

JVC

SERVICE MANUAL

FLAT COLOUR TELEVISION

AV-21MT16/P, AV-25MT16/P

BASIC CHASSIS

CW3

InterArt
MaxxBass®

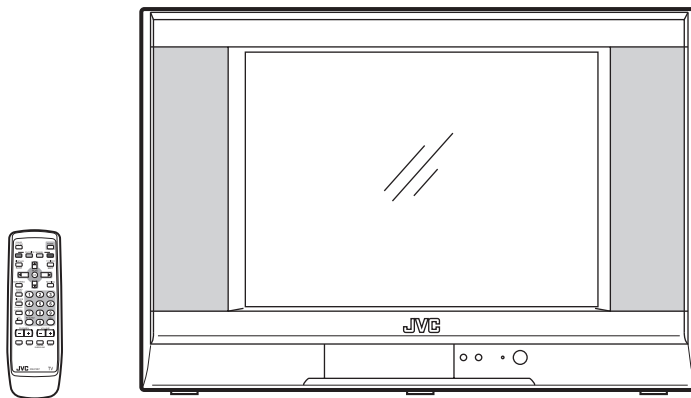


TABLE OF CONTENTS

1	PRECAUTION.....	1-3
2	SPECIFIC SERVICE INSTRUCTIONS.....	1-4
3	DISASSEMBLY	1-6
4	ADJUSTMENT	1-12
5	TROUBLESHOOTING	1-34

SPECIFICATION

Items		Contents	
		AV-21MT16/P	AV-25MT16/P
Dimensions (W × H × D)		64.9 cm × 46.5 cm × 47.4 cm	72.8 cm × 53.6 cm × 47.7 cm
Mass		23.5 kg	32 kg
TV RF System		M	
Colour System		PAL / SECAM / NTSC 3.58 / NTSC 4.43	
Stereo System		MTS	
Receiving Frequency	VHF Low	55.25MHz - 127.25MHz (CH.2 - CH.B)	
	VHF High	133.25MHz - 361.25MHz (CH.C - CH.W+11)	
	UHF	367.25MHz - 801.25MHz (CH.W+12 - CH.69)	
	CATV	Mid (X - Z+2, S1 - S10) / Super (S11 - S20) / Hyper (S21 - S41) bands	
Intermediate Frequency	VIF	45.75 MHz	
	SIF	33.5 MHz (4.5 MHz)	
Colour Sub Carrier	PAL	4.43 MHz	
	NTSC	3.58 MHz	
Power Input		AC110 V - AC240 V, 50 Hz/60 Hz	
Power Consumption		105W (Max) / 73W (Avg)	137W (Max) / 91W (Avg)
Picture Tube		Visible size : 52.1 cm, Measured diagonally H: 41.6 cm × V: 31.5 cm	Visible size : 61.0 cm, Measured diagonally H: 48.6 cm × V: 36.8 cm
High Voltage		28.5 kV ±1.5 kV (at zero beam current)	30.5 kV ±1.5 kV (at zero beam current)
Speaker		6.5 cm × 13 cm, oval type × 2	
Audio Power Output		7 W + 7 W (Rated power output)	
Aerial Input		75 Ω unbalanced, coaxial	
Video / Audio Input-1/2/3	Component Video [VIDEO-2]	RCA pin jack × 3 Y: 1V(p-p), positive (negative sync), 75Ω Cb/Cr: 0.7V(p-p), 75Ω	
	S-Video [VIDEO-1]	Mini-DIN 4 pin × 1 Y: 1V(p-p), positive (negative sync provided), 75Ω C: 0.286V(p-p) (Burst signal), 75Ω	
	Video	1V(p-p), negative sync, 75Ω, RCA pin jack × 3	
	Audio	500mV(rms) (-4dBs), high impedance, RCA pin jack × 6	
Video / Audio Output	Video	1V(p-p), 75Ω, RCA pin jack × 1	
	Audio	500mV(rms) (-4dBs), Low impedance, RCA pin jack × 2	
Headphone jack		3.5 mm stereo mini jack × 1	
Remote Control Unit		RM-C1287 (UM-3/AA/R6 dry cell battery × 2)	

Design and specifications subject to change without notice.

SECTION 1

PRECAUTION

1.1 SAFETY PRECAUTIONS

- (1) 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.
- (2) 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.
- (3) 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.
- (4) **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) : (\equiv) 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 the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.). If above note will not be kept, a fuse or any parts will be broken.
- (5) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See B1 VOLTAGE).
- (6) 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.
- (7) 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.

- (8) 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.

- (9) **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, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

a) Dielectric Strength Test

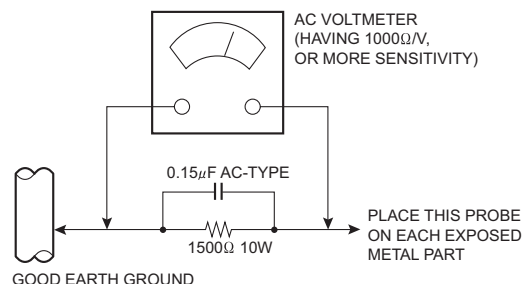
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second. (. . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated 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.

b) 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 Ω 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.).



SECTION 2

SPECIFIC SERVICE INSTRUCTIONS

2.1 FEATURES

DVD PICTURE MODE

This function can enhance the picture quality of DVD. The screen can be made sharp or soft by this setting.

AUTO SIGNAL DETECT

When input DVD signal to VIDEO-2, detect the input signal and change the input mode to VIDEO-2 automatically.

CINEMA SURROUND

This function can enjoy an enhanced sound for wider audience.

PICTURE MODE

This function can adjust the picture settings automatically. There are BRIGHT, STANDARD and SOFT in the PICTURE MODE.

RETURN +

This function can set a channel frequently view to the Return Channel and you can view that channel at any time with one-touch.

AI ECO SENSOR

This function can adjust TV screen contrast according to the brightness of your room.

MaxxBass

MaxxBass enhances bass sound that cannot be reproduced by normal speakers to be heard by our ears.

2.2 MAIN DIFFERENCE LIST

Item	AV-21MT16/P	AV-25MT16/P
MAIN PWB	SCW-1906A-H2	SCW-1919A-H2

2.3 TECHNICAL INFORMATION

2.3.1 MAIN MI-COM (CPU) PIN FUNCTION

Pin No.	Pin name	I/O	Function	Pin No.	Pin name	I/O	Function
1	VssP2	-	GND	65	SVM	O	Not used
2	VssC4	-	GND	66	FbiSo	I	Flyback input/sandcastle output
3	V1.8C4	I	1.8V (Digital)	67	Hout	O	Horizontal output
4	V3.3A3	I	3.3V	68	VssComb	-	GND
5	VrefP_Sdac	I	3.3V (Positive)	69	V5Comb	I	5V
6	VrefN_Sdac	-	GND	70	Vin/R2/Pr	I	PIP R input
7	VrefP_Sdac	I	3.3V (Negative)	71	Uin/B2/Pb	I	PIP B input
8	VrefN_Sdac	-	GND	72	Yin/G2/Y	I	PIP G input
9	VrefP_Sdac	I	3.3V (Positive)	73	Ysync	I	Not used
10	Xtalln	I	24.576MHz for system clock	74	Yout	O	Not used
11	XtalOut	O	24.576MHz for system clock	75	Uout/INSSW2	I	YUV insertion input
12	VssA1	-	GND	76	NC	O	Not used
13	NECK	I	V-guard input/ I/O switch	77	INSSW3	I	YUV insertion input
14	CONT	I	1.8V regulator control	78	R3/Pr	I	Component PR input (Video-2)
15	V5P1	I	+5V	79	G3/Y	I	Component Y input (Video-2)
16	Ph2	-	Phase-2 filter	80	B3/Pb	I	Component PB input (Video-2)
17	Ph1	-	Phase-1 filter	81	Gnd3	-	GND
18	Gnd1	-	GND	82	V5P3	I	5V
19	SecPll	-	SECAM PLL decoupling	83	BCL	I	Beam current limiter input
20	Dec8G	-	Bandgap decoupling	84	BLKIN	I	Black current input
21	EW	O	East-West drive output	85	Rout	O	R output
22	VDRB-	O	Vertical drive B output	86	Gout	O	G output
23	VDRA+	O	Vertical drive A output	87	Bout	O	B output
24	Vif1	I	Video IF input 1	88	V3.3A1	I	3.3V
25	Vif2	I	Video IF input 2	89	RefAdN	-	GND
26	Vsc	-	Vertical sawtooth capacitor	90	V3.3RefAdP	I	3.3V (Positive)
27	Iref	I	Reference current input	91	RefAd	I	3.3/2V
28	GndIF	-	GND	92	GndA	-	GND
29	Sif1	I	Sound IF input 1	93	V1.8A	I	1.8V
30	Sif2	I	Sound IF input 2	94	V3.3A2	I	3.3V
31	AGC	O	Tuner AGC output	95	VssADC	-	GND
32	EHT	I	EHT/overvoltage protection input	96	V1.8ADC	I	1.8V
33	Ssif/RefIn/Avl/RefOut	O	Automatic Volume Levelling/ sound IF input / subcarrier reference output / external reference signal input for I signalmixer for DVB operation	97	REMOTE	I	Remote control
34	L3	I	Audio-L3 input (left signal)	98	PW_LED	I	POWER LED control
35	R3	I	Audio-R3 input (right signal)	99	PW_LED	I	POWER LED control
36	L-OUT	O	Audio L output	100	V1.8C2	I	1.8V
37	R-OUT	O	Audio R output	101	VssC2	-	GND
38	DecsDem	-	Decoupling sound demodulator	102	TIMER	-	Not used
39	QssO/AmO/AudeEm	O	QSS intercarrier output / AM output / deemphasis / (front-end audio out)	103	TIMER	-	Not used
40	Gnd2	-	GND	104	VER_PROTECT	O	X-ray protect
41	PllIf	-	IF-PLL loop filter	105	S_REDUCE	O	Sound control
42	SifAgc	-	AGC sound IF	106	P00/I2SDI1	O	Not used
43	IfVo/FmRo/DvbO	O	Not used	107	POWER	O	SUB POWER control
44	NC	O	Not used	108	SCL1	I	I2C bus clock
45	V8AudioSwitches	I	8V	109	SDA1	I/O	I2C bus data
46	AgcSsif	-	AGC capacitor second sound IF	110	V3.3P	I	3.3V
47	V5P2	I	5V	111	ROTATION	O	Rotation
48	V-OUT	O	Video output	112	3.58/OTHER	O	NTSC 3.58 detection
49	L1	I	Audio-L1 input	113	A_MUTE	O	Audio muting
50	R1	I	Audio-R1 input	114	4.5/OTHER	O	NTSC 4.43 detection
51	V3	I	Video V3 input	115	PROT	I	Protect
52	C4	I	Not used	116	ECO_IN	I	ECO sensor level detection
53	Audio2InL	I	Not used	117	V1.8C1	I	1.8V (Digital)
54	Audio2InR	I	Not used	118	DecV1V8	I	1.8V
55	V2/Y	I	Video V2 input	119	KEY_IN	I	Key scan data
56	L2	I	Audio L2 input (Left signal)	120	VDO-DET	I	Video DET input
57	R2	I	Audio R2 input (right signal)	121	VSSC1+P1	-	Digital GND
58	Y3/Cvbs	I	S-Video Y1 input	122	S_V_DET	I	S-Video DET input
59	C1	I	S-Video C1 input	123	P25/PWM4	O	GTVA_reset
60	AudioLsL	O	Audio L output for audio power amplifier	124	V1.8C3	I	1.8V (Digital)
61	AudioLsR	O	Audio R output for audio power amplifier	125	VssC3	-	GND
62	HP-L	O	Not used	126	P12/Int2	I	External interrupt
63	HP-R	O	Not used	127	SDA0	I/O	I2C bus data (for memory)
64	CVBSO/PIP	O	CVBS / PIP output	128	SCL0	I	I2C bus clock (for memory)

SECTION 3 DISASSEMBLY

3.1 DISASSEMBLY PROCEDURE

3.1.1 REMOVING THE REAR COVER

- Unplug the power cord.
 - (1) Remove the 11 screws [A] and 4 screws [B] as shown in Fig.1.
 - (2) Withdraw the REAR COVER toward you.

CAUTION:

When reinstalling the rear cover, carefully push it inward after inserting the MAIN PWB into the REAR COVER groove.

3.1.2 REMOVING THE MAIN PW BOARD

- Remove the REAR COVER.
 - (1) Slightly raise the both sides of the MAIN PWB (with BASS PWB connected) by hand.
 - (2) Withdraw the MAIN PWB backward.
(If necessary, take off the wire clamp and connectors, etc.)

3.1.3 REMOVING THE SPEAKER

- Remove the REAR COVER.
 - (1) Remove the 2 screws [C] as shown in Fig.1.
 - (2) Follow the same steps when removing the other hand SPEAKER.

3.1.4 CHECKING THE MAIN PW BOARD

- To check the back side of the MAIN PWB.
 - (1) Pull out the MAIN PWB. (Refer to REMOVING THE MAIN PW BOARD).
 - (2) Erect the MAIN PWB vertically so that you can easily check its back side.

CAUTIONS:

- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.
- When repairing, connect the DEG. COIL to the DEG. connector on the MAIN PWB.

3.1.5 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.

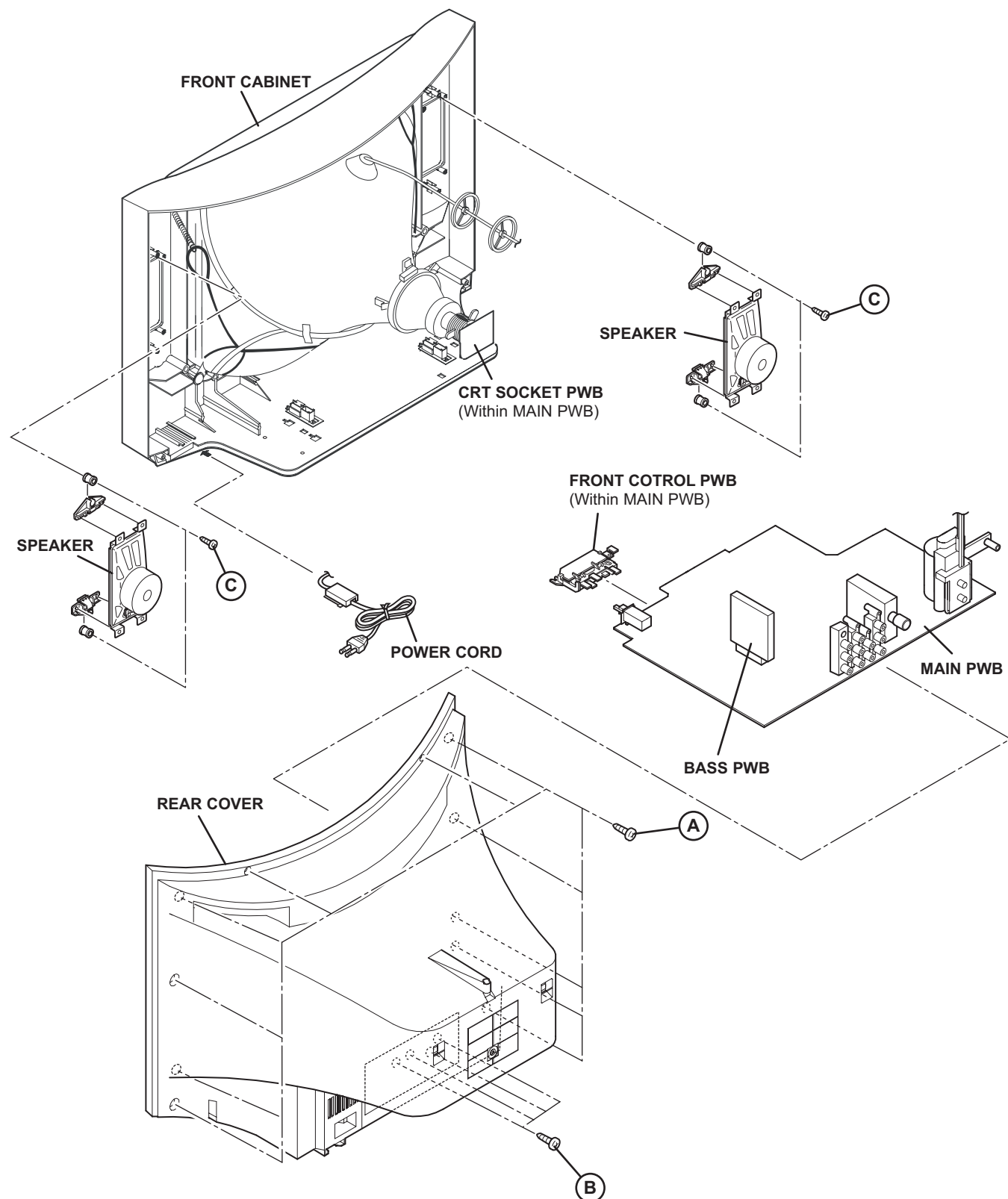


Fig.1

3.2 MEMORY IC REPLACEMENT

- This model uses the memory IC.

Memory IC: IC702 on MAIN PWB

The memory IC memorizes data for correctly operating the video and deflection circuits. When replacing the memory IC, be sure to use the same type IC written with the initial values of data. In other words, use the specific IC listed in "PRINTED WIRING BOARD PARTS LIST". For its mounting location, refer to "ADJUSTMENT LOCATIONS".

3.2.1 MEMORY IC REPLACEMENT PROCEDURE

1. Power off

Switch off the power and disconnect the power plug from the AC outlet.

2. Replace the memory IC

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

3. Power on

Connect the power plug to the AC outlet and switch on the power.

4. System constant check and setting

* It must not adjust without signal.

- (1) Press the **[DISPLAY]** key and the **[PICTURE MODE]** key of the REMOTE CONTROL UNIT simultaneously.
- (2) The SERVICE MODE screen of Fig. 1 will be displayed.
- (3) While the SERVICE MODE is displayed, press the **[DISPLAY]** key and the **[PICTURE MODE]** key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed.
- (4) Check the setting values of the SYSTEM CONSTANT SET. If the value is different, select the setting item with the **[MENU ▲/▼]** key, and set the correct value with the **[MENU ◀/▶]** key.
- (5) Press the **[OK]** key to memorize the setting value.
- (6) Press the **[DISPLAY]** key twice, and return to the normal screen.

5. Receiving channel setting

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

6. User settings

Check the user setting items according to the given in page later.

Where these do not agree, refer to the OPERATING INSTRUCTIONS and set the items as described.

7. SERVICE MODE setting

Verify what to set in the SERVICE MODE, and set whatever is necessary (Fig.1).

Refer to the SERVICE ADJUSTMENT for setting.

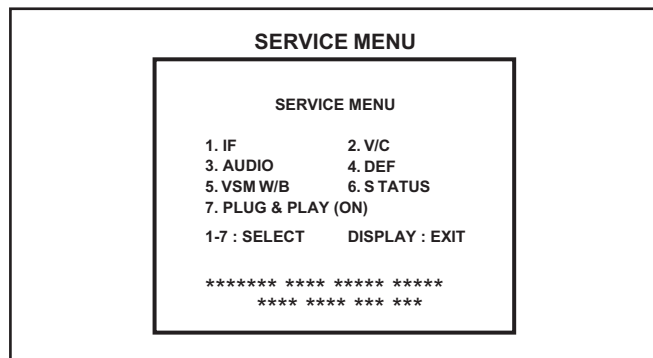


Fig.1

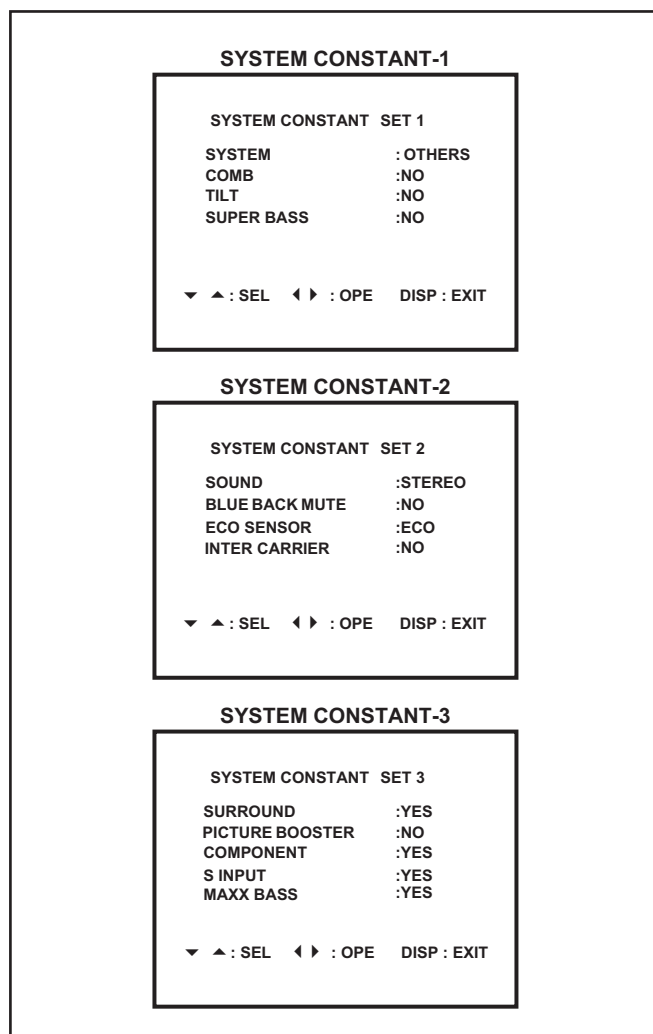
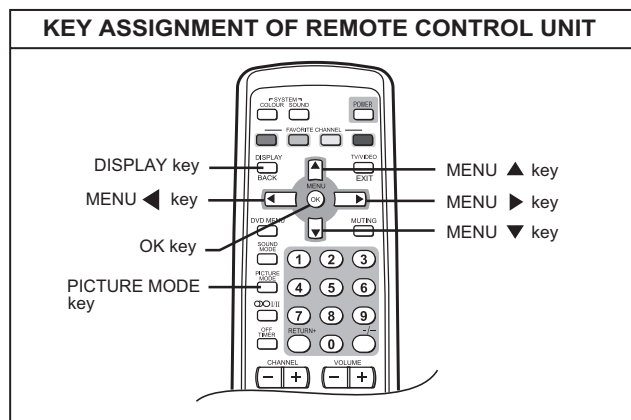


Fig.2



3.2.2 SYSTEM CONSTANT SETTING

Setting item	Setting value
SYSTEM	OTHERS
COMB	NO
TILT	NO
SOUND	STEREO
BLUE BACK MUTE	NO
ECO SENSOR	ECO
SURROUND	YES
PICTURE BOOSTER	NO
COMPONENT	YES
S INPUT	YES
MAXX BASS	YES

3.2.3 SETTINGS OF FACTORY SHIPMENT

3.2.3.1 BUTTON OPERATION

Setting item	Setting position
POWER	Off
CHANNEL	CH - 02
VOLUME	15

3.2.3.2 REMOTE CONTROL DIRECT OPERATION

Setting item	Setting position
CHANNEL	CH - 02
VOLUME	15
PICTURE MODE	BRIGHT
DISPLAY	Indicated
TV/VIDEO	TV
CINEMA SURROUND	OFF

3.2.3.3 REMOTE CONTROL MENU OPERATION

(1) PICTURE SETTING

Setting item	Setting position
PICTURE MODE	BRIGHT
PICTURE / BRIGHT / DETAIL / COLOR / TINT	Centre
WHITE BALANCE	COOL
VNR	AUTO

(2) SOUND SETTING

Setting item	Setting position
MTS	STEREO
AI VOLUME	OFF
SOUND MODE	MUSIC
BALANCE	Centre
CINEMA SURROUND	OFF
MAXX BASS	LOW

(3) FEATURE SETTING

Setting item	Setting position
DVD MENU	
AUTO SIGNAL DETECT	ON
DVD PICTURE MODE	OFF
DVD THEATER STATUS	OFF
DVD SOUND MODE	THEATER
ON TIMER	OFF
OFF TIMER	OFF
CHILD LOCK	OFF
COMPRESS (16:9)	OFF
AI ECO SENSOR	OFF

(4) INSTALL SETTING

Setting item	Setting position
AUTO PROGRAM	TV channel automatically set
EDIT/MANUAL	PRESET CH only
COLOUR SYSTEM	NTSC3.58
LANGUAGE	ENGLISH
VIDEO-2 SETTING	COMPONENT
BLUE BACK	ON
BEEP	ON

3.2.4 SERVICE MODE SETTING ITEMS

Setting item	Setting value
1. IF	1. VCO 2. DELAY POINT
2. V / C	1. SCREEN 2. CUTOFF(B/G) 3. WDR(R/G/B) 4. BRIGHT(TV/VDO 1/2/3) 5. CONT(TV/VDO 1/2/3) 6. COLOUR (TV/VDO1/2/3) 7. TINT(TV/VDO 1/2/3) 8. SHARP [Do not adjust] 9. Y DELAY [Do not adjust] 10. TINT DVD [Do not adjust] 11. AMP T. SHARP
3. AUDIO [Do not adjust]	1. DCXO ADJ 2. NICAM lower ERRIM 3. NICAM upper ERRIM 4. A2 ID THR 5. MENU EQUALIZER
4. DEF	1. V-SHIFT 2. V-SLOPE 3. V-SIZE 4. H-CENT 5. H-SIZE 6. TRAPEZ 7. EW-PIN 8. COR-UP 9. COR-LO 10. ANGLE 11. BOW 12. V-S.CR 13. V-LIN 14. V-ZOOM
5. VSM PRESET	1. BRIGHT 2. CONT 3. COLOUR 4. SHARP 5. HUE
	1. R DRIVE 2. G DRIVE 3. B DRIVE
6. STATUS [Display only]	---
7. PLUG & PLAY(ON) [Display only]	---

3.3 REPLACEMENT OF CHIP COMPONENT

3.3.1 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.

3.3.2 SOLDERING IRON

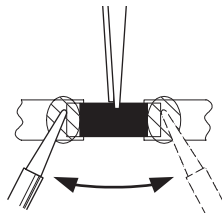
- (1) Use a high insulation soldering iron with a thin pointed end of it.
- (2) A 30w soldering iron is recommended for easily removing parts.

3.3.3 REPLACEMENT STEPS

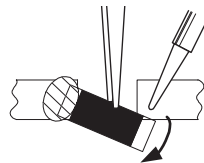
1. How to remove Chip parts

[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 the tweezers and remove the chip part.

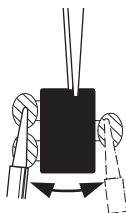


[Transistors, diodes, variable resistors, etc.]

- (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.



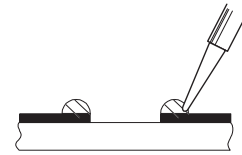
NOTE :

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

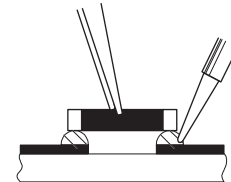
2. How to install Chip parts

[Resistors, capacitors, etc.]

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

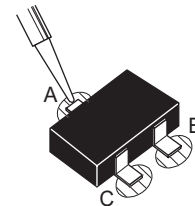


- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

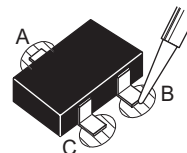


[Transistors, diodes, variable resistors, etc.]

- (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**.



SECTION 4 ADJUSTMENT

4.1 ADJUSTMENT PREPARATION

- (1) There are 2 ways of adjusting this TV : One is with the **REMOTE CONTROL UNIT** and the other is the conventional method using adjustment parts and components.
- (2) The adjustment using the **REMOTE CONTROL UNIT** is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- (3) Make sure that connection is correctly made AC to AC power source.
- (4) Turn on the power of the TV and measuring instruments for warming up for at least 30 minutes before starting adjustments.
- (5) If the receive or input signal is not specified, use the most appropriate signal for adjustment.
- (6) Never touch the parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.

4.2 PRESET SETTING BEFORE ADJUSTMENT

Unless otherwise specified in the adjustment items, preset the following functions with the **REMOTE CONTROL UNIT**.

Item	Preset value
PICTURE MODE(VSM)	BRIGHT
VNR	OFF
AI ECO SENSOR	OFF
BALANCE	Centre
BASS / TREBLE / BALANCE	Centre
CINEMA SURROUND	OFF

4.3 MEASURING INSTRUMENT AND FIXTURES

- (1) DC voltmeter (or digital voltmeter)
- (2) Oscilloscope
- (3) HV voltmeter
- (4) Signal generator
(Pattern generator : PAL/NTSC)
- (5) Remote control unit

4.4 ADJUSTMENT ITEMS

■ CHECK ITEMS

- B1 VOLTAGE check
- HIGH VOLTAGE check
- IF VCO check

■ TUNER / IF CIRCUIT

- DELAY POINT (AGC) adjustment

■ FOCUS

- FOCUS adjustment

■ DEFLECTION CIRCUIT

- V.SLOPE adjustment
- V.POSITION adjustment
- V.SIZE adjustment
- H.POSITION adjustment
- H.SIZE adjustment
- SIDE PIN adjustment
- TRAPEZIUM adjustment
- V. LINEARITY adjustment
- CORNER adjustment
- H. PARALLEL adjustment
- H.BOW adjustment

■ VIDEO CIRCUIT

- WHITE BALANCE adjustment
- SUB BRIGHT adjustment
- SUB CONTRAST adjustment
- SUB COLOUR adjustment
- SUB TINT adjustment

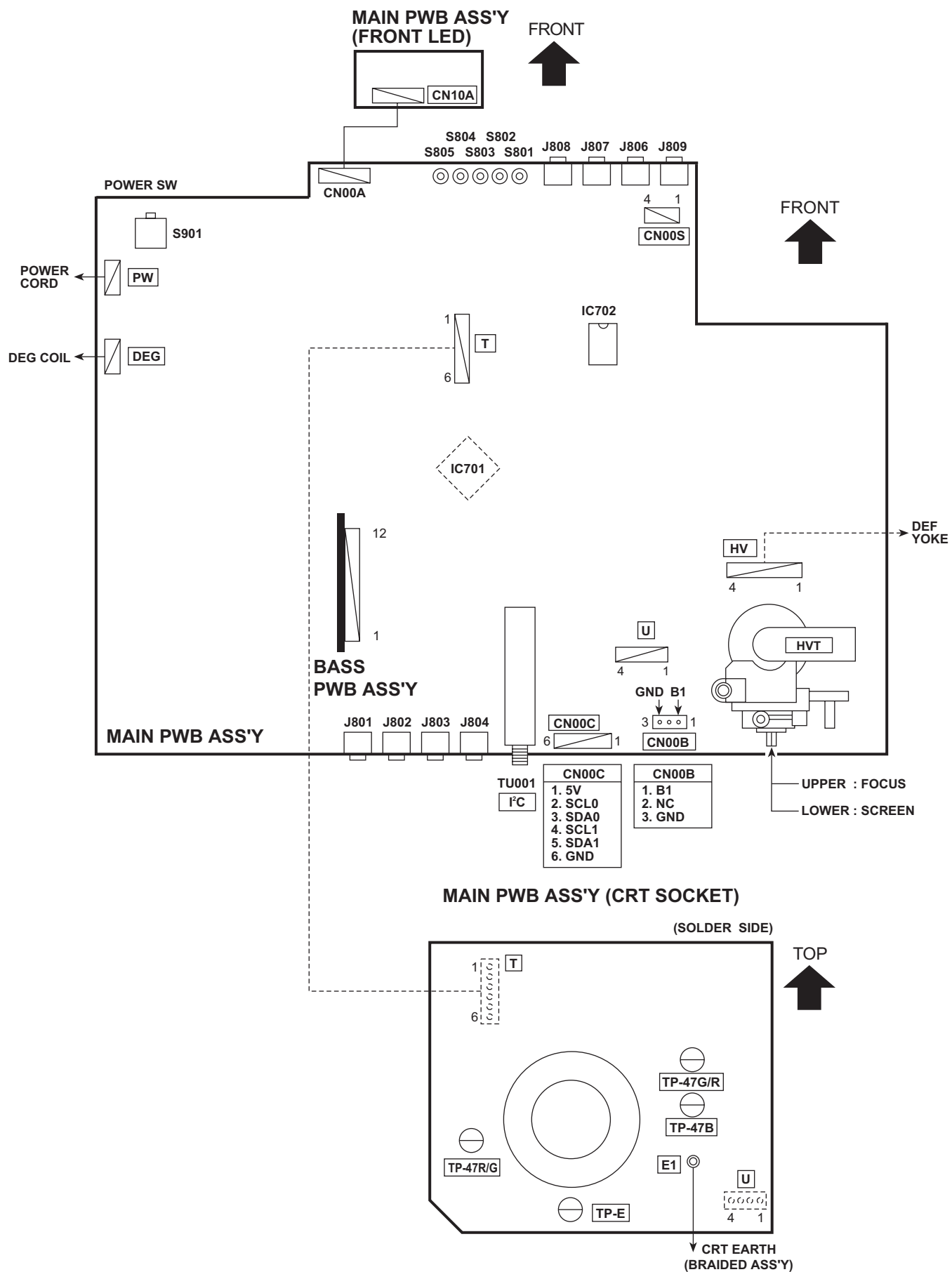
■ VSM PRESET SETTING

- VSM PRESET

■ PURITY AND CONVERGENCE

- PURITY adjustment
- STATIC CONVERGENCE adjustment
- DYNAMIC CONVERGENCE adjustment

4.5 ADJUSTMENT LOCATION



4.6 BASIC OPERATION OF SERVICE MODE

4.6.1 TOOL OF SERVICE MODE OPERATION

Operate the SERVICE MODE with the REMOTE CONTROL UNIT.

