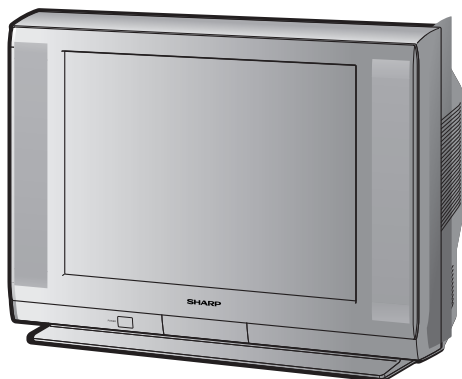


# SHARP SERVICE MANUAL



## COLOR TELEVISION

Chassis No. GB-3D

MODEL **32SF56B**

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 ..... 120V AC, 60 Hz  
 POWER RATING ..... 163 W  
 PICTURE SIZE ..... 3074 cm<sup>2</sup> (476sq inch)  
 CONVERGENCE ..... Magnetic  
 SWEEP DEFLECTION ..... Magnetic  
 FOCUS ..... Hi-Bi-Potential Electrostatic  
 INTERMEDIATE FREQUENCIES  
 Picture IF Carrier Frequency ..... 45.75 MHz (Analog Terrestrial)  
 Sound IF Carrier Frequency ..... 41.25 MHz (Analog Terrestrial)  
 Color Sub-Carrier Frequency ..... 42.17 MHz (Analog Terrestrial)  
 IF Center Frequency ..... 44 MHz (Digital Terrestrial)  
 (Nominal)

#### AUDIO POWER

OUTPUT RATING ..... 5.0W + 5.0W (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  
 Digital Terrestrial Broadcast (VHF/UHF) ..... 2 thru 69  
 (EIA, Channel Plan U.S.A.)

**Specifications are subject to change without prior notice.**

**SHARP CORPORATION**

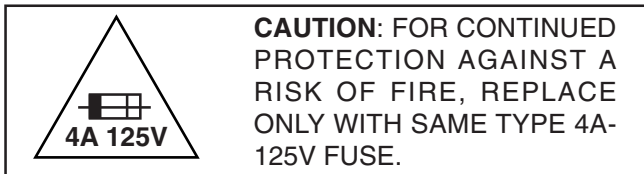
This document has been published to be used for after sales service only.  
 The contents are subject to change without notice.

## 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)

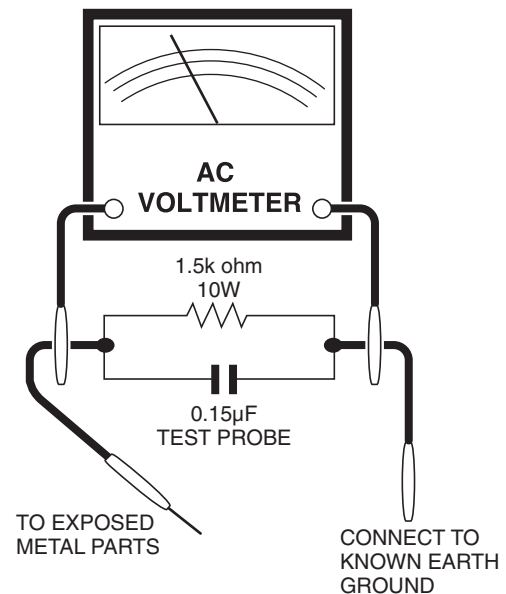
Before returning the receiver to the user, perform the following safety checks.

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 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 $\mu$ 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

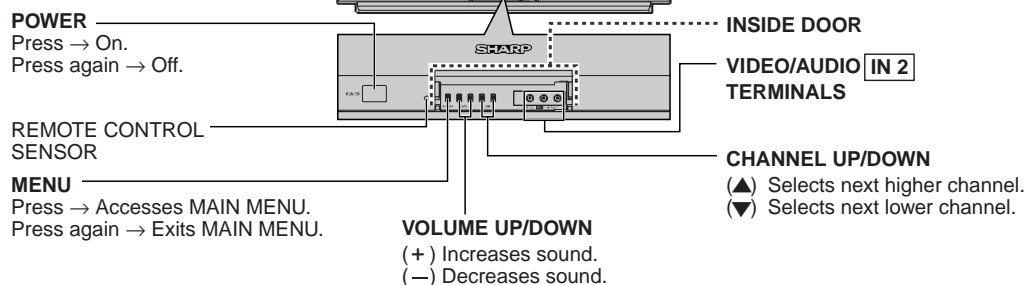
Many electrical and mechanical parts in television receivers have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage,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

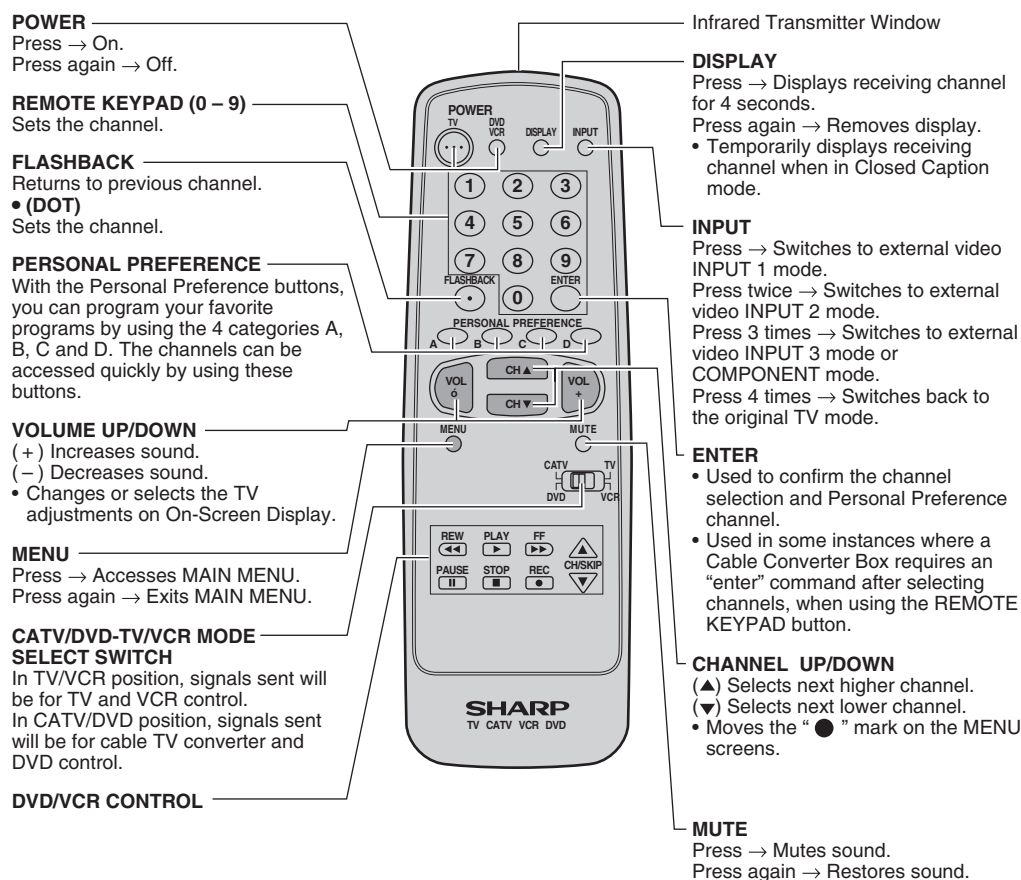
For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation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

# LOCATION OF USER'S CONTROL(32SF56B)

## Front Panel



## Basic Remote Control Functions



### 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.
- The TV set and remote control illustrations and the on-screen displays in this manual may differ from their actual appearance.

# 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 (P651, 3Pin) and make sure that the voltmeter reads  $13.7 \pm 0.6V$  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 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 "V11" and Bus data "01" (Y-mute on, CRT Cut Off).
4. The voltage should be below 35.0kV (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 "M05". 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.

### 4. Donau and Main Micon version Check

1. After television power on, press test key "ox31" and the following screen will display.

VERSION NUMBER	
ANALOG	: 1.60-30
DIGITAL	: 2.00
DIGITAL OS	: 0400140P-007

\* ANALOG – RH-IXB644WJQZQ  
IC software version

\* DIGITAL – Donau IC software inside  
Tuner RTUDAA001WJQZ

2. The version display screen will disappear after 30 second or pressing any key (except test key) will cancel the version display.

