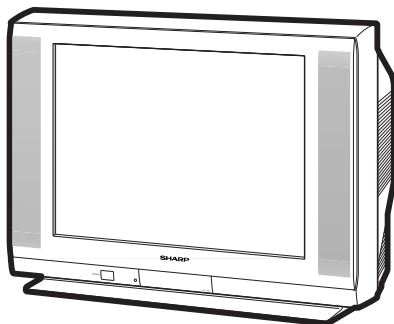


SHARP SERVICE MANUAL

S34Q129FL94//



COLOR TELEVISION Chassis No. GB-3U

MODEL **29FL94**

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 110~220V AC, 50/60 Hz
 POWER RATING 145W
 PICTURE SIZE 2,193.5 cm² (339sq 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 7.5W + 7.5W (at 10% distortion and
 Dual CH Operate)

SPEAKER

SIZE 12 x 6 cm oval (2 pcs.)
 VOICE COIL IMPEDANCE 8 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.

SHARP CORPORATION

This document has been published to be used for after sales service only.
 The contents are subject to change without 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. 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)

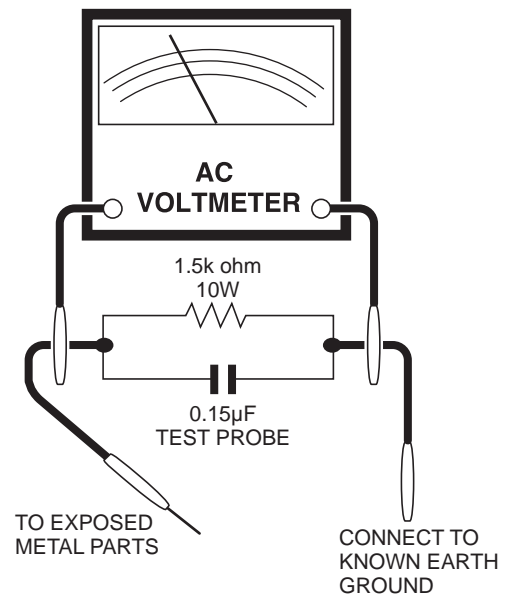
Before returning the receiver to the user, perform the following safety checks.

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, 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 110~220 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, 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 " \triangle " 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

POWER

Press → On.
Press again → Off.

REMOTE CONTROL SENSOR

MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

VOLUME UP/DOWN
(+) Increases sound.
(-) Decreases sound.

INSIDE DOOR

VIDEO/AUDIO IN 2
TERMINALS

CHANNEL UP/DOWN

(▲) Selects next higher channel
(▼) Selects next lower channel

Basic Remote Control Functions

POWER

Press → On.
Press again → Off.

REMOTE KEYPAD

Accesses any channel from keypad.

FLASHBACK

Returns to previous channel.

PERSONAL PREFERENCE

With the Personal Preference buttons, you can program your favorite programs by using the 4 categories A, B, C and D. The channels can be accessed quickly by using these buttons.

VOLUME UP/DOWN

(+) Increases sound.
(-) Decreases sound.

* Changes or selects the TV adjustments on On-Screen Display.

MENU

Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

MUTE

Press → Mutes sound.
Press again → Restores sound.
* When sound is muted, CLOSED CAPTION appears if available.

POWER (DVD/VCR)

Press → On.
Press again → Off.

DVD/VCR CONTROL

Infrared Transmitter Window

CATV / DVD-TV/VCR MODE buttons
Press TV/VCR → Signals sent will be for TV and VCR control.
Press CATV/DVD → Signals sent will be for cable TV converter and DVD control.

DISPLAY

Press → Displays receiving channel for 4 seconds.
Press again → Removes display.
* Temporarily displays receiving channel when in Closed Caption mode.

INPUT

Press → Switches to external video INPUT 1 mode.
Press twice → Switches to external video INPUT 2 mode.
Press 3 times → Switches to external video INPUT 3 mode or COMPONENT mode.
Press 4 times → Switches back to the original TV mode.

ENTER

Used in some instances where a Cable Converter Box requires an "enter" command after selecting channels, when using the REMOTE KEYPAD button.

CHANNEL UP/DOWN

(▲) Selects next higher channel.
(▼) Selects next lower channel.
* Moves the "■" mark on the MENU screens.

SKIP/VCR-CH

REC

Note:

- The above shaded buttons on the Remote Control glow in the dark. To use the glow-in-the-dark display on the remote control, place it under a fluorescent light or other lighting.
- The phosphorescent material contains no radioactive or toxic material, so it is safe to use.
- The degree of illumination will vary depending on the strength of lighting used.
- The degree of illumination will decrease with time and depending on the temperature.
- The time needed to charge the phosphorescent display will vary depending on the surrounding lighting.
- Sunlight and fluorescent lighting are the most effective when charging the display.

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 5.0A fuse (F1701), mounted on PWB-G, 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 110~220V 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 (P651 Pin3) and make sure that the voltmeter reads $13.85 \pm 0.6V$ DC.
5. Apply external 17.3V DC at TP653 by using an external DC supply, TV must be shut off.
6. To reset the protector, unplug the AC cord and plug the AC cord power on. 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 110~220V 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 "V11" and Bus data "01" (Y-mute on, CRT Cut Off).
4. The voltage should be below 31.5kV (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. See "Table-B" to determine, if service adjustments are required.

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 controls are in their proper (reset) position.

2. Service number selection

Once in the service mode, press the Ch-up or Ch-down button on the remote controller or at the set. The service adjustment number will vary in increments of one, from "V01" to "M20". Select the item you wish to adjust.

3. Data number selection

Press the Vol-up or Vol-down button to adjust the data number.

To enter the service mode and exit service mode.

To enter the service mode manually just press and hold the Vol-down and Ch-up buttons at the same time, 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.

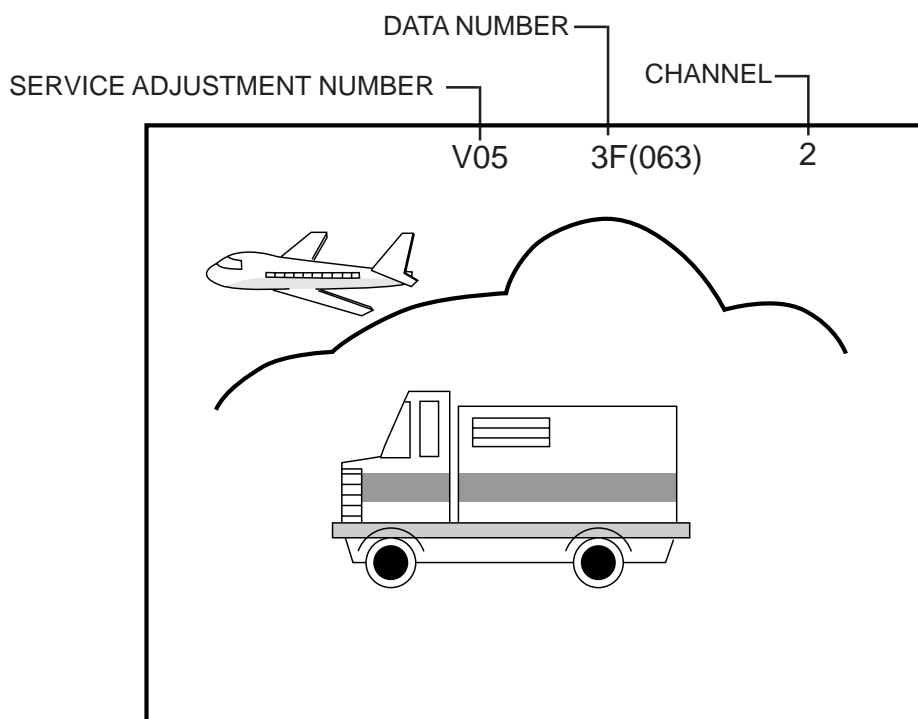


Figure A.

A. VCJ IC ADJUSTMENT

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
V01	PICTURE	0-15 (00h-0Fh)	8 (08h)		
V02	TINT	0-127 (00h-7Fh)	66 (42h)		
V03	COLOR	0-127 (00h-7Fh)	56 (38h)		
V05	BRIGHT	0-127 (00h-7Fh)	64 (40h)		
V06	R CUT-OFF	64-255 (40h-FFh)	64 (40h)		
V07	G CUT-OFF	64-255 (40h-FFh)	64 (40h)		
V08	B CUT-OFF	64-255 (40h-FFh)	64 (40h)		
V09	G/R DRIVE	0-127 (00h-7Fh)	64 (40h)		
V10	B DRIVE	0-127 (00h-7Fh)	64 (40h)		
V11	Y-MUTE/V-STOP	0-2	0 (00h)	Y-Mute / Horizontal "—"	
V12	SHARP	0-63 (00h-3Fh)	50 (32h)		32
V13	DC RESTORATION	0-3 (00h-03h)	2 (02h)		02
V14	BLACK STRETCH	0-3 (00h-03h)	2 (02h)		02
V15	ABL START POINT	0-3 (00h-03h)	3 (03h)		03
V16	ABL GAIN	0-3 (00h-03h)	2 (02h)		02
V17	γ POINT	0-3 (00h-03h)	0 (00h)		00
V19	ENERGY SAVE	0-63 (00h-3Fh)	63 (3Fh)	Offset	3F
V24	LOW-G	0-255 (00h-FFh)	12 (0Ch)	Color Temp.	F4
V25	LOW-B	0-255 (00h-FFh)	241 (F1h)	Color Temp.	E6
V26	ML-G	0-255 (00h-FFh)	0 (00h)	Color Temp.	FD
V27	ML-B	0-255 (00h-FFh)	247 (F7h)	Color Temp.	F8
V28	HIGH-G	0-255 (00h-FFh)	2 (02h)	Color Temp.	01
V29	HIGH-B	0-255 (00h-FFh)	8 (08h)	Color Temp.	06
V30	WPL	0-1	1 (01h)		01
V31	RGB CONTRAST	0-63 (00h-3Fh)	59 (3Bh)		3B
V34	VSM GAIN	0-3 (00h-03h)	1 (01h)		01
V36	BPF/TOF-INPUT	0-1	0 (00h)	External Input	00
V37	CORING	0-1	0 (00h)		00
V38	VSM PHASE	0-1	0 (00h)		00
V39	COLOR γ	0-1	0 (00h)		00
V40	SHARP-INPUT	0-63 (00h-3Fh)	44 (2Ch)	External Input	2C
V41	TINT-INPUT	0-127 (00h-7Fh)	62 (3Eh)	External Input	3E
V42	PICTURE-COMPONENT	0-15 (00h-0Fh)	6 (06h)	Component Input	
V43	TINT-COMPONENT	0-127 (00h-7Fh)	62 (3Eh)	Component Input	3E
V44	COLOR-COMPONENT	0-127 (00h-7Fh)	72 (48h)	Component Input	48
V45	BRIGHT-COMPONENT	0-127 (00h-7Fh)	84 (54h)	Component Input	
V46	R CUT OFF-COMPONENT	64-255 (00h-FFh)	64 (40h)	Component Input	
V47	G CUT OFF-COMPONENT	64-255 (00h-FFh)	64 (40h)	Component Input	
V48	B CUT OFF-COMPONENT	64-255 (00h-FFh)	64 (40h)	Component Input	
V49	G/R DRIVE-COMPONENT	0-127 (00h-7Fh)	64 (40h)	Component Input	
V50	B DRIVE-COMPONENT	0-127 (00h-7Fh)	64 (40h)	Component Input	
V51	SHARP-COMPONENT	0-63 (00h-3Fh)	44 (2Ch)	Component Input	2C
V52	TINT-S	0-127 (00h-7Fh)	62 (3Eh)	Component Input	3E
V53	C-TRAP	0-1 (00h-01h)	0 (00h)		00
V59	AUTO FRESH	0-1 (00h-01h)	0 (00h)		00
V60	SHARP P F	0-1 (00h-01h)	1 (01h)		01
V61	CD MATRIX	0-3 (00h-03h)	2 (02h)		02
V62	B-Y ATT	0-1 (00h-01h)	0 (00h)		00
V63	R-Y ATT	0-1 (00h-01h)	0 (00h)		00
V64	CD MATRIX COMPONENT	0-3 (00h-03h)	0 (00h)	Component Input	00
V65	B-Y ATT-COMPONENT	0-1 (00h-01h)	0 (00h)	Component Input	00
V66	R-Y ATT-COMPONENT	0-1 (00h-01h)	0 (00h)	Component Input	00
V67	BUZZ	0-1 (00h-01h)	1 (01h)		01
V68	RGB ABCL	0-1 (00h-01h)	1 (01h)		01
V69	PICTURE-VCOMP	0-100 (00h-64h)	47 (2Fh)	16:9 Format (Offset)	2F
V70	COLOR-VCOMP	0-100 (00h-64h)	50 (32h)	16:9 Format (Offset)	32
V71	BRIGHT-VCOMP	0-100 (00h-64h)	51 (33h)	16:9 Format (Offset)	33
R01	RF-AGC	0-63 (00h-3Fh)	36 (24h)		
R03	RF-AGC REF	0-255 (00h-FFh)	170 (AAh)	Standard value for the self-adjustment	AA
D01	V POSITION	0-7 (00h-07h)	0 (00h)		00
D02	H POSITION	0-31 (00h-1Fh)	15 (0Fh)		
D03	V SIZE	0-127 (00h-7Fh)	89 (59h)		
D04	H SIZE	0-63 (00h-3Fh)	36 (24h)		
D05	V-LINEARITY	0-15 (00h-0Fh)	8 (08h)		
D06	V-S CORRECTION	0-15 (00h-0Fh)	12 (0Ch)		0C
D07	EW PARABOLA	0-63 (00h-3Fh)	43 (2Bh)		
D08	EW TRAPEZIUM	0-63 (00h-3Fh)	36 (24h)		
D10	AFC GAIN	0-3 (00h-03h)	2 (02h)		02
D11	V EHT	0-7 (00h-07h)	6 (06h)		06
D12	H EHT	0-7 (00h-07h)	6 (06h)		06
D13	EW CORNER	0-31 (00h-1Fh)	8(08h)		08

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
D14	EW CORNER BOTTOM	19-81 (13h-51h)	50 (32h)	Offset toward D13.	32
D15	NOISE DET LEVEL	0-3 (00h-03h)	0 (00h)		00
D18	V CENTERING	0-63 (00-3Fh)	36 (24h)		
D19	V-AGC	0-1 (00h-01h)	0 (00h)		00
D20	V POSITION-VCOMP	0-7 (00h-07h)	0 (00h)	16:9 Format	00
D21	H POSITION-VCOMP	0-31 (00h-1Fh)	15 (0Fh)	16:9 Format	
D22	V SIZE-VCOMP	0-127 (00h-7Fh)	52 (34h)	16:9 Format	
D23	H SIZE-VCOMP	0-63 (00h-3Fh)	36 (24h)	16:9 Format	
D24	V-LINEARITY-VCOMP	0-15 (00h-0Fh)	8 (08h)	16:9 Format	
D25	V-C CORRECTION-VCOMP	0-15 (00h-0Fh)	10 (0Ah)	16:9 Format	0A
D26	EW PARABOLA-VCOMP	0-63 (00h-3Fh)	22 (16h)	16:9 Format	
D27	EW TRAPEZIUM-VCOMP	0-63 (00h-3Fh)	35 (23h)	16:9 Format	
D28	V EHT-VCOMP	0-7 (00h-07h)	6 (06h)	16:9 Format	06
D29	H EHT-VCOMP	0-7 (00h-07h)	6 (06h)	16:9 Format	06
D30	EW CORNER-VCOMP	0-31 (00h-1Fh)	12 (0Ch)	16:9 Format	0C
D31	EW CORNER BOTTOM-VCOMP	19-81 (13h-51h)	50 (32h)	Offset toward D30.	32
D32	V BLK UPPER-VCOMP	0-3 (00h-03h)	2 (02h)	16:9 Format	02
D33	V BLK LOWER-VCOMP	0-3 (00h-03h)	2 (02h)	16:9 Format	02
D34	V CENTERING-VCOMP	0-63 (00h-3Fh)	36 (24h)	16:9 Format	

B. SPECIAL SETTING

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
EX1	FAO VOLUME	0-50 (00h-32h)	36 (24h)		24
EX2	CC-POSITION	0-127 (00h-7Fh)	27 (1Bh)		
EX3	INT	0-255 (00h-FFh)	122 (7Ah)	Interrupt period adjustment.	7A
EX4	A-ATT	0-127 (00h-7Fh)	90 (5Ah)		5A
EX5	TUNER data	0-3 (00h-03h)	0 (00h)		00
EX6	Think chip-Slice LEVEL	0-255 (00h-FFh)	54 (36h)		12
EX7	RLY DELAY TIME	0-255 (00h-FFh)	0 (00h)	For the power control	00
EX8	ADG ON TIME	0-255 (00h-FFh)	10 (0Ah)	For the power control	0A

C. OPTION SETTING

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
OP1	OPTION1	0-255 (00h-FFh)	245 (F5h)		C5
OP2	OPTION2	0-255 (00h-FFh)	188 (BCh)		BE
OP3	OPTION3	0-255 (00h-FFh)	15 (0Fh)		07

D. SOUND ADJUSTMENT

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
M01	INPUT LEVEL	0-15 (00h-0Fh)	7 (07h)		
M02	MTS VCO	0-63 (00h-3Fh)	38 (26h)		
M03	FILTER	0-63 (00h-3Fh)	36 (24h)		
M04	WIDEBAND	0-63 (00h-3Fh)	28 (1Ch)		
M05	SPECTRAL	0-63 (00h-3Fh)	23 (17h)		
M09	SRS LEVEL	0-255 (00h-FFh)	224 (E0h)		E0
M10	BBE LEVEL	0-255 (00h-FFh)	217 (D9h)		D9
M11	SRS & BBE LEVEL	0-255 (00h-FFh)	208 (D0h)		D0
M12	SRS & BBE OFF LEVEL	0-255 (00h-FFh)	228 (E4h)		E4
M13	SRS Effect	2-3 (02h-03h)	2 (02h)		02
M14	BBE-L Effect	0-15 (00h-0Fh)	15 (0Fh)		0F
M15	BBE-H Effect	0-15 (00h-0Fh)	15 (0Fh)		0F
M16	AGC Level	0-7 (00h-07h)	1 (01h)		01
M17	BASS Offset	0-31 (00h-1Fh)	15 (0Fh)		0F
M18	TREBLE Offset	0-31 (00h-1Fh)	15 (0Fh)		0F
M19	BASS Offset-BBE	0-31 (00h-1Fh)	17 (11h)		11
M20	TREBLE Offset-BBE	0-31 (00h-1Fh)	16 (10h)		10

Holding down both the VOL-up and CH-up buttons on the TV set at service mode for more than 2 seconds will automatically write the above initial values into IC2101.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
IC2001		X	Data is stored in IC2101.
IC201	X		The adjustment is needed to compensate for characteristics of parts including IC201 and MTS level (M01).
IC2101	X		Holding down both the VOL-up and CH-up buttons on the TV set in the service mode for more than 2 seconds will automatically write the above initial values into IC2101 Then perform a complete adjustment.
CRT	X		Adjust items related to picture tube only.
IC3001	X		Adjust items related to MTS only (M01~M20).

