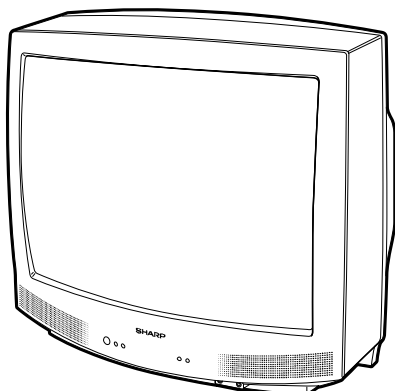


S21O525R-M100



COLOR TELEVISION

Chassis No. SN-010

MODEL 25R-M100

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.

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ELECTRICAL SPECIFICATIONS

POWER INPUT	120 V AC 60 Hz
POWER RATING	95 W
PICTURE SIZE	2,032cm ² (315sq inch)
CONVERGENCE	Magnetic
SWEEP DEFLECTION	Magnetic
FOCUS	Hi-Bi-Potential Electrostatic
INTERMEDIATE FREQUENCIES	
Picture IF Carrier Frequency	45.75 MHz
Sound IF Carrier Frequency	41.25 MHz
Color Sub-Carrier Frequency	42.17 MHz
	(Nominal)
AUDIO POWER	
OUTPUT RATING	1.5W (at 10% distortion)

SPEAKER
 SIZE 8 cm (Round)
 VOICE COIL IMPEDANCE 32 ohm at 400 Hz

ANTENNA INPUT IMPEDANCE
 VHF/UHF 75 ohm Unbalanced

TUNING RANGES
 VHF-Channels 2 thru 13
 UHF-Channels 14 thru 69
 CATV Channels 1 thru 125

(EIA, Channel Plan U.S.A.)

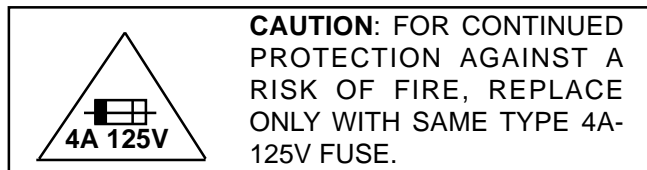
Specifications are subject to change without prior notice.

IMPORTANT SERVICE SAFETY PRECAUTION

■ Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:

WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.
4. The chassis in this receiver has two ground systems which are separated by insulating material. The non-isolated (hot) ground system is for the B+ voltage regulator circuit and the horizontal output circuit. The isolated ground system is for the low B+ DC voltages and the secondary circuit of the high voltage transformer.
To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.



SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the picture tube ground and the 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 anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation, if the high voltage is as specified in the "High Voltage Check" instructions.
It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube including the lead in the glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter.
The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value –no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and;also, under certain conditions, may produce radiation in exceeding of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When trouble shooting and taking test measurements on a receiver with excessive high voltage, avoid being unnecessarily close to the receiver.
Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

IMPORTANT SERVICE SAFETY PRECAUTION

(Continued)

BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

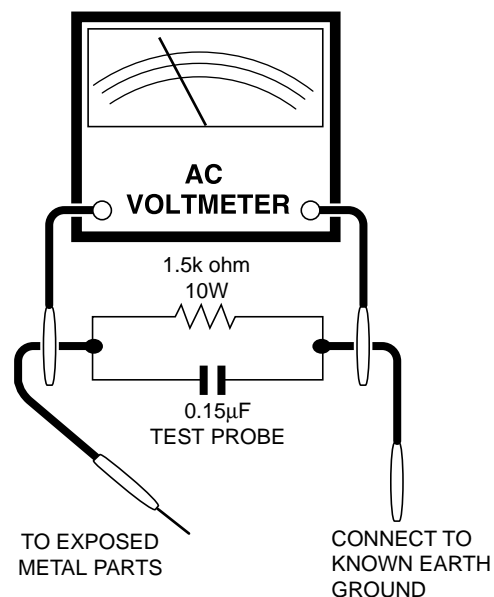
Before returning the receiver to the user, perform the following safety checks.

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 materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators and etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.
 - Plug the AC cord directly into a 120 volt AC outlet, (Do not use an isolation transformer for this test).
 - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 μ F capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
 - Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.

- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon and etc.) and measure the AC voltage drop across the resistor.

All checks must be repeated with the AC line cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these check.)

Any current measured must not exceed 0.5 milliamp. Any measurements not within the limits outlined above indicate of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



SAFETY NOTICE

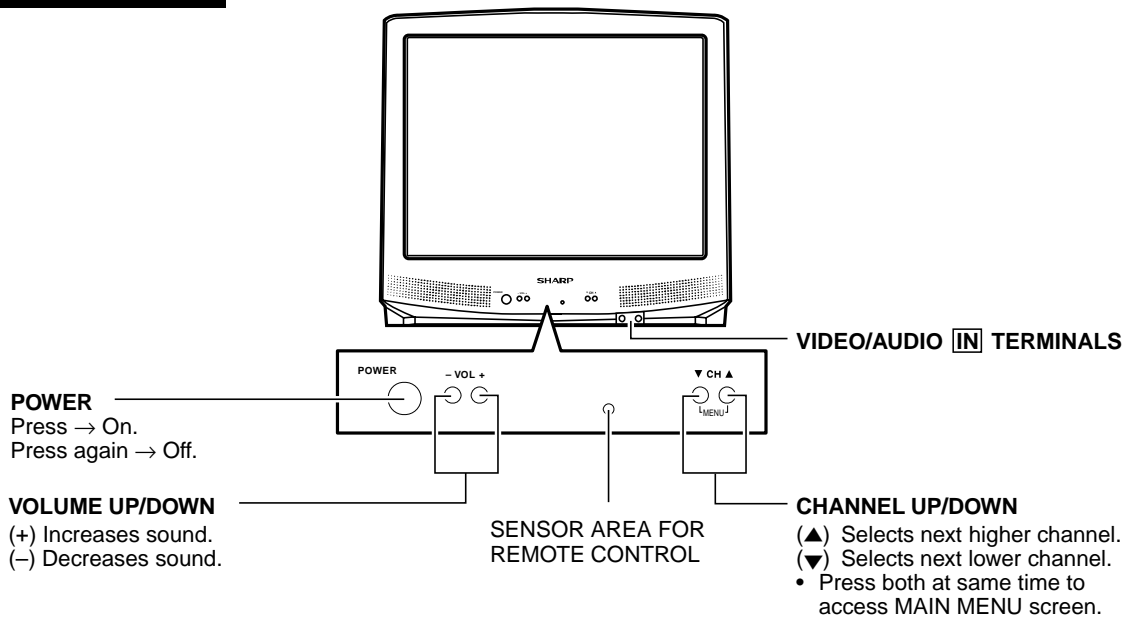
Many electrical and mechanical parts in television receivers have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts Lists and Schematic Diagrams.

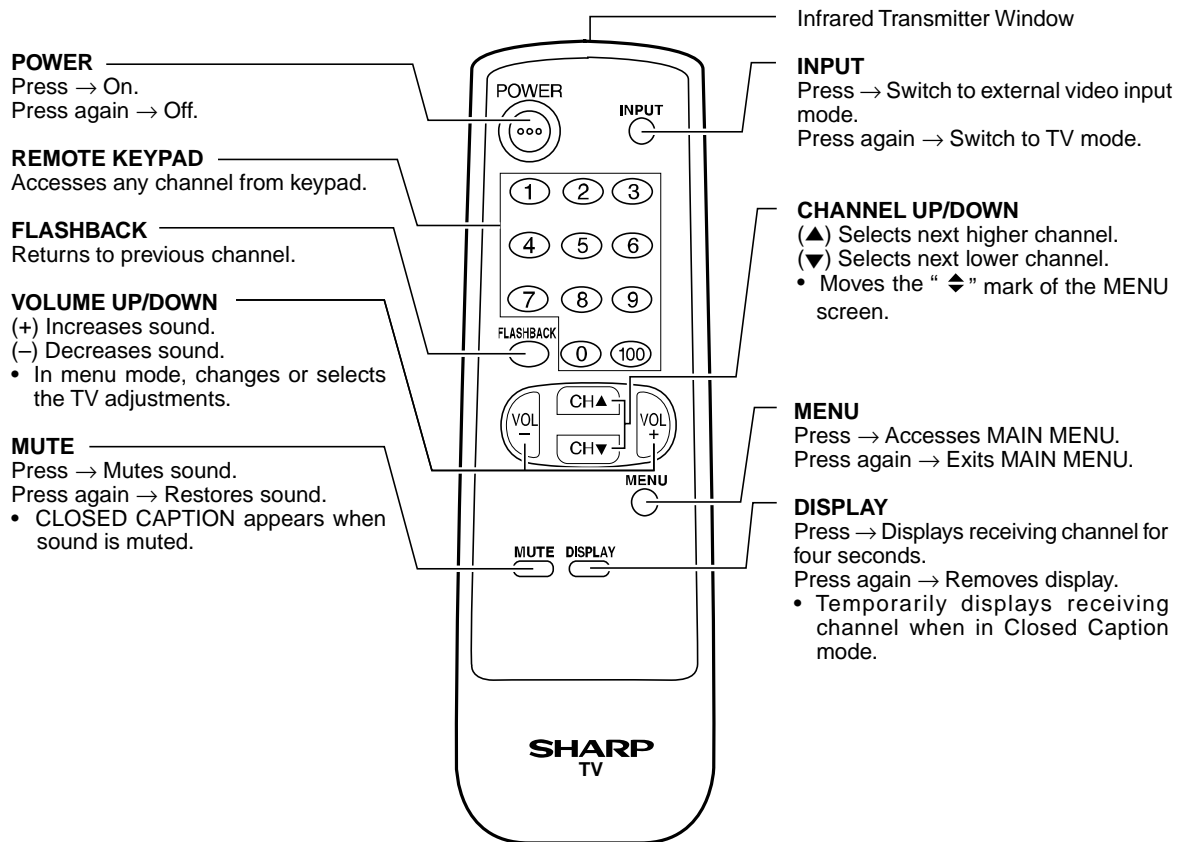
For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

LOCATION OF USER'S CONTROL

Front Panel



Basic Remote Control Functions



INSTALLATION AND SERVICE INSTRUCTIONS

- Note:** (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdrivers or TV alignment tools.
 (2) Before performing adjustments, the TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The receiver is protected by a 4.0A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, B+ system, test the X-Radiation protection circuit to ascertain proper operation as follows:

1. Apply 120V AC using a variac transformer for accurate input voltage.
2. Allow for warm up and adjust all customer controls for normal picture and sound.
3. Receive a good local channel.
4. Connect a digital voltmeter to TP653 and make sure that the voltmeter reads $21.9 \pm 1.4V$.
5. Apply external 27.9V DC at TP653 by using an external DC supply, TV must be shut off.
6. To reset the protector, unplug the AC cord and make a short circuit between TP651 and TP652. Now make sure that normal picture appears on the screen.
7. If the operation of the horizontal oscillator does not stop in step 5, the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode of picture tube.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with a strong air signal or a properly tuned in test signal.
3. Enter the service mode and select the service adjustment "S03" and Bus data "01" (Y-mute on).
4. The voltage should be approximately, 30.5kV (at zero beam).

If a correct reading cannot be obtained, check circuitry for malfunctioning components. After the voltage test, make Y-mute off to the normal mode.

For adjustments of this model, the bus data is converted to various analog signals by the D/A converter circuit.

Note: There are still a few analog adjustments in this series such as focus and master screen voltage. Follow the steps below whenever the service adjustment is required.

To enter the service mode and exit service mode.

While pressing the Vol-up and Ch-up buttons at the sametime, plug the AC cord into a wall socket.

Now, the TV set is switched on and enters the service mode.

To exit the service mode, turn the television off by pressing the power button.

1. Service mode.

Before putting unit into the service mode, check that customer adjustments are in the normal mode. Use the reset function in the video adjustment menu to ensure customer control are in their proper (reset) position.

2. Service number selection.

In the service mode, you will see the window screen as window ①. There are 3 adjustment categories ②DEF, ③SIGNAL, ④FIX VALUE as show in **Figure A**.

