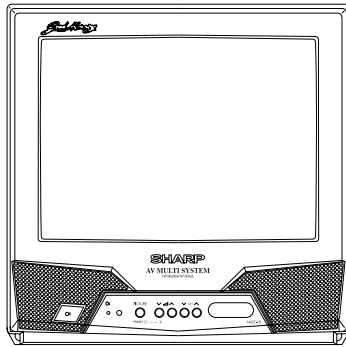


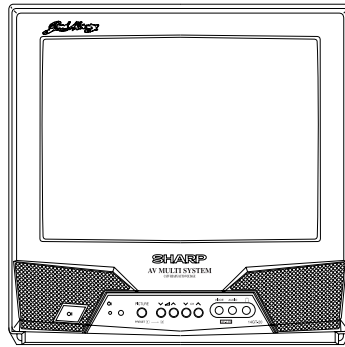
SHARP

SERVICE MANUAL

S30Y114GT15//



(14GT15)



(14GT20)

COLOUR TELEVISION
Chassis No. UA-1

14GT15
14GT20
MODELS

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

FEATURE

- Favorite Channel
- Full Auto Channel Preset and Auto Channel Skip
- 100-CH Program Memory
- CATV(Hyper Band) Ready <Used Frequency Synthesizer Tuner>
- AVL(Sound Keeper) Function
- Black Stretch Circuit
- On Timer/Sleep Timer/Reminder Timer
- Blue Back Noise Mute
- Front AV-In (14GT-20 Only)
- Rear AV-In/Out Terminals
- Colour Comb Filter (NTSC Only)
- High Contrast Picture
- Hotel Mode
- Front Headphone JACK (14GT-20 Only)
- English / Thai OSD

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WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis. To prevent electric shock, do not remove cover. No user – serviceable parts inside. Refer servicing to qualified service personnel.

SHARP CORPORATION

SPECIFICATIONS

Convergence	Self Convergence System
Focus	Electrostatic Focus High Bi-Potential
Sweep Deflection	Magnetic
Intermediate Frequencies	
Picture IF Carrier	38.9MHz
Sound IF Carrier Frequency	
5.5MHz	33.4MHz
Colour Sub-Carrier Frequency	34.47MHz
Power Input	100 ~ 240V AC 50/60 Hz
Power Consumption	65W
Audio Power Output Rating	3.0W(at Max.)
Speaker	
Size	5 x 9 cm Elliptic (1pc)
Voice Coil Impedance	16 ohms at 400 Hz
Aerial Input Impedance	
VHF/UHF	75 ohms Unbalanced
Receiving Channel	
PAL B/G	
VHF-Channels	E2(48.25MHz) thru E12(224.25MHz)
UHF-Channels	E21(471.25MHz) thru E69(855.25MHz)
Dimensions	
	Width: 351.0mm
	Height: 361.0mm
	Depth: 359.0mm
	Weight(approx): 9.2 kg
Cabinet material	All Plastics

Specifications are subject to change without prior notice.

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICE OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by Connecting a 10K ohm Resistor in series with an insulated wire(such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute Minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. When repairing the circuit, be sure not to increase the high voltage to more than 25.8kV (at beam 0 μ A) for the set.
2. To keep the set in a normal operation, be sure to make it function on 22.8kV $\pm$ 1.5kV (at beam 800 μ A) in the case of the set. The set has been factory - Adjusted to the above-mentioned high voltage.
∴ If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.

BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety Checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators etc.

ADJUSTMENT PRECAUTIONS

This model's setting are adjusted in two different ways: through the I²C bus control and in the conventional analog manner. The adjustments via the I²C bus control include preset-only items and variable data.

1. Setting the service mode by the microprocessor.

- ①. Short JA 122 & JA 124 for 1 second and release to switch to the service mode position, and the microprocessor is in input mode. (Adjustment through the I²C bus control). (Use JWS Key to set as well).
- ②. Press the CH DOWN / UP key on the remote controller to get ready to select the mode one by one.
- ③. Press the CH DOWN / UP key on the remote controller to select the modes reversibly one by one.
- ④. Using the VOLUME UP/ DOWN key on the remote controller, the data can be modified.
- ⑤. Short JA 122 & JA 124 for 1 second and release to switch to the normal mode (OFF) position, and the microprocessor is in out of the service mode.

2. Factory Presetting.

- ①. Short JA 122 & JA 124 for 1 second and release to switch to the service mode position and turn on the main power switch. Initial values are automatically preset, only when a new EEPROM is used (Judge with the first 4 bytes).
- ②. The initial data are preset as listed in page 7, 8, & 9.
- ③. Make sure the data need modify or not (Initial data).

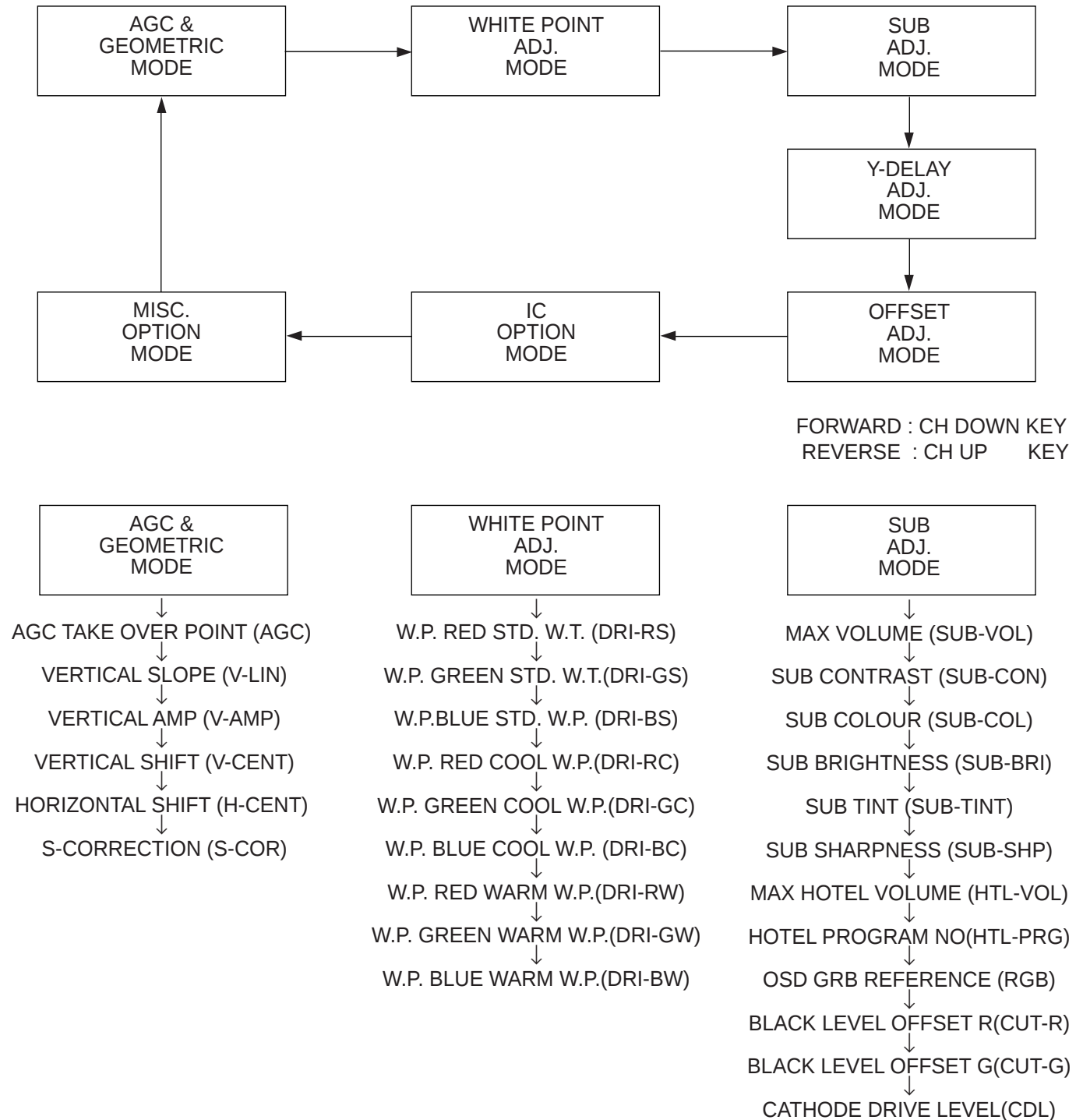
Note: Once the chassis has been assembly together and ready to be POWER ON for the FIRST TIME, make sure to short JA122 & JA124 to switch to the service mode position first and then turn on the main power switch (See 2-(1) above).

Precaution: If haven't done this initiation, it may possibly generate excessive Beam current.

3. For reference please check with memory map (UA1 Series type RH-iX3368CE Attachment)

■ SERVICE MODE

(1) In the Service Mode, Key is used to select the mode in the following order.



FORWARD : CH DOWN KEY
REVERSE : CH UP KEY
* () means OSD display.



USER DATA IN SERVICE MODE

The flow of Mode lists as following,

* Direct Key-in Step1 Mode

RC COMMAND	SERVICE-ITEM
FUNCTION	AGC
CONTRAST DOWN	V-LIN
COLOUR DOWN	V-AMP
BRIGHTNESS DOWN	V-CENT
TINT DOWN	H-CENT
SHARPNESS DOWN	EW / /
SYSTEM	HB
BLUEBACK	S-COR
TIMER	SUB-VOL
CONTRAST UP	SUB-CON
COLOUR UP	SUB-COL
BRIGHTNESS UP	SUB-BRI
TINT UP TINT	SUB TINT
SHARPNESS UP	SUB-SHP
CHANNEL 1	DRI-GS
CHANNEL 4	DRI-BS
CHANNEL 7	CUT-R
CHANNEL FLASH BACK	CUT-G

AFTER SHORT JA 122 & JA 124 ,AND TURN ON THE MAIN POWER SWITCH,READ DATA FROM EEPROM ADDRESS 00H ~ 03H,AND COMPARE TO THE LIST BELOW, IF DIFFERENT, INITIALIZE THE EEPROM.

Address	:	Data	Address	:	Data
00H	:	55H	02H	:	43H
01H	:	4FH	03H	:	A1H

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	FIX/ADJ	REMARK
AGC TAKE OVER POINT	AGC	0~63	14	ADJ	
VERTICAL SLOPE	V-LIN	0~63	32	ADJ	
VERTICAL AMPLITUDE	V-AMP	0~63	32	ADJ	
VERTICAL SHIFT	V-CENT	0~63	32	ADJ	
HORIZONTAL SHIFT	H-CENT	0~63	32	ADJ	
S-CORRECTION	S-COR	0~63	0	FIX	
WHITE POINT RED STD WHITE TEMP	DRI-RS	0~63	32	FIX	
WHITE POINT GREEN STD WHITE TEMP	DRI-GS	0~63	32	ADJ	
WHITE POINT BLUE STD WHITE TEMP	DRI-BS	0~63	32	ADJ	
WHITE POINT RED WARM WHITE TEMP	DRI-RW	0~63	32	FIX	
WHITE POINT GREEN WARM WHITE TEMP	DRI-GW	0~63	32	FIX	(DRI-GS)-7 DATA
WHITE POINT BLUE WARM WHITE TEMP	DRI-BW	0~63	32	FIX	(DRI-BS)-7 DATA
WHITE POINT RED COOL WHITE TEMP	DRI-RC	0~63	25	FIX	
WHITE POINT GREEN COOL WHITE TEMP	DRI-GC	0~63	32	FIX	(DRI-GS)-7 DATA
WHITE POINT BLUE COOL WHITE TEMP	DRI-BC	0~63	32	FIX	(DRI-BS)SAME DATA
MAX VOLUME	SUB-VOL	0~63	63	FIX	
SUB CONTRAST	SUB-CON	0~63	63	FIX	
SUB COLOUR	SUB-COL	0~63	32	ADJ	
SUB BRIGHTNESS	SUB-BRI	0~63	32	ADJ	
SUB TINT	SUB-TINT	0~63	32	ADJ	
SUB SHARPNESS	SUB-SHP	0~63	32	ADJ	
MAX HOTEL VOLUME	HTL-VOL	0~63	32	ADJ	
HOTEL PROGRAM NUMBER	HTL-PRG	0~99 OR>99FOR NONE	255	FIX	
OSD GRB REFERENCE	RGB	0~15	15	FIX	
BLACK LEVEL OFF-SET R	CUT-R	0~15	8	FIX	
BLACK LEVEL OFF-SET G	CUT-G	0~15	8	FIX	
CATHODE DRIVE LEVEL	CDL	0~15	0	FIX	
Y-DELAY TIME FOR PAL(TV) [YD]	DL-PT	0~15	12	FIX	
Y-DELAY TIME FOR SECAM(TV) [YD]	DL-ST	0~15	15	FIX	
Y-DELAY TIME FOR N358 (TV) [YD]	DL-3T	0~15	12	FIX	
Y-DELAY TIME FOR N443 (TV) [YD]	DL-4T	0~15	12	FIX	
Y-DELAY TIME FOR B/W (TV) [YD]	DL-TV	0~15	12	FIX	
Y-DELAY TIME FOR PAL (AV) [YD]	DL-PA	0~15	12	FIX	
Y-DELAY TIME FOR SECAM (AV) [YD]	DL-SA	0~15	15	FIX	
Y-DELAY TIME FOR N358 (AV) [YD]	DL-3A	0~15	12	FIX	
Y-DELAY TIME FOR N443 (AV) [YD]	DL-4A	0~15	12	FIX	
Y-DELAY TIME FOR B/W (AV) [YD]	DL-AV	0~15	12	FIX	
COLOUR OFFSET (PAL)	COL-OP	0~15	8	FIX	
COLOUR OFFSET (SECAM)	COL-OS	0~15	8	FIX	
COLOUR OFFSET (NTSC358)	COL-O3	0~15	4	FIX	
COLOUR OFFSET (NTSC443)	COL-O4	0~15	4	FIX	
SHARPNESS OFFSET (PAL)	SHP-OP	0~15	8	FIX	
SHARPNESS OFFSET (SECAM)	SHP-OS	0~15	4	FIX	
SHARPNESS OFFSET (NTSC358)	SHP-O3	0~15	12	FIX	
SHARPNESS OFFSET (NTSC443)	SHP-O4	0~15	8	FIX	

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	FIX/ADJ	REMARK
VERTICAL SCAN DISABLE	VSD	0(DISABLE)/1(ENABLE)	0	FIX	
BLACK STRETCH	BKS	0(DISABLE)/1(ENABLE)	1	FIX	
AUTOMATIC VOLUME LEVELING	AVL	0(DISABLE)/1(ENABLE)	1	FIX	
FAST FILTER IF-PLL	FFI	0(DISABLE)/1(ENABLE)	0	FIX	
ENABLE VERTICAL GUARD (RGB BLANKING)	EVG	0(DISABLE)/1(ENABLE)	1	FIX	ONLY BLK
EHT TRACKING MODE (HCO)	EHT	0(DISABLE)/1(ENABLE)	1	FIX	
OVERSCAN SWITCH OFF	OSO	0(DISABLE)/1(ENABLE)	0	FIX	
AUTO COLOUR LIMIT	ACL	0(DISABLE)/1(ENABLE)	0	FIX	
FORCED COLOUR LIMIT	FCO	0(DISABLE)/1(ENABLE)	0	FIX	
SOUND SYSTEM M	S-M	0(DISABLE)/1(ENABLE)	0	FIX	
SOUND SYSTEM DK	S-DK	0(DISABLE)/1(ENABLE)	1	FIX	*1
SOUND SYSTEM I	S-I	0(DISABLE)/1(ENABLE)	1	FIX	*1
SOUND SYSTEM BG	S-BG	0(DISABLE)/1(ENABLE)	1	FIX	
PLAYBACK SECAM	P-SECAM	0(DISABLE)/1(ENABLE)	1	FIX	*1
FE (RF) NTSC 3.58	F-N358	0(DISABLE)/1(ENABLE)	0	FIX	
FE (RF) NTSC 4.43	F-N443	0(DISABLE)/1(ENABLE)	1	FIX	*1
FE (RF) SECAM	F-SECAM	0(DISABLE)/1(ENABLE)	1	FIX	*1
VIDEO MUTE AT IDENT LOSS	VMI	0(DISABLE)/1(ENABLE)	1	FIX	
VIDEO MUTE AT PROGRAM/SOURCE CHANGE	VMC	0(DISABLE)/1(ENABLE)	1	FIX	
HOTEL MODE	HTL	0(DISABLE)/1(ENABLE)	0	FIX	
REDUCED FM DEMODULATOR GAIN FOR BTSC SIGNAL	BTSC	0(DISABLE)/1(ENABLE)	0	FIX	
NUMBER OF EXTERNAL AV SOURCE	AV	0 FOR 1 AV/1 FOR 2AV	1	FIX	*2
FM WINDOW SELECTION	FMWS	0(DISABLE)/1(ENABLE)	0	FIX	
SOUND MUTE BIT 0	SM0	0(DISABLE)/1(ENABLE)	1	FIX	
SOUND MUTE BIT 1	SM1	0(DISABLE)/1(ENABLE)	0	FIX	
THAI LANGUAGE	THA	0(DISABLE)/1(ENABLE)	0	FIX	*3
ARABIC LANGUAGE	ARA	0(DISABLE)/1(ENABLE)	1	FIX	*4
MALAY LANGUAGE	MAL	0(DISABLE)/1(ENABLE)	1	FIX	*4
CHINESE LANGUAGE	CHI	0(DISABLE)/1(ENABLE)	1	FIX	*4
FRENCH LANGUAGE	FRE	0(DISABLE)/1(ENABLE)	1	FIX	*4
RUSSIAN LANGUAGE	RUS	0(DISABLE)/1(ENABLE)	1	FIX	*4
FORCED V-SYNC SLICING LEVEL	FSL	0(DISABLE)/1(ENABLE)	0	FIX	
SYNC OF OSD	HP2	0(DISABLE)/1(ENABLE)	0	FIX	
TUNER CPT	CPT	0(BRAZIL)/1(ARGENTINA)	0	FIX	
BILINGUAL	BIL	0(DISABLE)/1(ENABLE)	0	FIX	
IF AGC SPEED BIT 0	AGC0	0(DISABLE)/1(ENABLE)	1	FIX	
IF AGC SPEED BIT 1	AGC1	0(DISABLE)/1(ENABLE)	0	FIX	
PHI-1 TIME CONSTANT (RF)	FOA-FE	0(DISABLE)/1(ENABLE)	0	FIX	
PHI-1 TIME CONSTANT (RF)	FOB-FE	0(DISABLE)/1(ENABLE)	0	FIX	
PHI-1 TIME CONSTANT (OFF AIR)	FOA-AV	0(DISABLE)/1(ENABLE)	1	FIX	
PHI-1 TIME CONSTANT (OFF AIR)	FOB-AV	0(DISABLE)/1(ENABLE)	1	FIX	

NOTE :

FIXED DATA,PLEASE DO NOT CHANGE WITHOUT SPECIFIC INSTRUCTION.

*1: MANUALLY CHANGE TO 0.

*2: FOR 14GT15, MANUALLY CHANGE TO 0.

*3: MANUALLY CHANGE TO 1.

*4: MANUALLY CHANGE TO 0.

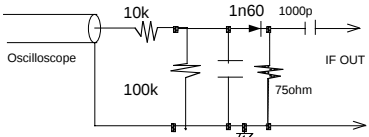
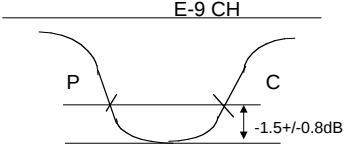
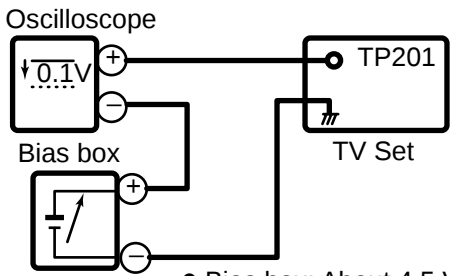
SHIPPING SETTING & CHECKING

(1) The following default data has been factory-set for the E²PROM.

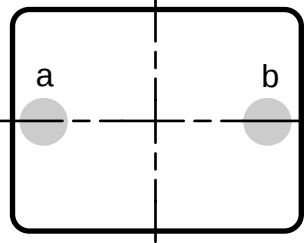
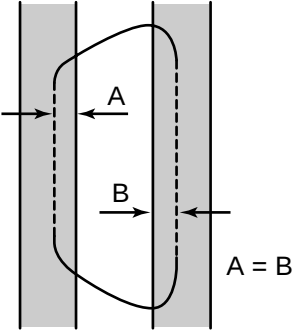
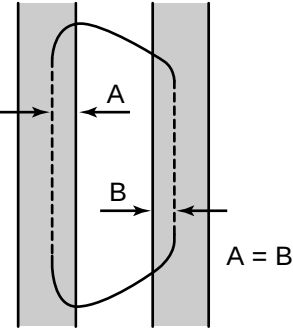
ITEMS	DATA SETTING
LAST PROGRAM/CHANNEL	1
FLASHBACK PROGRAM/CH	1
DIGIT	1
C-SYSTEM	AUTO
S-SYSTEM	B/G
SKIP	OFF
AFC	ON
VOLUME	1
CONTRAST	60 (MAX)
COLOUR	0 (CENTER)
BRIGHTNESS	0 (CENTER)
TINT	0 (CENTER)
SHARPNESS	0 (CENTER)
WHITE TEMP	STANDARD
REMINDER TIMER	In-active, "--:--"
ON TIMER	In-active, "--:--"
OFF TIMER	In-active, "--:--"
LAST POWER	POWER-ON
LANGUAGE	ENGLISH
BLUE BACK MUTE	OFF
HOTEL MODE	OFF
0 CHANNEL SKIP	ON

AFTER PRESSING MODEL SETTING, 0 CHANNEL WILL BE SKIPPED.