4.6.2 SERVICE MODE ITEMS

With the SERVICE MODE, various adjustments can be made, and they are broadly classified in the following items of settings.

1.IF	This mode adjusts the setting values of the IF circuit.
2. V/C	This mode adjusts the setting values of the VIDEO circuit.
3.AUDIO	This mode adjusts the setting values of the multiplicity AUDIO circuit. [Do not adjust]
4. DEF	This mode adjusts the setting values of the DEFLECTION circuit for each aspect mode given below.
5.VSM PRESET	This mode adjusts the initial setting values of BRIGHT, STANDARD and SOFT. (VSM : Video Status Memory)
6.STATUS	It is no requirement to adjustment. [Do not adjust]
7.PLUG & PLAY (ON)	This mode adjusts the setting values of the PIP circuit. [Do not adjust]

4.6.3 BASIC OPERATION IN SERVICE MODE

4.6.3.1 HOW TO ENTER THE SERVICE MODE

- (1) Press the **[DISPLAY]** key and the **[PICTURE MODE]** key simultaneously, then enter the SERVICE MODE.
- (2) When the main menu is displayed, press any key of the [7] to [9] key to enter the corresponding sub menu mode.

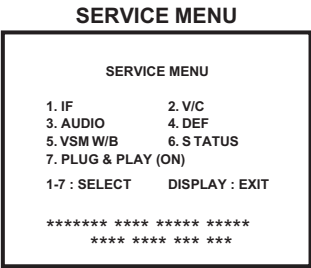


Fig.1

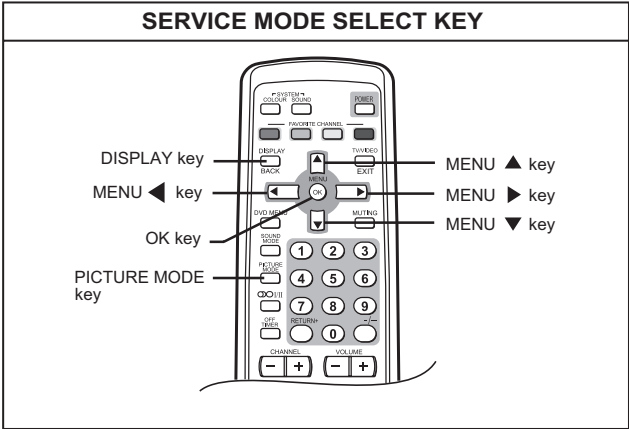


Fig.2

4.6.3.2 SETTING METHOD

■ 1.IF

- [1. VCO] : It must not adjust without signal
 - (1) **[1]** key
Select 1.IF.
 - (2) **[1]** key
Select 1.VCO(CW).
Check the arrow position between the ABOVE REF. and BELOW REF.
 - (3) **[DISPLAY]** key
Return to the SERVICE MODE main manu screen.

■ 2. V/C, 4. DEF

- (1) **[2], [4]** key
Select one from 2. V/C, 4. DEF.
- (2) **[MENU ▲/▼]** key
Select setting items.
- (3) **[MENU ◀ / ▶]** key
Set the setting values of the setting items.

■ 5.VSM W/B

- (1) **[5]** key
Select 5.VSM W/B.
- (2) **[OK]** key
Select setting items.
- (3) **[MENU ▲/▼]** key
Set the setting values of the setting items.

4.6.3.3 MEMORIZE THE ADJUSTMENT DATA

When Mnt is completed, press the **[OK]** key to memorize the adjustment value. If not to do so, the data is not memorized to the memory IC. And if exit the adjustment mode before to memorize the data, the adjustment value which you have changed will be canceled.

4.6.3.4 RELEASE OF SERVICE MODE

After completing the setting, return to the SERVICE MODE, then again press the **[DISPLAY]** key.

4.6.4 SERVICE MODE FLOW CHART

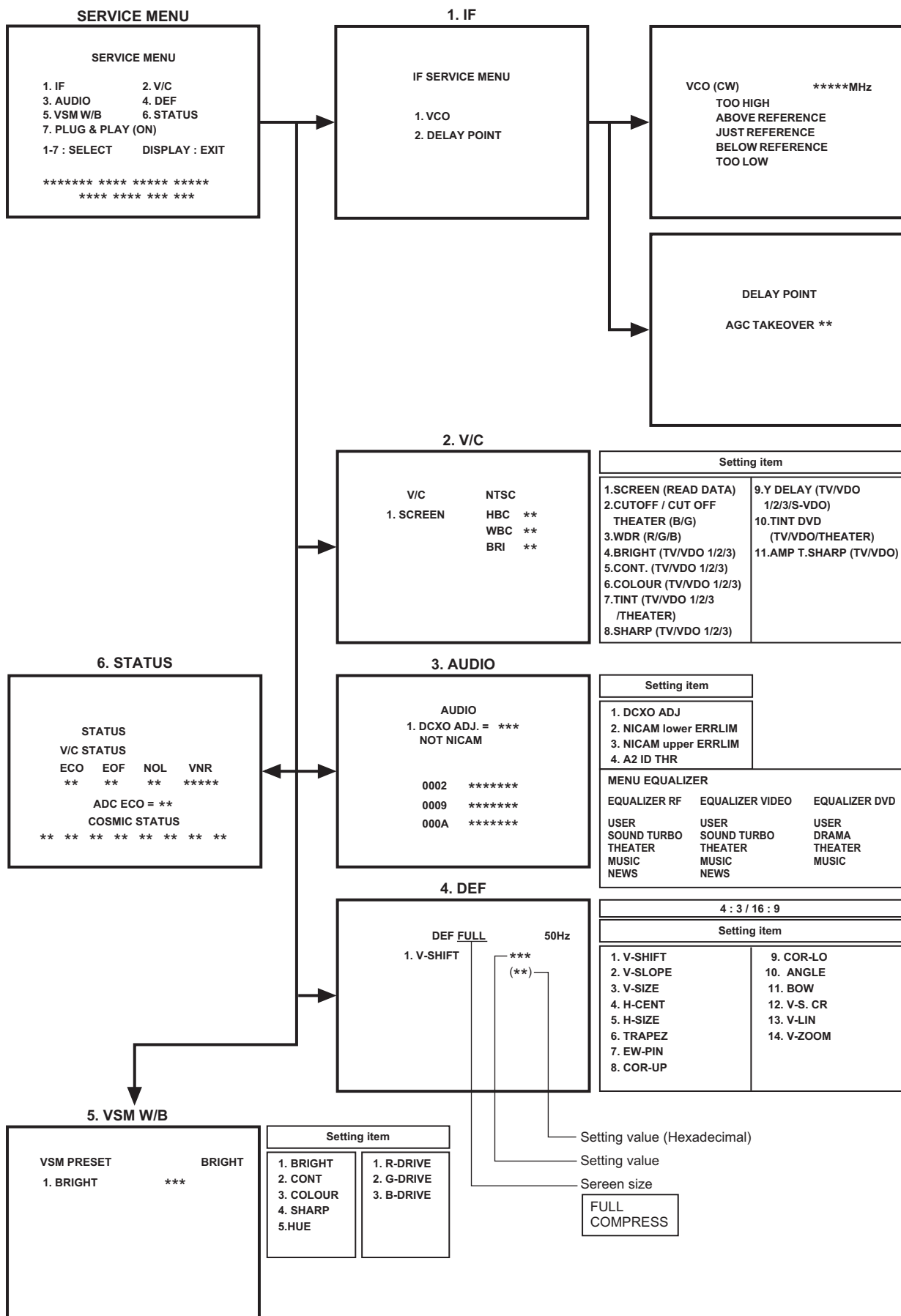


Fig.3

4.7 INITIAL SETTING VALUE OF SERVICE MODE

- (1) Adjustment of the SERVICE MODE 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 value.
- (2) Do not change the initial setting values of the setting items not listed in "ADJUSTMENT PROCEDURE".
- (3) The " --- " means adjustment is not possible.

[2. V/C] * is variable values for adjustment.

[AV-21MT16/P]

Adjustment item			Initial setting value						
			PAL	SECAM	NTSC3.58	NTSC4.43	VIDEO 2	COMPONENT(V-2)	
								525i	625i
1. SCREEN	BRI	0 ~ 63	32*	32*	32*	32*	---	32*	32*
2. CUT OFF	B	0 ~ 63(-32 ~ +31)	11*	11*	11*	11*	---	+3*	+3*
	G	0 ~ 63(-32 ~ +31)	7*	7*	7*	7*	---	(-5)*	(-5)*
	CUT OFF THEATER	B	---	---	---	---	+0	+0	+0
	G	0 ~ 63(-32 ~ +31)	---	---	---	---	+7	+0	+0
3. WDR	R	0 ~ 63(-32 ~ +31)	32*	32*	32*	32*	---	0	0
	G	0 ~ 63(-32 ~ +31)	32	32	32	32	---	0	0
	B	0 ~ 63(-32 ~ +31)	45*	45*	45*	45*	---	0	0
4. BRIGHT	RF	0 ~ 63	39*	39*	39*	39*	---	---	---
	VIDEO-1(COMPOSITE/S)	(-32 ~ +31)	(+1)	(+1)	(+1)	(+1)	---	---	---
	VIDEO-2(COMPONENT)	(-32 ~ +31)	(+0)	(+0)	(+0)	(+0)	---	(+0)	(+0)
	VIDEO-3(COMPOSITE)	(-32 ~ +31)	(-1)	(-1)	(-1)	(-1)	---	---	---
5. CONT.	RF	0 ~ 63	32*	32*	32*	32*	---	---	---
	VIDEO-1(COMPOSITE/S)	(-32 ~ +31)	(+7)	(+7)	(+7)	(+7)	---	---	---
	VIDEO-2(COMPONENT)	(-32 ~ +31)	(+7)	(+7)	(+7)	(+7)	---	(+2)	(+2)
	VIDEO-3(COMPOSITE)	(-32 ~ +31)	(+7)	(+7)	(+7)	(+7)	---	---	---
6. COLOUR	RF	0 ~ 63(-32 ~ +31)	---	---	37*	---	---	---	---
	VIDEO-1(COMPOSITE/S)	(-32 ~ +31)	+4*	-7	+4	-1	---	---	---
	VIDEO-2(COMPONENT)	(-32 ~ +31)	+4*	-7	+4	-1	---	(+3)	(+4)
7. TINT	RF	0 ~ 63(-32 ~ +31)	---	---	+27*	---	---	---	---
	VIDEO	(-32 ~ +31)	---	---	(+2)	(+3)	---	---	---
	THEATER	(-32 ~ +31)	---	---	(+0)	(+0)	---	---	---
8. SHARP	RF	0 ~ 63	50	50	50	50	---	45	45
	VIDEO	0 ~ 63	63	63	63	63	---	45	45
9. Y DELAY	RF	0 ~ 15	---	---	5	---	---	---	---
	VIDEO	0 ~ 15	6	9	7	8	---	---	---
	S-VIDEO	0 ~ 15	7	7	7	7	---	---	---
10. TINT DVD	RF	0 ~ 63(-32 ~ +31)	---	---	+0	---	---	---	---
	VIDEO	(-32 ~ +31)	+6*	+1	+0	+0	---	+4	-3
	THEATER	(-32 ~ +31)	+0	+0	---	---	---	+0	+0
11. AMP T.SHARP	RF VIDEO	0 ~ 63	0	0	0	0	---	0	0

[AV-25MT16/P]

Adjustment item		Variable range	Initial setting value						
			PAL	SECAM	NTSC3.58	NTSC4.43	VIDEO 2	COMPONENT(V-2)	
								525i	625i
1. SCREEN	BRI	0 ~ 63	32*	32*	32*	32*	---	32*	32*
2.	CUT OFF	B	0 ~ 63(-32 ~ +31)	11*	11*	11*	11*	---	+3*
		G	0 ~ 63(-32 ~ +31)	7*	7*	7*	7*	---	(-5)*
	CUT OFF THEATER	B	0 ~ 63(-32 ~ +31)	---	---	---	---	+2	+0
		G	0 ~ 63(-32 ~ +31)	---	---	---	---	-2	-5
3. WDR	R	0 ~ 63(-32 ~ +31)	32*	32*	32*	32*	---	0	0
	G	0 ~ 63(-32 ~ +31)	32	32	32	32	---	0	0
	B	0 ~ 63(-32 ~ +31)	45*	45*	45*	45*	---	0	0
4. BRIGHT	RF	0 ~ 63	39*	39*	39*	39*	---	---	---
	VIDEO-1(COMPOSITE/S)	(-32 ~ +31)	(+4)	(+4)	(+4)	(+4)	---	---	---
	VIDEO-2(COMPONENT)	(-32 ~ +31)	(+2)	(+2)	(+2)	(+2)	---	(+1)	(+1)
	VIDEO-3(COMPOSITE)	(-32 ~ +31)	(+2)	(+2)	(+2)	(+2)	---	---	---
5. CONT.	RF	0 ~ 63	32*	32*	32*	32*	---	---	---
	VIDEO-1(COMPOSITE/S)	(-32 ~ +31)	(+10)	(+10)	(+10)	(+10)	---	---	---
	VIDEO-2(COMPONENT)	(-32 ~ +31)	(+10)	(+10)	(+10)	(+10)	---	(-3)	(-3)
	VIDEO-3(COMPOSITE)	(-32 ~ +31)	(+10)	(+10)	(+10)	(+10)	---	---	---
6. COLOUR	RF	0 ~ 63(-32 ~ +31)	---	---	37*	---	---	---	---
	VIDEO-1(COMPOSITE/S)	(-32 ~ +31)	+6*	+0	+3	+1	---	---	---
	VIDEO-2(COMPONENT)	(-32 ~ +31)	+6*	+0	+3	+1	---	+3	+5
7. TINT	RF	0 ~ 63(-32 ~ +31)	---	---	+27*	---	---	---	---
	VIDEO	(-32 ~ +31)	---	---	(+2)	(+2)	---	---	---
	THEATER	(-32 ~ +31)	---	---	(+0)	(+0)	---	---	---
8. SHARP	RF	0 ~ 63	50	50	50	50	---	40	40
	VIDEO	0 ~ 63	63	63	63	63	---	40	40
9. Y DELAY	RF	0 ~ 15	---	---	5	---	---	---	---
	VIDEO	0 ~ 15	6	9	7	8	---	---	---
	S-VIDEO	0 ~ 15	7	9	9	9	---	---	---
10. TINT DVD	RF	0 ~ 63(-32 ~ +31)	---	---	+0	---	---	---	---
	VIDEO	(-32 ~ +31)	+6*	-2	+0	+0	---	+6	+1
	THEATER	(-32 ~ +31)	+5	+0	---	---	---	+0	+0
11. AMP T.SHARP	RF VIDEO	0 ~ 63	0	0	0	0	---	0	0

[3. AUDIO] *This submenu is for display only, no adjustment is required.

Function	Item	Setting value
AUDIO	1. DC XO ADJ	19H*
	2. NICAM LOWER ERR LIM	6FH
	3. NICAM UPPER ERR LIM	B0H
	4. A2 ID THR	00H

[AV-21MT16/P]

Function	MODE	Item	100Hz	300Hz	1kHz	3kHz	8kHz
MENU EQUALIZER	RF	SOUND TURBO	+11	+7	+3	+7	+9
		THEATER	+5	+3	-8	+2	+6
		MUSIC	+6	+4	-1	+5	+8
		NEWS	-1	+2	+5	-2	-4
		USER	+0	+0	+0	+0	+0
	VIDEO	SOUND TURBO	+11	+7	+3	+7	+12
		THEATER	+5	+3	-8	+2	+6
		MUSIC	+9	+4	+4	+8	+12
		NEWS	-1	+2	+5	-2	-4
		USER	+0	+0	+0	+0	+0
	DVD	THEATER	+5	+3	-8	+2	+6
		MUSIC	+9	+4	+4	+8	+12
		DRAMA	+1	+3	+5	-1	-2
		USER	+0	+0	+0	+0	+0

[AV-25MT16/P]

Function	MODE	Item	100Hz	300Hz	1kHz	3kHz	8kHz
MENU EQUALIZER	RF	SOUND TURBO	+11	+7	+2	+8	+9
		THEATER	+7	+3	-7	+4	+9
		MUSIC	+9	+4	+2	+6	+8
		NEWS	+2	+2	+7	+2	-2
		USER	+0	+0	+0	+0	+0
	VIDEO	SOUND TURBO	+11	+7	+2	8	+12
		THEATER	+7	+3	-7	+4	+9
		MUSIC	+10	+5	+6	+11	+12
		NEWS	+2	+2	+7	+2	-2
		USER	+0	+0	+0	+0	+0
	DVD	THEATER	+7	+3	-7	+4	+9
		MUSIC	+10	+5	+6	+11	+12
		DRAMA	+4	+3	+7	+3	+0
		USER	+0	+0	+0	+0	+0

[4. DEF]

[AV-21MT16/P]

Adjustment item	Variable range		Initial setting value			
			4:3		COMPRESS (16:9)	
	4:3 50Hz	Others	50Hz	60Hz	50Hz	60Hz
1. V-SHIFT	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
2. V-SLOPE	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
3. V-SIZE	0 ~ 63	-32 ~ +31	+38*	0*	-14*	0*
4. H-CENT	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
5. H-SIZE	0 ~ 63	-32 ~ +31	0	0	0	0
6. TRAPEZ	0 ~ 63	-32 ~ +31	0	0	0	0
7. EW-PIN	0 ~ 63	-32 ~ +31	0	0	0	0
8. COR-UP	0 ~ 63	-32 ~ +31	0	0	0	0
9. COR-LO	0 ~ 63	-32 ~ +31	0	0	0	0
10. ANGLE	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
11. BOW	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
12. V-S.CR	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
13. V-LIN	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
14. V-ZOOM	0 ~ 63	-32 ~ +31	(+25 ~+32)	(0)	-32*	0*

[AV-25MT16/P]

Adjustment item	Variable range		Initial setting value			
			4:3		COMPRESS (16:9)	
	4:3 50Hz	Others	50Hz	60Hz	50Hz	60Hz
1. V-SHIFT	0 ~ 63	-32 ~ +31	36*	0*	0*	0*
2. V-SLOPE	0 ~ 63	-32 ~ +31	35*	0*	0*	0*
3. V-SIZE	0 ~ 63	-32 ~ +31	27*	0*	17*	-1*
4. H-CENT	0 ~ 63	-32 ~ +31	43*	0*	0*	0*
5. H-SIZE	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
6. TRAPEZ	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
7. EW-PIN	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
8. COR-UP	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
9. COR-LO	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
10. ANGLE	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
11. BOW	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
12. V-S.CR	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
13. V-LIN	0 ~ 63	-32 ~ +31	+32*	0*	0*	0*
14. V-ZOOM	0 ~ 63	-32 ~ +31	(+25 ~+32)	(0)	-32*	0*

NOTE: The value with an asterisk * is variable for adjustment. The values in parenthesis () are fixed values.

V-ZOOM DATA can adjust follow data range in case measurement line power on is appeared.

[5. VSM W/B]**[AV-21MT16/P]**

Setting item	Variable range	Setting value			
		BRIGHT	SOFT	STANDARD	THEATER
1. BRIGHT	-16 - 16	0	0	0	+3
2. CONT.	-16 - 16	+15	+5	+10	-3
3. COLOUR	-16 - 16	0	0	-4	-6
4. SHARP	-16 - 16	0	-10	-5	0
5. HUE	-16 - 16	0	0	0	-1

[AV-25MT16/P]

Setting item	Variable range	Setting value			
		BRIGHT	SOFT	STANDARD	THEATER
1. BRIGHT	-16 - 16	0	+0	0	+2
2. CONT.	-16 - 16	+15	+5	+10	-3
3. COLOUR	-16 - 16	0	+5	-4	-7
4. SHARP	-16 - 16	0	-10	-5	0
5. HUE	-16 - 16	0	0	0	-1

[AV-21MT16/P]

Setting item	Variable range	Setting value			
		COOL	WARM	NORMAL	THEATER
1. R DRIVE	-64 - 63	0	+10	0	+15
2. G DRIVE	-64 - 63	0	-4	+2	+7
3. B DRIVE	-64 - 63	0	-12	-10	-22

[AV-25MT16/P]

Setting item	Variable range	Setting value			
		COOL	WARM	NORMAL	THEATER
1. R DRIVE	-64 - 63	0	+10	+2	-0
2. G DRIVE	-64 - 63	0	-4	0	-9
3. B DRIVE	-64 - 63	0	-12	-10	-34

4.8 ADJUSTMENT PROCEDURE

4.8.1 CHECK ITEM

Item	Measuring instrument	Test point	Adjustment part	Description
B1 VOLTAGE	DC voltmeter Remote control unit	CN00B connector 1-pin:TP-B1 3-pin:TP-E [MAIN PWB]		(1) Receive any broadcast. (2) Connect a DC voltmeter to 1-pin and 3-pin of CN00B connector. (3) Make sure that the voltage is DC134.5V ±2.0V .
HIGH VOLTAGE	HV voltmeter Remote control unit	CRT anode Chassis GND		(1) Receive any broadcast. (2) Connect the earth clip of HV voltmeter to chassis GND. (3) Connect the probe of HV voltmeter to CRT anode. (4) Make sure that the voltage is DC28.5kV ±1.5kV [AV-21MT16/P] or DC30.5kV ±1.5kV [AV-25MT16/P] . NOTE: <ul style="list-style-type: none"> Remove the probe before removing the earth clip.
IF VCO	Remote control unit		[1.IF] 1.VCO	<ul style="list-style-type: none"> Under normal conditions, no adjustment is required. Confirmation adjustment. (1) Select 1.IF from the SERVICE MODE. (2) Select <1.VCO> (3) Receive any broadcast. (4) Check the ←(Arrow) position between the ABOVE REF. and BELOW REF.

4.8.2 TUNER / IF CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description										
DELAY POINT (AGC)	Signal generator		[1. IF] 2. DELAY POINT (AGC TAKE-OVER)	(1) Receive a black and white signal (colour off). (2) Select 1. IF. (3) Select <2. DELAY POINT>. (4) Set the setting values of the setting items as shown below table. (5) Then adjust the [MENU - / +] keys until video noise disappears. (6) Turn to other channels and make sure that there are no irregularities.										
	Remote control unit													
<table><tr><th colspan="2">Setting Item</th><th>Variable range</th><th>Initial setting value</th></tr><tr><td rowspan="2">DELAY POINT (AGC TAKE-OVER)</td><td>NTSC3.58</td><td rowspan="2">0 - 127</td><td>28</td></tr><tr><td>OTHER</td><td>28</td></tr></table>					Setting Item		Variable range	Initial setting value	DELAY POINT (AGC TAKE-OVER)	NTSC3.58	0 - 127	28	OTHER	28
Setting Item		Variable range	Initial setting value											
DELAY POINT (AGC TAKE-OVER)	NTSC3.58	0 - 127	28											
	OTHER		28											

4.8.3 FOCUS

Item	Measuring instrument	Test point	Adjustment part	Description
FOCUS	Signal generator		FOCUS VR [In HVT]	(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. (3) Make sure that the picture is in focus even when the screen gets darkened.

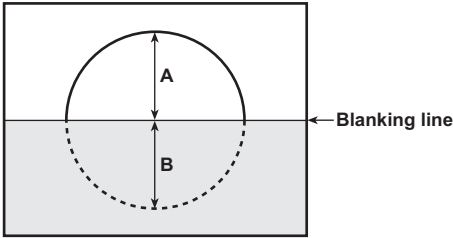
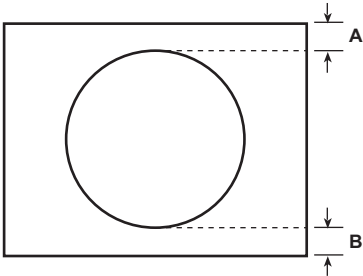
4.8.4 DEFLECTION CIRCUIT

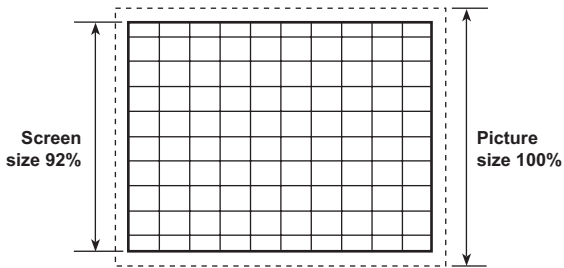
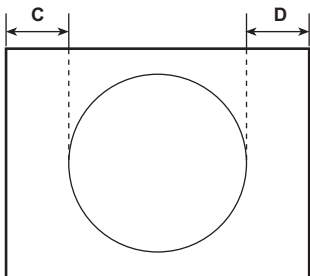
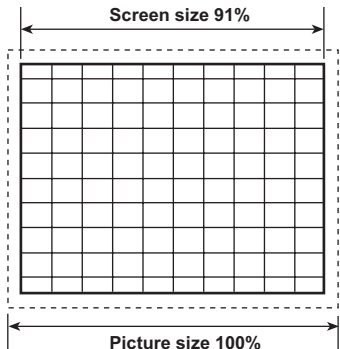
- The setting (adjustment) using the remote control unit is made on the basis of the initial setting values.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- When performing deflection circuit adjustment, adjusts PAL signal (fv: 50 Hz) in 4:3 mode and 16:9 mode respectively, and adjust the NTSC signal (fv: 60 Hz) similarly.

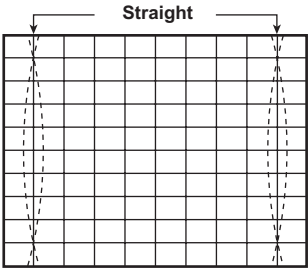
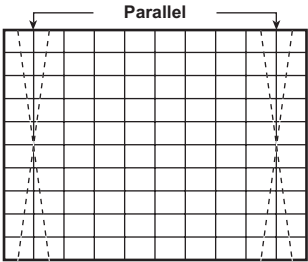
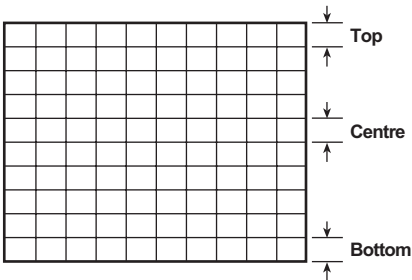
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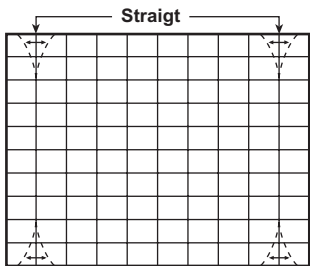
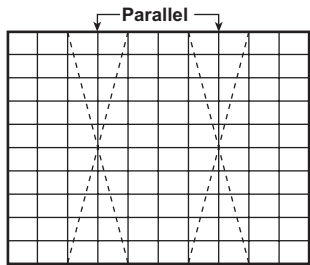
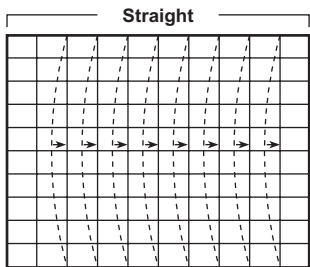
Proceed to the following adjustment after having completed the adjustments of SUB BRIGHT and SUB PICTURE.

■ COMPRESS: OFF (4:3)

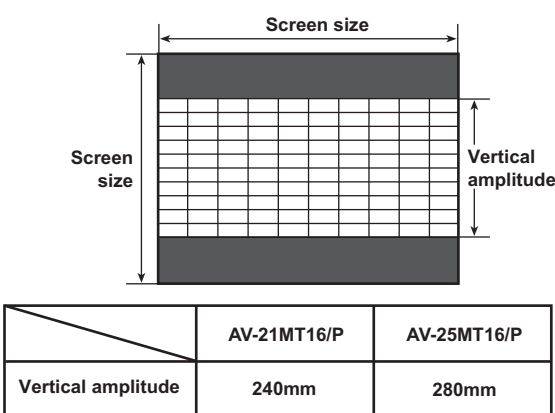
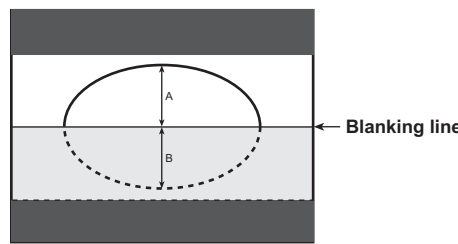
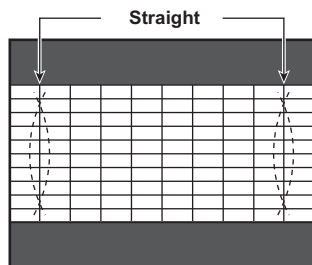
Item	Measuring instrument	Test point	Adjustment part	Description
V. SLOPE	Signal generator Remote control unit		[4. DEF] 2. V-SLOPE	PAL V. SLOPE (1) Receive a circle pattern signal of vertical frequency 50Hz (PAL). (2) Select 4. DEF from the SERVICE MODE. (3) Select <2. V-SLOPE> . (4) Set the initial setting value of <2. V-SLOPE> . (5) Adjust <2. V-SLOPE> to make "A = B". (6) Press the [OK] key to memorize the set values. NTSC V. SLOPE (1) Receive a circle pattern signal of vertical frequency 60Hz (NTSC). (2) Follow the same step 2 to 6 as in PAL V. SLOPE.
				
V. POSITION	Signal generator Remote control unit		[4. DEF] 1. V-SHIFT	PAL V. POSITION (1) Receive a circle pattern signal of vertical frequency 50Hz (PAL). (2) Select 4. DEF from the SERVICE MODE. (3) Select <1. V-SHIFT> . (4) Set the initial setting value of <1. V-SHIFT> . (5) Adjust <1. V-SHIFT> to make "A = B". (6) Press the [OK] key to memorize the set values. NTSC V. POSITION (1) Receive a circle pattern signal of vertical frequency 60Hz (NTSC). (2) Follow the same step 2 to 6 as in PAL V. POSITION.
				

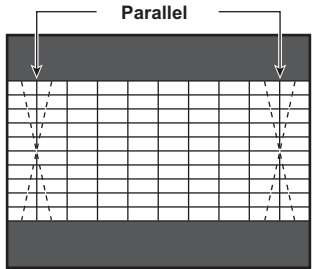
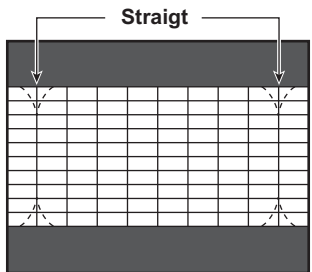
Item	Measuring instrument	Test point	Adjustment part	Description
V. SIZE	Signal generator Remote control unit		[4. DEF] 3. V-SIZE	PAL V. SIZE <ol style="list-style-type: none"> (1) Receive a PAL crosshatch signal. (2) Select 4. DEF from the SERVICE MODE. (3) Select <3. V-SIZE>. (4) Set the initial setting value of <3. V-SIZE>. (5) Adjust <3. V-SIZE> to make the vertical screen size to 92% of the picture size. (6) Press the [OK] key to memorize the set values. NTSC V. SIZE <ol style="list-style-type: none"> (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 6 as in PAL V. SIZE.
				
H. POSITION	Signal generator Remote control unit		[4. DEF] 4. H-CENT	PAL H. POSITION <ol style="list-style-type: none"> (1) Receive a PAL circle pattern signal. (2) Select 4. DEF from the SERVICE MODE. (3) Select <4. H-CENT>. (4) Set the initial setting value of <4. H-CENT>. (5) Adjust <4. H-CENT> to make "C = D". (6) Press the [OK] key to memorize the set values. NTSC H. POSITION <ol style="list-style-type: none"> (1) Receive a NTSC circle pattern signal. (2) Follow the same step 2 to 6 as in PAL H. POSITION.
				