SERVICE ADJUSTMENT

RF AGC Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "R01".
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 1 : You will have to come out of the service mode to select another channel.

Note 2 : Setting the data to "00" will produce a black raster.

Screen Adjustment

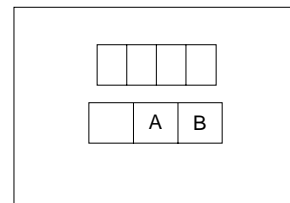
1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "V03" and set the data value to "00" to set the color level to minimum. (Record original data code under adjustment "V03" before changing) You may skip this step, if you selected a B/W picture or monoscope pattern.
3. Select the service adjustment "V11" and adjust the data value to "01", this turn off the luminance signal (Y-mute).
4. Adjust the master screen control until the raster darkens to the point where raster is barely seen.
5. Adjust the service adjustments "V06" red, "V07" green and "V08" blue to obtain a good grey scale with normal whites at low brightness level.
6. Select the service adjustment "V11" and reset data to "00". Select the service adjustment "V03" and reset data to obtain normal color level.
7. For component input, the data value of "V46" red, "V47" green and "V48" blue is adjusted to follow the data value of "V06", "V07" and "V08" respectively.
8. Reset the master screen control to obtain normal brightness range.

White Balance Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "V03" and set to "00" (minimum color)(Record original data code under adjustment "V03" before changing). "V03" does not have to be adjusted, if you selected a B/W picture or monoscope pattern.
3. Alternately adjust the service adjustment data of "V09" and "V10" until a good grey scale with normal whites is obtained. (RF Input)
4. For component input, the data value of "V49" and "V50" is adjusted to follow the data value of "V09" and "V10" respectively.
5. Select the service adjustment "V03" and reset data to obtain normal color level.

Sub-picture and Sub-Bright Adjustments

1. Receive the window pattern signal.
 - RF INPUT (TU51)
2. Get into service adjustment data "V01" and "V05" and set the luminance as shown in figure "A" and "B" as below respectively.
 - COMPONENT INPUT
3. Get in service adjustment data "V42" and "V45" and set the luminance as shown in figure "A" and "B" as below respectively.



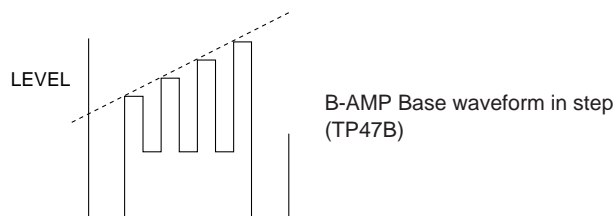
LUMINESCENCE CONFIRMATION

A: $120 \pm 10 \text{cd/m}^2$

B: $1.5 \pm 0.5 \text{cd/m}^2$

Sub-Tint Adjustment

1. Receive the half color bar signal.
- RF INPUT (TU51)
2. Get into Y-Mute by R/C, or by setting the "V11" bus data to "01".
3. Vary the "V02" bus data until the waveform becomes as stated below.



Sub-Color Adjustment

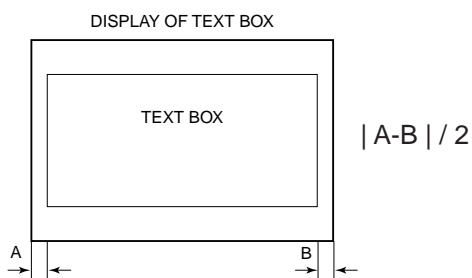
1. Receive a good local channel.
2. Make sure the customer color control is set to center position .
- RF INPUT (TU51)
3. Enter the service mode and select service adjustment "V03".
4. Adjust "V03" data value to obtain a normal color level.

Focus Adjustment

1. Receive a good local channel.
2. Adjust the FOCUS VR of the flyback transformer to make the image as fine as possible.

C. C Display Position Adjustment

1. Receive the lion head pattern signal.
2. Select "EX2" to display the text box.
3. Adjust the "EX2" bus data to let the text box displayed in the center.



SPEC INSPECTION: $|A-B| / 2 \leq 5\text{mm}$

Vertical-Size and Linearity Adjustments

1. Receive a good local channel.
(SCREEN FORMAT 4:3)
2. Enter the service mode and select the service adjustment "D03" for V-size.
3. Adjust the "D03" bus data to get the proper V-size.
4. For V-linearity adjustment, select data bus "D05" and adjust to get the proper vertical linearity.
(SCREEN FORMAT 16:9)
5. Input data of "D22" to mines 38 step from "D03" data.
(V-SIZE)
6. Input data of "D24" same as "D05" data. (V-LIN)

Note: Aging for 10 min before adjustment. After the adjustment of V-center and V-size, re-adjustment for this V-line.

Vertical Phase Adjustment

(SCREEN FORMAT 4:3)

1. Enter the service mode and input data of "00h" on "D01".
2. Adjust "D18" data value so that picture is centered.
(SCREEN FORMAT 16:9)
3. Input data of "00h" on "D20".
4. Input data of "D34" same as "D18" data.

Horizontal Position Adjustment

(SCREEN FORMAT 4:3)

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "D02".
3. Adjust "D02" data value so that picture is centered.
(SCREEN FORMAT 16:9)
4. Input data of "D21" same as "D02" data.

Horizontal-Size Adjustment

(SCREEN FORMAT 4:3)

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "D04" for H-size.
3. Adjust the "D04" bus data to get the proper H-size.
(SCREEN FORMAT 16:9)
4. Input data of "D23" same as "D04" data.

EW-Parabola

(SCREEN FORMAT 4:3)

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "D07" for EW parabola.
3. Adjust the "D07" bus data to get the proper vertical straight line for both left and right side.
(SCREEN FORMAT 16:9)
4. Input data of "D26" to mines 21 step from "D07" data.

EW-Trapezium

(SCREEN FORMAT 4:3)

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "D08" for EW-Trapezium.
3. Adjust the "D08" bus data to get the best position display.
(SCREEN FORMAT 16:9)
4. Input data of "D27" same as "D08" data.

■ MTS ADJUSTMENT

MTS Level Adjustment

1. Set the sound volume above 1.
Monoral signal: 400Hz, 100% modulation
2. Confirm "EX4" data is "5Ah".
3. Vary the "M01" bus data until the voltage to pin (39) of IC3001 to become the value as stated below.

SETTING VOLTAGE

ADJ spec : 490 ± 10 mVrms

CHK spec: 490 ± 20 mVrms

Separation Adjustment

1. Input "SIGNAL 1" and vary the "M04" bus data to get the minimum AC voltage to pin (39) of IC3001.
2. Input "SIGNAL 2" and vary the "M05" bus data to get the minimum AC voltage to pin (39) of IC3001.
SIGNAL 1: 300Hz, 30% modulation, Lch only, NR-ON
SIGNAL 2: 3kHz, 30% modulation, Lch only, NR-ON

Note: SIGNAL 1 Adj. for wideband

SIGNAL 2 Adj. for spectral

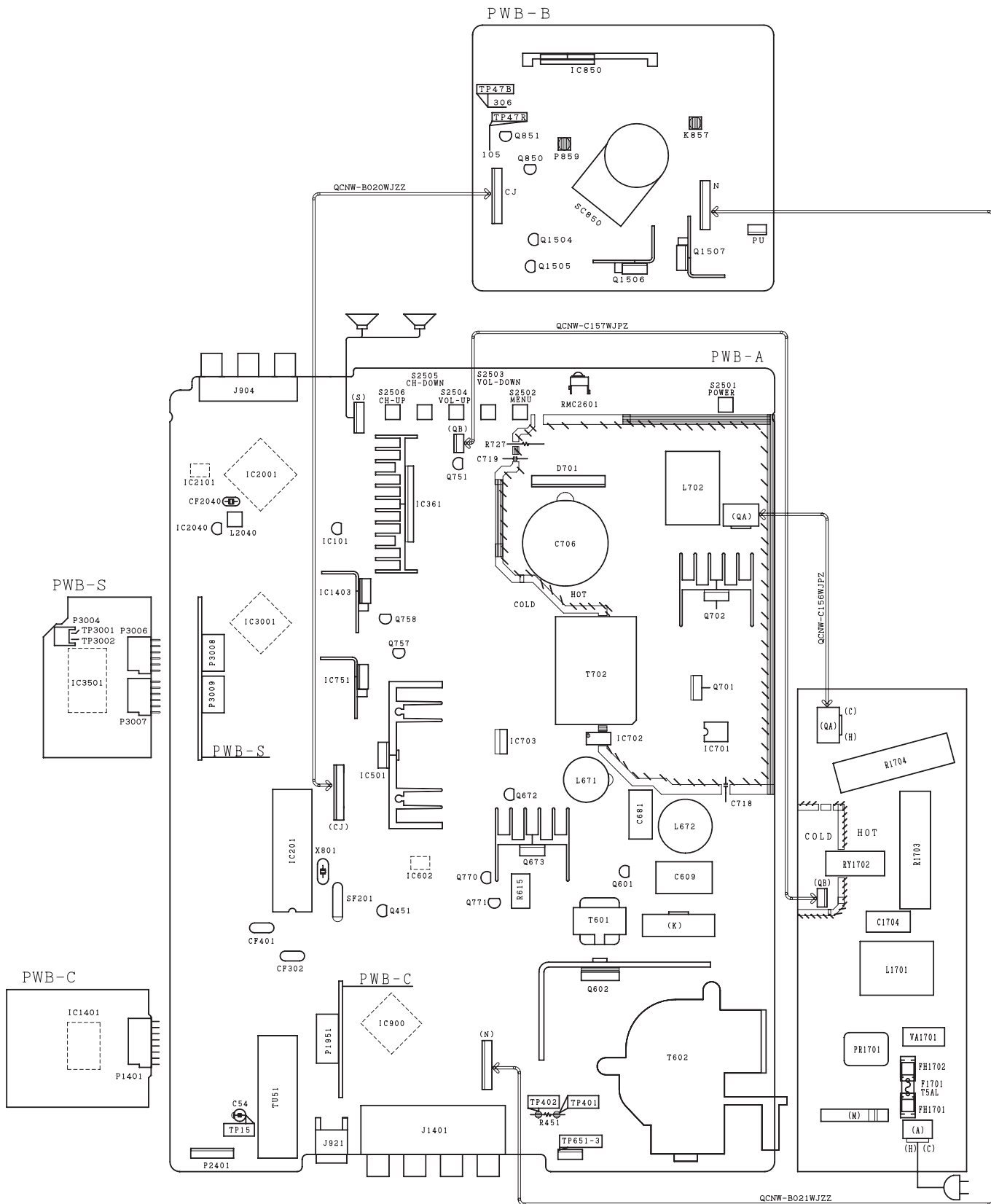
Check the output of the speaker at the maximum volume as stated below.

Confirmation spec:

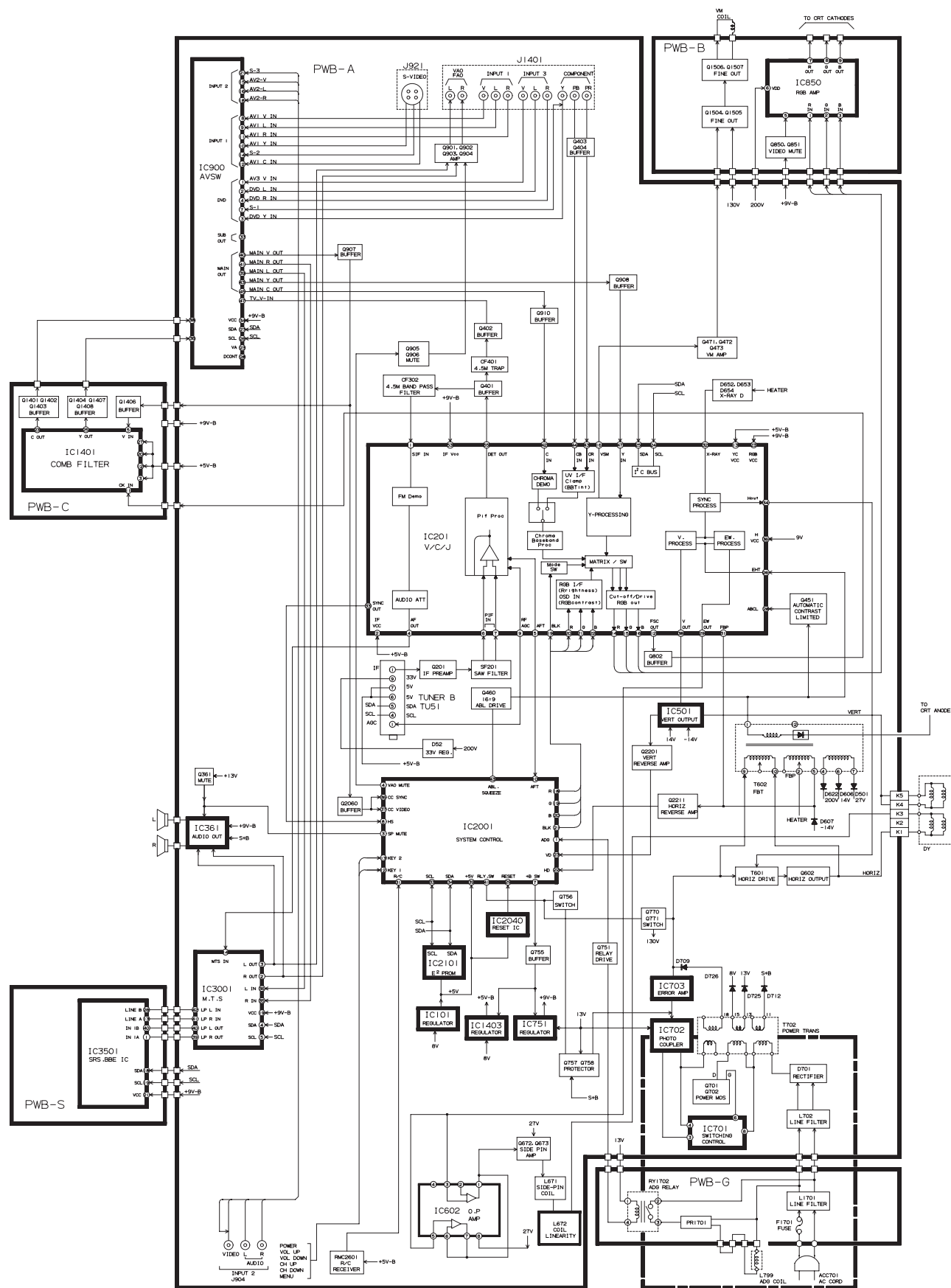
ADJ spec: above 25 dB

CHK spec: above 20 dB

CHASSIS LAYOUT



BLOCK DIAGRAM



DESCRIPTION OF SCHEMATIC DIAGRAM

NOTES:

1. The unit of resistance "ohm" is omitted.
(K=kW=1000W, M=MW)
2. All resistors are 1/16 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. \ddagger indicates line isolated ground.

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. \odot indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)

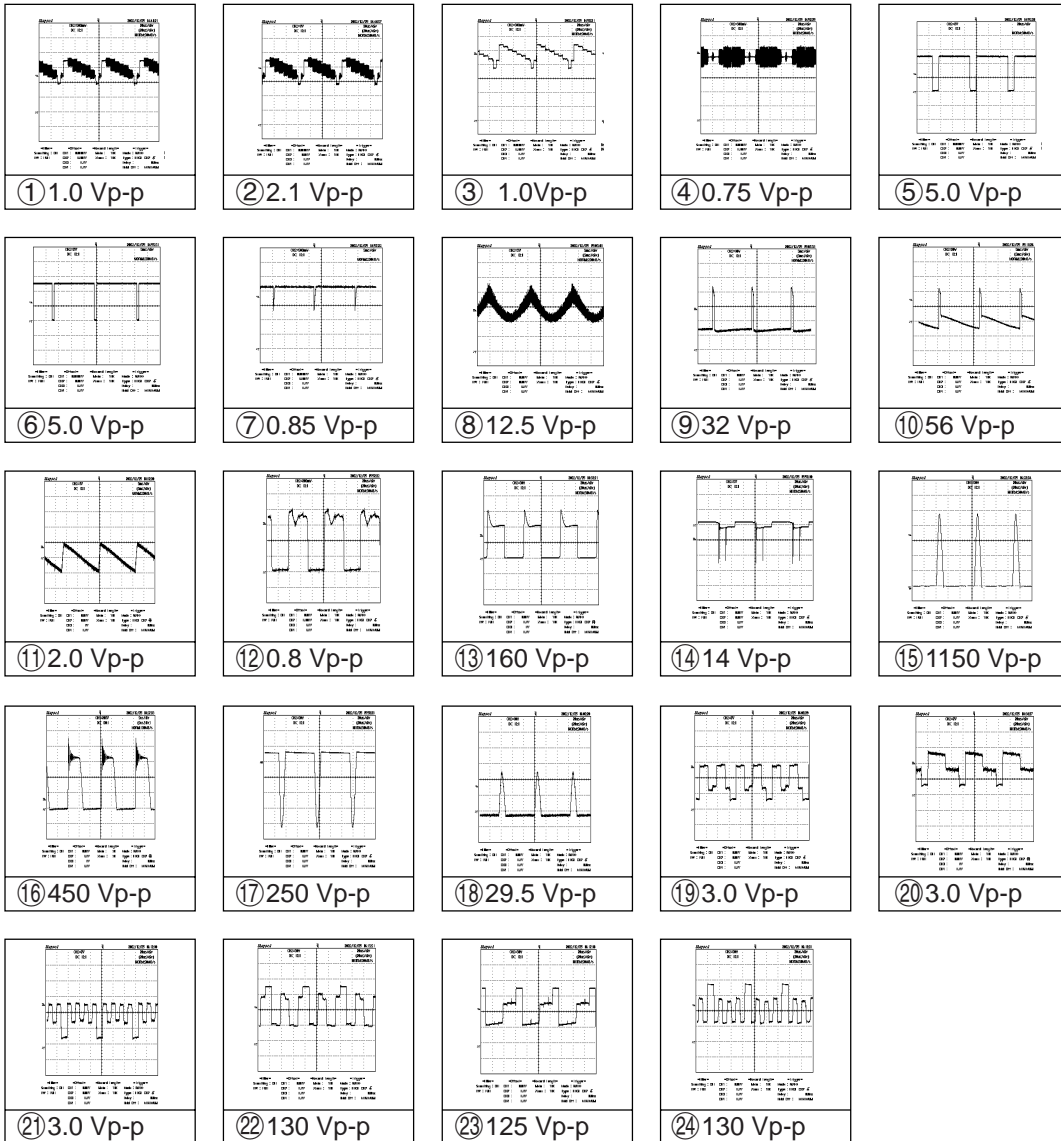
\triangle AND SHADED () COMPONENTS = SAFETY RELATED PARTS.
 \blacktriangle MARK= X-RAY RELATED PARTS.