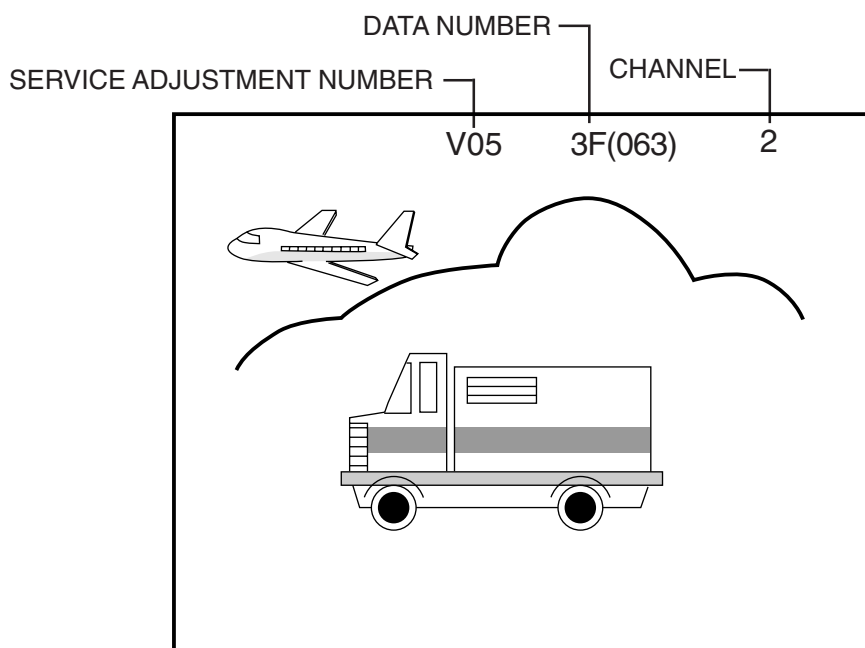


Figure A.

## A. VCJ IC ADJUSTMENT

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
V01	PICTURE	0-15 (00h-0Fh)	08 (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	00 (00h)	Y-Mute / Horizontal “—”	
V12	SHARP	0-63 (00h-3Fh)	50 (32h)		32
V13	DC RESTORATION	0-3 (00h-03h)	02 (02h)		02
V14	BLACK STRETCH	0-3 (00h-03h)	02 (02h)		02
V15	ABL START POINT	0-3 (00h-03h)	03 (03h)		03
V16	ABL GAIN	0-3 (00h-03h)	02 (02h)		02
V17	γ POINT	0-3 (00h-03h)	00 (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)	00 (00h)	Color Temp.	FD
V27	ML-B	0-255 (00h-FFh)	247 (F7h)	Color Temp.	F8
V28	HIGH-G	0-255 (00h-FFh)	02 (02h)	Color Temp.	01
V29	HIGH-B	0-255 (00h-FFh)	08 (08h)	Color Temp.	06
V30	WPL	0-1	01 (01h)		01
V31	RGB CONTRAST	0-63 (00h-3Fh)	59 (3Bh)		3B
V34	VSM GAIN	0-3 (00h-03h)	01 (01h)		01
V36	BPF/TOF-INPUT	0-1	00 (00h)	External Input	00
V37	CORING	0-1	00 (00h)		00
V38	VSM PHASE	0-1	00 (00h)		00
V39	COLOR γ	0-1	00 (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	
V44	COLOR-COMPONENT	0-127 (00h-7Fh)	72 (48h)	Component Input	
V45	BRIGHT-COMPONENT	0-127 (00h-7Fh)	84 (54h)	Component Input	
V46	R CUT OFF-COMPONENT	64-255 (40h-FFh)	64 (40h)	Component Input	
V47	G CUT OFF-COMPONENT	64-255 (40h-FFh)	64 (40h)	Component Input	
V48	B CUT OFF-COMPONENT	64-255 (40h-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)	S-Terminal Input	3E
V53	C-TRAP	0-1 (00h-01h)	00 (00h)		00
V59	AUTO FRESH	0-1 (00h-01h)	00 (00h)		00
V60	SHARP P F	0-1 (00h-01h)	01 (01h)		01
V61	CD MATRIX	0-3 (00h-03h)	02 (02h)		02
V62	B-Y ATT	0-1 (00h-01h)	00 (00h)		00
V63	R-Y ATT	0-1 (00h-01h)	00 (00h)		00
V64	CD MATRIX-COMPONENT	0-3 (00h-03h)	00 (00h)	Component Input	00
V65	B-Y ATT-COMPONENT	0-1 (00h-01h)	00 (00h)	Component Input	00
V66	R-Y ATT-COMPONENT	0-1 (00h-01h)	00 (00h)	Component Input	00
V67	BUZZ	0-1 (00h-01h)	01 (01h)		01
V68	RGB ABCL	0-1 (00h-01h)	01 (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
V72	PICTURE-DTV	0-15 (00h-0Fh)	06 (06h)	Digital CH	
V73	TINT-DTV	0-127 (00h-7Fh)	62 (3Eh)	Digital CH	
V74	COLOR-DTV	0-127 (00h-7Fh)	72 (48h)	Digital CH	
V75	BRIGHT-DTV	0-127 (00h-7Fh)	84 (54h)	Digital CH	
V76	R CUT OFF-DTV	64-255 (40h-FFh)	64 (40h)	Digital CH	
V77	G CUT OFF-DTV	64-255 (40h-FFh)	64 (40h)	Digital CH	
V78	B CUT OFF-DTV	64-255 (40h-FFh)	64 (40h)	Digital CH	
V79	G/R DRIVE-DTV	0-127 (00h-7Fh)	64 (40h)	Digital CH	
V80	B DRIVE-DTV	0-127 (00h-7Fh)	64 (40h)	Digital CH	
V81	SHARP-DTV	0-63 (00h-3Fh)	44 (2Ch)	Digital CH	2C
V82	CD MATRIX-DTV	0-3 (00h-03h)	00 (00h)	Digital CH	00
V83	B-Y ATT-DTV	0-1 (00h-01h)	00 (00h)	Digital CH	00
V84	R-Y ATT-DTV	0-1 (00h-01h)	00 (00h)	Digital CH	00
R01	RF-AGC	0-63 (00h-3Fh)	36 (24h)		24
R03	RF-AGC REF	0-255 (00h-FFh)	170 (AAh)	Standard value for the self-adjust.	AA



SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
D01	V POSITION	0-7 (00h-07h)	00 (00h)	Offset toward D13	02
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)	08 (08h)		
D06	V-S CORRECTION	0-15 (00h-0Fh)	12 (0Ch)		
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)	02 (02h)		
D11	V EHT	0-7 (00h-07h)	06 (06h)		
D12	H EHT	0-7 (00h-07h)	06 (06h)		
D13	EW CORNER	0-31 (00h-1Fh)	08 (0Dh)		
D14	EW CORNER BOTTOM	19-81 (13h-51h)	50 (33h)		
D15	NOISE DET LEVEL	0-3 (00h-03h)	00 (00h)		00
D18	V CENTERING	0-63 (00-3Fh)	36 (24h)		00
D19	V-AGC	0-1 (00h-01h)	00 (00h)		00
D20	V POSITION-VCOMP	0-7 (00h-07h)	00 (00h)	16:9 Format	00
D21	H POSITION-VCOMP	0-31 (00h-1Fh)	15 (0Fh)	16:9 Format	08 0A
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)	08 (08h)	16:9 Format	
D25	V-S CORRECTION-VCOMP	0-15 (00h-0Fh)	10 (0Ah)	16:9 Format	06 06
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)	06 (06h)	16:9 Format	
D29	H EHT-VCOMP	0-7 (00h-07h)	06 (06h)	16:9 Format	35 02 02 24
D30	EW CORNER-VCOMP	0-31 (00h-1Fh)	12 (10h)	16:9 Format	
D31	EW CORNER BOTTOM-VCOMP	19-81 (13h-51h)	50 (35h)	Offset toward D30	
D32	V BLK UPPER-VCOMP	0-3 (00h-03h)	02 (02h)	16:9 Format	
D33	V BLK LOWER-VCOMP	0-3 (00h-03h)	02 (02h)	16:9 Format	02 24
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)	Interrupt period adjustment	24
EX2	CC-POSITION	0-127 (00h-7Fh)	27 (1Bh)		7A 5A 00
EX3	INT	0-255 (00h-FFh)	122 (7Ah)		
EX4	A-ATT	0-127 (00h-7Fh)	90 (5Ah)		
EX5	TUNER data	0-3 (00h-03h)	00 (00h)	For the power control For the power control	00
EX6	Think chip-Slice LEVEL	0-255 (00h-FFh)	54 (36h)		36
EX7	RLY DELAY TIME	0-255 (00h-FFh)	00 (00h)		00
EX8	ADG ON TIME	0-255 (00h-FFh)	10 (0Ah)		0A