H. SIZE [AV-25MT16/P]	Signal generator Remote control unit		[4. DEF] 5. H-SIZE	PAL H. SIZE <ol style="list-style-type: none"> (1) Receive a PAL crosshatch signal. (2) Select 4. DEF from the SERVICE MODE. (3) Select <5. H-SIZE>. (4) Set the initial setting value of <5. H-SIZE>. (5) Adjust <5. H-SIZE> to make the horizontal screen size to 91% of the picture size. (6) Press the [OK] key to memorize the set values. NTSC H. SIZE <ol style="list-style-type: none"> (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 6 as in PAL H. SIZE.
				

Item	Measuring instrument	Test point	Adjustment part	Description
SIDE PIN [AV-25MT16/P]	Signal generator		[4. DEF] 7. EW-PIN	PAL SIDE PIN (1) Receive a PAL crosshatch signal. (2) Select 4. DEF from the SERVICE MODE. (3) Select <7. EW-PIN> . (4) Set the initial setting value of <7. EW-PIN> . (5) Adjust <7. EW-PIN> so that the first vertical lines at the left and right edges on the screen are straight. (6) Press the [OK] key to memorize the set values. NTSC SIDE PIN (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 6 as in PAL SIDE PIN.
	Remote control unit			
				
TRAPEZIUM [AV-25MT16/P]	Signal generator		[4.DEF] 6. TRAPEZ	PAL TRAPEZIUM (1) Receive a PAL crosshatch signal. (2) Select 4. DEF from the SERVICE MODE. (3) Select <6. TRAPEZ> . (4) Set the initial setting value of 6. TRAPEZ . (5) Adjust <6. TRAPEZ> so that the vertical lines at the left and right edges on the screen are in parallel. (6) Press the [OK] key to memorize the set values. NTSC TRAPEZIUM (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 6 as in PAL TRAPEZIUM.
	Remote control unit			
				
V.LINEARITY	Signal generator		[4. DEF] 12. V-S. CR 13. V-LIN	PAL V. LINEARITY (1) Receive a PAL crosshatch signal. (2) Select 4. DEF from the SERVICE MODE. (3) Select <12. V-S.CR> . (4) Set the initial setting value of <12. V-S. CR> . (5) Select <13. V-LIN> . (6) Set the initial setting value of <13. V-LIN> . (7) Adjust <12. V-S. CR> and <13. V-LIN> so that the spaces of each line on TOP, CENTRE and BOTTOM become uniform. (8) Press the [OK] key to memorize the set values. NTSC V. LINEARITY (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 8 as in PAL V-S. CR.
	Remote control unit			
				

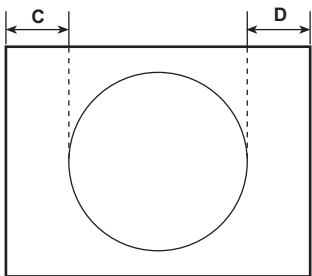
Item	Measuring instrument	Test point	Adjustment part	Description
CORNER PIN [AV-25MT16/P]	Signal generator Remote control unit		[4. DEF] 8. COR-UP 9. COR-LO	PAL CORNER PIN <ol style="list-style-type: none"> (1) Receive a PAL crosshatch signal. (2) Select 4. DEF from the SERVICE MODE. (3) Select <8. COR-UP>. (4) Set the initial setting value of <8. COR-UP>. (5) Select <9. COR-LO>. (6) Set the initial setting value of <9. COR-LO>. (7) Adjust <8. COR-UP> and <9. COR-LO> so that the vertical lines at the four corners on the screen are straight. (8) Press the [OK] key to memorize the set values. NTSC CORNER PIN <ol style="list-style-type: none"> (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 8 as in PAL CORNER.
				
H. PARALLEL	Signal generator Remote control unit		[4. DEF] 10. ANGLE	PAL H. PARALLEL <ol style="list-style-type: none"> (1) Receive a PAL crosshatch signal. (2) Select 4. DEF from the SERVICE MODE. (3) Select <10. ANGLE>. (4) Set the initial setting value of <10. ANGLE>. (5) Adjust <10. ANGLE> to optimize the trapezium distortion at the centre of the screen. (6) Press the [OK] key to memorize the set values. NTSC H. PARALLEL <ol style="list-style-type: none"> (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 6 as in PAL H. PARALLEL.
				
H. BOW	Signal generator Remote control unit		[4. DEF] 11. BOW	PAL H. BOW <ol style="list-style-type: none"> (1) Receive a PAL crosshatch signal. (2) Select 4. DEF from the SERVICE MODE. (3) Select <11. BOW>. (4) Set the initial setting value of <11. BOW>. (5) Adjust <11. BOW> to optimize the horizontal arc distortion. (6) Press the [OK] key to memorize the set values. NTSC H. BOW <ol style="list-style-type: none"> (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 6 as in PAL H. BOW.
				

■ COMPRESS : ON (16:9)

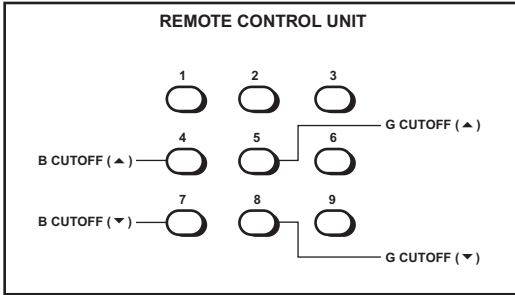
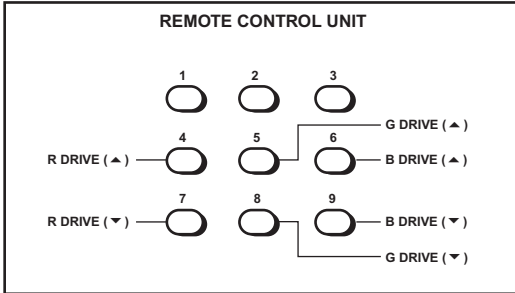
Item	Measuring instrument	Test point	Adjustment part	Description
V. SIZE	Signal generator		[4.DEF] 14. V. ZOOM 3. V-SIZE	PAL V. SIZE (1) Receive a circle pattern signal of vertical frequency 50Hz (PAL). (2) Set the COMPRESS(16 : 9) to ON. (3) Select 4. DEF from the SERVICE MODE. (4) Set the initial setting value of <14. V. ZOOM> . (5) Select <3. V-SIZE> . (6) Set the initial setting value of <3. V-SIZE> . (7) Adjust <3. V-SIZE> to set the vertical amplitude of the image to the value shown in the left hand side list. (8) Press the [OK] key to memorize the set values. NTSC V. SIZE (1) Receive a crosshatch signal of vertical frequency 60Hz (NTSC). (2) Follow the same step 2 to 8 as in PAL V. SIZE.
	Remote control unit			
				
V. SLOPE	Signal generator		[4.DEF] 2. V-SLOPE	PAL V. SLOPE (1) Receive a circle pattern signal of vertical frequency 50Hz (PAL). (2) Set the COMPRESS(16 : 9) to ON. (3) Select 4. DEF from the SERVICE MODE. (4) Select <2. V-SLOPE> . (5) Set the initial setting value of <2. V-SLOPE> . (6) Adjust <2. V-SLOPE> to make "A = B". (7) Press the [OK] key to memorize the set values. NTSC V. SLOPE (1) Receive a circle pattern signal of vertical frequency 60Hz (NTSC). (2) Follow the same step 2 to 7 as in PAL V-SLOPE.
	Remote control unit			
				
SIDE PIN [AV-25MT16/P]	Signal generator		[4. DEF] 7. EW-PIN	PAL SIDE PIN (1) Receive a PAL crosshatch signal. (2) Set the COMPRESS(16 : 9) to ON. (3) Select 4. DEF from the SERVICE MODE. (4) Select <7. EW-PIN> . (5) Set the initial setting value of <7. EW-PIN> . (6) Adjust <7. EW-PIN> so that the first vertical lines at the left and right edges on the screen are straight. (7) Press the [OK] key to memorize the set values. NTSC SIDE PIN (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 7 as in PAL SIDE PIN.
	Remote control unit			
				

Item	Measuring instrument	Test point	Adjustment part	Description
TRAPEZIUM [AV-25MT16/P]	Signal generator Remote control unit		[4. DEF] 6. TRAPEZ	PAL TRAPEZIUM PIN <ol style="list-style-type: none"> (1) Receive a PAL crosshatch signal. (2) Set the COMPRESS(16 : 9) to ON. (3) Select 4. DEF from the SERVICE MODE. (4) Select <6. TRAPEZ>. (5) Set the initial setting value of <6. TRAPEZ>. (6) Adjust <6. TRAPEZ> so that the vertical lines at the left and right edges on the screen are in parallel. (7) Press the [OK] key to memorize the set values. NTSC TRAPEZIUM PIN <ol style="list-style-type: none"> (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 7 as in PAL TRAPEZIUM.
				
CORNER PIN [AV-25MT16/P]	Signal generator Remote control unit		[4. DEF] 8. COR-UP 9. COR-LO	PAL CORNER PIN <ol style="list-style-type: none"> (1) Receive a PAL crosshatch signal. (2) Set the COMPRESS(16 : 9) to ON. (3) Select 4. DEF from the SERVICE MODE. (4) Select <8. COR-UP>. (5) Set the initial setting value of <8. COR-UP>. (6) Select <9. COR-LO>. (7) Set the initial setting value of <9. COR-LO>. (8) Adjust <8. COR-UP> and <9. COR-LO> so that the vertical lines at the four corners on the screen are straight. (9) Press the [OK] key to memorize the set values. NTSC CORNER PIN <ol style="list-style-type: none"> (1) Receive a NTSC crosshatch signal. (2) Follow the same step 2 to 9 as in PAL CORNER PIN.
				

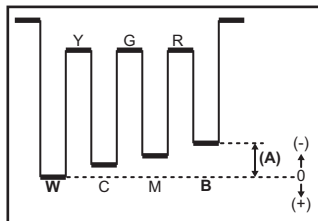
■ VIDEO - 2 SET: COMPONENT

Item	Measuring instrument	Test point	Adjustment part	Description
H. POSITION	Signal generator Remote control unit		[4. DEF] 4. H-CENT	<ol style="list-style-type: none"> (1) Receive a PAL circle pattern signal to VIDEO-2 component terminal. (2) Select VIDEO-2 SET from the MENU and set VIDEO-2 SET to COMPONENT. (3) Select 4. DEF from the SERVICE MODE. (4) Select <4. H-CENT>. (5) Set the initial setting value of <4. H-CENT>. (6) Adjust <4. H-CENT> to make "C=D". (7) Press the [OK] key to memorize the set values.
				

4.8.5 VIDEO CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (Low light)	Signal generator Remote control unit		[2. V/C] 2. CUTOFF (B) 2. CUTOFF (G) SCREEN VR [In HVT]	COMPOSITE WHITE BALANCE (1) Receive a PAL black and white signal (colour off). (2) Set the PICTURE MODE to BRIGHT . (3) Select 2. V/C from the SERVICE MODE. (4) Select <2. CUTOFF> (B) and (G) . (5) Set each value to initial setting value with the [4] / [7] keys and [5] / [8] keys. (6) Turn the SCREEN VR fully counterclockwise, then slowly turn it clockwise to where a red, blue or green colour is faintly visible. (7) Use the [4] / [7] and [5] / [8] keys to adjust so that the other 2 colours appear white. (8) Turn the SCREEN VR to where the single horizontal line glows faintly. (9) Press the [OK] key to memorize the set values. COMPONENT WHITE BALANCE (1) Receive a PAL component black and white signal (colour off). (2) Select VIDEO-2 SET from the MENU and set VIDEO-2 SET to COMPONENT. (3) Adjust COMPONENT WHITE BALANCE in the same way as "COMPOSITE WHITE BALANCE".
				
WHITE BALANCE (High light)	Signal generator Remote control unit		[2. V/C] 3. WDR (R) 3. WDR (G) 3. WDR (B)	(1) Receive a PAL black and white signal (colour off). (2) Set the PICTURE MODE to BRIGHT . (3) Select 2. V/C from the SERVICE MODE. (4) Select <3. WDR> (R) , (G) and (B) . (5) Set each value to initial setting value with the [4] to [9] keys. (6) Use the [4] to [9] keys to produce a white screen. (7) Press the [OK] key to memorize the set values.
				
SUB BRIGHT	Remote control unit		[2. V/C] 4. BRIGHT	(1) Receive a NTSC broadcast. (2) Set the PICTURE MODE to BRIGHT . (3) Select 2. V/C from the SERVICE MODE. (4) Select <4. BRIGHT> . (5) Set the initial setting value of <4. BRIGHT> . (6) If the brightness is not best with the initial setting value, make fine adjustment until you get the best brightness. (7) Press the [OK] key to memorize the set values.
SUB CONTRAST	Remote control unit		[2. V/C] 5. CONT	(1) Receive a NTSC broadcast. (2) Set the PICTURE MODE to BRIGHT . (3) Select 2. V/C from the SERVICE MODE. (4) Select <5. CONT> . (5) Set the initial setting value of <5. CONT> . (6) If the contrast is not best with the initial setting value, make fine adjustment until you get the best contrast. (7) Press the [OK] key to memorize the set values.

Item	Measuring instrument	Test point	Adjustment part	Description
SUB COLOUR	Remote control unit		[2. V/C] 6. COLOUR	[Method of adjustment without measuring instrument] PAL COLOUR (1) Receive a PAL M broadcast. (2) Set the PICTURE MODE to BRIGHT . (3) Select 2. V/C from the SERVICE MODE. (4) Select <6. COLOUR> . (5) Set the initial setting value of <6. COLOUR> . (6) If the colour is not the best with the initial set value, make fine adjustment until you get the best colour. (7) Press the [OK] key to memorize the set values. SECAM COLOUR (1) Receive a SECAM broadcast. (2) Follow the same step 2 to 7 as in PAL COLOUR. NTSC 3.58 COLOUR (1) Receive a NTSC 3.58MHz broadcast. (2) Follow the same step 2 to 7 as in PAL COLOUR. NTSC 4.43 COLOUR • When NTSC 3.58 COLOUR is set, NTSC 4.43 COLOUR will be automatically set.
	Signal generator Oscilloscope Remote control unit	TP-47B TP-E [CRT SOCKET PWB]	[2. V/C] 6. COLOUR	[Method of adjustment using measuring instrument] PAL COLOUR (1) Receive a PAL M colour bar signal (full field colour bar 75% white). (2) Connect the oscilloscope between TP-47B and TP-E. (3) Set the PICTURE MODE to BRIGHT . (4) Select 2. V/C from the SERVICE MODE. (5) Select <6. COLOUR> . (6) Set the initial setting value of <6. COLOUR> . (7) Adjust the value of (A) to the value in the voltage table in the left. (8) Press the [OK] key to memorize the set values. SECAM COLOUR (1) Receive a SECAM colour bar signal (full field colour bar 75% white) (2) Follow the same step 2 to 8 as in PAL COLOUR. NTSC 3.58 COLOUR (1) Receive a NTSC 3.58MHz broadcast. (2) Follow the same step 2 to 8 as in PAL COLOUR. NTSC 4.43 COLOUR • When NTSC 3.58 COLOUR is set, NTSC 4.43 COLOUR will be automatically set.



VOLTAGE (W-B)	Voltage setting		
	PAL	NTSC	SECAM
AV-21MT16/P	+21V (VDO)	+20V (RF)	XXX V
AV-25MT16/P	+27V (VDO)	+28V (RF)	XXX V

Item	Measuring instrument	Test point	Adjustment part	Description
SUB TINT	Remote control unit		[2. V/C] 7. TINT	[Method of adjustment without measuring instrument] NTSC 3.58 TINT (1) Receive a NTSC 3.58 broadcast. (2) Set the PICTURE MODE to BRIGHT. (3) Select 2. V/C from the SERVICE MODE. (4) Select <7. TINT> . (5) Set the initial setting value of <7. TINT> (6) If you cannot get the best HUE with the initial setting value, make fine adjustment until you get the best TINT. (7) Press the [OK] key to memorize the set values. NTSC 4.43 TINT • When NTSC 3.58 TINT is set, NTSC 4.43 TINT will be automatically set. PAL TINT (DVD) (1) Receive a PAL broadcast. (2) Set the PICTURE MODE to BRIGHT. (3) Select 2. V/C from the SERVICE MODE. (4) Select <10. TINT DVD> . (5) Set the initial setting value of <10. TINT DVD> . (6) If you cannot get the best HUE with the initial setting value, make fine adjustment until you get the best TINT. (7) Press the [OK] key to memorize the best values.
	Signal generator Oscilloscope Remote control unit	TP-47B TP-E [CRT SOCKET PWB]	[2. V/C] 7. TINT	[Method of adjustment using measuring instrument] NTSC 3.58 TINT (1) Receive a NTSC 3.58 colour bar signal (full field colour bar 75% white). (2) Connect the oscilloscope to TP-47B and TP-E. (3) Set the PICTURE MODE to BRIGHT. (4) Select 2. V/C from the SERVICE MODE. (5) Select <7. TINT> . (6) Set the initial setting value of <7. TINT> . (7) Adjust the value of (B) to the value in the voltage table in the left. (8) Press the [OK] key to memorize the set values. NTSC 4.43 TINT • When NTSC 3.58 TINT is set, NTSC 4.43 TINT will be automatically set. PAL TINT (DVD) (1) Receive a PAL colour bar signal (full field colour bar 75% white). (2) Connect the oscilloscope to TP-47B and TP-E. (3) Set the PICTURE MODE to BRIGHT. (4) Select 2. V/C from the SERVICE MODE. (5) Select <10. TINT DVD> . (6) Set the initial setting value of <10. TINT DVD> . (7) If you cannot get the best HUE with the initial setting value, make fine adjustment until you get the best TINT. (8) Press the [OK] key to memorize the best values.

VOLTAGE (W-B)	Voltage setting	
	NTSC TINT	PAL TINT(DVD)
AV-21MT16/P	+4V (RF)	+14V (VDO)
AV-25MT16/P	+9V (RF)	+18V (VDO)

4.8.6 VSM PRESET SETTING

Item	Measuring instrument	Test point	Adjustment part	Description																																																																																																																								
VSM PRESET	Remote control unit		[5.VSM W/B] 1. BRIGHT 2. CONT 3. COLOUR 4. SHARP 5. HUE 1. R-DRIVE 2. G-DRIVE 3. B-DRIVE	(1) Select 5.VSM W/B from the SERVICE MODE. (2) Select the BRIGHT with the [OK] key. (3) Adjust the [MENU ◀ / ▶] key to bring the set values of <1. BRIGHT> - <5. HUE> to the values shown in the table. (4) Press the [OK] key to memorize the set values. (5) Respectively select the VSM PRESET mode for STANDARD, SOFT and THEATER . (6) Select COOL with the [OK] key. (7) Adjust the [MENU ◀ / ▶] key to bring the set values of <1. R DRIVE> to <3. B DRIVE> to the values shown in the table. (8) Press the [OK] key to memorize the set values. (9) Respectively select the WHITE BALANCE mode for WARM and NORMAL .																																																																																																																								
<div>[AV-21MT16/P]</div> <table><tr><th rowspan="2">Setting item</th><th rowspan="2">Variable range</th><th colspan="4">Setting value</th></tr><tr><th>BRIGHT</th><th>SOFT</th><th>STANDARD</th><th>THEATER</th></tr><tr><td>1. BRIGHT</td><td>-16 - 16</td><td>0</td><td>0</td><td>0</td><td>+3</td></tr><tr><td>2. CONT.</td><td>-16 - 16</td><td>+15</td><td>+5</td><td>+10</td><td>-3</td></tr><tr><td>3. COLOUR</td><td>-16 - 16</td><td>0</td><td>0</td><td>-4</td><td>-6</td></tr><tr><td>4. SHARP</td><td>-16 - 16</td><td>0</td><td>-10</td><td>-5</td><td>0</td></tr><tr><td>5. HUE</td><td>-16 - 16</td><td>0</td><td>0</td><td>0</td><td>-1</td></tr></table> <div>[AV-25MT16/P]</div> <table><tr><th rowspan="2">Setting item</th><th rowspan="2">Variable range</th><th colspan="4">Setting value</th></tr><tr><th>BRIGHT</th><th>SOFT</th><th>STANDARD</th><th>THEATER</th></tr><tr><td>1. BRIGHT</td><td>-16 - 16</td><td>0</td><td>+0</td><td>0</td><td>+2</td></tr><tr><td>2. CONT.</td><td>-16 - 16</td><td>+15</td><td>+5</td><td>+10</td><td>-3</td></tr><tr><td>3. COLOUR</td><td>-16 - 16</td><td>0</td><td>0</td><td>-4</td><td>-7</td></tr><tr><td>4. SHARP</td><td>-16 - 16</td><td>0</td><td>10</td><td>-5</td><td>0</td></tr><tr><td>5. HUE</td><td>-16 - 16</td><td>0</td><td>0</td><td>0</td><td>-1</td></tr></table> <div>[AV-21MT16/P]</div> <table><tr><th>Setting item \ W/B preset</th><th>COOL</th><th>NORMAL</th><th>WARM</th><th>THEATER</th></tr><tr><td>1. R DRIVE</td><td>0</td><td>+10</td><td>0</td><td>+15</td></tr><tr><td>2. G DRIVE</td><td>0</td><td>-4</td><td>+2</td><td>+7</td></tr><tr><td>3. B DRIVE</td><td>0</td><td>-12</td><td>-10</td><td>-22</td></tr></table> <div>[AV-25MT16/P]</div> <table><tr><th>Setting item \ W/B preset</th><th>COOL</th><th>NORMAL</th><th>WARM</th><th>THEATER</th></tr><tr><td>1. R DRIVE</td><td>0</td><td>+10</td><td>+2</td><td>-0</td></tr><tr><td>2. G DRIVE</td><td>0</td><td>-4</td><td>0</td><td>-9</td></tr><tr><td>3. B DRIVE</td><td>0</td><td>-12</td><td>-10</td><td>-34</td></tr></table>					Setting item	Variable range	Setting value				BRIGHT	SOFT	STANDARD	THEATER	1. BRIGHT	-16 - 16	0	0	0	+3	2. CONT.	-16 - 16	+15	+5	+10	-3	3. COLOUR	-16 - 16	0	0	-4	-6	4. SHARP	-16 - 16	0	-10	-5	0	5. HUE	-16 - 16	0	0	0	-1	Setting item	Variable range	Setting value				BRIGHT	SOFT	STANDARD	THEATER	1. BRIGHT	-16 - 16	0	+0	0	+2	2. CONT.	-16 - 16	+15	+5	+10	-3	3. COLOUR	-16 - 16	0	0	-4	-7	4. SHARP	-16 - 16	0	10	-5	0	5. HUE	-16 - 16	0	0	0	-1	Setting item \ W/B preset	COOL	NORMAL	WARM	THEATER	1. R DRIVE	0	+10	0	+15	2. G DRIVE	0	-4	+2	+7	3. B DRIVE	0	-12	-10	-22	Setting item \ W/B preset	COOL	NORMAL	WARM	THEATER	1. R DRIVE	0	+10	+2	-0	2. G DRIVE	0	-4	0	-9	3. B DRIVE	0	-12	-10	-34
Setting item	Variable range	Setting value																																																																																																																										
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4.8.7 PURITY AND CONVERGENCE

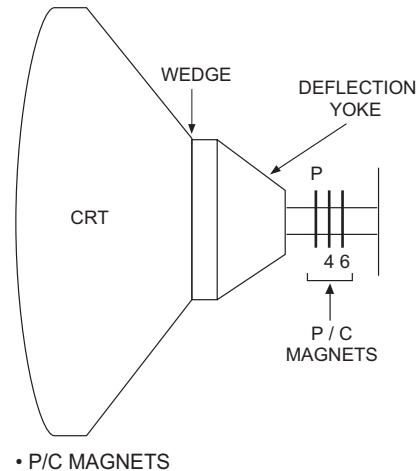
■ PURITY ADJUSTMENT

NOTE:

The final adjustment of CONVERGENCE must be done after the FOCUS adjustment. (CONVERGENCE is changed by FOCUS adjustment.)

When makes difference by FOCUS adjustment, should be reconfirming PURITY adjustment.

- (1) Demagnetize CRT with the demagnetizer.
- (2) Loosen the retainer screw of the deflection yoke.
- (3) Remove the wedges.
- (4) Input a green raster signal from the signal generator, and turn the screen to green raster.
- (5) Move the deflection yoke backward.
- (6) Bring the long lug of the purity magnets on the short lug and position them horizontally. (Fig.2)
- (7) Adjust the gap between two lugs so that the GREEN RASTER will come into the centre of the screen. (Fig.3)
- (8) Move the deflection yoke forward, and fix the position of the deflection yoke so that the whole screen will become green.
- (9) Insert the wedge to the top side of the deflection yoke so that it will not move.
- (10) Input a crosshatch signal.
- (11) Verify that the screen is horizontal.
- (12) Input red and blue raster signals, and make sure that purity is properly adjusted.



• P/C MAGNETS

P : PURITY MAGNET
4 : 4 POLES (convergence magnets)
6 : 6 POLES (convergence magnets)

Fig.1

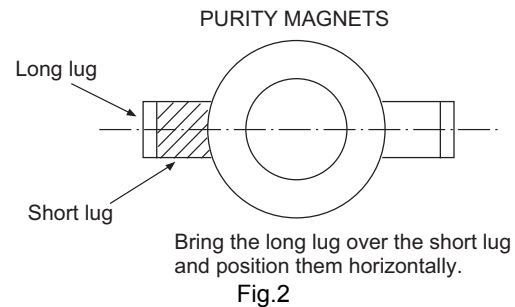
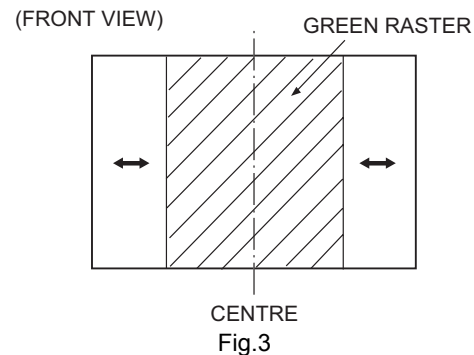


Fig.2



■ STATIC CONVERGENCE ADJUSTMENT

- (1) Input a crosshatch signal.
- (2) Using 4-pole convergence magnets, overlap the red and blue lines in the centre of the screen (Fig.1) and turn them to magenta (red/blue).
- (3) Using 6-pole convergence magnets, overlap the magenta (red/blue) and green lines in the centre of the screen and turn them to white.
- (4) Repeat 2 and 3 above, and make best convergence.

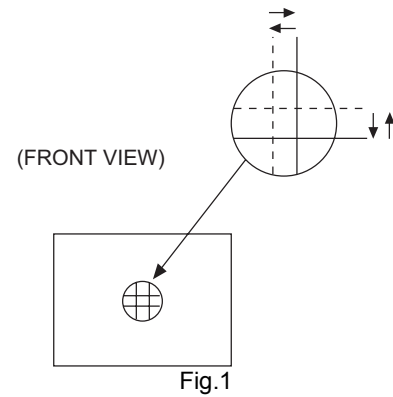


Fig.1

■ DYNAMIC CONVERGENCE ADJUSTMENT

- (1) Move the deflection yoke up and down and overlap the lines in the periphery. (Fig. 2)
 - (2) Move the deflection yoke left to right and overlap the lines in the periphery. (Fig. 3)
 - (3) Repeat 1 and 2 above, and make best convergence.
 - (4) Adjust XV by XV coil. (Fig.4)
- After adjustment, fix the wedge at the original position. Fasten the retainer screw of the deflection yoke. Fix the P/C magnets with glue.

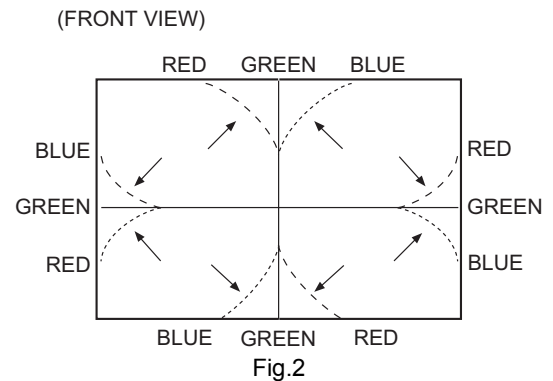


Fig.2

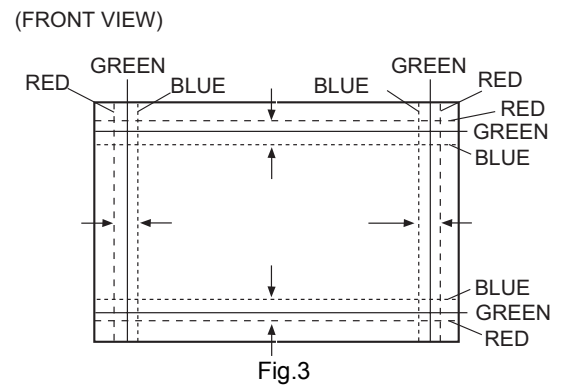


Fig.3

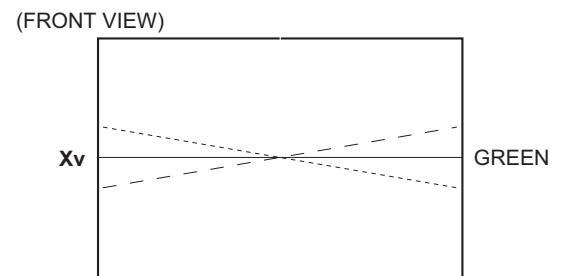


Fig.4

SECTION 5 TROUBLESHOOTING

5.1 SELF CHECK FUNCTIONS

5.1.1 OUTLINE

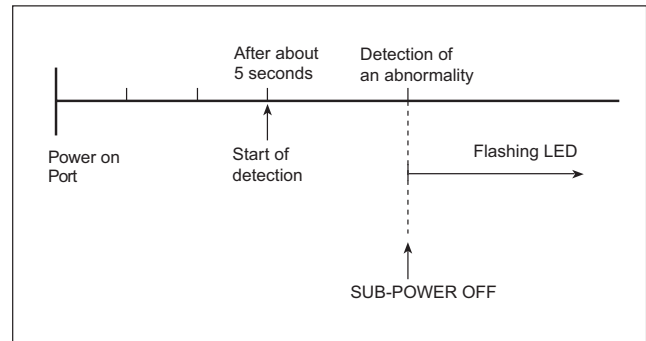
This model has self check functions given below. When an abnormality has been detected, the SUB POWER is turned off and POWER LED flashes to inform of the failure. An abnormality is detected by the signal input state of the control line connected to the microcomputer.

5.1.2 SELF CHECK ITEMS

Check item	Details of detection	Method of detection	State of abnormality
B1 over-current protection	An over-current on the low B1 line is detected.	The main microcomputer detects the possible abnormality at 24-msec. intervals and judges the results in every 16 time. Of the 16 times, if NG is detected more than 9 times, it is judged that there is an abnormality.	When an abnormality has been detected, the SUB-POWER is turned off. While the SUB-POWER is being turned off, the POWER key on the remote control unit is not operational until the power cord is disconnected and connected again.
CRT neck broken protection	Operation of CRT neck protection circuit.		

5.1.3 SELF CHECK INDICATING FUNCTION

When an abnormality has been detected at about 5 seconds after the power was turned on, the SUB POWER is turned off immediately and the POWER LED flashes.



[INDICATION BY THE POWER LED]

Item	LED flashing intervals
B1 over-current protection / CRT neck broken protection	0.3 seconds



Victor Company of Japan, Limited
Display Category 12, 3-chome, Moriya-cho, Kanagawa-ku, Yokohama-city, Kanagawa-prefecture, 221-8528, Japan

(No.YA467)



Printed in Japan
VPT



COLOR TELEVISION

AV-29BA16

AV-29MT16

AV-29ST16

AV-29VT16

AV-25MT16

AV-21BA16

AV-21MT16

AV-21VT16

EQUALIZER • CINEMA SURROUND • COMPONENT INPUT

Contents

Knowing your TV's features	3
Remote control buttons and basic functions	4
TV buttons and functions.....	6
Setting up your TV.....	7
Basic setting for picture	9
Advanced setting for picture.....	11
Basic setting for sound	12
Advanced setting for sound.....	13
DVD Menu.....	15
Customized setting.....	16
TV channel presetting	18
Additional preparation	19
Troubleshooting.....	20
Specifications	21

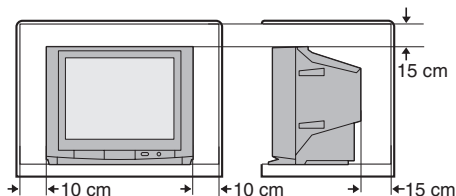
INSTRUCTIONS

Thank you for buying this JVC color television.
To make sure you understand how to use your new TV, please read this manual thoroughly before you begin.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO ENSURE PERSONAL SAFETY, OBSERVE THE FOLLOWING RULES REGARDING THE USE OF THIS TV.