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

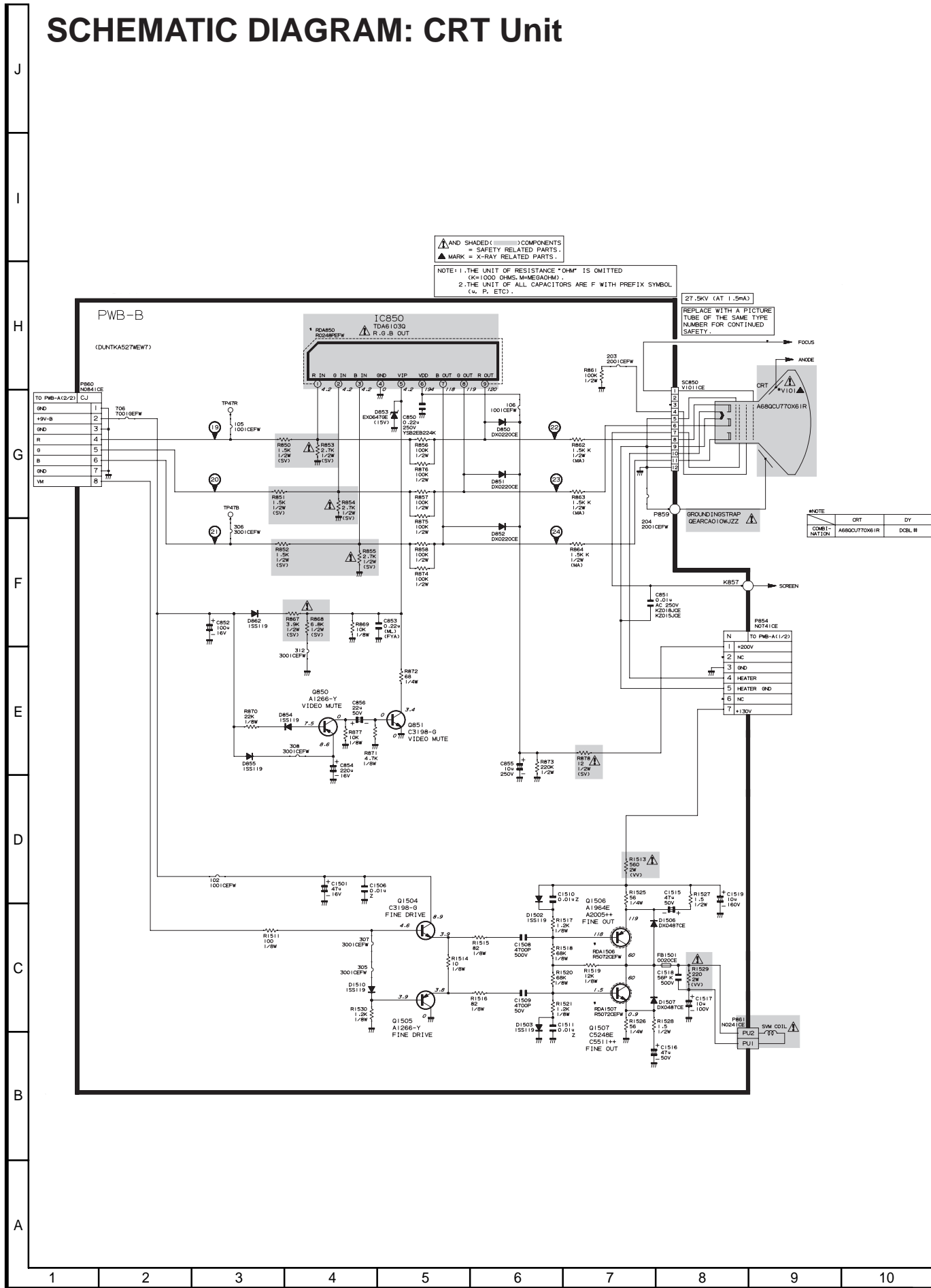
VOLTAGE MEASUREMENT CONDITIONS:

1. All DC voltages are measured with DVM connected between points indicated and chassis ground, line voltage set at 110-220V AC and all controls set for normal picture unless otherwise indicated.
2. All voltages measured with 1000 μV B & W or Color signal.

WAVEFORMS

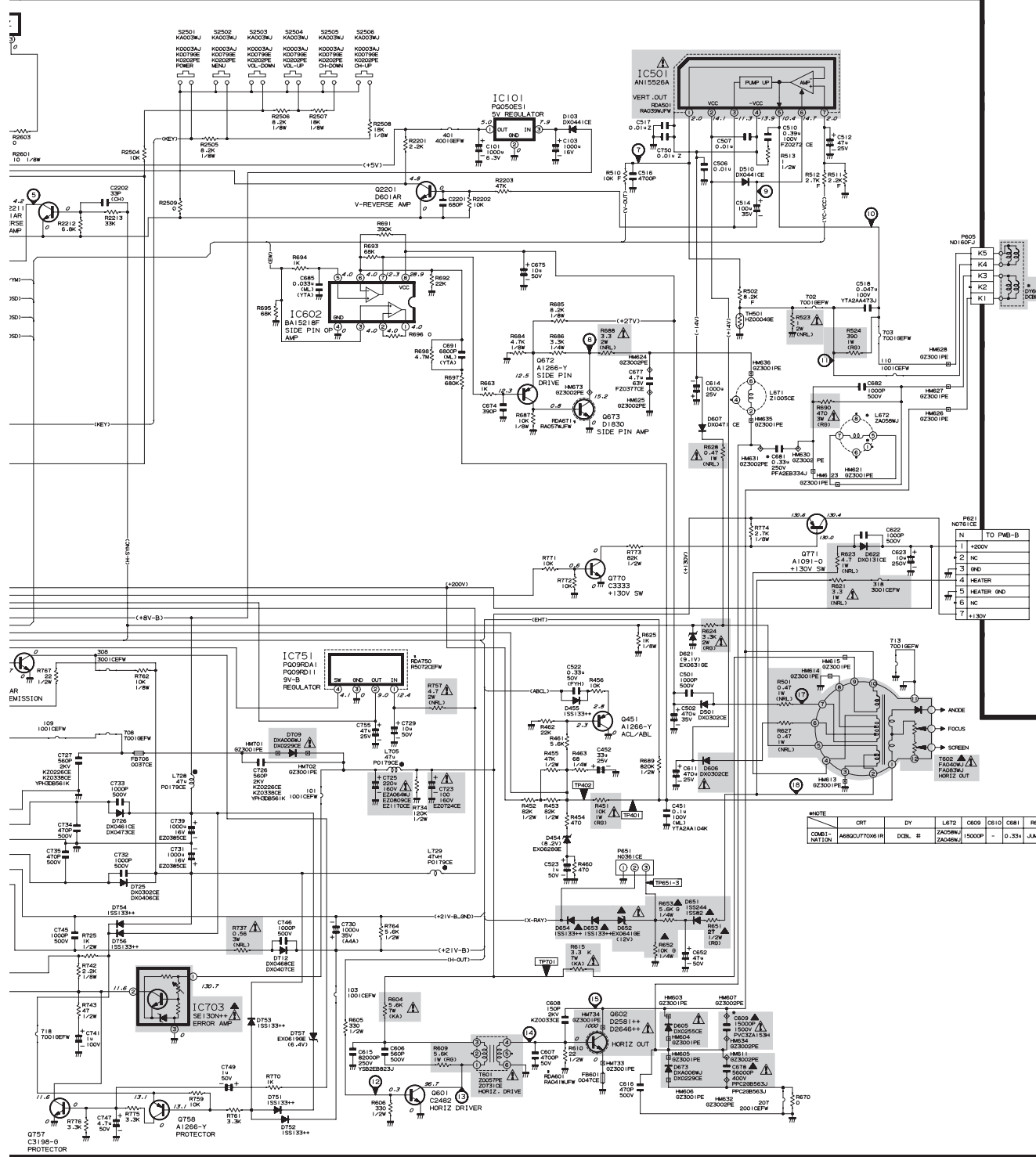


SCHEMATIC DIAGRAM: CRT Unit



▲ AND SHADED () COMPONENTS = SAFETY RELATED PARTS.
 ▲ MARK = X-RAY RELATED PARTS.

NOTE 1: THE UNIT OF RESISTANCE *OHM* IS OMITTED
 (K=1000 OHMS, M=MEG OHM).
 2. ALL RESISTORS ARE 1/16 WATT UNLESS OTHERWISE NOTED.
 3. UNIT OF ALL CAPACITORS ARE P. WITH PREFIX SYMBOL.
 (u. P. ETC.).