## C. OPTION SETTING

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
OP1	OPTION1	0-255 (00h-FFh)	213 (D5h)		D5
OP2	OPTION2	0-255 (00h-FFh)	60 (3Ch)		
OP3	OPTION3	0-255 (00h-FFh)	143 (8Fh)		

## D. SOUND ADJUSTMENT

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		NOTES	FIXED VALUE (HEX)
		RANGE	INITIAL VALUE		
M01	INPUT LEVEL	0-15 (00h-0Fh)	07 (07h)		07
M02	MTS VCO	0-63 (00h-3Fh)	38 (26h)		26
M03	FILTER	0-63 (00h-3Fh)	36 (24h)		24
M04	WIDEBAND	0-63 (00h-3Fh)	28 (1Ch)		1C
M05	SPECTRAL	0-63 (00h-3Fh)	23 (17h)		17



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~M05).

## 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

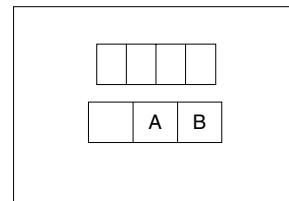
1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "V03" and set the data value to "00" to set the color level to minimum. (Record original data code under adjustment "V03" before changing) You may skip this step, if you selected a B/W picture or monoscope pattern.
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. For digital RF input, the data value of "V76" red, "V77" green and "V78" blue is adjusted to follow the data value of "V06", "V07" and "V08" respectively.
9. 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. For digital RF input, the data value of "V79" and "V80" is adjusted to follow the data value of "V09" and "V10" respectively.
6. 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 (TU1101)
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:  $95 \pm 10 \text{cd/m}^2$

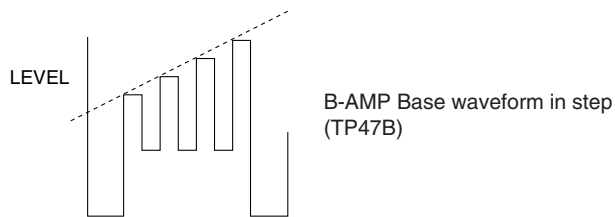
B:  $1.5 \pm 0.5 \text{cd/m}^2$

#### • DIGITAL RF INPUT (TU1101)

4. Get in service adjustment data "V72", "V75" and set the luminance as shown in figure "A" and "B" as above respectively.

## Sub-Tint Adjustment

1. Receive the half color bar signal.
- RF INPUT (TU1101)
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.
- Component Input and Digital RF Input (TU1101)
4. Input data of "V43" same as "V02".
5. Input data of "V73" same as "V02".



## Sub-Color Adjustment

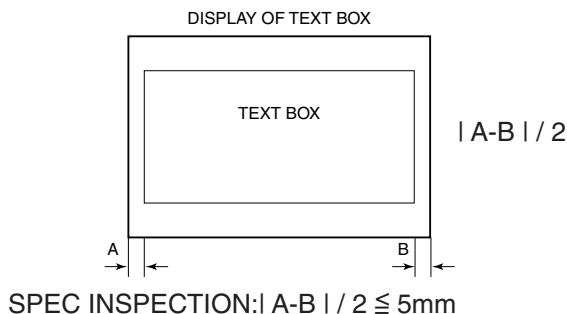
1. Receive a good local channel.
2. Make sure the customer color control is set to center position.
- RF INPUT (TU1101)
3. Enter the service mode and select service adjustment "V03".
4. Adjust "V03" data value to obtain a normal color level.
- Component Input
5. Repeat step 3~4, and change "V03" to "V44".
- Digital RF Input (TU1101)
6. Enter the service mode and select adjustment "V74".
7. Enter the value of "V44" data and plus (20h) or plus 32 step of "V44" data. ( $V74 = V44 + 20h$ )

## 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.



## 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 33 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

1. Receive a good local channel.

(SCREEN FORMAT 4:3)

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

1. Receive a good local channel.

(SCREEN FORMAT 4:3)

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

1. Receive a good local channel.

(SCREEN FORMAT 4:3)

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 18 step from "D07" data.

## EW-Trapezium

1. Receive a good local channel.

(SCREEN FORMAT 4:3)

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 :  $490 \pm 10 \text{mVrms}$

CHK spec:  $490 \pm 20 \text{mVrms}$

### 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

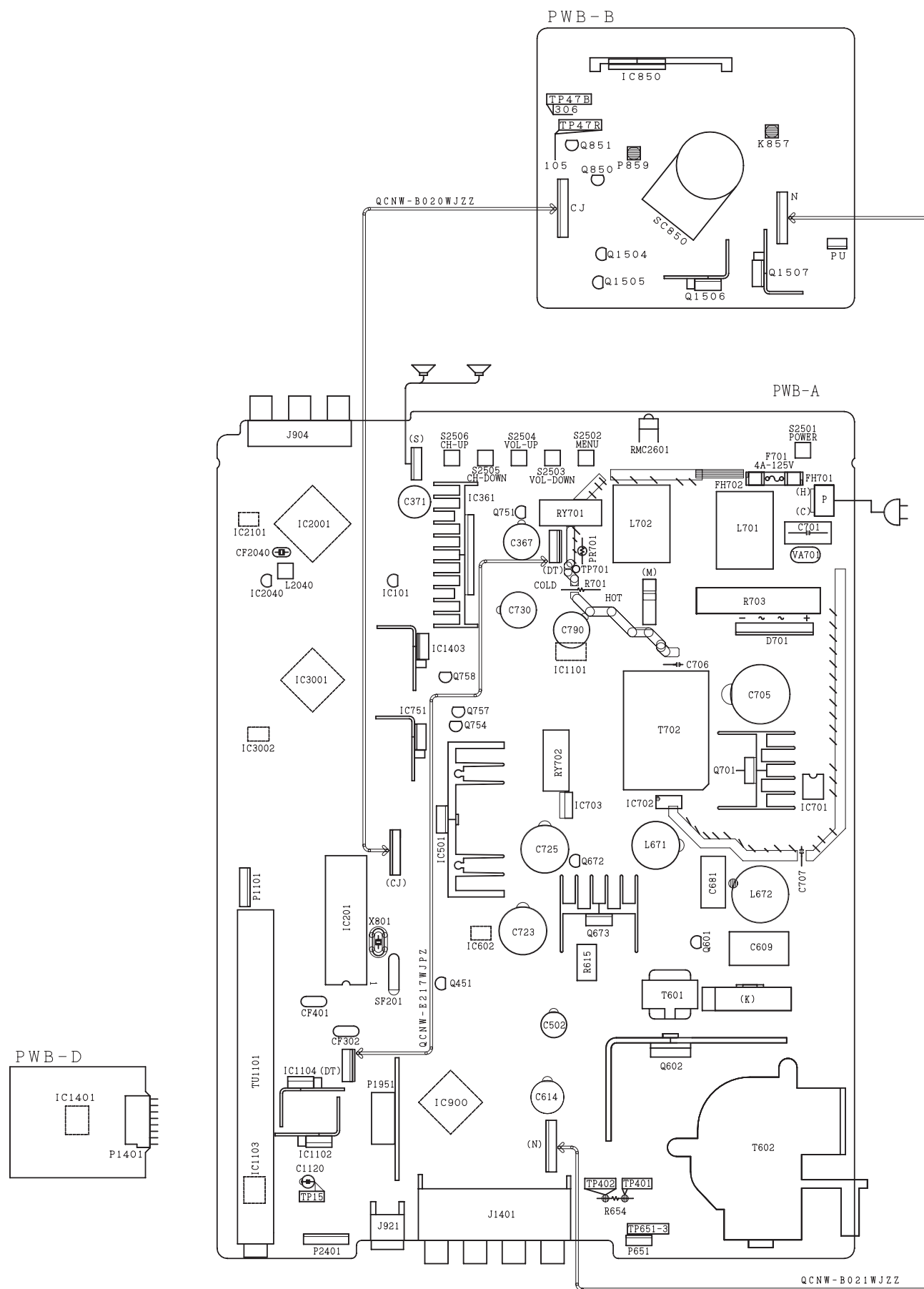
Check the output of the speaker at the maximum volume as stated below.