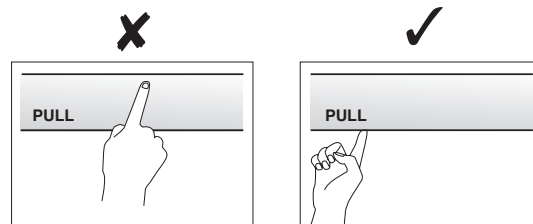
- 1 Operate only from the power source indicated on the rear of the TV.
- 2 Avoid damaging the power cord and mains plug. When unplugging the TV, grasp the mains plug. Do not pull on the power cord.
- 3 Never block or cover the ventilation openings.
Never install the TV where good ventilation is unattainable.
When installing this TV, leave spaces for ventilation around the TV of more than the minimum distances as shown.



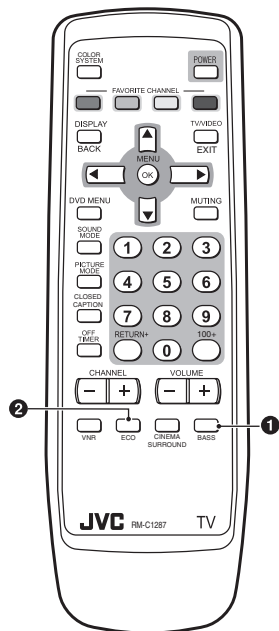
- 4 Do not allow objects or liquid into the cabinet openings.
- 5 In the event of a fault, unplug the unit and call a service technician.
Do not attempt to repair it yourself or remove the rear cover.
- 6 The surface of the TV screen is easily damaged. Be very careful with it when handling the TV. Should the TV screen become soiled, wipe it with a soft dry cloth. Never rub it forcefully. Never use any cleaner or detergent on it.

- 7 This TV can be turned on/off power by connecting/disconnecting the AC plug into AC outlet. While this TV is being installed, enough space should be reserved for connection/disconnecting the AC plug into AC outlet by hand.
- 8 The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

**WARNING: <AV-21M, AV-25M, AV-29M, AV-21B, AV-29B Series>
YOU CAN DETACH THE PROTECT SHEET ON THE TOP AND BOTTOM OF FRONT FRAME IF YOU NEEDED.
THE FRONT BUTTON DOOR OF THE TV SHOULD BE PULLED OUT FROM ITS BOTTOM. DO NOT PRESS THE UPPER PART, OR YOUR FINGER MAY BE PINCHED.**



Knowing your TV's features



Main features

DVD MENU	Just connect DVD player to the television. The television will detect DVD signal and display picture on the screen automatically and you can adjust pictures and sound while you are watching DVD as your desire. When disconnect DVD player, the television will display the previous channel.
MaxxBass	MaxxBass enhances bass sound that cannot be reproduced by normal speakers to be heard by our ears.
MTS	You can listen the stereo sound or SAP from TV program broadcasting by MTS system. (SAP: Second audio program.)
CLOSED CAPTION	You can display dialog on the screen from TV broadcasting with Closed caption system. You also may be able to display some information in text form if available.
FAVORITE CH (Channel)	You can register up to four favorite channels for quick recall with one press.
AI ECO SENSOR	TV detects the brightness of your room and automatically adjust the picture brightness to a suitable level for a better eyecare.
ECO MODE	You can adjust TV screen contrast according to the brightness of your room to suitable level for a better eyecare.
AI VOLUME	TV adjusts the volume automatically to the same level for all TV channels to avoid sudden change of the volume when selecting different TV channels or selecting Video Mode.
VNR	You can reduce the picture noise when viewing noisy TV programs or video sources.
TINT	You can adjust TINT setting for all color systems, including PAL.

Confirm your TV's functions

Some functions written in this instruction manual may not be available for your TV.

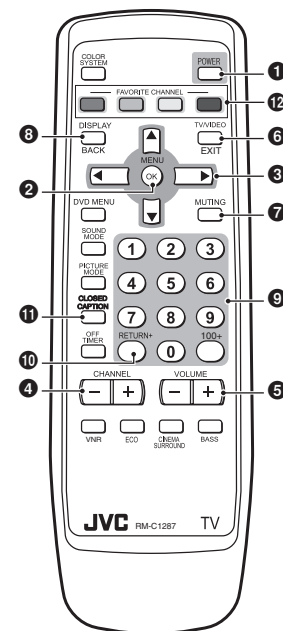
Please see the chart below and check the functions that are equipped for your TV's model number.

The model number is indicated at the rear of your TV. When you press a button concerned to a function that is not available for your TV, it does not work and the logo "O" appears on the screen.

NO.	Model No.	AV-29BA16	AV-29MT16	AV-29ST16	AV-29VT16	AV-25MT16	AV-21BA16	AV-21MT16	AV-21VT16
	Function								
❶	MaxxBass	—	○	○	○	○	—	○	○
—	PICTURE TILT	○	○	○	○	—	—	—	—
—	MTS	—	○	○	○	○	—	○	○
❷	AI ECO SENSOR	—	○	○	○	○	—	○	○
❷	ECO MODE	○	—	—	—	—	○	—	—

Remote control buttons and basic functions

No. Press	To
❶ POWER	Turn on or off the TV from standby mode.
❷ MENU/OK	Display menu and confirm selected function.
❸ ▲ / ▼ / ◀ / ▶	Select and adjust menu function.
❹ CHANNEL +/-	Select the desired channel number.
❺ VOLUME +/-	Adjust the volume level.
❻ TV/VIDEO EXIT	Select TV or video terminal input. On the other hand, you can use this button to EXIT from the menu.
❼ MUTING	Turn off the volume. Press this button again to resume the volume.
❽ DISPLAY /BACK	Display the program number or video terminal number on the screen. On the other hand, you can use this button to return to the previous menu.
❾ 0~9, 100+	Select the program number. For three digits program number, press 100+, then press the number button.
❿ RETURN+	a) Return to the frequently view channel with one touch. ❶ Choose the channel you want to register. ❷ Press and hold RETURN+ button until "RETURN PLUS PROGRAMMED!" appears. To cancel, press and hold RETURN+ button until "RETURN PLUS CANCELED!" appears. b) Return to the previously viewed channel, if you have not set or have cancelled the Return channel as above.
⓫ CLOSED CAPTION	Display information in text which are broadcasted by some TV channels.
⓫ FAVORITE CHANNEL (color buttons: red, green, yellow, blue)	Register and recall 4 favorite channels. 1. Choose the TV channel you want to register then press and hold a color button until "PROGRAMMED! ■" appears. 2. To register other favorite channels, repeat step 1. To recall the favorite channel, press the color button. When the TV is in menu mode, the favorite channel function is not available.

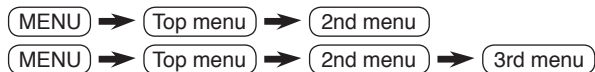


Remote control buttons and basic functions (continued)

How to operate menus and menus locations

To	Operation	Note
Display the MENU	Press the MENU/OK button ②. PICTURE MENU is displayed on first press.	To exit the MENU, press the DISPLAY/BACK button ③ or choose EXIT menu or TV/VIDEO/EXIT button ⑥.
Choose a Top menu	Press ◀/▶ buttons ③ to choose a menu title when the cursor is pointing at MENU.	—
Choose a 2nd menu	Press ▲/▼ buttons ③ to choose a 2nd menu title.	Press ▼ button ③ to display the next functions.
Display the 3rd menu	Press ▲/▼ buttons ③ to choose a 2nd menu title. Then press MENU/OK button ②.	
Return to the previous menu	Press the DISPLAY/BACK button ③.	—
Choose the setting of a function	Press ▲/▼ buttons ③ to choose a function. Then press the ◀/▶ buttons ③ to change the setting.	Press the TV/ VIDEO/ EXIT button ⑥ to exit from the menu.
Adjust the effect level of a function	Press ▲/▼ buttons ③ to choose a function. Then press the ◀/▶ buttons ③ to adjust the effect level.	
Display the sub menu of a function.	Press the ▲/▼ buttons ③ to choose a function. Then press MENU/OK button ② to display the sub menu.	—

The following chart shows locations of functions in menus. In this manual, location of a function is described as follows:



Note: Some functions have the 4th menus as the sub-menus.

	Top menu	2nd menu	Location	3rd menu	Location
MENU	PICTURE	PICTURE MODE	P.9	—	—
		PICTURE SETTING	P.10	PICTURE	P.10
				BRIGHT	P.10
				DETAIL	P.10
				COLOR	P.10
				TINT	P.10
		WHITE BALANCE	P.10	—	—
		VNR	P.16	—	—
	SOUND	MTS	P.13	—	—
		AI VOLUME	P.14	—	—
		SOUND MODE	P.12	—	—
		EQUALIZER	P.14	—	—
		BALANCE	P.12	—	—
		CINEMA SURROUND	P.13	—	—
		MaxxBass	P.13	—	—
	FEATURES	DVD MENU	P.15	AUTO SIGNAL DETECT	P.15
				DVD PICTURE MODE	P.15
				DVD THEATER STATUS	P.15
				DVD SOUND MODE	P.15
		ON TIMER	P.16	CH	P.16
				ON TIMER	P.16
		OFF TIMER	P.17	—	—
		CHILD LOCK	P.16	—	—
		COMPRESS (16:9)	P.11	—	—
		AI ECO SENSOR/ ECO MODE	P.11	—	—
	INSTALL	AUTO PROGRAM	P.18	—	—
		CHANNEL SUMMARY	P.18	—	—
		COLOR SYSTEM	P.9	—	—
		VIDEO-2 SETTING	P.17	—	—
		BLUE BACK	P.11	—	—
		CLOSED CAPTION	P.16	CAPTION	P.16
				TEXT	P.16
		PICTURE TILT	P.11	—	—
		BEEP	P.17	—	—

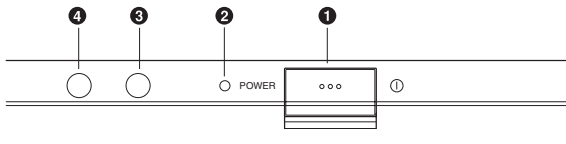
TV buttons and functions

The illustrations shown below is for AV-21BA16 and AV-29ST16 only, which are used for explanation purpose.

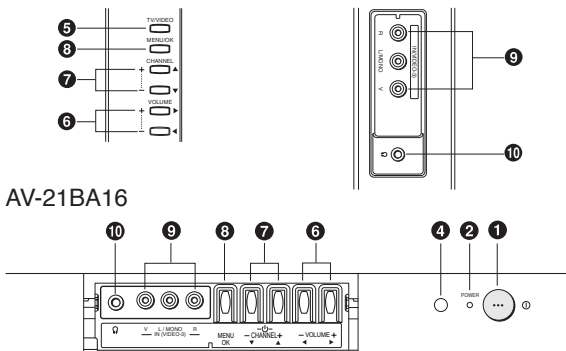
Your TV may not look exactly the same as illustrated.

Front of the TV

AV-29ST16

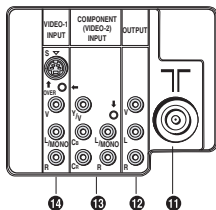


AV-21BA16



Rear of the TV

AV-29ST16



No. Button/terminal	Description	Page
① ① (main power)	Press to turn on or turn off the TV's main power.	—
② POWER lamp	Indicate the TV's status. No color : TV's main power is being turned off. Red : TV's main power is being turned on. Blink : While the TV is in standby mode, ON TIMER function is in used. While the TV is in turn on mode , OFF TIMER function is in used. Note: When you turn off the power switch while TV is in standby mode, the power lamp will go off in 10 -15 seconds. When you operate the TV, POWER Lamp will be blink.	—
③ ECO sensor		—
④ Remote control sensor		—
⑤ TV/VIDEO	Press to select TV or Video terminal input or exit from menu.	—
⑥ VOLUME +/-	Press to adjust the volume level.	—
⑦ CHANNEL +/-	Press to select the desired channel (Both of RF and Video input.)	—
⑧ MENU/OK	Press to display the menu.	—
⑨ IN (VIDEO-3)	Video and audio input jacks for VIDEO-3 mode.	19
⑩	Headphone jack.	19
⑪	Aerial socket.	7
⑫ OUTPUT	Video and audio output jacks. (The component video signal cannot be output.)	19
⑬ COMPONENT (VIDEO-2) INPUT	Video or component video, and audio input jacks for VIDEO-2 mode. You can select the input signal by setting the "VIDEO-2 SETTING" function (see page 17).	19
⑭ VIDEO-1 INPUT	Video or S-VIDEO, and audio input jacks for VIDEO-1 mode.	7

How to operate the menus with the TV button

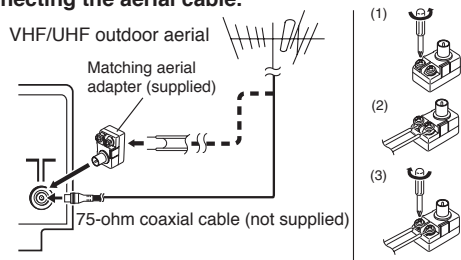
TV button	Work as same as the button on the remote control unit	Note
MENU	MENU/OK button	To display main menu and exit menu after finish setting.
CHANNEL +/-	▼/▲ button	To select menu function.
VOLUME +/-	◀▶ button	To choose a Top menu and adjust the desired menu function.

Setting up your TV

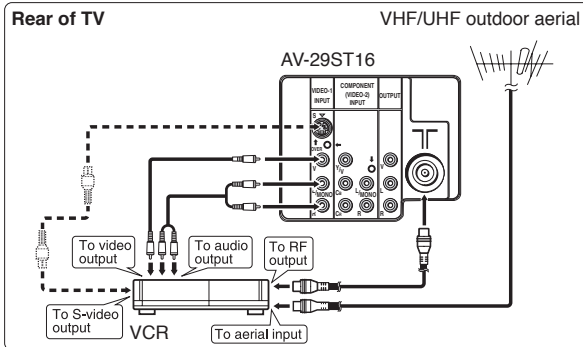
CAUTION

- Turn off the equipment including the TV before connecting.

1 Connecting the aerial cable.

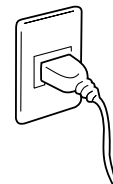


If you connect a VCR, connect the aerial output jack of your VCR and the aerial jack on the TV with aerial cable. Then connect the output jacks of your VCR and the VIDEO-1 input jacks of the TV with the video cable (or S-VIDEO cable if available) and audio cables. For details, see the manual of your VCR.



The illustration shown is just a sample. It may not be same as your TV.

2 Connecting the main plug to the AC outlet.



3 Inserting batteries into the remote control.

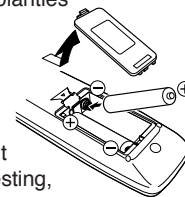
Insert two batteries by following the \oplus and \ominus polarities and inserting the \ominus end first.

CAUTION:

Follow the cautions printed on the batteries.

Notes:

- Use AA/R6/UM-3 dry cell batteries.
- If the remote control does not work properly, fit new batteries. The supplied batteries are for testing, not regular use.



4 Turn on the TV by pressing the main power button.

JVC logo appears on the screen.



JVC logo will appear on the screen again at the phase of "SETUP TOUR RESTART?" function. Then the initial setting can be performed according to page 8.

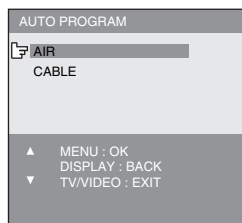
Note:

While in the INSTALL menu with the cursor pointing at INSTALL, pressing the blue button will also display the JVC logo.

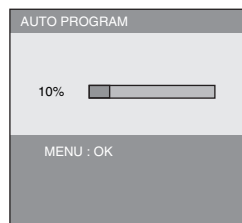
Setting up your TV (continued)

5 Making the initial settings

Set up your TV by pressing MENU/OK button or waiting for 15 seconds, then operate the TV by following the steps below:

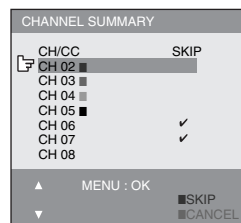


- Press ▲/▼ button or CH +/- key to select AIR or CABLE, press the MENU/OK button.



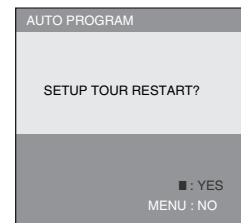
- TV will start searching for the channels.

To stop AUTO PROGRAM, press MENU/OK button.



- To complete the initial setting, press the MENU/OK button. To set undesired channels to be skipped, see page 18.

When turn on the TV at the next time



- “SETUP TOUR RESTART?” will be displayed. Press the MENU/OK button to cancel the SETUP TOUR RESTART function. If you want to make initial settings again when the next time you turn on the TV, press the Red button to activate the SETUP TOUR RESTART function.

Basic setting for picture

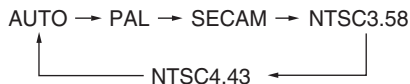
COLOR SYSTEM

You can select the appropriate color system when the picture is not clear or no color appears.

Press the COLOR SYSTEM button to select a setting.

In TV mode: NTSC 3.58 MHz (Fixed).

In VIDEO mode:



To operate this function with a menu:

* (MENU) ➡ (INSTALL menu) ➡ (COLOR SYSTEM)

For the color system in each country or region, see the table below:

Area	Country or Region	System
Asia, Middle East	Bahrain, Kuwait, Oman, Qatar, United Arab Emirates, Yemen, etc.	PAL
	Indonesia, Malaysia, Singapore, Thailand, India, etc.	
	China, Vietnam, etc.	PAL
	Hong Kong, etc.	PAL
	Islamic Republic of Iran, Lebanon, Saudi Arabia, etc.	SECAM
Europe	Philippines, Taiwan, Myanmar, etc.	NTSC
	Russia, etc.	SECAM
	Czech Republic, Poland, etc.	PAL
	Germany, Holland, Belgium, etc.	PAL
Oceania	UK, etc.	PAL
	Australia, New Zealand, etc.	PAL
Africa	Republic of South Africa, etc.	PAL
	Nigeria, etc.	PAL
	Egypt, Morocco, etc.	SECAM

PICTURE MODE

You can choose the desired picture setting with one-touch.

Press the PICTURE MODE button to select a setting.

SOFT	Softens contrast and sharpness.
BRIGHT	Heightens contrast and sharpness.
STANDARD	Standard picture setting.
USER	You can change this picture setting as you like. Select USER and adjust following items in the PICTURE SETTING menu. (PICTURE, BRIGHT, DETAIL, COLOR, TINT)

When you select VIDEO-2 Mode, you cannot adjust DETAIL.

When you set DVD THEATER STATUS in DVD MENU to ON, you cannot adjust PICTURE MODE.

To operate this function with a menu:

* (MENU) ➡ (PICTURE menu) ➡ (PICTURE MODE)

To return the USER setting to default, press the blue button when the PICTURE SETTING menu is displayed.

* About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

Basic setting for picture (continued)

PICTURE SETTING

You can adjust the desired picture setting when selecting USER in PICTURE MODE.

- 1 Select USER in PICTURE MODE under PICTURE menu.

* (MENU) ➡ (PICTURE menu) ➡ (PICTURE MODE)
➡ (USER)

- 2 Select PICTURE SETTING in PICTURE menu, then adjust the setting.

* (MENU) ➡ (PICTURE menu) ➡ (PICTURE SETTING)

PICTURE	◀ : Lower contrast	▶ : Higher contrast
BRIGHT	◀ : Darker	▶ : Brighter
DETAIL	◀ : Softer	▶ : Higher
COLOR	◀ : Lighter	▶ : Deeper
TINT	◀ : Reddish	▶ : Greenish

When you select VIDEO-2 Mode, you cannot adjust DETAIL.

WHITE BALANCE

You can change the white balance of the picture to better match the type of video being viewed.

Select WHITE BALANCE in the PICTURE menu, then choose the desired setting.

* (MENU) ➡ (PICTURE menu) ➡ (WHITE BALANCE)

NORMAL	Normal white balance.
COOL	Bluish white.
WARM	Reddish white.

When you set DVD THEATER STATUS in DVD MENU to ON, you cannot adjust WHITE BALANCE.

* About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

Advanced setting for picture

AI ECO SENSOR (ECO)/ECO MODE

You can adjust TV screen contrast according to the brightness of your room.

Press the ECO button to select the desired mode.

OFF	Cancel the function.
MODE-1/ECO-1	Mild contrast (recommended.)
MODE-2/ECO-2	Even contrast.
DISPLAY (for AI ECO SENSOR only)	Display the graphic of the function.

To operate this function with a menu:

* (MENU) → (FEATURES menu)
→ (AI ECO SENSOR / ECO MODE)

When you set DVD THEATER STATUS in DVD MENU to ON, you cannot adjust AI ECO SENSOR / ECO MODE.

Note : AI ECO SENSOR for M and S series.

ECO MODE for B series.

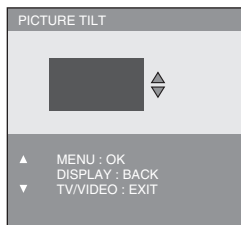
Correcting the Slanting Picture (PICTURE TILT)

You can correct the picture tilt caused by the earth's magnetic force.

1 Select PICTURE TILT in the INSTALL menu, then press MENU/OK button.

* (MENU) → (INSTALL menu) → (PICTURE TILT)

The following display appears.



2 Press the ▲/▼ buttons until the picture becomes level. Then press the MENU/OK button.

COMPRESS (16:9)

You can convert a normal picture (4:3 aspect ratio) into a wide picture (16:9 aspect ratio).

Select COMPRESS (16:9) in the FEATURES menu, then choose ON or OFF.

* (MENU) → (FEATURES menu) → (COMPRESS (16:9))

BLUE BACK

You can set the TV to automatically change to a blue screen and mute the sound if the signal is weak or absent, or when there is no input from an antenna.

Select BLUE BACK in the INSTALL menu, then choose ON or OFF.

* (MENU) → (INSTALL menu) → (BLUE BACK)

If you wish to continue viewing the poor picture, off the BLUE BACK function.

* About the basic operations of the menu, please see the "How to operate menus and menus locations" on page 5.

Basic setting for sound

SOUND MODE

You can choose the desired sound setting.

Select the SOUND MODE in SOUND menu, then choose the setting.

※ (MENU) ➡ (SOUND menu) ➡ (SOUND MODE)

USER	You can change this sound setting as you like. Select USER and adjust the frequencies in EQUALIZER (100, 300, 1K, 3K, 8K Hz). For details, see “EQUALIZER” on page 14.
SOUND TURBO	Emphasize on low and high frequency levels.
THEATER	Emphasize on movie sound.
MUSIC	Emphasize on music effect.
NEWS	Emphasize on vocal sound.

When you select VIDEO-2, you cannot adjust SOUND MODE function. You can adjust it in DVD Menu.

When SOUND MODE is set to SOUND TURBO, EQUALIZER, CINEMA SURROUND and MaxxBass functions are not available.

BALANCE

You can adjust the volume balance between the left and right speakers.

Select BALANCE in SOUND menu, then adjust the setting.

※ (MENU) ➡ (SOUND menu) ➡ (BALANCE)

※ About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

Advanced setting for sound

CINEMA SURROUND

You can enjoy an enhanced sound for wider audience.
Press the CINEMA SURROUND button to select a setting.

OFF	Cancel the function.
ON	Listen to sound with wider audience effect.

This function is not available when SOUND MODE is set to SOUND TURBO.

To operate this function with a menu:

* (MENU) ➡ (SOUND menu) ➡ (CINEMA SURROUND)

MaxxBass

You can enjoy an enhanced bass sound which cannot be reproduced by normal speakers.

Select MaxxBass in SOUND menu, then choose the desired setting.

* (MENU) ➡ (SOUND menu) ➡ (MaxxBass)

OFF	MaxxBass is turned off.
HIGH	MaxxBass effect is high.
LOW	MaxxBass effect is low.

This function is not available when SOUND MODE is set to SOUND TURBO.

“MaxxBass” is a registered trademark of Waves Audio Ltd. in the USA, Japan and other countries.

MTS

You can enjoy the stereo and SAP broadcasted programs.
Select the MTS in SOUND menu, then choose the desired mode.

* (MENU) ➡ (SOUND menu) ➡ (MTS)

STEREO	Select stereo sound.
SAP	Select second audio programs.
MONO	Select monaural sound.

This function is not available in video mode.

* About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

Advanced setting for sound (continued)

EQUALIZER

You can adjust the sound level of each frequencies when selecting USER mode in SOUND MODE.

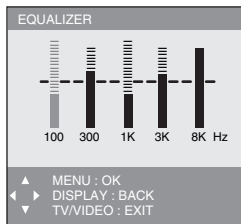
1 Select USER in SOUND MODE under SOUND menu.

* (MENU) → (SOUND menu) → (SOUND MODE) → (USER)

2 Select EQUALIZER in SOUND menu.

* (MENU) → (SOUND menu) → (EQUALIZER)

The following display appears.



3 Select and adjust the desired frequencies.

4 Press the MENU/OK button to exit the menu.

Adjust high frequency will affect higher pitch sound and vice versa.

When you select VIDEO-2, you cannot adjust EQUALIZER.

When you set DVD SOUND MODE in DVD MENU to USER, you can adjust EQUALIZER under SOUND menu.

AI VOLUME

You can adjust the volume of all the channels and video inputs to the same level automatically depends on the strength of signal of the sources.

Select AI VOLUME in SOUND menu, then choose ON or OFF.

* (MENU) → (SOUND menu) → (AI VOLUME)

* About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

DVD Menu

AUTO SIGNAL DETECT

When the DVD input signal is detected, the input mode will be changed to VIDEO-2 automatically. And when the DVD input signal is not detected, the input mode will be changed to RF previous input mode.

Select AUTO SIGNAL DETECT in DVD MENU under FEATURES menu then choose ON or OFF (Factory setting is ON).

* (MENU) ➡ (FEATURES menu) ➡ (DVD MENU)
➡ (AUTO SIGNAL DETECT)

Press the “POWER ON” button on the DVD players or VCRs (follow by the “PLAY” button for VCRs) so that the signal can be detected.

DVD PICTURE MODE

You can enhance the picture quality of the DVD or VIDEO-2.

Select DVD PICTURE MODE in DVD MENU under FEATURES menu, then choose the desired setting.

* (MENU) ➡ (FEATURES menu) ➡ (DVD MENU)
➡ (DVD PICTURE MODE)

OFF	Cancel the function.
CLEAR-1	Select when the disc is with lots of noise (To soften the picture).
CLEAR-2	Select when the disc is with less noise (To sharpen the picture).

DVD THEATER STATUS

You can enjoy an enhanced picture quality for movie playback in a dark room, like watching a movie in the theater.

Select DVD THEATER STATUS in DVD MENU under FEATURES menu, then choose ON or OFF.

* (MENU) ➡ (FEATURES menu) ➡ (DVD MENU)
➡ (DVD THEATER STATUS)

ON	Enjoy movie playback with suitable color temperature, sharp subtitles and improved gradation for black, like in a theater.
OFF	Cancel the function.

When you set DVD THEATER STATUS to ON, PICTURE MODE, WHITE BALANCE and AI ECO SENSOR / ECO MODE functions are not available.

DVD SOUND MODE

You can choose different sound setting for viewing different types of DVD content.

Select DVD SOUND MODE in DVD MENU under FEATURES menu, then choose the desired setting.

* (MENU) ➡ (FEATURES menu) ➡ (DVD MENU)
➡ (DVD SOUND MODE)

MUSIC	Select when watching a music concert.
USER	Select if you want to adjust the sound setting to your preference.
DRAMA	Select when watching a drama movie.
THEATER	Select when watching an action movie.

When you set DVD SOUND MODE in DVD MENU to USER, you can adjust EQUALIZER under SOUND menu.

* About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

Customized setting

VNR

You can reduce the picture noise.

Select VNR in PICTURE menu, then choose a setting of VNR function.

* (MENU) → (PICTURE menu) → (VNR)

OFF	VNR is turned off.
AUTO	Effect of VNR is automatically controlled.
MIN	Effect of VNR becomes minimum level.
MAX	Effect of VNR becomes maximum level.

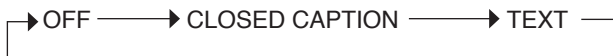
If you select MAX, the picture becomes softer even if the original picture is sharp.

When you select VIDEO-2, you cannot adjust VNR function.

CLOSED CAPTION

If they are included in a program, you can view closed captions or text information.

Press the CLOSED CAPTION button to select a setting.



To operate this function with a menu:

- 1 Select the CLOSED CAPTION in INSTALL menu, then choose "CAPTION" or "TEXT".

* (MENU) → (INSTALL menu) → (CLOSED CAPTION)

- 2 Press the ◀/▶ button to select the desired caption or text channel.

CHILD LOCK

You can disable the front control buttons of the TV.

Select CHILD LOCK in the FEATURES menu, then choose ON or OFF.

* (MENU) → (FEATURES menu) → (CHILD LOCK)

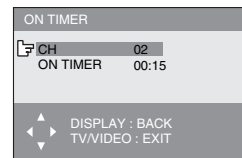
ON TIMER

You can set the TV to turn on automatically from standby mode at a set channel and time.

- 1 Select ON TIMER in the FEATURE menu.

* (MENU) → (FEATURES menu) → (ON TIMER)

The following display appears.



- 2 Choose the CH (channel) by pressing the ◀/▶ button.
External input, AV position and any un-preset channel cannot be chosen for CH.
- 3 Set the ON TIMER to your desired period of time by pressing the ◀/▶ button. ON TIMER starts. You can set the period of time to a maximum of 12 hours in 15-minute intervals.
To off the ON TIMER, set the ON TIMER to OFF.
Note : If TV is not in standby mode when ON TIMER is reach the setting time, this case is not available.

* About the basic operations of the menu, please see the "How to operate menus and menus locations" on page 5.

Customized setting (continued)

OFF TIMER

You can set the TV to turn off automatically to standby mode after a set time.

Press the OFF TIMER button to select a desired period of time.

You can set the period of time to a maximum of 120 minutes in 10 minute intervals.

To operate this function with a menu:

* (MENU) ➡ (FEATURES menu) ➡ (OFF TIMER)

When the remaining elapse time is one minute, "GOOD NIGHT!" appears on the screen.

You can display the OFF TIMER menu again to confirm or change the remaining time.

VIDEO-2 SETTING

You can set the VIDEO-2 SETTING according to the video signal output from external devices connected to the VIDEO-2 terminal. Select VIDEO-2 SETTING in INSTALL menu, then choose a setting (Factory setting is COMPONENT).

* (MENU) ➡ (INSTALL menu) ➡ (VIDEO-2 SETTING)

VIDEO	If a normal video signal (composite video signal) is input.
-------	---

COMPONENT	If a component video signal (Y/Cb/Cr) is input.
-----------	---

You must choose a setting according to the signal that you input to VIDEO-2. (If you input the VIDEO Signal or VCR Signal to VIDEO-2, you must set VIDEO-2 SETTING to VIDEO.)

For connecting methods, see "Additional Preparation" on page 19.

BEEP

You can use the BEEP function to alert you during AUTO SIGNAL DETECT, AI ECO SENSOR Detect, Stereo Detect, ON TIMER/OFF TIMER operations and when some buttons on the remote control are pressed.

Select BEEP in the INSTALL menu, then choose ON or OFF.

* (MENU) ➡ (INSTALL menu) ➡ (BEEP)

When the volume is level 0, then BEEP function is not available.

DISPLAY

You can display the program number and video terminal number on the screen.

Press the DISPLAY button to display the indication on the screen.

* About the basic operations of the menu, please see the "How to operate menus and menus locations" on page 5.

TV channel presetting

To register the TV channels automatically (AUTO PROGRAM)

You can register the TV channels into the TV's channel list automatically.

- 1 Display the INSTALL menu.

* (MENU) ➡ (INSTALL menu)

- 2 Choose AUTO PROGRAM, then press the MENU/OK button.
- 3 Press the ▲/▼ button to select AIR or CABLE, then press the MENU/OK button.
AUTO PROGRAM function starts, and the channels received are registered automatically.
- 4 The CHANNEL SUMMARY menu appears.

CHANNEL SUMMARY

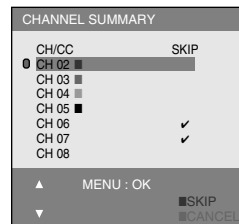
You can set undesired channels to be skipped.
Channels are to be skipped cannot be selected by the CHANNEL +/- button.