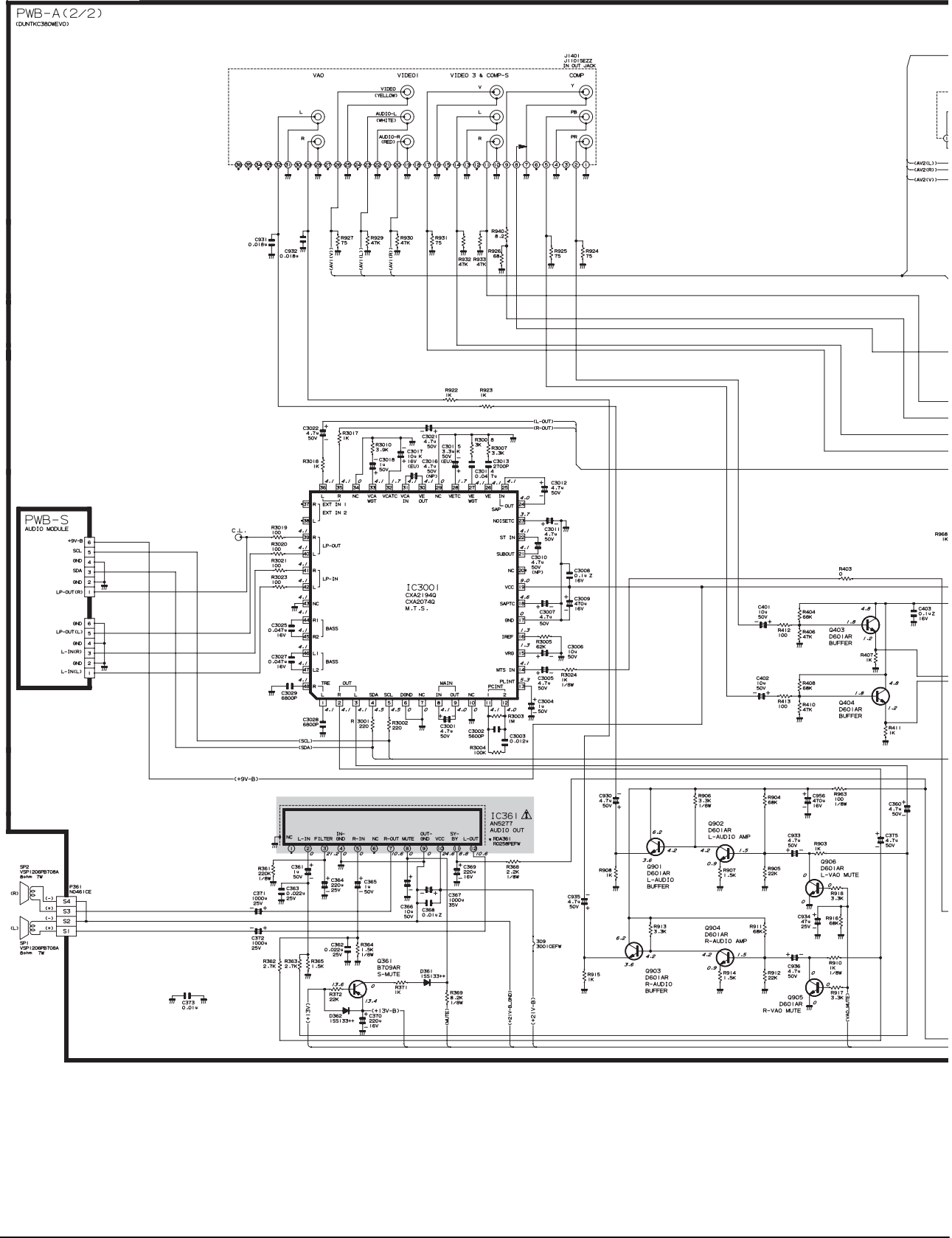


NOTE

CRT	CR1	DY	L672	C609	C610	C681	R622
DAE1-NATION	AMR02/70061H	DCR. II	ZAGW6	1500P	-	0.33u	JAMPR

SCHEMATIC DIAGRAM: MAIN-2 Unit

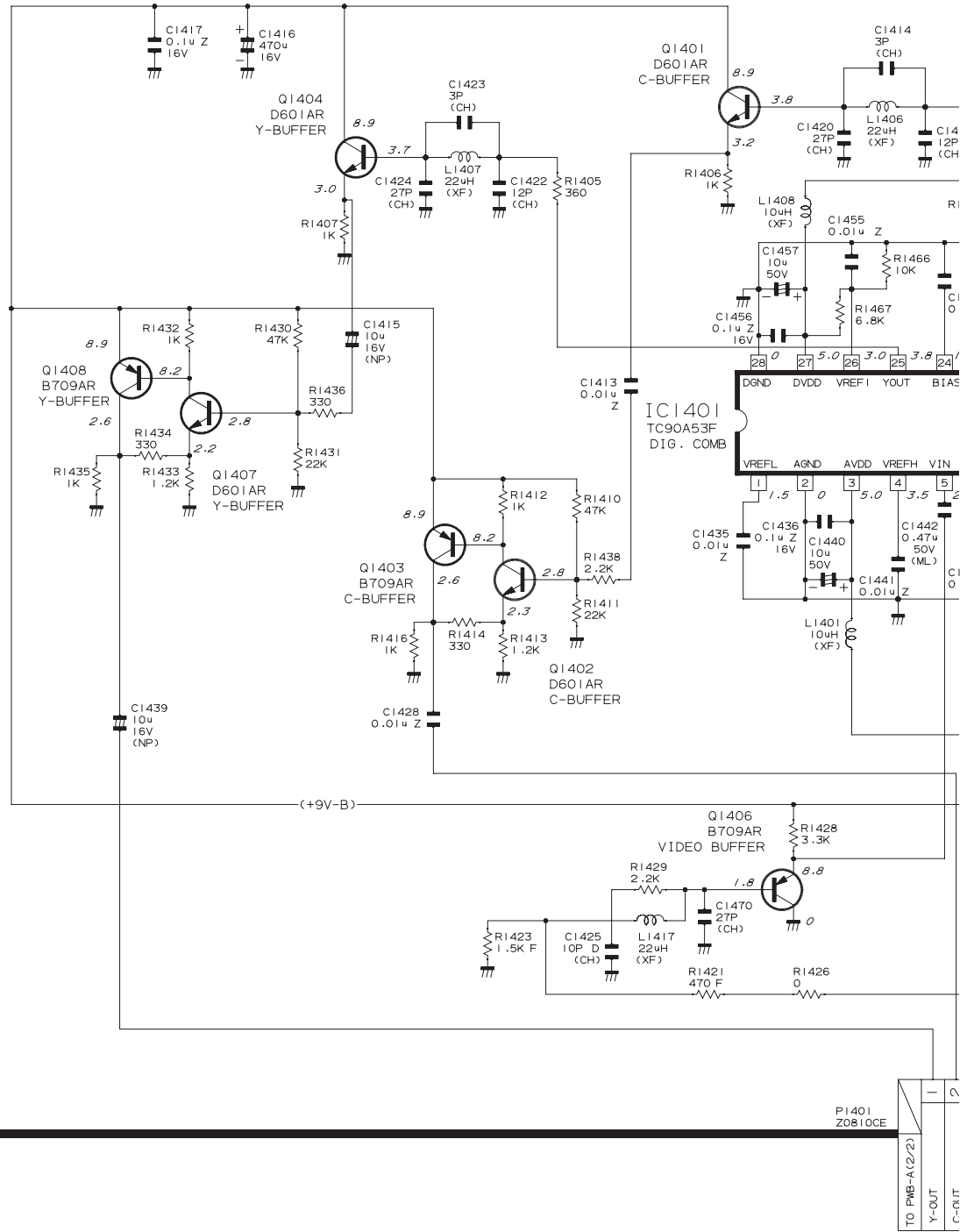
J
I
H
G
F
E
D
C
B
A



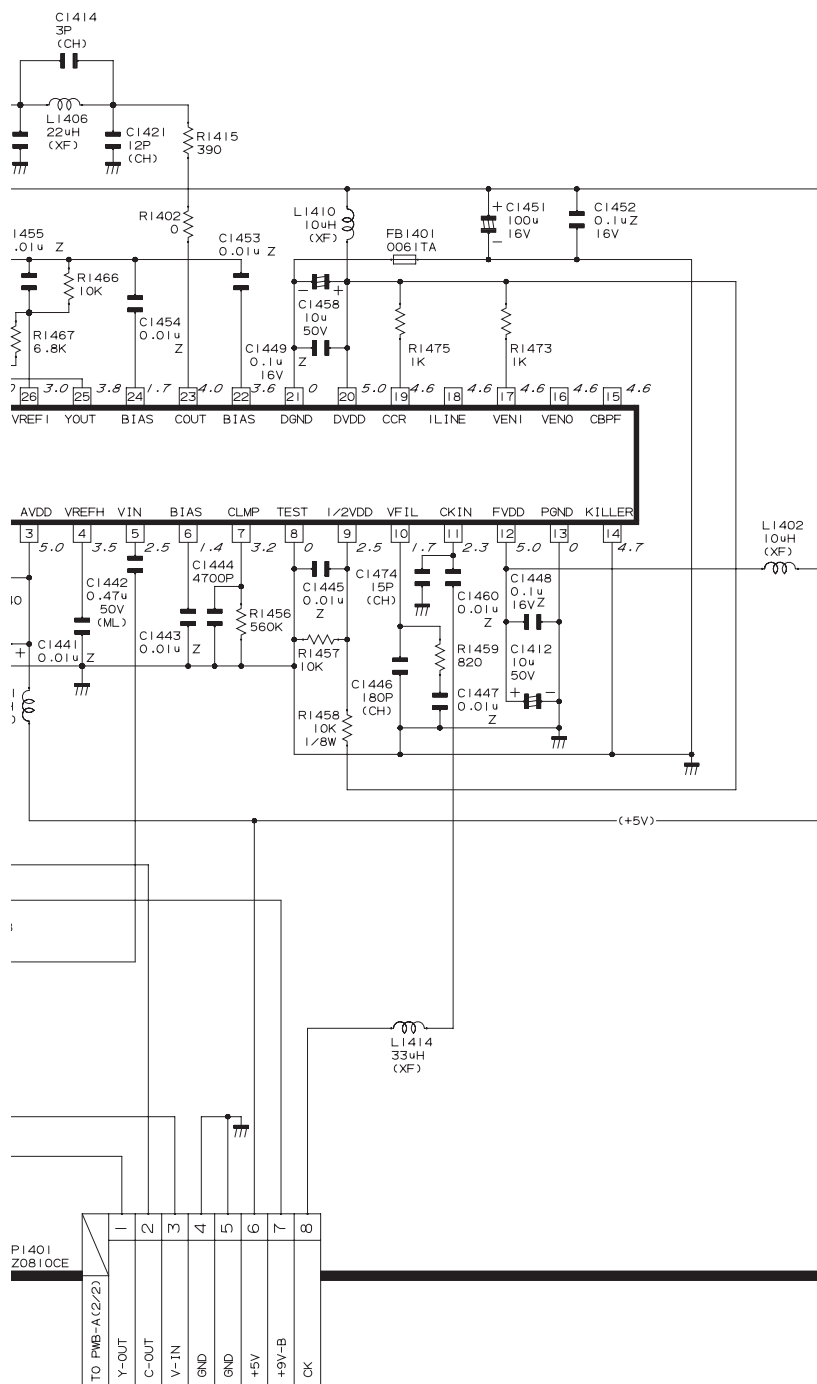
SCHEMATIC DIAGRAM: 3-LINE Y/C Unit

J
I
H
G
F
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D
C
B
A

PWB-C
(DUNTKB573WEV0)

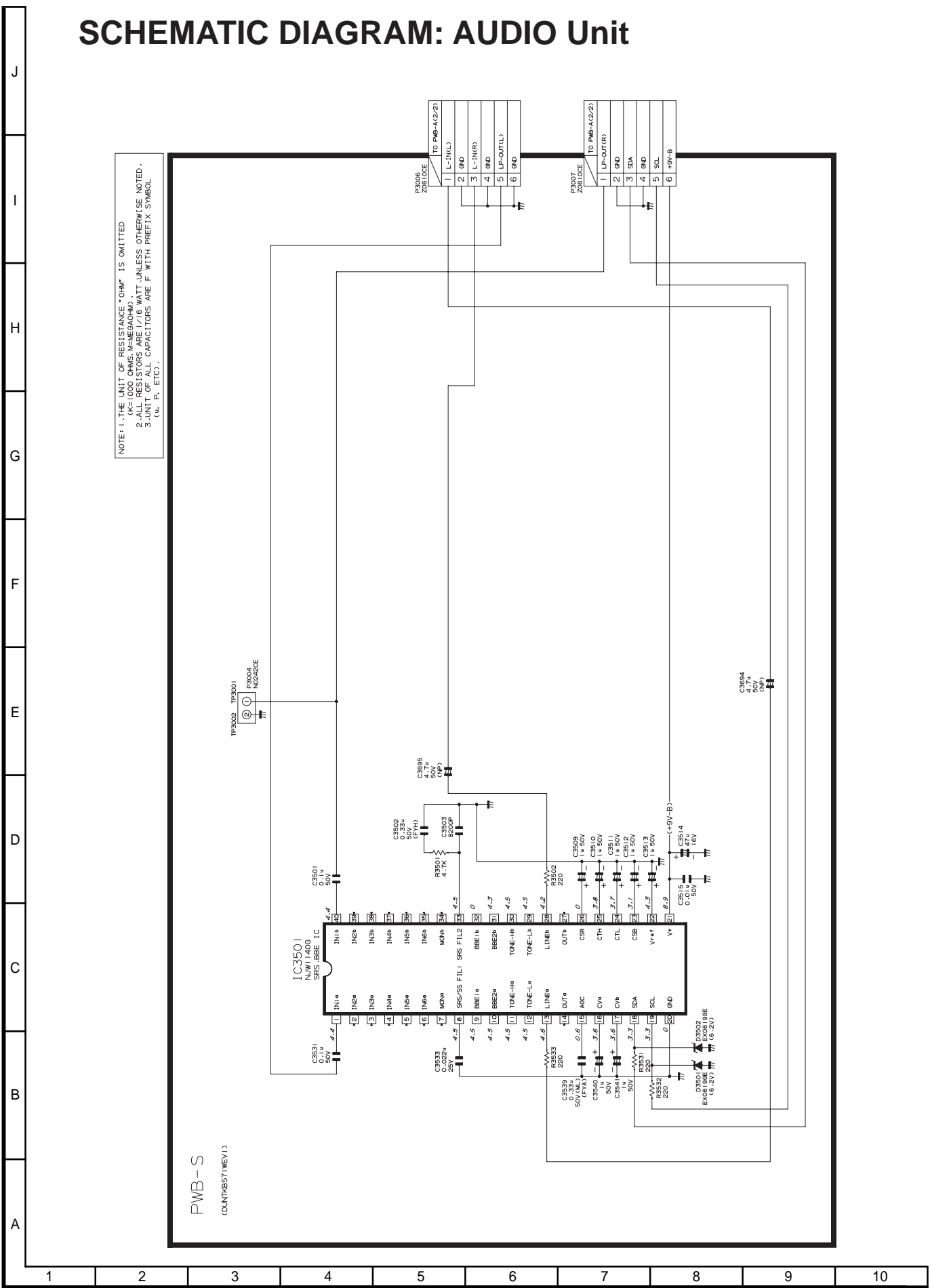


NOTE: 1. THE UNIT OF RESISTANCE "OHM" IS OMITTED
 (K=1000 OHMS, M=MEGAOHM).
 2. ALL RESISTORS ARE 1/16 WATT UNLESS OTHERWISE NOTED.
 3. UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL
 (u, P, ETC).



10	11	12	13	14	15	16	17	18	19
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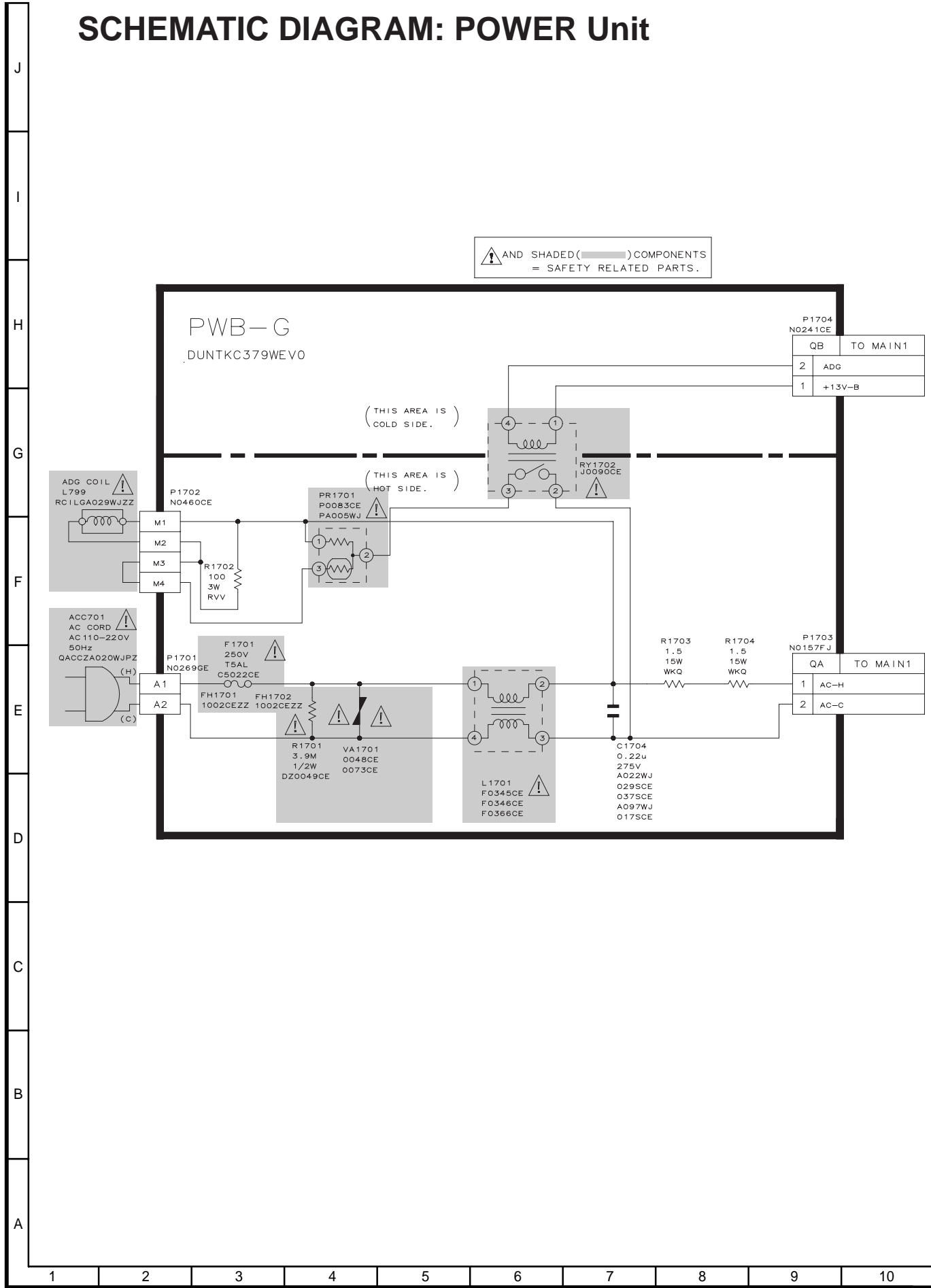
SCHEMATIC DIAGRAM: AUDIO Unit

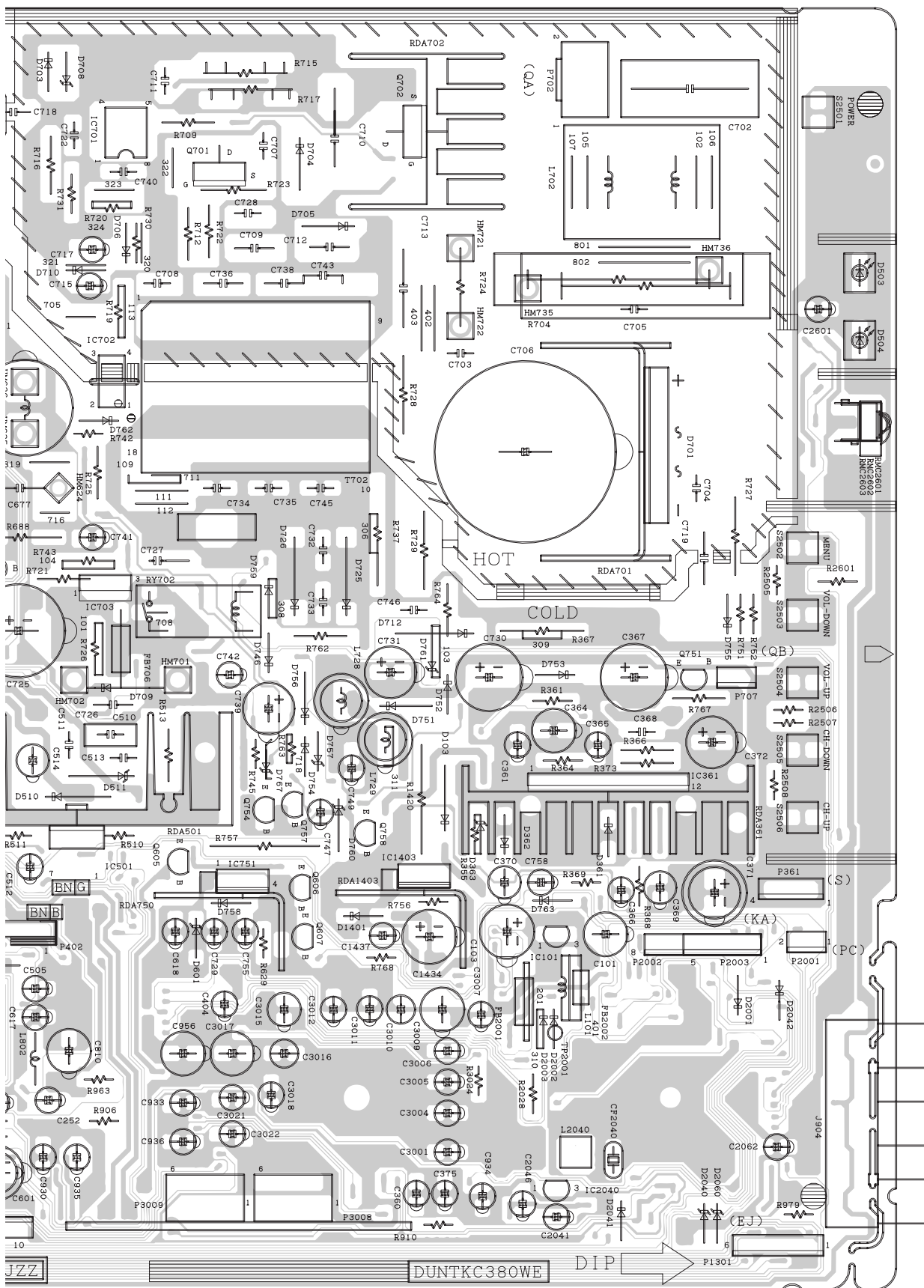


NOTE: 1. THE UNIT OF RESISTANCE "OHM" IS OMITTED
 (K=1000 OHMS, M=MEGACHM).
 2. ALL RESISTORS ARE 1/16 WATT UNLESS OTHERWISE NOTED.
 3. UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL
 (e.g. P, ETC).

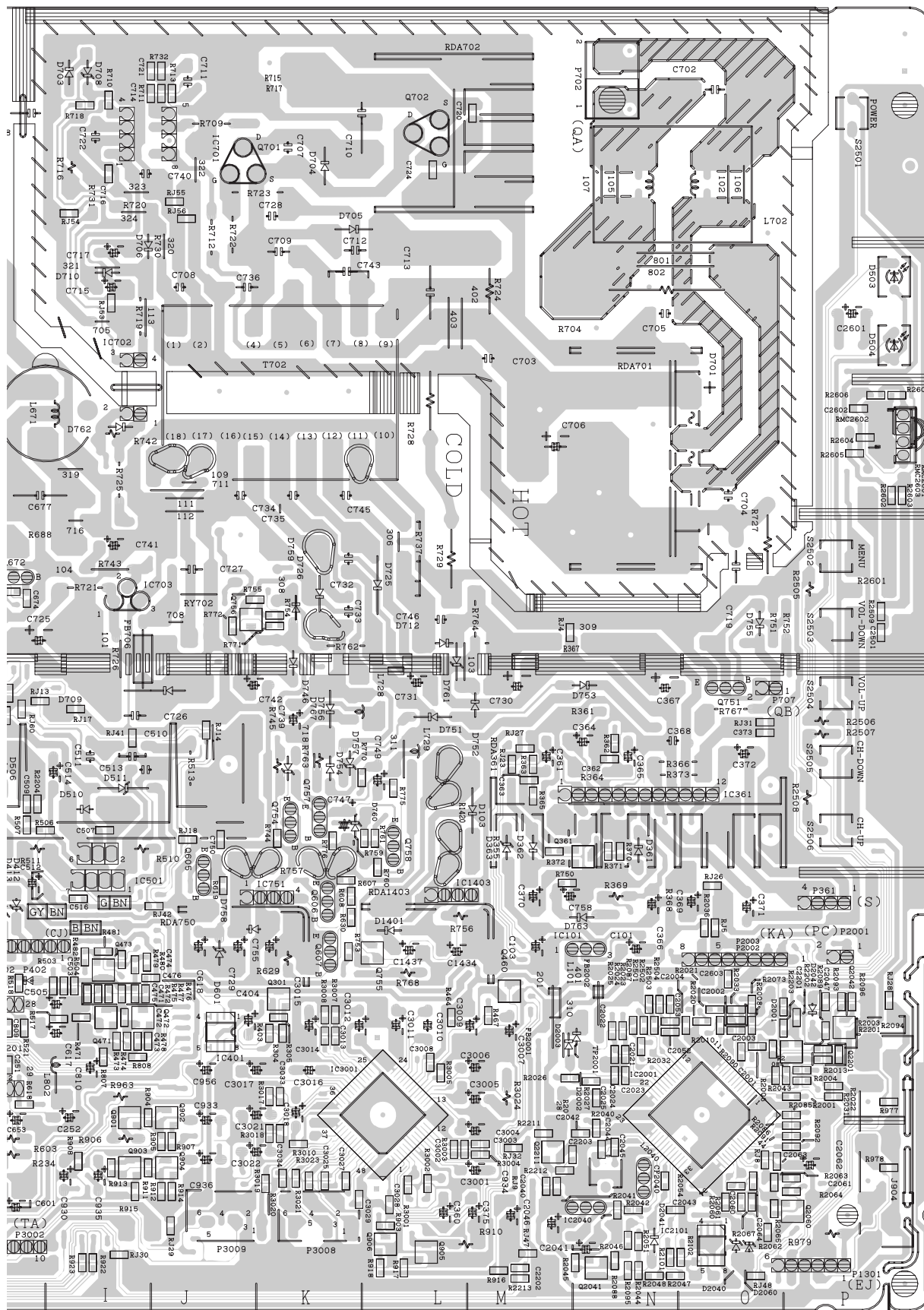
PWB-S
 (COUNT#571MEV1)

