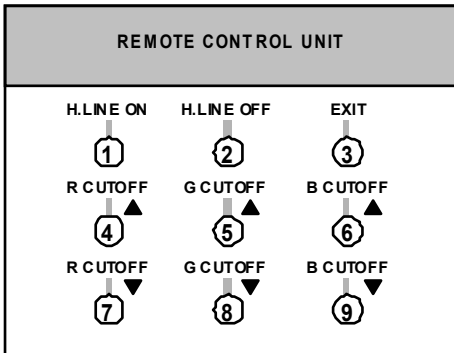
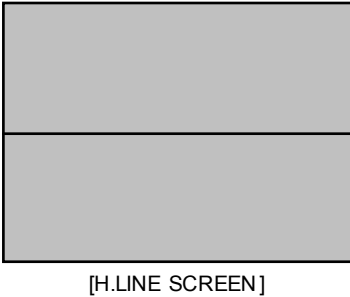
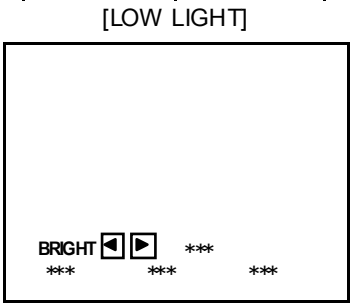
| No. | Setting item | Variable range | Initial setting value |
|-----|--------------|----------------|-----------------------|
| D05 | V PHASE | 0~7 | 00 |
| D07 | V SIZE | 0~127 | 75 |

| Item | Measuring instrument | Test point | Adjustment part | Description | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------------------|----------------|---|---|------------|--------------|----------------|-----------------------|--------------------|---------|------|-----------|----------|---------|------|----------|----------|---------|------|----|-----|-----------|------|----|-----|-----------|------|----|
| V. HEIGHT / V. LINEARITY adjustment (16:9) | Signal generator | | D18:V. SIZE+- D14:V. LINE+- | <p>* Regular (4:3) size V. HEIGHT / V. CENTER adjustment should be finished.</p> <ol style="list-style-type: none"> 1. Receive a black -and- white signal (color off). 2. Select 16:9 aspect mode with remote control unit. 3. Confirm that the width of V. BLANKING is equal to adjustment value (B). 4. If the adjustment is not correct, enter the SERVICE MENU. 5. Then adjust the D 08:V. SIZE+- and D 14:V. LIN+- to be same to adjustment value (B). 6. Press the EXIT key to twice to return the normal screen. <p>(NOTE)</p> <p>* When you change the VERTICAL adjustment value of the regular mode (4:3), Review the adjustment of 16:9 mode again.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Adj. point</th> <th>Item No.</th> <th>Setting item</th> <th>Variable range</th> <th>Setting value (mm)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">B</td> <td>D08</td> <td>V. SIZE+-</td> <td>-128~127</td> <td rowspan="2">50mm</td> </tr> <tr> <td>D14</td> <td>V. LIN+-</td> <td>-128~127</td> </tr> </tbody> </table> | | | | | Adj. point | Item No. | Setting item | Variable range | Setting value (mm) | B | D08 | V. SIZE+- | -128~127 | 50mm | D14 | V. LIN+- | -128~127 | | | | | | | | | | | |
| Adj. point | Item No. | Setting item | Variable range | Setting value (mm) | | | | | | | | | | | | | | | | | | | | | | | | |
| B | D08 | V. SIZE+- | -128~127 | 50mm | | | | | | | | | | | | | | | | | | | | | | | | |
| | D14 | V. LIN+- | -128~127 | | | | | | | | | | | | | | | | | | | | | | | | | |
| H. POSITION / H. SIZE & SIDE PIN adjustment (4:3) | Signal generator | | D03:H.POSI. D15:H. SIZE D23:EW PARA D19:EW CR TOP D21:EW CR BMT | <p>* V. HEIGHT / V. POSITION adjustment should be finished.</p> <ol style="list-style-type: none"> 1. Receive a cross-hatch signal. 2. Enter the SERVICE MENU. 3. Select the D03: H. POSI from 2.DEF (D) item. 4. Adjust by H. POSITION to be same size at both side. 5. Then adjust the horizontal size of the visible screen at both size to 90% with the D 15:H.SIZE. 6. And adjust the vertical line at both side to become linear line by D23:EW PARA. 7. Confirm the linearity of vertical line and horizontal size/ 8. If it is necessary, readjust 1.~ 7. 9. Press the EXIT key twice to return the normal screen. <p>(NOTE)</p> <p>* If it is not straight the vertical upper and bottom corner line adjustment the upper and bottom corner pin by D19:EW CR TOP and D21:EW CR BTM.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>No.</th> <th>Setting item</th> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>D03</td> <td>H. POSI</td> <td>0~31</td> <td>20</td> </tr> <tr> <td>D15</td> <td>H. SIZE</td> <td>0~63</td> <td>33</td> </tr> <tr> <td>D23</td> <td>EW PARA</td> <td>0~63</td> <td>36</td> </tr> <tr> <td>D19</td> <td>EW CR TOP</td> <td>0~31</td> <td>12</td> </tr> <tr> <td>D21</td> <td>EW CR BMT</td> <td>0~31</td> <td>14</td> </tr> </tbody> </table> | | | | | No. | Setting item | Variable range | Initial setting value | D03 | H. POSI | 0~31 | 20 | D15 | H. SIZE | 0~63 | 33 | D23 | EW PARA | 0~63 | 36 | D19 | EW CR TOP | 0~31 | 12 | D21 | EW CR BMT | 0~31 | 14 |
| No. | Setting item | Variable range | Initial setting value | | | | | | | | | | | | | | | | | | | | | | | | | |
| D03 | H. POSI | 0~31 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | |
| D15 | H. SIZE | 0~63 | 33 | | | | | | | | | | | | | | | | | | | | | | | | | |
| D23 | EW PARA | 0~63 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | |
| D19 | EW CR TOP | 0~31 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| D21 | EW CR BMT | 0~31 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | |