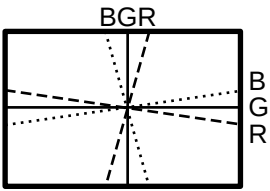
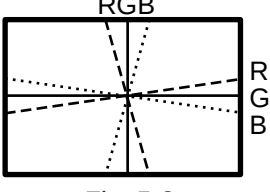
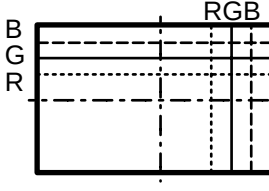
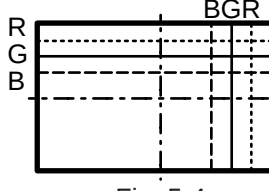
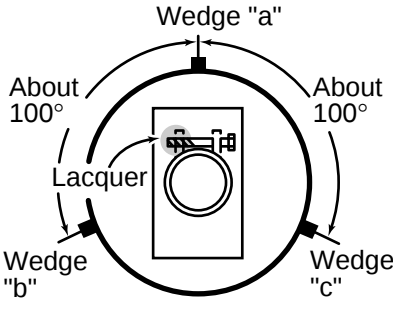
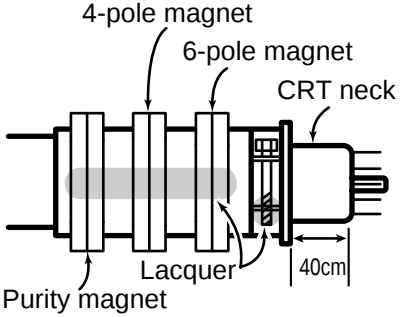
PIF ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	Tuner IFT (PRESET)	1. Get the tuner ready to receive the CH. E - 9 signal, but with no signal input. Adjust the PLL data. 2. Connect the sweep generator's output cable to the tuner antenna. (RF SWEEP) 3. Adjust the sweep generator's to 80dBuV. 4. Connect the response lead (use LOW IMPEDANCE probe with wave detector ; see Fig.1) to the tuner's IF output terminal. (This terminal must have the probe alone connected). 5. Set the RF AGC to 0 - 6 V with no saturation with the waveform. 6. Adjust the tuner IF coil to obtain the waveform as shown in Fig. 2. Note: Be sure to keep the tuner cover in position during this adjustment.	 Fig.1  Fig.2
2	RF-AGC TAKE OVER POINT AD- JUSTMENT (I²C BUS CONTROL)	1. Receive "PAL COLOUR BAR" signal. • Signal Strength: 57 ± 1 dBμV (75 ohm open) 2. Connect the oscilloscope to TP201 (Tuner's AGC Terminal) as shown in Fig. 3.  Fig. 3 3. Call "AGC" mode in service mode. Adjust the "AGC" bus data to obtain the Tuner output pin drop 0.1V below maximum voltage. 4. Change the antenna input signal to 63~67dBμV, and make sure there is no noise. 5. Turn up the input signal to 90~95 dBμV to be sure that there is no cross modulation beat.	Note: For the 50 ohm signal strength gauge, when not using 50/75 impedance adapter, signal strength is 52 ± 1 dBμV (75 ohm open), instead of 57 ± 1 dBμV (75 ohm open). Precaution: The loss of using impedance adapter

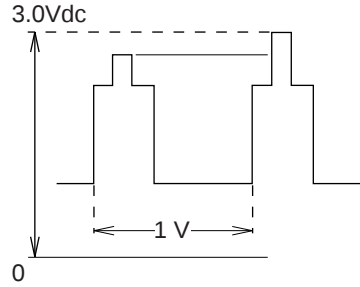
PURITY ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	PURITY ADJ.	1. Receive the GREEN-ONLY signal. Adjust the beam current to about 500 μA. 2. Maintain the purity magnet at the zero magnetic field and keep the static convergence roughly adjusted. 3. Observe the points a, b as shown in Fig. 4-1 through the microscope. Adjust the landing to the A rank requirements. 4. Orient the raster rotation to 0 eastward. 5. Tighten up the deflection coil screws. • Tightening torque: 108 $\pm$ 20 N (11 $\pm$ 2 kgf) 6. Make sure the CRT corners landing meet the A rank requirements. If not, stick the magnet sheet to correct it. Note: This adjustment must be done after warming up the unit for 30 minutes or longer with a beam current over 500 μA.	 Fig. 4-1  Fig. 4-2 Rank "A" (on the right of the CRT)  Fig. 4-3 Rank "A" (on the left of the CRT)

CONVERGENCE ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	CONVERGENC ADJ. (To be done after the purity adjustment.	1. Receive the "Crosshatch Pattern" signal. 2. Using the remote controller, call NORMAL mode. STATIC CONVERGENCE 1. Turn the 4-pole magnet to a proper opening angle in order to superpose the blue and red colours. 2. Turn the 6-pole magnet to a proper opening angle in order to superpose the green colour over the blue and red colours. DYNAMIC CONVERGENCE 1. Adjust the convergence on the fringes of the screen in the following steps. a) Fig. 5-1: Drive the wedge at point "a" and swing the deflection coil upward. b) Fig. 5-2: Drive the wedge at points "b" and "c" and swing the deflection coil downward. c) Fig. 5-3: Drive the "c" wedge deeper and swing the deflection coil rightward. d) Fig. 5-4: Drive the "b" wedge deeper and swing the deflection coil leftward. 2. Fix all the wedges on the CRT and apply glass tape over them. 3. Apply lacquer to the deflection yoke lock screw, magnet unit (purity, 4-pole, 6-pole magnets) and magnet unit lock screw. Finally received the Red-only and Blue-only signals to make sure there is no other colours on the screen.	 Fig. 5-1  Fig. 5-2  Fig. 5-3  Fig. 5-4  

CUT-OFF, BACKGROUND AND SUB-CONTRAST ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	CRT CUTOFF ADJUSTMENT (I²C BUS CONTROL)	- Switch TV to VIDEO mode,BLUE BACK OFF, with NO VIDEO signal. - Press R/C to set Picture Normal condition. - Connect the oscilloscope to Red OUT from IC801.(TP851) - Range : 1 V/Div (DC) - Sweep : 5 msec/Div - Adjust SCREEN VR ,so that the tip of signal reach 3.0 Vdc + 0.1 Vdc.	
2	SUB-BRIGHTNESS ADJUSTMENT (I²C BUS CONTROL)	- Call " SUB-BRI" in service mode. (Receive Cross-hatch pattern with 5 black level windows) - Adjust the " SUB BRIGHT " bus data in order that the line 1, 2 and 3 have the same darkness whereas line 4 is slightly brighter than line 1, 2 and 3 and finally line 5 will be the brighter than line 4.	 1, 2, 3 are in same black level.
3	WHITE BALANCE SERVICE MODE ADJ. (I²C BUS CONTROL)	- Receive the "WHITE" pattern with BURST signal. - Press R/C to set Picture NORMAL condition. - Connect the DC miliammeter between TP602 (-) and TP603 (+). - Check Beam current should be around 800 μA. - Set it to service mode and adjust the " WPG" (WhitePoint-G), "WPB" (White Point-B) data to have a colour temperature of 12,300°K (white). * Note . - Receive "WHITE" pattern, with BURST signal, and set Brightness Y by generator, to **10cd/m² Minolta CA-100) by reducing Luminate Y signal. - Adjust "CUT-R" & "CUT-G" to get 12,300°K . Then go back normal mode. (High Bright)** to check colour temperature. If out of range, back to 1. Note: This adjustment must be done after warming up the unit for 30 minutes or longer with a beam current over 500μA). * Adjust DRI-GC/GW, DRI-BC/BW as following data, after finishing DRI-GS and DRI-BS: DRI-GC=DRI-GW="DRI-GS"-7:DRI-BW="DRI-BS"-7:DRI-RC=25:DRI-BC=DRI-BS:DRI-RW=32 ** Low=10cd/m²:High=200cd/m²	* 12300°K X : 0.272 Y : 0.275 (MINOLTA COLOUR ANALYZER CA-100) *Note: Above Data can be UP/ DOWN by Volume key.
4	Maximum beam check	- Receive the "Monoscope Pattern" signal. - Press R/C to set Picture NORMAL condition. - Connect the DC miliammeter between TP603 (+) and TP602 (-). (Full Scale: 3 mA Range) - Beam current must be within 800 $\pm$ 100 μA.	

HORIZONTAL AND VERTICAL DEFLECTION LOOP ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	V-SLOPE (I²C BUS CONTROL)	1. Receive Monoscope Pattern Signal. 2. Call the "V-LIN" mode. 3. Increase or decrease "V-LIN" by Volume key till the horizontal line in the center of monoscope is just at the position where the blanking starts.	
2	V-SHIFT 50 (I²C BUS CONTROL)	1. Call the "V-CENT" mode. 2. Increase or decrease "V-CENT" by Volume key till the picture is centered.	
3	V - AMP 50 (I²C BUS CONTROL)	1. Call the "V-AMP" mode. 2. Increase or decrease "V - AMP" by Volume key to set overscan of 9.5% typical. Adjustment Spec 9.5% range +1% -0%.	
4	S-CORRECTION (I²C BUS CONTROL)	FIXED DATA, NO NEED TO ADJUST.	
5	H - SHIFT (50) (H-CENTER) (I²C BUS CONTROL)	1. Call the "H-CENT" mode. 2. Increase or decrease "H-CENT" by Volume key to center the picture horizontal.	
6	SUB-SHARPNESS	1. Call the "SUB-SHP" mode. 2. Set "SUB-SHP" to 20 by pressing volume down button.	
7	Focus	1. Receive the "Monoscope Pattern" signal. 2. Press R/C to set Picture NORMAL condition. 3. Adjust the focus control to get the best focus.	

PAL CHROMA ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	SUB COLOUR (I²C BUS CONTROL)	1. Receive the "PAL Colour Bar" signal. 2. Press R/C to set Picture Normal condition. 3. Connect the oscilloscope to Red cathode(TP854). • Range : 20 V/div. (AC) (Using 10:1 probe) • Sweep time : 10 μsec/div. 4. Using the R/C call "SUB COL" in SERVICE mode. Adjust SUB COLOUR bus data, so that the 75% White & Red portions of PAL Colour Bar be at the same level shown as Fig. 8. 5. Clear the SERVICE mode.	Fig. 8

NTSC CHROMA ADJUSTMENT

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	SUB-TINT (I²C BUS CONTROL)	1. Receive the "NTSC3.58 Colour Bar" signal through AV in. 2. Connect the oscilloscope to TP853 (Pin (5) of P882) BLUE-OUT. • Range : 100mV/div. (AC)(Use Probe 10:1) • Sweep time : 10 μsec/div. 3. Call the "SUB-TINT" mode in service mode. Adjust the "SUB-TINT" bus data to obtain the waveform shown as Fig. 9. 4. Clear the SERVICE mode.	Fig. 9

PROTECTOR OPERATION CHECKING

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	BEAM PROTECTOR	1. Receive "Monoscope Pattern" signal. 2. Set CONTRAST MAX. 3. Set BRIGHT MAX. 4. During the Collector & Emitter of Q883/5/7 short, make sure the protector ON and switch to standby mode.	* Select one of Q883/5/7 to do each short test.
2	H, V PROTECTOR	1. Receive "Monoscope Pattern" signal. 2. Connect output of Bias Box to D607 cathode (R606 side). 3. Set voltage of Bias Box to 18V and make sure the protector is not work. 4. Set voltage of Bias Box to 27V, and make sure the protector is work.	
3	Other protectors	1. Once finish rectified Electrolytic Capacitor short testing in +B line, check all possible damaged components on +B line. (Use random selected set for inspection)	

A/V INPUT AND OUTPUT CHECKING

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	VIDEO AND AUDIO OUTPUT CHECK	1. Receive the "PAL Color Bar" signal (100% White Color Bar, Sound 400 Hz 100% Mod.) 2. Terminate the Video output with a 75 ohm impedance. Make sure the output is as specified (1.0 Vp-p $\pm$3 dB). 3. Terminate the Audio output with a 10k ohm impedance. Make sure the output is as specified (1.76 Vp-p $\pm$3 dB).	
2	VIDEO AND AUDIO INPUT CHECK	1. Using the TV/AV key on the remote controller, make sure that the modes change in order of TV, AV1, AV2 & TV again and the video & audio output are according to the input terminal for each mode.	

FUNCTION OPERATION CHECKING (VIDEO AND AUDIO)

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	CONTRAST key	1. Receive "Monoscope Pattern" signal. 2. Set P-Mode to select CONTRAST. 3. Press Volume Up/Down key to check whether the CONTRAST effect is OK or not.	
2	COLOUR key	1. Receive "Color Bar" signal. 2. Set P-Mode to select COLOUR. 3. Press Volume Up/Down key to check whether the COLOUR effect is OK or not.	
3	BRIGHTNESS key	1. Receive "Monoscope Pattern" signal. 2. Set P-Mode to select BRIGHTNESS. 3. Press Volume Up/Down key to check whether the BRIGHTNESS effect is OK or not.	
4	TINT key	1. Receive the "NTSC Colour Bar" signal thru AV in. 2. Set P-Mode to select TINT. 3. Press Volume Up/Down key to check TINT, UP for GREEN direction and DOWN for PURPLE direction whether is OK or not.	
5	SHARPNESS Key	1. Receive "Monoscope Pattern" signal. 2. Set P-mode to select SHARPNESS. 3. Press Volume Up/Down key to check whether the SHARPNESS effect is OK or not.	
6	CH DISPLAY COLOUR	1. All Ch (1~99) will have an OSD display of the channel number in green colour under AFT ON condition.	
7	NORMAL Key	1. Once in PICTURE Mode, and the NORMAL key is pressed, all the settings will be present to normal setting. (Normal setting value for every mode). ● CONTRAST : MAX ● COLOUR : CENTER ● BRIGHTNESS : CENTER ● TINT : CENTER ● SHARPNESS : CENTER	Notes: If nothing is display mean contrast, colour, bright, tint, sharpness are all in normal setting.
8	WHITE TEMP	1. Receive "Monoscope Pattern" signal. 2. Set FUNCTION to select WHITE TEMP. 3. Press Volume Up/Down key to check WHITE TEMP Option, STANDARD: NORMAL SETTING, WARM for more REDDISH direction changing, COOL for more BLUISH direction changing.	

FUNCTION OPERATION CHECKING (VIDEO AND AUDIO) (Continued)

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
9	COLOUR SYSTEM	1. Receive the "PAL COLOUR BAR" signal, press the COLOUR SYSTEM key to select modes except PAL, check the COLOUR is not working properly. Then, select the "PAL" mode. Check again its colour so that it is working properly. 2. Receive "NTSC 4.43/3.58 COLOUR BAR" signal through AV, press COLOUR SYSTEM key to select modes except N4.43/3.58, check the COLOUR is not working properly. Then, select the "NTSC 4.43/3.58" mode. Check again its colour so that it is working properly.	
10	SOUND SYSTEM	1. Receive "PAL-B/G" signal, and check the sound output is working properly or not.	
11	NOISE MUTE CHECKING	1. Receive "PAL COLOUR BAR" signal. 2. Turn up the volume control to maximum, make sure the sound is heard from the speakers. Then put the unit in no signal state. 3. Check the sound mute is effective. 4. Finally turn sound level of CTV to minimum.	
12	OSD LANGUAGE QUANTITY CHECK	Check OSD LANGUAGE quantity and type as below: ENGLISH, THAI.	

HEADPHONE JACK CHECKING (FOR B & C MODELS ONLY)

No.	Adjusting point	Adjusting procedure/conditions	Waveform and others
1	HEADPHONE OUTPUT CHECKING	1. Receive PAL COLOUR PAR with SOUND 400Hz, 100% MODULATION ($\pm 50\text{kHz}$ Dev). 2. Maximum volume, and check the headphone output with 400Hz sound and no sound out from speaker.	

MEMORY MAP

ADDRESS (HEX)	DATA								MICON DEFAULT	E ² PROM RANGE	E ² PROM WRITE(CPU)	CHASSIS		CTV FINAL		LAST INITIAL SETTING DATA	REMARK
	D7	D6	D5	D4	D3	D2	D1	D0				CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE		
00	PASS WORD								55	00-FF							
01	PASS WORD								4F	00-FF							
02	PASS WORD								43	00-FF							
03	PASS WORD								A1	00-FF							
04																	
05																	
06	AGC TAKE-OVER								0E	00-3F							
07	V-SLOPE								20	00-3F							
08	V-AMPLITUDE								20	00-3F							
09	V-CENTER								20	00-3F							
0A	H-CENTER								20	00-3F							
0B	H-SIZE								20	00-3F							
0C	EW-PARALLELOGRAM								20	00-3F							
0D	EW-PARABOLA/WIDTH								20	00-3F							
0E	EW-UPPER CORNER								20	00-3F							
0F	EW-LOWER CORNER								20	00-3F							
10	EW-TRAPEZIUM								20	00-3F							
11	HORIZONTAL-BOW								20	00-3F							
12	S-CORRECTION								00	00-3F							
13																	
14																	
15																	
16	DRIVER-R (STANDARD)								20	00-3F							
17	DRIVER-G (STANDARD)								20	00-3F							
18	DRIVER-B (STANDARD)								20	00-3F							
19	DRIVER-R (WARM)								20	00-3F							
1A	DRIVER-G (WARM)								20	00-3F							
1B	DRIVER-B (WARM)								20	00-3F							
1C	DRIVER-R (COOL)								19	00-3F							
1D	DRIVER-G (COOL)								20	00-3F							
1E	DRIVER-G (COOL)								20	00-3F							
1F																	
20																	
21																	
22	SUB-VOLUME								3F	00-3F							
23	SUB-CONTRAST								3F	00-3F							
24	SUB-COLOUR								20	00-3F							
25	SUB-BRIGHTNESS								20	00-3F							
26	SUB-TINT								20	00-3F							
27	SUB-SHARPNESS								20	00-3F							
28	HTL-VOLUME								20	00-3F							
29	HTL-POSITION								FF	00-3F							
2A																	
2B																	
2C																	
2D	OSD-ENCEREFER								20	00-3F							
2E	CUTOFF LEVEL-OFFSET R								08	00-3F							
2F	CUTOFF LEVEL-OFFSET B								08	00-3F							
30	CATHODE DRIVE LEVEL								00	00-3F							
31	Y-DELAY (TV PAL)								0C	00-3F							
32	Y-DELAY (TV SECAM)								0F	00-3F							
33	Y-DELAY (TV N358)								0C	00-3F							
34	Y-DELAY (TV N443)								0C	00-3F							
35	Y-DALAY (TV BW)								0C	00-3F							
36	Y-DELAY (AV PAL)								0C	00-3F							
37	Y-DELAY (AV SECAM)								0F	00-3F							
38	Y-DELAY (AV N443)								0C	00-3F							
39	Y-DELAY (AV N358)								0F	00-3F							
3A	Y-DELAY (AV BW)								0C	00-3F							
3B	COLOUR-OFFSET (PAL)								08	00-3F							
3C	COLOUR-OFFSET (SECAM)								08	00-3F							
3D	COLOUR-OFFSET (N443)								04	00-3F							
3E	COLOUR-OFFSET (N358)								04	00-3F							
3F	SHARPNESS-OFFSET (PAL)								08	00-3F							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

ADDRESS (HEX)	DATA								MICON DEFAULT	E²PROM RANGE	E²PROM WRITE(CPU)	CHASSIS		CTV FINAL		LAST INITIAL SETTING DATA	REMARK
	D7	D6	D5	D4	D3	D2	D1	D0				CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE		
40					SHARPNESS-OFFSET (SECAM)				04	00-0F							
41					SHARPNESS-OFFSET (N443)				0C	00-0F							
42					SHARPNESS-OFFSET (N358)				08	00-0F							
43																	
44	FCO	ACL	OSO	EHT	EVG	FFI	AVL	BKS		00-FF							
45	SCM	N443	N358	PB-SEC	BG	I	DK	M		00-FF							
46	SM		FMWS	AV	BTSC	HTL	VMC	VMI		00-FF							
47	HP2	FSL	RUS	FRA	CHN	MLY	ARB	THA		00-FF							
48					AGC		BIL	OBA		00-FF							
49																	
4A																	
4B																	
4C				VOLUME					01	00-3C							
4D				CONTRAST					3C	00-3C							
4E				COLOUR					1E	00-3C							
4F				BRIGHTNESS					1E	00-3C							
50				TINT					1E	00-3C							
51				SHARPNESS					1E	00-3C							
52																	
53																	
54																	
55	POSITION/AV1/AV2								01	00-FF							
56	FAV-POS A								0A	00-FF							
57	FAV-POS B								14	00-FF							
58	FAV-POS C								1E	00-FF							
59	FAV-POS D								28	00-FF							
5A																	
5B																	
5C	POWER								00	00-01							
5D	WHITE-TEMP								00	00-02							
5E	BLUE BACK								00	00-01							
5F	LANGUAGE								00	00-07							
60	DIGIT								00	00-01							
61																	
62	SKIP 0	SKIP 1	SKIP 2	SKIP 3	SKIP 4	SKIP 5	SKIP 6	SKIP 7	80	00-FF							
63	SKIP 8	SKIP 9	SKIP 10	SKIP 11	SKIP 12	SKIP 13	SKIP 14	SKIP 15	00	00-FF							
64	SKIP 16	SKIP 17	SKIP 18	SKIP 19	SKIP 20	SKIP 21	SKIP 22	SKIP 23	00	00-FF							
65	SKIP 24	SKIP 25	SKIP 26	SKIP 27	SKIP 28	SKIP 29	SKIP 30	SKIP 31	00	00-FF							
66	SKIP 32	SKIP 33	SKIP 34	SKIP 35	SKIP 36	SKIP 37	SKIP 38	SKIP 39	00	00-FF							
67	SKIP 40	SKIP 41	SKIP 42	SKIP 43	SKIP 44	SKIP 45	SKIP 46	SKIP 47	00	00-FF							
68	SKIP 48	SKIP 49	SKIP 50	SKIP 51	SKIP 52	SKIP 53	SKIP 54	SKIP 55	00	00-FF							
69	SKIP 56	SKIP 57	SKIP 58	SKIP 59	SKIP 60	SKIP 61	SKIP 62	SKIP 63	00	00-FF							
6A	SKIP 64	SKIP 65	SKIP 66	SKIP 67	SKIP 68	SKIP 69	SKIP 70	SKIP 71	00	00-FF							
6B	SKIP 72	SKIP 73	SKIP 74	SKIP 75	SKIP 76	SKIP 77	SKIP 78	SKIP 79	00	00-FF							
6C	SKIP 80	SKIP 81	SKIP 82	SKIP 83	SKIP 84	SKIP 85	SKIP 86	SKIP 87	00	00-FF							
6D	SKIP 88	SKIP 89	SKIP 90	SKIP 91	SKIP 92	SKIP 93	SKIP 94	SKIP 95	00	00-FF							
6E	SKIP 96	SKIP 97	SKIP 98	SKIP 99					00	00-FF							
6F																	
70																	
71																	
72																	
73																	
74	TUNING FREQUENCY (HIGHER PART)										S-SYS					POS 0	
75	TUNING FREQUENCY (LOWER PART)										000:BG						
76	S-SYS			AFT	(auto)				C-SYS		001:I						
77	TUNING FREQUENCY (HIGHER PART)										010:DK					POS 1	
78	TUNING FREQUENCY (LOWER PART)										011:M						
79	S-SYS			AFT	(auto)				C-SYS								
7A	TUNING FREQUENCY (HIGHER PART)										AFT					POS 2	
7B	TUNING FREQUENCY (LOWER PART)										0:OFF						
7C	S-SYS			AFT	(auto)				C-SYS		1:ON						
7D	TUNING FREQUENCY (HIGHER PART)															POS 3	
7E	TUNING FREQUENCY (LOWER PART)																
7F	S-SYS			AFT	(auto)				C-SYS								
MODEL									MODEL								
LETTER NO.									LETTER NO.								