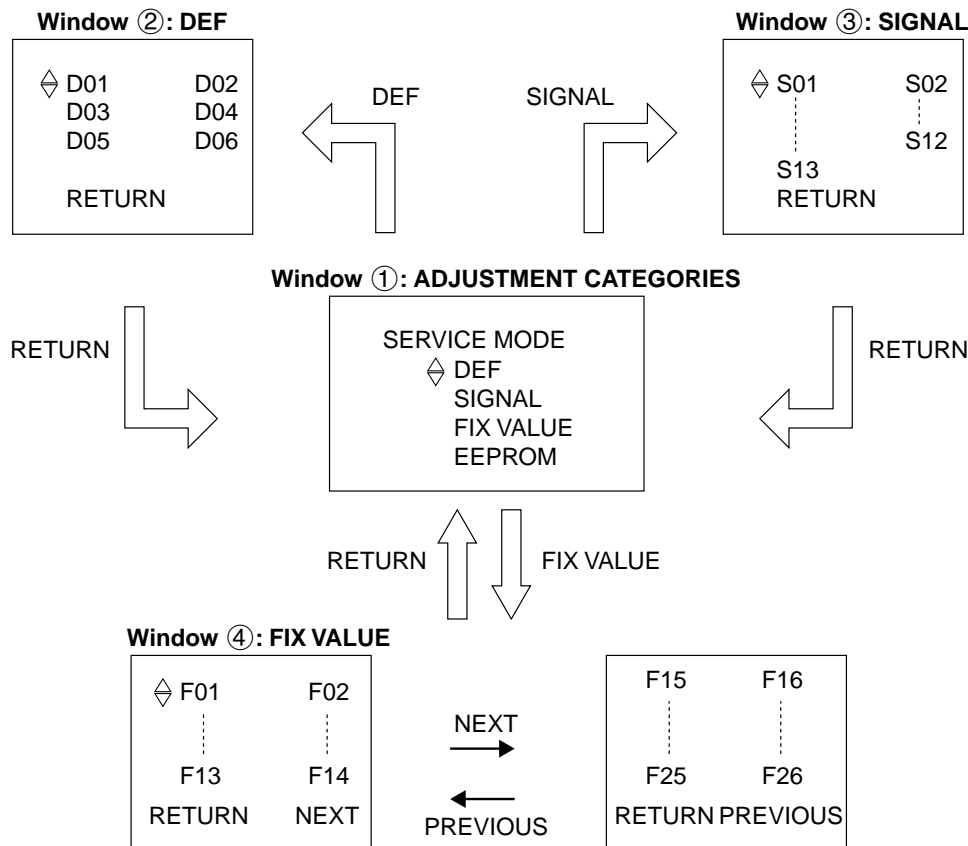


Figure A: ADJUSTMENT CATEGORIES

Press CH UP/DOWN button for selection and enter by VOL UP or VOL DOWN.

Press CH UP/DOWN button to select the adjustment item and VOL UP/DOWN to adjust the data number for each categories.

(OSD disturbance can be erased by R/C display key)

(Note: EEPROM-factory used only)

Below are the adjustments ranges and initial values for FIX VALUE category.

FIX VALUE

SERVICE POSITION	ADJUST ITEM	DATA		
		RANGE	INITIAL VALUE	(Hex)
F01	OPTION 1	00-FF	B0	B0
F02	OPTION 2	00-FF	04	04
F03	E-SAVE	00-3F	23	2A
F04	TUNER SETUP	00, 01	00	00
F05	R-TONE RD	00-7F	19	03
F06	R-TONE BD	00-7F	00	7C
F07	B-TONE RD	00-7F	00	00
F08	B-TONE BD	00-7F	12	04
F09	FM LEVEL	00-1F	0C	0C
F10	AFC GAIN	00, 01	00	00
F11	G DRIVE	00, 0F	00	0F
F12	FBT BLK SW	00, 01	01	01
F13	V COMP	00-07	07	07
F14	OSD CONT	00-03	02	01
F15	SHARPNESS	00-3F	19	*1
F16	FLT SYS	00-07	00	01
F17	KILLER OP	00-07	04	02
F18	PRE SHOOT	00-03	03	00
F19	CORING	00-03	04	04
F20	DC REST	00-03	02	02
F21	BS START	00-03	01	01
F22	BS GAIN	00-03	01	01
F23	ABL START	00-07	00	00
F24	R/B ANGLE	00-0F	08	08
F25	H BLK R	00-0F	04	03
F26	H BLK L	00-0F	04	00

*1: type of tuner

TUNER TYPE	(Hex)
VTUVTST5UF770	0D
VTUENV56D82-1	12
VTUENV56DA1G3	12
VTUVTST5UF670	0D
VTUVTST5UF740	0D

Table - A

Below are the ranges and initial values for each adjustment and in each categories.

DEF

SERVICE POSITION	ADJUST ITEM	DATA		ADJUSTMENT CONTENTS
		RANGE	INITIAL VALUE	
D01	H-PHASE	00-1F	0C	
D02	V-SIZE	00-7F	40	
D03	V-POSITION	00-3F	20	
D04	CC-POSITION	00-FF	1A	
D05	V-LINEARITY	00-1F	10	Must be "13"
D06	V-S-CORRECTION	00-1F	10	Must be "10"

Table - B

SIGNAL

SERVICE POSITION	ADJUST ITEM	DATA		ADJUSTMENT CONTENTS
		RANGE	INITIAL VALUE	
S01	RF AGC	00-3F	14	
S02	VIDEO LEVEL	00-07	03	
S03	Y-MUTE	00-03	00	"01": Y-MUTE, "02": V-STOP & Y-MUTE "03": Activate color killer circuit.
S04	SUB BIAS	00-FF	40	Must be "30"
S05	R-BIAS	00-FF	00	
S06	G-BIAS	00-FF	00	
S07	B-BIAS	00-7F	00	
S08	R-DRIVE	00-7F	40	
S09	B-DRIVE	00-7F	40	
S10	CONTRAST	00-7F	5A	
S11	TINT	00-7F	40	
S12	COLOR	00-7F	40	
S13	BRIGHTNESS	00-7F	40	

Note: Refer to the SERVICE ADJUSTMENT for each corresponding values.

Table - C

Holding down both the Vol-up/Ch-down buttons on the TV set at service mode for more than 2 seconds will automatically write the above initial values into IC2102.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
IC2001		X	Data is stored in IC2102.
IC201	X		The adjustment is needed to compensate for characteristics of parts including IC202.
IC2102	X		Holding down both the Vol-up/Ch-down buttons on the TV set in the service mode for more than 2 seconds will automatically write the above initial values into IC2102.
CRT	X		Adjust items related to picture tube only.

Table - D

■ SERVICE ADJUSTMENT

Note: Before making the service adjustment, make the bus data settings.

+B Adjustment

(1) For the chassis with the +B adjustment control

1. Receive a good local channel.
2. Select VIDEO ADJUSTMENT RESET on the menu to get the video reset.
3. Connect a DC voltmeter between the +B line (at SW transformer) of R611 and the ground terminal.
4. Adjust R738 so that the voltmeter should read $128.5 \pm 0.5V / -0.25V$.

(2) For the chassis without the +B adjustment control

1. Receive a good local channel.
2. Select VIDEO ADJUSTMENT RESET on the menu to get the video reset.
3. Connect a DC voltmeter between the +B line (at SW transformer) of R611 and the ground terminal.
4. Make sure that the voltmeter reads $128.5 \pm 1.5V$.

Video Level (TV Det Video Level)

Adjustment

1. Receive a good local channel.
2. Enter the service mode signal category and select the service adjustment "S02".
3. Set the data value to "02" first, then adjust the data to "04". (If out of spec, readjust the data in the range of "00" to "07" to obtain a normal contrast level.)

RF AGC Adjustment

1. Receive a good local channel.
2. Enter the service mode signal category and select the service adjustment "S01".
3. Set the data value to point where no noise or beat appears.
4. Select another channel to confirm that no noise or beat appears.

Note: You have to exit the service mode first to select another channel.

Screen Adjustment

1. Connect to oscilloscope probe between TP854 and ground of the CRT unit.
2. Receive a good local channel.
3. Enter the service mode Signal category and set the service adjustment "S04" to step 30. Then select the service adjustment "S12" and set the data value to "00" to set the color level to the minimum level. (record the original data first). You may skip this step, if you selected a B/W picture or monoscope pattern. Set also the "S05/S06/S07" data to minimum level ("00").

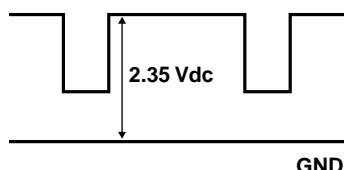


Figure B: WAVEFORM FOR SCREEN ADJUSTMENT

4. Select the service adjustment "S03" and set the data value to "01" to turn off the luminance signal (Y-mute).
5. Select the service adjustment "S14" and adjust the data value to obtain 2.35 volts as shown in **Figure B**.
6. Adjust the master screen control until the raster darkens to the point where raster is barely seen.
7. Adjust the service adjustment "S05" red, "S06" green, "S07" blue to obtain a good grey scale with normal white at low brightness level.
8. Select the service adjustment "S03" and reset data to "00". Select the service adjustment "S12" and reset data to obtain normal color level.
9. Remove probe and reset the master screen control to obtain normal brightness range.

White Balance Adjustment

1. Receive a good local channel.
2. Select the service adjustment "S12" and set the data value to "00" to set the color level to the minimum. You may skip this step, if you selected a B/W picture or monoscope.
3. Alternately adjust the service adjustment data of "S08" and "S09" until a good grey scale with normal white is obtained.
4. Select the service adjustment "S12" and reset data to obtain normal color level.

Sub-Picture Adjustment

1. Receive a good local channel.
2. Make sure the customer picture control is set to maximum.
3. Enter the service mode and select the service adjustment "S10".
4. Adjust the data value to achieve normal contrast range.

Sub-Tint Adjustment

1. Receive a good local channel.
2. Set the customer tint control to the center of its range.
3. Enter the service mode and select the service adjustment "S11".
4. Adjust "S11" data value to obtain normal fresh tones.

Sub-Color Adjustment

1. Receive a good local channel.
2. Make sure the customer color control is set to center position.
3. Enter the service mode and select the service adjustment "S12".
4. Adjust "S12" data value to obtain normal color level.

Sub-Brightness Adjustment

1. Receive a good local channel.
2. Make sure the customer brightness control is set to center position.
3. Enter the service mode and select the service adjustment "S13".
4. Adjust "S13" data value to obtain normal brightness level.

Vertical-Size, V-Linearity and V-S Correction Adjustments

1. Receive a good local channel.
2. Enter the service mode DEF category and select the adjustment "D02" for Vertical Size, "D05" for V-Linearity and "D06" for V-S Correction Adjustment.
3. Set in order "D05" for V-Linearity, "D06" for V-S Correction and set the data to get the best linearity.
4. Then adjust "D02" data until it become a proper vertical size.

Horizontal Position Adjustment

1. Receive a good local channel.
2. Enter the service mode DEF category and select the adjustment "D01".
3. Adjust "D01" data value to center the picture.

Vertical-Phase Adjustment

1. Receive a good local channel.
2. Enter the service mode DEF category and select the adjustment "D03".
3. Adjust "D03" bus data to get the most acceptable vertical position.

**Note: The step range is 20 (32)+12 (3 steps)/
-20 (5 steps).
(Push once move 4 steps.)**

Caption Position Adjustment (Horizontal)

1. Receive a good local channel.
2. Enter the service mode DEF category and select the adjustment "D04".
3. A black text box will appear on the screen. (see **Figure C.** below)
4. Adjust "D04" data value to balance the text box position in the center. (A=B).