| Item | Measuring instrument | Test point | Adjustment part | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|----------------------|----------------|---|--|----------|--------------|----------------|---------------|------------------|------------|-----------|-----|-------|------------|-----------|----|-----|------------|-----------|----------|-------|------------|-----------|----|-------|------------|-----------|----|----|----|-------|---------|-------|----|----|----|
| H. POSITION H. SIZE & SIDE PIN adjustment (16:9) | Signal generator | | D04:H.POSI+ D16:H. SIZE+ D20:EW CR T+ D22:EW CR B+ D24:EW PARA+ | * V. HEIGHT / V. POSITION adjustment should be finished. * H. SIZE, H. POSI and SIDE PIN adjustment should be finished. (Regular size(4:3)). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 1. Receive the cross-hatch signal. 2. Select 16:9 aspect mode with remote control unit. 3. Enter the SERVICE MENU. 4. Confirm both sides of cross-hatch to be the adjustment value 90% . 5. If it not correct, adjust to be value 90% at the D16:H. SIZE + and D04:H.POSI+ - . 6. Confirm the vertical 2 nd line from left and right to be straight. 7. If it is not straight, adjust to be straight at D24:EW PARA+ - , D20:EW CR T+ - and D22:EW CR B+ - . (NOTE) * Review the adjustment of 16:9 mode again when you change the SIDE PIN adjustment value of regular (4:3) mode. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Setting item</th> <th>Variable range</th> <th>Setting value</th> </tr> </thead> <tbody> <tr> <td>D04</td> <td>H. POSI+ -</td> <td>-128~+127</td> <td>00</td> </tr> <tr> <td>D16</td> <td>H. SIZE+ -</td> <td>-128~+127</td> <td>00</td> </tr> <tr> <td>D20</td> <td>EW CR T+ -</td> <td>-128~+127</td> <td>00</td> </tr> <tr> <td>D22</td> <td>EW CR B+ -</td> <td>-128~+127</td> <td>00</td> </tr> <tr> <td>D24</td> <td>EW PARA+ -</td> <td>-128~+127</td> <td>00</td> </tr> </tbody> </table> | | | | | No. | Setting item | Variable range | Setting value | D04 | H. POSI+ - | -128~+127 | 00 | D16 | H. SIZE+ - | -128~+127 | 00 | D20 | EW CR T+ - | -128~+127 | 00 | D22 | EW CR B+ - | -128~+127 | 00 | D24 | EW PARA+ - | -128~+127 | 00 | | | | | | | | |
| No. | Setting item | Variable range | Setting value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D04 | H. POSI+ - | -128~+127 | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D16 | H. SIZE+ - | -128~+127 | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D20 | EW CR T+ - | -128~+127 | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D22 | EW CR B+ - | -128~+127 | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D24 | EW PARA+ - | -128~+127 | 00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PIP DISPLAY POSITION adjustment (AV-27F803/s) | Signal generator | | PIP11:L POSI. PIP12:R POSI. PIP13:UPR POSI. PIP14:LWR POSI. | * Main picture's V. HEIGHT, V. POSI, H. SIZE, H. POSI. Should be finished. * Set the VIDEO STATUS to STANDARD. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 1. Receive a black -and- white signal (color off) 2. Enter the SERVICE MENU. 3. Select the 5:PIP(PIP) from SERVICE MENU. 4. Set the initial setting value of the PIP13:UPR POSI. with the (◀/▶) key of the remote control unit. 5. Adjust the PIP13:UPR POSI. so that the position of the PIP screen edge of upper will be at X1 as shown. 6. Adjust the corresponding modes of PIP14, PIP11, PIP12 with the same steps as 3~5 above. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Item No.</th> <th rowspan="2">Setting item</th> <th rowspan="2">Variable range</th> <th rowspan="2">setting value</th> <th colspan="2">Setting position</th> </tr> <tr> <th>POSI.</th> <th>(%)</th> </tr> </thead> <tbody> <tr> <td>PIP13</td> <td>UPR POSI</td> <td>0~127</td> <td>12</td> <td>X1</td> <td>80</td> </tr> <tr> <td>PIP14</td> <td>LWR POSI</td> <td>0~127</td> <td>11</td> <td>X2</td> <td>80</td> </tr> <tr> <td>PIP11</td> <td>L. POSI</td> <td>0~255</td> <td>22</td> <td>Y1</td> <td>80</td> </tr> <tr> <td>PIP12</td> <td>R. POSI</td> <td>0~255</td> <td>15</td> <td>Y2</td> <td>80</td> </tr> </tbody> </table> | | | | | Item No. | Setting item | Variable range | setting value | Setting position | | POSI. | (%) | PIP13 | UPR POSI | 0~127 | 12 | X1 | 80 | PIP14 | LWR POSI | 0~127 | 11 | X2 | 80 | PIP11 | L. POSI | 0~255 | 22 | Y1 | 80 | PIP12 | R. POSI | 0~255 | 15 | Y2 | 80 |
| Item No. | Setting item | Variable range | setting value | Setting position | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | POSI. | (%) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PIP13 | UPR POSI | 0~127 | 12 | X1 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PIP14 | LWR POSI | 0~127 | 11 | X2 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PIP11 | L. POSI | 0~255 | 22 | Y1 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PIP12 | R. POSI | 0~255 | 15 | Y2 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