ADDRESS (HEX)	DATA								MICON DEFAULT	E ² PROM RANGE	E ² PROM WRITE(CPU)	CHASSIS		CTV FINAL		LAST INITIAL SETTING DATA	REMARK
	D7	D6	D5	D4	D3	D2	D1	D0				CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE		
80	TUNING FREQUENCY (HIGHER PART)																POS 4
81	TUNING FREQUENCY (LOWER PART)																
82	S-SYS			AFT	(auto)	C-SYS											
83	TUNING FREQUENCY (HIGHER PART)																POS 5
84	TUNING FREQUENCY (LOWER PART)																
85	S-SYS			AFT	(auto)	C-SYS											
86	TUNING FREQUENCY (HIGHER PART)																POS 6
87	TUNING FREQUENCY (LOWER PART)																
88	S-SYS			AFT	(auto)	C-SYS											
89	TUNING FREQUENCY (HIGHER PART)																POS 7
8A	TUNING FREQUENCY (LOWER PART)																
8B	S-SYS			AFT	(auto)	C-SYS											
8C	TUNING FREQUENCY (HIGHER PART)																POS 8
8D	TUNING FREQUENCY (LOWER PART)																
8E	S-SYS			AFT	(auto)	C-SYS											
8F	TUNING FREQUENCY (HIGHER PART)																POS 9
90	TUNING FREQUENCY (LOWER PART)																
91	S-SYS			AFT	(auto)	C-SYS											
92	TUNING FREQUENCY (HIGHER PART)																POS 10
93	TUNING FREQUENCY (LOWER PART)																
94	S-SYS			AFT	(auto)	C-SYS											
95	TUNING FREQUENCY (HIGHER PART)																POS 11
96	TUNING FREQUENCY (LOWER PART)																
97	S-SYS			AFT	(auto)	C-SYS											
98	TUNING FREQUENCY (HIGHER PART)																POS 12
99	TUNING FREQUENCY (LOWER PART)																
9A	S-SYS			AFT	(auto)	C-SYS											
9B	TUNING FREQUENCY (HIGHER PART)																POS 13
9C	TUNING FREQUENCY (LOWER PART)																
9D	S-SYS			AFT	(auto)	C-SYS											
9E	TUNING FREQUENCY (HIGHER PART)																POS 14
9F	TUNING FREQUENCY (LOWER PART)																
A0	S-SYS			AFT	(auto)	C-SYS											
A1	TUNING FREQUENCY (HIGHER PART)																POS 15
A2	TUNING FREQUENCY (LOWER PART)																
A3	S-SYS			AFT	(auto)	C-SYS											
A4	TUNING FREQUENCY (HIGHER PART)																POS 16
A5	TUNING FREQUENCY (LOWER PART)																
A6	S-SYS			AFT	(auto)	C-SYS											
A7	TUNING FREQUENCY (HIGHER PART)																POS 17
A8	TUNING FREQUENCY (LOWER PART)																
A9	S-SYS			AFT	(auto)	C-SYS											
AA	TUNING FREQUENCY (HIGHER PART)																POS 18
AB	TUNING FREQUENCY (LOWER PART)																
AC	S-SYS			AFT	(auto)	C-SYS											
AD	TUNING FREQUENCY (HIGHER PART)																POS 19
AE	TUNING FREQUENCY (LOWER PART)																
AF	S-SYS			AFT	(auto)	C-SYS											
B0	TUNING FREQUENCY (HIGHER PART)																POS 20
B1	TUNING FREQUENCY (LOWER PART)																
B2	S-SYS			AFT	(auto)	C-SYS											
B3	TUNING FREQUENCY (HIGHER PART)																POS 21
B4	TUNING FREQUENCY (LOWER PART)																
B5	S-SYS			AFT	(auto)	C-SYS											
B6	TUNING FREQUENCY (HIGHER PART)																POS 22
B7	TUNING FREQUENCY (LOWER PART)																
B8	S-SYS			AFT	(auto)	C-SYS											
B9	TUNING FREQUENCY (HIGHER PART)																POS 23
BA	TUNING FREQUENCY (LOWER PART)																
BB	S-SYS			AFT	(auto)	C-SYS											
BC	TUNING FREQUENCY (HIGHER PART)																POS 24
BD	TUNING FREQUENCY (LOWER PART)																
BE	S-SYS			AFT	(auto)	C-SYS											
BF	TUNING FREQUENCY (HIGHER PART)																POS 25
MODEL									MODEL								
LETTER NO.									LETTER NO.								

ADDRESS (HEX)	DATA								MICON DEFAULT	E²PROM RANGE	E²PROM WRITE(CPU)	CHASSIS		CTV FINAL		LAST INITIAL SETTING DATA	REMARK
	D7	D6	D5	D4	D3	D2	D1	D0				CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE		
C0	TUNING FREQUENCY (LOWER PART)																
C1	S-SYS		AFT		(auto)		C-SYS										
C2	TUNING FREQUENCY (HIGHER PART)															POS 26	
C3	TUNING FREQUENCY (LOWER PART)																
C4	S-SYS		AFT		(auto)		C-SYS										
C5	TUNING FREQUENCY (HIGHER PART)															POS 27	
C6	TUNING FREQUENCY (LOWER PART)																
C7	S-SYS		AFT		(auto)		C-SYS										
C8	TUNING FREQUENCY (HIGHER PART)															POS 28	
C9	TUNING FREQUENCY (LOWER PART)																
CA	S-SYS		AFT		(auto)		C-SYS										
CB	TUNING FREQUENCY (HIGHER PART)															POS 29	
CC	TUNING FREQUENCY (LOWER PART)																
CD	S-SYS		AFT		(auto)		C-SYS										
CE	TUNING FREQUENCY (HIGHER PART)															POS 30	
CF	TUNING FREQUENCY (LOWER PART)																
D0	S-SYS		AFT		(auto)		C-SYS										
D1	TUNING FREQUENCY (HIGHER PART)															POS 31	
D2	TUNING FREQUENCY (LOWER PART)																
D3	S-SYS		AFT		(auto)		C-SYS										
D4	TUNING FREQUENCY (HIGHER PART)															POS 32	
D5	TUNING FREQUENCY (LOWER PART)																
D6	S-SYS		AFT		(auto)		C-SYS										
D7	TUNING FREQUENCY (HIGHER PART)															POS 33	
D8	TUNING FREQUENCY (LOWER PART)																
D9	S-SYS		AFT		(auto)		C-SYS										
DA	TUNING FREQUENCY (HIGHER PART)															POS 34	
DB	TUNING FREQUENCY (LOWER PART)																
DC	S-SYS		AFT		(auto)		C-SYS										
DD	TUNING FREQUENCY (HIGHER PART)															POS 35	
DE	TUNING FREQUENCY (LOWER PART)																
DF	S-SYS		AFT		(auto)		C-SYS										
E0	TUNING FREQUENCY (HIGHER PART)															POS 36	
E1	TUNING FREQUENCY (LOWER PART)																
E2	S-SYS		AFT		(auto)		C-SYS										
E3	TUNING FREQUENCY (HIGHER PART)															POS 37	
E4	TUNING FREQUENCY (LOWER PART)																
E5	S-SYS		AFT		(auto)		C-SYS										
E6	TUNING FREQUENCY (HIGHER PART)															POS 38	
E7	TUNING FREQUENCY (LOWER PART)																
E8	S-SYS		AFT		(auto)		C-SYS										
E9	TUNING FREQUENCY (HIGHER PART)															POS 39	
EA	TUNING FREQUENCY (LOWER PART)																
EB	S-SYS		AFT		(auto)		C-SYS										
EC	TUNING FREQUENCY (HIGHER PART)															POS 40	
ED	TUNING FREQUENCY (LOWER PART)																
EE	S-SYS		AFT		(auto)		C-SYS										
EF	TUNING FREQUENCY (HIGHER PART)															POS 41	
F0	TUNING FREQUENCY (LOWER PART)																
F1	S-SYS		AFT		(auto)		C-SYS										
F2	TUNING FREQUENCY (HIGHER PART)															POS 42	
F3	TUNING FREQUENCY (LOWER PART)																
F4	S-SYS		AFT		(auto)		C-SYS										
F5	TUNING FREQUENCY (HIGHER PART)															POS 43	
F6	TUNING FREQUENCY (LOWER PART)																
F7	S-SYS		AFT		(auto)		C-SYS										
F8	TUNING FREQUENCY (HIGHER PART)															POS 44	
F9	TUNING FREQUENCY (LOWER PART)																
FA	S-SYS		AFT		(auto)		C-SYS										
FB	TUNING FREQUENCY (HIGHER PART)															POS 45	
FC	TUNING FREQUENCY (LOWER PART)																
FD	S-SYS		AFT		(auto)		C-SYS										
FE																	
FF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

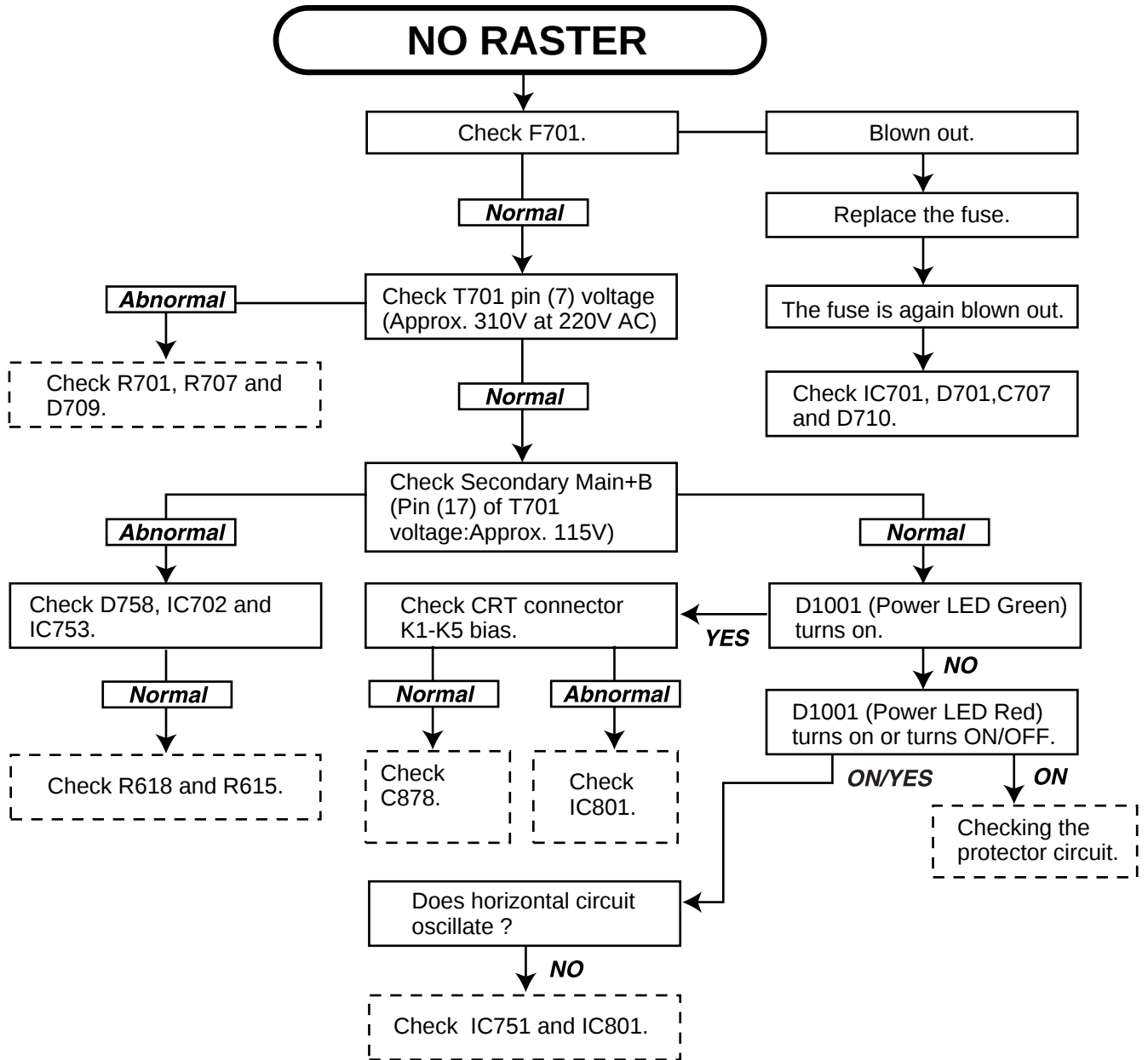
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100																	POS 46
101	TUNING FREQUENCY (HIGHER PART)																POS 47
102	TUNING FREQUENCY (LOWER PART)																
103	S-SYS		AFT		(auto)		C-SYS										
104	TUNING FREQUENCY (HIGHER PART)																POS 48
105	TUNING FREQUENCY (LOWER PART)																
106	S-SYS		AFT		(auto)		C-SYS										
107	TUNING FREQUENCY (HIGHER PART)																POS 49
108	TUNING FREQUENCY (LOWER PART)																
109	S-SYS		AFT		(auto)		C-SYS										
10A	TUNING FREQUENCY (HIGHER PART)																POS 50
10B	TUNING FREQUENCY (LOWER PART)																
10C	S-SYS		AFT		(auto)		C-SYS										
10D	TUNING FREQUENCY (HIGHER PART)																POS 51
10E	TUNING FREQUENCY (LOWER PART)																
10F	S-SYS		AFT		(auto)		C-SYS										
110	TUNING FREQUENCY (HIGHER PART)																POS 52
111	TUNING FREQUENCY (LOWER PART)																
112	S-SYS		AFT		(auto)		C-SYS										
113	TUNING FREQUENCY (HIGHER PART)																POS 53
114	TUNING FREQUENCY (LOWER PART)																
115	S-SYS		AFT		(auto)		C-SYS										
116	TUNING FREQUENCY (HIGHER PART)																POS 54
117	TUNING FREQUENCY (LOWER PART)																
118	S-SYS		AFT		(auto)		C-SYS										
119	TUNING FREQUENCY (HIGHER PART)																POS 55
11A	TUNING FREQUENCY (LOWER PART)																
11B	S-SYS		AFT		(auto)		C-SYS										
11C	TUNING FREQUENCY (HIGHER PART)																POS 56
11D	TUNING FREQUENCY (LOWER PART)																
11E	S-SYS		AFT		(auto)		C-SYS										
11F	TUNING FREQUENCY (HIGHER PART)																POS 57
120	TUNING FREQUENCY (LOWER PART)																
121	S-SYS		AFT		(auto)		C-SYS										
122	TUNING FREQUENCY (HIGHER PART)																POS 58
123	TUNING FREQUENCY (LOWER PART)																
124	S-SYS		AFT		(auto)		C-SYS										
125	TUNING FREQUENCY (HIGHER PART)																POS 59
126	TUNING FREQUENCY (LOWER PART)																
127	S-SYS		AFT		(auto)		C-SYS										
128	TUNING FREQUENCY (HIGHER PART)																POS 60
129	TUNING FREQUENCY (LOWER PART)																
12A	S-SYS		AFT		(auto)		C-SYS										
12B	TUNING FREQUENCY (HIGHER PART)																POS 61
12C	TUNING FREQUENCY (LOWER PART)																
12D	S-SYS		AFT		(auto)		C-SYS										
12E	TUNING FREQUENCY (HIGHER PART)																POS 62
12F	TUNING FREQUENCY (LOWER PART)																
130	S-SYS		AFT		(auto)		C-SYS										
131	TUNING FREQUENCY (HIGHER PART)																POS 63
132	TUNING FREQUENCY (LOWER PART)																
133	S-SYS		AFT		(auto)		C-SYS										
134	TUNING FREQUENCY (HIGHER PART)																POS 64
135	TUNING FREQUENCY (LOWER PART)																
136	S-SYS		AFT		(auto)		C-SYS										
137	TUNING FREQUENCY (HIGHER PART)																POS 65
138	TUNING FREQUENCY (LOWER PART)																
139	S-SYS		AFT		(auto)		C-SYS										
13A	TUNING FREQUENCY (HIGHER PART)																POS 66
13B	TUNING FREQUENCY (LOWER PART)																
13C	S-SYS		AFT		(auto)		C-SYS										
13D	TUNING FREQUENCY (HIGHER PART)																POS 67
13E	TUNING FREQUENCY (LOWER PART)																
13F	S-SYS		AFT		(auto)		C-SYS										
MODEL									MODEL								
LETTER NO.									LETTER NO.								

ADDRESS (HEX)	DATA								MICON DEFAULT	E²PROM RANGE	E²PROM WRITE(CPU)	CHASSIS		CTV FINAL		LAST INITIAL SETTING DATA	REMARK
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141	TUNING FREQUENCY (LOWER PART)																
142	S-SYS			AFT		(auto)			C-SYS								
143	TUNING FREQUENCY (HIGHER PART)																POS 69
144	TUNING FREQUENCY (LOWER PART)																
145	S-SYS			AFT		(auto)			C-SYS								
146	TUNING FREQUENCY (HIGHER PART)																POS 70
147	TUNING FREQUENCY (LOWER PART)																
148	S-SYS			AFT		(auto)			C-SYS								
149	TUNING FREQUENCY (HIGHER PART)																POS 71
14A	TUNING FREQUENCY (LOWER PART)																
14B	S-SYS			AFT		(auto)			C-SYS								
14C	TUNING FREQUENCY (HIGHER PART)																POS 72
14D	TUNING FREQUENCY (LOWER PART)																
14E	S-SYS			AFT		(auto)			C-SYS								
14F	TUNING FREQUENCY (HIGHER PART)																POS 73
150	TUNING FREQUENCY (LOWER PART)																
151	S-SYS			AFT		(auto)			C-SYS								
152	TUNING FREQUENCY (HIGHER PART)																POS 74
153	TUNING FREQUENCY (LOWER PART)																
154	S-SYS			AFT		(auto)			C-SYS								
155	TUNING FREQUENCY (HIGHER PART)																POS 75
156	TUNING FREQUENCY (LOWER PART)																
157	S-SYS			AFT		(auto)			C-SYS								
158	TUNING FREQUENCY (HIGHER PART)																POS 76
159	TUNING FREQUENCY (LOWER PART)																
15A	S-SYS			AFT		(auto)			C-SYS								
15B	TUNING FREQUENCY (HIGHER PART)																POS 77
15C	TUNING FREQUENCY (LOWER PART)																
15D	S-SYS			AFT		(auto)			C-SYS								
15E	TUNING FREQUENCY (HIGHER PART)																POS 78
15F	TUNING FREQUENCY (LOWER PART)																
160	S-SYS			AFT		(auto)			C-SYS								
161	TUNING FREQUENCY (HIGHER PART)																POS 79
162	TUNING FREQUENCY (LOWER PART)																
163	S-SYS			AFT		(auto)			C-SYS								
164	TUNING FREQUENCY (HIGHER PART)																POS 80
165	TUNING FREQUENCY (LOWER PART)																
166	S-SYS			AFT		(auto)			C-SYS								
167	TUNING FREQUENCY (HIGHER PART)																POS 81
168	TUNING FREQUENCY (LOWER PART)																
169	S-SYS			AFT		(auto)			C-SYS								
16A	TUNING FREQUENCY (HIGHER PART)																POS 82
16B	TUNING FREQUENCY (LOWER PART)																
16C	S-SYS			AFT		(auto)			C-SYS								
16D	TUNING FREQUENCY (HIGHER PART)																POS 83
16E	TUNING FREQUENCY (LOWER PART)																
16F	S-SYS			AFT		(auto)			C-SYS								
170	TUNING FREQUENCY (HIGHER PART)																POS 84
171	TUNING FREQUENCY (LOWER PART)																
172	S-SYS			AFT		(auto)			C-SYS								
173	TUNING FREQUENCY (HIGHER PART)																POS 85
174	TUNING FREQUENCY (LOWER PART)																
175	S-SYS			AFT		(auto)			C-SYS								
176	TUNING FREQUENCY (HIGHER PART)																POS 86
177	TUNING FREQUENCY (LOWER PART)																
178	S-SYS			AFT		(auto)			C-SYS								
179	TUNING FREQUENCY (HIGHER PART)																POS 87
17A	TUNING FREQUENCY (LOWER PART)																
17B	S-SYS			AFT		(auto)			C-SYS								
17C	TUNING FREQUENCY (HIGHER PART)																POS 88
17D	TUNING FREQUENCY (LOWER PART)																
17E	S-SYS			AFT		(auto)			C-SYS								
17F																	POS 89
MODEL									MODEL								
LETTER NO.									LETTER NO.								