- 1 Display the INSTALL menu.

* (MENU) ➡ (INSTALL menu)

- 2 Choose CHANNEL SUMMARY, then press the MENU/OK button.

CHANNEL SUMMARY menu appears.



- 3 Choose the channel which you want to skip.
The skip can be set to all channels of AIR (CH02-CH69) and CABLE (CC01-CC125).
- 4 Press the yellow button to skip the channel.
To cancel the skip, press the blue button.
- 5 Press the MENU/OK button to exit the menu.

* About the basic operations of the menu, please see the “How to operate menus and menus locations” on page 5.

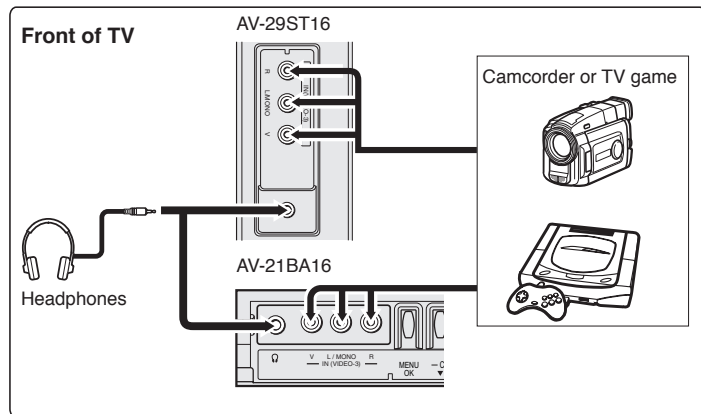
Additional preparation

The illustrations shown in this section are for AV-21BA16 and AV-29ST16 only, which are used for explanation purpose. Your TV may not look exactly the same as illustrated.

Before connecting

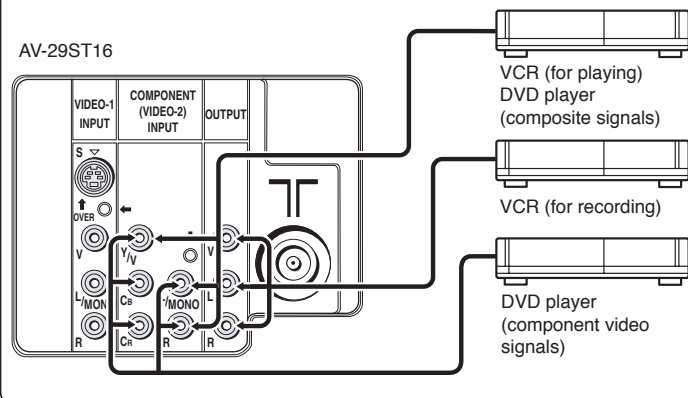
- Read the manuals provided with the devices for the proper connection.
- Turn off all the devices including the TV.
- Note that connecting cables are not supplied.

Connecting to front video input terminals



Connecting to rear component/video input terminals and output terminals

Rear of TV



When connecting to COMPONENT (VIDEO-2) input, depending on the connection, choose the appropriate video input using the menu (see "VIDEO-2 SETTING" on page 17)

Troubleshooting

If a problem occurs when you are using the TV, check the below troubleshooting guide before calling for repair.

• No picture, no sound	• Deactivate the BLUE BACK function if it is turned on.
• Snowy picture	• Check the aerial cable and its connection with the TV.
• Stripes appear on the picture	• Interference occurs caused by other devices such as an amplifier, personal computer, or a hair drier. Move such devices away from your TV.
• Double-pictures (ghosting) occur	• Interference occurs caused by signal reflecting from mountains or building. Try to adjust the aerial's direction or use a better directionality antenna.
• Poor picture	• Choose the appropriate color system. Refer to "COLOR SYSTEM" on page 9. • Adjust the COLOR or BRIGHT setting. Refer to "PICTURE SETTING" on page 10.
• White and bright still image look as if it were colored	• Inevitable phenomenon due to the nature of the picture tube. This is not a malfunction.
• Top of the image from software products or video tape is distorted	• This is due to the condition of the video signal whereby the image was not recorded properly. This is not a malfunction.
• Poor sound	• Adjust the sound frequency properly. Refer to "EQUALIZER" on page 14.
• Stereo or SAP sound is unclear	• TV channel reception is poor. Change the stereo/ SAP mode to mono sound (see page 13).
• Cannot operate the remote control	• The batteries may be exhausted. Replace with new batteries (see page 7). • Ensure that you are operating the remote control at less than seven meters from the front of your TV.
• Cannot operate the menus	• Press TV/VIDEO button to return to TV mode and try operating the menus.
• Cannot operate the front control buttons	• Deactivate the CHILD LOCK function if it is turned on (see page 16).

• Color patches appear at the corner of the screen	• This may due to the magnetized device such as a speaker near to your TV. Keep the device apart from your TV. Alternately, you can also use the magnetic-shielded speaker.
• Picture is tilted	• This may due to the earth magnetism. Refer to "PICTURE TILT" on page 11 to correct the tilt.
• Image takes a short period to be displayed	• Image required time to stabilize before display. This is not a malfunction.
• TV may emit crackling sound	• This is due to a sudden change in temperature and it is not a malfunction. If the crackling sound is too frequent, request your service technician for inspection.
• Feel a slight electric shock when touching the TV screen	• This is due to the static electricity of the picture tube and it will not harm the human body. This is not a malfunction.
• The Auto Signal Detect function does not work	• Please check that the AUTO SIGNAL DETECT function is on or off. • Turn the VCR or DVD player off, wait a while, then turn it on again. • Inspect the video cable connection on VIDEO-2 that they are connected properly.
• Suddenly, a channel or input was changed to VIDEO-2 inputs.	• Some VCRs and DVD players can trigger Auto Signal Detect even after you choose a different input. • Please turn off the AUTO SIGNAL DETECT function.
• "PLEASE DISCONNECT VIDEO-1 CABLE!" appears on the screen.	• Please disconnect either S-VIDEO cable or video input cable from Video-1 input.

Specifications

TV RF systems

M

Color systems

TV mode: NTSC 3.58 MHz

VIDEO mode: PAL, SECAM, NTSC 3.58 MHz, NTSC 4.43 MHz

Receiving channels

VHF low channel (VL), VHF high channel (VH), UHF channel (U)

Receives cable channels in mid band, super band and hyper band.

Power requirements

AC 110 to 240 V, 50 Hz / 60 Hz

External input / output

VIDEO-1: S-video input, VIDEO input, AUDIO L/R input

VIDEO-2/COMPONENT: VIDEO input, AUDIO L/R input, COMPONENT VIDEO (Y/C_B/C_R) input

VIDEO-3: VIDEO input, AUDIO L/R input

OUTPUT: VIDEO output, AUDIO L/R output

Headphone jack: Stereo mini jack (3.5 mm diameter)

Sound-multiplex systems

MTS (Multi-channel Television Sound) (Except AV-29BA16, AV-21BA16)

AV STEREO (For AV-29BA16, AV-21BA16 only)

Viewing Screen Size (Visible area)

AV-21BA16 508 mm

AV-21MT16 508 mm

AV-21VT16 508 mm

AV-25MT16 600 mm

AV-29BA16 676 mm

AV-29MT16 676 mm

AV-29VT16 676 mm

AV-29ST16 676 mm

Design and specifications subject to change without notice.

MEMO



PARTS LIST

CAUTION

- The parts identified by the Δ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied.
- P.W. BOARD Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
CR	Carbon Resistor	C CAP.	Ceramic Capacitor
FR	Fusible Resistor	E CAP.	Electrolytic Capacitor
PR	Plate Resistor	M CAP.	Mylar Capacitor
VR	Variable Resistor	CH CAP.	Chip Capacitor
HV R	High Voltage Resistor	HV CAP.	High Voltage Capacitor
MF R	Metal Film Resistor	MF CAP.	Metalized Film Capacitor
MG R	Metal Glazed Resistor	MM CAP.	Metalized Mylar Capacitor
MP R	Metal Plate Resistor	MP CAP.	Metalized Polystyrol Capacitor
OM R	Metal Oxide Film Resistor	PP CAP.	Polypropylene Capacitor
CMF R	Coating Metal Film Resistor	PS CAP.	Polystyrol Capacitor
UNF R	Non-Flammable Resistor	TF CAP.	Thin Film Capacitor
CH V R	Chip Variable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH MG R	Chip Metal Glazed Resistor	TAN. CAP.	Tantalum Capacitor
COMP. R	Composition Resistor	CH C CAP.	Chip Ceramic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
		CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

CONTENTS

USING P.W. BOARD & REMOTE CONTROL UNIT	3-3
EXPLODED VIEW PARTS LIST -1 [AV-21MT16/P]	3-3
EXPLODED VIEW -1 [AV-21MT16/P]	3-4
EXPLODED VIEW PARTS LIST -2 [AV-25MT16/P]	3-5
EXPLODED VIEW -2 [AV-25MT16/P]	3-6
 PRINTED WIRING BOARD PARTS LIST [AV-21MT16/P]	 3-7
MAIN P.W. BOARD ASS'Y (SCW-1906A-H2)	3-7
BASS P.W. BOARD ASS'Y (SCW-6001A-H2)	3-10
 PRINTED WIRING BOARD PARTS LIST [AV-25MT16/P]	 3-11
MAIN P.W. BOARD ASS'Y (SCW-1919A-H2)	3-11
BASS P.W. BOARD ASS'Y (SCW-6001A-H2)	3-14
 REMOTE CONTROL UNIT PARTS LIST (RM-C1287-1H)	 3-15
PACKING [AV-21MT16/P]	3-15
PACKING PARTS LIST [AV-21MT16/P]	3-15
PACKING [AV-25MT16/P]	3-16
PACKING PARTS LIST [AV-25MT16/P]	3-16

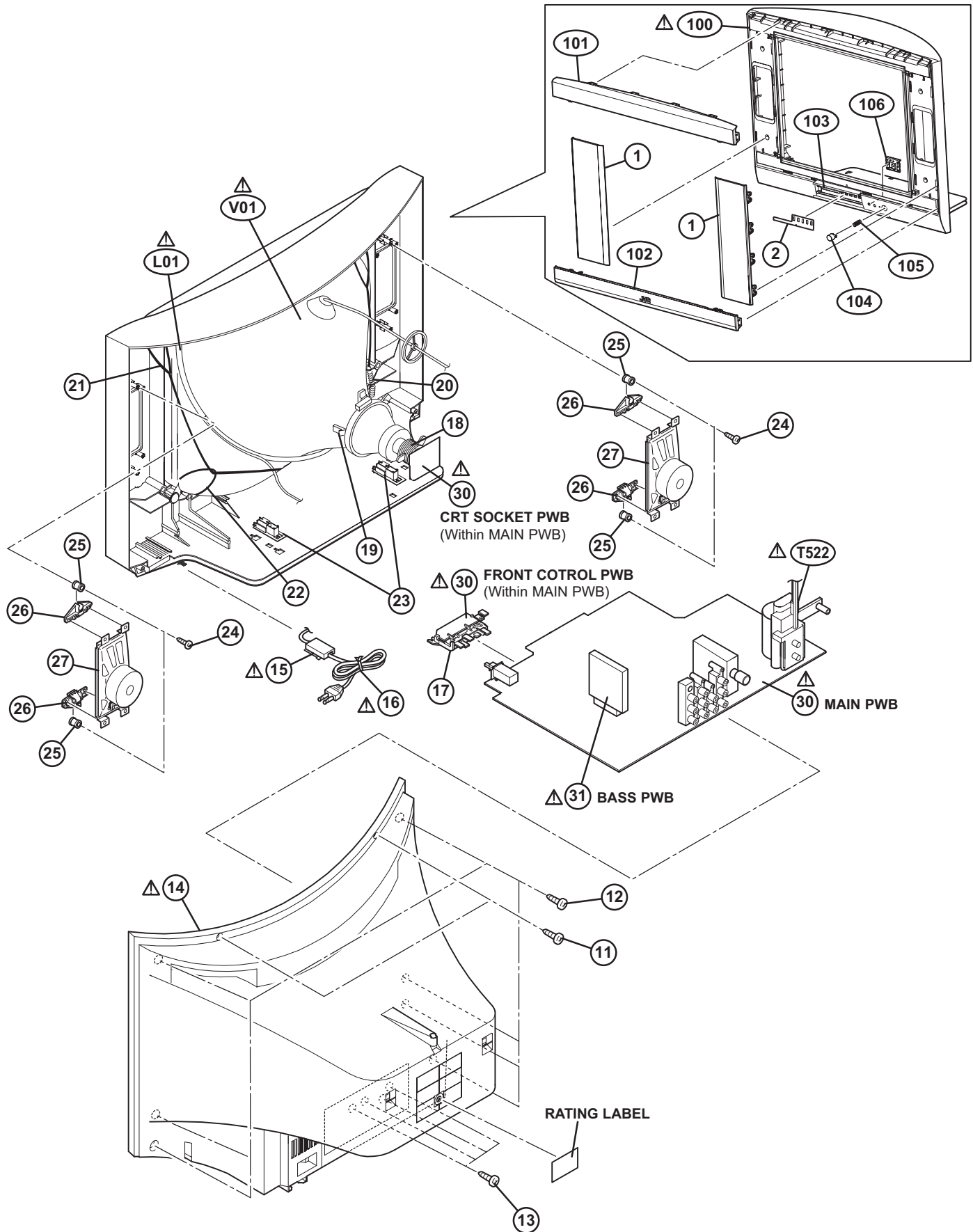
USING P.W. BOARD & REMOTE CONTROL UNIT

P.W.B ASS'Y	AV-21MT16/P	AV-25MT16/P
MAIN P.W.B	SCW-1906A-H2	SCW-1919A-H2
BASS P.W.B	SCW-6001A-H2	←
REMOTE CONTROL UNIT	RM-C1287-1H	←

EXPLODED VIEW PARTS LIST -1 [AV-21MT16/P]

△	Ref.No.	Part No.	Part Name	Description	Local
△	V01	A51QGA993X008	PICTURE TUBE(ITC)	Inc.DEF YOKE	
△	L01	QQW0210-001	DEG COIL		
△	T522	QQH0188-001	FB TRANSF		
	1	GG10341-001B-H	SP PANEL	(x2)	
	2	GG30117-001A-H	OPERATION SHEET		
	11	QYSBSBG4016ZA	TAP SCREW	M4 x 16mm(x2)	
	12	QYSBSFG4016ZA	TAP SCREW	M4 x 16mm(x7)	
	13	QYSBSF3010ZA	TAP SCREW	M3 x 10mm(x4)	
△	14	GG10187-220A-H	REAR COVER		
△	15	CM47005-A01-H	POWER CORD CLAMP		
△	16	QMPR380-165-K2	POWER CORD	1.65m BLACK	
	17	GG30119-001B-H	SUB PCB HOLDER		
	18	QAL0608-001	PC MAGNET		
	19	QAL0627-001	DY WEDGE	(x3)	
	20	A48457-3-H	SPRING		
	21	WJY0029-001A-E	BRAIDED ASS'Y		
	22	WJY0013-003A-E	BRAIDED ASS'Y		
	23	CM36623-003-H	CHASSIS RAIL	(x2)	
	24	GG40046-001A-H	TAP SCREW	(x4)	
	25	LC40226-005A-H	SPACER	(x4)	
	26	GG20057-002A-H	SPEAKER HOLDER	(x4)	
	27	QAS0139-001	SPEAKER	(x2) SP01,SP02	
△	30	SCW-1906A-H2	MAIN PWB		
△	31	SCW-6001A-H2	BASS PWB		
△	100	GG10338-003B-H	FRONT CABINET ASS'Y	Inc.101-106	
	101	GG10340-001B-H	FRONT FRAME TOP		
	102	GG10340-002B-H	FRONT FRAME BOTTOM		
	103	GG20082-001B-H	DOOR		
	104	GG30114-001B-H	POWER KNOB		
	105	CM35235-003-H	SPRING		
	106	GG30115-001B-H	LED LENS		

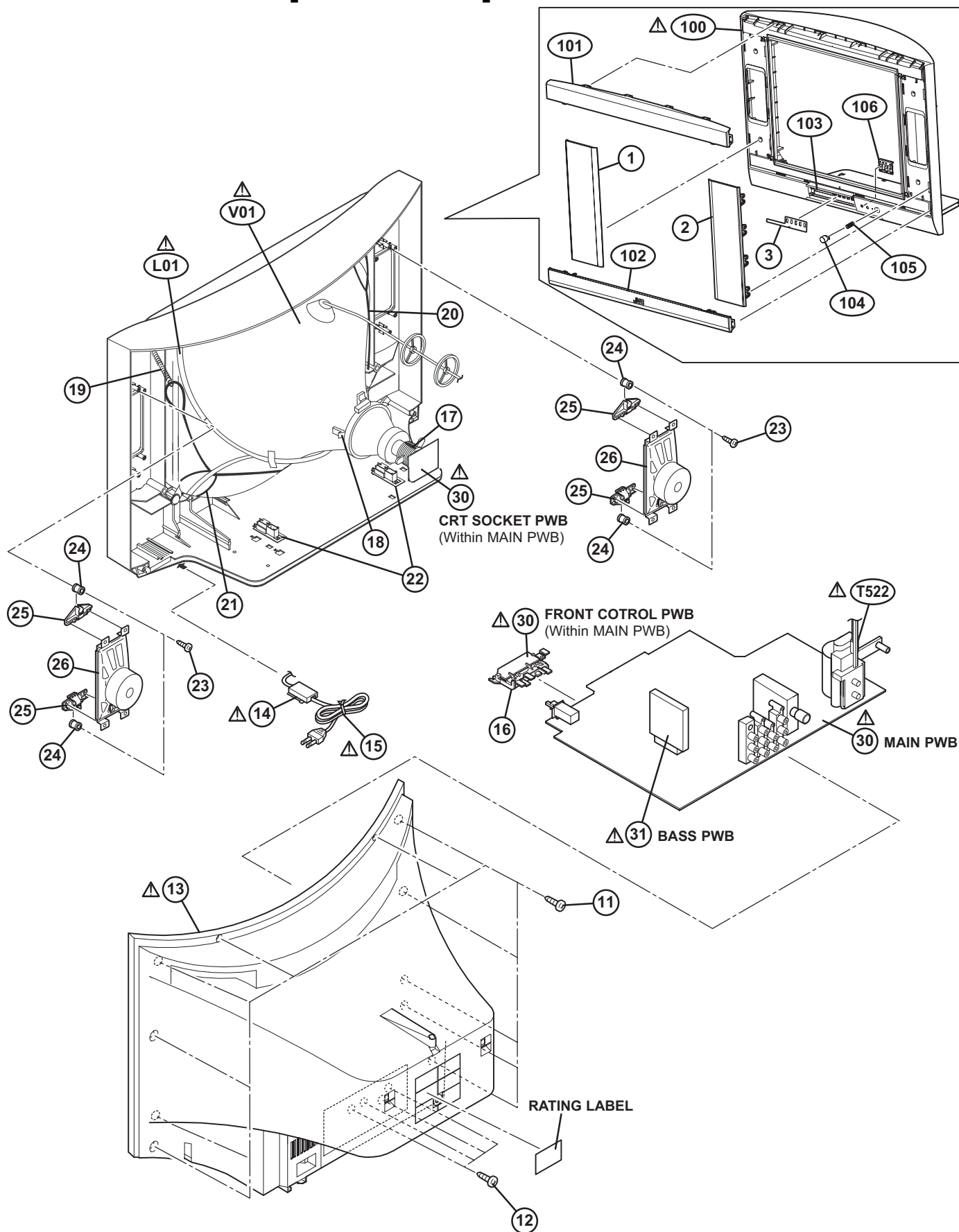
EXPLODED VIEW -1 [AV-21MT16/P]



EXPLODED VIEW PARTS LIST -2 [AV-25MT16/P]

△	Ref.No.	Part No.	Part Name	Description	Local
△	V01	A60MAU095X-DY	PICTURE TUBE(ITC)	Inc.DEF YOKE	
△	L01	QQW0119-001	DEG COIL		
△	T522	QQH0203-001	FB TRANSF		
	1	GG10346-001B-H	SP PANEL LEFT		
	2	GG10346-002B-H	SP PANEL RIGHT		
	3	GG30120-001A-H	OPERATION SHEET		
	11	QYSBSFG4016ZA	TAP SCREW	M4 x 16mm(x11)	
	12	QYSBSF3010ZA	TAP SCREW	M3 x 10mm(x4)	
△	13	GG10249-011B-H	REAR COVER		
△	14	CM47005-A01-H	POWER CORD CLAMP		
△	15	QMPR380-165-K2	POWER CORD	1.65m BLACK	
	16	GG30119-001B-H	SUB PCB HOLDER		
	17	QAL0608-001	PC MAGNET		
	18	QAL0627-001	DY WEDGE	(x3)	
	19	A48457-3-H	SPRING		
	20	WJY0029-001A-E	BRAIDED ASS'Y		
	21	WJY0013-003A-E	BRAIDED ASS'Y	(x2)	
	22	CM36623-003-H	CHASSIS RAIL	(x2)	
	23	GG40046-001A-H	TAP SCREW	(x4)	
	24	LC40226-005A-H	SPACER	(x4)	
	25	GG20057-002A-H	SPEAKER HOLDER	(x4)	
	26	QAS0139-001	SPEAKER	(x2) SP01,SP02	
△	30	SCW-1919A-H2	MAIN PWB		
△	31	SCW-6001A-H2	BASS PWB		
△	100	GG10343-004B-H	FRONT CABINET ASS'Y	Inc.101-106	
	101	GG10345-001B-H	FRONT FRAME TOP		
	102	GG10345-002B-H	FRONT FRAME BOTTOM		
	103	GG20082-001B-H	DOOR		
	104	GG30114-001B-H	POWER KNOB		
	105	CM35235-003-H	SPRING		
	106	GG30115-001B-H	LED LENS		

EXPLODED VIEW -2 [AV-25MT16/P]



PRINTED WIRING BOARD PARTS LIST [AV-21MT16/P]

MAIN P.W. BOARD ASS'Y (SCW-1906A-H2)

△Ref No.	Part No.	Part Name	Description Local
IC302	S9648	PHOTO CONDUCTOR	
IC351	TDA6107AJF/N1	IC	
IC401	LA78040N	IC	
IC601	AN5277	IC	
IC701	TDA12021-NTS3-F	IC(MCU)	(SERVICE)
IC702	ATE16-21MT16P	IC	(SERVICE)
IC801	GP1UE281QKVF	IR DETECT UNIT	
IC921	STR-W6554A-F5	IC	
IC951	SE135N	IC	
IC972	PQ033RDA1SSH	IC	
IC973	PQ120RDA1SZ	IC	
IC975	PQ050RDA1SZ	IC	
Q101	2SC5397/CD/-T	TRANSISTOR	
Q341	2SA1530A/QR/-X	TRANSISTOR	
Q421	2SC3928A/QR/-X	TRANSISTOR	
Q422	2SC3928A/QR/-X	TRANSISTOR	
Q521	2SC2655/Y/-T	TRANSISTOR	
△Q522	TT2190LS-YB11	TRANSISTOR	
Q571	2SA1208/ST/Z1-T	TRANSISTOR	
Q572	UN2226-X	DIGI TRANSISTOR	
Q601	2SA1530A/QR/-X	TRANSISTOR	
Q602	2SA1530A/QR/-X	TRANSISTOR	
Q603	UN2226-X	DIGI TRANSISTOR	
Q605	UN2226-X	DIGI TRANSISTOR	
Q607	2SC3928A/QR/-X	TRANSISTOR	
Q608	2SC3928A/QR/-X	TRANSISTOR	
Q609	UN2226-X	DIGI TRANSISTOR	
Q611	UN2226-X	DIGI TRANSISTOR	
Q612	2SC3928A/QR/-X	TRANSISTOR	
Q704	2SC3928A/QR/-X	TRANSISTOR	
Q705	SSM3K02F-X	MOS FET	
Q706	SSM3K02F-X	MOS FET	
Q707	2SC3928A/QR/-X	TRANSISTOR	
Q708	2SA1530A/QR/-X	TRANSISTOR	
Q791	2SC3928A/QR/-X	TRANSISTOR	
Q801	KTA1267/YG/-T	TRANSISTOR	
Q803	UN2226-X	DIGI TRANSISTOR	
Q804	UN2226-X	DIGI TRANSISTOR	
Q805	2SA1530A/QR/-X	TRANSISTOR	
Q955	2SC3928A/QR/-X	TRANSISTOR	
Q981	2SA562TM/Y/-T	TRANSISTOR	
Q982	2SC3928A/QR/-X	TRANSISTOR	
Q983	2SA562TM/Y/-T	TRANSISTOR	
Q984	2SC3928A/QR/-X	TRANSISTOR	
D341	MA111-X	SI DIODE	
D342	MA111-X	SI DIODE	
D343	MA111-X	SI DIODE	
D345	MA111-X	SI DIODE	
D350	MA8075/H/-X	Z DIODE	
D354	FR105GT-T3	SI DIODE	
D355	FR105GT-T3	SI DIODE	
D356	FR105GT-T3	SI DIODE	
D423	1N4003SG-T2	SI DIODE	
D424	1SR35-400A-T2	SI DIODE	
D520	MA111-X	SI DIODE	
D521	ERB06-15E-F1	SI DIODE	
D522	RU3AM-LFC4	SI DIODE	
D523	FR105GT-T3	SI DIODE	
D530	FR105GT-T3	SI DIODE	
D551	FR105GT-T3	SI DIODE	
D552	FR105GT-T3	SI DIODE	
D554	MA8051/L/-X	Z DIODE	
D571	MA8075/H/-X	Z DIODE	
D581	FR105GT-T3	SI DIODE	
D603	MA111-X	SI DIODE	
D607	MA111-X	SI DIODE	
D610	MA111-X	SI DIODE	
D701	MA111-X	SI DIODE	
D702	MA8091/H/-X	Z DIODE	
D703	MA8091/H/-X	Z DIODE	
D704	MA8091/H/-X	Z DIODE	
D706	MA8036-X	Z DIODE	
D707	MA111-X	SI DIODE	
D708	MA111-X	SI DIODE	
D709	MA111-X	SI DIODE	
D710	MA8091/H/-X	Z DIODE	
D711	MA111-X	SI DIODE	
D712	MA111-X	SI DIODE	
D713	MA8039/H/-X	Z DIODE	
D714	MA8030/H/-X	Z DIODE	

△Ref No.	Part No.	Part Name	Description Local
D715	MA111-X	SI DIODE	
D716	MA111-X	SI DIODE	
D717	MA111-X	SI DIODE	
D751	MA8091/H/-X	Z DIODE	
D753	MA8091/H/-X	Z DIODE	
D808	LH22440-T16	LED	POWER(RED)
D810	MA8091/H/-X	Z DIODE	
D811	MA8091/H/-X	Z DIODE	
D812	MA8091/H/-X	Z DIODE	
D813	MA8091/H/-X	Z DIODE	
D814	MA8091/H/-X	Z DIODE	
D817	MA8091/H/-X	Z DIODE	
D901	GSIB460-S1	BRIDGE DIODE	
D921	FR105GT-T3	SI DIODE	
D922	MTZJ36A-T2	Z DIODE	
D923	MTZJ9.1B-T2	Z DIODE	
D924	MTZJ9.1B-T2	Z DIODE	
D925	MTZJ9.1B-T2	Z DIODE	
D926	FR105GT-T3	SI DIODE	
D927	MA8180/M/-X	Z DIODE	
D928	MTZJ9.1B-T2	Z DIODE	
D951	RU4AM-LFM1	SI DIODE	
D952	RU3AM-LFC4	SI DIODE	
D953	RU3AM-LFC4	SI DIODE	
D955	FMX-G12S	SI DIODE	
D956	MA111-X	SI DIODE	
D957	MA111-X	SI DIODE	
D962	MA8330/M/-X	Z DIODE	
D970	MA8082/M/-X	Z DIODE	
D971	MA111-X	SI DIODE	
D972	MA111-X	SI DIODE	
D973	MA111-X	SI DIODE	
D975	MA111-X	SI DIODE	
D981	UDZS2.0B-X	Z DIODE	
D982	UDZS2.0B-X	Z DIODE	
△PC901	PS2581AL1/QW/	PHOTO COUPLER	
C001	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C002	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C003	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C004	QETN1CM-477Z	E CAPACITOR	470uF 16V M
C005	NCB31HK-222X	C CAPACITOR	2200pF 50V K
C006	QETN1HM-336Z	E CAPACITOR	33uF 50V M
C007	NDC31HJ-560X	C CAPACITOR	56pF 50V J
C008	NDC31HJ-560X	C CAPACITOR	56pF 50V J
C101	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C102	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C103	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C104	QETN1EM-476Z	E CAPACITOR	47uF 25V M
C106	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C109	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C110	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C111	QETN1CM-227Z	E CAPACITOR	220uF 16V M
C317	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C341	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C351	NCB31HK-102X	C CAPACITOR	1000pF 50V K
C352	QETN2EM-475Z	E CAPACITOR	4.7uF 250V M
C353	QFKC2EK-104Z	MM CAPACITOR	0.1uF 250V K
C358	QCZ0364-222	C CAPACITOR	2200pF 2kV K
C422	QCS32HJ-180Z	C CAPACITOR	18pF 500V J
C423	NCB31HK-682X	C CAPACITOR	6800pF 50V K
C424	QFLC2AJ-683Z	M CAPACITOR	0.068uF 100V J
C427	QETN1VM-108Z	E CAPACITOR	1000uF 35V M
C428	QETN1VM-227Z	E CAPACITOR	220uF 35V M
C430	QFLC2AJ-563Z	M CAPACITOR	0.056uF 100V J
C431	QFVF1HJ-184Z	MF CAPACITOR	0.18uF 50V J
C435	NCF21HZ-334X	C CAPACITOR	0.33uF 50V Z
C436	NCF21HZ-334X	C CAPACITOR	0.33uF 50V Z
C471	QETN1HM-226Z	E CAPACITOR	22uF 50V M
C520	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C521	QCB31HK-332Z	C CAPACITOR	3300pF 50V K
C522	QFLC1HJ-223Z	M CAPACITOR	0.022uF 50V J
C523	QETN1VM-476Z	E CAPACITOR	47uF 35V M
△C524	QFZ0196-202	MPP CAPACITOR	2000pF 1.5kV H
C525	QFZ0196-502	MPP CAPACITOR	5000pF 1.5kV H
C526	QFZ0196-152	MPP CAPACITOR	1500pF 1.5kV H
C528	QFP32GJ-563	PP CAPACITOR	0.056uF 400V J
C529	QENC2AM-225Z	BP E CAPACITOR	2.2uF 100V M
C530	QCB32HK-561Z	C CAPACITOR	560pF 500V K
C532	QETN2EM-106Z	E CAPACITOR	10uF 250V M
C551	QCB32HK-561Z	C CAPACITOR	560pF 500V K
C552	QCB32HK-561Z	C CAPACITOR	560pF 500V K
C553	QETN1EM-108Z	E CAPACITOR	1000uF 25V M