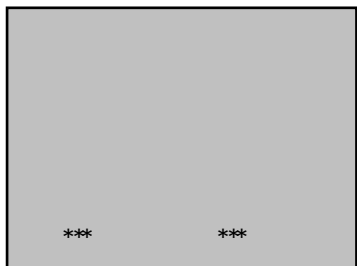
ADJUSTMENT OF VIDEO / CHROMA CIRCUIT

| Item | Measuring instrument | Test point | Adjustment part | Description |
|---|----------------------|------------|--|--|
| WHITE BALANCE (Low Light) adjustment | Signal generator | | S01: BRIGHT S11: R CUTOFF S12: G CUTOFF S13: B CUTOFF SCREEN VR [in HVT] | <ol style="list-style-type: none"> 1. Receive the black and white signal (color off). 2. Select the LOW LIGHT mode from the SERVICE MENU. 3. Confirm the initial setting value of R CUTOFF, G CUTOFF, B CUTOFF and BRIGHT. 4. Display a single horizontal line by pressing the ① key of the remote control unit. 5. Turn the screen VR all the way to the left. 6. Turn the screen VR gradually to the right from the left until either one of the red, blue or green colors appears faintly. 7. Adjust the two colors which did not appear until the single horizontal line that is displayed becomes white using the ④ to ⑨ keys of the remote control unit. 8. Turn the screen VR until the single horizontal line is displayed faintly. 9. Press the ② key to cancel the single horizontal line mode. 10. Adjust the BRIGHT level to become the black component shines white slightly. 11. Confirm that whether the color ingredient of R, G, or B is visible to the black component, which shines white slightly 12. When the color ingredient can be seen, two colors other than a visible color are adjusted, and it is made to look white. 13. Return the value of BRIGHT to initial setting value. <p>●The ③ EXIT key is the cancel key for the WHITE BALANCE.</p> |