Confirmation spec:

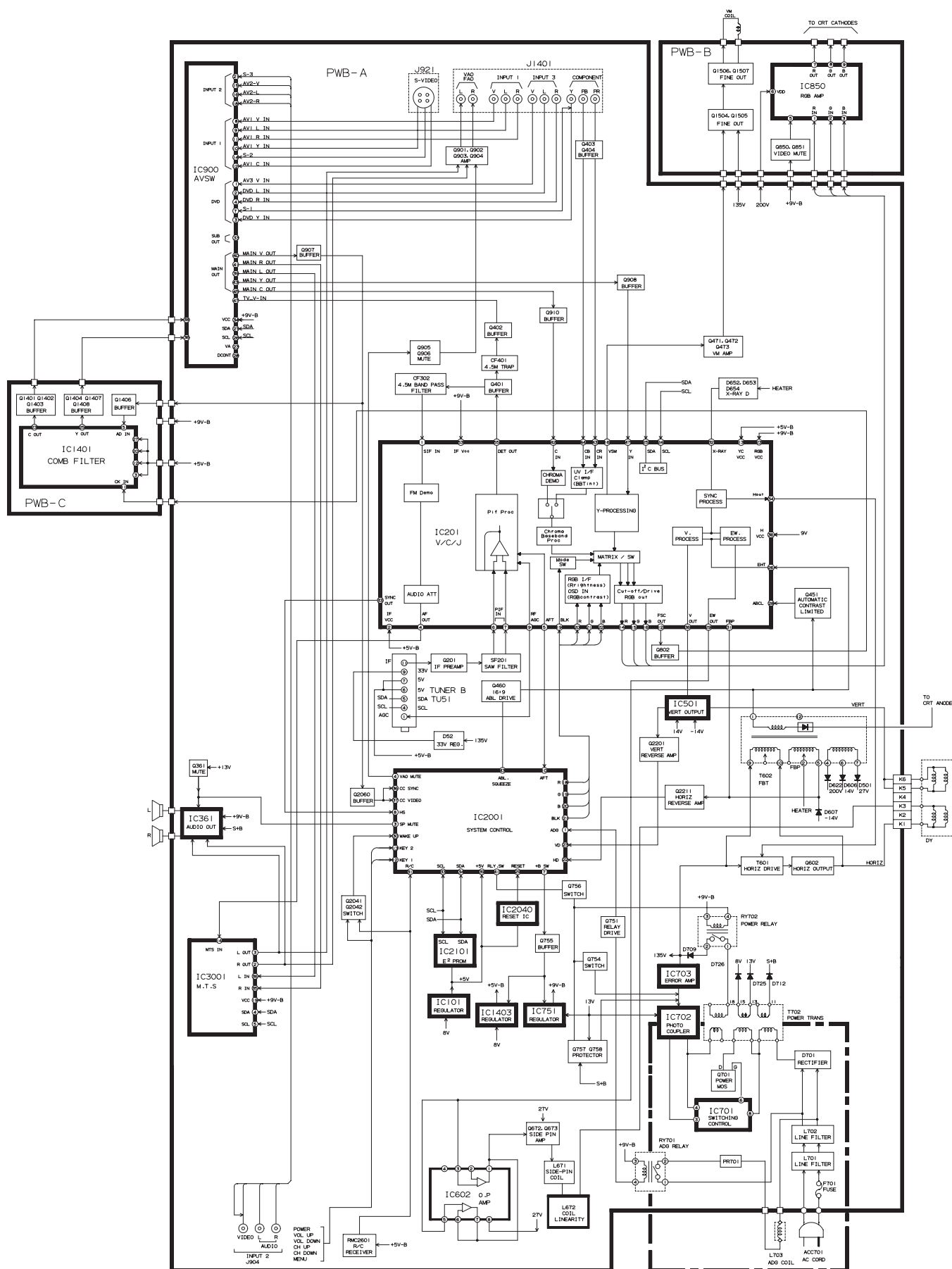
ADJ spec: above 25 dB

CHK spec: above 20 dB

## CHASSIS LAYOUT



## BLOCK DIAGRAM(32SF56B)



# DESCRIPTION OF SCHEMATIC DIAGRAMS

## NOTES:

1. The unit of resistance "ohm" is omitted.  
( $K=k\Omega=1000\Omega$ ,  $M=M\Omega$ )
2. All resistors are 1/16 watt, unless otherwise noted.
3. All capacitors are  $\mu F$ , unless otherwise noted.  
( $P=pF=\mu\mu F$ )
4. (G) indicates  $\pm 2\%$  tolerance may be used.
5.  $\nmid$  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 $\mu V$  B & W or Color signal.

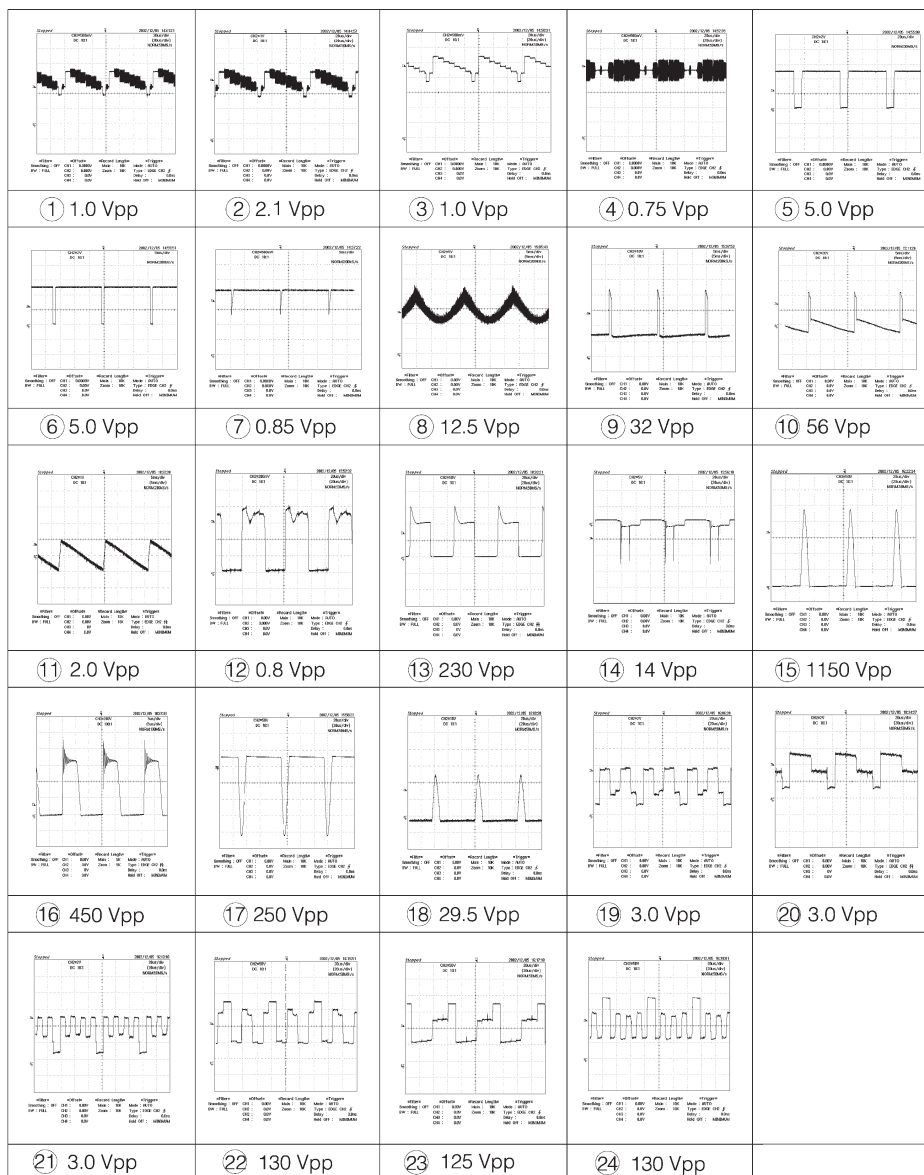
## WAVEFORM MEASUREMENT CONDITIONS:

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.  $\bullet$  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.