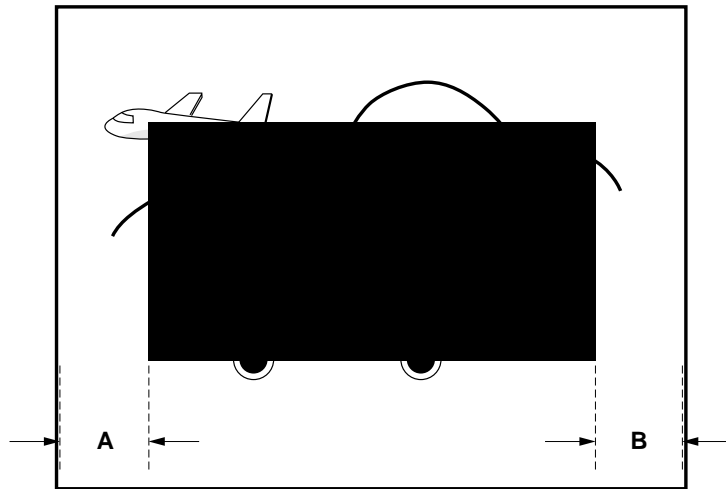
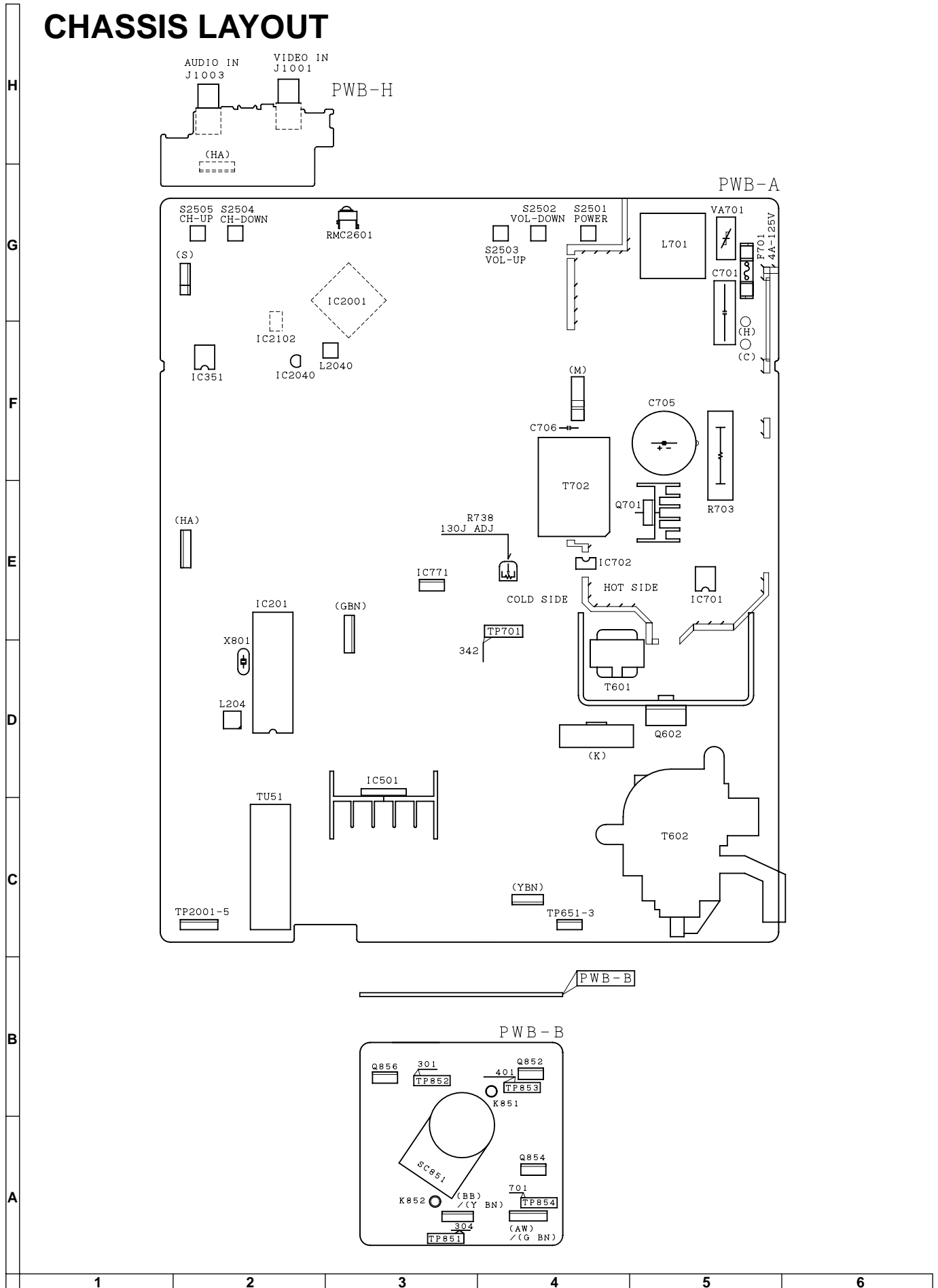


Figure C.

CHASSIS LAYOUT



DESCRIPTION OF SCHEMATIC DIAGRAM


NOTES:

1. The unit of resistance "ohm" is omitted.
($K=k\Omega=1000\Omega$, $M=M\Omega$)
2. All resistors are 1/10 watt, unless otherwise noted.
3. All capacitors are μF , unless otherwise noted.
($P=pF=\mu\mu F$)
4. (G) indicates $\pm 2\%$ tolerance may be used.
5. $\overline{\text{---}}$ indicates line isolated ground.

VOLTAGE MEASUREMENT CONDITIONS:

1. All DC voltages are measured with DVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.
2. All voltages measured with 1000 μ V B & W or Color signal.

WAVEFORM MEASUREMENT CONDITIONS:

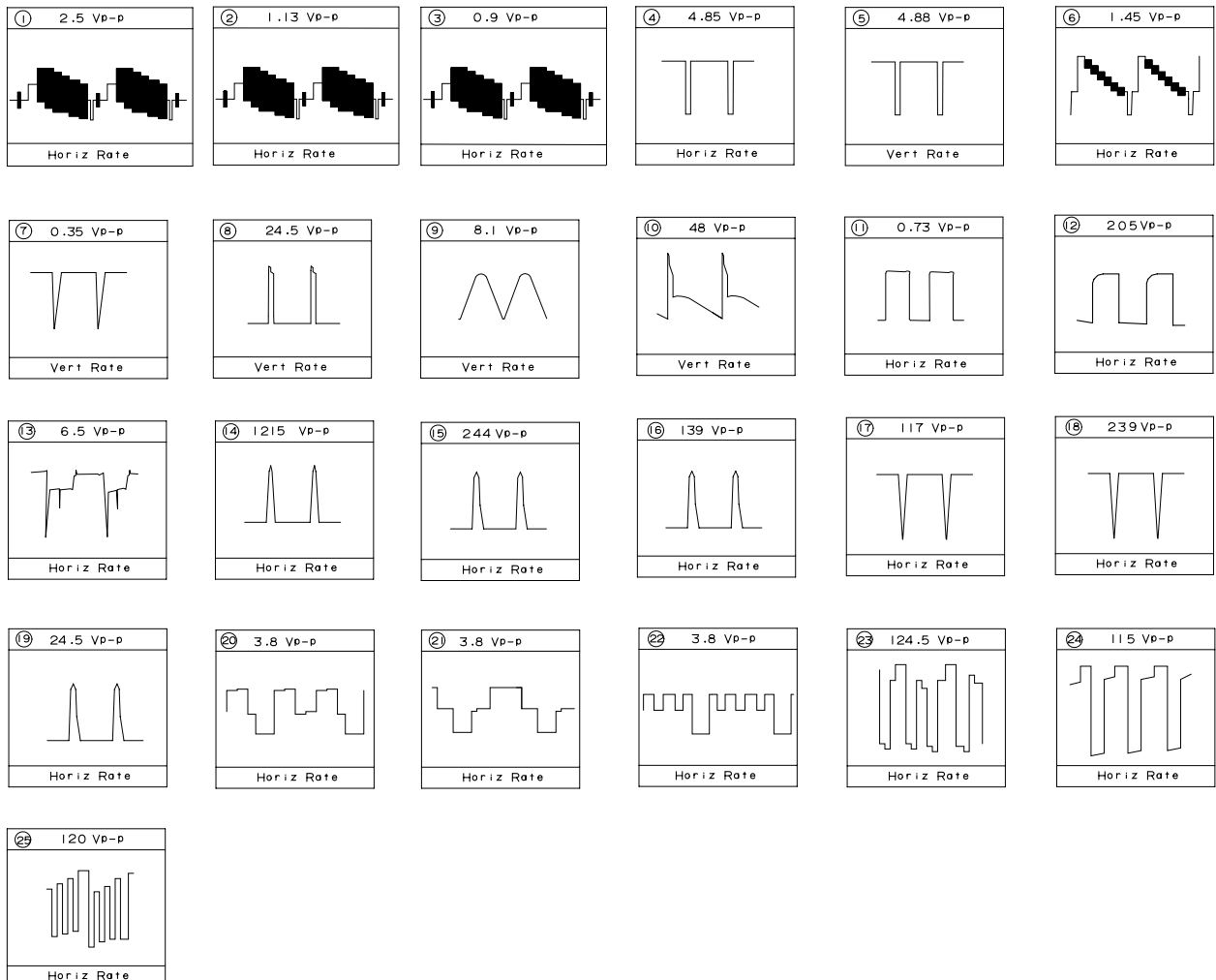
1. Photographs taken on a standard gated color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.
2.  indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)

 AND SHADED () COMPONENTS
= SAFETY RELATED PARTS.

 MARK= X-RAY RELATED PARTS.

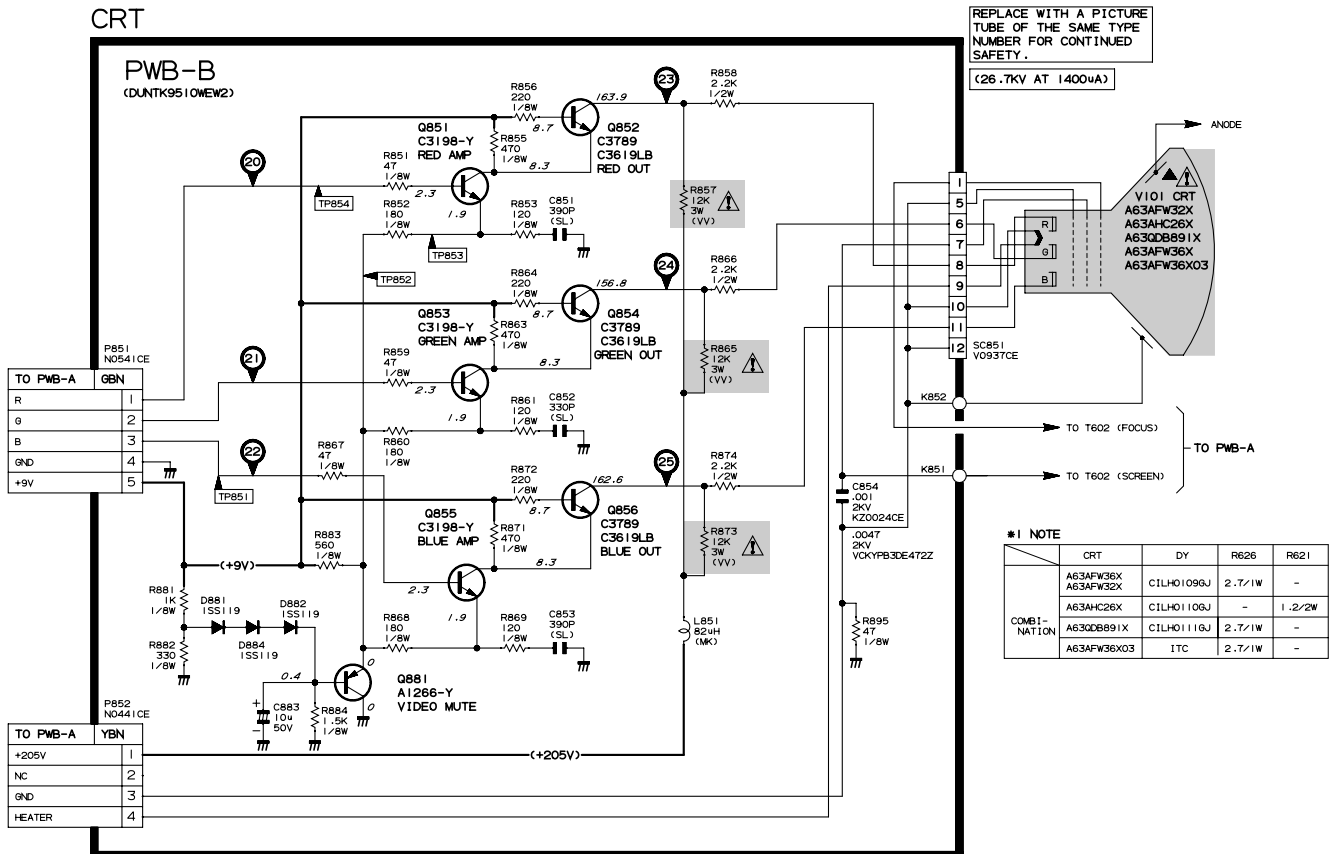
This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