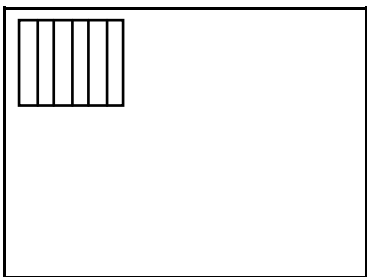
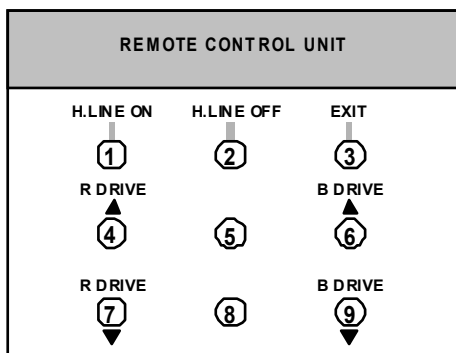


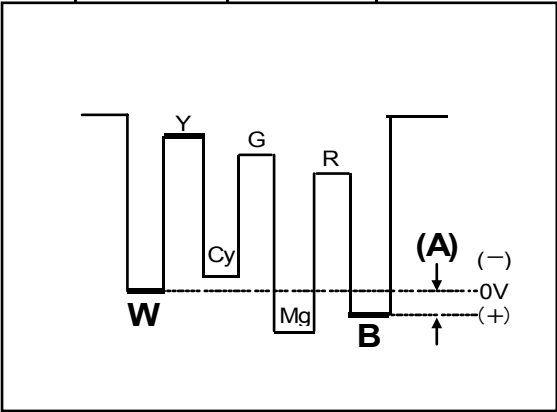
| No. | Setting item | Variable range | Initial setting value |
|-----|--------------|----------------|-----------------------|
| S11 | R CUT OFF | 0~255 | 30 |
| S12 | G CUT OFF | 0~255 | 30 |
| S13 | B CUT OFF | 0~255 | 30 |
| S01 | BRIGHT | 0~127 | 64 |

| Item | Measuring instrument | Test point | Adjustment part | Description | | | | | | | | | | | | |
|---|----------------------|----------------|--|---|-----|--------------|----------------|-----------------------|-------|---------|-------|----|-------|---------|-------|----|
| WHITE BALANCE (High Light) adjustment | Signal generator | | S14:R DRIVE S15:B DRIVE | <ol style="list-style-type: none"> 1. Receive the black-and-white signal (color off). 2. Select the HIGH LIGHT mode in the SERVICE MENU. 3. Set the initial setting value of R DRIVE and B DRIVE with the ④, ⑥, ⑦ and ⑨ keys of the remote control unit. 4. Adjust the screen until it becomes white using the ④, ⑥, ⑦ and ⑨ keys of the remote control unit. <p>●The ③ EXIT key is the cancel key for the WHITE BALANCE.</p> <table border="1" data-bbox="906 658 1501 824"> <thead> <tr> <th>No.</th> <th>Setting item</th> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>S14</td> <td>R DRIVE</td> <td>0~127</td> <td>64</td> </tr> <tr> <td>S15</td> <td>B DRIVE</td> <td>0~127</td> <td>64</td> </tr> </tbody> </table> | No. | Setting item | Variable range | Initial setting value | S14 | R DRIVE | 0~127 | 64 | S15 | B DRIVE | 0~127 | 64 |
| No. | Setting item | Variable range | Initial setting value | | | | | | | | | | | | | |
| S14 | R DRIVE | 0~127 | 64 | | | | | | | | | | | | | |
| S15 | B DRIVE | 0~127 | 64 | | | | | | | | | | | | | |
| PIP WHITE BALANCE (High Light) adjustment (AV-27F803 ONLY) | Signal generator | | PIP08:R DRIVE PIP10:B DRIVE | <ol style="list-style-type: none"> 1. Receive the black-and-white signal (color off). 2. Select the PIP08:R DRIVE, PIP10:B DRIVE, of the 5.PIP(PIP) SERVICE MENU. 3. Set the corresponding initial setting values with the FUNCTION (◀/▶) key of the remote control unit. 4. Adjust the PIP08:R DRIVE, PIP10:B DRIVE until the screen becomes white. <table border="1" data-bbox="906 1697 1501 1863"> <thead> <tr> <th>No.</th> <th>Setting item</th> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>PIP08</td> <td>R DRIVE</td> <td>0~255</td> <td>63</td> </tr> <tr> <td>PIP10</td> <td>B DRIVE</td> <td>0~255</td> <td>65</td> </tr> </tbody> </table> | No. | Setting item | Variable range | Initial setting value | PIP08 | R DRIVE | 0~255 | 63 | PIP10 | B DRIVE | 0~255 | 65 |
| No. | Setting item | Variable range | Initial setting value | | | | | | | | | | | | | |
| PIP08 | R DRIVE | 0~255 | 63 | | | | | | | | | | | | | |
| PIP10 | B DRIVE | 0~255 | 65 | | | | | | | | | | | | | |