SCHEMATIC DIAGRAM: POWER Unit

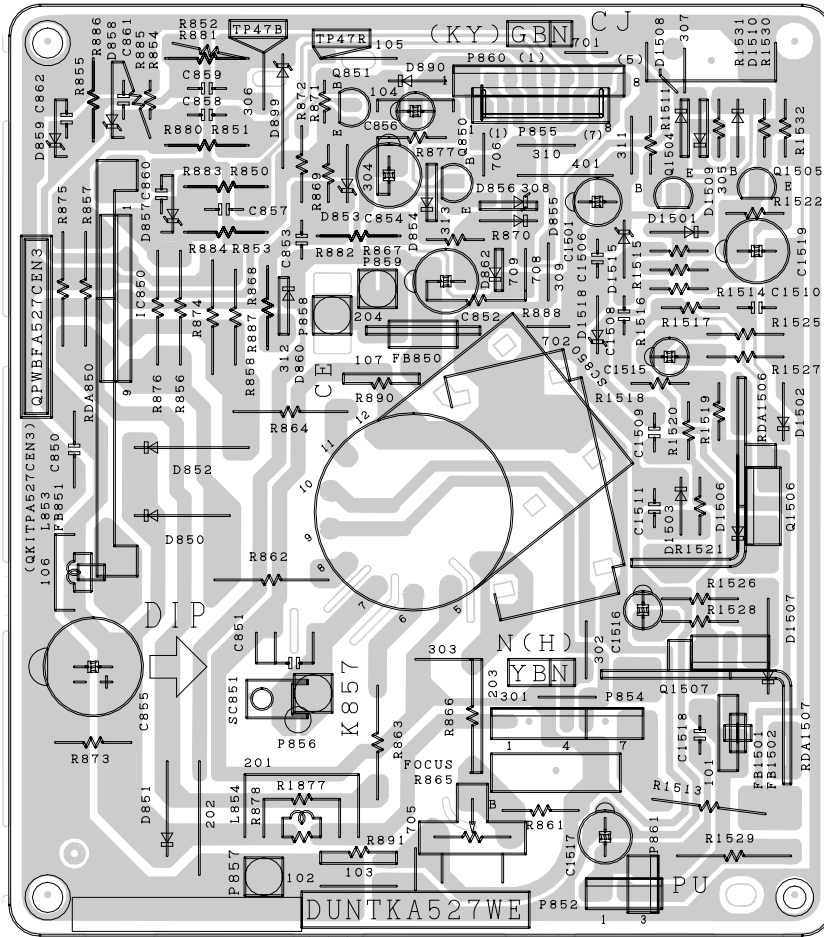
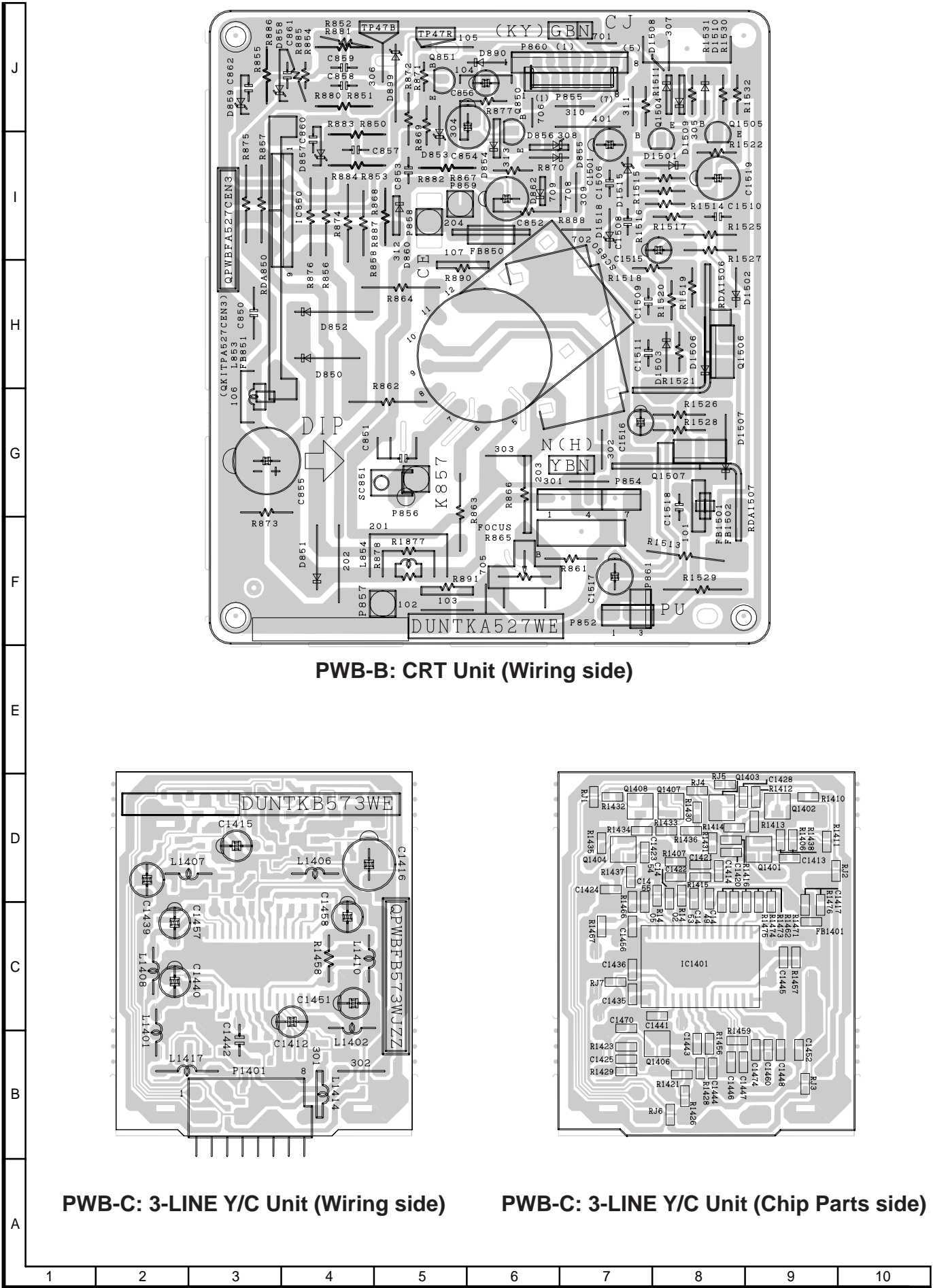




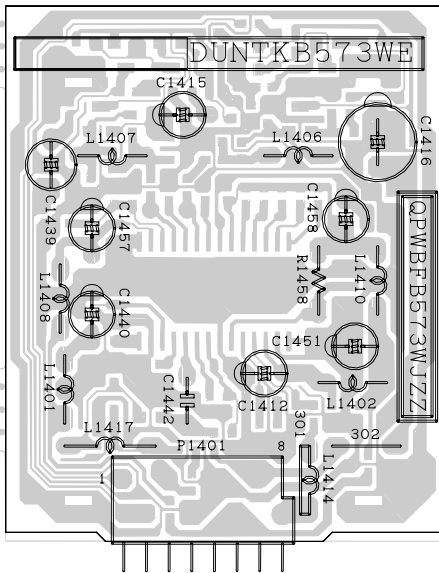
10	11	12	13	14	15	16	17	18	19
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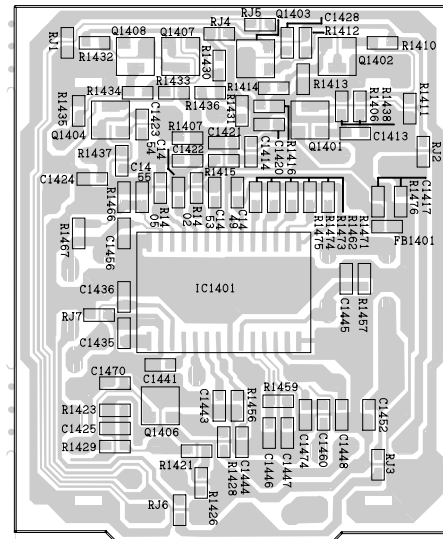
10	11	12	13	14	15	16	17	18	19
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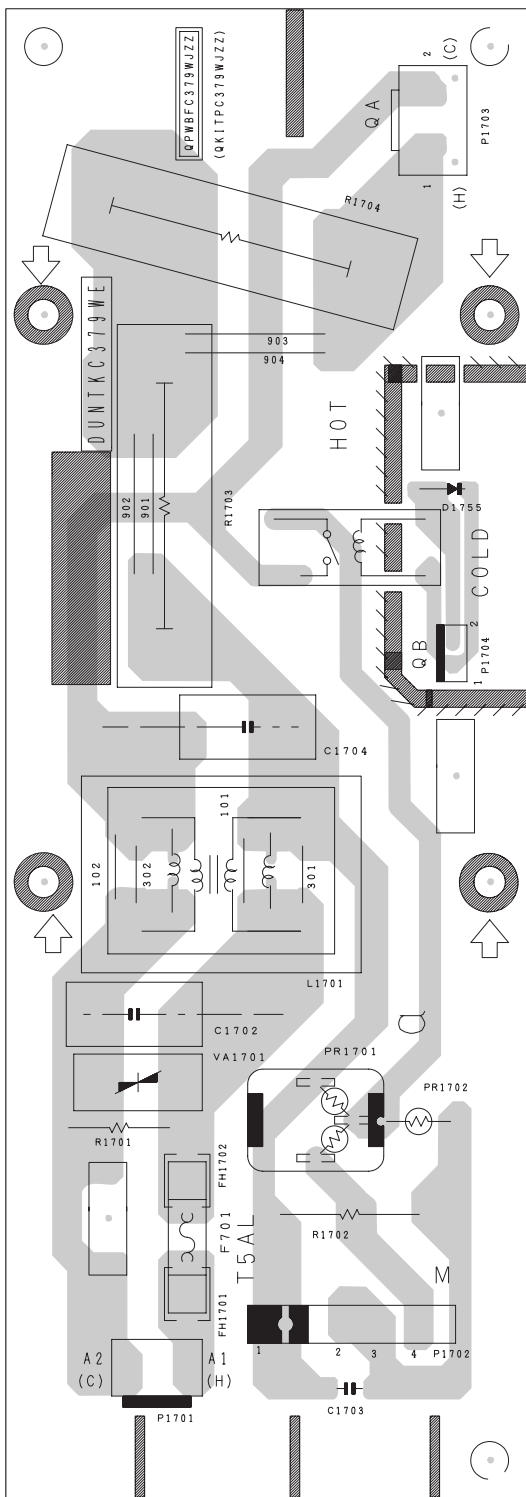
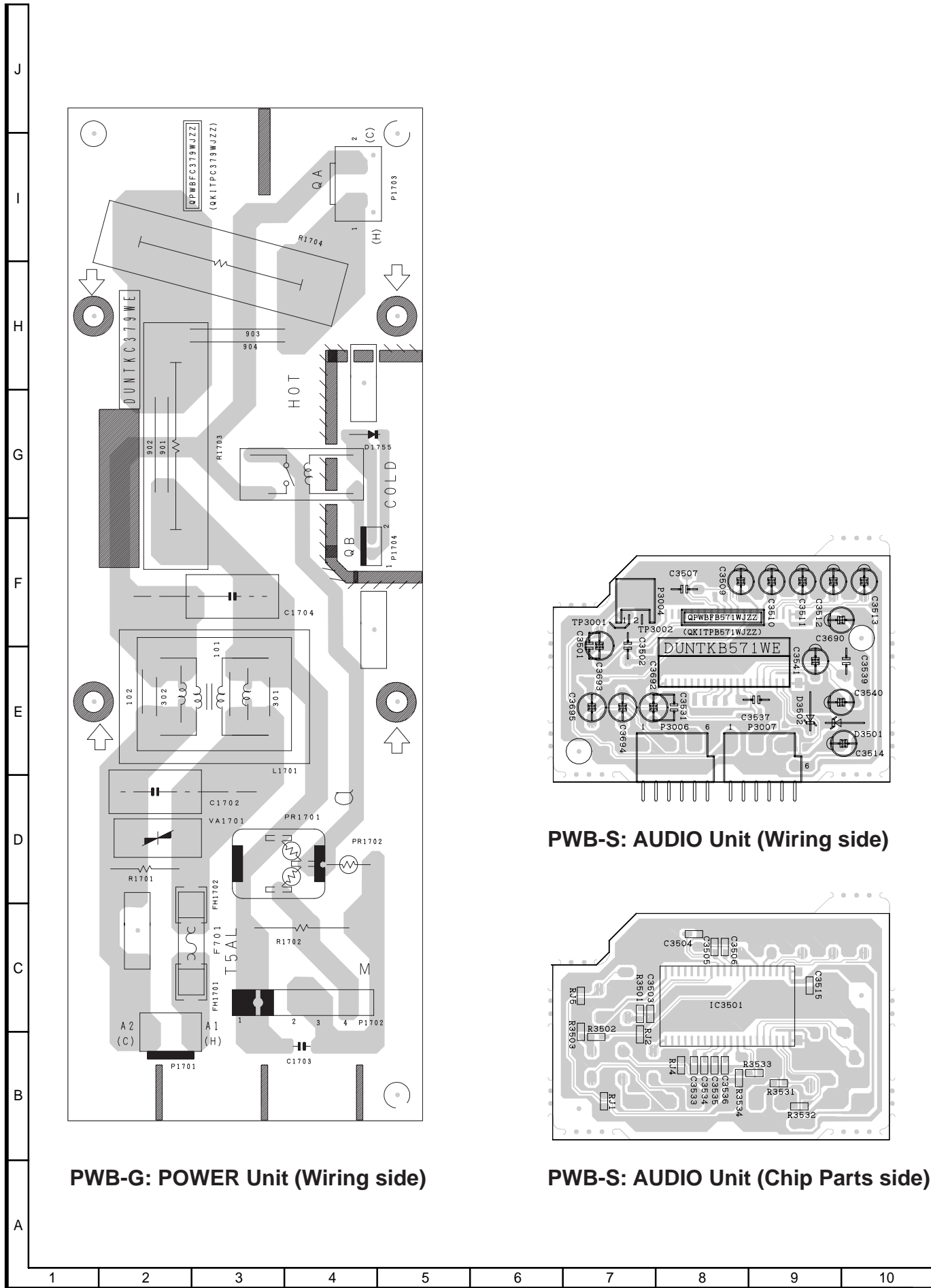
PWB-B: CRT Unit (Wiring side)



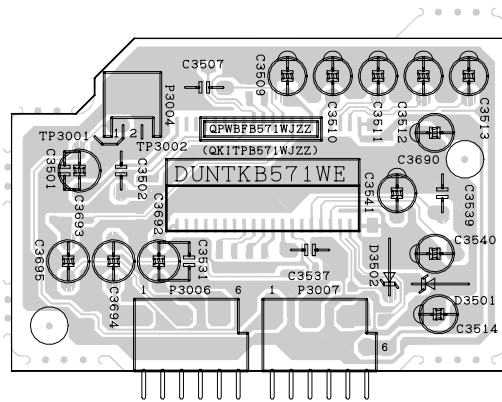
PWB-C: 3-LINE Y/C Unit (Wiring side)



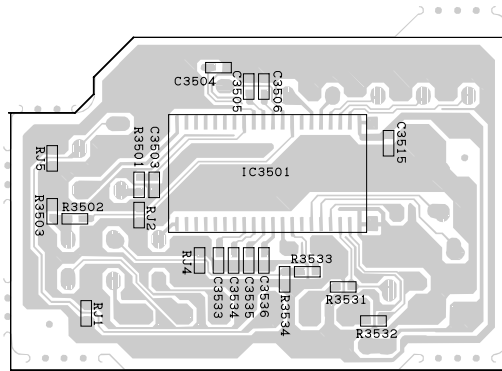
PWB-C: 3-LINE Y/C Unit (Chip Parts side)



PWB-G: POWER Unit (Wiring side)



PWB-S: AUDIO Unit (Wiring side)



PWB-S: AUDIO Unit (Chip Parts 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
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PICTURE TUBE

Δ V101	VB68QCU770X5E	X	Picture Tube	CD
Δ L799	RCiLGA029WJZZ	X	Degaussing Coil	AP
Δ	QEARCA010WJZZ	X	Ground-Part	AD

PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)

PWB-A	DUNTKC380WEV0	-	MAIN Unit	—
PWB-B	DUNTKA527WEW7	-	CRT Unit	—
PWB-C	DUNTKB573WEV0	-	3-LINE Y/C Unit	—
PWB-G	DUNTKC379WEV0	-	POWER Unit	—
PWB-S	DUNTKB571WEV1	-	AUDIO Unit	—

Ref. No.	Part No.	★	Description	Code
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DUNTKC380WEV0 PWB-A MAIN UNIT

TUNER

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

Δ TU51	VTUVT1T5UF202	X	VHF Tuner	AP
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INTEGRATED CIRCUITS

IC101	VHiPQ050ES1-1+	X	PQ050ES1MXP	AP
▲ Δ IC201	VHiTB1253AN-1	X	TB1253AN	AP
Δ IC361	VHiAN5277//-1	X	AN5277	AG
Δ IC501	VHiAN15526A-1	X	AN15526A	AE
IC602	VHiBA15218F2EY	X	BA15218F-E2	AB
Δ IC701	VHiTEA1507/-1	X	TEA1507P/N1	AE
Δ IC702	RH-FX0008GEZZ	X	PC123FY8	AB
▲ Δ IC703	VHiSE130N++F	X	SE130N	AD
IC751	VHiPQ09RDA1-1	X	PQ090RDA1SZ	AD
IC900	VHiXA2089Q-2Y	X	CXA2089Q-6T	AK
IC1403	VHiPQ05RDA1-1	X	PQ050RDA1SZ	AD
IC2001	RH-iXA418WJZZQ	X	TMP88CS38BFG	AN
IC2040	VHiKiA7045A-1+	X	KIA7045AP	AB
IC2101	VHiBR24L16F-1Y	X	BR24L16F-WE2	AC
IC3001	VHiXA2194Q-1Y	X	CXA2194Q-T6	AP