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
C554	QETN1EM-108Z	E CAPACITOR	1000uF 25V M	C778	QETN1VM-476Z	E CAPACITOR	47uF 35V M
C555	QFLC2AJ-103Z	M CAPACITOR	0.01uF 100V J	C779	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C571	QEZ0203-107	E CAPACITOR	100uF 160V M	C780	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C572	QETN1CM-107Z	E CAPACITOR	100uF 16V M	C781	NCB31CK-105X	C CAPACITOR	1uF 16V K
C573	QETN1VM-476Z	E CAPACITOR	47uF 35V M	C782	NCB31CK-105X	C CAPACITOR	1uF 16V K
C581	QFVF1HJ-104Z	MF CAPACITOR	0.1uF 50V J	C783	QETN1HM-105Z	E CAPACITOR	1uF 50V M
C582	QFZ0197-224	MPP CAPACITOR	0.22uF 250V J	C784	QETN1HM-474Z	E CAPACITOR	0.47uF 50V M
C601	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C786	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C602	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C787	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C603	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C788	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C604	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C790	NDC31HJ-270X	C CAPACITOR	27pF 50V J
C605	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C792	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C606	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C793	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C607	QETN1CM-227Z	E CAPACITOR	220uF 16V M	C794	QFLC1HJ-332Z	M CAPACITOR	3300pF 50V J
C608	QETN1CM-227Z	E CAPACITOR	220uF 16V M	C795	QFLC1HJ-332Z	M CAPACITOR	3300pF 50V J
C609	QETN1HM-336Z	E CAPACITOR	33uF 50V M	C802	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C610	QETN1CM-107Z	E CAPACITOR	100uF 16V M	C803	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C613	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C804	QETN1CM-477Z	E CAPACITOR	470uF 16V M
C615	QETN1EM-108Z	E CAPACITOR	1000uF 25V M	C807	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C616	QETN1EM-108Z	E CAPACITOR	1000uF 25V M	C808	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C656	QETN1HM-107Z	E CAPACITOR	100uF 50V M	C821	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C661	QETN1CM-107Z	E CAPACITOR	100uF 16V M	C822	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C662	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C823	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C701	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C824	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C702	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C825	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C703	QETN1AM-477Z	E CAPACITOR	470uF 10V M	C826	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C704	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C827	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C705	NDC31HJ-7R0X	C CAPACITOR	7pF 50V J	C828	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C706	NDC31HJ-7R0X	C CAPACITOR	7pF 50V J	C829	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C707	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C830	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C708	QETN1CM-476Z	E CAPACITOR	47uF 16V M	C831	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C709	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	△C901	QFZ9072-224	MM CAPACITOR	0.22uF AC250V K
C710	NCB31HK-682X	C CAPACITOR	6800pF 50V K	△C902	QFZ9072-224	MM CAPACITOR	0.22uF AC250V K
C711	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M	△C903	QCZ9015-102Z	C CAPACITOR	1000pF AC250V Z
C712	QFVF1HJ-224Z	MF CAPACITOR	0.22uF 50V J	△C904	QCZ9015-102Z	C CAPACITOR	1000pF AC250V Z
C713	QETN1HM-106Z	E CAPACITOR	10uF 50V M	△C905	QCZ9015-102Z	C CAPACITOR	1000pF AC250V Z
C714	NCB31HK-223X	C CAPACITOR	0.022uF 50V K	C906	QEZ0476-227	E CAPACITOR	220uF 400V M
C715	NCB31HK-102X	C CAPACITOR	1000pF 50V K	△C910	QFZ9072-224	MM CAPACITOR	0.22uF AC250V K
C716	NCB31HK-102X	C CAPACITOR	1000pF 50V K	C915	QCZ0364-222	C CAPACITOR	2200pF 2kV K
C717	QETN1HM-105Z	E CAPACITOR	1uF 50V M	C921	QCZ0364-561	C CAPACITOR	560pF 2kV K
C718	QFZ0229-154Z	MF CAPACITOR	0.15uF 63V K	C922	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C719	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C923	QFLC1HJ-471Z	M CAPACITOR	470pF 50V J
C720	NCB31HK-102X	C CAPACITOR	1000pF 50V K	C924	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C723	NCB31CK-105X	C CAPACITOR	1uF 16V K	C925	QETN1VM-226Z	E CAPACITOR	22uF 35V M
C724	NCB31CK-105X	C CAPACITOR	1uF 16V K	C950	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C725	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C951	QCZ0364-152	C CAPACITOR	1500pF 2kV K
C726	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C952	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C727	NCB31HK-332X	C CAPACITOR	3300pF 50V K	C953	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C728	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C955	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C729	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M	C956	QEZ0203-107	E CAPACITOR	100uF 160V M
C730	QETN1HM-226Z	E CAPACITOR	22uF 50V M	C957	QETN1AM-228Z	E CAPACITOR	2200uF 10V M
C731	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C958	QETN1EM-228Z	E CAPACITOR	2200uF 25V M
C732	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M	C960	QETM1VM-228	E CAPACITOR	2200uF 35V M
C734	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C963	QCZ0364-102	C CAPACITOR	1000pF 2kV K
C735	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C966	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C736	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C967	QETN1VM-476Z	E CAPACITOR	47uF 35V M
C737	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C977	QETN1VM-476Z	E CAPACITOR	47uF 35V M
C738	NCB31CK-105X	C CAPACITOR	1uF 16V K	C980	QETN1VM-476Z	E CAPACITOR	47uF 35V M
C739	NCB31CK-105X	C CAPACITOR	1uF 16V K	△C991	QCZ9079-102	C CAPACITOR	1000pF AC250V M
C740	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	△C992	QCZ9079-102	C CAPACITOR	1000pF AC250V M
C741	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	△C993	QCZ9079-102	C CAPACITOR	1000pF AC250V M
C742	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C994	QETN1HM-335Z	E CAPACITOR	3.3uF 50V M
C743	QETN1HM-106Z	E CAPACITOR	10uF 50V M				
C744	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R001	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
C745	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R002	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
C746	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R003	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
C751	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R004	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
C752	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R005	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
C753	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R101	NRSA63J-680X	MG RESISTOR	68Ω 1/16W J
C754	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R102	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J
C755	QETN1HM-106Z	E CAPACITOR	10uF 50V M	R103	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J
C756	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	R104	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
C757	NDC31HJ-561X	C CAPACITOR	560pF 50V J	R105	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J
C758	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R106	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J
C760	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R327	NRSA63J-393X	MG RESISTOR	39kΩ 1/16W J
C761	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R344	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J
C762	QETN1CM-107Z	E CAPACITOR	100uF 16V M	R351	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
C766	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R352	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
C767	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R353	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
C768	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R354	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
C770	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R355	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J
C771	QETN1HM-226Z	E CAPACITOR	22uF 50V M	R356	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J
C772	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R357	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J
C773	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R358	QRZ0107-152Z	C RESISTOR	1.5kΩ 1/2W K
C775	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R359	QRZ0107-152Z	C RESISTOR	1.5kΩ 1/2W K
C776	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R360	QRZ0107-152Z	C RESISTOR	1.5kΩ 1/2W K
C777	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R369	QRE121J-104Y	C RESISTOR	100kΩ 1/2W J

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
R411	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R735	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R412	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R736	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R421	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R737	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R426	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R738	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R427	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R739	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R430	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R740	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R432	QRX01GJ-2R7	MF RESISTOR	2.7Ω 1W J	R741	QRE141J-221Y	C RESISTOR	220Ω 1/4W J
R433	QRE121J-120Y	C RESISTOR	12Ω 1/2W J	R742	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R434	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R743	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R440	QRG01GJ-221	OMF RESISTOR	220Ω 1W J	R744	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R448	QRE121J-1R0Y	C RESISTOR	1Ω 1/2W J	R745	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R471	NRSA63J-274X	MG RESISTOR	270kΩ 1/16W J	R747	QRE141J-101Y	C RESISTOR	100Ω 1/4W J
R472	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R748	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R473	QRE141J-683Y	C RESISTOR	68kΩ 1/4W J	R749	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R474	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	R750	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R520	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	R751	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R521	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R752	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R522	QRE121J-220Y	C RESISTOR	22Ω 1/2W J	R753	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R523	QRL029J-271	OMF RESISTOR	270Ω 2W J	R754	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R524	QRL039J-470	OMF RESISTOR	47Ω 3W J	R755	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R527	QRL039J-393	OMF RESISTOR	39kΩ 3W J	R756	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R528	QRE121J-471Y	C RESISTOR	470Ω 1/2W J	R757	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
△R530	QRZ9017-270	FUSI RESISTOR	27Ω 1/4W J	R758	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
△R533	QRZ9017-4R7	FUSI RESISTOR	4.7Ω 1/4W J	R759	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R551	QRX029J-R47	MF RESISTOR	0.47Ω 2W J	R760	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R552	QRX029J-R47	MF RESISTOR	0.47Ω 2W J	R761	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R554	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	R762	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R569	QRZ0225-2R2	UNF RESISTOR	2.2Ω 7W K	R763	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R572	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J	R764	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R573	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R765	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R574	QRE121J-183Y	C RESISTOR	18kΩ 1/2W J	R768	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R575	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R769	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R581	QRE121J-822Y	C RESISTOR	8.2kΩ 1/2W J	R770	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R582	QRE121J-184Y	C RESISTOR	180kΩ 1/2W J	R771	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R583	QRE121J-184Y	C RESISTOR	180kΩ 1/2W J	R772	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
R601	NRSA63J-302X	MG RESISTOR	3kΩ 1/16W J	R773	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R602	NRSA63J-302X	MG RESISTOR	3kΩ 1/16W J	R774	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
R604	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R775	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R606	QRE121J-2R2Y	C RESISTOR	2.2Ω 1/2W J	R776	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R607	QRE121J-2R2Y	C RESISTOR	2.2Ω 1/2W J	R777	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R609	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	R779	QRE141J-101Y	C RESISTOR	100Ω 1/4W J
R610	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R780	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R611	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R781	QRE141J-101Y	C RESISTOR	100Ω 1/4W J
R612	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R782	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R614	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R783	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R618	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R785	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R620	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R786	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R621	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R787	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R622	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R790	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R623	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R792	QRE141J-330Y	C RESISTOR	33Ω 1/4W J
R624	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J	R793	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R630	QRE121J-271Y	C RESISTOR	270Ω 1/2W J	R794	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R631	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R795	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R632	QRE121J-271Y	C RESISTOR	270Ω 1/2W J	R796	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R633	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R801	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R634	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	R804	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R636	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	R805	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R637	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R806	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R639	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R807	QRE121J-101Y	C RESISTOR	100Ω 1/2W J
R640	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R809	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R649	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R810	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R701	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R811	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J
R703	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R812	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R704	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R813	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J
R705	NRSA63J-393X	MG RESISTOR	39kΩ 1/16W J	R814	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R706	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	R815	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R707	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	R816	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R708	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R818	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J
R709	QRE141J-105Y	C RESISTOR	1MΩ 1/4W J	R819	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R711	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	R820	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J
R712	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R821	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J
R713	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	R822	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R714	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R824	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J
R715	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	R825	QRE141J-470Y	C RESISTOR	47Ω 1/4W J
R716	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	R901	QRF154K-2R2	UNF WW RESISTOR	2.2Ω 15W K
R717	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R902	QRL029J-683	OMF RESISTOR	68kΩ 2W J
R718	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	△R910	QRZ0107-474Z	C RESISTOR	470kΩ 1/2W K
R719	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R921	QRL029J-473	OMF RESISTOR	47kΩ 2W J
R720	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J	R922	QRE141J-221Y	C RESISTOR	220Ω 1/4W J
R721	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R923	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J
R726	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	R924	QRA14CF-3902Y	CMF RESISTOR	39kΩ 1/4W F
R727	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	R926	QRE121J-150Y	C RESISTOR	15Ω 1/2W J
R728	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R927	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R731	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R951	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J
R732	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R953	QRE141J-182Y	C RESISTOR	1.8kΩ 1/4W J
R733	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R957	QRE121J-332Y	C RESISTOR	3.3kΩ 1/2W J
R734	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R961	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J

△Ref No.	Part No.	Part Name	Description Local
R962	QRL029J-223	OMF RESISTOR	22kΩ 2W J
R963	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
R964	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
R965	QRT029J-R47	MF RESISTOR	0.47Ω 2W J
R970	QRE141J-182Y	C RESISTOR	1.8kΩ 1/4W J
R976	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R977	QRL039J-120	OMF RESISTOR	12Ω 3W J
R978	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R981	QRE121J-3R9Y	C RESISTOR	3.9Ω 1/2W J
R982	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R983	QRE121J-3R9Y	C RESISTOR	3.9Ω 1/2W J
R984	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R985	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R986	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
△R991	QRZ9046-825Z	C RESISTOR	8.2MΩ 1/2W K
L002	QQL244J-4R7Z	PEAKING COIL	4.7uH J
L003	QQL244J-4R7Z	PEAKING COIL	4.7uH J
L101	QQL244K-1R0Z	PEAKING COIL	1uH K
L522	QQR1005-002	LINEARITY COIL	
L530	QQL244K-220Z	PEAKING COIL	22uH K
L551	QQLZ026-240	COIL	24uH ±7%
L703	NQR0199-004X	FERRITE BEADS	
L706	NQR0199-004X	FERRITE BEADS	
L716	NQR0199-004X	FERRITE BEADS	
L718	NQR0199-004X	FERRITE BEADS	
L951	QQLZ026-460	COIL	46uH ±7%
T521	QQR1522-001	DRIVE TRANSF	
△T921	QQS0271-001	SW TRANSF	
CF101	QAX0349-001	C TRAP	47.25MHz
△CP650	ICP-N25-T	IC PROTECTOR	1.0A
△CP951	QMFZ052-2R0-E	FUSE	2A AC250V
△CP952	ICP-N38-T	IC PROTECTOR	1.5A
△CP953	ICP-N75-T	IC PROTECTOR	2.7A
△CP955	ICP-N75-T	IC PROTECTOR	2.7A
△F901	QMF51E2-4R0-S	FUSE	4A AC250V
J801	QNZ0454-002	PIN JACK	VIDEO1/S-VIDEO IN
J802	QNN0349-002	PIN JACK	VIDEO2/COMP IN
J803	QNN0348-001	PIN JACK	VIDEO2/COMP IN
J804	QNN0349-001	PIN JACK	VIDEO OUT
J806	QNN0281-003	PIN JACK	VIDEO3 V IN
J807	QNN0281-002	PIN JACK	VIDEO3 L IN
J808	QNN0282-001	PIN JACK	VIDEO3 R IN
J809	QNS0155-001	3.5 JACK	HEADPHONE
K101	QQR1114-001Z	FERRITE BEADS	
K103	QQR0868-001Z	CORE SLEEVE	
K104	QQR1114-001Z	FERRITE BEADS	
K651	QQR1113-001Z	FERRITE BEADS	
K702	QQR0868-001Z	CORE SLEEVE	
K921	QQR1114-001Z	FERRITE BEADS	
K951	QQR1114-001Z	FERRITE BEADS	
K952	QQR1113-001Z	FERRITE BEADS	
K953	QQR1113-001Z	FERRITE BEADS	
K955	QQR1113-001Z	FERRITE BEADS	
LC801	QQR1199-002	EMI FILTER	
LC802	QQR1199-002	EMI FILTER	
LC803	QQR1199-002	EMI FILTER	
LC804	QQR1199-002	EMI FILTER	
LC805	QQR1199-002	EMI FILTER	
△LF901	QQR1635-001	LINE FILTER	
△LF902	QQR0673-004	LINE FILTER	
△RY901	QSK0061-002	RELAY	
S801	QSW0619-003Z	PUSH SWITCH	MENU
S802	QSW0619-003Z	PUSH SWITCH	CH-
S803	QSW0619-003Z	PUSH SWITCH	CH+
S804	QSW0619-003Z	PUSH SWITCH	VOL-
S805	QSW0619-003Z	PUSH SWITCH	VOL+
△S901	QSW0846-001	PUSH SWITCH	POWER
SF102	QAX0723-001	SAW FILTER	
△SK351	QNZ0536-002	CRT SOCKET	
△TH901	QAD0134-4R5	P THERMISTOR	4.5Ω
TU001	QAU0353-002	TUNER	
△VA901	QAF0060-621	VARISTOR	620V
X701	QAX0799-001Z	CRYSTAL	2457600MHz
	GG30118-001A-H	LED HOLDER	
	GG30138-001A-H	EE HOLDER	

BASS P.W. BOARD ASS'Y (SCW-6001A-H2)

△Ref No.	Part No.	Part Name	Description Local
IC671	MX3000DS-X	IC	
C671	QETN1HM-474Z	E CAPACITOR	0.47uF 50V M
C672	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C673	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C674	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C675	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C676	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C677	QETN1HM-105Z	E CAPACITOR	1uF 50V M
C678	NCB31HK-153X	C CAPACITOR	0.015uF 50V K
C679	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C680	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C681	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C682	NDC31HJ-330X	C CAPACITOR	33pF 50V J
C683	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C684	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C685	NCB21CK-105X	C CAPACITOR	1uF 16V K
C686	NCB21CK-105X	C CAPACITOR	1uF 16V K
C688	NCF21AZ-475X	C CAPACITOR	4.7uF 10V Z
C689	NCF21AZ-475X	C CAPACITOR	4.7uF 10V Z
C690	NDC31HJ-680X	C CAPACITOR	68pF 50V J
C691	NDC31HJ-680X	C CAPACITOR	68pF 50V J
R671	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
R672	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
R673	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J
R674	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J
R675	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R676	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R677	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R678	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R679	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J
R682	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R683	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J

L671	QQL244J-4R7Z	PEAKING COIL	4.7uH J
X671	QAX0799-001Z	CRYSTAL	2457600MHz

PRINTED WIRING BOARD PARTS LIST [AV-25MT16/P]

MAIN P.W. BOARD ASS'Y (SCW-1919A-H2)

△Ref No.	Part No.	Part Name	Description Local
IC302	S9648	PHOTO CONDUCTOR	
IC351	TDA6107AJF/N1	IC	
IC401	LA78040N	IC	
IC601	AN5277	IC	
IC701	TDA12021-NTS3-F	IC(MCU)	(SERVICE)
IC702	ATE16-25MT16P	IC	(SERVICE)
IC801	GP1UE281QKVF	IR DETECT UNIT	
IC921	STR-W6554A-F5	IC	
IC951	SE135N	IC	
IC972	PQ033RDA1SSH	IC	
IC973	PQ120RDA1SZ	IC	
IC975	PQ050RDA1SZ	IC	
Q101	2SC5397/CD/-T	TRANSISTOR	
Q341	2SA1530A/QR/-X	TRANSISTOR	
Q421	2SC3928A/QR/-X	TRANSISTOR	
Q422	2SC3928A/QR/-X	TRANSISTOR	
Q461	RDN050N20	POWER MOS FET	
Q521	2SC2655/Y/-T	TRANSISTOR	
△Q522	TT2142-YD	TRANSISTOR	
Q571	2SA1208/ST/Z1-T	TRANSISTOR	
Q572	UN2226-X	DIGI TRANSISTOR	
Q601	2SA1530A/QR/-X	TRANSISTOR	
Q602	2SA1530A/QR/-X	TRANSISTOR	
Q603	UN2226-X	DIGI TRANSISTOR	
Q605	UN2226-X	DIGI TRANSISTOR	
Q607	2SC3928A/QR/-X	TRANSISTOR	
Q608	2SC3928A/QR/-X	TRANSISTOR	
Q609	UN2226-X	DIGI TRANSISTOR	
Q611	UN2226-X	DIGI TRANSISTOR	
Q612	2SC3928A/QR/-X	TRANSISTOR	
Q704	2SC3928A/QR/-X	TRANSISTOR	
Q705	SSM3K02F-X	MOS FET	
Q706	SSM3K02F-X	MOS FET	
Q707	2SC3928A/QR/-X	TRANSISTOR	
Q708	2SA1530A/QR/-X	TRANSISTOR	
Q791	2SC3928A/QR/-X	TRANSISTOR	
Q801	KTA1267/YG/-T	TRANSISTOR	
Q803	UN2226-X	DIGI TRANSISTOR	
Q804	UN2226-X	DIGI TRANSISTOR	
Q805	2SA1530A/QR/-X	TRANSISTOR	
Q955	2SC3928A/QR/-X	TRANSISTOR	
Q981	2SA562TM/Y/-T	TRANSISTOR	
Q982	2SC3928A/QR/-X	TRANSISTOR	
Q983	2SA562TM/Y/-T	TRANSISTOR	
Q984	2SC3928A/QR/-X	TRANSISTOR	
D341	MA111-X	SI DIODE	
D342	MA111-X	SI DIODE	
D343	MA111-X	SI DIODE	
D345	MA111-X	SI DIODE	
D350	MA8075/H/-X	Z DIODE	
D354	FR105GT-T3	SI DIODE	
D355	FR105GT-T3	SI DIODE	
D356	FR105GT-T3	SI DIODE	
D423	1N4003SG-T2	SI DIODE	
D424	1SR35-400A-T2	SI DIODE	
D520	MA111-X	SI DIODE	
D521	RH3G-F1	SI DIODE	
D522	RU4AM-LFM1	SI DIODE	
D523	FR105GT-T3	SI DIODE	
D530	FR105GT-T3	SI DIODE	
D551	FR105GT-T3	SI DIODE	
D552	FR105GT-T3	SI DIODE	
D554	MA8051/L/-X	Z DIODE	
D571	MA8075/H/-X	Z DIODE	
D581	FR105GT-T3	SI DIODE	
D603	MA111-X	SI DIODE	
D607	MA111-X	SI DIODE	
D610	MA111-X	SI DIODE	
D701	MA111-X	SI DIODE	
D702	MA8091/H/-X	Z DIODE	
D703	MA8091/H/-X	Z DIODE	
D704	MA8091/H/-X	Z DIODE	
D706	MA8036-X	Z DIODE	
D707	MA111-X	SI DIODE	
D708	MA111-X	SI DIODE	
D709	MA111-X	SI DIODE	
D710	MA8091/H/-X	Z DIODE	
D711	MA111-X	SI DIODE	
D712	MA111-X	SI DIODE	
D713	MA8039/H/-X	Z DIODE	

△Ref No.	Part No.	Part Name	Description Local
D714	MA8030/H/-X	Z DIODE	
D715	MA111-X	SI DIODE	
D716	MA111-X	SI DIODE	
D717	MA111-X	SI DIODE	
D751	MA8091/H/-X	Z DIODE	
D753	MA8091/H/-X	Z DIODE	
D808	LH22440-T16	LED	POWER(RED)
D810	MA8091/H/-X	Z DIODE	
D811	MA8091/H/-X	Z DIODE	
D812	MA8091/H/-X	Z DIODE	
D813	MA8091/H/-X	Z DIODE	
D814	MA8091/H/-X	Z DIODE	
D817	MA8091/H/-X	Z DIODE	
D901	GSIB460-S1	BRIDGE DIODE	
D921	FR105GT-T3	SI DIODE	
D922	MTZJ36A-T2	Z DIODE	
D923	MTZJ9.1B-T2	Z DIODE	
D924	MTZJ9.1B-T2	Z DIODE	
D925	MTZJ9.1B-T2	Z DIODE	
D926	FR105GT-T3	SI DIODE	
D927	MA8180/M/-X	Z DIODE	
D928	MTZJ9.1B-T2	Z DIODE	
D951	RU4AM-LFM1	SI DIODE	
D952	RU3AM-LFC4	SI DIODE	
D953	RU3AM-LFC4	SI DIODE	
D954	FR105GT-T3	SI DIODE	
D955	FMX-G12S	SI DIODE	
D956	MA111-X	SI DIODE	
D957	MA111-X	SI DIODE	
D962	MA8330/M/-X	Z DIODE	
D970	MA8082/M/-X	Z DIODE	
D971	MA111-X	SI DIODE	
D972	MA111-X	SI DIODE	
D973	MA111-X	SI DIODE	
D975	MA111-X	SI DIODE	
D981	UDZS2.0B-X	Z DIODE	
D982	UDZS2.0B-X	Z DIODE	
△PC901	PS2581AL1/QW/	PHOTO COUPLER	
C001	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C002	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C003	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C004	QETN1CM-477Z	E CAPACITOR	470uF 16V M
C005	NCB31HK-222X	C CAPACITOR	2200pF 50V K
C006	QETN1HM-336Z	E CAPACITOR	33uF 50V M
C007	NDC31HJ-560X	C CAPACITOR	56pF 50V J
C008	NDC31HJ-560X	C CAPACITOR	56pF 50V J
C101	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C102	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C103	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C104	QETN1EM-476Z	E CAPACITOR	47uF 25V M
C106	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C109	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C110	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C111	QETN1CM-227Z	E CAPACITOR	220uF 16V M
C317	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C341	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C351	NCB31HK-102X	C CAPACITOR	1000pF 50V K
C352	QETN2EM-475Z	E CAPACITOR	4.7uF 250V M
C353	QFKC2EK-104Z	MM CAPACITOR	0.1uF 250V K
C358	QCZ0340-33Z	C CAPACITOR	3300pF 2kV K
C422	QCS32HJ-180Z	C CAPACITOR	18pF 500V J
C423	NCB31HK-682X	C CAPACITOR	6800pF 50V K
C424	QFLC2AJ-683Z	M CAPACITOR	0.068uF 100V J
C427	QETN1VM-108Z	E CAPACITOR	1000uF 35V M
C428	QETN1VM-227Z	E CAPACITOR	220uF 35V M
C430	QFLC2AJ-563Z	M CAPACITOR	0.056uF 100V J
C431	QFVF1HJ-184Z	MF CAPACITOR	0.18uF 50V J
C435	NCF21HZ-334X	C CAPACITOR	0.33uF 50V Z
C436	NCF21HZ-334X	C CAPACITOR	0.33uF 50V Z
C471	QETN1HM-226Z	E CAPACITOR	22uF 50V M
C520	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C521	QCB31HK-332Z	C CAPACITOR	3300pF 50V K
C522	QFLC1HJ-223Z	M CAPACITOR	0.022uF 50V J
C523	QETN1VM-476Z	E CAPACITOR	47uF 35V M
△C524	QFZ0196-23Z	MPP CAPACITOR	2300pF 1.5kV H
C525	QFZ0196-113	MPP CAPACITOR	0.011uF 1.5kV H
C526	QFZ0196-25Z	MPP CAPACITOR	2500pF 1.5kV H
C527	QFZ0197-204	MPP CAPACITOR	0.2uF 250V J
C528	QFP32GJ-223	PP CAPACITOR	0.022uF 400V J
C529	QENC2AM-225Z	BP E CAPACITOR	2.2uF 100V M
C530	QCB32HK-561Z	C CAPACITOR	560pF 500V K
C531	QEZO195-475Z	BP E CAPACITOR	4.7uF 50V M

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
C532	QETN2EM-106Z	E CAPACITOR	10uF 250V M	C773	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C551	QCB32HK-561Z	C CAPACITOR	560pF 500V K	C775	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
C552	QCB32HK-561Z	C CAPACITOR	560pF 500V K	C776	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C553	QETN1EM-108Z	E CAPACITOR	1000uF 25V M	C777	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C554	QETN1EM-108Z	E CAPACITOR	1000uF 25V M	C778	QETN1VM-476Z	E CAPACITOR	47uF 35V M
C555	QFLC2AJ-103Z	M CAPACITOR	0.01uF 100V J	C779	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C571	QETM2CM-227	E CAPACITOR	220uF 160V M	C780	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C572	QETN1CM-107Z	E CAPACITOR	100uF 16V M	C781	NCB31CK-105X	C CAPACITOR	1uF 16V K
C573	QETN1VM-476Z	E CAPACITOR	47uF 35V M	C782	NCB31CK-105X	C CAPACITOR	1uF 16V K
C581	QFVF1HJ-104Z	MF CAPACITOR	0.1uF 50V J	C783	QETN1HM-105Z	E CAPACITOR	1uF 50V M
C582	QFZ0197-204	MPP CAPACITOR	0.2uF 250V J	C784	QETN1HM-474Z	E CAPACITOR	0.47uF 50V M
C601	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C786	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C602	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C787	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C603	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C788	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C604	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C790	NCB31HJ-270X	C CAPACITOR	27pF 50V J
C605	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C792	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C606	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C793	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C607	QETN1CM-227Z	E CAPACITOR	220uF 16V M	C794	QFLC1HJ-332Z	M CAPACITOR	3300pF 50V J
C608	QETN1CM-227Z	E CAPACITOR	220uF 16V M	C795	QFLC1HJ-332Z	M CAPACITOR	3300pF 50V J
C609	QETN1HM-336Z	E CAPACITOR	33uF 50V M	C802	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C610	QETN1CM-107Z	E CAPACITOR	100uF 16V M	C803	QETN1HM-106Z	E CAPACITOR	10uF 50V M
C613	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C804	QETN1CM-477Z	E CAPACITOR	470uF 16V M
C615	QETN1EM-108Z	E CAPACITOR	1000uF 25V M	C807	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C616	QETN1EM-108Z	E CAPACITOR	1000uF 25V M	C808	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C656	QETN1HM-107Z	E CAPACITOR	100uF 50V M	C821	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C661	QETN1CM-107Z	E CAPACITOR	100uF 16V M	C822	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C662	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C823	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C701	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C824	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C702	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C825	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C703	QETN1AM-477Z	E CAPACITOR	470uF 10V M	C826	NCB31HK-152X	C CAPACITOR	1500pF 50V K
C704	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C827	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C705	NDC31HJ-7R0X	C CAPACITOR	7pF 50V J	C828	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C706	NDC31HJ-7R0X	C CAPACITOR	7pF 50V J	C829	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C707	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C830	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C708	QETN1CM-476Z	E CAPACITOR	47uF 16V M	C831	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C709	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	△C901	QFZ9072-224	MM CAPACITOR	0.22uF AC250V K
C710	NCB31HK-682X	C CAPACITOR	6800pF 50V K	△C902	QFZ9072-224	MM CAPACITOR	0.22uF AC250V K
C711	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M	△C903	QCZ9015-102Z	C CAPACITOR	1000pF AC250V Z
C712	QFVF1HJ-224Z	MF CAPACITOR	0.22uF 50V J	△C904	QCZ9015-102Z	C CAPACITOR	1000pF AC250V Z
C713	QETN1HM-106Z	E CAPACITOR	10uF 50V M	△C905	QCZ9015-102Z	C CAPACITOR	1000pF AC250V Z
C714	NCB31HK-223X	C CAPACITOR	0.022uF 50V K	C906	QEZO476-337	E CAPACITOR	330uF 400V M
C715	NCB31HK-102X	C CAPACITOR	1000pF 50V K	△C910	QFZ9072-224	MM CAPACITOR	0.22uF AC250V K
C716	NCB31HK-102X	C CAPACITOR	1000pF 50V K	C915	QCZ0364-222	C CAPACITOR	2200pF 2kV K
C717	QETN1HM-105Z	E CAPACITOR	1uF 50V M	C921	QCZ0364-561	C CAPACITOR	560pF 2kV K
C718	QFZ0229-154Z	MF CAPACITOR	0.15uF 63V K	C922	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C719	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C923	QFLC1HJ-471Z	M CAPACITOR	470pF 50V J
C720	NCB31HK-102X	C CAPACITOR	1000pF 50V K	C924	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C723	NCB31CK-105X	C CAPACITOR	1uF 16V K	C925	QETN1VM-226Z	E CAPACITOR	22uF 35V M
C724	NCB31CK-105X	C CAPACITOR	1uF 16V K	C950	NCB31HK-104X	C CAPACITOR	0.1uF 50V K
C725	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C951	QCZ0364-561	C CAPACITOR	560pF 2kV K
C726	QETN1HM-106Z	E CAPACITOR	10uF 50V M	C952	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C727	NCB31HK-332X	C CAPACITOR	3300pF 50V K	C953	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C728	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C954	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C729	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M	C955	QCB32HK-471Z	C CAPACITOR	470pF 500V K
C730	QETN1HM-226Z	E CAPACITOR	22uF 50V M	C956	QEZO203-227	E CAPACITOR	220uF 160V M
C731	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C957	QETN1AM-228Z	E CAPACITOR	2200uF 10V M
C732	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M	C958	QETN1EM-228Z	E CAPACITOR	2200uF 25V M
C734	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C959	QETN1VM-107Z	E CAPACITOR	100uF 35V M
C735	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C960	QETM1VM-228	E CAPACITOR	2200uF 35V M
C736	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C963	QCZ0364-102	C CAPACITOR	1000pF 2kV K
C737	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C966	QETN1CM-107Z	E CAPACITOR	100uF 16V M
C738	NCB31CK-105X	C CAPACITOR	1uF 16V K	C967	QETN1VM-476Z	E CAPACITOR	47uF 35V M
C739	NCB31CK-105X	C CAPACITOR	1uF 16V K	C977	QETN1VM-476Z	E CAPACITOR	47uF 35V M
C740	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C980	QETN1VM-476Z	E CAPACITOR	47uF 35V M
C741	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	△C991	QCZ9079-102	C CAPACITOR	1000pF AC250V M
C742	QETN1HM-106Z	E CAPACITOR	10uF 50V M	△C992	QCZ9079-102	C CAPACITOR	1000pF AC250V M
C743	QETN1HM-106Z	E CAPACITOR	10uF 50V M	△C993	QCZ9079-102	C CAPACITOR	1000pF AC250V M
C744	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C994	QETN1HM-335Z	E CAPACITOR	3.3uF 50V M
C745	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R001	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
C746	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R002	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
C751	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R003	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J
C752	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R004	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
C753	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R005	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
C754	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R101	NRSA63J-680X	MG RESISTOR	68Ω 1/16W J
C755	QETN1HM-106Z	E CAPACITOR	10uF 50V M	R102	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J
C756	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	R103	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J
C757	NDC31HJ-561X	C CAPACITOR	560pF 50V J	R104	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
C758	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R105	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J
C760	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R106	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J
C761	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R327	NRSA63J-393X	MG RESISTOR	39kΩ 1/16W J
C762	QETN1CM-107Z	E CAPACITOR	100uF 16V M	R344	NRSA63J-220X	MG RESISTOR	22Ω 1/16W J
C766	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R351	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
C767	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R352	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
C768	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	R353	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
C770	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R354	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J
C771	QETN1HM-226Z	E CAPACITOR	22uF 50V M	R355	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J
C772	NCB31CK-224X	C CAPACITOR	0.22uF 16V K				