ADDRESS (HEX)	DATA								MICON DEFAULT	E ² PROM RANGE	E ² PROM WRITE(CPU)	CHASSIS		CTV FINAL		LAST INITIAL SETTING DATA	REMARK
	D7	D6	D5	D4	D3	D2	D1	D0				CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE		
180																	POS 89
181																	
182																	POS 90
183																	
184		S-SYS		AFT	(auto)			C-SYS									
185																	POS 91
186																	
187		S-SYS		AFT	(auto)			C-SYS									
188																	POS 92
189																	
18A		S-SYS		AFT	(auto)			C-SYS									
18B																	POS 93
18C																	
18D		S-SYS		AFT	(auto)			C-SYS									
18E																	POS 94
18F																	
190		S-SYS		AFT	(auto)			C-SYS									
191																	POS 95
192																	
193		S-SYS		AFT	(auto)			C-SYS									
194																	POS 96
195																	
196		S-SYS		AFT	(auto)			C-SYS									
197																	POS 97
198																	
199		S-SYS		AFT	(auto)			C-SYS									
19A																	POS 98
19B																	
19C		S-SYS		AFT	(auto)			C-SYS									
19D																	POS 99
19E																	
19F		S-SYS		AFT	(auto)			C-SYS									
1A0																	AV 1
1A1																	
1A2					(auto)			C-SYS									
1A3																	AV2
1A4																	
1A5					(auto)			C-SYS									
1A6																	
1A7																	
1A8																	
1A9																	
1AA																	
1AB																	
1AC																	
1AD																	
1AE																	
1AF																	
1B0																	
1B1																	
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1B9																	
1BB																	
1BB																	
1BC																	
1BD																	
1BE																	
1BF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

ADDRESS (HEX)	DATA								MICON DEFAULT	E²PROM RANGE	E²PROM WRITE(CPU)	CHASSIS		CTV FINAL		LAST INITIAL SETTING DATA	REMARK
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1C1																	
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1C9																	
1CA																	
1CB																	
1CC																	
1CD																	
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1FA																	
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1FE																	
1FF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

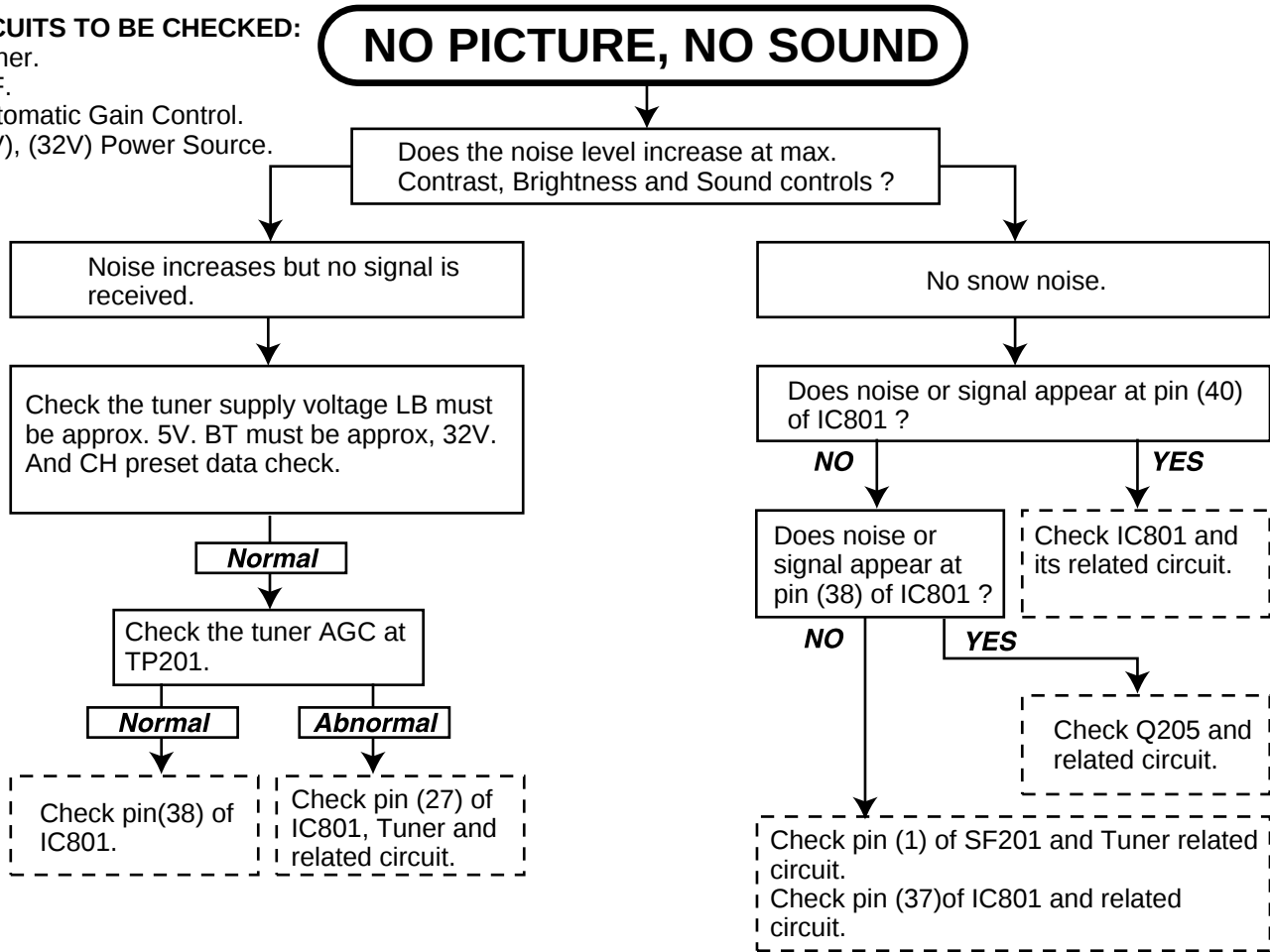
TROUBLE SHOOTING TABLE



TROUBLE SHOOTING TABLE (Continued)

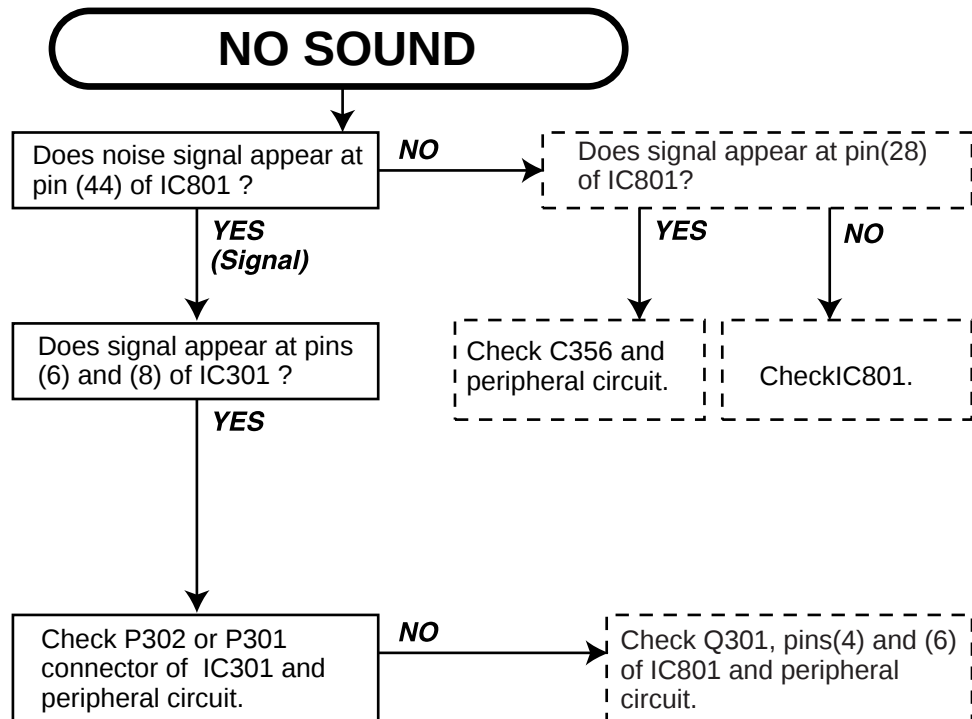
CIRCUITS TO BE CHECKED:

- Tuner.
- PIF.
- Automatic Gain Control.
- (5V), (32V) Power Source.



CIRCUITS TO BE CHECKED:

- Sound system pins (28) and (44) of IC801.
- Sound Detector Circuit.
- Sound Switch and Att. Control.
- Audio Output Circuit.



TROUBLE SHOOTING TABLE (Continued)

NEITHER VERTICAL NOR HORIZONTAL SYNCHRONIZATION

CIRCUIT TO BE CHECKED:

- Sync. Separator Circuit.

Check pins(16), (17) and (34) of IC801.

DEFECTIVE VERTICAL AMP. AND VERTICAL LINEARITY

Readjust vertical size.
(Bas Data)

Vertical linearity and size is abnormal.

Check R504, R503, R506, R513, C517 and D501.

NO VERTICAL SCAN

Check IC501.

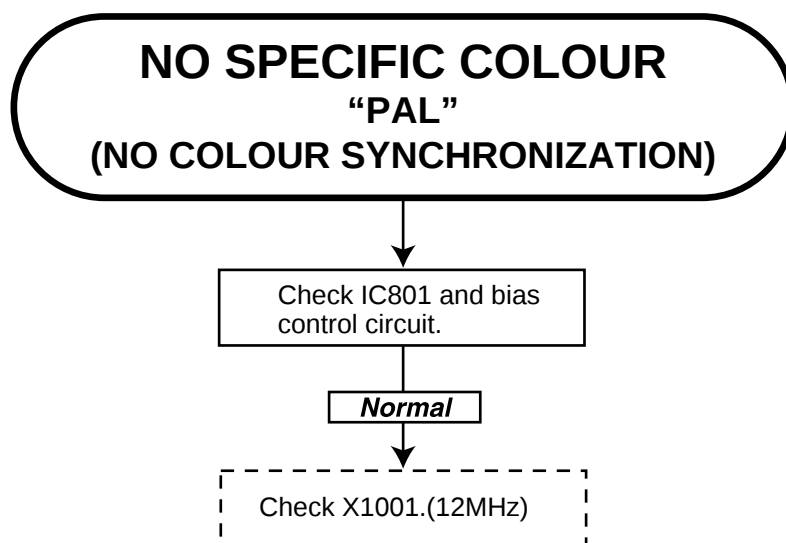
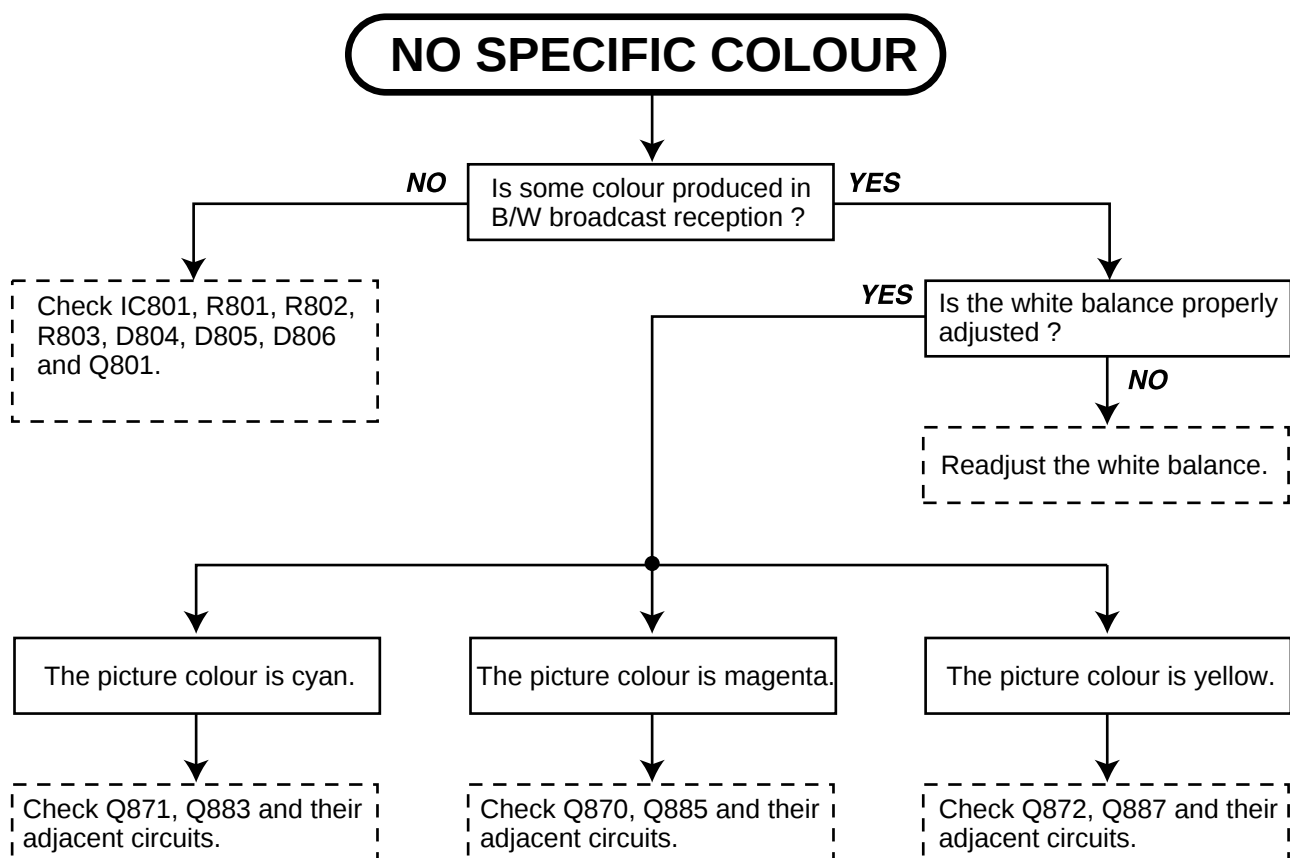
Normal

Check C503 and C507.

Abnormal

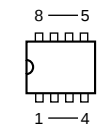
Check IC501.

TROUBLE SHOOTING TABLE (Continued)



SOLID STATE DEVICE BASE DIAGRAM

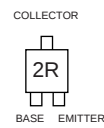
TOP VIEW



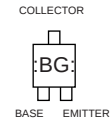
M24C04W



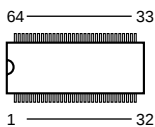
FX0008GE



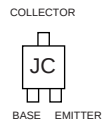
D601A



B709A

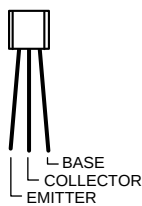


iX3368CEN0

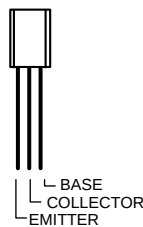


2SC2735

SIDE VIEW



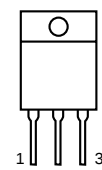
2SC1815



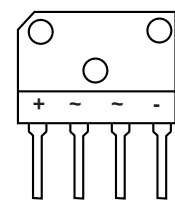
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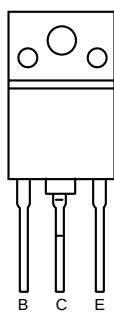
PST573J



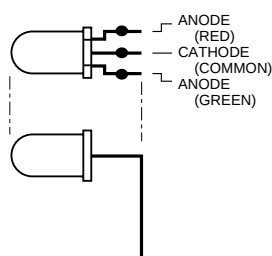
SE115N



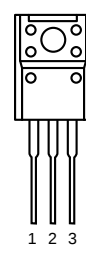
DX0386CE



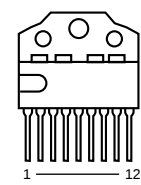
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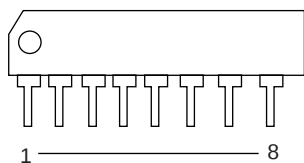
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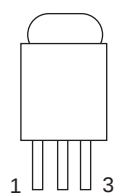
KA7808
KA7805



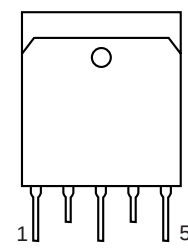
TDA7056A



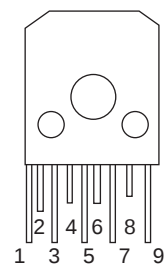
LA7016



TA48M033

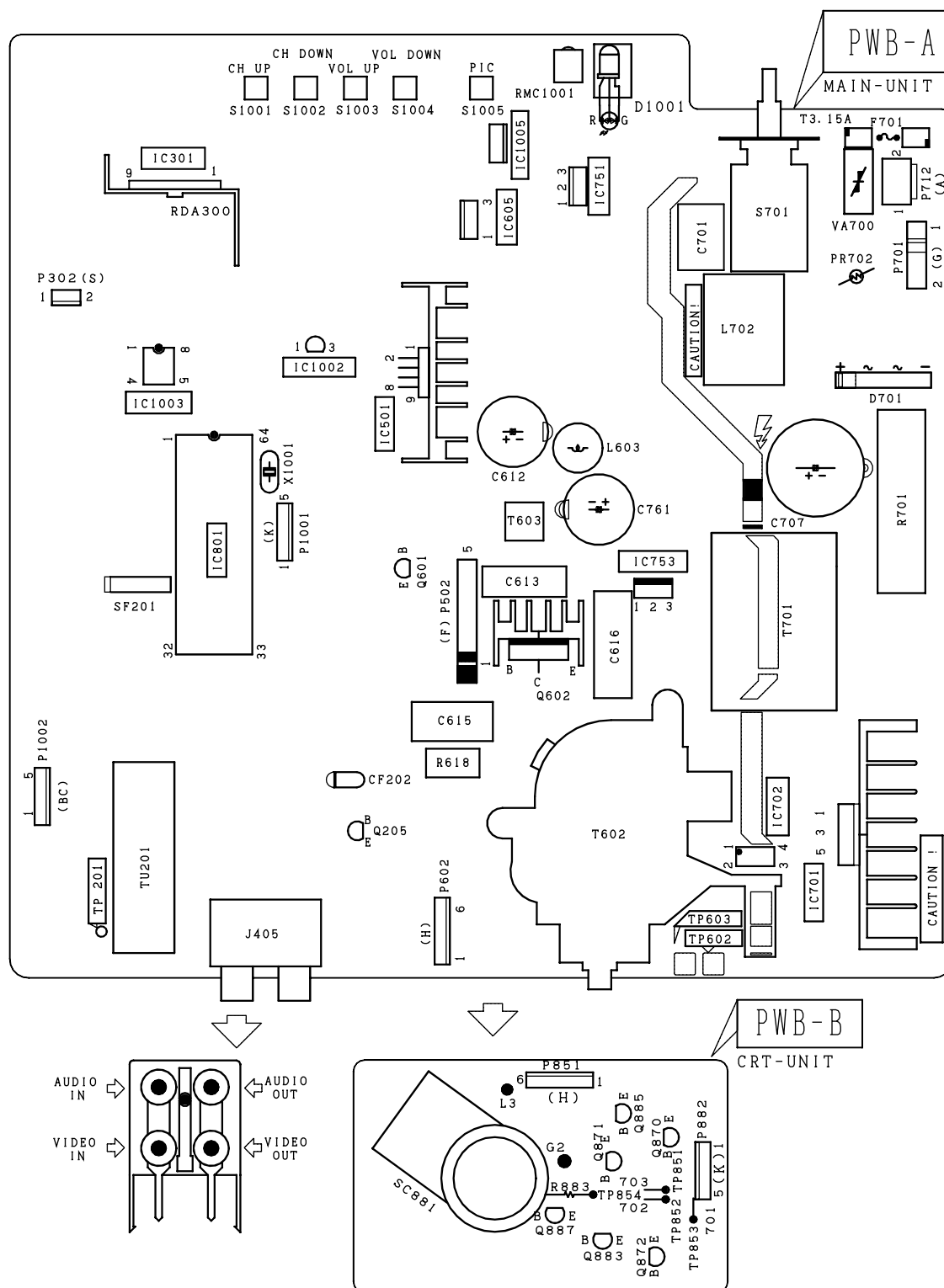


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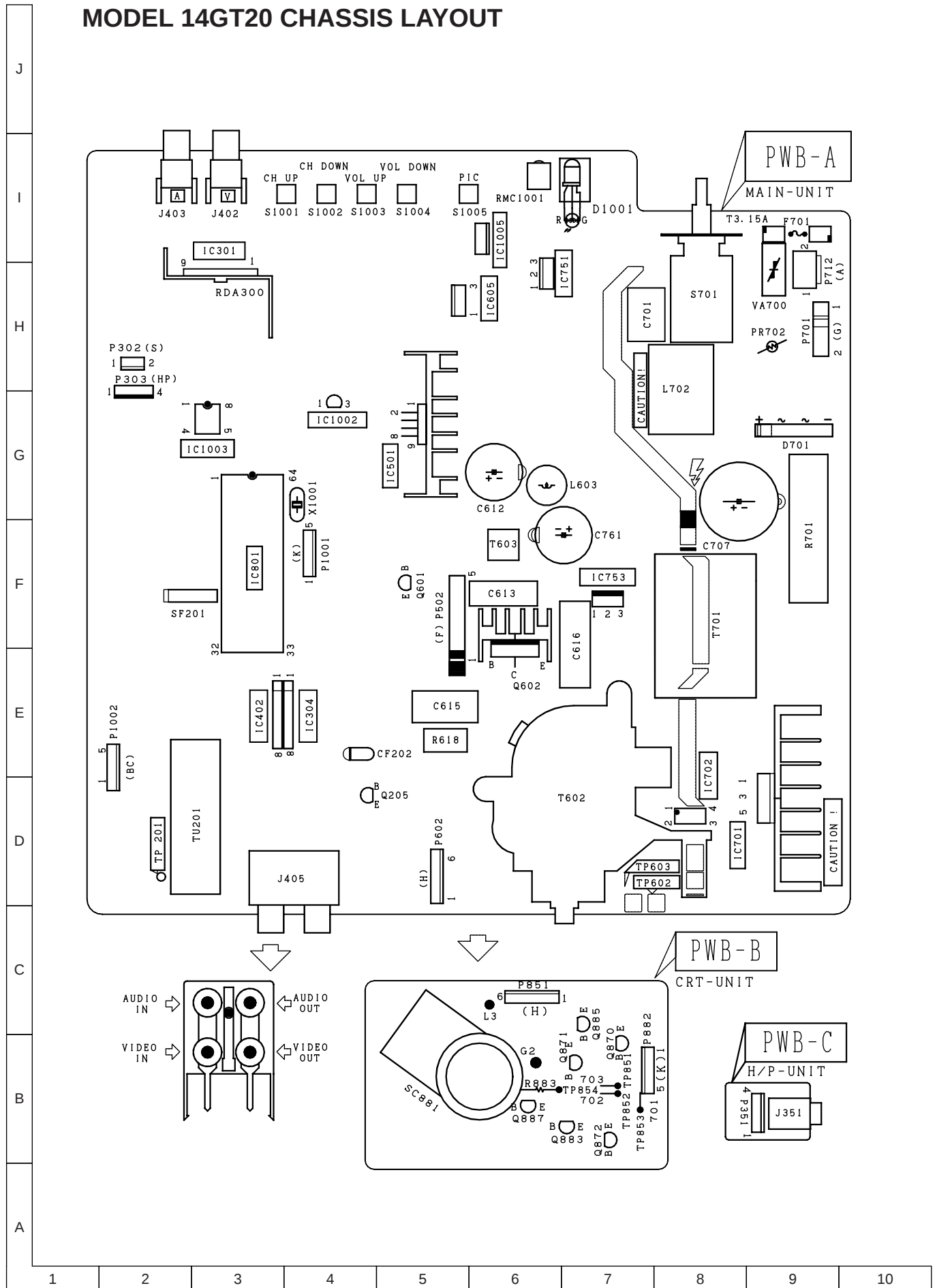