WAVEFORMS

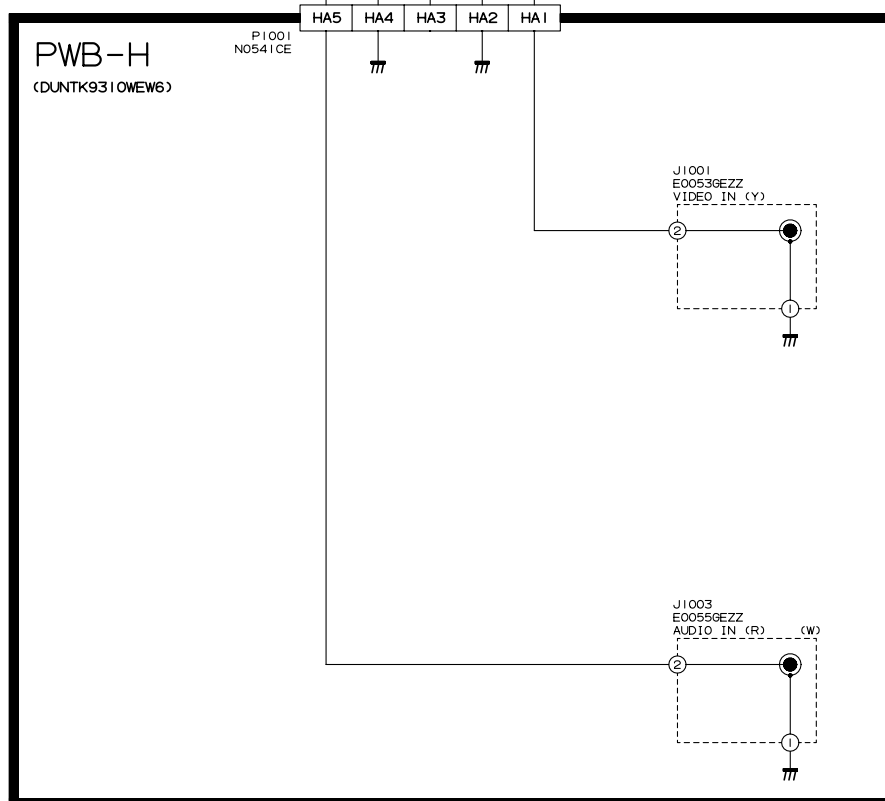


SCHEMATIC DIAGRAM: CRT and FRONT A/V Unit

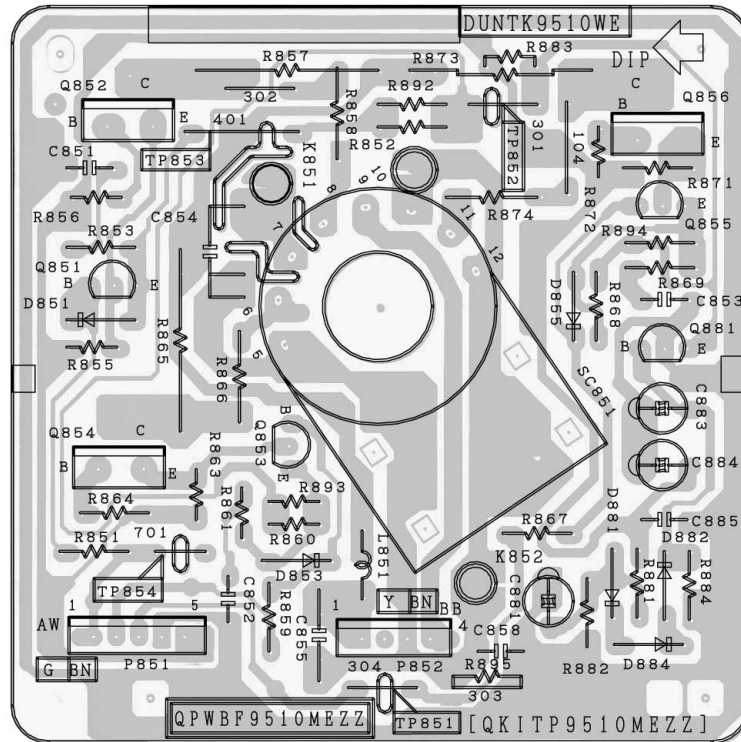
CRT



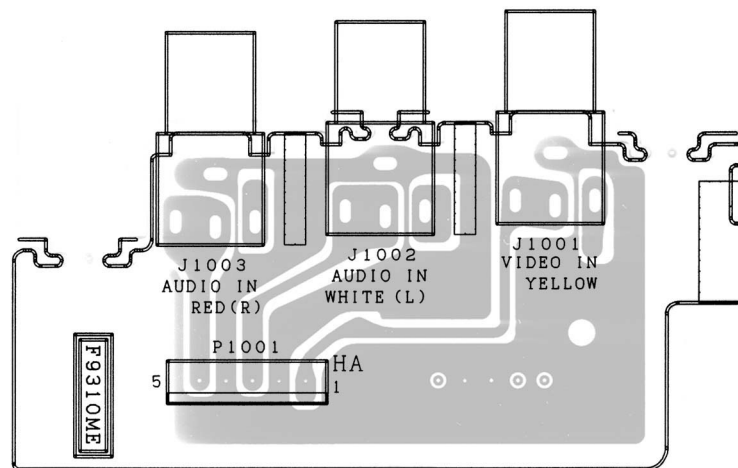
FRONT AV



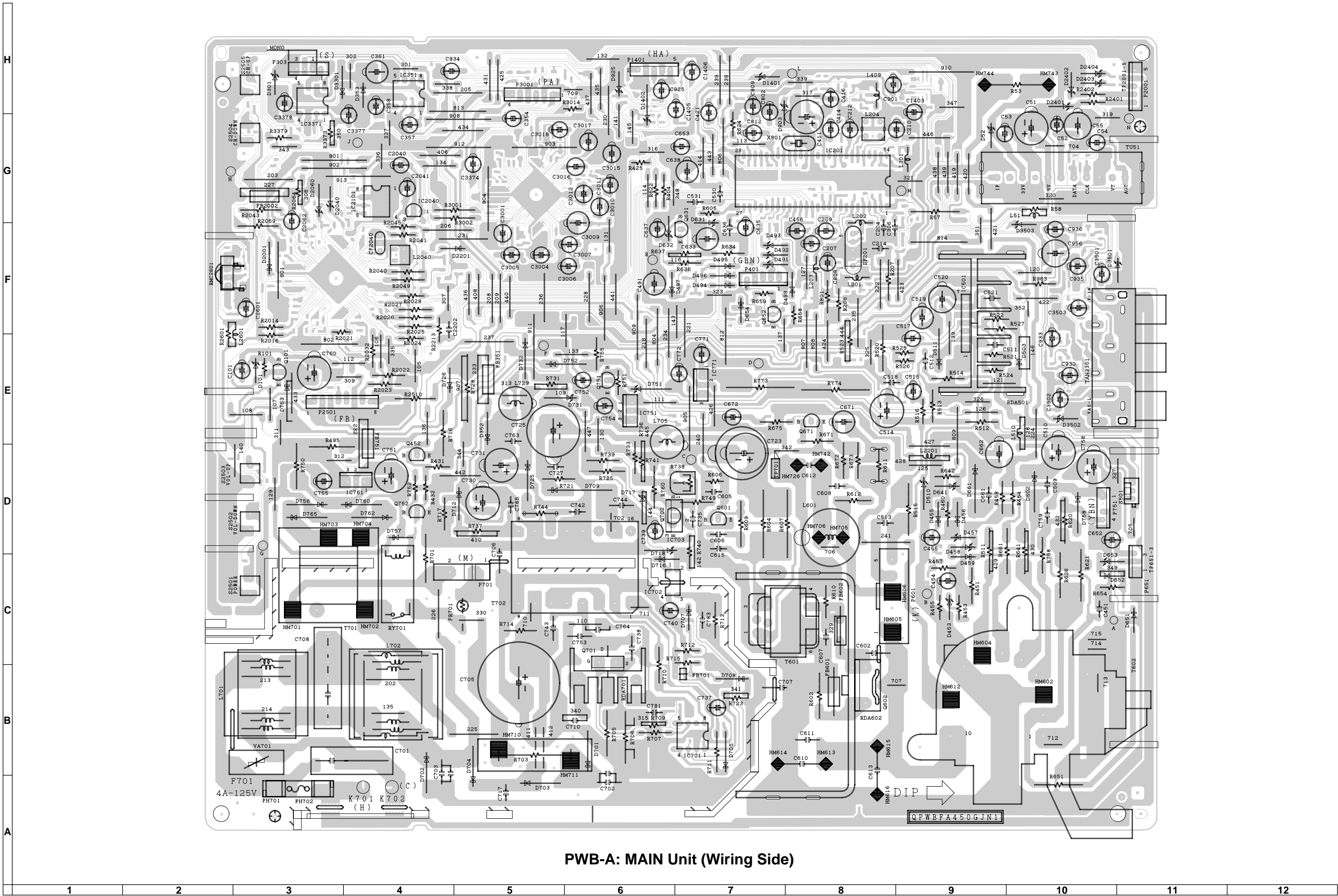
PRINTED WIRING BOARD ASSEMBLIES



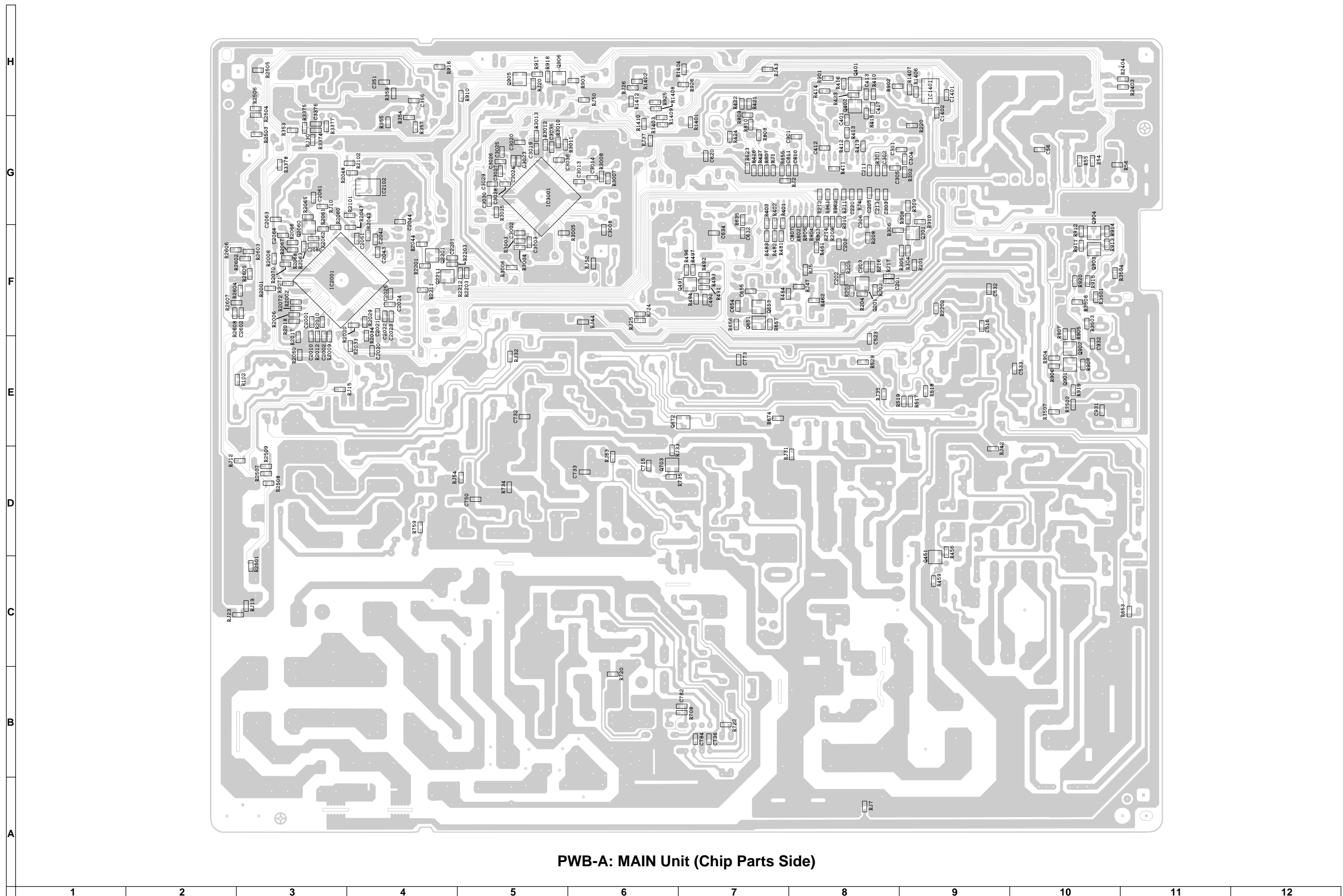
PWB-B: CRT Unit (Wiring Side)