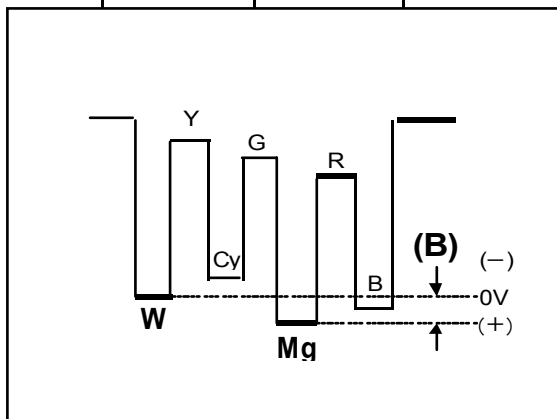


[WHITE SCREEN]



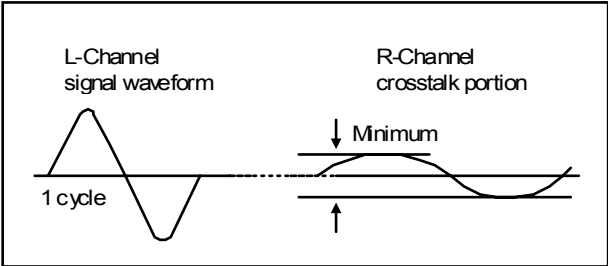
| Item | Measuring instrument | Test point | Adjustment part | Description | | | | | | | |
|--|--|-------------------------------------|-----------------------|---|---|--------------|----------------|--|-----|---------|-------|
| SUB BRIGHT adjustment | | | S01:BRIGHT | 1. Receive the broadcast and set the STANDARD mode. 2. Enter the SERVICE MENU. 3. Select S01:BRIGHT of the V/C(S) mode. 4. Set the initial setting value of the S01. BRIGHT with the FUNCTION ◀/▶ key. 5. If the brightness is not the best with the initial setting value, make fine adjustment of the S01. BRIGHT until you get the optimum brightness. | | | | | | | |
| | <table border="1"> <thead> <tr> <th>No.</th> <th>Setting item</th> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>S01</td> <td>BRIGHT</td> <td>0~127</td> <td>64</td> </tr> </tbody> </table> | | | | No. | Setting item | Variable range | Initial setting value | S01 | BRIGHT | 0~127 |
| No. | Setting item | Variable range | Initial setting value | | | | | | | | |
| S01 | BRIGHT | 0~127 | 64 | | | | | | | | |
| SUB CONTRAST adjustment | | | S02:PICTURE | 1. Receive the broadcast and set the STANDARD mode. 2. Enter the SERVICE MENU. 3. Select S02:PICTURE of the V/C(S) mode. 4. Set the initial setting value of the S02:PICTURE with the FUNCTION ◀/▶ key. 5. If the contrast is not the best with the initial setting value, make fine adjustment of the S02:PICTURE until you get the optimum contrast. | | | | | | | |
| | <table border="1"> <thead> <tr> <th>No.</th> <th>Setting item</th> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>S02</td> <td>PICTURE</td> <td>0~127</td> <td>60</td> </tr> </tbody> </table> | | | | No. | Setting item | Variable range | Initial setting value | S02 | PICTURE | 0~127 |
| No. | Setting item | Variable range | Initial setting value | | | | | | | | |
| S02 | PICTURE | 0~127 | 60 | | | | | | | | |
| SUB COLOR adjustment | Signal generator Remote control unit | | S03:COLOR | [Method of adjustment without measuring instrument] 1. Receive the broadcast. 2. Enter the SERVICE MENU. 3. Select S03:COLOR of the V/C(S) mode. 4. Set the initial setting value of the S03:COLOR with the FUNCTION ◀/▶ key. 5. If the color is not the best with the Initial setting value, make fine adjustment of the S03:COLOR until you get the optimum color. [Method of adjustment using measuring instrument] 1. Input the full field color bar signal (75% white). 2. Enter the SERVICE MENU. 3. Set the RFAFC to OFF. 4. Select S03:COLOR of the V/C(S) mode. 5. Set the initial setting value of the S03:COLOR with the FUNCTION ◀/▶ key. 6. Connect the oscilloscope between TP-B and TP-E . 7. Adjust COLOR and bring the value of (A) in the illustration to the voltage shown in the table below. 8. Reset the RFAFC setting position from OFF to ON. | | | | | | | |
| | Signal generator Oscilloscope Remote control unit | TP-B TP-E(↙) [CRT SOCKET PWB] | S03:COLOR | |  | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th>Models</th> <th>W-B</th> <th>[A]Voltage</th> </tr> </thead> <tbody> <tr> <td>AV-27F703^s AV-27F713^s AV-27F803^s</td> <td></td> <td>+13V</td> </tr> </tbody> </table> | Models | W-B | [A]Voltage | AV-27F703 ^s AV-27F713 ^s AV-27F803 ^s | | +13V | |
| Models | W-B | [A]Voltage | | | | | | | | | |
| AV-27F703 ^s AV-27F713 ^s AV-27F803 ^s | | +13V | | | | | | | | | |