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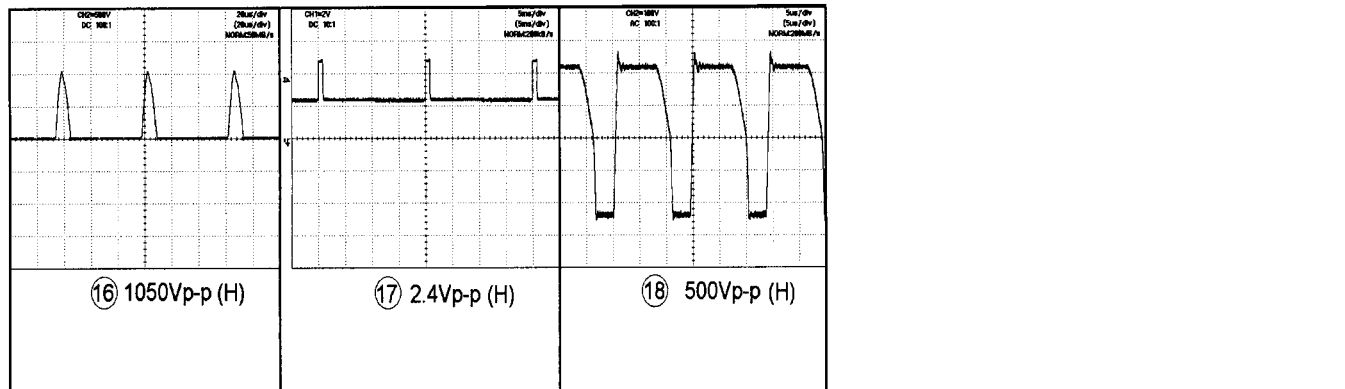
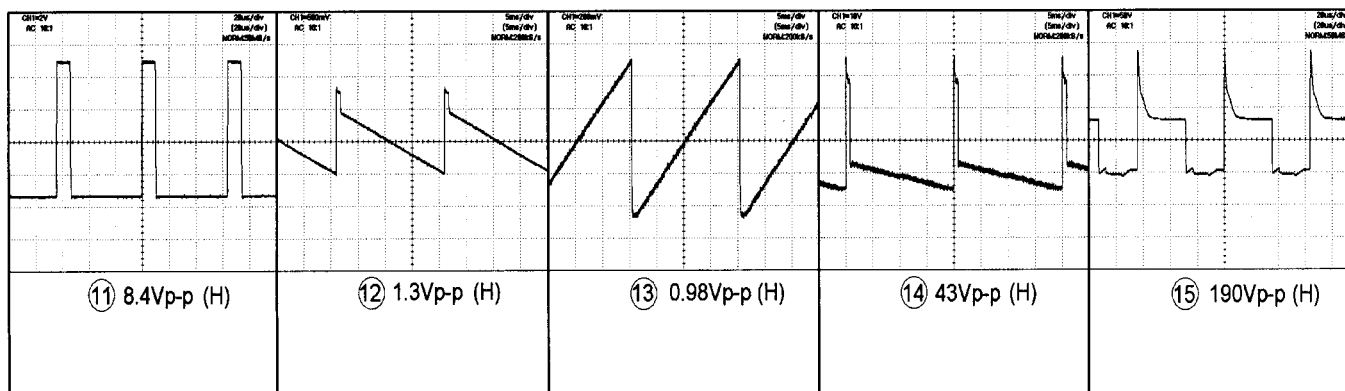
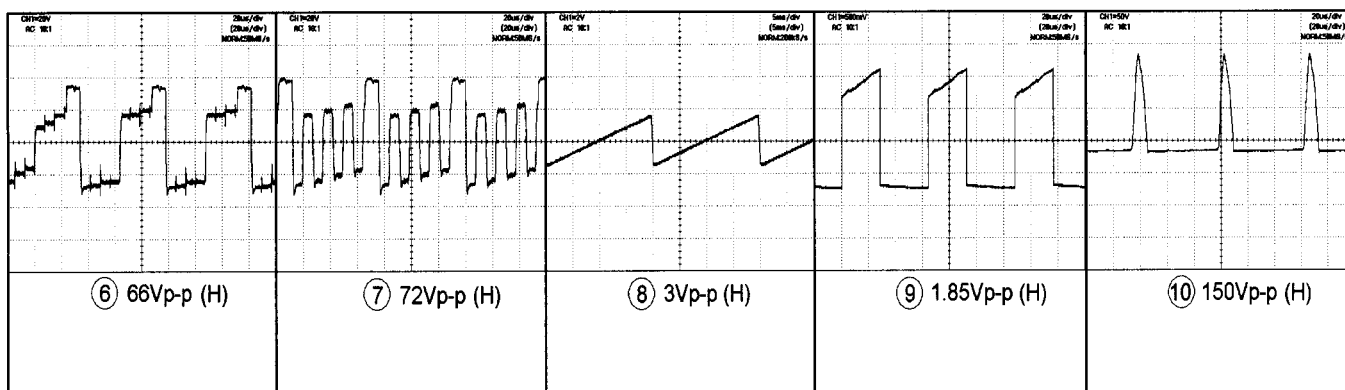
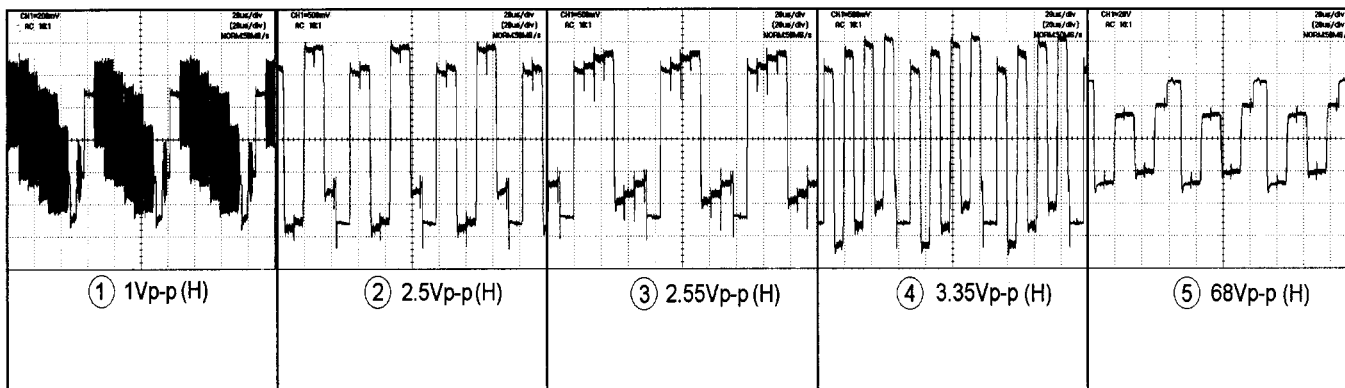
MODEL 14GT15 CHASSIS LAYOUT



MODEL 14GT20 CHASSIS LAYOUT



WAVEFORMS



DESCRIPTION OF SCHEMATIC DIAGRAM

SAFETY NOTES:

1. DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACING PARTS.
2. SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH "  " () ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

SERVICE PRECAUTION:

THE AREA ENCLOSED BY THIS LINE (— - —) IS DIRECTLY CONNECTED WITH AC MAINS VOLTAGE. WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

NOTES:

1. The unit of resistance "ohm" is omitted.
(K = 1000 ohms, M = Mega ohm).
2. All resistors are 1/8 watt, unless otherwise noted.
3. All capacitors are μF , unless otherwise noted. (P = $\mu\mu F$).

VOLTAGE MEASUREMENT CONDITIONS:

1. Voltages in parenthesis measured with no signal.
2. Voltages without parenthesis measured with 3mV B & W or Colour signal.
3. All the voltages in each point are measured with VTVM.

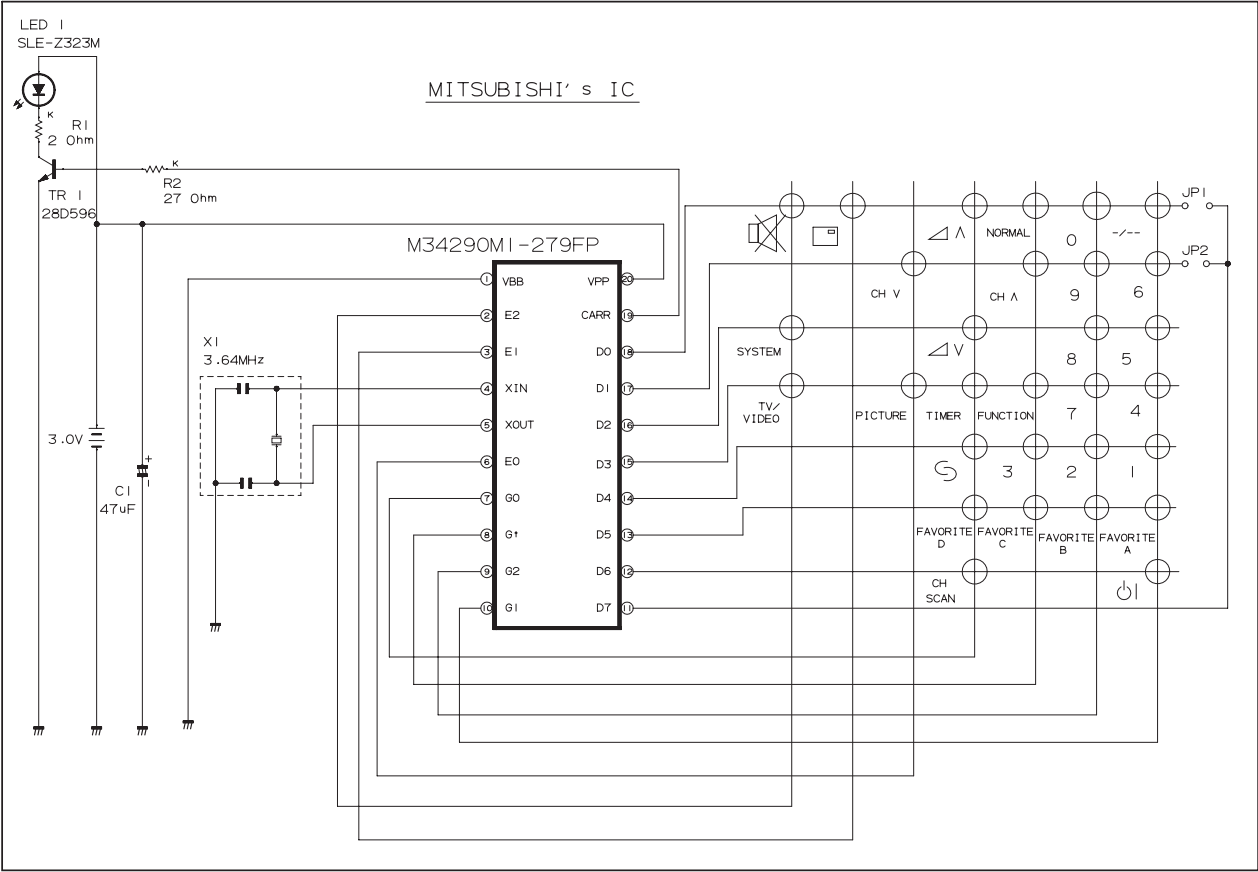
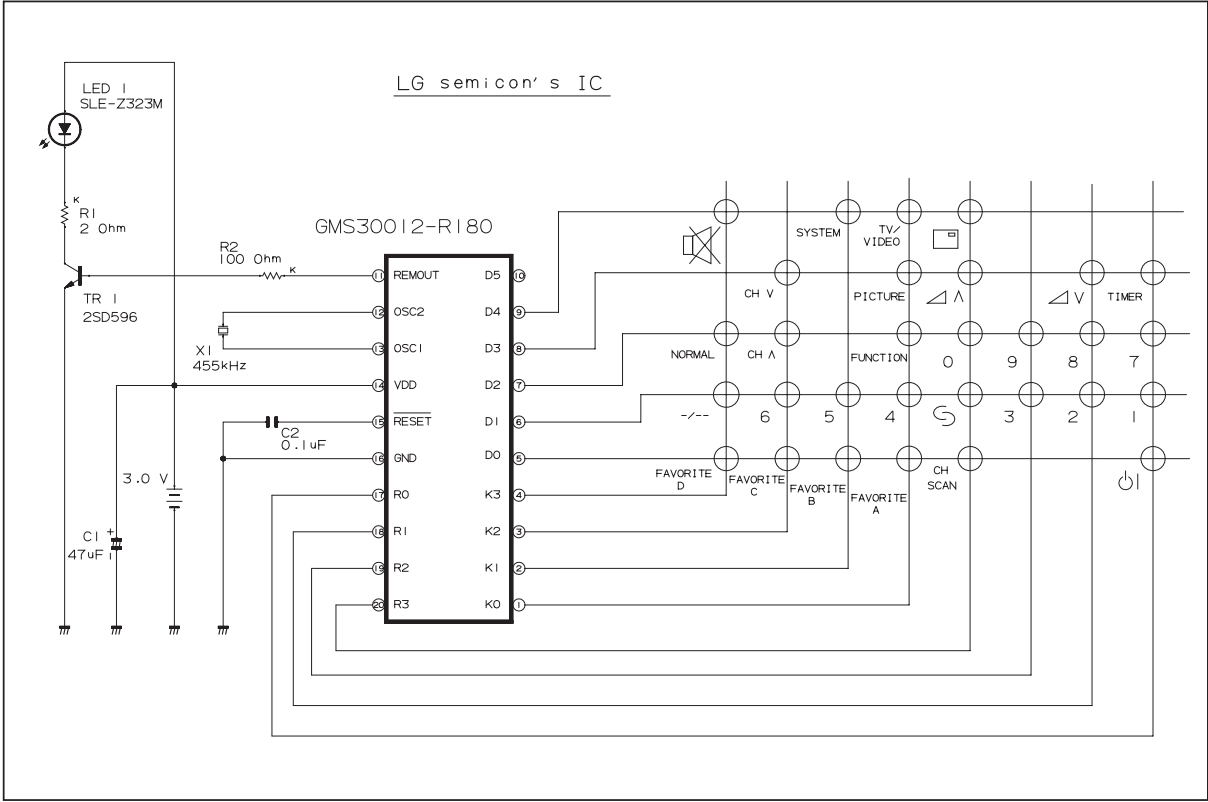
WAVEFORM MEASUREMENT CONDITIONS:

1. The colour bar generator signal of 1.0V peak applied at pin (24) of IC201.
2. Approximately 4V AGC bias .

■ Infrared Remote Control Unit

RRMCG0025KJSA

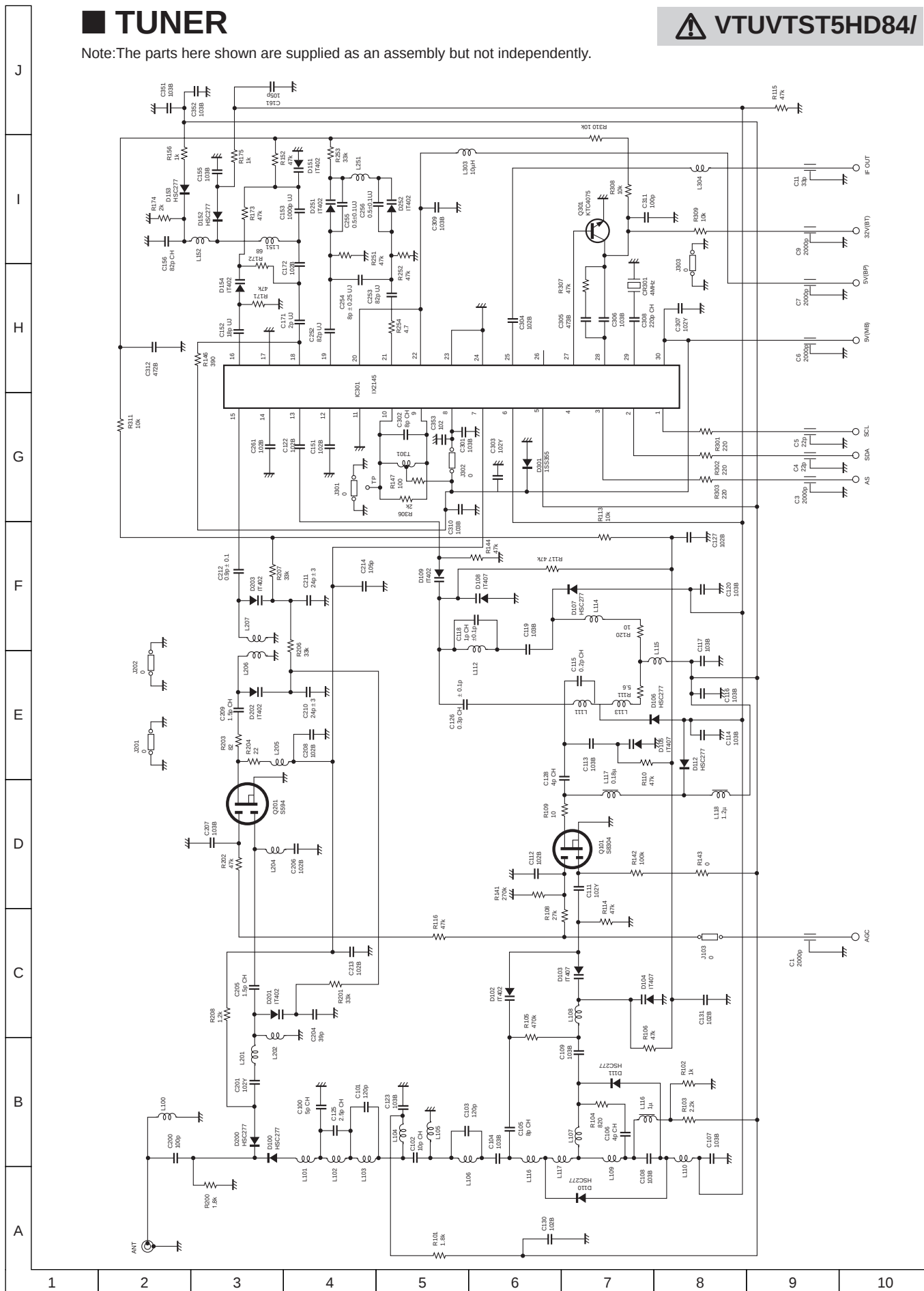
Note: The parts here shown are supplied as an assembly but not independently.
RRMCG0025KJSA



TUNER

Note: The parts here shown are supplied as an assembly but not independently.

⚠ VTUVTST5HD84/

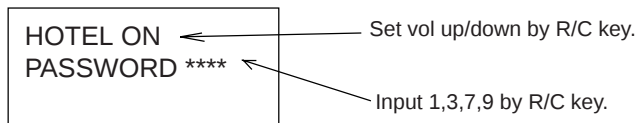


14GT15 , 14GT20 HOTEL MODE APPLICATION

How to enable/disable the "Hotel Mode" ?

Ans: a) Press the R/C (FUNCTION) key until language selection appear, within five second press the (one/two digit) key and keep pressing it for five second, then you can see the hotel mode with four digits password.

b) Key in the four digits password starting with number "1", "3", "7", "9", then the hotel mode will be enable, you can switch on/off the hotel mode by using R/C (volume up/down) key.



* We recommend

Before set the hotel mode, it is better to choose ch 1 & set s-vol level Up to 75% full scale.

After set hotel mode, starting channel will be always ch 1 & maximum sound level out will be set the half of full scale.

* If you set hotel mode in AV, starting channel will be the last ch which you received before power off (same as normal operation)

#1 Ch 1 is your selected channel
for hotel mode.

CONDITION:

When using hotel mode, user can control "contrast", "brightness", "sharpness" and "tint" function.

But after power off, it will return to the initial setting.