TRANSISTORS

Q201	VS2SC2735//1EY	X	2SC2735	AB
Q361	VS2SB709AR/-1Y	X	2SB709AR	AB
Q401	VS2SD601AR/-1Y	X	2SD601AR	AB
Q402	VS2SB709AR/-1Y	X	2SB709AR	AB
Q403	VS2SD601AR/-1Y	X	2SD601AR	AB
Q404	VS2SD601AR/-1Y	X	2SD601AR	AB
Q451	VS2SA1266-Y-1+	X	2SA1266-Y	AB
Q460	VSRT1N441C/-1Y	X	RT1N441C	AB
Q471	VS2SD601AR/-1Y	X	2SD601AR	AB
Q472	VS2SD601AR/-1Y	X	2SD601AR	AB
Q473	VS2SD601AR/-1Y	X	2SD601AR	AB
Q601	VS2SC2482//-1+	X	2SC2482	AB
Δ Q602	VS2SD2581++2E	X	2SD2581	AG
Q672	VS2SA1266-Y-1+	X	2SA1266-Y	AB
Q673	VS2SD1830//1E	X	2SD1830	AD
Δ Q701	VSSPA04N603-1	X	SPA04N603	AF
Δ Q702	VSSPA08N803-1	X	SPA08N803	AL
Q751	VS2SC3198-G-1+	X	2SC3198-G	AB
Q755	VS2SD601AR/-1Y	X	2SD601AR	AB
Q756	VS2SD601AR/-1Y	X	2SD601AR	AB
Q757	VS2SC3198-G-1+	X	2SC3198-G	AB
Q758	VS2SA1266-Y-1+	X	2SA1266-Y	AB
Q770	VS2SC3333//-1+	X	2SC3333	AB
Q771	VS2SA1091-O1A+	X	2SA1091-O	AC
Q802	VS2SD601AR/-1Y	X	2SD601AR	AB
Q901	VS2SD601AR/-1Y	X	2SD601AR	AB
Q902	VS2SD601AR/-1Y	X	2SD601AR	AB
Q903	VS2SD601AR/-1Y	X	2SD601AR	AB
Q904	VS2SD601AR/-1Y	X	2SD601AR	AB
Q905	VS2SD601AR/-1Y	X	2SD601AR	AB
Q906	VS2SD601AR/-1Y	X	2SD601AR	AB
Q907	VS2SD601AR/-1Y	X	2SD601AR	AB
Q908	VS2SB709AR/-1Y	X	2SB709AR	AB
Q910	VS2SB709AR/-1Y	X	2SB709AR	AB
Q2060	VS2SD601AR/-1Y	X	2SD601AR	AB
Q2201	VS2SD601AR/-1Y	X	2SD601AR	AB
Q2211	VS2SD601AR/-1Y	X	2SD601AR	AB

DIODES

D52	RH-EX0676GEZZY	X	Zener Diode, 32V	AB
D103	RH-DX0441CEZZY	X		AB
D361	VHD1SS133+++1Y	X	1SS133	AA
D362	VHD1SS133+++1Y	X	1SS133	AA
D410	RH-EX0611GEZZY	X	Zener Diode, 5.1V	AB
D411	RH-EX0611GEZZY	X	Zener Diode, 5.1V	AB
D412	RH-EX0614GEZZY	X	Zener Diode, 5.6V	AB

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
C518	VCQYTA2AA473J+	X	0.047 100V Mylar	AB	C809	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C522	VCYFA1HA334J+	X	0.33 50V Mylar	AB	C810	VCEA0A1CW477M+X	470	16V Electrolytic	AB
C523	VCEA0A1HW105M+X	1	50V Electrolytic	AB	C812	VCQYTA1HM104J+	X	0.1 50V Mylar	AB
C601	VCEA0A1CW477M+X	470	16V Electrolytic	AB	C901	VCKYCY1HB103KY	X	0.01 50V Ceramic	AA
C602	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA	C902	VCKYCY1HB103KY	X	0.01 50V Ceramic	AA
C603	VCEA0A1HW225M+X	2.2	50V Electrolytic	AB	C903	VCKYCY1HB681KY	X	680p 50V Ceramic	AA
C604	VCKYCY1EB223KY	X	0.022 25V Ceramic	AA	C904	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C606	VCKYPA2HB561K+	X	560p 500V Ceramic	AB	C905	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C607	VCKYPA1HB472K+	X	4700p 50V Ceramic	AB	C906	VCKYCY1HB681KY	X	680p 50V Ceramic	AA
C608	RC-KZ0033CEZZ	X	150p 2kV Ceramic	AB	C907	VCEA0A1HW105M+X	1	50V Electrolytic	AB
▲▲ C609	VCFPVC3ZA153H	X	0.015 1500V Metallized Polypro Film	AB	C908	VCKYCY1HB103KY	X	0.01 50V Ceramic	AA
					C909	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C611	VCEA0A1EW477M+X	470	25V Electrolytic	AB	C910	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C614	VCEA0A1EW108M+X	1000	25V Electrolytic	AB	C911	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C615	VCYFSB2EB823J	X	0.082 250V Mylar	AB	C912	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C616	VCKYPA2HB471K+	X	470p 500V Ceramic	AB	C913	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C617	VCEA0A1HW474M+X	0.47	50V Electrolytic	AB	C914	VCKYCY1HB681KY	X	680p 50V Ceramic	AA
C622	VCKYPA2HB102K+	X	1000p 500V Ceramic	AB	C915	VCEYPA1HF103Z+	X	0.01 50V Ceramic	AA
C623	VCEA4A2EN106M+	X	10 250V Electrolytic	AB	C916	VCKYCY1HB103KY	X	0.01 50V Ceramic	AA
C652	VCEA0A1HW476M+X	47	50V Electrolytic	AB	C917	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C653	VCEA0A1HW106M+X	10	50V Electrolytic	AB	C918	VCKYCY1HB681KY	X	680p 50V Ceramic	AA
C674	VCKYCY1HB391KY	X	390p 50V Ceramic	AA	C919	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C675	VCEA0A1HW106M+X	10	50V Electrolytic	AB	C920	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C677	RC-FZ0377CEZZ	X	4.7 63V Mylar	AC	C921	VCKYCY1HB681KY	X	680p 50V Ceramic	AA
▲▲ C678	VCQPCU2GA563J	X	0.056 400V	AB	C922	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C681	VCFFPA2EB334J	X	0.33 250V Metallized Polypro Film	AB	C923	VCEA0A1CW107M+X	100	16V Electrolytic	AB
					C926	VCEA0A1EW476M+X	47	25V Electrolytic	AB
C682	VCKYPA2HB102K+	X	1000p 500V Ceramic	AB	C928	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C685	VCQYTA1HM333J+	X	0.033 50V Mylar	AB	C930	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB
C691	VCQYTA1HM682J+	X	6800p 50V Mylar	AB	C931	VCKYCY1HB183KY	X	0.018 50V Ceramic	AA
C704	RC-KZ0029CEZZ+	X	0.1 250V Ceramic	AB	C932	VCKYCY1HB183KY	X	0.018 50V Ceramic	AA
C705	RC-KZ0029CEZZ+	X	0.1 250V Ceramic	AB	C933	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB
C706	RC-EZA243WJZZ	X	470 400V	AM	C934	VCEA0A1EW476M+X	47	25V Electrolytic	AB
C707	RC-KZ0031CEZZ+	X	100p 2kV	AB	C935	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB
C708	VCKYPA2HB471K+	X	470p 500V Ceramic	AB	C936	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB
C709	RC-KZ0226CEZZ+	X	560P 2kV Ceramic	AB	C937	VCKYCY1HB103KY	X	0.01 50V Ceramic	AA
C710	VCFPVC3CA562H	X	5600p 1.2kV Metallized Polypro Film	AB	C953	VCKYCY1HB681KY	X	680p 50V Ceramic	AA
					C956	VCEA0A1CW477M+X	470	16V Electrolytic	AB
C711	VCQYTA1HM473J+	X	0.047 50V Mylar	AA	C1434	VCEA0A1EW476M+X	47	25V Electrolytic	AB
C712	RC-KZ0226CEZZ+	X	560p 2kV	AB	C1437	VCEA0A1EW476M+X	47	25V Electrolytic	AB
C713	VCQPPC2JB333K	X	0.033 630V	AB	C2001	VCCCY1HH101JY	X	100p 50V Ceramic	AA
C715	VCEA0A1HW336M+X	33	50V Electrolytic	AB	C2002	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C716	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA	C2025	VCCCY1HH101JY	X	100p 50V Ceramic	AA
C717	VCEA0A1HW226M+X	22	50V Electrolytic	AB	C2040	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
▲ C718	RC-KZ018SCEZZ	X	1000p AC250V	AB	C2041	VCEA0A1HW105M+X	1	50V Electrolytic	AB
▲ C719	RC-KZ018SCEZZ	X	1000p AC250V	AB	C2043	VCCCY1HH331JY	X	330p 50V Ceramic	AB
C722	VCQYTA1HM103J+	X	0.01 50V Mylar	AB	C2044	VCCCY1HH100DYX	10p	50V Ceramic	AA
▲ C723	RC-EZ0724CEZZ	X	100 160V Electrolytic	AC	C2046	VCEA0A1EW476M+X	47	25V Electrolytic	AB
▲ C725	RC-EZA064WJZZ	X	220 160V Electrolytic	AD	C2060	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C726	RC-KZ0226CEZZ+	X	560P 2kV Ceramic	AB	C2061	VCCCY1HH101JY	X	100p 50V Ceramic	AA
C727	RC-KZ0226CEZZ+	X	560P 2kV Ceramic	AB	C2062	VCEA0A1CW107M+X	100	16V Electrolytic	AB
C729	VCEA0A1HW106M+X	10	50V Electrolytic	AB	C2063	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C730	VCEA4A1VN108M+	X	1000 35V Electrolytic	AC	C2064	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C731	RC-EZ0385CEZZ+	X	1000 16V Electrolytic	AB	C2201	VCKYCY1HB681KY	X	680p 50V Ceramic	AA
C732	VCKYPA2HB102K+	X	1000p 500V Ceramic	AB	C2202	VCCCY1HH330JY	X	33p 50V Ceramic	AA
C733	VCKYPA2HB102K+	X	1000p 500V Ceramic	AB	C2601	VCEA0A1EW476M+X	47	25V Electrolytic	AB
C734	VCKYPA2HB471K+	X	470p 500V Ceramic	AB	C2602	VCCCY1HH101JY	X	100p 50V Ceramic	AA
C735	VCKYPA2HB471K+	X	470p 500V Ceramic	AB	C3001	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB
C739	RC-EZ0385CEZZ+	X	1000 16V Electrolytic	AB	C3002	VCKYCY1HB562KY	X	5600p 50V Ceramic	AA
C740	VCKYPA1HF103Z+	X	0.01 50V Ceramic	AA	C3003	VCKYCY1EB123KY	X	0.012 25V Ceramic	AA
C741	VCEA4A2AN105M+	X	1 100V Electrolytic	AB	C3004	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C743	RC-KZ0035CEZZ+	X	220p 2kV	AB	C3005	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB
C745	VCKYPA2HB102K+	X	1000p 500V Ceramic	AB	C3006	VCEA0A1HW106M+X	10	50V Electrolytic	AB
C746	VCKYPA2HB102K+	X	1000p 500V Ceramic	AB	C3007	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB
C747	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB	C3008	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C749	VCEA0A1HW105M+X	1	50V Electrolytic	AB	C3009	VCEA0A1CW477M+X	470	16V Electrolytic	AB
C750	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA	C3010	VCE9GA1HW475M+X	4.7	50V Electrolytic,	AB
C755	VCEA0A1EW476M+X	47	25V Electrolytic	AB			(N.P)		
C801	VCCCY1HH110JY	X	11p 50V Ceramic	AA	C3011	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB
C802	VCKYCY1HB222KY	X	2200p 50V Ceramic	AA	C3012	VCEA0A1HW475M+X	4.7	50V Electrolytic	AB
C803	VCEA0A1HW224M+X	0.22	50V Electrolytic	AB	C3013	VCKYCY1HB272KY	X	2700p 50V Ceramic	AA
C804	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA	C3014	VCKYCY1CB473KY	X	0.047 16V Ceramic	AA
C805	VCEA0A0JW108M+	X	1000 6.3V Electrolytic	AB	C3015	VCEACA1HC335K+	X	3.3 50V Electrolytic	AB
C806	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA	C3016	VCE9GA1HW475M+X	4.7	50V Electrolytic,	AB
C807	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA			(N.P)		
C808	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA	C3017	VCEACA1CC106K+	X	10 16V Electrolytic	AB

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
△ R628	VRN-RL3ABR47J+	X 0.47	1W Metal Film	AB	R910	VRD-RA2BE102JY	X 1k	1/8W Carbon	AA
▲ R651	VRS-RG2HC270J+	X 27	1/2W Metal Oxide	AB	R911	VRS-CY1JF683JY	X 68k	1/16W Metal Oxide	AA
▲ R652	VRD-RA2EE103GY	X 10k	1/4W Carbon	AA	R912	VRS-CY1JF223JY	X 22k	1/16W Metal Oxide	AA
▲ R653	VRD-RA2EE562GY	X 5.6k	1/4W Carbon	AA	R913	VRS-CY1JF332JY	X 3.3k	1/16W Metal Oxide	AA
△ R658	VRS-RG3LB333J+	X 33k	3W Metal Oxide	AB	R914	VRS-CY1JF152JY	X 1.5k	1/16W Metal Oxide	AA
R663	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA	R915	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA
R670	VRS-CY1JF000JY	X 0	1/16W Metal Oxide	AA	R916	VRS-CY1JF683JY	X 68k	1/16W Metal Oxide	AA
R684	VRD-RA2BE472JY	X 4.7k	1/8W Carbon	AA	R917	VRS-CY1JF332JY	X 3.3k	1/16W Metal Oxide	AA
R685	VRD-RA2BE822JY	X 8.2k	1/8W Carbon	AA	R918	VRS-CY1JF332JY	X 3.3k	1/16W Metal Oxide	AA
R686	VRD-RA2EE332JY	X 3.3k	1/4W Carbon	AA	R922	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA
R687	VRD-RA2BE103JY	X 10k	1/8W Carbon	AA	R923	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA
△ R688	VRN-RL3DB3R3J+	X 3.3	2W Metal Film	AB	R924	VRS-CY1JF750JY	X 75	1/16W Metal Oxide	AA
R689	VRD-RM2HD824JY	X 820k	1/2W Carbon	AA	R925	VRS-CY1JF750JY	X 75	1/16W Metal Oxide	AA
△ R690	VRS-RG3LB471J+	X 470	3W Metal Oxide	AB	R926	VRS-CY1JF680JY	X 68	1/16W Metal Oxide	AA
R691	VRS-CY1JF394JY	X 390k	1/16W Metal Oxide	AA	R927	VRS-CY1JF750JY	X 75	1/16W Metal Oxide	AA
R692	VRS-CY1JF223JY	X 22k	1/16W Metal Oxide	AA	R929	VRS-CY1JF473JY	X 47k	1/16W Metal Oxide	AA
R693	VRS-CY1JF683JY	X 68k	1/16W Metal Oxide	AA	R930	VRS-CY1JF473JY	X 47k	1/16W Metal Oxide	AA
R694	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA	R931	VRS-CY1JF750JY	X 75	1/16W Metal Oxide	AA
R695	VRS-CY1JF683JY	X 68k	1/16W Metal Oxide	AA	R932	VRS-CY1JF473JY	X 47k	1/16W Metal Oxide	AA
R696	VRS-CY1JF000JY	X 0	1/16W Metal Oxide	AA	R933	VRS-CY1JF473JY	X 47k	1/16W Metal Oxide	AA
R697	VRS-CY1JF684JY	X 680k	1/16W Metal Oxide	AA	R934	VRS-CY1JF103JY	X 10k	1/16W Metal Oxide	AA
R698	VRS-CY1JF475JY	X 4.7M	1/16W Metal Oxide	AA	R935	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R709	VRD-RM2HD270JY	X 27	1/2W Carbon	AA	R936	VRS-CY1JF223JY	X 22k	1/16W Metal Oxide	AA
R710	VRS-CY1JF334JY	X 330k	1/16W Metal Oxide	AA	R937	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R711	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA	R938	VRS-CY1JF223JY	X 22k	1/16W Metal Oxide	AA
R712	VRD-RM2HD102JY	X 1k	1/2W Carbon	AA	R939	VRS-CY1JF333JY	X 33k	1/16W Metal Oxide	AA
R713	VRS-CY1JF333JY	X 33k	1/16W Metal Oxide	AA	R940	VRS-CY1JF8R2JY	X 8.2	1/16W Metal Oxide	AA
R715	VRN-RL3DBR12J+	X 0.12	2W Metal Film	AB	R941	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R716	VRS-RG2HC152J+	X 1.5k	1/2W Metal Oxide	AB	R942	VRS-CY1JF223JY	X 22k	1/16W Metal Oxide	AA
R717	VRN-RL3DBR12J+	X 0.12	2W Metal Film	AB	R943	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R718	VRS-CY1JF333JY	X 33k	1/16W Metal Oxide	AA	R944	VRS-CY1JF223JY	X 22k	1/16W Metal Oxide	AA
R722	VRD-RM2HD103JY	X 10k	1/2W Carbon	AA	R945	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R723	VRD-RM2HD471JY	X 470	1/2W Carbon	AA	R946	VRS-CY1JF103JY	X 10k	1/16W Metal Oxide	AA
R724	VRS-KT3LB473J	X 47k	3W Metal Oxide	AB	R947	VRS-CY1JF223JY	X 22k	1/16W Metal Oxide	AA
R725	VRD-RM2HD102JY	X 1k	1/2W Carbon	AA	R948	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
△ R727	RR-HZ0014GEZZY	X 12M	1W	AB	R949	VRS-CY1JF223JY	X 22k	1/16W Metal Oxide	AA
R730	VRD-RA2BE100JY	X 10	1/8W Carbon	AA	R950	VRS-CY1JF750JY	X 75	1/16W Metal Oxide	AA
R731	VRD-RA2BE101JY	X 100	1/8W Carbon	AA	R951	VRD-RA2BE680JY	X 68	1/8W Carbon	AA
R734	VRD-RM2HD124JY	X 120k	1/2W Carbon	AA	R952	VRS-CY1JF333JY	X 33k	1/16W Metal Oxide	AA
△ R737	VRN-RL3LBR56J+	X 0.56	3W Metal Film	AB	R953	VRS-CY1JF000JY	X 0	1/16W Metal Oxide	AA
R742	VRD-RA2BE222JY	X 2.2k	1/8W Carbon	AA	R954	VRS-CY1JF221JY	X 220	1/16W Metal Oxide	AA
R743	VRD-RM2HD470JY	X 47	1/2W Carbon	AA	R955	VRS-CY1JF221JY	X 220	1/16W Metal Oxide	AA
R751	VRD-RA2BE473JY	X 47k	1/8W Carbon	AA	R957	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R752	VRD-RA2BE392JY	X 3.9k	1/8W Carbon	AA	R958	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R753	VRS-CY1JF222JY	X 2.2k	1/16W Metal Oxide	AA	R959	VRS-CY1JF103JY	X 10k	1/16W Metal Oxide	AA
R754	VRS-CY1JF222JY	X 2.2k	1/16W Metal Oxide	AA	R960	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R755	VRS-CY1JF473JY	X 47k	1/16W Metal Oxide	AA	R961	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA
R756	VRD-RA2BE152JY	X 1.5k	1/8W Carbon	AA	R962	VRS-CY1JF332FY	X 3.3k	1/16W Metal Oxide	AA
△ R757	VRN-RL3DB4R7J+	X 4.7	2W Metal Film	AB	R963	VRD-RA2BE101JY	X 100	1/8W Carbon	AA
R759	VRS-CY1JF103JY	X 10k	1/16W Metal Oxide	AA	R964	VRS-CY1JF152JY	X 1.5k	1/16W Metal Oxide	AA
R761	VRS-CY1JF332JY	X 3.3k	1/16W Metal Oxide	AA	R967	VRS-CY1JF682JY	X 6.8k	1/16W Metal Oxide	AA
R762	VRD-RA2BE103JY	X 10k	1/8W Carbon	AA	R968	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA
R764	VRD-RM2HD562JY	X 5.6k	1/2W Carbon	AA	R969	VRS-CY1JF472FY	X 4.7k	1/16W Metal Oxide	AA
R767	VRD-RM2HD220JY	X 22	1/2W Carbon	AA	R970	VRD-RA2BE6R8JY	X 6.8	1/8W Carbon	AA
R768	VRD-RA2BE473JY	X 47k	1/8W Carbon	AA	R971	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R770	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA	R972	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R771	VRS-CY1JF103JY	X 10k	1/16W Metal Oxide	AA	R973	VRS-CY1JF000JY	X 0	1/16W Metal Oxide	AA
R772	VRS-CY1JF103JY	X 10k	1/16W Metal Oxide	AA	R974	VRS-CY1JF103JY	X 10k	1/16W Metal Oxide	AA
R773	VRD-RM2HD823JY	X 82k	1/2W Carbon	AA	R975	VRS-CY1JF333JY	X 33k	1/16W Metal Oxide	AA
R774	VRD-RA2BE272JY	X 2.7k	1/8W Carbon	AA	R982	VRS-CY1JF750JY	X 75	1/16W Metal Oxide	AA
R775	VRS-CY1JF332JY	X 3.3k	1/16W Metal Oxide	AA	R983	VRS-CY1JF473JY	X 47k	1/16W Metal Oxide	AA
R776	VRS-CY1JF332JY	X 3.3k	1/16W Metal Oxide	AA	R984	VRS-CY1JF473JY	X 47k	1/16W Metal Oxide	AA
R801	VRS-CY1JF333JY	X 33k	1/16W Metal Oxide	AA	△ R1420	VRN-RL3LB2R7J+	X 2.7	3W Metal Film	AB
R802	VRS-CY1JF471JY	X 470	1/16W Metal Oxide	AA	R2001	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA
R803	VRS-CY1JF000JY	X 0	1/16W Metal Oxide	AA	R2004	VRS-CY1JF101JY	X 100	1/16W Metal Oxide	AA
R805	VRS-CY1JF682JY	X 6.8k	1/16W Metal Oxide	AA	R2008	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA
R806	VRS-CY1JF681JY	X 680	1/16W Metal Oxide	AA	R2010	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA
R807	VRS-CY1JF681JY	X 680	1/16W Metal Oxide	AA	R2013	VRS-CY1JF682JY	X 6.8k	1/16W Metal Oxide	AA
R808	VRS-CY1JF681JY	X 680	1/16W Metal Oxide	AA	R2021	VRS-CY1JF334JY	X 330k	1/16W Metal Oxide	AA
R810	VRS-CY1JF472JY	X 4.7k	1/16W Metal Oxide	AA	R2024	VRS-CY1JF472JY	X 4.7k	1/16W Metal Oxide	AA
R903	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA	R2025	VRS-CY1JF472JY	X 4.7k	1/16W Metal Oxide	AA
R904	VRS-CY1JF683JY	X 68k	1/16W Metal Oxide	AA	R2026	VRS-CY1JF472JY	X 4.7k	1/16W Metal Oxide	AA
R905	VRS-CY1JF223JY	X 22k	1/16W Metal Oxide	AA	R2027	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA
R906	VRD-RA2BE332JY	X 3.3k	1/8W Carbon	AA	R2028	VRD-RA2BE102JY	X 1k	1/8W Carbon	AA
R907	VRS-CY1JF152JY	X 1.5k	1/16W Metal Oxide	AA	R2031	VRS-CY1JF222JY	X 2.2k	1/16W Metal Oxide	AA
R908	VRS-CY1JF102JY	X 1k	1/16W Metal Oxide	AA	R2033	VRS-CY1JF334JY	X 330k	1/16W Metal Oxide	AA