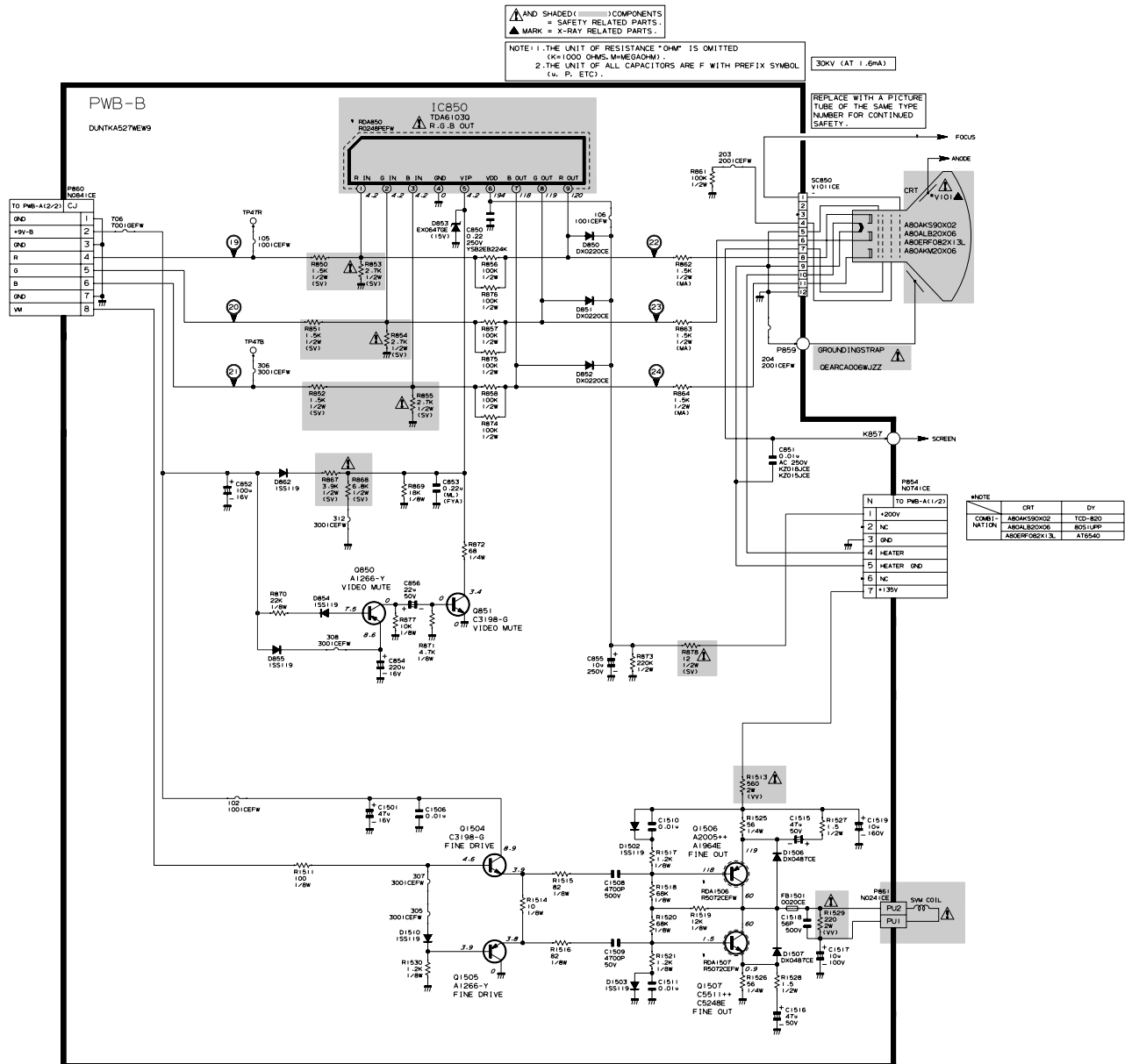
This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