PWB-H: FRONT A/V Unit (Wiring Side)



PWB-A: MAIN Unit (Wiring Side)



PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual; electrical components having such features are identified by Δ and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which does not have the same safety characteristic 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 |

in **USA**: Contact your nearest SHARP Parts Distributor to order.
For location of SHARP Parts Distributor, Please call Toll-Free; 1-800-BE-SHARP

★ MARK: SPARE PARTS-DELIVERY SECTION

▲ MARK: X- RAY RELATED PARTS

Ref. No.	Part No.	★	Description	Code
----------	----------	---	-------------	------

PICTURE TUBE

▲ Δ V101	VB63AFW32X/*S	X	CRT (DY601:CI LH0109GJ)	CC
	or			
	VB63AHC26X/*S		CRT (DY601:CI LH0110GJ)	
	or			
▲ Δ DY601	VB63QD891X/*S		CRT (DY601:CI LH0111GJ)	BB
	or			
	VB63AFW36X/*S		CRT (DY601:CI LH0109GJ)	
	or			
	VB63AFW36031E		CRT (I.T.C)	
	RCiLH0109GJZZ	X	DY (CRT:A63AFW36X or A63AFW32X)	
	or			
	RCiLH0110GJZZ		DY (CRT:A63AHC26X)	
	or			
	RCiLH0111GJZZ		DY (CRT:A63QDB891X)	

	CRT	DY	R626	R621
COMBI-NATION	A63AFW36X A63AFW32X	CILH0109GJ	2.7/1W	-
	A63AHC26X	CILH0110GJ	-	1.2/2W
	A63QDB891X	CILH0111GJ	2.7/1W	-
	A63AFW36X03	ITC	2.7/1W	-

▲ L703	RCiLG0036MEZZ	X	Degaussing Coil	AN AF AG AE
	PMAGF3046CEZZ	J	Purity Magnet	
	QEARC2508MEZZ	X	Grounding Strap	
	MSPRT0002MEZZ	X	Spring	

Ref. No.	Part No.	★	Description	Code
----------	----------	---	-------------	------

PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)

PWB-A DUNTKA450WEV0	-	MAIN Unit	—
PWB-B DUNT9510WEW2	-	CRT Unit	—
PWB-H DUNT9310WEW6	-	FRONT AVUnit	—

PWB-A: DUNTKA450WEV0 MAIN UNIT

TUNER

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

▲ TU51	VTUVTST5UF770	J	Tuner	AZ
	or			
	VTUENV56D82-1			

	TU51	R57
COMBI-NATION	VTST5UF770	56K / 1/8W
	ENV56D82-1	56K / 1/8W

INTEGRATED CIRCUITS

▲	△	IC201	RH-iX3354CEN1	X	I.C.	AS
		IC351	VHiAN7511// -1	J	AN7511	AK
	△	IC501	VHiLA7840// -1	J	LA7840	AR
	△	IC701	VHiTEA1507/-1	J	TEA1507P/N1	AL
	△	IC702	RH-FX0034CEZZ	J	PC817	AE
			or			
			RH-FX0002GEZZ			
			or			
			RH-FX0029CEZZ			
	△	IC771	VHiKA7805AP-1	J	KA7805API	AE
			or			
			VHiTA7805S/-1			
		IC2001	RH-iX3492CEZZQ	X	TMPA8700CPF	AT
		IC2040	VHiPST994C/-1	J	PST994C	AD
		IC2102	VHiBR2416E2-1	J	BR24C16F	AK
			or			
			VHiSLA24C16-1			

TRANSISTORS

Q101	VS2SC3198-Y-1	J	2SC3198-Y	AA
	or			
	VS2SC945AQ/-1			
Q201	VS2SC2735//1E	J	2SC2735	AC
Q451	VS2SB709AR/-1	J	2SB709AR	AC
Q452	VS2SA1266-Y-1	J	2SA1266-Y	AA
Q491	VS2SB709AR/-1	J	2SB709AR	AC
Q601	VS2SC2482//1	J	2SC2482	AD
▲ Q602	VS2SD2539//1E	J	2SD2539	AP
	or			
	VS2SD2634++-1			
Q631	VS2SC3198-Y-1	J	2SC3198-Y	AA
	or			
	VS2SC945AQ/-1			
Q651	VS2SB709AR/-1	J	2SB709AR	AC
Q652	VS2SA1266-Y-1	J	2SA1266-Y	AA
Q653	VS2SD601AR/-1	J	2SD601AR	AC
▲ Q701	VSSPP07N60C-1	X	FET	AF
	or			
	VSSPP04N60C-1			
	or			
	VS2SK2708//1E			
	or			
	VS2SK2645//1G			
	or			
	VSSTP6NC60+-1			
	or			
	VSSTP6NC60F-1			
	or			
	VSSTP7NB60F-1			

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
PWB-A: DUNTKA450WEV0									
MAIN UNIT (Continued)									
△ Q702	VS2SC3198-Y-1	J	2SC3198-Y	AA	D708	VHD1SS119//-1	J	Diode	AB
	or					or			
Q703	VS2SC945AQ/-1	J	2SB709AR	AC	△ D709	VHD1SS244//-1	J	Diode	AF
Q751	VS2SB709AR/-1	J	2SC3198-Y	AA	△ D712	RH-DX0229CEZZ	J	Diode	AC
	or					RH-DX0487CEZZ	J	Diode	
	VS2SC3198-Y-1	J	2SC3198-Y	AA		or			
Q752	VS2SC945AQ/-1	J	2SC3198-Y	AA		RH-DX0302CEZZ			
	or					or			
	VS2SC3198-Y-1	J	2SC3198-Y	AA		RH-DX0468CEZZ			
	or					or			
Q2201	VS2SD601AR/-1	J	2SD601AR	AC		RH-DX0488CEZZ			
	or					or			
	VS2SC3928R/-1	J	2SD601AR	AC	▲△ D717	RH-DX0513CEZZ	J	Zener Diode, 5.6V	AA
Q2211	VS2SD601AR/-1	J	2SD601AR	AC	△ D725	RH-EX0616GEZZ	J	Diode	AC
	or				D726	RH-DX0131CEZZ	J	Diode	AB
	VS2SC3928R/-1	J	2SD601AR	AC		or			
						RH-DX0475CEZZ			
DIODES					D732	VHD1SS119//-1	J	Diode	AB
D52	RH-EX0676GEZZ	J	Zener Diode, 32V	AA		or			
D101	RH-EX0616GEZZ	J	Zener Diode, 5.6V	AA		RH-DX0475CEZZ	J	Zener Diode, 5.1V	AA
D353	VHD1SS119//-1	J	Diode	AB	D753	RH-EX0611GEZZ	J	Diode	AC
D453	RH-EX0616GEZZ	J	Zener Diode, 5.1V	AA		or			
D455	VHD1SS119//-1	J	Diode	AB		RH-DX0110CEZZ			
	or				△ D758	RH-DX0131CEZZ	J	Diode	AC
	RH-DX0475CEZZ				D2201	VHD1SS119//-1	J	Diode	AB
D494	VHD1SS119//-1	J	Diode	AB		or			
	or					RH-DX0475CEZZ			
	RH-DX0475CEZZ				D3301	VHD1SS119//-1	J	Diode	AB
D495	VHD1SS119//-1	J	Diode	AB	△ VA701	RH-VX0048CEZZ	J	Varistor	AE
	or					or			
	RH-DX0475CEZZ					RH-VX0035CEZZ			
D496	VHD1SS119//-1	J	Diode	AB		or			
	or					RH-VX0019CEZZ			
	RH-DX0475CEZZ					or			
D497	VHD1SS119//-1	J	Diode	AB		RH-VX0074CEZZ			
	or				PACKAGED CIRCUITS				
	RH-DX0475CEZZ				△ PR701	RMPTP0092CEZZ	J	Packaged Circuit	AH
△ D502	RH-DX0131CEZZ	J	Diode	AC	X801	RCRSB0001PEZZ	R	Crystal	AL
D511	RH-DX0441CEZZ	J	Diode	AC		or			
D632	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA		RCRSB0205CEZZ			
△ D641	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA	FILTERS AND COILS				
▲△ D651	VHD1SS244//-1	J	Diode	AB	CF2040	RFiLA0099CEZZ	J	Ceramic Filter	AE
▲△ D653	RH-EX0666GEZZ	J	Zener Diode, 27V	AB		or			
D654	VHD1SS119//-1	J	Diode	AB		RFiLC0121GEZZ			
	or				SF201	RFiLC0405CEZZ	J	SAW Filter	AH
	RH-DX0475CEZZ				L201	VP-XF1R2K0000	J	Peaking 1.2μH	AB
△ D661	RH-DX0468CEZZ	J	Diode	AE	L203	VP-XF220K0000	J	Peaking 22μH	AB
	or				L204	RCiLi0632CEZZ	J	IF Coil	AE
	RH-DX0229CEZZ				L301	VP-XF150K0000	J	Peaking 15μH	AB
△ D701	RH-DX0154CEZZ	J	Diode	AC	△ L701	RCiLF0078PEZZ	R	Coil	AF
	or					or			
	RH-DX0490CEZZ					RCiLF0025PEZZ			
	or				△ L705	RCiLP0179CEZZ	J	Coil	AD
	RH-DX0279CEZZ				L2040	RCiLB0131CEZZ	J	Oscillation Coil	AE
△ D702	RH-DX0154CEZZ	J	Diode	AC	TRANSFORMERS				
	or				△ T601	RTRNZ0057PEZZ	R	Transformer	AK
	RH-DX0490CEZZ					or			
	or					RTRNZ0731CEZZ			
△ D703	RH-DX0154CEZZ	J	Diode	AC	▲△ T602	RTRNF0049MEZZ	X	H-Volt Transformer	AY
	or				△ T702	RTRNW0001GJZZ	X	Transformer	AN
	RH-DX0490CEZZ				CONTROL				
	or				▲△ R738	RVR-M4588CEZZ+	X	22k(B) 130V Adj.	AE
△ D704	RH-DX0279CEZZ	J	Diode	AC		or			
	or					RVR-M4628GEZZ			
	RH-DX0490CEZZ					or			
	or					RVR-M4336CEZZ			
	RH-DX0279CEZZ								
D707	VHD1SS119//-1	J	Diode	AB					
	or								
	VHD1SS244//-1	J	Diode	AB					