Ref. No.	Part No.	*	Description	Code	Ref. No.	Part No.	*	Description	Code	
R2040	VRS-CY1JF102JY	X	1k	1/16W Metal Oxide	AA	J921	QSOCD0456CEZZ	X	Socket, S-Video	AC
R2041	VRS-CY1JF333JY	X	33k	1/16W Metal Oxide	AA	J1401	QTANJ1101SEZZ	X	Terminal, AV IN/OUT	AF
R2042	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA	P361	QPLGN0461CEZZA	X	Plug, 4Pin(S1-4)	AB
R2043	VRS-CY1JF333JY	X	33k	1/16W Metal Oxide	AA	P401	QPLGN0861CEZZA	X	Plug, 8Pin(CJ)	AB
R2044	VRS-CY1JF153JY	X	15k	1/16W Metal Oxide	AA	P605	QPLGN0160FJZZ	X	Plug, 5Pin(K1-5)	AB
R2046	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA	P621	QPLGN0761CEZZA	X	Plug, 7Pin(N)	AB
R2047	VRS-CY1JF221JY	X	220	1/16W Metal Oxide	AA	P651	QPLGN0361CEZZA	X	Plug, 3Pin	AB
R2048	VRS-CY1JF562JY	X	5.6k	1/16W Metal Oxide	AA	P702	QPLGN0157FJZZ	X	Plug, 2Pin(QA)	AB
R2051	VRS-CY1JF102JY	X	1k	1/16W Metal Oxide	AA	P707	QPLGN0241CEZZ	X	Plug, 2Pin(QB)	AB
R2060	VRS-CY1JF221JY	X	220	1/16W Metal Oxide	AA	P2401	QPLGN0661CEZZA	X	Plug, 6Pin	AB
R2061	VRS-CY1JF562JY	X	5.6k	1/16W Metal Oxide	AA	RDA361	PRDAR0258PEFW	X	Heat Sink for IC361	AC
R2062	VRS-CY1JF223JY	X	22k	1/16W Metal Oxide	AA	RDA501	PRDARA039WJFW	X	Heat Sink for IC501	AD
R2063	VRS-CY1JF222JY	X	2.2k	1/16W Metal Oxide	AA	RDA601	PRDARA041WJFW	X	Heat Sink for Q602	AD
R2064	VRS-CY1JF332JY	X	3.3k	1/16W Metal Oxide	AA	RDA671	PRDARA057WJFW	X	Heat Sink for Q673	AC
R2073	VRS-CY1JF000JY	X	0	1/16W Metal Oxide	AA	△ RDA702	PRDAR0279PEFW	X	Heat Sink for Q702	AB
R2084	VRS-CY1JF103JY	X	10k	1/16W Metal Oxide	AA	RDA750	PRDAR5072CEFW	X	Heat Sink for IC751	AB
R2086	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA	RDA1403	PRDAR5072CEFW	X	Heat Sink for IC1403	AB
R2090	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA	RMC2601	RRMCU0222CEZZ	X	Remote Receiver	AD
R2092	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA					
R2101	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA					
R2102	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA					
R2201	VRS-CY1JF222JY	X	2.2k	1/16W Metal Oxide	AA					
R2202	VRS-CY1JF103JY	X	10k	1/16W Metal Oxide	AA					
R2203	VRS-CY1JF473JY	X	47k	1/16W Metal Oxide	AA					
R2211	VRS-CY1JF222JY	X	2.2k	1/16W Metal Oxide	AA					
R2212	VRS-CY1JF682JY	X	6.8k	1/16W Metal Oxide	AA					
R2213	VRS-CY1JF333JY	X	33k	1/16W Metal Oxide	AA					
R2401	VRD-RA2BE101JY	X	100	1/8W Carbon	AA					
R2402	VRD-RA2BE101JY	X	100	1/8W Carbon	AA					
R2403	VRD-RA2BE101JY	X	100	1/8W Carbon	AA					
R2404	VRD-RA2BE101JY	X	100	1/8W Carbon	AA					
R2501	VRS-CY1JF183JY	X	18k	1/16W Metal Oxide	AA					
R2502	VRS-CY1JF183JY	X	18k	1/16W Metal Oxide	AA					
R2503	VRS-CY1JF103JY	X	10k	1/16W Metal Oxide	AA					
R2504	VRS-CY1JF103JY	X	10k	1/16W Metal Oxide	AA					
R2505	VRD-RA2BE822JY	X	8.2k	1/8W Carbon	AA					
R2506	VRD-RA2BE822JY	X	8.2k	1/8W Carbon	AA					
R2507	VRD-RA2BE183JY	X	18k	1/8W Carbon	AA					
R2508	VRD-RA2BE183JY	X	18k	1/8W Carbon	AA					
R2509	VRS-CY1JF000JY	X	0	1/16W Metal Oxide	AA					
R2601	VRD-RA2BE100JY	X	10	1/8W Carbon	AA					
R2603	VRS-CY1JF000JY	X	0	1/16W Metal Oxide	AA					
R2605	VRS-CY1JF000JY	X	0	1/16W Metal Oxide	AA					
R2606	VRS-CY1JF000JY	X	0	1/16W Metal Oxide	AA					
R3001	VRS-CY1JF221JY	X	220	1/16W Metal Oxide	AA					
R3002	VRS-CY1JF221JY	X	220	1/16W Metal Oxide	AA					
R3003	VRS-CY1JF105JY	X	1M	1/16W Metal Oxide	AA					
R3004	VRS-CY1JF104JY	X	100k	1/16W Metal Oxide	AA					
R3005	VRS-CY1JF623JY	X	62k	1/16W Metal Oxide	AA					
R3007	VRS-CY1JF332JY	X	3.3k	1/16W Metal Oxide	AA					
R3008	VRS-CY1JF302JY	X	3k	1/16W Metal Oxide	AA					
R3010	VRS-CY1JF392JY	X	3.9k	1/16W Metal Oxide	AA					
R3017	VRS-CY1JF102JY	X	1k	1/16W Metal Oxide	AA					
R3018	VRS-CY1JF102JY	X	1k	1/16W Metal Oxide	AA					
R3019	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA					
R3020	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA					
R3021	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA					
R3023	VRS-CY1JF101JY	X	100	1/16W Metal Oxide	AA					
R3024	VRD-RA2BE102JY	X	1k	1/8W Carbon	AA					
SWITCHES										
S2501	QSW-KA003WJZZ+	X	Switch, POWER	AB						
S2502	QSW-KA003WJZZ+	X	Switch, MENU	AB						
S2503	QSW-KA003WJZZ+	X	Switch, VOL-DOWN	AB						
S2504	QSW-KA003WJZZ+	X	Switch, VOL-UP	AB						
S2505	QSW-KA003WJZZ+	X	Switch, CH-DOWN	AB						
S2506	QSW-KA003WJZZ+	X	Switch, CH-UP	AB						
BALUNES										
FB601	RBLN-0047CEZZY	X	Balun	AB						
FB706	RBLN-0037CEZZY	X	Balun	AB						
FB2001	RBLN-0037CEZZY	X	Balun	AB						
MISCELLANEOUS PARTS										
CF2040	RCRM-0003CEZZ+	X	Ceramic Vibrator	AC						
J904	QJAKGA023WJZZ	X	Jack, Front AV IN	AC						
DUNTKA527WEW7 PWB-B CRT UNIT										
INTEGRATED CIRCUIT										
△ IC850	VHiTDA6103Q-1	X	TDA6103Q/N3	AG						
TRANSISTORS										
Q850	VS2SA1266-Y-1+	X	2SA1266-Y	AB						
Q851	VS2SC3198-G-1+	X	2SC3198-G	AB						
Q1504	VS2SC3198-G-1+	X	2SC3198-G	AB						
Q1505	VS2SA1266-Y-1+	X	2SA1266-Y	AB						
Q1506	VS2SA1964E/-1	X	2SA1964E	AC						
Q1507	VS2SC5248E/-1	X	2SC5248E	AC						
DIODES										
D850	RH-DX0220CEZZY	X	DX0220CE	AB						
D851	RH-DX0220CEZZY	X	DX0220CE	AB						
D852	RH-DX0220CEZZY	X	DX0220CE	AB						
D853	RH-EX0647GEZZY	X	Zener Diode, 15V	AB						
D854	VHD1SS119//1Y	X	1SS119	AA						
D855	VHD1SS119//1Y	X	1SS119	AA						
D862	VHD1SS119//1Y	X	1SS119	AA						
D1502	VHD1SS119//1Y	X	1SS119	AA						
D1503	VHD1SS119//1Y	X	1SS119	AA						
D1506	RH-DX0487CEZZY	X	DX0487CE	AB						
D1507	RH-DX0487CEZZY	X	DX0487CE	AB						
D1510	VHD1SS119//1Y	X	1SS119	AA						
CAPACITORS										
C850	VCFYSB2EB224K	X	0.22 250V	AB						
C851	RC-KZ018JCEZZ	X	0.01 AC250V	AB						
C852	VCEA0A1CW107M+X	100	16V Electrolytic	AB						
C853	VCFYFA1HA224J+	X	0.22 50V Mylar	AB						
C854	VCEA0A1CW227M+X	220	16V Electrolytic	AB						
C855	VCEA0A2EW106M+X	10	250V Electrolytic	AB						
C856	VCEA0A1HW226M+X	22	50V Electrolytic	AB						
C1501	VCEA0A1CW476M+X	47	16V Electrolytic	AB						
C1506	VCKYPA1HF103Z+	X	0.01 50V Ceramic	AA						
C1508	VCKYPA2HB472K+	X	4700p 500V Ceramic	AB						
C1509	VCKYPA1HB472K+	X	4700p 50V Ceramic	AB						
C1510	VCKYPA1HF103Z+	X	0.01 50V Ceramic	AA						
C1511	VCKYPA1HF103Z+	X	0.01 50V Ceramic	AA						
C1515	VCEA0A1HW476M+X	47	50V Electrolytic	AB						
C1516	VCEA0A1HW476M+X	47	50V Electrolytic	AB						
C1517	VCEA0A2AW106M+X	10	100V Electrolytic	AB						
C1518	VCCSPA2HL560K+	X	56p 500V Ceramic	AB						
C1519	VCEA0A2CW106M+X	10	160V Electrolytic	AB						
RESISTORS										
△ R850	VRS-SV2HC152J	X	1.5k 1/2W Metal Oxide	AB						
△ R851	VRS-SV2HC152J	X	1.5k 1/2W Metal Oxide	AB						
△ R852	VRS-SV2HC152J	X	1.5k 1/2W Metal Oxide	AB						
△ R853	VRS-SV2HC272J	X	2.7k 1/2W Metal Oxide	AB						

Ref. No.	Part No.	★	Description	Code
△ R854	VRS-SV2HC272J	X	2.7k 1/2W Metal Oxide	AB
△ R855	VRS-SV2HC272J	X	2.7k 1/2W Metal Oxide	AB
R856	VRD-RM2HD104JY	X	100k 1/2W Carbon	AA
R857	VRD-RM2HD104JY	X	100k 1/2W Carbon	AA
R858	VRD-RM2HD104JY	X	100k 1/2W Carbon	AA
R861	VRD-RM2HD104JY	X	100k 1/2W Carbon	AA
R862	VRC-MA2HG152KY	X	1.5k 1/2W Solid	AB
R863	VRC-MA2HG152KY	X	1.5k 1/2W Solid	AB
R864	VRC-MA2HG152KY	X	1.5k 1/2W Solid	AB
△ R867	VRS-SV2HC392J	X	3.9k 1/2W Metal Oxide	AB
△ R868	VRS-SV2HC682J	X	6.8k 1/2W Metal Oxide	AB
R869	VRD-RA2BE103JY	X	10k 1/8W Carbon	AA
R870	VRD-RA2BE223JY	X	22k 1/8W Carbon	AA
R871	VRD-RA2BE472JY	X	4.7k 1/8W Carbon	AA
R872	VRD-RA2EE680JY	X	68 1/4W Carbon	AA
R873	VRD-RM2HD224JY	X	220k 1/2W Carbon	AA
R874	VRD-RM2HD104JY	X	100k 1/2W Carbon	AA
R875	VRD-RM2HD104JY	X	100k 1/2W Carbon	AA
R876	VRD-RM2HD104JY	X	100k 1/2W Carbon	AA
R877	VRD-RA2BE103JY	X	10k 1/8W Carbon	AA
△ R878	VRS-SV2HC120J	X	12 1/2W Metal Oxide	AB
R1511	VRD-RA2BE101JY	X	100 1/8W Carbon	AA
△ R1513	VRS-VV3DB561J	X	560 2W Metal Oxide	AB
R1514	VRD-RA2BE100JY	X	10 1/8W Carbon	AA
R1515	VRD-RA2BE820JY	X	82 1/8W Carbon	AA
R1516	VRD-RA2BE820JY	X	82 1/8W Carbon	AA
R1517	VRD-RA2BE122JY	X	1.2k 1/8W Carbon	AA
R1518	VRD-RA2BE683JY	X	68k 1/8W Carbon	AA
R1519	VRD-RA2BE123JY	X	12k 1/8W Carbon	AA
R1520	VRD-RA2BE683JY	X	68k 1/8W Carbon	AA
R1521	VRD-RA2BE122JY	X	1.2k 1/8W Carbon	AA
R1525	VRD-RA2EE560JY	X	56 1/4W Carbon	AA
R1526	VRD-RA2EE560JY	X	56 1/4W Carbon	AA
R1527	VRD-RM2HD1R5JY	X	1.5 1/2W Carbon	AA
R1528	VRD-RM2HD1R5JY	X	1.5 1/2W Carbon	AA
△ R1529	VRS-VV3DB221J	X	220 2W Metal Oxide	AB
R1530	VRD-RA2BE122JY	X	1.2k 1/8W Carbon	AA