| Item | Measuring instrument | Test point | Adjustment part | Description | | | | | | | | |
|---|---|--------------|---|--|------|--------------|---|-----------------------|------|------|-------|----|
| SUB TINT adjustment | Signal generator Remote control unit | | S04:TINT | <p>[Method of adjustment without measuring instrument]</p> <ol style="list-style-type: none"> 1. Receive the broadcast. 2. Enter the SERVICE MENU. 3. Select S04:TINT of the V/C(S) mode. 4. Set the initial setting value of the S04:TINT with the FUNCTION ◀/▶ key. 5. If the tint is not the best with the initial setting value, make fine adjustment of the S04:TINT until you get the optimum tint. <table border="1" data-bbox="901 674 1497 786"> <thead> <tr> <th>No.</th> <th>Setting item</th> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>S04</td> <td>TINT</td> <td>0~127</td> <td>68</td> </tr> </tbody> </table> | No. | Setting item | Variable range | Initial setting value | S04 | TINT | 0~127 | 68 |
| | No. | Setting item | Variable range | Initial setting value | | | | | | | | |
| S04 | TINT | 0~127 | 68 | | | | | | | | | |
| Signal generator Oscilloscope Remote control unit | TP-B TP-E(↕) [CRT SOCKET PWB] | S04:TINT | <p>[Method of adjustment using measuring instrument]</p> <ol style="list-style-type: none"> 1. Input the full field color bar signal (75% white). 2. Enter the SERVICE MENU. 3. Set the RFAFC to OFF. 4. Select S04:TINT of the V/C(S) mode. 5. Set the initial setting value of the S04:TINT with the FUNCTION ◀/▶ key. 6. Connect the oscilloscope between TP-B and TP-E. 7. Adjust TINT and bring the value of (B) in the illustration to the voltage shown in the table below. 8. Reset the RFAFC setting position from OFF to ON. <table border="1" data-bbox="933 1514 1449 1706"> <thead> <tr> <th>Models</th> <th>W-Mg</th> <th>[B]Voltage</th> </tr> </thead> <tbody> <tr> <td>AV-27F703/S AV-27F713/S AV-27F803/S</td> <td></td> <td>+26V</td> </tr> </tbody> </table> | Models | W-Mg | [B]Voltage | AV-27F703/S AV-27F713/S AV-27F803/S | | +26V | | | |
| Models | W-Mg | [B]Voltage | | | | | | | | | | |
| AV-27F703/S AV-27F713/S AV-27F803/S | | +26V | | | | | | | | | | |