Ref. No.	Part No.	★	Description	Code
PWB-A: DUNTKA450WEV0				
MAIN UNIT (Continued)				
CAPACITORS				
<i>[EL... Electrolytic, M-Poly... Metalized Polypro Film]</i>				
C51	VCEA0A1AW108M	J	1000 10V EL.	AC
C53	VCEA0A1HW105M	J	1.0 50V EL.	AB
C54	VCEA0A1HW475M	J	4.7 50V EL.	AB
C101	VCEA0A1CW476M	J	47 16V EL.	AB
C201	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C202	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C203	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C204	VCQYTA1HM223K	J	0.022 50V Mylar	AB
C205	VCKYCY1HB103K	J	0.01 50V Ceramic	AA
C206	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C207	VCEA0A1CW476M	J	47 16V EL.	AB
C208	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C209	VCEA0A1HW105M	J	1.0 50V EL.	AB
C210	VCEA0A1HW474M	J	0.47 50V EL.	AB
C212	VCEA0A1HW474M	J	0.47 50V EL.	AB
C220	VCKYCY1EF104Z	J	0.1 25V Ceramic	AA
C301	VCCCCY1HH220J	J	22p 50V Ceramic	AA
C302	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C303	VCKYCY1HB103K	J	0.01 50V Ceramic	AA
C304	VCCCCY1HH220J	J	22p 50V Ceramic	AA
C305	VCKYCY1HB103K	J	0.01 50V Ceramic	AA
C354	VCEA0A1HW225M	J	2.2 50V EL.	AB
C356	VCKYCY1HB332K	J	3300p 50V Ceramic	AA
C357	VCEA0A1HW106M	J	10 50V EL.	AB
C358	VCEA0A1HW106M	J	10 50V EL.	AB
C361	VCEA0A1CW227M	J	220 16V EL.	AC
C411	VCEA0A1AW108M	J	1000 10V EL.	AC
C412	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C414	VCEA0A1HW225M	J	2.2 50V EL.	AB
C416	VCEA0A1HW105M	J	1.0 50V EL.	AB
C451	VCQYTA1HM104K	J	0.1 50V Mylar	AC
C454	VCEA0A1HW475M	J	4.7 50V EL.	AB
C456	VCEA0A1HW106M	J	10 50V EL.	AB
C491	VCEA0A1CW107M	J	100 16V EL.	AC
C492	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C510	VCEA0A1VW477M	J	470 35V EL.	AB
C511	VCCSPA2HL180K	J	18p 500V Ceramic	AA
C512	VCFYSA1JB224J+	X	0.22 63V Mylar	AF
C513	VCFYSA1JB473J	J	0.047 63V Mylar	AC
C514	VCEA0A1VW477M	J	470 35V EL.	AB
C515	VCEA0A1HW475M	J	4.7 50V EL.	AB
C516	VCKYCY1HB222K	J	2200p 50V Ceramic	AA
C517	VCEA0A1CW226M	J	22 16V EL.	AB
C520	VCEA0A1HW107M	J	100 50V EL.	AB
C530	VCIFYFA1HA334J	J	0.33 50V Mylar	AB
C531	VCIFYFA1HA564J	J	0.56 50V Mylar	AB
C606	VCKYPA2HB561K	J	560p 500V Ceramic	AA
C607	VCKYPA1HB472K	J	4700p 50V Ceramic	AA
▲ C610	RC-FZ1018CEZZ	X	12600p 1.6kV Plastic	AG
C612	VCFPVC2DB514J	X	0.51 200V M-Poly.	AF
C632	VCKYCY1EB153K	J	0.015 25V Ceramic	AA
C633	VCEA0A1AW337M+X	330	10V EL.	AE
C634	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C635	VCEA0A1HW105M	J	1.0 50V EL.	AB
C637	VCEA0A1CW476M	J	47 16V EL.	AB
C638	VCEA0A1AW477M	J	470 10V EL.	AC
C652	VCEA0A1HW475M	J	4.7 50V EL.	AB
C653	VCEA0A1HW105M	J	1.0 50V EL.	AB
C654	VCKYCY1CB224K*	X	0.22 16V Ceramic	AE
C662	VCEA0A1CW477M	J	470 16V EL.	AC
▲ C701	RC-FZ037SCEZZ	J	0.22 AC250V Plastic	AD
	or			
	RC-FZ012SGEZZ			
	or			
	RC-FZ017SCEZZ			
	or			
	RC-FZ029SCEZZ			
C702	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
	or			
	RC-KZ0016CEZZ			

C703	RC-KZ0029CEZZ	J	0.01	AC250V Ceramic	AC
	or				
△ C705	RC-KZ0016CEZZ	J	560	200V EL.	AQ
	RC-EZ0800CEZZ				
	or				
	RC-EZ1336CEZZ				
	or				
	RC-EZ0719CEZZ				
	or				
	RC-EZ1022CEZZ	X	470	200V EL.	AN
	or				
	RC-EZ0799CEZZ				
	or				
	RC-EZ0718CEZZ				
△ C706	RC-KZ0092GEZZ	J	0.0033	AC250V Ceramic	AC
	or				
	RC-KZ021SCEZZ				
	or				
	RC-KZ009SCEZZ				
	or				
	RC-KZ0106GEZZ				
	or				
	RC-KZ0311CEZZ				
C710	VCKYPH3DB561K	J	560p	2kV Ceramic	AC
	or				
	RC-KZ0338CEZZ				
C717	VCKYPA2HB472K	J	4700p	500V Ceramic	AB
△ C723	RC-EZ0724CEZZ	J	100	160V EL.	AG
	or				
	RC-EX0659CEZZ	J	47	160V EL.	
△ C725	RC-EZ0809CEZZ	J	220	160V EL.	AL
	or				
	RC-EX0724CEZZ	J	100	160V EL.	
C727	VCKYPA2HB472K	J	4700p	500V Ceramic	AB
△ C730	VCEA0A1CW108M	J	1000	16V EL.	AD
△ C731	VCEA0A1EW337M	J	330	25V EL.	AC
C732	VCKYCY1HF103Z	J	0.01	50V Ceramic	AA
C735	VCCCPA1HH680J	J	68p	50V Ceramic	AA
C736	VCKYCY1HF103Z	J	0.01	50V Ceramic	AA
C737	VCEA0A1EW226M	J	22	25V EL.	AB
C738	RC-KZ0040CEZZ	J	820p	2kV Ceramic	AD
	or				
	RC-KZ0340CEZZ				
C739	VCEA0A1HW104M	J	0.1	50V EL.	AB
C740	VCEA0A1EW476M	J	47	25V EL.	AB
C742	VCKYPA2HB102K	J	1000p	500V Ceramic	AA
C743	VCKYPH3DB561K	J	560p	2kV Ceramic	AC
	or				
	RC-KZ0338CEZZ				
C744	VCKYPH3DB561K	J	560p	2kV Ceramic	AC
	or				
	RC-KZ0338CEZZ				
C750	VCKYCY1HF103Z	J	0.01	50V Ceramic	AA
C752	VCEA0A1CW476M	J	47	16V EL.	AB
C758	VCEA0A2EW106M	J	10	250V EL.	AD
C760	VCEA0A1CW108M	J	1000	16V EL.	AD
C764	VCKYPH3DB561K	J	560p	2kV Ceramic	AC
	or				
	RC-KZ0338CEZZ				
C765	VCKYPA2HB102K	J	1000p	500V Ceramic	AA
C771	VCEA0A1CW476M	J	47	16V EL.	AB
C783	VCQYTA1HM103K	J	0.01	50V Mylar	AB
C784	VCKYCY1HF103Z	J	0.01	50V Ceramic	AA
C801	VCCCCY1HH180J	J	18p	50V Ceramic	AA
C807	VCKYCY1EF104Z	J	0.1	25V Ceramic	AA
C808	VCEA0A1HW106M	J	10	50V EL.	AB
C809	VCEA0A1HW105M	J	1.0	50V EL.	AB
C811	VCKYCY1CB473K	J	0.047	16V Ceramic	AA
C812	VCEA0A1HW474M	J	0.47	50V EL.	AB
C925	VCEA0A1HW106M	J	10	50V EL.	AB
C1405	VCEA0A1HW105M	J	1.0	50V EL.	AB
C2001	VCCCCY1HH101J	J	100p	50V Ceramic	AA
C2002	VCCCCY1HH101J	J	100p	50V Ceramic	AA
C2040	VCEA0A1AW107M	J	100	10V EL.	AB
C2041	VCEA0A1HW105M	J	1.0	50V EL.	AB
C2060	VCKYCY1EF104Z	J	0.1	25V Ceramic	AA

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
PWB-A: DUNTKA450WEV0									
MAIN UNIT (Continued)									
C2061	VCKYCY1HB222K	J	2200p 50V	Ceramic AA	R458	VRD-RA2EE564J	J	560k 1/4W	Carbon AA
C2062	VCEA0A1AW107M	J	100 10V	EL. AB	R461	VRS-CY1JF274J	J	270k 1/16W	M-Ox. AA
C2201	VCKYCY1HB682K	J	6800p 50V	Ceramic AA	R462	VRS-CY1JF563J	J	56k 1/16W	M-Ox. AA
C2202	VCCSPA1HL151J	J	150p 50V	Ceramic AA	R491	VRS-CY1JF102J	J	1.0k 1/16W	M-Ox. AA
C2601	VCEA0A1CW476M	J	47 16V	EL. AB	R492	VRS-CY1JF102J	J	1.0k 1/16W	M-Ox. AA
	or				R493	VRS-CY1JF102J	J	1.0k 1/16W	M-Ox. AA
	VCEA0A1HW475M	J	4.7 50V	EL. AB	R494	VRS-CY1JF472J	J	4.7k 1/16W	M-Ox. AA
RESISTORS					R496	VRS-CY1JF472J	J	4.7k 1/16W	M-Ox. AA
<i>[M-Ox.--- Metal Oxide, M-Film--- Metal Film]</i>					R497	VRS-CY1JF102J	J	1.0k 1/16W	M-Ox. AA
RJ1	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R512	VRD-RM2HD102J	J	1.0k 1/2W	Carbon AA
RJ2	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R513	VRD-RM2HD102J	J	1.0k 1/2W	Carbon AA
RJ4	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R514	VRD-RM2HD1R0J	J	1.0 1/2W	Carbon AA
RJ5	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R515	VRS-RG3DB271J+	X	270 2W	M-Ox. AE
RJ10	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R516	VRD-RA2BE333J	J	33k 1/8W	Carbon AA
RJ23	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R517	VRS-CY1JF102J	J	1.0k 1/16W	M-Ox. AA
RJ24	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R518	VRS-CY1JF333J	J	33k 1/16W	M-Ox. AA
RJ26	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R519	VRS-CY1JF103J	J	10k 1/16W	M-Ox. AA
RJ30	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R520	VRN-RL3AB1R0J+	X	1.0 1W	M-Film AE
RJ37	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R522	VRD-RA2BE122J	J	1.2k 1/8W	Carbon AA
RJ42	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R525	VRD-RA2BE272J	J	2.7k 1/8W	Carbon AA
RJ43	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R527	VRD-RA2BE472J	J	4.7k 1/8W	Carbon AA
RJ44	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R529	VRS-CY1JF392J	J	3.9k 1/16W	M-Ox. AA
RJ47	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	▲ R604	VRS-RG3LB472J+	X	4.7k 3W	M-Ox. AF
RJ50	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R605	VRD-RA2BE121J	J	120 1/8W	Carbon AA
RJ52	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R606	VRD-RA2BE102J	J	1.0k 1/8W	Carbon AA
RJ53	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	▲ R607	VRS-RG3LB472J+	X	4.7k 3W	M-Ox. AF
▲ R53	VRS-RG3LB223J+	X	22k 3W	M-Ox. AF	▲ R609	VRS-RG3AB562J+	X	5.6k 1W	M-Ox. AE
R54	VRS-CY1JF101J	J	100 1/16W	M-Ox. AA	R610	VRD-RM2HD220J	J	22 1/2W	Carbon AA
R55	VRS-CY1JF101J	J	100 1/16W	M-Ox. AA	R611	VRD-KA3NG3R3K	J	3.3 7W	M-Ox. AD
R56	VRS-CY1JF823J	J	82k 1/16W	M-Ox. AA	▲ R620	VRN-RL3ABR33J+	X	0.33 1W	M-Film AE
R57	VRD-RA2BE563J	J	56k 1/8W	Carbon AA	R621	VRN-RL3DB1R2J	X	1.2 2W	M-Film AF
R58	VRD-RA2BE1R0J	J	1.0 1/8W	Carbon AA	R622	VRD-RA2BE222J	J	2.2k 1/8W	Carbon AA
R101	VRD-RA2BE152J	J	1.5k 1/8W	Carbon AA	R623	VRS-CY1JF103J	J	10k 1/16W	M-Ox. AA
R102	VRS-CY1JF100J	J	10 1/16W	M-Ox. AA	R624	VRN-RA2BK472F	J	4.7k 1/8W	M-Film AA
R201	VRS-CY1JF151J	J	150 1/16W	M-Ox. AA	▲ R626	VRN-RL3AB2R7J+	X	2.7 1W	M-Film AE
R202	VRS-CY1JF122J	J	1.2k 1/16W	M-Ox. AA	R634	VRD-RM2HD121J	J	120 1/2W	Carbon AA
R203	VRS-CY1JF682J	J	6.8k 1/16W	M-Ox. AA	R635	VRS-CY1JF332J	J	3.3k 1/16W	M-Ox. AA
R204	VRS-CY1JF270J	J	27 1/16W	M-Ox. AA	R636	VRD-RA2EE221J	J	220 1/4W	Carbon AA
R205	VRS-CY1JF331J	J	330 1/16W	M-Ox. AA	▲ R641	VRS-RG3AB682J+	X	6.8k 1W	M-Ox. AE
R206	VRD-RA2EE151J	J	150 1/4W	Carbon AA	▲ R651	VRS-RG2HC270J+	X	27 1/2W	M-Ox. AE
R207	VRD-RA2BE123J	J	12k 1/8W	Carbon AA	▲ R653	VRS-CY1JF102J	J	1.0k 1/16W	M-Ox. AA
R209	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	▲ R654	VRD-RA2BE154J	J	150k 1/8W	Carbon AA
R210	VRS-CY1JF104J	J	100k 1/16W	M-Ox. AA	▲ R655	VRS-CY1JF103J	J	10k 1/16W	M-Ox. AA
R211	VRS-CY1JF104J	J	100k 1/16W	M-Ox. AA	R656	VRS-CY1JF273J	J	27k 1/16W	M-Ox. AA
R212	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R657	VRS-CY1JF273J	J	27k 1/16W	M-Ox. AA
R220	VRS-CY1JF331J	J	330 1/16W	M-Ox. AA	R658	VRD-RA2BE103J	J	10k 1/8W	Carbon AA
R301	VRS-CY1JF102J	J	1.0k 1/16W	M-Ox. AA	R659	VRD-RA2BE332J	J	3.3k 1/8W	Carbon AA
R302	VRS-CY1JF152J	J	1.5k 1/16W	M-Ox. AA	▲ R661	VRN-RL3ABR47J+	X	0.47 1W	M-Film AE
R310	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	▲ R701	RR-DZ0049CEZZ	J	3.9M 1/2W	Carbon AB
R353	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	or				
R354	VRS-CY1JF103J	J	10k 1/16W	M-Ox. AA	RR-HZ0048CEZZ				
R355	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	▲ R703	VRW-KQ3NC1R2K	J	1.2 7W	Cement AE
R357	VRS-CY1JF822J	J	8.2k 1/16W	M-Ox. AA	▲ R705	VRN-RL3ABR33J+	X	0.33 1W	M-Film AE
R401	VRS-CY1JF101J	J	100 1/16W	M-Ox. AA	▲ R706	VRN-RL3ABR22J+	X	0.22 1W	M-Film AE
R402	VRS-CY1JF101J	J	100 1/16W	M-Ox. AA	R707	VRD-RM2HD270J	J	27 1/2W	Carbon AA
R403	VRS-CY1JF101J	J	100 1/16W	M-Ox. AA	R708	VRS-CY1JF102J	J	1.0k 1/16W	M-Ox. AA
R404	VRD-RA2BE102J	J	1.0k 1/8W	Carbon AA	R710	VRS-RG2HC103J	J	10k 1/2W	M-Ox. AA
R411	VRS-CY1JF684J	J	680k 1/16W	M-Ox. AA	R711	VRD-RA2BE334J	J	330k 1/8W	Carbon AA
R412	VRS-CY1JF391J	J	390 1/16W	M-Ox. AA	R712	VRD-RA2BE100J	J	10 1/8W	Carbon AA
R413	VRS-CY1JF102J	J	1.0k 1/16W	M-Ox. AA	R713	VRS-RG2HC122J+	X	1.2k 1/2W	M-Ox. AE
R414	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R715	VRD-RA2BE150J	J	15 1/8W	Carbon AA
R426	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R716	VRS-RG3AB121J+	X	120 1W	M-Ox. AE
R427	VRS-CY1JF000J	J	0 1/16W	M-Ox. AA	R717	VRD-RA2EE102J	J	1.0k 1/4W	Carbon AA
R431	VRD-RA2BE272J	J	2.7k 1/8W	Carbon AA	R721	VRD-RM2HD104J	J	100k 1/2W	Carbon AA
R432	VRD-RA2BE472J	J	4.7k 1/8W	Carbon AA	R725	VRS-RG2HC821J+	X	820 1/2W	M-Ox. AE
▲ R451	VRS-RG2HC103J	J	10k 1/2W	M-Ox. AA	▲ R733	VRD-RA2EE394J	J	390k 1/4W	Carbon AA
R453	VRD-RA2BE152J	J	1.5k 1/8W	Carbon AA	R735	VRS-CY1JF332J	J	3.3k 1/16W	M-Ox. AA
R454	VRD-RM2HD184J	J	180k 1/2W	Carbon AA	▲ R736	VRD-RM2HD184J	J	180k 1/2W	Carbon AA
R455	VRD-RA2BE392J	J	3.9k 1/8W	Carbon AA	R739	VRD-RM2HD332J	J	3.3k 1/2W	Carbon AA
R456	VRS-CY1JF103J	J	10k 1/16W	M-Ox. AA	R740	VRD-RM2HD470J	J	47 1/2W	Carbon AA
R457	VRD-RA2BE102J	J	1.0k 1/8W	Carbon AA	▲ R741	VRN-RA2BK682F	J	6.8k 1/8W	M-Film AA
					R744	VRN-RL2HCR68J+	X	0.68 1/2W	M-Film AE
					R751	VRD-RA2BE821J	J	820 1/8W	Carbon AA
					R752	VRD-RA2BE562J	J	5.6k 1/8W	Carbon AA
					R755	VRD-RM2HD151J	J	150 1/2W	Carbon AA
					▲ R758	VRS-RG2HC100J+	X	10 1/2W	M-Ox. AE