MISCELLANEOUS PARTS

FB1501RBLN-0020CEZZ+	X	Balun	AB	
P854	QPLGN0741CEZZ	X	Plug, 7Pin(N)	AB
P860	QPLGN0841CEZZ	X	Plug, 8Pin(CJ)	AB
△ P861	QPLGN0241CEZZ	X	Plug, 2Pin(PU1-2)	AB
RDA850	PRDAR0248PEFW	X	Heat Sink for IC850	AB
RDA1506	PRDAR5072CEFW	X	Heat Sink for Q1506	AB
RDA1507	PRDAR5072CEFW	X	Heat Sink for Q1507	AB
SC850	QSOCV1011CEZZ	X	CRT Socket, 12Pin	AC

**DUNTKB573WEVO
PWB-C 3-LINE Y/C UNIT**

INTEGRATED CIRCUIT

IC1401	VHITC90A53F-1Y	X	TC90A53F	AP
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TRANSISTORS

Q1401	VS2SD601AR/-1Y	X	2SD601AR	AB
Q1402	VS2SD601AR/-1Y	X	2SD601AR	AB
Q1403	VS2SB709AR/-1Y	X	2SB709AR	AB
Q1404	VS2SD601AR/-1Y	X	2SD601AR	AB
Q1406	VS2SB709AR/-1Y	X	2SB709AR	AB
Q1407	VS2SD601AR/-1Y	X	2SD601AR	AB
Q1408	VS2SB709AR/-1Y	X	2SB709AR	AB

COILS

L1401	VP-XF100K0000Y	X	Peaking 10μH	AB
L1402	VP-XF100K0000Y	X	Peaking 10μH	AB
L1406	VP-XF220K0000Y	X	Peaking 22μH	AB
L1407	VP-XF220K0000Y	X	Peaking 22μH	AB
L1408	VP-XF100K0000Y	X	Peaking 10μH	AB
L1410	VP-XF100K0000Y	X	Peaking 10μH	AB
L1414	VP-XF330K0000Y	X	Peaking 33μH	AB
L1417	VP-XF220K0000Y	X	Peaking 22μH	AB

CAPACITORS

C1412	VCEA0A1HW106M+X	10	50V Electrolytic	AB
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Ref. No.	Part No.	★	Description	Code
C1413	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1414	VCCCCY1HH3R0CYX	3p	50V Ceramic	AA
C1415	VCE9GA1CW106M+X	10	16V Electrolytic,	AB
			(N.P)	
C1416	VCEA0A1CW477M+X	470	16V Electrolytic	AB
C1417	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C1420	VCCCCY1HH270JY	X	27p 50V Ceramic	AA
C1421	VCCCCY1HH120JY	X	12p 50V Ceramic	AA
C1422	VCCCCY1HH120JY	X	12p 50V Ceramic	AA
C1423	VCCCCY1HH3R0CYX	3p	50V Ceramic	AA
C1424	VCCCCY1HH270JY	X	27p 50V Ceramic	AA
C1425	VCCCCY1HH100DYX	10p	50V Ceramic	AA
C1428	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1435	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1436	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C1439	VCE9GA1CW106M+X	10	16V Electrolytic,	AB
			(N.P)	
C1440	VCEA0A1HW106M+X	10	50V Electrolytic	AB
C1441	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1442	VCFYFA1HA474J+	X	0.47 50V Mylar	AB
C1443	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1444	VCKYCY1HB472KY	X	4700p 50V Ceramic	AA
C1445	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1446	VCCCCY1HH181JY	X	180p 50V Ceramic	AB
C1447	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1448	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C1449	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C1451	VCEA0A1CW107M+X	100	16V Electrolytic	AB
C1452	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C1453	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1454	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1455	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1456	VCKYCY1CF104ZY	X	0.1 16V Ceramic	AA
C1457	VCEA0A1HW106M+X	10	50V Electrolytic	AB
C1458	VCEA0A1HW106M+X	10	50V Electrolytic	AB
C1460	VCKYCY1HF103ZY	X	0.01 50V Ceramic	AA
C1470	VCCCCY1HH270JY	X	27p 50V Ceramic	AA
C1474	VCCCCY1HH150JY	X	15p 50V Ceramic	AA

RESISTORS

RJ1	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
RJ2	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
RJ3	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
RJ4	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
RJ5	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
RJ6	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
RJ7	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
R1402	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
R1405	VRS-CY1JF361JY	X	360 1/16W Metal Oxide	AA
R1406	VRS-CY1JF102JY	X	1k 1/16W Metal Oxide	AA
R1407	VRS-CY1JF102JY	X	1k 1/16W Metal Oxide	AA
R1410	VRS-CY1JF473JY	X	47k 1/16W Metal Oxide	AA
R1411	VRS-CY1JF223JY	X	22k 1/16W Metal Oxide	AA
R1412	VRS-CY1JF102JY	X	1k 1/16W Metal Oxide	AA
R1413	VRS-CY1JF122JY	X	1.2k 1/16W Metal Oxide	AA
R1414	VRS-CY1JF331JY	X	330 1/16W Metal Oxide	AA
R1415	VRS-CY1JF391JY	X	390 1/16W Metal Oxide	AA
R1416	VRS-CY1JF102JY	X	1k 1/16W Metal Oxide	AA
R1421	VRS-CY1JF471FY	X	470 1/16W Metal Oxide	AA
R1423	VRS-CY1JF152FY	X	1.5k 1/16W Metal Oxide	AA
R1426	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
R1428	VRS-CY1JF332JY	X	3.3k 1/16W Metal Oxide	AA
R1429	VRS-CY1JF222JY	X	2.2k 1/16W Metal Oxide	AA
R1430	VRS-CY1JF473JY	X	47k 1/16W Metal Oxide	AA
R1431	VRS-CY1JF223JY	X	22k 1/16W Metal Oxide	AA
R1432	VRS-CY1JF102JY	X	1k 1/16W Metal Oxide	AA
R1433	VRS-CY1JF122JY	X	1.2k 1/16W Metal Oxide	AA
R1434	VRS-CY1JF331JY	X	330 1/16W Metal Oxide	AA
R1435	VRS-CY1JF102JY	X	1k 1/16W Metal Oxide	AA
R1436	VRS-CY1JF331JY	X	330 1/16W Metal Oxide	AA
R1438	VRS-CY1JF222JY	X	2.2k 1/16W Metal Oxide	AA
R1456	VRS-CY1JF564JY	X	560k 1/16W Metal Oxide	AA
R1457	VRS-CY1JF103JY	X	10k 1/16W Metal Oxide	AA
R1458	VRD-RA2BE103JY	X	10k 1/8W Carbon	AA
R1459	VRS-CY1JF821JY	X	820 1/16W Metal Oxide	AA
R1466	VRS-CY1JF103JY	X	10k 1/16W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
R1467	VRS-CY1JF682JY	X	6.8k 1/16W Metal Oxide	AA	C3695	VCE9GA1HW475M+X	4.7	50V Electrolytic,	AB
R1473	VRS-CY1JF102JY	X	1k 1/16W Metal Oxide	AA			(N.P)		
R1475	VRS-CY1JF102JY	X	1k 1/16W Metal Oxide	AA					

MISCELLANEOUS PARTS

FB1401	RBLN-0061TAZZY	X	Balun	AB
P1401	QPLGZ0810CEZZ	X	Plug, 8Pin	AB

DUNTKC379WEV0 PWB-G POWER UNIT

PACKAGED CIRCUITS

△ VA1701	RH-VX0048CEZZ	X	Varistor	AB
△ PR1701	RMPTP0083CEZZ	X	Packaged Circuit	AG

COIL

△ L1701	RCiLF0345CEZZ	X	Coil	AC
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CAPACITOR

C1704	RC-FZA022WJZZ	X	0.22 275V	AB
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RESISTORS

△ R1701	RR-DZ0049CEZZY	X	3.9M 1/2W	AB
R1702	VRS-VV3LB101J	X	100 3W Metal Oxide	AB
R1703	VRW-KQ41C1R5K	X	1.5 15W Cement	AB
R1704	VRW-KQ41C1R5K	X	1.5 15W Cement	AB

MISCELLANEOUS PARTS

△ ACC701	QACCZA020WJPZ	X	AC Cord	AC
△ F1701	QFS-C5022CEZZ	X	Fuse, T5AL/250V	AC
△ FH1701	QFSDH1002CEZZ	X	Fuse Holder	AB
△ FH1702	QFSDH1002CEZZ	X	Fuse Holder	AB
P1701	QPLGN0269GEZZ	X	Plug, 2Pin(A1-2)	AB
P1702	QPLGN0460CEZZ	X	Plug, 4Pin(M1-4)	AB
P1703	QPLGN0157FJZZ	X	Plug, 2Pin(QA)	AB
P1704	QPLGN0241CEZZ	X	Plug, 2Pin(QB)	AB
△ RY1702	RRLYJ0090CEZZ	X	Relay	AC
	LHLDW1002PEZZ	X	Holder	AB

DUNTKB571WEV1 PWB-S AUDIO UNIT

INTEGRATED CIRCUIT

IC3501	VHiNJW1140G-1Y	X	NJW1140GK1	AM
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DIODES

D3501	RH-EX0619GEZZY	X	Zener Diode, 6.2V	AB
D3502	RH-EX0619GEZZY	X	Zener Diode, 6.2V	AB

CAPACITORS

C3501	VCQYTA1HM104J+	X	0.1 50V Mylar	AB
C3502	VCFYFA1HA334J+	X	0.33 50V Mylar	AB
C3503	VCKYCY1HB822KY X	8200p	50V Ceramic	AA
C3509	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C3510	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C3511	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C3512	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C3513	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C3514	VCEA0A1CW476M+X	47	16V Electrolytic	AB
C3515	VCKYCY1HB103KY X	0.01	50V Ceramic	AA
C3531	VCQYTA1HM104J+	X	0.1 50V Mylar	AB
C3533	VCKYCY1EB223KY X	0.022	25V Ceramic	AA
C3539	VCFYFA1HA334J+	X	0.33 50V Mylar	AB
C3540	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C3541	VCEA0A1HW105M+X	1	50V Electrolytic	AB
C3694	VCE9GA1HW475M+X	4.7	50V Electrolytic,	AB
		(N.P)		

RESISTORS

RJ1	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
RJ2	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
RJ4	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
RJ5	VRS-CY1JF000JY	X	0 1/16W Metal Oxide	AA
R3501	VRS-CY1JF472JY	X	4.7k 1/16W Metal Oxide	AA
R3502	VRS-CY1JF221JY	X	220 1/16W Metal Oxide	AA
R3531	VRS-CY1JF221JY	X	220 1/16W Metal Oxide	AA
R3532	VRS-CY1JF221JY	X	220 1/16W Metal Oxide	AA
R3533	VRS-CY1JF221JY	X	220 1/16W Metal Oxide	AA

MISCELLANEOUS PARTS

P3004	QPLGN0242CEZZ	X	Plug, 2Pin(TP3001-2)	AA
P3006	QPLGZ0610CEZZ	X	Plug, 6Pin	AB
P3007	QPLGZ0610CEZZ	X	Plug, 6Pin	AB

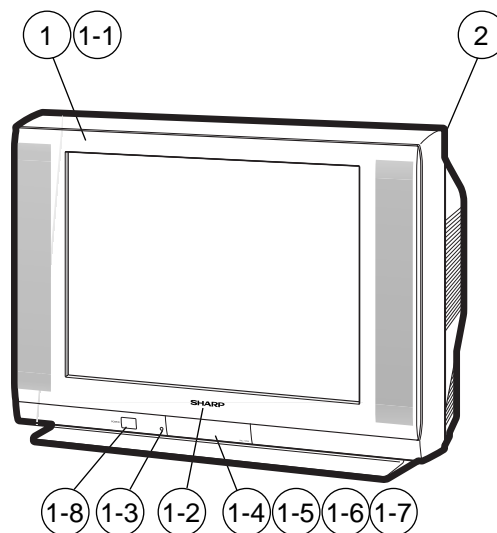
Ref. No.	Part No.	★	Description	Code
MISCELLANEOUS PARTS				
SP1	VSP1206PB708A	X	Speaker(L)	AG
SP2	VSP1206PB708A	X	Speaker(R)	AG
	QCNW-B020WJZZ	X	Connecting Cord	AC
	QCNW-B021WJZZ	X	Connecting Cord	AC
	QCNW-B022WJZZ	X	Connecting Cord	AC
	QCNW-C156WJPZ	X	Connecting Cord	AC
	QCNW-C157WJPZ	X	Connecting Cord	AB
	QPLGA0017CEZZ	X	Plug	AC

SUPPLIED ACCESSORIES				
	RRMCGA108WJSA	X	Infrared R-C	AT
	TINS-B123WJZZ	X	Instruction Book	AE

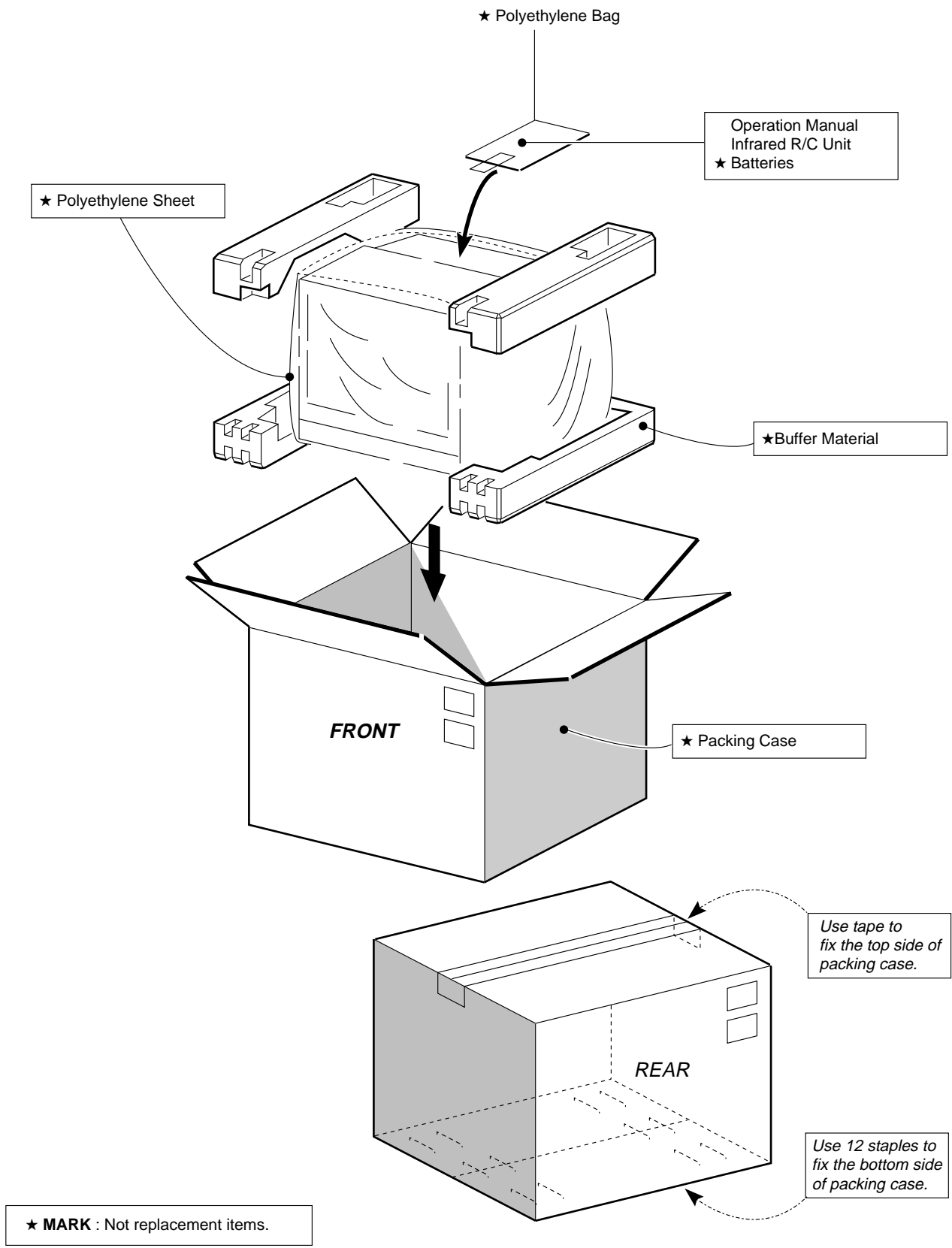
Ref. No.	Part No.	★	Description	Code
PACKING PARTS (NOT REPLACEMENT ITEM)				
	SPAKCB224WJZZ	-	Packing Case	—
	SPAKP0109GJZZ	-	Wrapping Paper	—
	SPAKXA180WJZZ	-	Buffer Material	—
	SSAKA0101GJZZ	-	Polyethylene Bag	—

CABINET PARTS				
1	CCABAA543WEH0	X	Front Cabinet Ass'y	—
1-1	<i>Not Available</i>	-	Front Cabinet	—
1-2	HBDGB3141CESA	X	SHARP Badge	AD
1-3	GCOVAA282WJKA	X	LED/RC Cover	AC
1-4	GCOVHA017WJKZ	X	Cover	AC
1-5	GDORFA027WJKB	X	Door	—
1-6	HiNDPA278WJSA	X	Indication Plate	AC
1-7	MSPRPA012WJFW	X	Spring	AB
1-8	JBTN-A106WJKB	X	Power Button	—
2	GCABBA153WJKA	X	REAR Cabinet	AZ

CABINET PARTS LOCATION



PACKING OF THE SET



SHARP

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MY. DS

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