ADJUSTMENT OF MTS CIRCUIT

| Item | Measuring instrument | Test point | Adjustment part | Description | | | | | | | | | | | | |
|-----------------------------------|---|-------------------------------|-----------------------------|---|-----|--------------|----------------|-----------------------|-----|----------|------|-----|-----|---------|------|-----|
| MTS INPUT LEVEL Adjustment | Sophometer | AUDIO OUT R pin | A01:IN LEVEL | 1. Receive the cross-hatch signal (cross-hatch / 400Hz) 2. Enter the SERVICE MENU. 3. Select the A01:IN LEVEL of the 3:SOUND(A) MODE. 4. Verify that the A01:IN LEVEL is set at its initial setting value. 5. Connect the sophometer to AUDIO OUT R pin. 6. Adjust the MTS input level to 500mV(rms) by A01:IN LEVEL with remote control unit. 7. Press the EXIT key to return to the SERVICE MENU screen. <table border="1" style="margin-top: 10px;"> <thead> <tr> <th>No.</th> <th>Setting item</th> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>A01</td> <td>IN LEVEL</td> <td>0~15</td> <td>010</td> </tr> </tbody> </table> | No. | Setting item | Variable range | Initial setting value | A01 | IN LEVEL | 0~15 | 010 | | | | |
| No. | Setting item | Variable range | Initial setting value | | | | | | | | | | | | | |
| A01 | IN LEVEL | 0~15 | 010 | | | | | | | | | | | | | |
| MTS SEPARATION adjustment | TV audio multiplex signal generator Oscilloscope | R OUT L OUT [AUDIO OUT] | A02:LOW SEP. A03:HI SEP. | 1. Input the stereo L signal (300Hz) from the TV audio multiplex signal generator to the antenna terminal. 2. Connect an oscilloscope to R OUT pin of the AUDIO OUT, and display one cycle portion of the 300Hz signal. 3. Enter the SERVICE MENU. 4. Select the A02:LOW SEP. of the 3:SOUND(A) mode. 5. Set the initial setting value of the A02:LOW SEP. with the FUNCTION (◀/▶) key. 6. Adjust the A02:LOW SEP. so that the stroke element of the 300Hz signal will become minimum. 7. Change the connection of the oscilloscope to L OUT pin of the AUDIO OUT, and enlarge the voltage axis. 8. Change the signal to 3kHz, and similarly adjust the A03:HI SEP. 9. Press the EXIT key to return to the SERVICE MENU screen. <table border="1" style="margin-top: 10px;"> <thead> <tr> <th>No.</th> <th>Setting item</th> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>A02</td> <td>LOW SEP.</td> <td>0~63</td> <td>032</td> </tr> <tr> <td>A03</td> <td>HI SEP.</td> <td>0~63</td> <td>032</td> </tr> </tbody> </table> | No. | Setting item | Variable range | Initial setting value | A02 | LOW SEP. | 0~63 | 032 | A03 | HI SEP. | 0~63 | 032 |
| No. | Setting item | Variable range | Initial setting value | | | | | | | | | | | | | |
| A02 | LOW SEP. | 0~63 | 032 | | | | | | | | | | | | | |
| A03 | HI SEP. | 0~63 | 032 | | | | | | | | | | | | | |



HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

1. HIGH VOLTAGE HOLD DOWN CIRCUIT

After repairing the high voltage hold down circuit shown in Fig. 1.
 This circuit shall be checked to operate correctly.

2. CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT

- (1) Turn the power switch to on.
- (2) As shown in Fig. 1, set the resistor between [S1] connector [2] and [3] .
- (3) Make sure that the screen picture disappears.
- (4) Temporarily unplug the power plug.
- (5) Remove the resistor replaced [S1] connector [2] and [3] .
- (6) Again plug the power plug, make sure that the normal picture is displayed on the screen.