You can't use:--

Preset mode

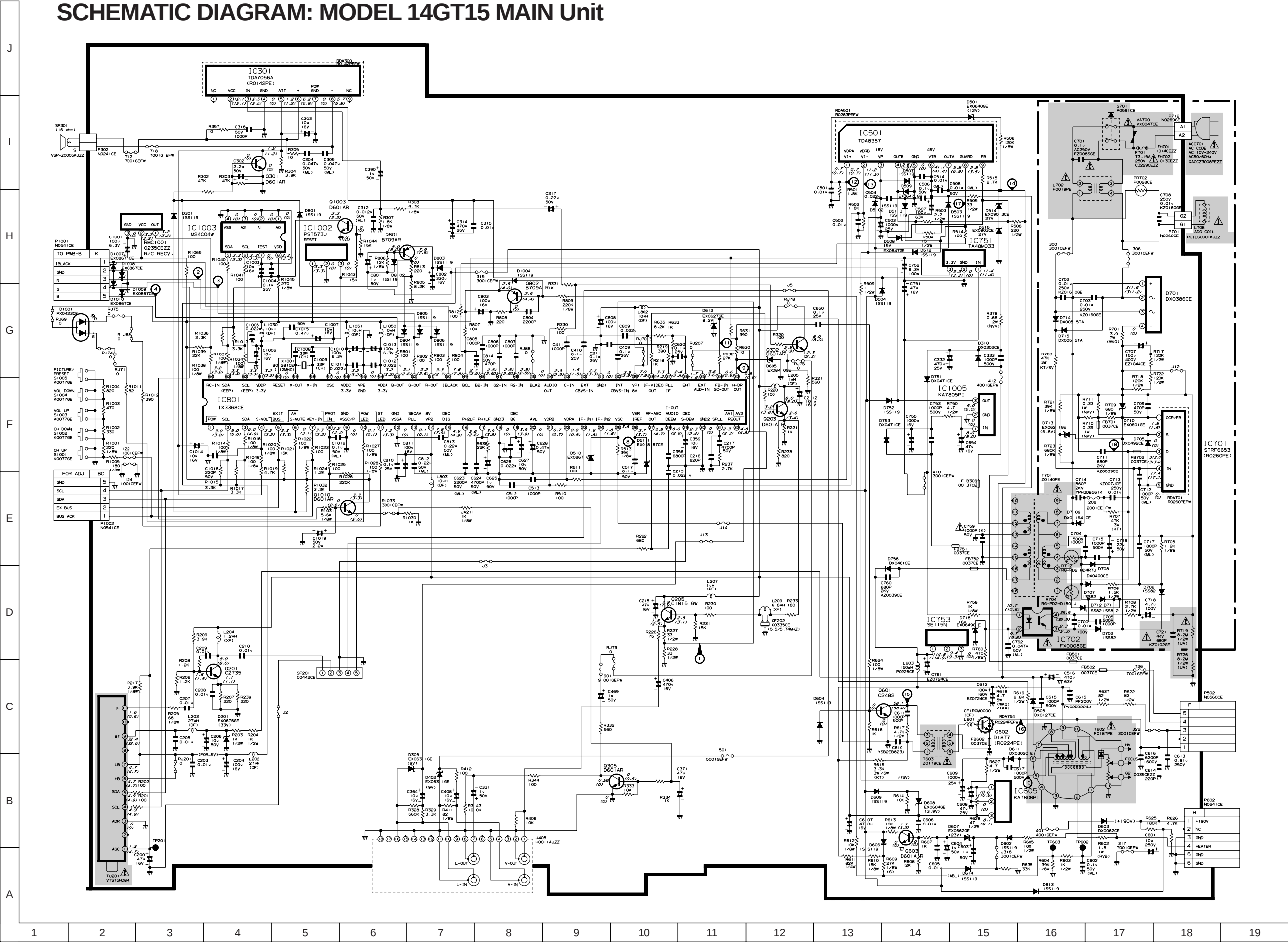
Fine tuning

Skip mode

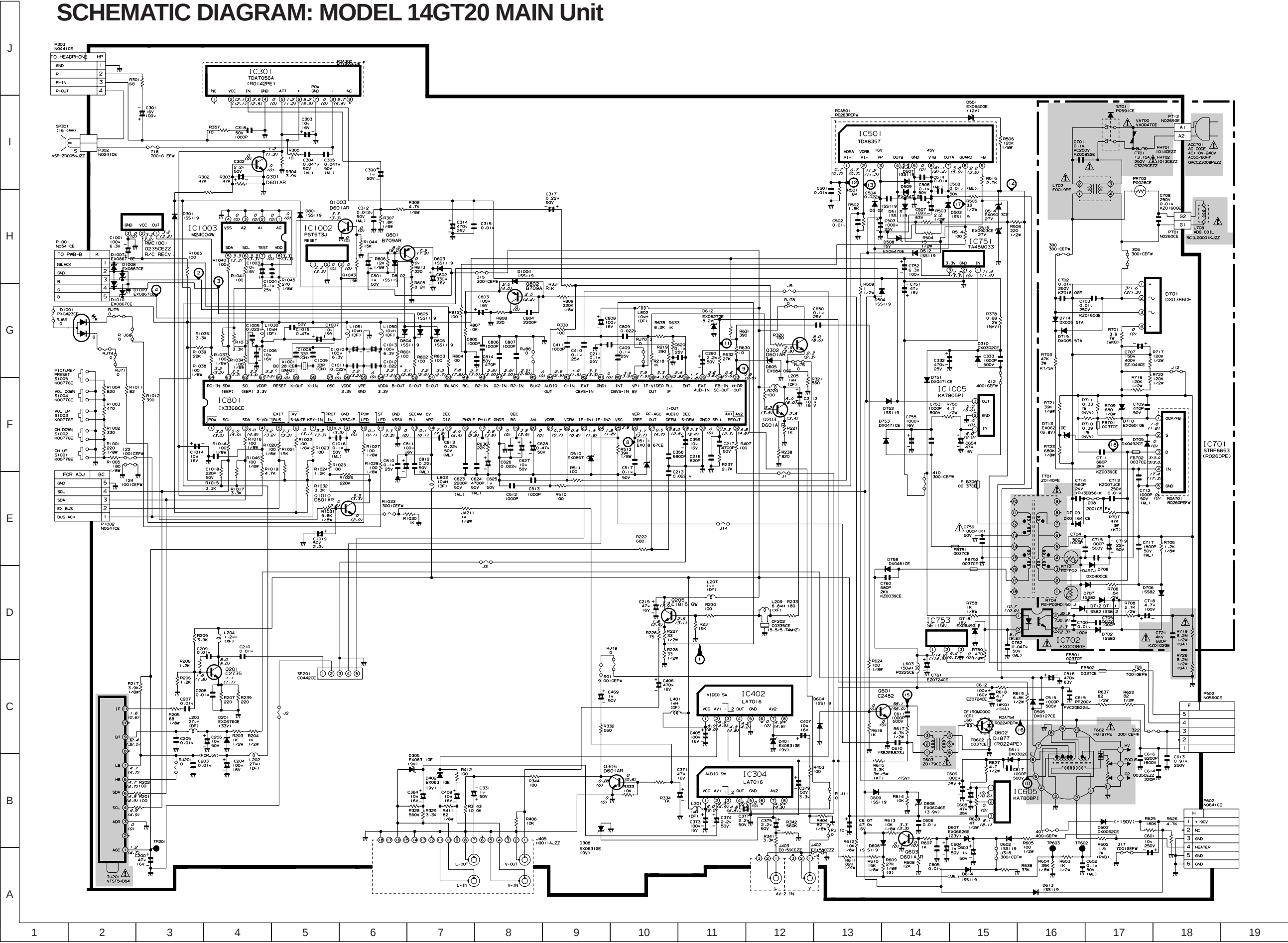
System selection

The others function is allowed to be used.

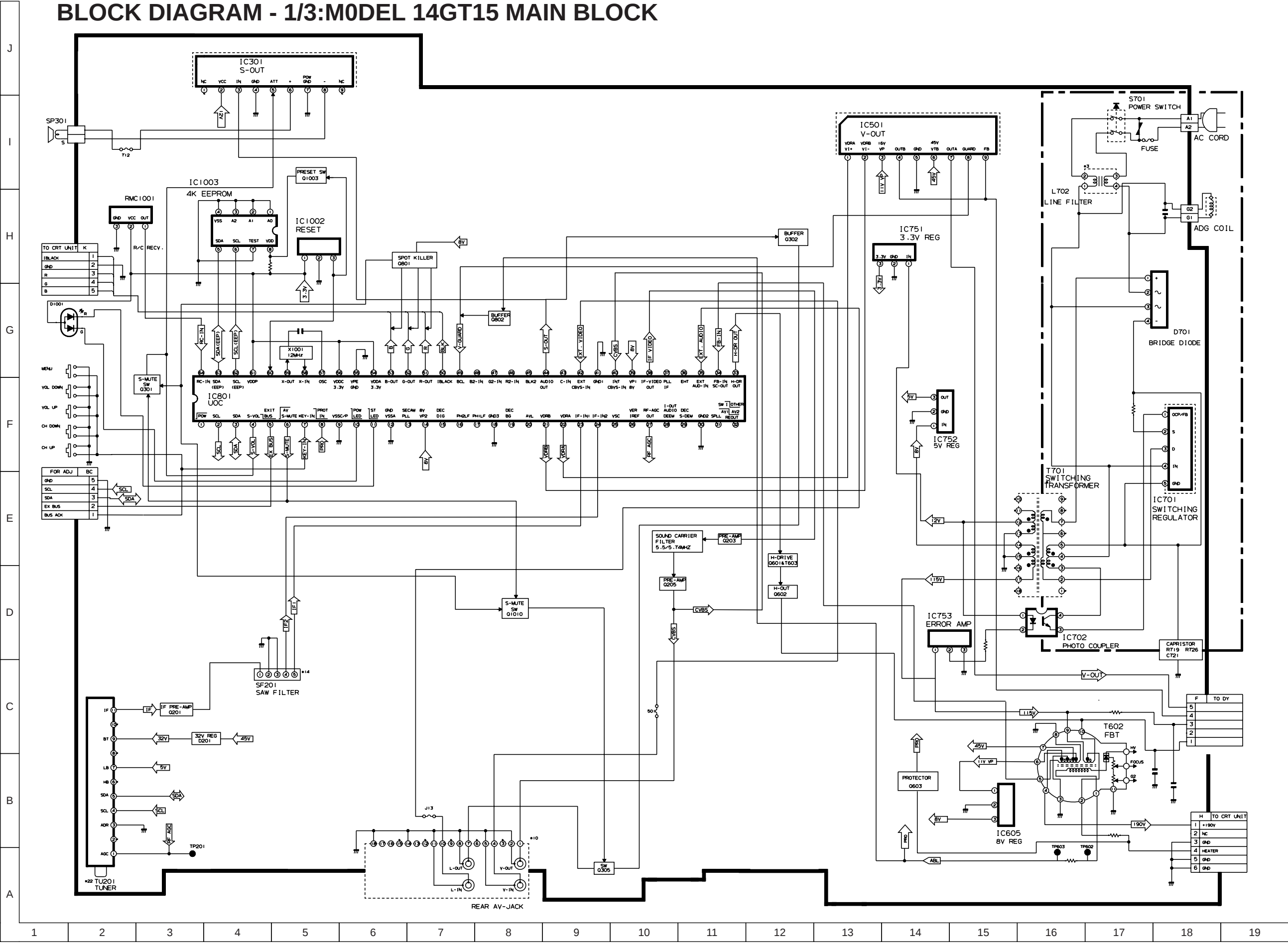
SCHEMATIC DIAGRAM: MODEL 14GT15 MAIN Unit



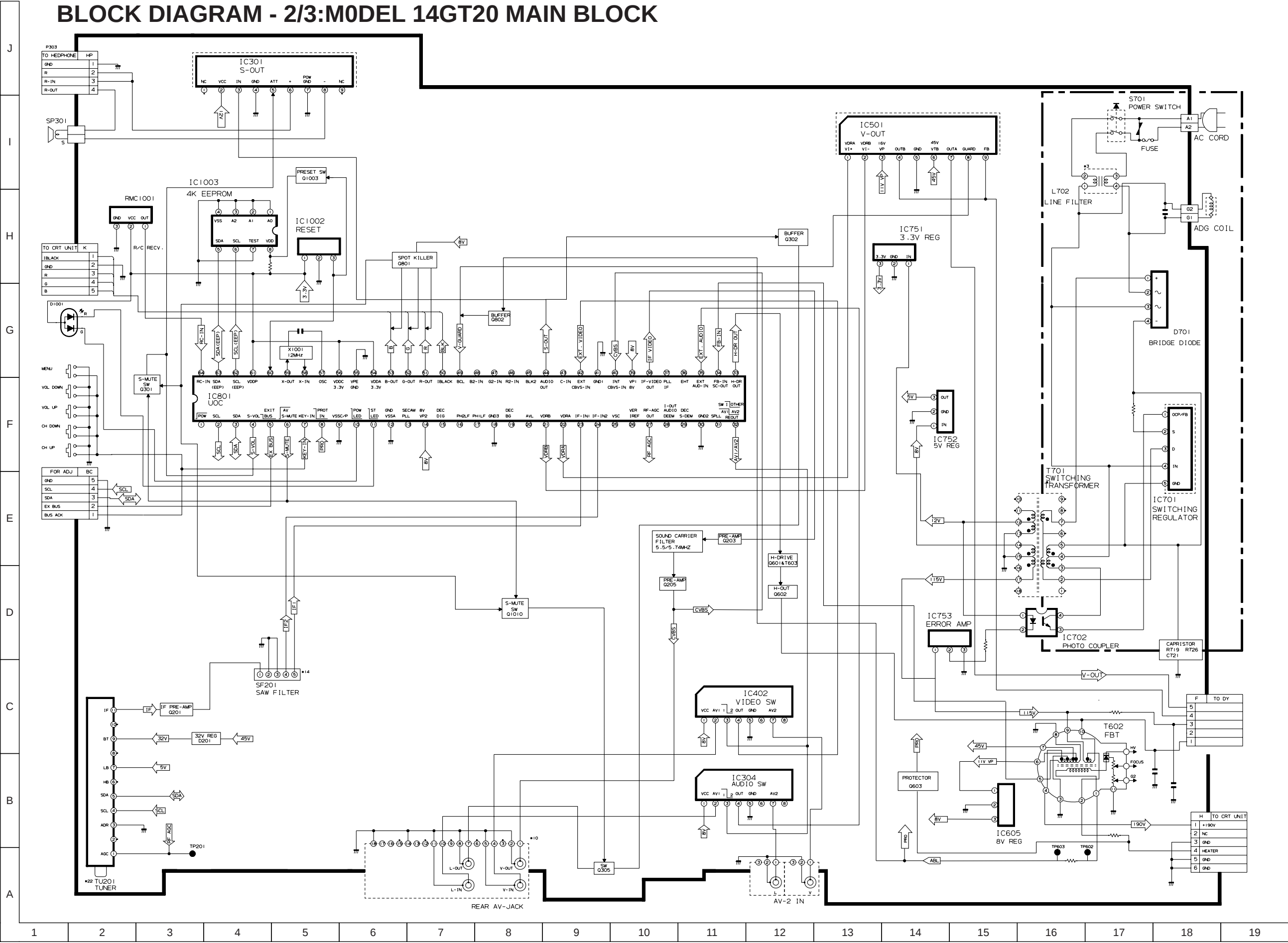
SCHEMATIC DIAGRAM: MODEL 14GT20 MAIN Unit



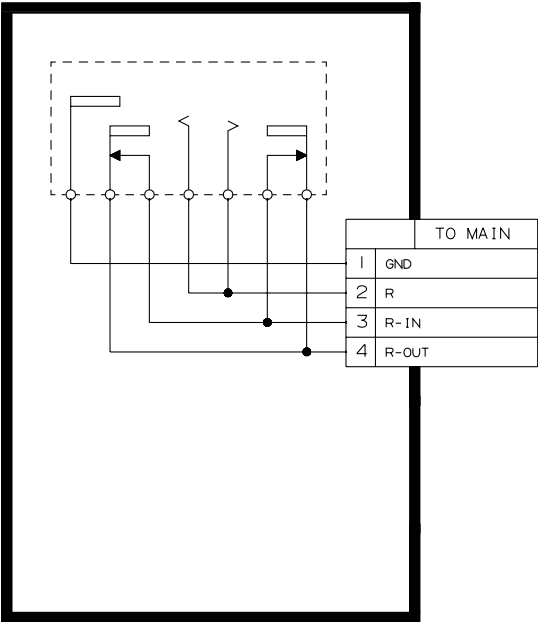
BLOCK DIAGRAM - 1/3:MODEL 14GT15 MAIN BLOCK



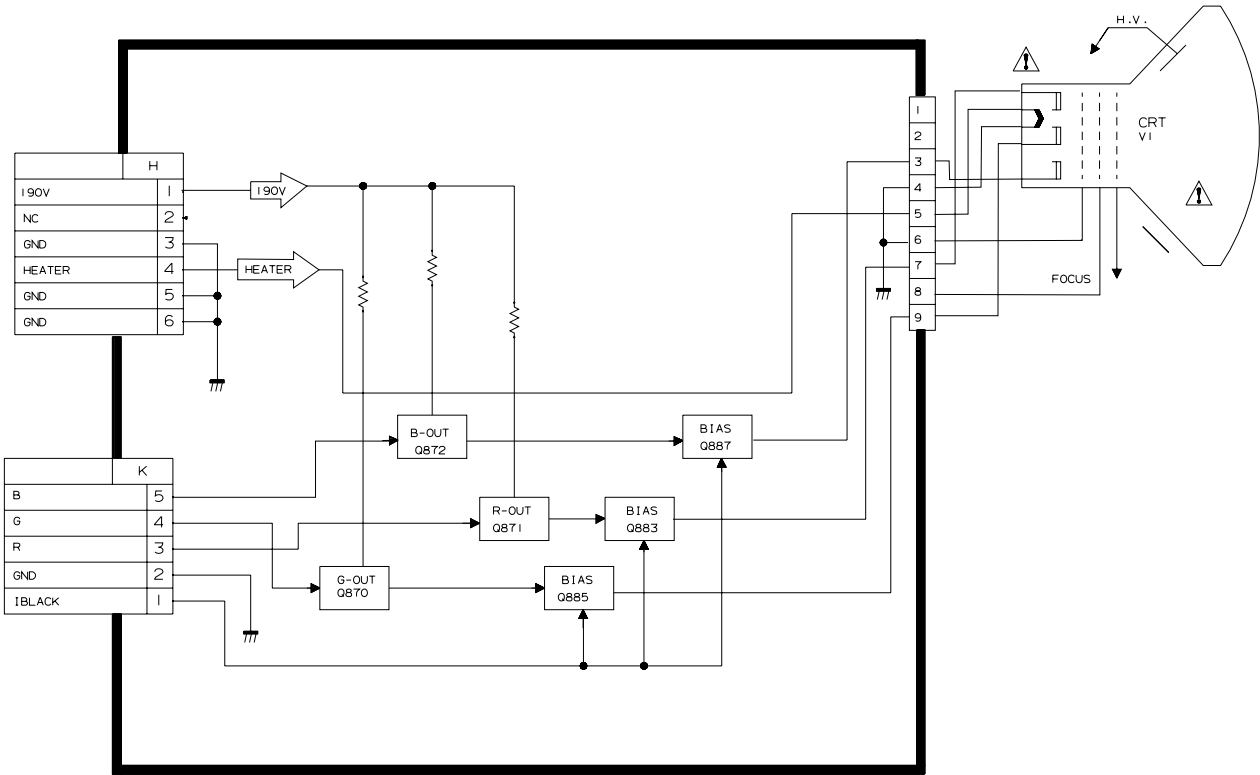
BLOCK DIAGRAM - 2/3:MODEL 14GT20 MAIN BLOCK



BLOCK DIAGRAM - 3/3:
MODEL 14GT20 HEAD PHONE BLOCK

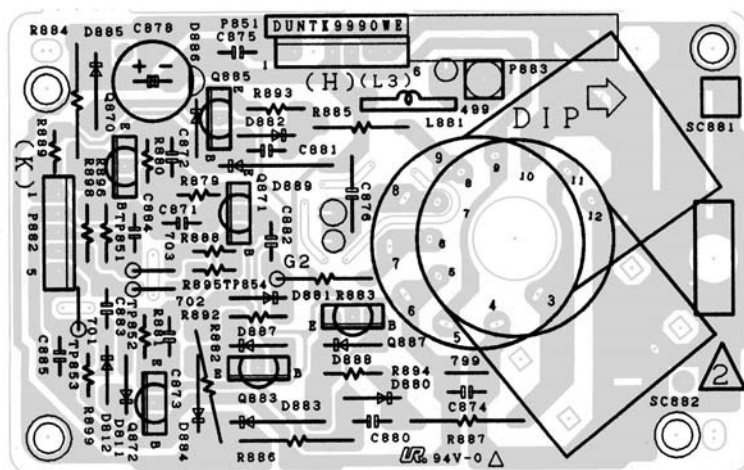


CRT BLOCK



PRINTED WIRING BOARD ASSEMBLIES

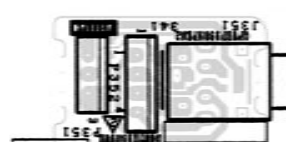
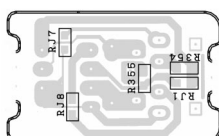
PWB-B: CRT Socket Unit (Wiring Side)



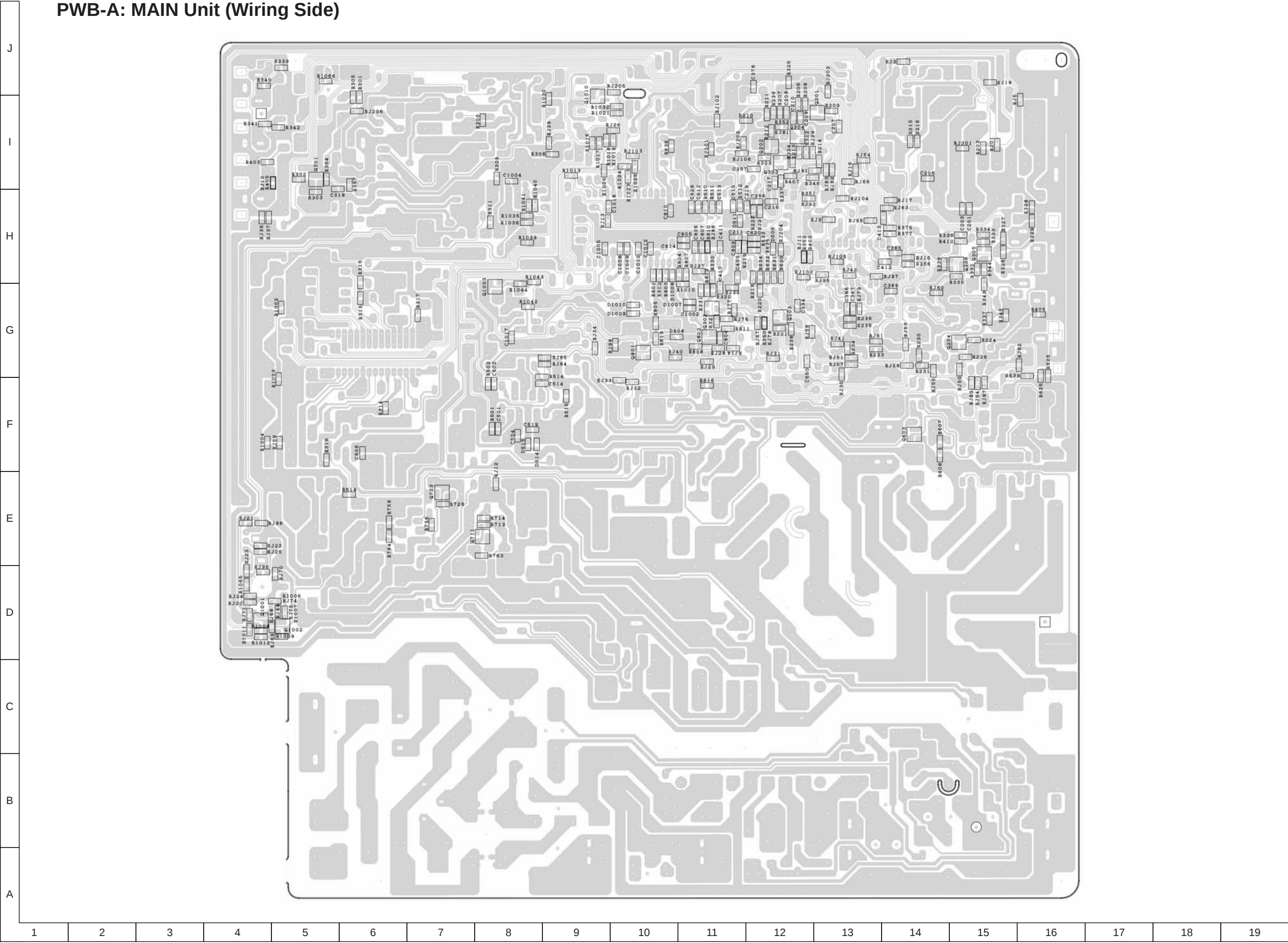
PWB-C: HEAD PHONE Unit (MODEL 14GT20)

(Wiring Side)

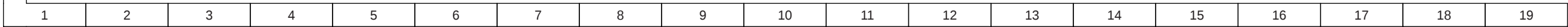
(Component Side)



PWB-A: MAIN Unit (Wiring Side)



A	
B	
C	
D	
E	
F	
G	
H	
I	
J	



PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" in the Replacement Parts Lists. The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER

2. REF. NO.

3. PART NO.

4. DESCRIPTION

MARK ★ : SPARE PARTS-DELIVERY SECTION.