Ref. No.	Part No.	★	Description	Code
PWB-A: DUNTKA450WEV0				
MAIN UNIT (Continued)				
△ R773	VRS-RG3LB270J+	X 27	3W M-Ox.	AF
△ R774	VRS-RG3LB680J+	X 68	3W M-Ox.	AF
R801	VRD-RM2HD470J	J 47	1/2W Carbon	AA
R807	VRS-CY1JF332J	J 3.3k	1/16W M-Ox.	AA
R808	VRS-CY1JF272J	J 2.7k	1/16W M-Ox.	AA
R809	VRS-CY1JF223J	J 22k	1/16W M-Ox.	AA
R810	VRS-CY1JF223J	J 22k	1/16W M-Ox.	AA
R901	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R902	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R925	VRS-CY1JF102J	J 1.0k	1/16W M-Ox.	AA
R926	VRS-CY1JF104J	J 100k	1/16W M-Ox.	AA
R961	VRS-CY1JF101J	J 100	1/16W M-Ox.	AA
R962	VRS-CY1JF101J	J 100	1/16W M-Ox.	AA
R1401	VRS-CY1JF101J	J 100	1/16W M-Ox.	AA
R1402	VRS-CY1JF750J	J 75	1/16W M-Ox.	AA
R1407	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R1408	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R1412	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R2001	VRS-CY1JF102J	J 1.0k	1/16W M-Ox.	AA
R2002	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2006	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2008	VRS-CY1JF472J	J 4.7k	1/16W M-Ox.	AA
R2009	VRS-CY1JF102J	J 1.0k	1/16W M-Ox.	AA
R2010	VRS-CY1JF102J	J 1.0k	1/16W M-Ox.	AA
R2012	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2016	VRD-RA2BE223J	J 22k	1/8W Carbon	AA
R2018	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2020	VRS-CY1JF223J	J 22k	1/16W M-Ox.	AA
R2022	VRD-RA2BE333J	J 33k	1/8W Carbon	AA
R2023	VRD-RA2BE223J	J 22k	1/8W Carbon	AA
R2024	VRD-RA2BE682J	J 6.8k	1/8W Carbon	AA
R2025	VRD-RA2BE682J	J 6.8k	1/8W Carbon	AA
R2026	VRD-RA2BE682J	J 6.8k	1/8W Carbon	AA
R2027	VRD-RA2BE682J	J 6.8k	1/8W Carbon	AA
R2028	VRD-RA2BE102J	J 1.0k	1/8W Carbon	AA
R2029	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2032	VRD-RA2BE471J	J 470	1/8W Carbon	AA
R2033	VRS-CY1JF684J	J 680k	1/16W M-Ox.	AA
R2034	VRS-CY1JF684J	J 680k	1/16W M-Ox.	AA
R2040	VRD-RA2BE102J	J 1.0k	1/8W Carbon	AA
R2041	VRD-RA2BE333J	J 33k	1/8W Carbon	AA
R2042	VRS-CY1JF101J	J 100	1/16W M-Ox.	AA
R2043	VRD-RA2BE101J	J 100	1/8W Carbon	AB
R2044	VRS-CY1JF683J	J 68k	1/16W M-Ox.	AA
R2045	VRD-RA2BE101J	J 100	1/8W Carbon	AB
R2047	VRS-CY1JF221J	J 220	1/16W M-Ox.	AA
R2048	VRS-CY1JF562J	J 5.6k	1/16W M-Ox.	AA
R2049	VRD-RA2BE333J	J 33k	1/8W Carbon	AA
R2060	VRS-CY1JF221J	J 220	1/16W M-Ox.	AA
R2061	VRS-CY1JF562J	J 5.6k	1/16W M-Ox.	AA
R2062	VRS-CY1JF183J	J 18k	1/16W M-Ox.	AA
R2063	VRS-CY1JF222J	J 2.2k	1/16W M-Ox.	AA
R2064	VRD-RA2BE391J	J 390	1/8W Carbon	AA
R2065	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R2066	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2067	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2068	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2070	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2072	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2101	VRS-CY1JF101J	J 100	1/16W M-Ox.	AA
R2102	VRS-CY1JF101J	J 100	1/16W M-Ox.	AA
R2201	VRS-CY1JF103J	J 10k	1/16W M-Ox.	AA
R2202	VRS-CY1JF473J	J 47k	1/16W M-Ox.	AA
R2203	VRS-CY1JF332J	J 3.3k	1/16W M-Ox.	AA
R2211	VRS-CY1JF222J	J 2.2k	1/16W M-Ox.	AA
R2212	VRS-CY1JF682J	J 6.8k	1/16W M-Ox.	AA
R2213	VRD-RA2BE223J	J 22k	1/8W Carbon	AA
R2401	VRD-RA2BE101J	J 100	1/8W Carbon	AB
R2402	VRD-RA2BE101J	J 100	1/8W Carbon	AB
R2403	VRS-CY1JF101J	J 100	1/16W M-Ox.	AA
R2404	VRS-CY1JF101J	J 100	1/16W M-Ox.	AA

Ref. No.	Part No.	★	Description	Code
R2501	VRS-CY1JF123J	J 12k	1/16W M-Ox.	AA
R2503	VRS-CY1JF273J	J 27k	1/16W M-Ox.	AA
R2504	VRS-CY1JF123J	J 12k	1/16W M-Ox.	AA
R2505	VRS-CY1JF563J	J 56k	1/16W M-Ox.	AA
R2506	VRS-CY1JF563J	J 56k	1/16W M-Ox.	AA
R2507	VRS-CY1JF823J	J 82k	1/16W M-Ox.	AA
R2508	VRS-CY1JF153J	J 15k	1/16W M-Ox.	AA
R2509	VRS-CY1JF272J	J 2.7k	1/16W M-Ox.	AA
R2601	VRD-RA2BE100J	J 10	1/8W Carbon	AA
or				
	VRD-RA2BE331J	J 330	1/8W Carbon	AA
R2602	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R2603	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R2604	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R2605	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R2606	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R2607	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R2608	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R3006	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R3015	VRS-CY1JF000J	J 0	1/16W M-Ox.	AA
R3378	VRS-CY1JF223J	J 22k	1/16W M-Ox.	AA
R3379	VRD-RA2BE683J	J 68k	1/8W Carbon	AA

SWITCHES

S2501	QSW-K0202PEZZ	R	POWER	AC
or				
	QSW-K0079GEZZ			
S2502	QSW-K0202PEZZ	R	VOL-Down	AC
or				
	QSW-K0079GEZZ			
S2503	QSW-K0202PEZZ	R	VOL-Up	AC
or				
	QSW-K0079GEZZ			
S2504	QSW-K0202PEZZ	R	CH-Down	AC
or				
	QSW-K0079GEZZ			
S2505	QSW-K0202PEZZ	R	CH-Up	AC
or				
	QSW-K0079GEZZ			

MISCELLANEOUS PARTS

△ F701	QFS-B4023CEZZ	J	Fuse 4A/125V	AC
or				
	QFS-B4021GEZZ			
FB351	RBLN-0047CEZZ	J	Ferrite Bead	AB
FB601	RBLN-0047CEZZ	J	Ferrite Bead	AB
FB751	RBLN-0047CEZZ	J	Ferrite Bead	AB
FH701	QFSDH1013CEZZ	J	Fuse Holder	AC
FH702	QFSDH1014CEZZ	J	Fuse Holder	AC
P302	QPLGN0361CEZZ	J	Plug, 3-pin(S)	AB
P401	QPLGN0561CEZZ	J	Plug, 5-pin(GBN)	AB
P601	QPLGN0160FJZZ	J	Plug, 5-pin(K)	AD
P651	QPLGN0361CEZZ	J	Plug, 3-pin(TP651-3)	AB
P701	QPLGN0260CEZZ	J	Plug, 2-pin(M)	AC
P751	QPLGN0461CEZZ	J	Plug, 4-pin(YBN)	AB
P1401	QPLGN0561CEZZ	J	Plug, 5-pin(HA)	AB
P2001	QPLGN0561CEZZ	J	Plug, 5-pin(TP2001-5)	AB
RMC2601	RRMCU0222CEZZ	J	R/C Receiver	AL
or				
	RRMCU0227CEZZ			
or				
	RRMCU0235CEZZ			