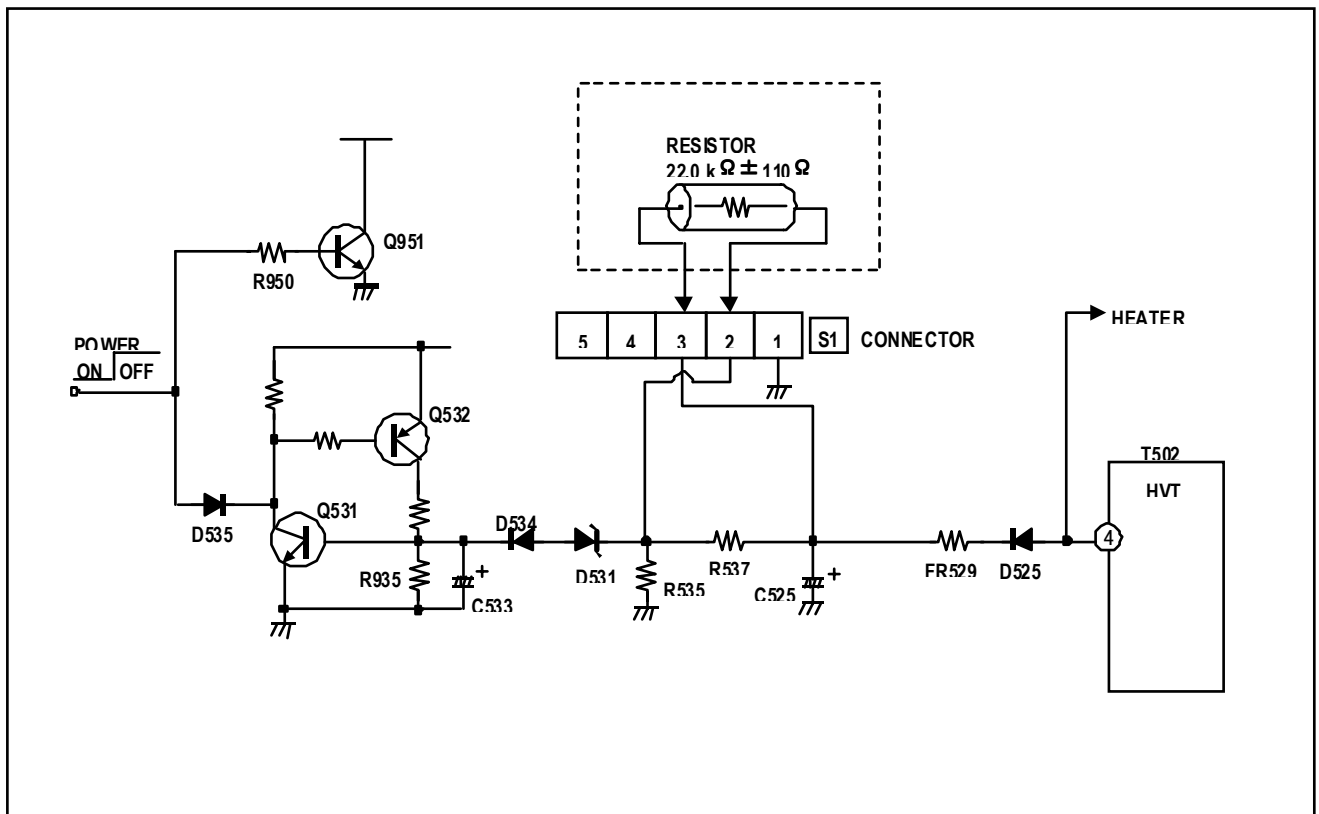


Fig. 1

REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

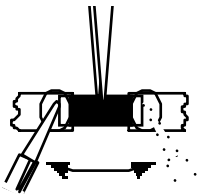
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

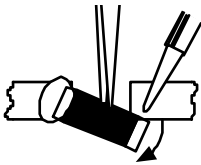
1. How to remove Chip parts

◆ Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

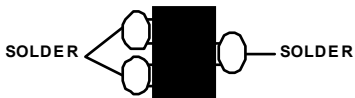


- (2) Shift with tweezers and remove the chip part.

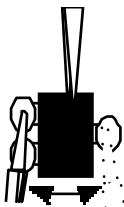


◆ Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

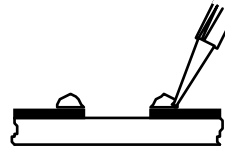


Note : After removing the part, remove remaining solder from the pattern.

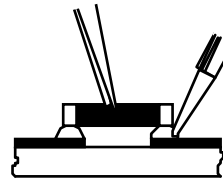
2. How to install Chip parts

◆ Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.

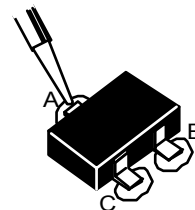


- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

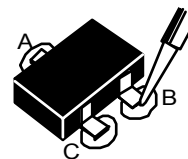


◆ Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.
- (2) Grasp the chip part with tweezers and place it on the solder.
- (3) First solder lead **A** as indicated in the figure.



- (4) Then solder leads **B** and **C**.



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