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
R356	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J	R720	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J
R357	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J	R721	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R358	QRZ0107-152Z	C RESISTOR	1.5kΩ 1/2W K	R726	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
R359	QRZ0107-152Z	C RESISTOR	1.5kΩ 1/2W K	R727	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J
R360	QRZ0107-152Z	C RESISTOR	1.5kΩ 1/2W K	R728	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R369	QRE121J-104Y	C RESISTOR	100kΩ 1/2W J	R731	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R411	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R732	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R412	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R733	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R421	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R734	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R426	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R735	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R427	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R736	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R430	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R737	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R432	QRX01GJ-2R7	MF RESISTOR	2.7Ω 1W J	R738	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R433	QRE121J-5R6Y	C RESISTOR	5.6Ω 1/2W J	R739	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R434	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R740	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R440	QRG01GJ-221	OMF RESISTOR	220Ω 1W J	R741	QRE141J-221Y	C RESISTOR	220Ω 1/4W J
R448	QRE121J-1R0Y	C RESISTOR	1Ω 1/2W J	R742	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R461	QRE121J-823Y	C RESISTOR	82kΩ 1/2W J	R743	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R462	QRL039J-180	OMF RESISTOR	18Ω 3W J	R744	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R471	NRSA63J-274X	MG RESISTOR	270kΩ 1/16W J	R745	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R472	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R747	QRE141J-101Y	C RESISTOR	100Ω 1/4W J
R473	QRE141J-683Y	C RESISTOR	68kΩ 1/4W J	R748	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J
R474	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	R749	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R520	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	R750	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R521	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R751	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R522	QRE121J-220Y	C RESISTOR	22Ω 1/2W J	R752	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R523	QRL029J-271	OMF RESISTOR	270Ω 2W J	R753	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R524	QRL039J-181	OMF RESISTOR	180Ω 3W J	R754	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R527	QRL039J-393	OMF RESISTOR	39kΩ 3W J	R755	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R528	QRE121J-471Y	C RESISTOR	470Ω 1/2W J	R756	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
△R530	QRZ9017-270	FUSI RESISTOR	27Ω 1/4W J	R757	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
△R533	QRZ9017-4R7	FUSI RESISTOR	4.7Ω 1/4W J	R758	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R551	QRX029J-R47	MF RESISTOR	0.47Ω 2W J	R759	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R552	QRX029J-R47	MF RESISTOR	0.47Ω 2W J	R760	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R554	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/2W J	R761	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R569	QRZ0221-3R9	UNF RESISTOR	3.9Ω 7W K	R762	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R572	QRE121J-472Y	C RESISTOR	4.7kΩ 1/2W J	R763	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R573	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	R764	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R574	QRE121J-183Y	C RESISTOR	18kΩ 1/2W J	R765	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R575	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R768	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R581	QRE121J-822Y	C RESISTOR	8.2kΩ 1/2W J	R769	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R582	QRE121J-124Y	C RESISTOR	120kΩ 1/2W J	R770	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R583	QRE121J-184Y	C RESISTOR	180kΩ 1/2W J	R771	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R601	NRSA63J-302X	MG RESISTOR	3kΩ 1/16W J	R772	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
R602	NRSA63J-302X	MG RESISTOR	3kΩ 1/16W J	R773	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R604	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R774	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
R606	QRE121J-2R2Y	C RESISTOR	2.2Ω 1/2W J	R775	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R607	QRE121J-2R2Y	C RESISTOR	2.2Ω 1/2W J	R776	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R609	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	R777	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R610	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R779	QRE141J-101Y	C RESISTOR	100Ω 1/4W J
R611	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R780	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R612	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R781	QRE141J-101Y	C RESISTOR	100Ω 1/4W J
R614	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R782	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R618	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R783	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R620	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R785	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R621	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R786	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R622	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R787	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R623	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R790	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R624	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J	R792	QRE141J-330Y	C RESISTOR	33Ω 1/4W J
R630	QRE121J-271Y	C RESISTOR	270Ω 1/2W J	R793	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R631	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R794	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R632	QRE121J-271Y	C RESISTOR	270Ω 1/2W J	R795	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R633	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R796	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R634	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	R801	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R636	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	R804	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R637	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R805	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R639	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R806	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R640	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R807	QRE121J-101Y	C RESISTOR	100Ω 1/2W J
R649	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R809	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R701	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R810	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R702	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	R811	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J
R703	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R812	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R704	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R813	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J
R705	NRSA63J-393X	MG RESISTOR	39kΩ 1/16W J	R814	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J
R706	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	R815	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R707	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	R816	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J
R708	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R818	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J
R709	QRE141J-105Y	C RESISTOR	1MΩ 1/4W J	R819	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R711	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	R820	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J
R712	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R821	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J
R713	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	R822	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R714	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R824	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J
R715	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	R825	QRE141J-470Y	C RESISTOR	47Ω 1/4W J
R716	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	R901	QRF154K-2R2	UNF VVW RESISTOR	2.2Ω 15W K
R717	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R902	QRL029J-683	OMF RESISTOR	68kΩ 2W J
R718	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	△R910	QRZ0107-474Z	C RESISTOR	470kΩ 1/2W K
R719	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R921	QRL029J-473	OMF RESISTOR	47kΩ 2W J

△Ref No.	Part No.	Part Name	Description Local
R922	QRE141J-221Y	C RESISTOR	220Ω 1/4W J
R923	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J
△R924	QRA14CF-3902Y	CMF RESISTOR	39kΩ 1/4W F
R926	QRE121J-150Y	C RESISTOR	15Ω 1/2W J
R927	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J
R951	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J
R953	QRE141J-182Y	C RESISTOR	1.8kΩ 1/4W J
R957	QRE121J-332Y	C RESISTOR	3.3kΩ 1/2W J
R962	QRL029J-223	OMF RESISTOR	22kΩ 2W J
R963	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
R964	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
R965	QRT029J-R47	MF RESISTOR	0.47Ω 2W J
R970	QRE141J-182Y	C RESISTOR	1.8kΩ 1/4W J
R971	QRL029J-150	OMF RESISTOR	15Ω 2W J
R976	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R977	QRL039J-120	OMF RESISTOR	12Ω 3W J
R978	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R981	QRE121J-3R9Y	C RESISTOR	3.9Ω 1/2W J
R982	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R983	QRE121J-3R9Y	C RESISTOR	3.9Ω 1/2W J
R984	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
R985	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R986	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
△R991	QRZ9046-825Z	C RESISTOR	8.2MΩ 1/2W K
L002	QQL244J-4R7Z	PEAKING COIL	4.7uH J
L003	QQL244J-4R7Z	PEAKING COIL	4.7uH J
L101	QQL244K-1R0Z	PEAKING COIL	1uH K
L521	QQLZ036-821	COIL	820uH K
L522	QQR1137-005	LINEARITY COIL	
L530	QQL244J-100Z	COIL	10uH J
L551	QQLZ026-360	COIL	36uH ±7%
L703	NQR0199-004X	FERRITE BEADS	
L706	NQR0199-004X	FERRITE BEADS	
L716	NQR0199-004X	FERRITE BEADS	
L718	NQR0199-004X	FERRITE BEADS	
L951	QQLZ026-460	COIL	46uH ±7%
T521	QQR1229-001	DRIVE TRANSF	
△T921	QQS0271-001	SW TRANSF	
CF101	QAX0349-001	C TRAP	47.25MHz
△CP650	ICP-N25-T	IC PROTECTOR	1.0A
△CP951	QMFZ052-2R0-E	FUSE	2A AC250V
△CP952	ICP-N38-T	IC PROTECTOR	1.5A
△CP953	ICP-N75-T	IC PROTECTOR	2.7A
△CP954	ICP-N38-T	IC PROTECTOR	1.5A
△CP955	ICP-N75-T	IC PROTECTOR	2.7A
△F901	QMF51E2-4R0-S	FUSE	4A AC250V
J801	QNZ0454-002	PIN JACK	VIDEO1/S-VIDEO IN
J802	QNN0349-002	PIN JACK	VIDEO2/COMP IN
J803	QNN0348-001	PIN JACK	VIDEO2/COMP IN
J804	QNN0349-001	PIN JACK	VIDEO OUT
J806	QNN0281-003	PIN JACK	VIDEO3 V IN
J807	QNN0281-002	PIN JACK	VIDEO3 L IN
J808	QNN0282-001	PIN JACK	VIDEO3 R IN
J809	QNS0155-001	3.5 JACK	HEADPHONE
K101	QQR1114-001Z	FERRITE BEADS	
K103	QQR0868-001Z	CORE SLEEVE	
K104	QQR1114-001Z	FERRITE BEADS	
K651	QQR1113-001Z	FERRITE BEADS	
K702	QQR0868-001Z	CORE SLEEVE	
K921	QQR1114-001Z	FERRITE BEADS	
K951	QQR1114-001Z	FERRITE BEADS	
K952	QQR1113-001Z	FERRITE BEADS	
K953	QQR1113-001Z	FERRITE BEADS	
K954	QQR1113-001Z	FERRITE BEADS	
K955	QQR1113-001Z	FERRITE BEADS	
LC801	QQR1199-002	EMI FILTER	
LC802	QQR1199-002	EMI FILTER	
LC803	QQR1199-002	EMI FILTER	
LC804	QQR1199-002	EMI FILTER	
LC805	QQR1199-002	EMI FILTER	
△LF901	QQR1635-001	LINE FILTER	
△LF902	QQR0673-004	LINE FILTER	
△RY901	QSK0061-002	RELAY	
S801	QSW0619-003Z	PUSH SWITCH	MENU
S802	QSW0619-003Z	PUSH SWITCH	CH-
S803	QSW0619-003Z	PUSH SWITCH	CH+
S804	QSW0619-003Z	PUSH SWITCH	VOL-
S805	QSW0619-003Z	PUSH SWITCH	VOL+
△S901	QSW0846-001	PUSH SWITCH	POWER
SF102	QAX0723-001	SAW FILTER	
△SK351	QNZ0536-002	CRT SOCKET	
△TH901	QAD0134-4R5	P THERMISTOR	4.5Ω
TU001	QAU0353-002	TUNER	
△VA901	QAF0060-621	VARISTOR	620V
X701	QAX0799-001Z	CRYSTAL	2457600MHz

△Ref No.	Part No.	Part Name	Description Local
	GG30118-001A-H	LED HOLDER	
	GG30138-001A-H	EE HOLDER	

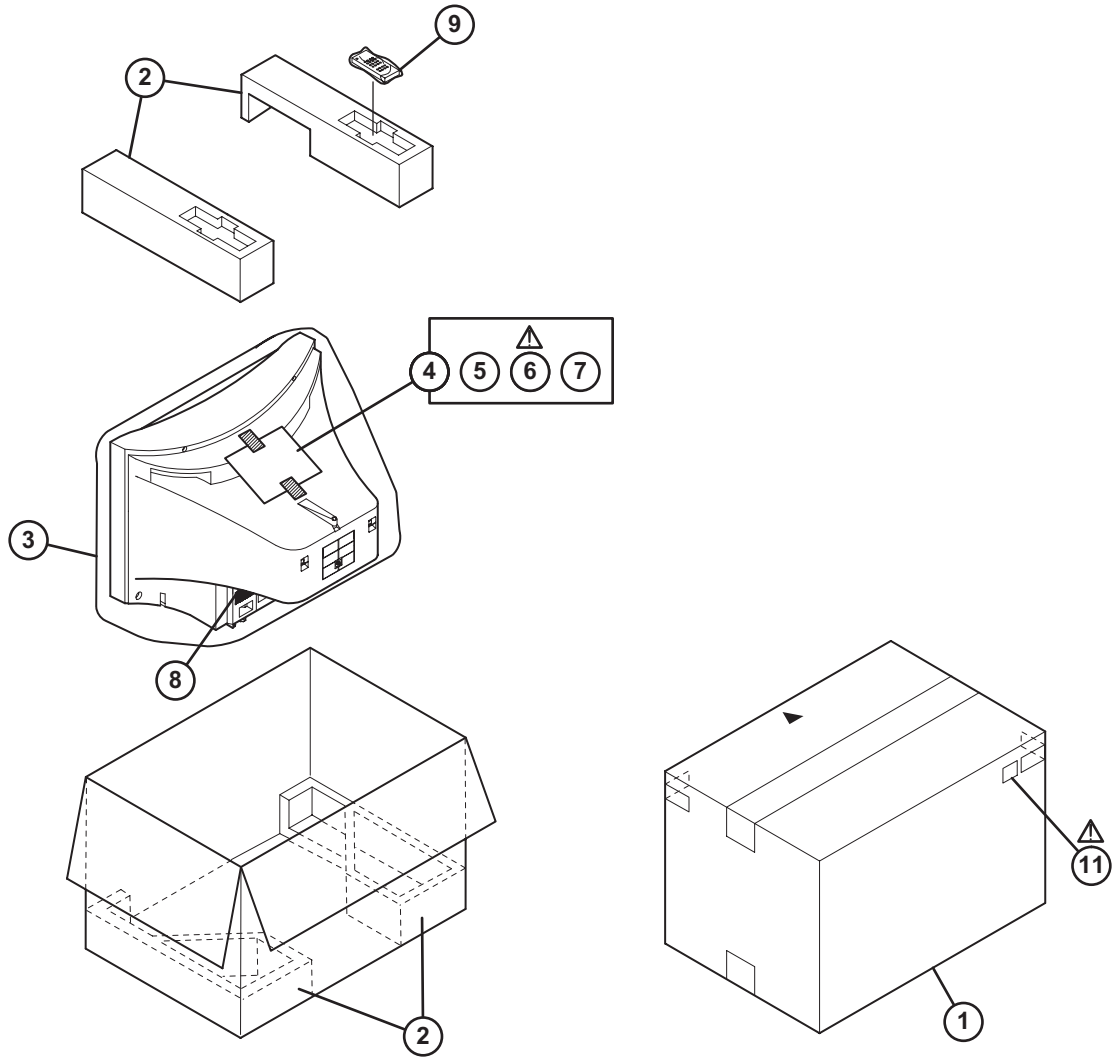
BASS P.W. BOARD ASS'Y (SCW-6001A-H2)

REFER TO PARTS LIST IN PAGE 3-10 FOR THIS P.W. BOARD.

REMOTE CONTROL UNIT PARTS LIST (RM-C1287-1H)

△ Ref No.	Part No.	Part Name	Description	Local
	R25-8566	BATTERY COVER		

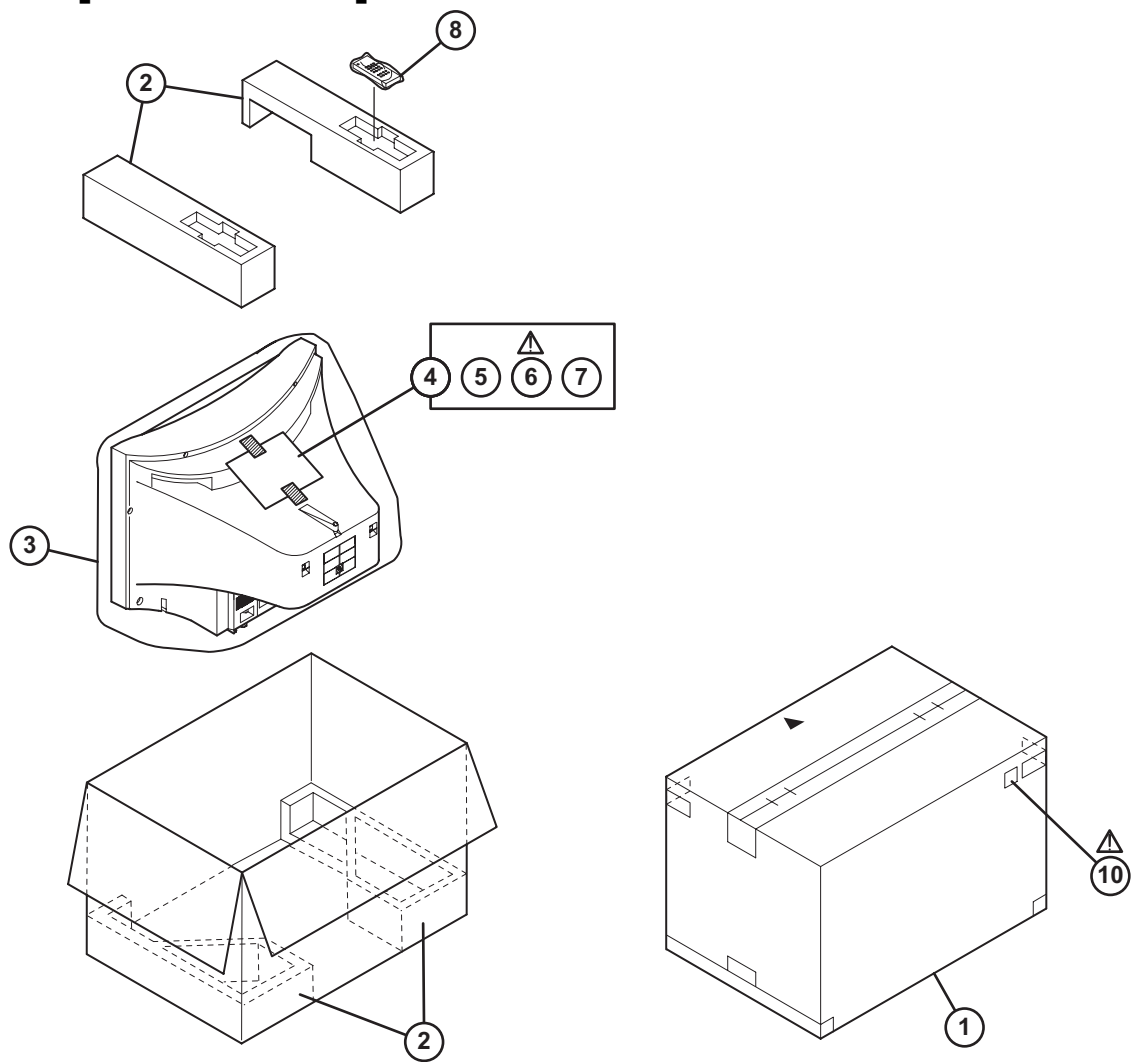
PACKING [AV-21MT16/P]



PACKING PARTS LIST [AV-21MT16/P]

△ Ref.No.	Part No.	Part Name	Description	Local
1	GG10285-009B-H	PACKING CASE		
2	GG10407-001A-H	CUSHION ASS'Y	4pcs in 1set	
3	GG30097-003B-H	POLY BAG		
4	GG30096-001A-H	POLY BAG		
5	-----	BATTERY	AA/R6 1.5V(x2)	
△ 6	GGT0121-001A-H	INST BOOK		
7	QAM0028-001	MATCHING BOX		
8	GG40042-001A-H	CORD CLAMP R/C		
9	RM-C1287-1H	REMOCON UNIT		
△ 11	GG30037-001A-H	TAIWAN LABEL		

PACKING [AV-25MT16/P]



PACKING PARTS LIST [AV-25MT16/P]

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	GG10285-003B-H	PACKING CASE		
	2	GG10347-001C-H	CUSHION ASS'Y	4pcs in 1set	
	3	GG30097-004B-H	POLY BAG		
	4	GG30096-001B-H	POLY BAG		
	5	-----	BATTERY	AA/R6 1.5V(x2)	
⚠	6	GGT0121-001A-H	INST BOOK		
	7	QAM0028-001	MATCHING BOX		
	8	RM-C1287-1H	REMOCON UNIT		
⚠	10	GG30037-001A-H	TAIWAN LABEL		

JVC

SCHEMATIC DIAGRAMS

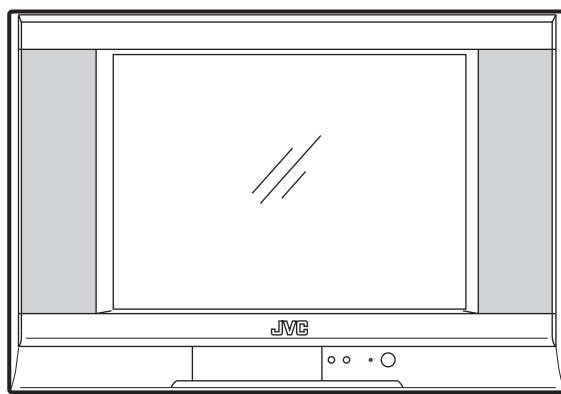
FLAT COLOUR TELEVISION

AV-21MT16/P,
AV-25MT16/P

CD-ROM No.SML200610

BASIC CHASSIS
CW3

InterArt
MaxxBass®



AV-21MT16/P, AV-25MT16/P

STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the \triangle symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1)Input signal : Colour bar signal
- (2)Setting positions of each knob/button and variable resistor : Original setting position when shipped
- (3)Internal resistance of tester : DC 20k Ω /V
- (4)Oscilloscope sweeping time : H \Rightarrow 20 μ s / div
: V \Rightarrow 5ms / div
: Others \Rightarrow Sweeping time is specified
- (5)Voltage values : All DC voltage values

* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R209 \rightarrow R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

● Resistance value

- No unit : [Ω]
- K : [k Ω]
- M : [M Ω]

● Rated allowable power

- No indication : 1/16 [W]
- Others : As specified

● Type

- No indication : Carbon resistor
- OMR : Oxide metal film resistor
- MFR : Metal film resistor
- MPR : Metal plate resistor
- UNFR : Uninflammable resistor
- FR : Fusible resistor

* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

● Capacitance value

- 1 or higher : [pF]
- less than 1 : [μ F]

● Withstand voltage

- No indication : DC50[V]
- Others : DC withstand voltage [V]
- AC indicated : AC withstand voltage [V]

* Electrolytic Capacitors

47/50[Example]: Capacitance value [μ F]/withstand voltage[V]

●Type

- No indication : Ceramic capacitor
- MM : Metalized mylar capacitor
- PP : Polypropylene capacitor
- MPP : Metalized polypropylene capacitor
- MF : Metalized film capacitor
- TF : Thin film capacitor
- BP : Bipolar electrolytic capacitor
- TAN : Tantalum capacitor

(3)Coils

- No unit : [μ H]
- Others : As specified

(4)Power Supply



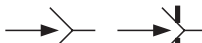
-  : B1
-  : B2 (12V)
-  : 9V
-  : 5V

* Respective voltage values are indicated





(5)Test point

-  : Test point
-  : Only test point display



(6)Connecting method

-  : Connector
-  : Wrapping or soldering
-  : Receptacle

(7)Ground symbol

-  : LIVE side ground
-  : ISOLATED(NEUTRAL) side ground
-  : EARTH ground
-  : DIGITAL ground

5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : () side GND and the ISOLATED(NEUTRAL) : () side GND. Therefore, care must be taken for the following points.

- (1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. if the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◆ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

NOTE

◆ Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.

When ordering parts, please use the numbers that appear in the Parts List.

CONTENTS

SEMICONDUCTOR SHAPES2-2

BLOCK DIAGRAM2-3

CIRCUIT DIAGRAMS2-5

 MAIN PWB CIRCUIT DIAGRAM [AV-21MT16/P] (1/4),(2/4) 2-5

 MAIN PWB CIRCUIT DIAGRAM [AV-21MT16/P] (3/4),(4/4) 2-7

 MAIN PWB CIRCUIT DIAGRAM [AV-25MT16/P] (1/4),(2/4) 2-9

 MAIN PWB CIRCUIT DIAGRAM [AV-25MT16/P] (3/4),(4/4) 2-11

 BASS PWB CIRCUIT DIAGRAM 2-13

PATTERN DIAGRAMS 2-15

 MAIN PWB PATTERN 2-15

 BASS PWB PATTERN 2-17

VOLTAGE CHATRS..... 2-19



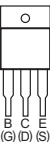
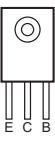
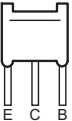
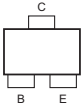
WAVEFORMS 2-20

USING P.W. BOARD


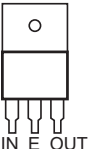
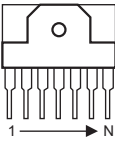
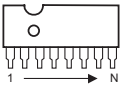
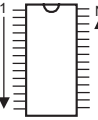
P.W.B ASS'Y name	AV-21MT16/P	AV-25MT16/P
MAIN P.W. BOARD	SCW-1906A-H2	SCW-1919A-H2
BASS P.W. BOARD	SCW-6001A-H2	←

SEMICONDUCTOR SHAPES

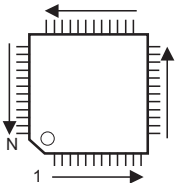
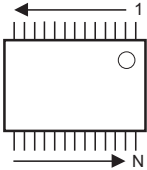
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

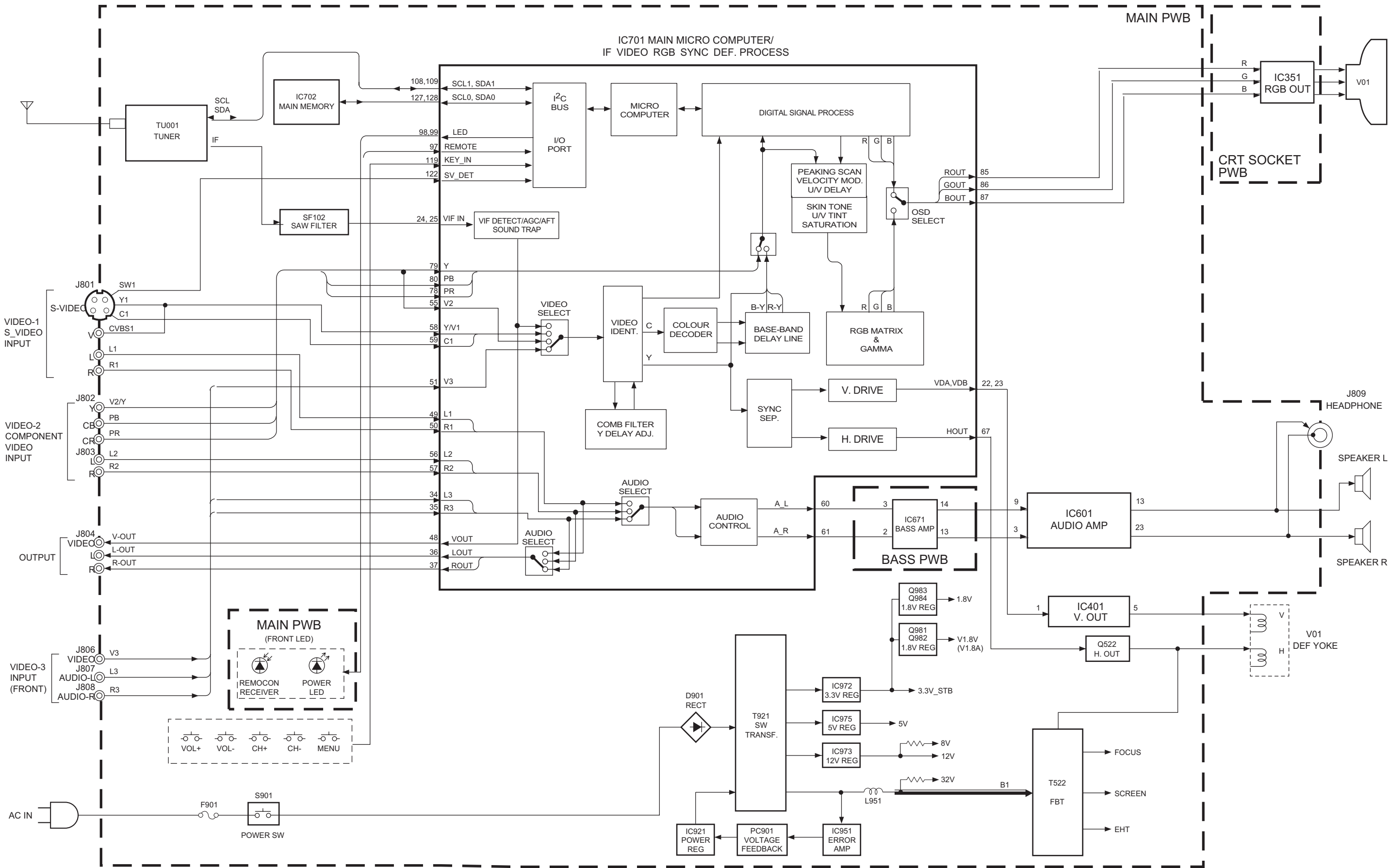
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

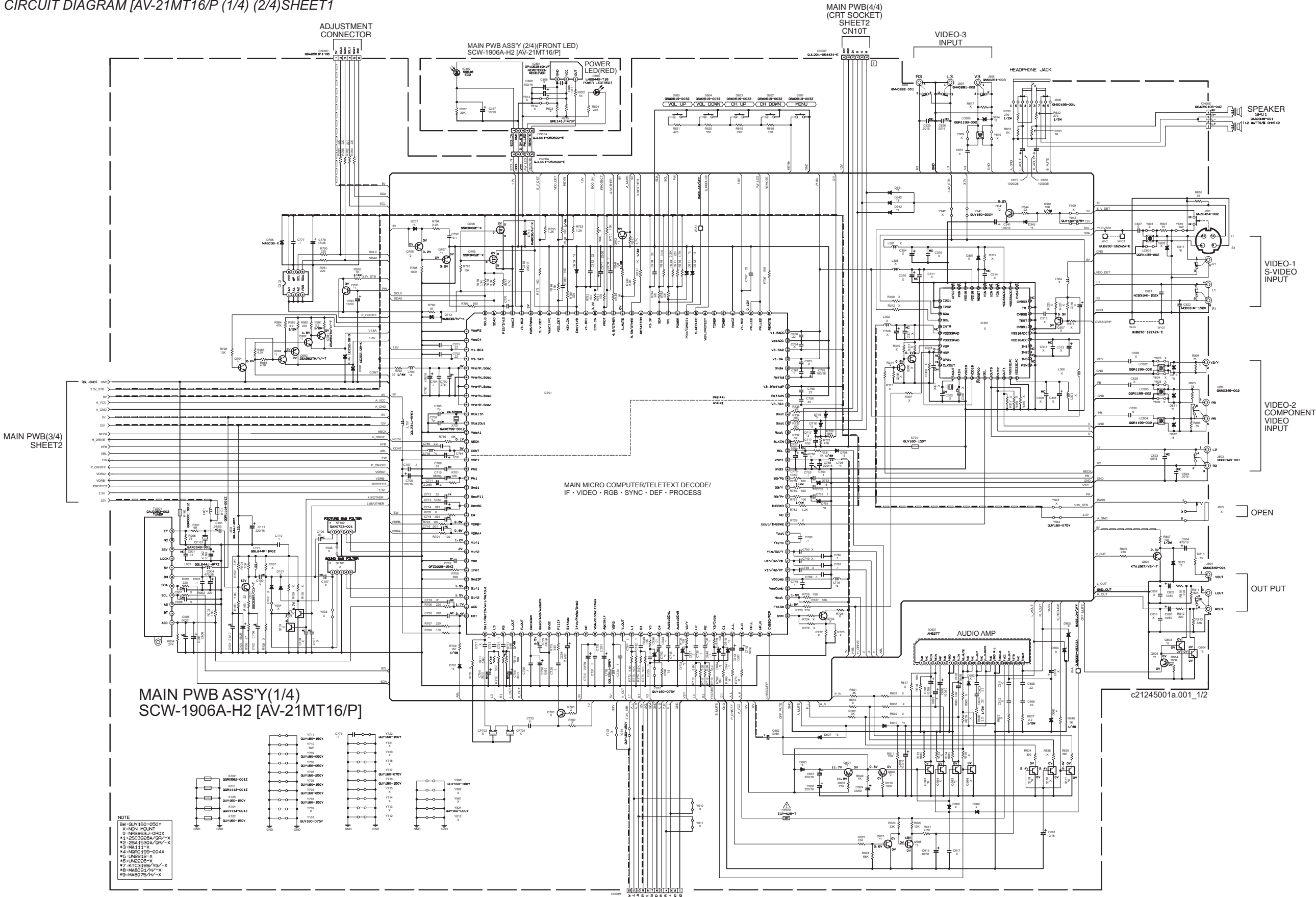
TOP VIEW		
		

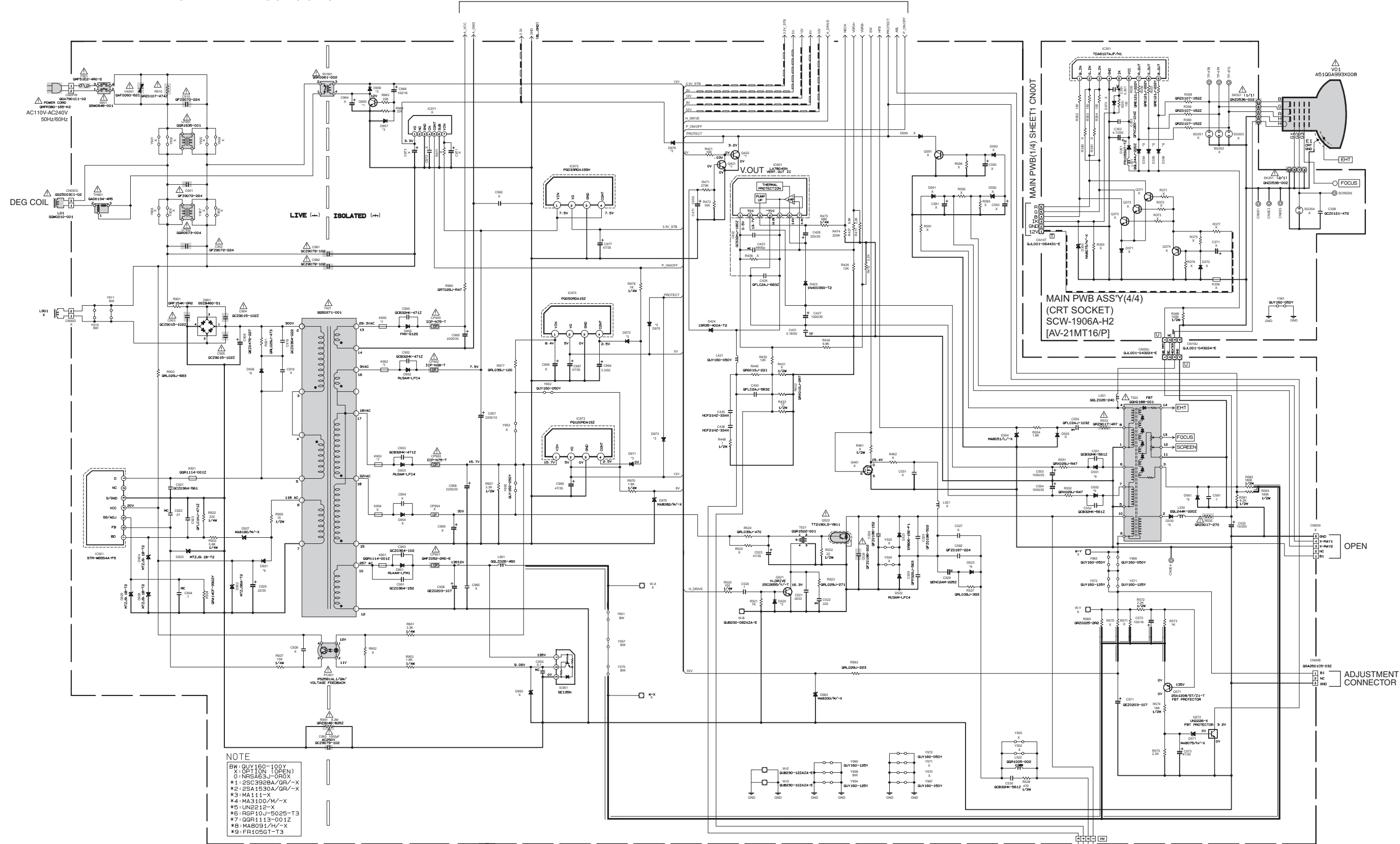
BLOCK DIAGRAM



CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM [AV-21MT16/P (1/4) (2/4)SHEET1