# WAVEFORMS



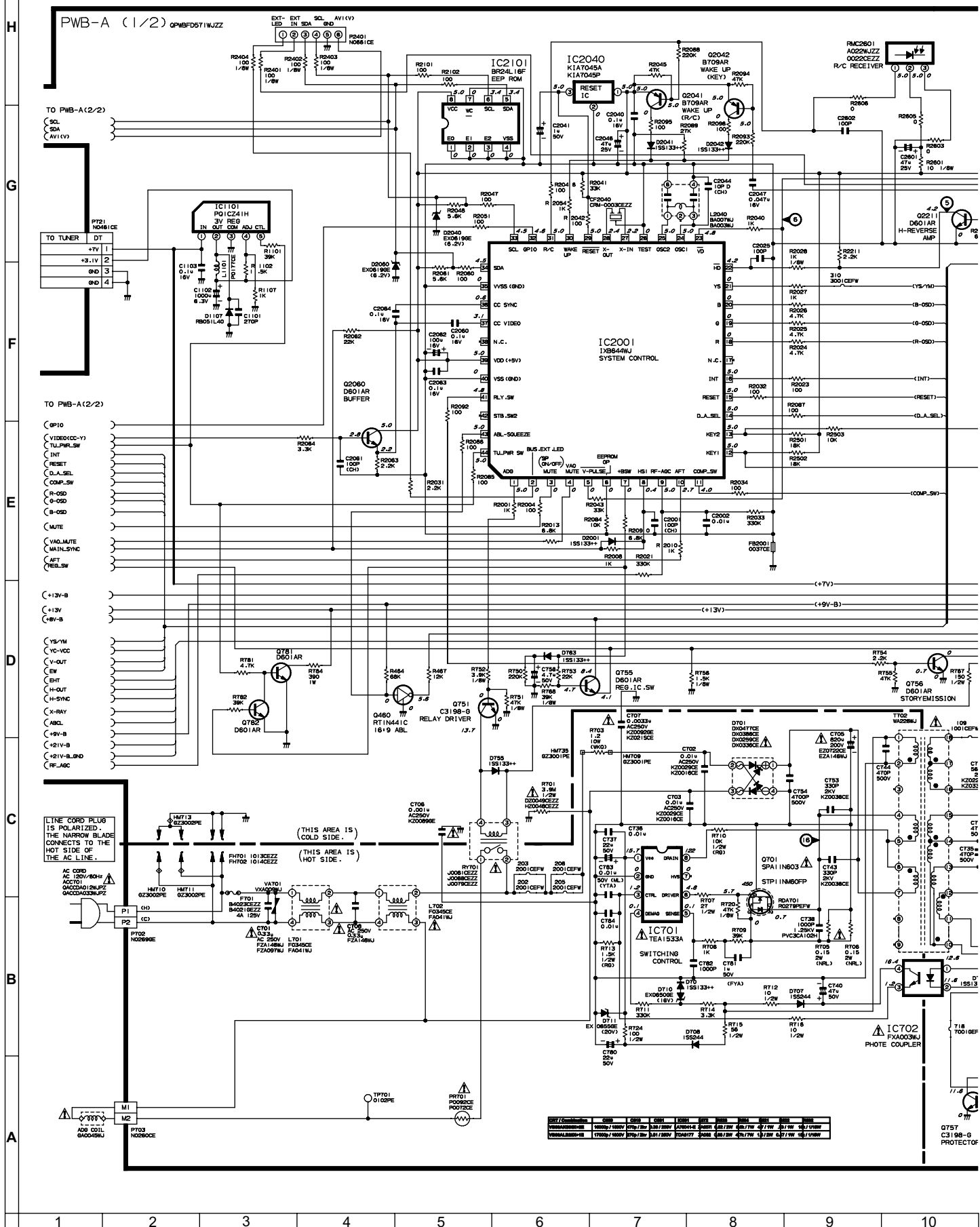
## SCHEMATIC DIAGRAMS

### CRT UNIT





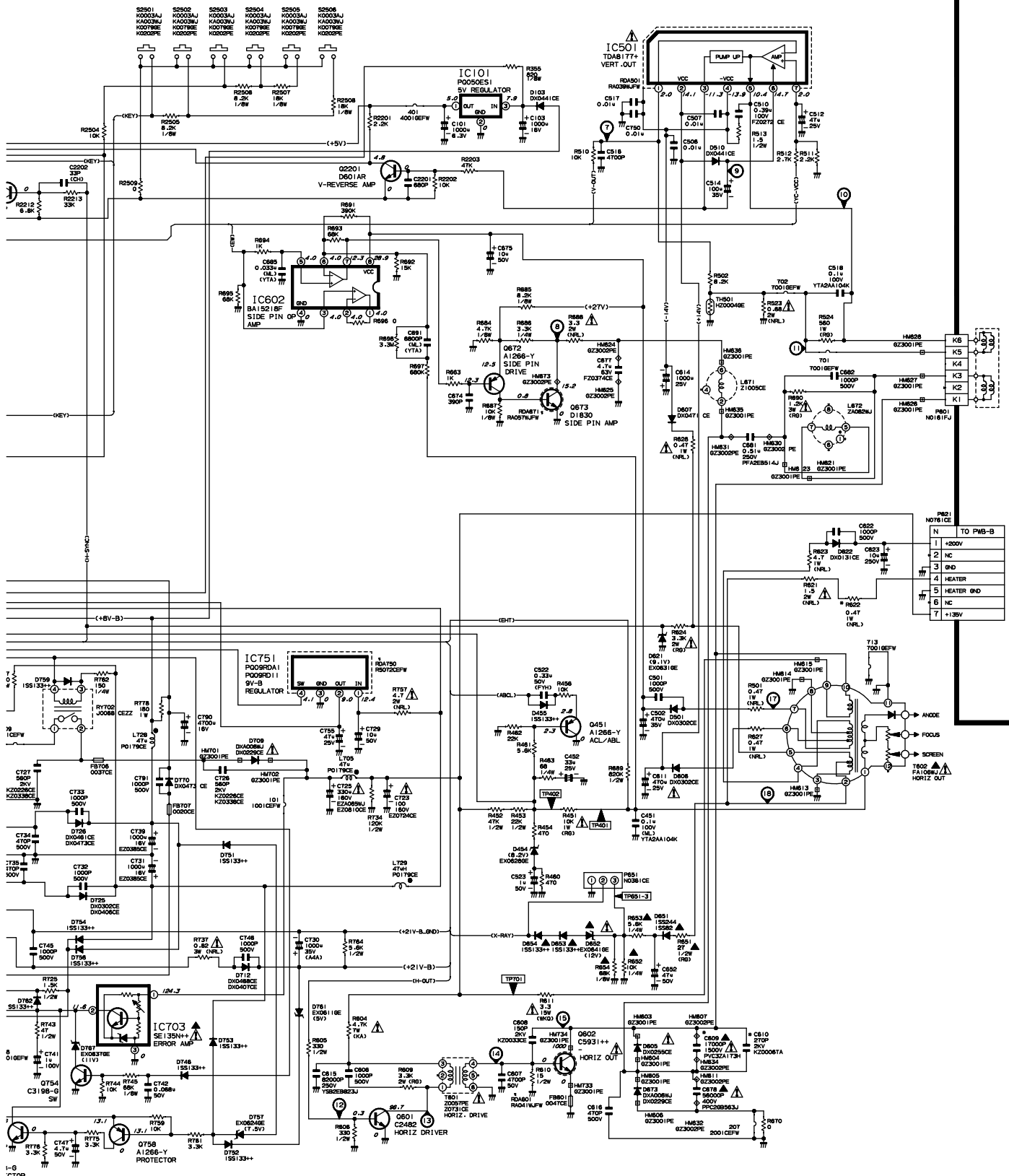
### SCHEMATIC DIAGRAM: MAIN-1 Unit



MAIN I

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

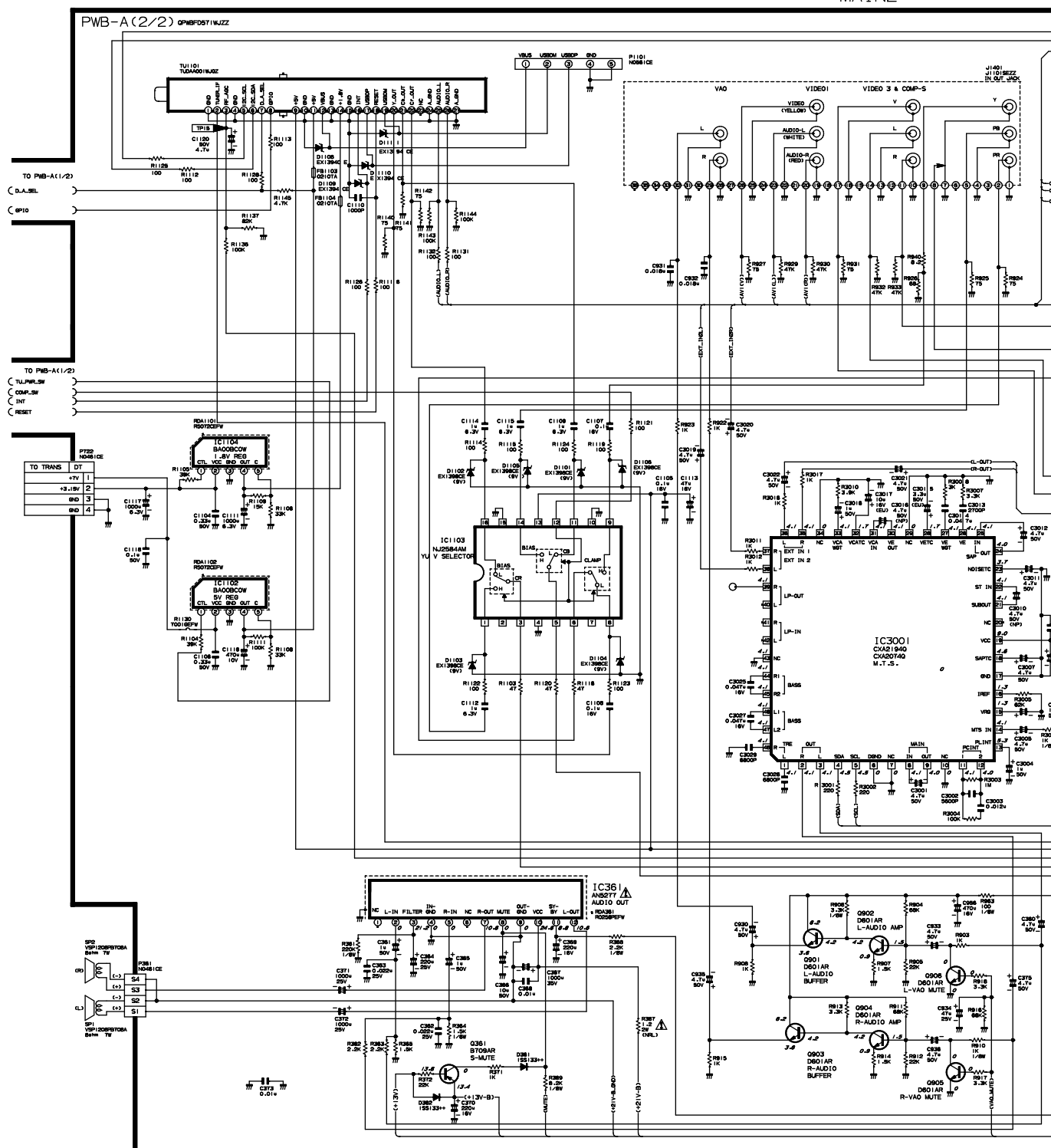
NOTE: 1. THE UNIT OF RESISTANCE "OHM" IS OMITTED  
(K=1000 OHMS, M=MEGAOHM).  
2. ALL RESISTORS ARE 1/16 WATT, UNLESS OTHERWISE NOTED.  
3. UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL  
(u, P, ETC).