* I		0222CE	0227CE	0235CE
COMB NATION	R2608	USE	—	USE
	R2602	—	—	USE
	R2603	USE	—	—
	R2604	—	—	USE
	R2605	USE	USE	—
	R2606	—	USE	—
	R2607	—	USE	—
	R2601	10	330	330
	C2601	47u(16V)	4.7u(50V)	4.7u(50V)

RDA501	PRDAR0280PEFW	R	Heat Sink, for IC501	AF
RDA604	PRDAR0233PEFW	R	Heat Sink, for Q602	AK

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
PWB-A: DUNTKA450WEV0					PWB-B: DUNTK9510WEW2				
MAIN UNIT (Continued)					CRT UNIT				
RDA701	PRDAR0265PEFW	R	Heat Sink, for Q701	AD	TRANSISTORS				
	TLABN0101GJZZ	X	Label	AE	Q851	VS2SC3198-Y-1	J	C3198-Y	AA
	LX-BZ3049GEFD	J	Screw	AA	Q852	VS2SC3789//2E	J	C3789	AF
	LX-BZ3100CEFD	J	Screw	AA		or			
	LX-TZ3004CEFD	J	Screw	AA		VS2SC3619LB1E			
					Q853	VS2SC3198-Y-1	J	C3198-Y	AA
					Q854	VS2SC3789//2E	J	C3789	AF
						or			
						VS2SC3619LB1E			
					Q855	VS2SC3198-Y-1	J	C3198-Y	AA
					Q856	VS2SC3789//2E	J	C3789	AF
						or			
						VS2SC3619LB1E			
					Q881	VS2SA1266-Y-1	J	A1266-Y	AA
					DIODES				
					D881	VHD1SS119//-1	J	Diode	AB
					D882	VHD1SS119//-1	J	Diode	AB
					D884	VHD1SS119//-1	J	Diode	AB
					COIL				
					L851	VP-MK820K0000	J	Peaking 82μH	AB
					CAPACITORS				
						[EL... Electrolytic]			
					C851	VCCSPA1HL391J	J	390p 50V Ceramic	AA
					C852	VCCSPA1HL331J	J	330p 50V Ceramic	AA
					C853	VCCSPA1HL391J	J	390p 50V Ceramic	AA
					C854	RC-KZ0024CEZZ	J	0.001 2kV Ceramic	AC
						or			
						VCKYPB3DE472Z	J	0.0047 2kV Ceramic	AC
					C883	VCEA0A1HW106M	J	10 50V EL.	AB
					RESISTORS				
						[M-Ox... Metal Oxide]			
					R851	VRD-RA2BE470J	J	47 1/8W Carbon	AA
					R852	VRD-RA2BE181J	J	180 1/8W Carbon	AA
					R853	VRD-RA2BE121J	J	120 1/8W Carbon	AA
					R855	VRD-RA2BE471J	J	470 1/8W Carbon	AA
					R856	VRD-RA2BE221J	J	220 1/8W Carbon	AA
					△ R857	VRS-VV3LB123J	J	12k 3W M-Ox.	AB
					R858	VRD-RM2HD222J	J	2.2k 1/2W Carbon	AA
					R859	VRD-RA2BE470J	J	47 1/8W Carbon	AA
					R860	VRD-RA2BE181J	J	180 1/8W Carbon	AA
					R861	VRD-RA2BE121J	J	120 1/8W Carbon	AA
					R863	VRD-RA2BE471J	J	470 1/8W Carbon	AA
					R864	VRD-RA2BE221J	J	220 1/8W Carbon	AA
					△ R865	VRS-VV3LB123J	J	12k 3W M-Ox.	AB
					R866	VRD-RM2HD222J	J	2.2k 1/2W Carbon	AA
					R867	VRD-RA2BE470J	J	47 1/8W Carbon	AA
					R868	VRD-RA2BE181J	J	180 1/8W Carbon	AA
					R869	VRD-RA2BE121J	J	120 1/8W Carbon	AA
					R871	VRD-RA2BE471J	J	470 1/8W Carbon	AA
					R872	VRD-RA2BE221J	J	220 1/8W Carbon	AA
					△ R873	VRS-VV3LB123J	J	12k 3W M-Ox.	AB
					R874	VRD-RM2HD222J	J	2.2k 1/2W Carbon	AA
					R881	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
					R882	VRD-RA2BE331J	J	330 1/8W Carbon	AA
					R883	VRD-RA2BE561J	J	560 1/8W Carbon	AA
					R884	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
					R895	VRD-RA2BE470J	J	47 1/8W Carbon	AA
					MISCELLANEOUS PARTS				
					P851	QPLGN0541CEZZ	J	Plug, 5-pin(GBN)	AB
					P852	QPLGN0441CEZZ	J	Plug, 4-pin(YBN)	AB
					SC851	QSOCV0937CEZZ	J	CRT Socket	AL

Ref. No.	Part No.	★	Description	Code
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PWB-H: DUNTK9310WEW6 FRONT A/V UNIT

MISCELLANEOUS PARTS

J1001	QJAKE0053GEZZ	J	Jack, Video-In	AD
J1003	QJAKE0055GEZZ	J	Jack, Audio-In	AD
P1001	QPLGN0541CEZZ	J	Plug, 5-pin(HA)	AB

MISCELLANEOUS PARTS

△ ACC701	QACCD3096CESA	X	AC Cord	AK
	or			
	QACCD3064CESA			
	or			
	QACCD3090CESA			
SP1	VSP0080PBL4YS	X	Speaker, 32 ohm	AH
	QCNW-0133MEZZ	X	Connecting Cord	AE
	QCNW-0135MEZZ	X	Connecting Cord	AF
	QCNW-0166MEZZ	X	Connecting Cord	AE
	QCNW-0167MEZZ	J	Connecting Cord	AE

SUPPLIED ACCESSORIES

RRMCG1324CESA	J	Infrared R/C Unit	AT
TGAN-0001GJZZ	X	Guarantee Card	AB
TiNS-7286GJZZ	X	Operation Manual	AH

PACKING PARTS (NOT REPLACEMENT ITEM)

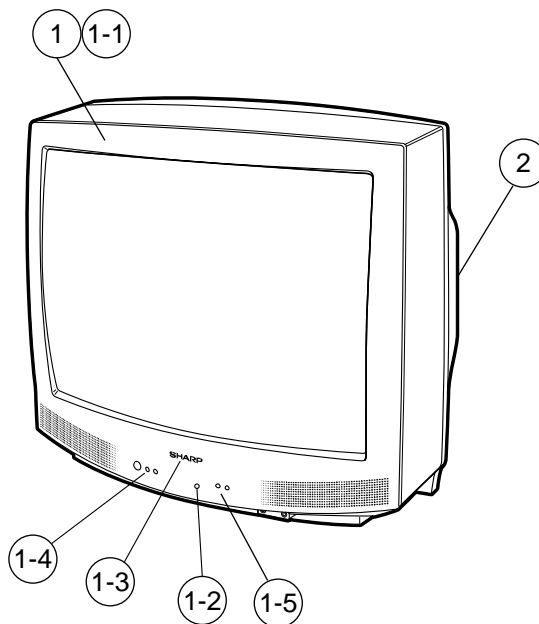
SPAKC0147GJZZ	—	Packing Case	—
SPAKP0108GJZZ	—	Wrapping Paper	—
SPAKX0120GJZZ	—	Buffer Material	—
SSAKA0101GJZZ	—	Polyethylene Bag	—

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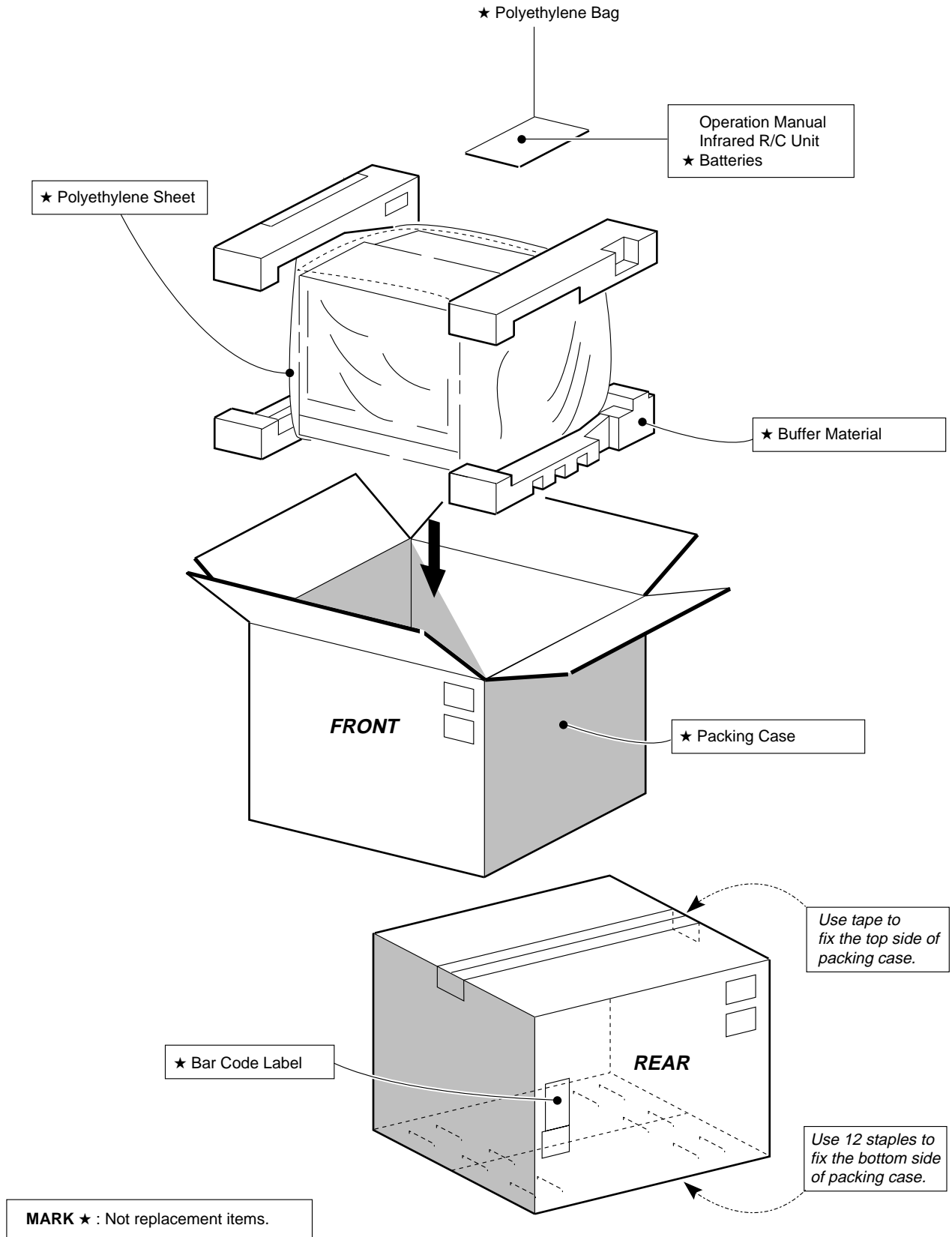
CABINET PARTS

1	CCABA0116WEH2	X	Front Cabinet Ass'y	BB
1-1	<i>Not Available</i>	—	Front Cabinet	—
1-2	GCOVA0108GJKA	X	R/C Cover	AG
1-3	HBDGB0103GJSB	X	"SHARP" Badge	AE
1-4	JBTN-0107GJKA	X	Button, Power, Vol-up/down	AH
1-5	JBTN-0108GJKA	X	Button, CH-up/down	AH
2	GCABB0108GJKA	X	Rear Cabinet	AZ

CABINET PARTS LOCATION



PACKING OF THE SET



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