Ref. No.	Part No.	★	Description	Code
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PICTURE TUBE

⚠	VB34JXV80X/*S	Picture Tube		
⚠	RCiLG0001KJZZ	Degaussing Coil		
⚠ L708	RCiLH0001KJZZ	Deflection Yoke		
	PMAGF3041CEZZ	R Magnet	AG	
	QEARC1431CEZZ	Grounding Strap		
	LHLDW0003PEKZ	R ADG Coil Holder, x4	AB	
	MSPRT0001PEFJ	R Spring, Grounding Strap	AC	
	PSPAG0004KJZZ	R Wedge(Gum), x3	AB	

PRINTED WIRING BOARD ASSEMBLY (NOT REPLACEMENT ITEM)

PWB-A	DUNTK9988WET4	- Main Unit (14GT15)	—
PWB-A	DUNTK9988WET3	- Main Unit (14GT20)	—
PWB-B	DUNTK9990WET3	- CRT Socket Unit (14GT15)	—
PWB-B	DUNTK9990WET2	- CRT Socket Unit (14GT20)	—
PWB-C	DUNTK9989WET0	- Head Phone Unit (14GT20)	—

PWB-A	DUNTK9988WET3/T4	MAIN UNIT
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TUNER AND ASSEMBLY

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT INDEPENDENTLY.

⚠ TU201	VTUVTST5HD84/	R VHF Tuner	BB
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INTEGRATED CIRCUITS

IC301	VHiTDA7056A-1	R TDA7056A	AP
IC304	VHiLA7016//-1	R LA7016(14GT20)	AH
IC402	VHiLA7016//-1	R LA7016(14GT20)	AH
IC501	VHiTDA8357/-1	R I.C.	AN
IC605	VHiKA7808Pi-1	R KIA7808PI	AF
IC701	VHiSTRF6653-1	R I.C.	AS
IC751	VHiTA48M033-1	R TA48M033F	AH
IC753	VHiSE115N//-1	R SE115N	AF

Ref. No.	Part No.	★	Description	Code
IC801	RH-iX3368CEN1	R	I.C.	BE
IC1002	VHiPST573J/-1	R	I.C.	AE
IC1003	VHiM24C04W/-1	R	I.C.	AG
IC1005	VHiKA7805Pi-1	R	KIA7805PI	AE

TRANSISTORS

Q201	VS2SC2735//1E	R	2SC2735	AC
Q203	VS2SD601AR/-1	R	2SD601AR	AC
Q205	VS2SC1815GW-1	R	2SC1815GW-1	AB
Q301	VS2SD601AR/-1	R	2SD601AR	AC
Q302	VS2SD601AR/-1	R	2SD601AR	AC
Q305	VS2SD601AR/-1	R	2SD601AR	AC
Q601	VS2SC2482//-1	R	2SC2482	AD
Q602	VS2SD1877//1E	R	2SD1877	AL
Q603	VS2SD601AR/-1	R	2SD601AR	AC
Q801	VS2SB709AR/-1	R	2SB709AR	AC
Q802	VS2SB709AR/-1	R	2SB709AR	AC
Q1003	VS2SD601AR/-1	R	2SD601AR	AC
Q1010	VS2SD601AR/-1	R	2SD601AR	AC

DIODES

D201	RH-EX0676GEZZ	R	Zener Diode	AA
D301	VHD1SS119//-1	R	1SS119	AB
D305	RH-EX0631GEZZ	R	Zener Diode	AA
D308	RH-EX0631GEZZ	R	Zener Diode(14GT20)	AA
D310	RH-DX0302CEZZ	R	Diode	AC
D401	RH-EX0631GEZZ	R	Zener Diode(14GT20)	AA
D402	RH-EX0631GEZZ	R	Zener Diode	AA
D501	RH-EX0640GEZZ	R	Zener Diode	AA
D502	VHD1SS119//-1	R	1SS119	AB
D503	VHD1SS119//-1	R	1SS119	AB
D504	VHD1SS119//-1	R	1SS119	AB
D505	RH-DX0127CEZZ	R	Diode	AC
D507	VHD1SS119//-1	R	1SS119	AB
D508	RH-EX0647GEZZ	R	Zener Diode	AA
D509	RH-EX0647GEZZ	R	Zener Diode	AA
D510	RH-EX0867CEZZ	R	Zener Diode	AC
D511	RH-EX0867CEZZ	R	Zener Diode	AC
D512	VHD1SS119//-1	R	1SS119	AB
D513	VHD1SS119//-1	R	1SS119	AB
D514	RH-EX0903CEZZ	R	Zener Diode	AC
D515	RH-EX0903CEZZ	R	Zener Diode	AC
D602	VHD1SS119//-1	R	1SS119	AB
D603	RH-DX0062CEZZ	R	Diode	AD
D604	VHD1SS119//-1	R	1SS119	AB
D605	RH-EX0840CEZZ	R	Zener Diode	AC
D606	VHD1SS119//-1	R	1SS119	AB
D607	RH-EX0662GEZZ	R	Zener Diode	AB
D608	RH-EX0604GEZZ	R	Zener Diode	AB
D609	VHD1SS119//-1	R	1SS119	AB
D611	RH-DX0302CEZZ	R	Diode	AC
D612	RH-EX0627GEZZ	R	Zener Diode	AA
D613	VHD1SS119//-1	R	1SS119	AB
D614	VHD1SS119//-1	R	1SS119	AB
D701	RH-DX0386CEZZ	R	Diode	AG
D702	VHD1SS82///1A	R	1SS82	AC
D705	RH-DX0492CEZZ	R	Diode	AE
D706	VHD1SS82///1A	R	1SS82	AC
D707	VHD1SS82///1A	R	1SS82	AC
D708	RH-DX0400CEZZ	R	Diode	AC
D709	RH-DX0164CEZZ	R	Diode	AC
D710	RH-EX0601GEZZ	R	Zener Diode	AA
D711	VHD1SS82///1A	R	1SS82	AC
D712	VHD1SS82///1A	R	1SS82	AC
D713	RH-EX0621GEZZ	R	Zener Diode	AB
D714	RH-DX0055TAZZ	R	Diode	AD
D715	RH-DX0055TAZZ	R	Diode	AD
D718	RH-EX0649GEZZ	R	Zener Diode	AB
D751	RH-DX0471CEZZ	R	Diode	AE
D752	VHD1SS119//-1	R	1SS119	AB
D753	RH-DX0471CEZZ	R	Diode	AE
D758	RH-DX0461CEZZ	R	Diode	AG
D801	VHD1SS119//-1	R	1SS119	AB
D802	VHD1SS119//-1	R	1SS119	AB
D803	VHD1SS119//-1	R	1SS119	AB

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
D804	VHD1SS119//1	R	1SS119	AB	C356	VCKYCY1HB682K	R	6800p 50V	Ceramic AA
D805	VHD1SS119//1	R	1SS119	AB	C359	VCEA9M1CW106M	R	10 16V	Electrolytic AB
D806	VHD1SS119//1	R	1SS119	AB	C360	VCEA9M1HW225M	R	2.2 50V	Electrolytic AB
D1001	RH-PX0423CEZZ	R	PHOTODiode	AD				(14GT20)	
D1004	VHD1SS119//1	R	1SS119	AB	C364	VCEA0A1CW106M	R	10 16V	Electrolytic AB
D1007	RH-EX0867CEZZ	R	Zener Diode	AC	C371	VCEA0A1CW476M	R	47 16V	Electrolytic AB
D1008	RH-EX0867CEZZ	R	Zener Diode	AC	C373	VCEA0A1CW107M	R	100 16V	Electrolytic AC
D1009	RH-EX0867CEZZ	R	Zener Diode	AC				(14GT20)	
D1010	RH-EX0867CEZZ	R	Zener Diode	AC	C374	VCEA0A1HW225M	R	2.2 50V	Electrolytic AB
△ IC702	RH-FX0008GEZZ	J	PC123FY8	AE				(14GT20)	
PACKAGED CIRCUITS					C375	VCEAEA1HW225M	R	2.2 50V	Electrolytic AB
								(14GT20)	
PR702	RMPTP0028CEZZ	R	Packaged Circuit	AG	C377	VCEA0A1HW225M	R	2.2 50V	Electrolytic AB
△ VA700	RH-VX0047CEZZ	R	Varistor	AF				(14GT20)	
X1001	RCRSB0281CEZZ	R	Crystal	AG	C379	VCEA0A1HW335M	R	3.3 50V	Electrolytic AB
								(14GT20)	
COILS					C390	VCEA0A1HW105M	R	1 50V	Electrolytic AB
L202	VP-DF270K0000	R	Peaking 27μH	AB	C405	VCEA0A1CW107M	R	100 16V	Electrolytic AC
L203	VP-DF270K0000	R	Peaking 27μH	AB				(14GT20)	
L204	VP-XF1R2K0000	R	Peaking 1.2μH	AB	C406	VCEA0A1CW477M	R	470 16V	Electrolytic AC
L205	VP-DF1R0K0000	R	Peaking 1μH	AB	C407	VCEA0A1CW106M	R	10 16V	Electrolytic AB
L207	VP-DF1R0K0000	R	Peaking 1μH	AB				(14GT20)	
L209	VP-F6R8K0000	R	Peaking 6.8μH	AB	C408	VCEA0A1CW106M	R	10 16V	Electrolytic AB
L301	VP-DF1R0K0000	R	Peaking 1μH(14GT20)	AB	C409	VCKYCY1EF104Z	R	0.1 25V	Ceramic AA
L401	VP-DF1R0K0000	R	Peaking 1μH(14GT20)	AB	C410	VCKYCY1EF104Z	R	0.1 25V	Ceramic AA
L601	VP-CF1R0M0000	R	Peaking 1μH	AB	C411	VCKYCY1HB102K	R	1000p 50V	Ceramic AA
L603	RCILP0225CEZZ	R	Coil	AF	C469	VCEA0A1HW105M	R	1 50V	Electrolytic AB
△ L702	RCILF0019PEZZ	R	Coil	AN	C501	VCKYCY1HF103Z	R	0.01 50V	Ceramic AA
L802	VP-DF100K0000	R	Peaking 10μH	AB	C502	VCKYCY1HF103Z	R	0.01 50V	Ceramic AA
L803	VP-DF100K0000	R	Peaking 10μH	AB	C503	VCEA0A1EW108M	R	1000 25V	Electrolytic AD
L1030	VP-DF100K0000	R	Peaking 10μH	AB	C504	VCKYCY1HF223Z	R	0.022 50V	Ceramic AB
L1050	VP-DF100K0000	R	Peaking 10μH	AB	C506	VCQYTA1HM104J	R	0.1 50V	Mylar AA
L1051	VP-DF100K0000	R	Peaking 10μH	AB	C507	VCEA0A1JW107M	R	100 63V	Electrolytic AC
					C508	VCQYTA1HM103J	R	0.01 50V	Mylar AA
FILTER					C512	VCKYCY1HB102K	R	1000p 50V	Ceramic AA
CF202	RFILC0335CEZZ		Filter		C513	VCKYCY1HB102K	R	1000p 50V	Ceramic AA
SF201	RFILC0442CEZZ	R	Filter	AL	C514	VCKYPA1HF103Z	R	0.01 50V	Ceramic AA
					C515	VCKYPA2HB102K	R	1000p 500V	Ceramic AA
TRANSFORMERS					C516	VCEA0A1JW477M	R	470 63V	Electrolytic AE
△ T602	RTRNF0187PEZZ		H-Volt Transformer		C517	VCIFYA1HA104J	R	0.1 50V	M.Polypro AA
△ T603	RTRNZ0179CEZZ	R	Transformer	AE	C601	VCEAGA2EW106M	R	10 250V	Electrolytic AC
△ T701	RTRNZ0140PEZZ	R	Transformer	AQ	C602	VCQYTA1HM104J	R	0.1 50V	Mylar AA
					C603	VCEA0A1HW105M	R	1 50V	Electrolytic AB
CAPACITORS					C604	VCEA0A1HW105M	R	1 50V	Electrolytic AB
C200	VCEA0A1CW476M	R	47 16V	Electrolytic AB	C605	VCKYPA1HF103Z	R	0.01 50V	Ceramic AA
C203	VCKYCY1HF103Z	R	0.01 50V	Ceramic AA	C606	VCKYCY1HF103Z	R	0.01 50V	Ceramic AA
C204	VCEA0A1CW107M	R	100 16V	Electrolytic AC	C607	VCEA0A1CW477M	R	470 16V	Electrolytic AC
C205	VCKYCY1HF103Z	R	0.01 50V	Ceramic AA	C608	VCEA0A1EW476M	R	47 25V	Electrolytic AB
C206	VCEA0A1HW106M	R	10 50V	Electrolytic AB	C609	VCEA0A1EW108M	R	1000 25V	Electrolytic AD
C207	VCKYCY1HF103Z	R	0.01 50V	Ceramic AA	C610	VCIFYSB2EB823J	R	0.082 250V	M.Polypro AD
C208	VCKYCY1HF103Z	R	0.01 50V	Ceramic AA	C611	VCKYPA2HB102K	R	1000p 500V	Ceramic AA
C209	VCKYCY1HF103Z	R	0.01 50V	Ceramic AA	C612	RC-EZ0724CEZZ	R	100 160V	Electrolytic AG
C210	VCKYCY1HF103Z	R	0.01 50V	Ceramic AA	C613	VCFPVC2DB914J		0.91 200V	M.Polypro
C211	VCKYCY1EF104Z	R	0.1 25V	Ceramic AA	C614	RC-KZ0035CEZZ	R	220p 50V	Ceramic AB
C212	VCEA0A1CW106M	R	10 16V	Electrolytic AB	C615	VCFPVC2DB224J	R	0.22 200V	M.Polypro AE
C213	VCKYCY1HF223Z	R	0.022 50V	Ceramic AB	C616	VCFPD3CA622H	R	6200p 1600V	M.Polypro AE
C215	VCEA0A1CW476M	R	47 16V	Electrolytic AB	C617	VCKYPA2HB102K	R	1000p 500V	Ceramic AA
C216	VCKYCY1HB821K	R	820p 50V	Ceramic AA	C620	VCKYCY1EF104Z	R	0.1 25V	Ceramic AA
C217	VCKYCY1HB472K	R	4700p 50V	Ceramic AA	C623	VCQYTA1HM222J	R	2200p 50V	Mylar AA
C301	VCEA0A1CW107M	R	100 16V	Electrolytic AC	C624	VCQYTA1HM472J	R	4700p 50V	Mylar AB
					C625	VCEA0A1HW105M	R	1 50V	Electrolytic AB
C302	VCEA0A1HW225M	R	2.2 50V	Electrolytic AB	C626	VCKYCY1HF223Z	R	0.022 50V	Ceramic AB
C303	VCEA0A1CW106M	R	10 16V	Electrolytic AB	C627	VCEA0A1HW106M	R	10 50V	Electrolytic AB
C304	VCQYTA1HM473J	R	0.047 50V	Mylar AA	C628	VCEA0A1HW474M	R	0.47 50V	Electrolytic AB
C305	VCQYTA1HM473J	R	0.047 50V	Mylar AA	C650	VCKYCY1EF104Z	R	0.1 25V	Ceramic AA
C312	VCQYTA1HM123J	R	0.012 50V	Mylar AA	C654	VCEA0A1CW476M	R	47 16V	Electrolytic AB
C314	VCEA0A1EW477M	R	470 25V	Electrolytic AD	△ C700	VCQYTA2AA103K	R	0.01 100V	Mylar AC
C315	VCKYPA1HF103Z	R	0.01 50V	Ceramic AA	C701	RC-FZ008SGEZZ	R	0.1 AC250V	M.Polypro AD
C317	VCEA0A1HW224M	R	0.22 50V	Electrolytic AB	C702	RC-KZ0160GEZZ	R	0.01 250V	Ceramic AC
C318	VCKYCY1HB102K	R	1000p 50V	Ceramic AA	C703	RC-KZ0160GEZZ	R	0.01 250V	Ceramic AC
C331	VCEA0A1HW105M	R	1 50V	Electrolytic AB	C704	VCKYPA2HB102K	R	1000p 500V	Ceramic AA
C332	VCEA0A1EW477M	R	470 25V	Electrolytic AD	C705	VCKYPA2HB102K	R	1000p 500V	Ceramic AA
C333	VCKYPA2HB102K	R	1000p 500V	Ceramic AA	C707	RC-EZ1044CEZZ	R	150 400V	Electrolytic AM
					C708	RC-KZ0160GEZZ	R	0.01 250V	Ceramic AC
					C709	VCQYTA1HM471J	R	470p 50V	Mylar AB
					C711	RC-KZ0039CEZZ	R	680p 2kV	Ceramic AB