NOTICE	
N	TO PWB-B
1	+200V
2	NC
3	GND
4	HEATER
5	HEATER GND
6	NC
7	+135V

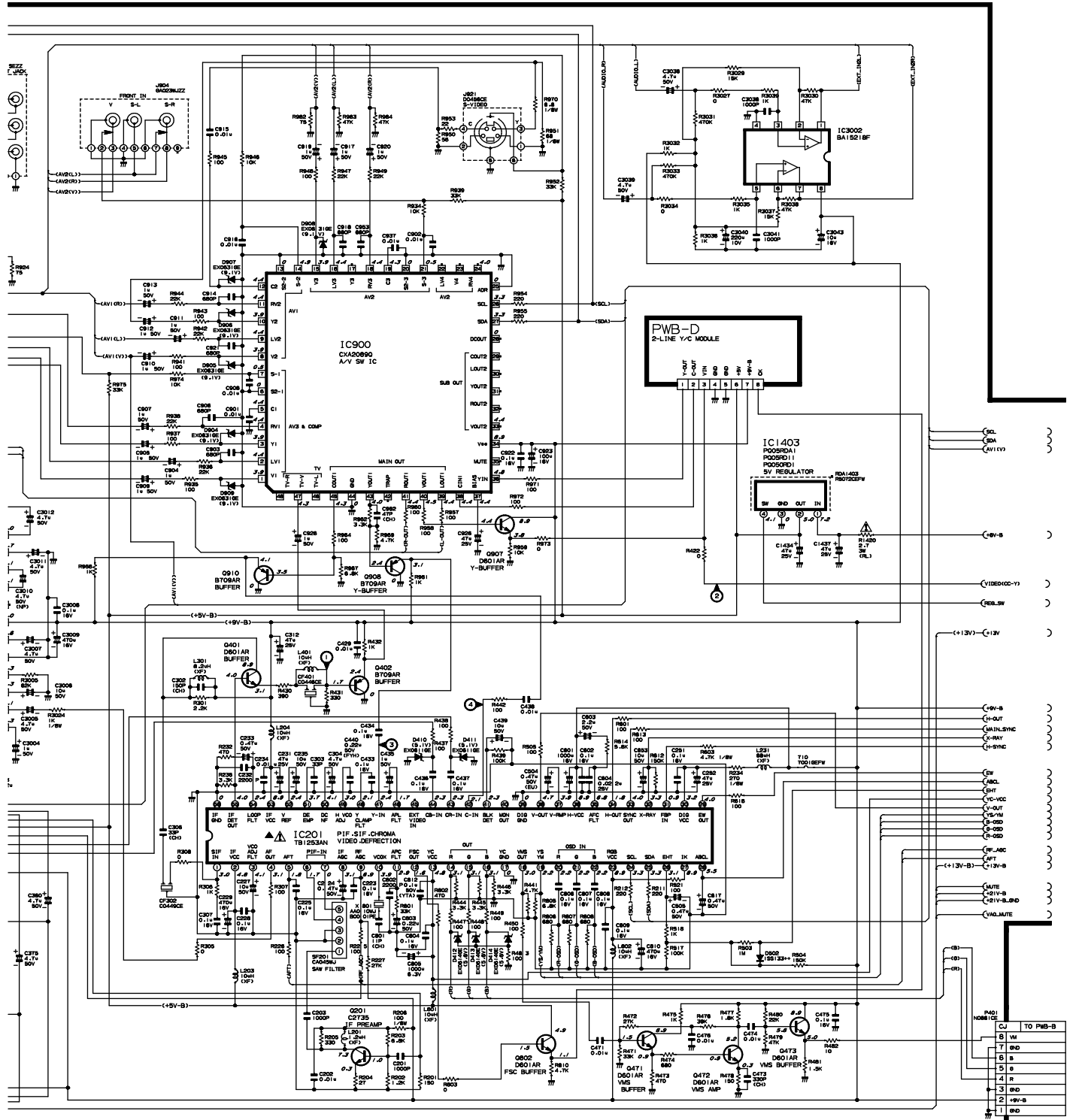
### SCHEMATIC DIAGRAM: MAIN-2 Unit

MAIN2



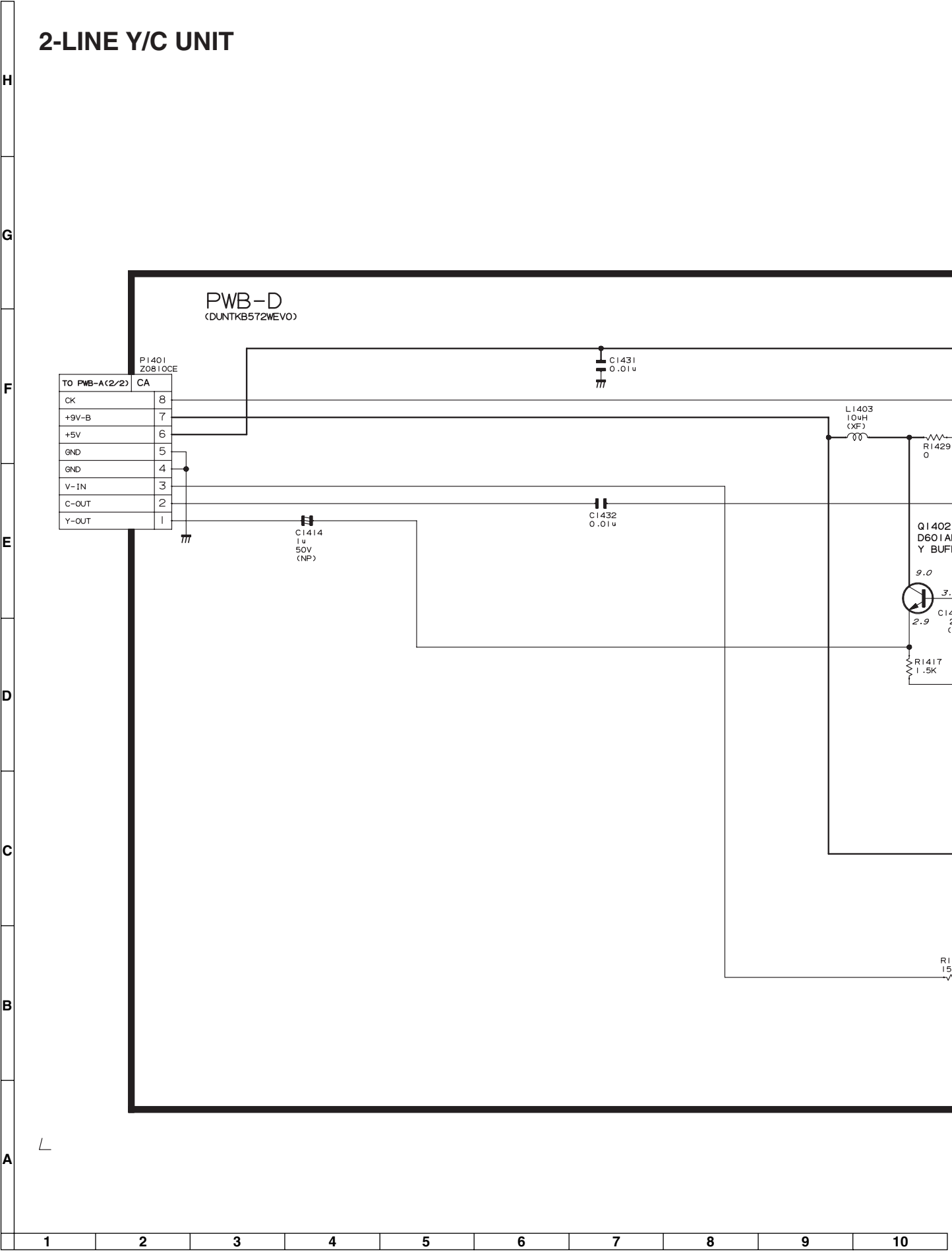
▲ AND SHADED ( ) COMPONENTS  
= SAFETY RELATED PARTS.  
▲ MARK = X-RAY RELATED PARTS.

NOTE 1: THE UNIT OF RESISTANCE \* OHM IS OMITTED  
(K=1000 OHMS, M=MEG OHM).  
2. ALL RESISTORS ARE 1/8 WATT UNLESS OTHERWISE NOTED.  
3. UNIT OF ALL CAPACITORS ARE P WITH PREFIX SYMBOL  
(u, p, etc.).