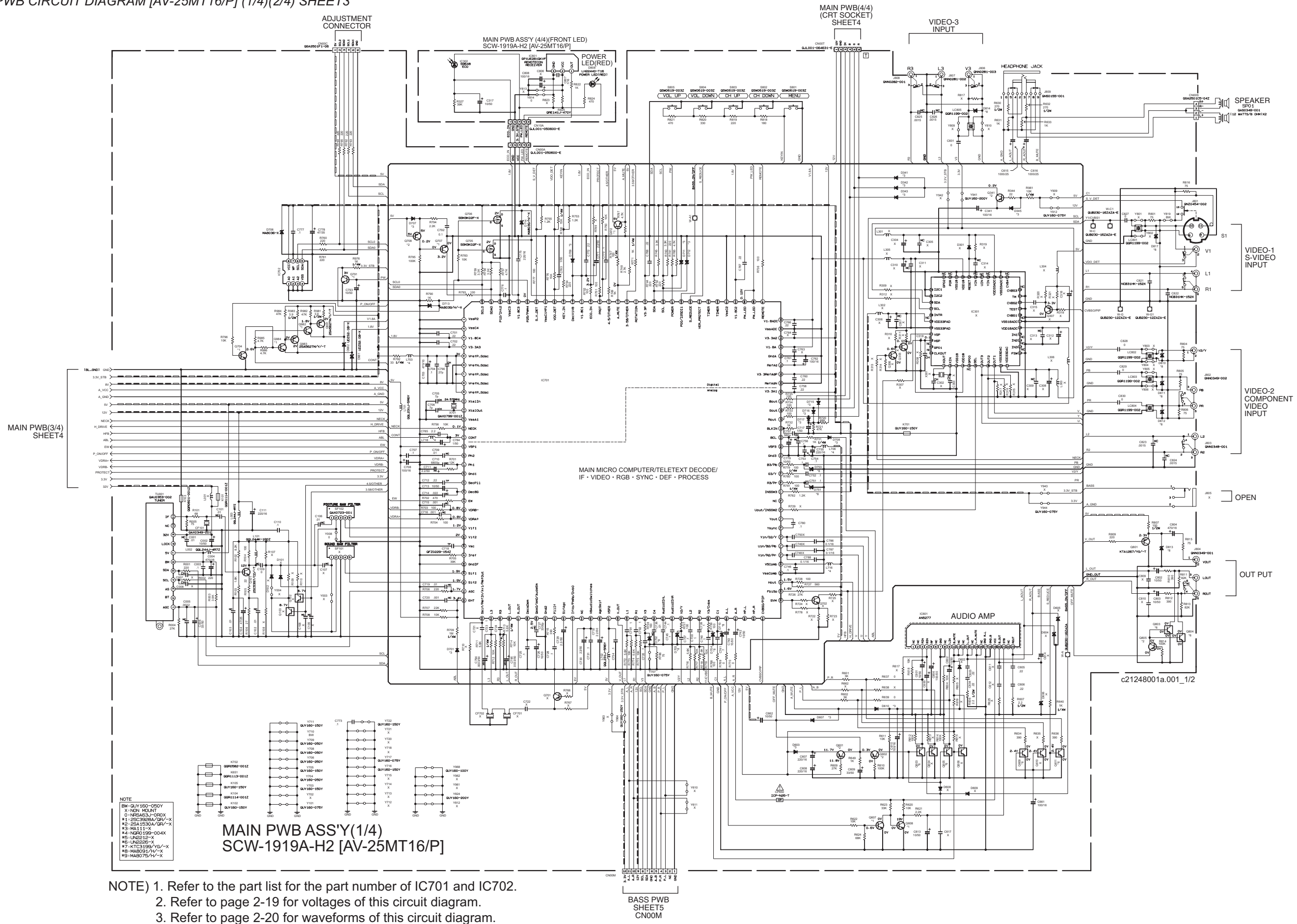


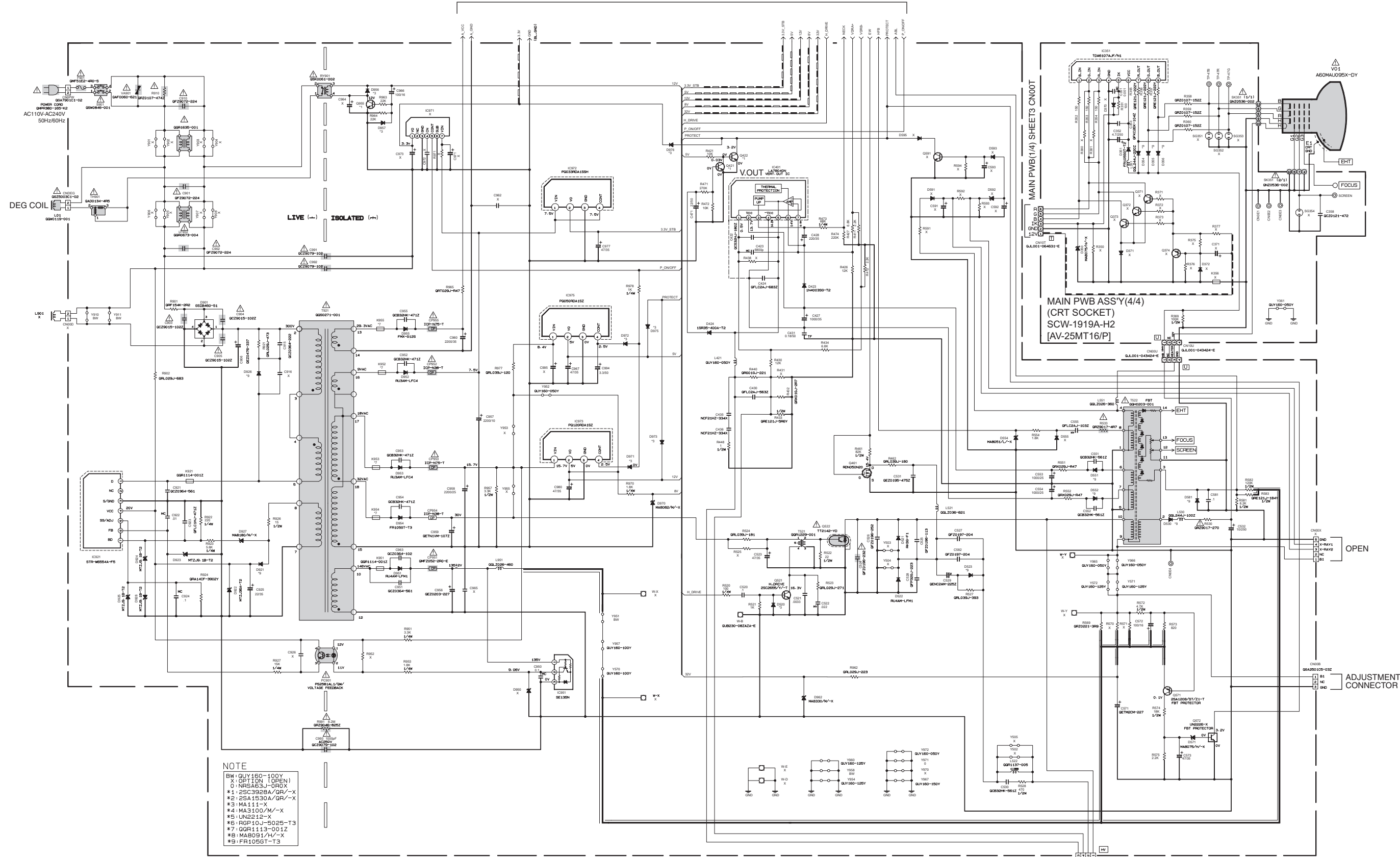


MAIN PWB ASS'Y (3/4)
SCW-1906A-H2 [AV-21MT16/P]

NOTE) 1.Refer to page 2-19 for voltages of this circuit diagram.
2.Refer to page 2-20 for waveforms of this circuit diagram.

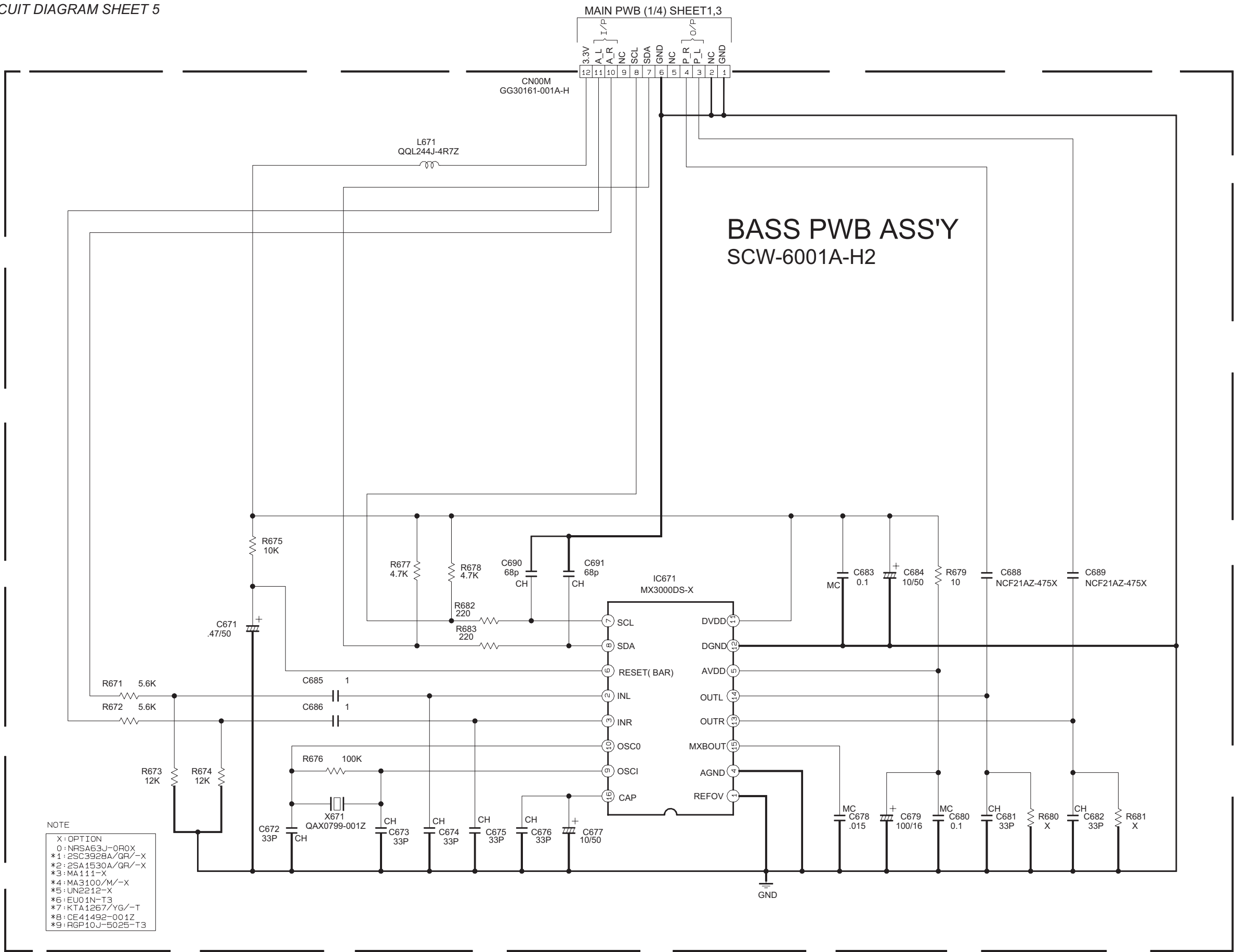
MAIN PWB CIRCUIT DIAGRAM [AV-25MT16/P] (1/4)(2/4) SHEET3





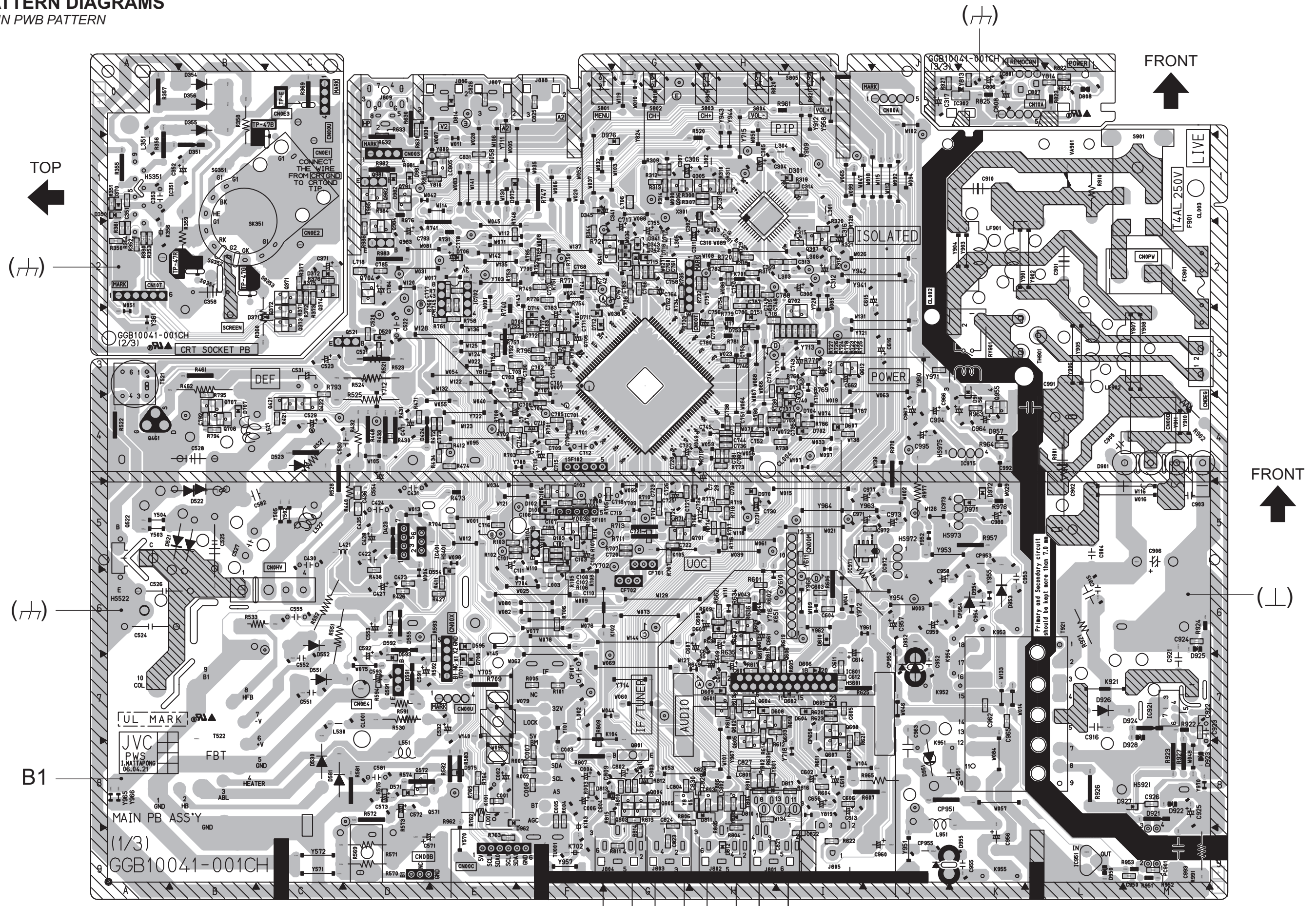
MAIN PWB ASS'Y (3/4)
SCW-1919A-H2 [AV-25MT16/P]

(NOTE) 1.Refer to page 2-19 for voltages of this circuit diagram.
2.Refer to page 2-20 for waveforms of this circuit diagram.

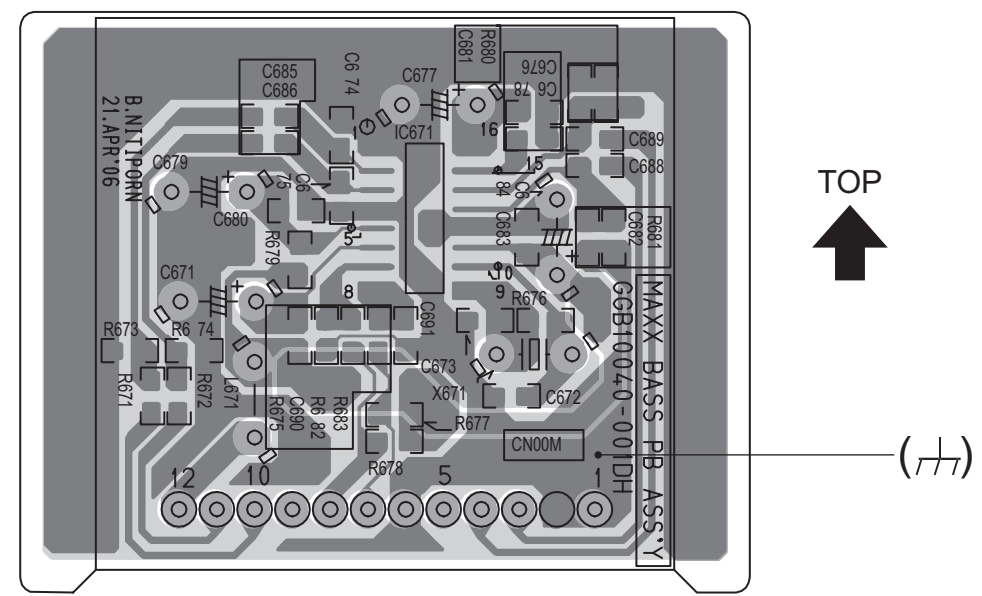


Note: 1. Please refer to page 2-19 for voltages of this circuit diagram.

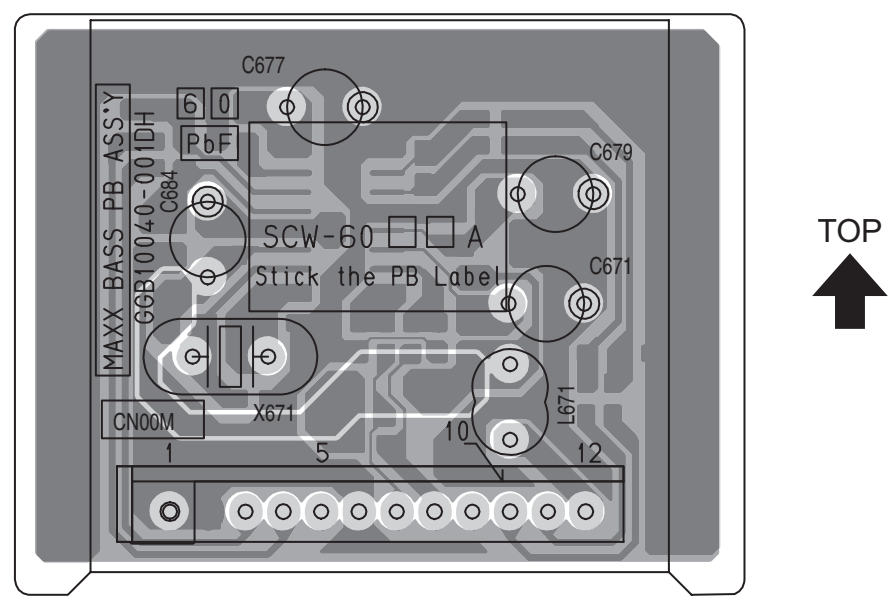
PATTERN DIAGRAMS



BASS PWB PATTERN [SOLDER SIDE]



BASS PWB PATTERN [PARTS SIDE]



VOLTAGE CHARTS

<MAIN PWB>

MODE PIN NO.	DC (V)
IC401	
1	0.5
2	13.7
3	-11.7
4	-13.8
5	0.2
6	13.9
7	0.4
IC601	
1	0
2	NC
3	0
4	NC
5	25.9
6	NC
7	0
8	NC
9	0
10	NC
11	0.5
12	NC
13	12.9
14	NC
15	0.7
16	NC
17	0
18	NC
19	27.2
20	NC
21	16.7
22	NC
23	12.8
IC701	
1	0
2	0
3	1.9
4	3.3
5	3.1
6	0
7	3.2
8	0
9	3.2
10	1.5
11	1.3
12	0
13	0.1
14	2.5
15	4.9
16	1.9
17	2.3
18	0
19	2.3
20	2.3
21	0
22	0.8
23	0.9
24	1.9
25	1.9
26	2.3
27	1.9
28	0.2
29	1.9
30	1.0
31	4.3
32	3.1
33	2.2
34	2.1
35	2.2
36	3.5
37	3.4
38	2.2
39	2.5
40	0
41	3.0
42	1.4
43	2.7
44	2.2
45	8.3
46	2.0
47	5.0
48	1.3
49	2.2
50	2.0
51	1.5
52	1.4
53	2.2
54	2.1
55	1.3
56	2.2
57	1.3
58	1.8
59	1.4
60	1.3
61	3.7
62	1.3
63	3.5
64	0.5

MODE PIN NO.	DC (V)
65	1.9
66	1.4
67	1.5
68	0.2
69	4.9
70	1.3
71	1.4
72	1.3
73	2.0
74	1.7
75	0.4
76	0
77	3.3
78	1.3
79	1.3
80	1.3
81	0
82	4.9
83	2.1
84	3.4
85	2.1
86	2.1
87	2.1
88	3.3
89	0
90	3.3
91	1.6
92	0
93	1.9
94	3.3
95	0
96	1.9
97	3.0
98	0.1
99	0.1
100	2.1
101	0
102	2.4
103	2.5
104	0
105	0.2
106	2.6
107	0
108	2.2
109	1.1
110	3.3
111	0
112	3.3
113	0
114	3.3
115	1.1
116	2.6
117	1.9
118	1.8
119	3.3
120	3.1
121	0
122	3.3
123	0.1
124	1.9
125	0
126	3.3
127	3.2
128	3.2
IC702	
1	0
2	0
3	0
4	0
5	3.2
6	3.2
7	0
8	3.3
IC921	
1	125.4
2	NC
3	0
4	19.7
5	4.0
6	1.7
7	0.3
IC951	
1	135.5
2	9.4
3	0
IC972	
1	6.4
2	3.3
3	0
4	6.4
IC973	
1	15.4
2	11.8
3	0
4	2.5

MODE PIN NO.	DC (V)
IC975	
1	8.2
2	4.8
3	0.2
4	2.5
Q101	
E	2.4
C	11.8
B	3.1
Q341	
E	11.8
C	1.0
B	11.8
Q421	
E	0
C	0
B	0.6
Q422	
E	1.1
C	1.3
B	0
Q521	
E	0
C	10.9
B	0
Q522	
E	0
C	122.0
B	-0.1
Q571	
E	135.4
C	0
B	135.1
Q572	
E	0
C	3.2
B	-0.7
Q601	
E	11.8
C	0.4
B	11.8
Q602	
E	0.2
C	-0.2
B	0
Q603	
E	0
C	0
B	-0.3
Q605	
E	0
C	0
B	-0.2
Q607	
E	0.1
C	0
B	0.6
Q608	
E	0
C	18.5
B	0
Q609	
E	0
C	0
B	0
Q611	
E	0
C	0
B	0
Q612	
E	0
C	5.0
B	0
Q704	
E	0
C	2.5
B	0
Q705	
S	0
D	0.2
G	1.9
Q706	
S	0
D	0
G	1.9
Q707	
E	0
C	1.2
B	0
Q708	
E	1.2
C	1.3
B	4.9
Q791	
E	0
C	2.9

MODE PIN NO.	DC (V)
B	0
Q801	
E	2.2
C	0
B	1.5
Q803	
E	0.5
C	0
B	0
Q804	
E	0
C	0
B	0.2
Q805	
E	0.2
C	0
B	0
Q955	
E	0
C	11.8
B	0
Q981	
E	2.9
C	1.9
B	2.2
Q982	
E	1.9
C	2.2
B	2.5
Q983	
E	2.9
C	1.8
B	2.2
Q984	
E	1.9
C	2.2
B	2.5
TU001	
1	4.3
2	0.5
3	0
4	2.2
5	2.2
6	4.9
7	4.9
8	0.7
9	35.1
11	0

<MAIN PWB>
(FRONT LED)

MODE PIN NO.	DC (V)
IC302	
1	2.6
2	3.3
IC801	
1	3.0
2	3.3
3	0

<MAIN PWB>
(CRT SOCKET)

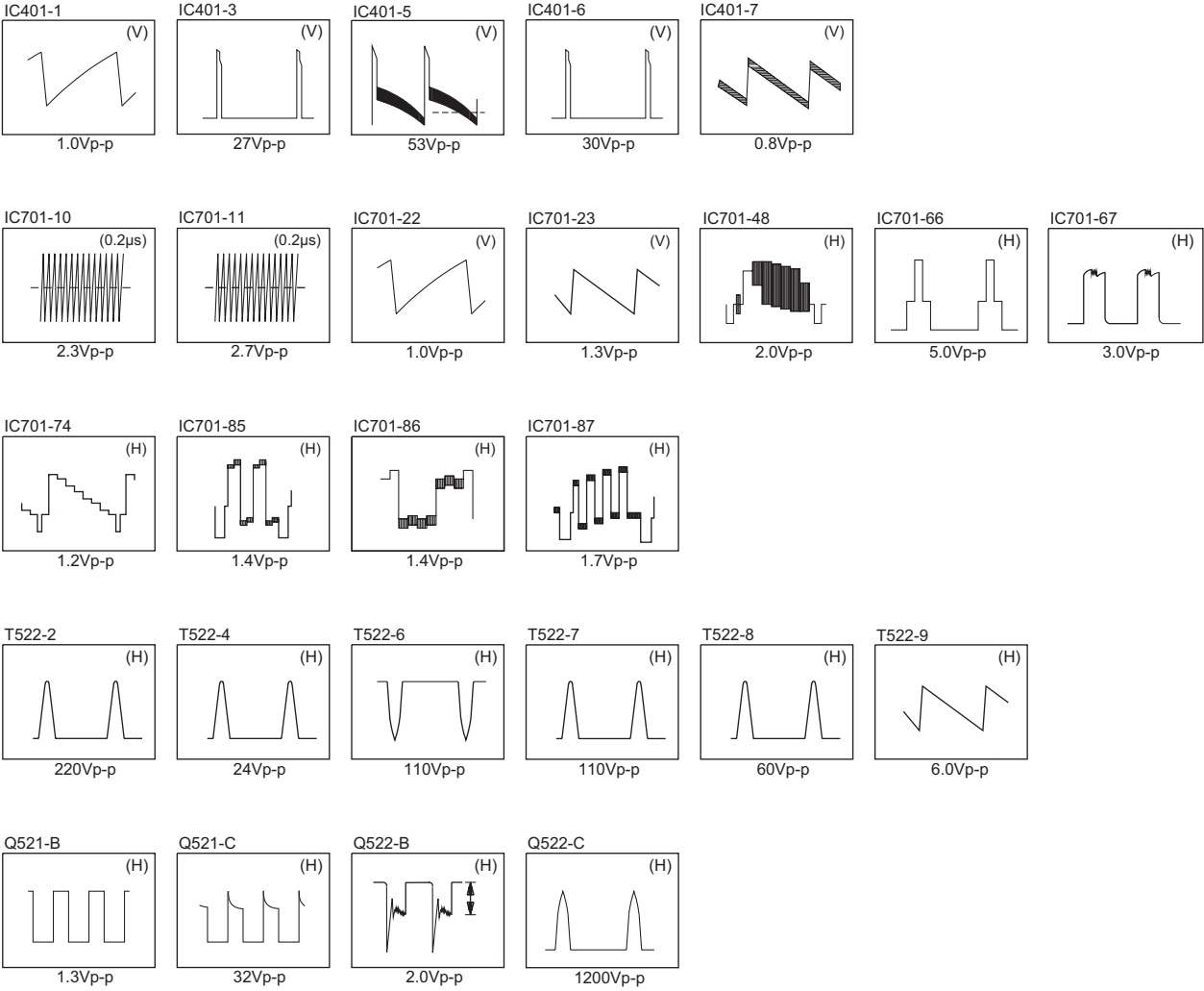
MODE PIN NO.	DC (V)
IC351	
1	2.2
2	2.1
3	2.1
4	0
5	4.6
6	194.7
7	118.3
8	118.3
9	115.8

<BASS PWB>

MODE PIN NO.	DC (V)
IC671	
1	0
2	1.2
3	1.2
4	0
5	3.2
6	3.3
7	2.3
8	2.1
9	1.4
10	1.5
11	3.3
12	0
13	1.6
14	1.6
15	0.1
16	1.2

WAVEFORMS

-MAIN PWB-



IC701-10

IC701-11

IC701-22

IC701-23

IC701-48

IC701-66

IC701-67

IC701-74

IC701-85

IC701-86

IC701-87

T522-2

T522-4

T522-6

T522-7

T522-8

T522-9

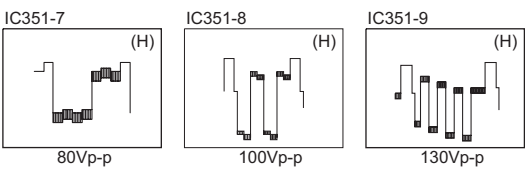
Q521-B

Q521-C

Q522-B

Q522-C

-CRT SOCKET PWB-





Victor Company of Japan, Limited
Display Category 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama-city, kanagawa-prefecture, 221-8528, Japan

(No.YA467)



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