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
C712	VCQYTA1HM102J	R	1000p 50V Mylar	AA	R302	VRS-CY1JF473J	R	47k 1/16W Metal Oxide	AA
C713	RC-KZ007JCEZZ	R	0.01 250V Ceramic	AC	R303	VRS-CY1JF473J	R	47k 1/16W Metal Oxide	AA
C714	VCKYPH3DB561K	R	560p 2000V Ceramic	AC	R304	VRS-CY1JF392J	R	3.9k 1/16W Metal Oxide	AA
C715	VCKYPA2HB102K	R	1000p 500V Ceramic	AA	R305	VRS-CY1JF100J	R	10 1/16W Metal Oxide	AA
C717	VCQYTA1HM182J	R	1800p 50V Mylar	AA	R307	VRD-RA2BE182J	R	1.8k 1/8W Carbon	AA
C718	VCEAGA2AW475M	R	4.7 100V Electrolytic	AB	R308	VRD-RA2BE472J	R	4.7k 1/8W Carbon	AA
C719	VCEA9M1HW226M	R	22 50V Electrolytic	AB	R320	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
△ C721	RC-KZ0102GEZZ	R	680p 4kV Ceramic	AE	R321	VRS-CY1JF561J	R	560 1/16W Metal Oxide	AA
C751	VCEA0A1CW476M	R	47 16V Electrolytic	AB	R328	VRS-CY1JF564J	R	560k 1/16W Metal Oxide	AA
C752	VCEA0A0JW107M	R	100 6.3V Electrolytic	AB	R329	VRS-CY1JF332J	R	3.3k 1/16W Metal Oxide	AA
C753	VCKYPA2HB102K	R	1000p 500V Ceramic	AA	R330	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
C755	VCEA0A1CW108M	R	1000 16V Electrolytic	AD	R331	VRS-CY1JF102J	R	1k 1/16W Metal Oxide	AA
C759	VCKYPA1HB102K	R	1000p 50V Ceramic	AA	R332	VRS-CY1JF561J	R	560 1/16W Metal Oxide	AA
C760	RC-KZ0039CEZZ	R	680p 2kV Ceramic	AB	R333	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
C761	RC-EZ0724CEZZ	R	100 160V Electrolytic	AG	R334	VRS-CY1JF102J	R	1k 1/16W Metal Oxide	AA
C762	VCQYTA1HM473J	R	0.047 50V Mylar	AA	R341	VRS-CY1JF332J	R	3.3k 1/16W Metal Oxide	AA
C801	VCEA0A1HW105M	R	1 50V Electrolytic	AB				(14GT20)	
C802	VCEA0A1CW337M	R	330 16V Electrolytic	AC	R342	VRS-CY1JF564J	R	560k 1/16W Metal Oxide	AA
C803	VCEA9M1CW107M	R	100 16V Electrolytic	AB				(14GT20)	
C804	VCKYCY1HB222K	R	2200p 50V Ceramic	AA	R343	VRS-CY1JF104J	R	100k 1/16W Metal Oxide	AA
C805	VCKYCY1HB102K	R	1000p 50V Ceramic	AA	R344	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
C806	VCKYCY1HB102K	R	1000p 50V Ceramic	AA	R357	VRS-CY1JF100J	R	10 1/16W Metal Oxide	AA
C807	VCKYCY1HB102K	R	1000p 50V Ceramic	AA	R378	VRN-VV3DBR68J	R	0.68 2W Metal Film	AA
C808	VCEA0A1CW107M	R	100 16V Electrolytic	AC	R403	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
C809	VCKYCY1HF223Z	R	0.022 50V Ceramic	AB				(14GT20)	
C810	VCKYCY1EF104Z	R	0.1 25V Ceramic	AA	R404	VRD-RA2BE820J	R	82 1/8W Carbon	AA
C811	VCEA0A1CW107M	R	100 16V Electrolytic	AC				(14GT20)	
C812	VCFYFA1HA224J	R	0.22 50V M.Polypro	AB	R406	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
C813	VCFYFA1HA224J	R	0.22 50V M.Polypro	AB	R407	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
C814	VCKYCY1HB471K	R	470p 50V Ceramic	AA				(14GT20)	
C1001	VCEA0A0JW107M	R	100 6.3V Electrolytic	AB	R411	VRD-RA2BE820J	R	82 1/8W Carbon	AA
C1003	VCEA0A1CW106M	R	10 16V Electrolytic	AB	R412	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
C1004	VCKYCY1EF104Z	R	0.1 25V Ceramic	AA	R501	VRS-CY1JF182J	R	1.8k 1/16W Metal Oxide	AA
C1005	VCKYCY1HF223Z	R	0.022 50V Ceramic	AB	R502	VRS-CY1JF182J	R	1.8k 1/16W Metal Oxide	AA
C1006	VCEA0A1CW106M	R	10 16V Electrolytic	AB	R503	VRD-RM2HD2R2J	R	2.2 1/2W Carbon	AA
C1007	VCEA0A1CW106M	R	10 16V Electrolytic	AB	R504	VRD-RM2HD150J	R	15 1/2W Carbon	AA
C1008	VCCCCY1HH330J	R	33p 50V Ceramic	AA	R505	VRD-RM2HD330J	R	33 1/2W Carbon	AA
C1009	VCCCCY1HH330J	R	33p 50V Ceramic	AA	R506	VRD-RA2BE124J	R	120k 1/8W Carbon	AA
C1010	VCEA0A0JW107M	R	100 6.3V Electrolytic	AB	R508	VRD-RM2HD221J	R	220 1/2W Carbon	AA
C1011	VCKYCY1HF223Z	R	0.022 50V Ceramic	AB	R509	VRD-RM2HD1R0J	R	1.0 1/2W Carbon	AA
C1012	VCKYCY1HF223Z	R	0.022 50V Ceramic	AB	R510	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
C1013	VCEA0A0JW107M	R	100 6.3V Electrolytic	AB	R511	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
C1014	VCEA0A1CW106M	R	10 16V Electrolytic	AB	R513	VRD-RA2BE393J	R	39k 1/8W Carbon	AA
C1015	VCFYFA1HA474J	R	0.47 50V M.Polypro	AC	R514	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
C1016	VCQYTA1HM104J	R	0.1 50V Mylar	AA	R515	VRS-CY1JF272J	R	2.7k 1/16W Metal Oxide	AA
C1018	VCKYCY1HB221K	R	220p 50V Ceramic	AA	R602	VRN-VV3AB1R5J	R	1.5 1W Metal Film	AA
C1019	VCEA9M1HW225M	R	2.2 50V Electrolytic	AB	R603	VRD-RM2HD102J	R	1k 1/2W Carbon	AA
					R604	VRD-RA2BE393J	R	39k 1/8W Carbon	AA
					R605	VRD-RM2HD101J	R	100 1/2W Carbon	AA
					R607	VRS-CY1JF102J	R	1k 1/16W Metal Oxide	AA
					R608	VRS-CY1JF123J	R	12k 1/16W Metal Oxide	AA
					R609	VRD-RA2BE273G	R	27k 1/8W Carbon	AA
					R610	VRD-RA2BE153J	R	15k 1/8W Carbon	AA
					R611	VRD-RA2EE823G	R	82k 1/4W Carbon	AA
					R612	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
					R613	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
					R614	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
					R615	VRS-KT3LB332J	R	3.3k 3.0W Metal Oxide	AC
					R616	VRS-CY1JF102J	R	1k 1/16W Metal Oxide	AA
					R617	VRD-RM2HD472J	R	4.7k 1/2W Carbon	AA
					R618	VRS-KA3HG4R7K	R	4.7 5W Metal Oxide	AD
					R619	VRD-RM2HD682J	R	6.8k 1/2W Carbon	AA
					R622	VRD-RM2HD820J	R	82 1/2W Carbon	AA
					R624	VRD-RA2BE101J	R	100 1/8W Carbon	AB
					R625	VRS-CY1JF184J	R	180k 1/16W Metal Oxide	AA
					R626	VRS-CY1JF472J	R	4.7k 1/16W Metal Oxide	AA
					R627	VRD-RM2HD4R7J	R	4.7 1/2W Carbon	AA
					R628	VRD-RM2HD470J	R	47 1/2W Carbon	AA
					R630	VRS-CY1JF100J	R	10 1/16W Metal Oxide	AA
					R631	VRS-CY1JF391J	R	390 1/16W Metal Oxide	AA
					R632	VRS-CY1JF273J	R	27k 1/16W Metal Oxide	AA
					R633	VRS-CY1JF102J	R	1k 1/16W Metal Oxide	AA
					R635	VRS-CY1JF822J	R	8.2k 1/16W Metal Oxide	AA
					R636	VRS-CY1JF223J	R	22k 1/16W Metal Oxide	AA
					R637	VRD-RM2HD820J	R	82 1/2W Carbon	AA
					R638	VRS-CY1JF333J	R	33k 1/16W Metal Oxide	AA
								(14GT20)	

RESISTORS

Ref. No.	Part No.	★	Description	Code
R701	VRW-KQ3NC3R9K	R 3.9	7W Cement	AE
R703	VRS-KT3LB473J	R 47k	3W Metal Oxide	AE
△ R704	VRG-PD2HD150J	R 15	1/2W Fuse Resistor	AC
R705	VRD-RA2BE122J	R 1.2k	1/8W Carbon	AA
R706	VRD-RM2HD152J	R 1.5k	1/2W Carbon	AA
R707	VRS-KT3LB473J	R 47k	3W Metal Oxide	AE
R708	VRD-RM2HD272J	R 2.7k	1/2W Carbon	AA
R709	VRD-RA2BE681J	R 680	1/8W Carbon	AA
R710	VRN-VV3ABR39J	R 0.39	1W Metal Film	AA
R711	VRN-VV3ABR33J	R 0.33	1W Metal Film	AA
△ R712	VRG-PD2HD4R7J	R 4.7	1/2W Fuse Resistor	AC
R717	VRD-RM2HD124J	R 120k	1/2W Carbon	AA
R718	VRD-RM2HD124J	R 120k	1/2W Carbon	AA
△ R719	VRC-UA2HG825K	R 8.2M	1/2W Solid	AA
R721	VRD-RA2BE393J	R 39k	1/8W Carbon	AA
R722	VRD-RM2HD124J	R 120k	1/2W Carbon	AA
R723	VRD-RA2BE684J	R 680k	1/8W Carbon	AA
△ R726	VRC-UA2HG825K	R 8.2M	1/2W Solid	AA
R750	VRD-RM2HD4R7J	R 4.7	1/2W Carbon	AA
R758	VRD-RA2BE102J	R 1k	1/8W Carbon	AA
R760	VRD-RA2BE471J	R 470	1/8W Carbon	AA
R801	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA
R802	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA
R803	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA
R804	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA
R805	VRS-CY1JF822J	R 8.2k	1/16W Metal Oxide	AA
R806	VRD-RA2BE123J	R 12k	1/8W Carbon	AA
R807	VRS-CY1JF103J	R 10k	1/16W Metal Oxide	AA
R808	VRS-CY1JF221J	R 220	1/16W Metal Oxide	AA
R809	VRD-RA2BE224J	R 220k	1/8W Carbon	AA
R812	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA
R813	VRS-CY1JF221J	R 220	1/16W Metal Oxide	AA
R1001	VRD-RA2BE221J	R 220	1/8W Carbon	AA
R1002	VRS-CY1JF331J	R 330	1/16W Metal Oxide	AA
R1003	VRS-CY1JF471J	R 470	1/16W Metal Oxide	AA
R1004	VRS-CY1JF821J	R 820	1/16W Metal Oxide	AA
R1005	VRD-RA2BE181J	R 180	1/8W Carbon	AA
R1011	VRS-CY1JF820J	R 82	1/16W Metal Oxide	AA
R1012	VRS-CY1JF391J	R 390	1/16W Metal Oxide	AA
R1014	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1015	VRS-CY1JF332J	R 3.3k	1/16W Metal Oxide	AA
R1016	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1017	VRS-CY1JF332J	R 3.3k	1/16W Metal Oxide	AA
R1019	VRS-CY1JF472J	R 4.7k	1/16W Metal Oxide	AA
R1020	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1021	VRS-CY1JF153J	R 15k	1/16W Metal Oxide	AA
R1022	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1023	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA
R1024	VRS-CY1JF122J	R 1.2k	1/16W Metal Oxide	AA
R1025	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA
R1026	VRS-CY1JF224J	R 220k	1/16W Metal Oxide	AA
R1027	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1028	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1030	VRS-CY1JF102J	R 1k	1/16W Metal Oxide	AA
R1031	VRD-RA2BE562J	R 5.6k	1/8W Carbon	AA
R1032	VRS-CY1JF332J	R 3.3k	1/16W Metal Oxide	AA
R1034	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1035	VRS-CY1JF332J	R 3.3k	1/16W Metal Oxide	AA
R1036	VRS-CY1JF332J	R 3.3k	1/16W Metal Oxide	AA
R1037	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1038	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1039	VRS-CY1JF223J	R 22k	1/16W Metal Oxide	AA
R1040	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA
R1041	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA
R1043	VRS-CY1JF153J	R 15k	1/16W Metal Oxide	AA
R1044	VRS-CY1JF153J	R 15k	1/16W Metal Oxide	AA
R1045	VRD-RA2BE271J	R 270	1/8W Carbon	AA
R1046	VRD-RA2BE101J	R 100	1/8W Carbon	AB
R1065	VRS-CY1JF101J	R 100	1/16W Metal Oxide	AA

SWITCH

△ S701	QSW-P0591CEZZ	R	Switch	AQ
S1001	QSW-K0077GEZZ	R	Switch	AB
S1002	QSW-K0077GEZZ	R	Switch	AB
S1003	QSW-K0077GEZZ	R	Switch	AB

Ref. No.	Part No.	★	Description	Code
S1004	QSW-K0077GEZZ	R	Switch	AB
S1005	QSW-K0077GEZZ	R	Switch	AB

MISCELLANEOUS PARTS

△ ACC701	QACCZ3008PEZZ	R	AC Cord	AN
△ F701	QFS-C3229CEZZ	R	Fuse, T3.15A/250V	AD
FB306	RBLN-0037CEZZ	R	Balun	AB
FB501	RBLN-0037CEZZ	R	Balun	AB
FB502	RBLN-0037CEZZ	R	Balun	AB
FB602	RBLN-0037CEZZ	R	Balun	AB
FB701	RBLN-0037CEZZ	R	Balun	AB
FB702	RBLN-0037CEZZ	R	Balun	AB
FB751	RBLN-0037CEZZ	R	Balun	AB
FB752	RBLN-0037CEZZ	R	Balun	AB
△ FH701	QFSDH1014CEZZ	R	Fuse Holder	AC
△ FH702	QFSDH1013CEZZ	R	Fuse Holder	AC
J402	QJAKE0158CEZZ	R	Jack(14GT20)	AF
J403	QJAKE0159CEZZ	R	Jack(14GT20)	AF
J405	QJAKH0011AJZZ	R	Jack	AK
P1001	QPLGN0541CEZZ	R	Plug	AB
P1002	QPLGN0541CEZZ	R	Plug	AB
P302	QPLGN0241CEZZ	R	Plug	AA
P303	QPLGN0441CEZZ	R	Plug(14GT20)	AB
P502	QPLGN0560CEZZ	R	Plug	AC
P602	QPLGN0641CEZZ	R	Plug	AB
P701	QPLGN0260CEZZ	R	Plug	AC
P712	QPLGN0269GEZZ	R	Plug	AB
RMC1001	RRMCU0235CEZZ	R	Remote Reciever	AK
TP201	QLUGP0102PEZZ	R	Lug	AA
RDA300	PRDAR0142PEFW	R	Heat Sink, for IC301	AD
RDA501	PRDAR0283PEFW	R	Heat Sink, for IC501	AF
RDA700	PRDAR0260PEFW	R	Heat Sink, for IC701	AH
RDA754	PRDAR0224PEFW	R	Heat Sink, for Q602	AF

PWB-B**DUNTK9990WET/2/3
CRT SOCKET UNIT****TRANSISTORS**

Q870	VSBF422///-1	R	BF422	AC
Q871	VSBF422///-1	R	BF422	AC
Q872	VSBF422///-1	R	BF422	AC
Q883	VSBF421///-1	R	BF421	AC
Q885	VSBF421///-1	R	BF421	AC
Q887	VSBF421///-1	R	BF421	AC

DIODES

D811	VHD1SS119//1	R	1SS119	AB
D812	VHD1SS119//1	R	1SS119	AB
D880	VHD1SS119//1	R	1SS119	AB
D881	VHD1SS119//1	R	1SS119	AB
D882	VHD1SS119//1	R	1SS119	AB
D883	VHD1SS82///1A	R	1SS82	AC
D884	VHD1SS82///1A	R	1SS82	AC
D885	VHD1SS82///1A	R	1SS82	AC
D886	VHD1SS82///1A	R	1SS82	AC
D887	VHD1SS82///1A	R	1SS82	AC
D888	VHD1SS82///1A	R	1SS82	AC

CAPACITORS

C871	VCKYPA1HB471K	R	470p 50V Ceramic	AA
C872	VCKYPA1HB471K	R	470p 50V Ceramic	AA
C873	VCKYPA1HB471K	R	470p 50V Ceramic	AA
C880	VCKYPA1HB471K	R	470p 50V Ceramic	AA
C881	VCKYPA1HB471K	R	470p 50V Ceramic	AA
C882	VCKYPA1HB471K	R	470p 50V Ceramic	AA
C875	VCKYPA2HB102K	R	1000p 500V Ceramic	AA
C876	RC-KZ0150CEZZ	R	1000p 3kV Ceramic	AB
C878	VCEAGA2EW106M	R	10 250V Electrolytic	AC

RESISTORS

R879	VRD-RA2BE471J	R	470 1/8W Carbon	AA
R880	VRD-RA2BE471J	R	470 1/8W Carbon	AA

Ref. No.	Part No.	★	Description			Code
R881	VRD-RA2BE471J	R 470	1/8W	Carbon		AA
R888	VRD-RA2BE471J	R 470	1/8W	Carbon		AA
R898	VRD-RA2BE471J	R 470	1/8W	Carbon		AA
R899	VRD-RA2BE471J	R 470	1/8W	Carbon		AA
R882	VRS-VV3DB153J	R 15k	2W	Metal Oxide		AA
R884	VRS-VV3DB153J	R 15k	2W	Metal Oxide		AA
R886	VRS-VV3DB153J	R 15k	2W	Metal Oxide		AA
R883	VRD-RM2HD272J	R 2.7k	1/2W	Carbon		AA
R885	VRD-RM2HD272J	R 2.7k	1/2W	Carbon		AA
R887	VRD-RM2HD272J	R 2.7k	1/2W	Carbon		AA
R892	VRD-RA2BE102J	R 1k	1/8W	Carbon		AA
R893	VRD-RA2BE102J	R 1k	1/8W	Carbon		AA
R894	VRD-RA2BE102J	R 1k	1/8W	Carbon		AA

MISCELLANEOUS PARTS

P851	QPLGN0641CEZZ	R Plug				AB
P882	QPLGN0541CEZZ	R Plug				AB
⚠ SC881	QSOCV0842CEZZ	R CRT Socket				AH

PWB-C DUNTK9989WET0(14GT20)
HEAD PHONE UNIT

RESISTORS

R354	VRS-CY1JF471J	R 470	1/16W	Metal Oxide		AA
R355	VRS-CY1JF471J	R 470	1/16W	Metal Oxide		AA

MISCELLANEOUS PARTS

J351	QJAKJ0047CEZZ	R Jack				AD
P351	QPLGN0441CEZZ	R Plug				AB

Ref. No.	Part No.	★	Description	Code
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MISCELLANEOUS PARTS

SP301	QANTR0018PEZZ	R	Rod Antenna	AQ
	RSP-Z0005KJZZ		Speaker	
	QCNW-2377PEZZ	R	Connecting Cord	AE
	QCNW-2378PEZZ	R	Connecting Cord	AE
	QCNW-2379PEZZ	R	Connecting Cord(14GT20)	AE
	QCNW-2423PEN1		Connecting Cord	

SUPPLIED ACCESSORIES

ACCESSORIES

QPLGJ0113CEZZ	R Plug	AG
RRMCG0025KJSA	Infrared Remote Control Unit	
TiNS-0111KJZZ	Operation Manual	

ACCESSORIES (NOT REPLACEMENT ITEM)

UBATU0247AJZZ	- Batteries	—
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PACKING PARTS

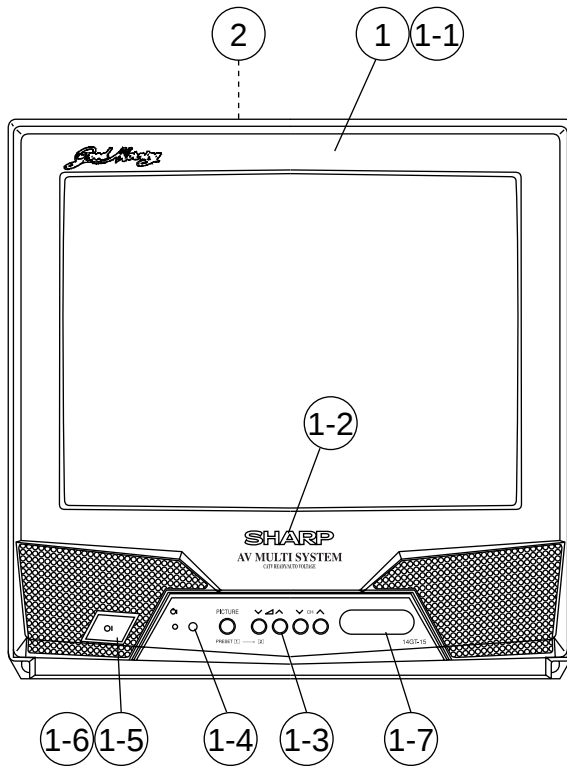
< NOT REPLACEMENT ITEM >

SPAKC0104KJZZ	- Packing Case(14GT15)	—
SPAKC0103KJZZ	- Packing Case(14GT20)	—
SPAKP0677CEZZ	- Wrapping Paper	—
SPAKX0069KJZZ	- Buffer Material (Top)	—
SPAKX0070KJZZ	- Buffer Material (Bottom)	—
SSAKA0230CEZZ	- Polyethylene Bag	—

Ref. No.	Part No.	★	Description	Code
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MODEL 14GT15 CABINET PARTS

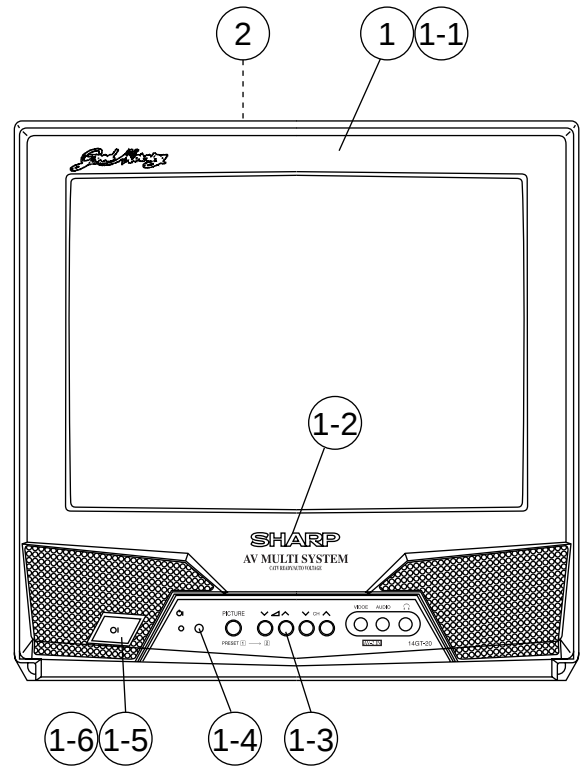
1	CCABA0081WEA0		Front Cabinet Ass'y	
1-1	Not Available	-	Front Cabinet	—
1-2	HBDGB0001KJSA	R	Badge, "SHARP"	AE
1-3	JBTN-0043KJSA		Button, Control	
1-4	HDECQ0038KJSA		LED/RC Cover	
1-5	JBTN-0044KJSA		Button, Power	
1-6	MSPRC0021KJFW		Spring, Power Button	
1-7	HDECQ0040KJSA		AV Cover	
2	GCABB0055KJKA		Rear Cabinet	



Ref. No.	Part No.	★	Description	Code
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MODEL 14GT20 CABINET PARTS

1	CCABA0080WEA0		Front Cabinet Ass'y	
1-1	Not Available	-	Front Cabinet	—
1-2	HBDGB0001KJSA	R	Badge, "SHARP"	AE
1-3	JBTN-0043KJSA		Button, Control	
1-4	HDECQ0038KJSA		LED/RC Cover	
1-5	JBTN-0044KJSA		Button, Power	
1-6	MSPRC0021KJFW		Spring, Power Button	
2	GCABB0055KJKA		Rear Cabinet	



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