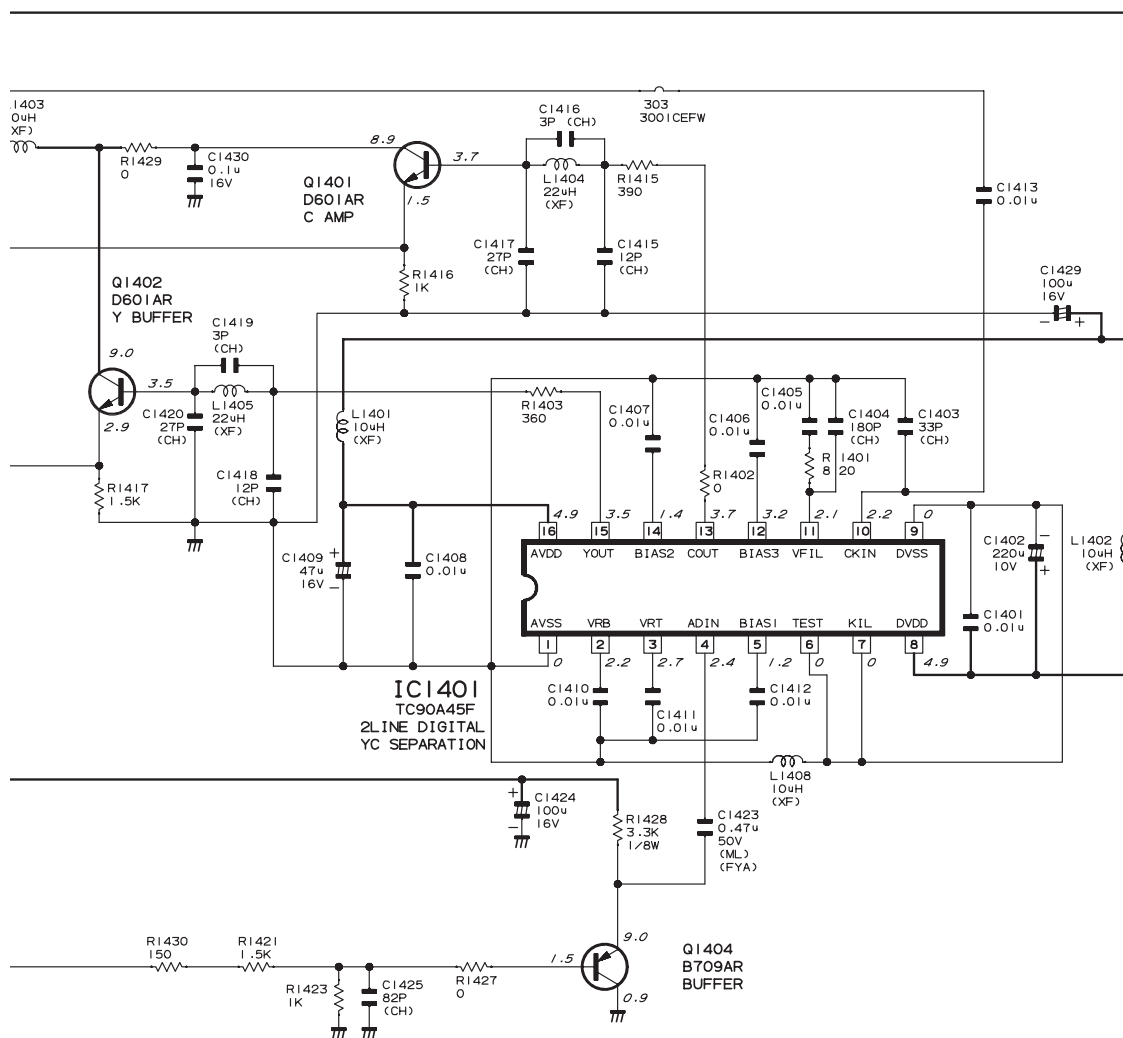


10	11	12	13	14	15	16	17	18	19
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2-LINE Y/C UNIT

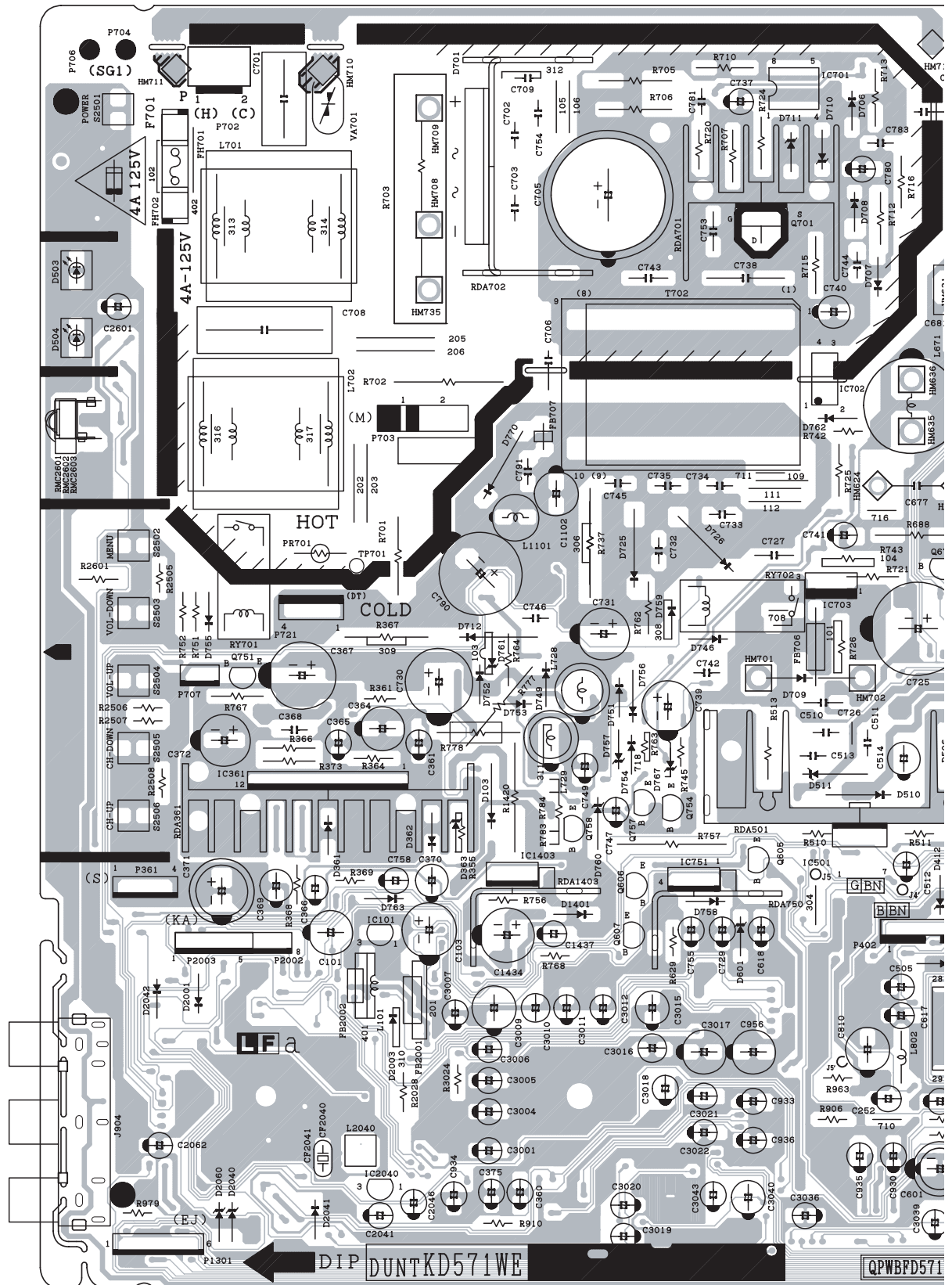


NOTE: 1. THE UNIT OF RESISTANCE "OHM" IS OMITTED  
(K=1000 OHMS, M=MEGAOHM).  
2. ALL RESISTORS ARE 1/16 WATT UNLESS OTHERWISE NOTED.  
3. UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL  
(u, P, ETC).

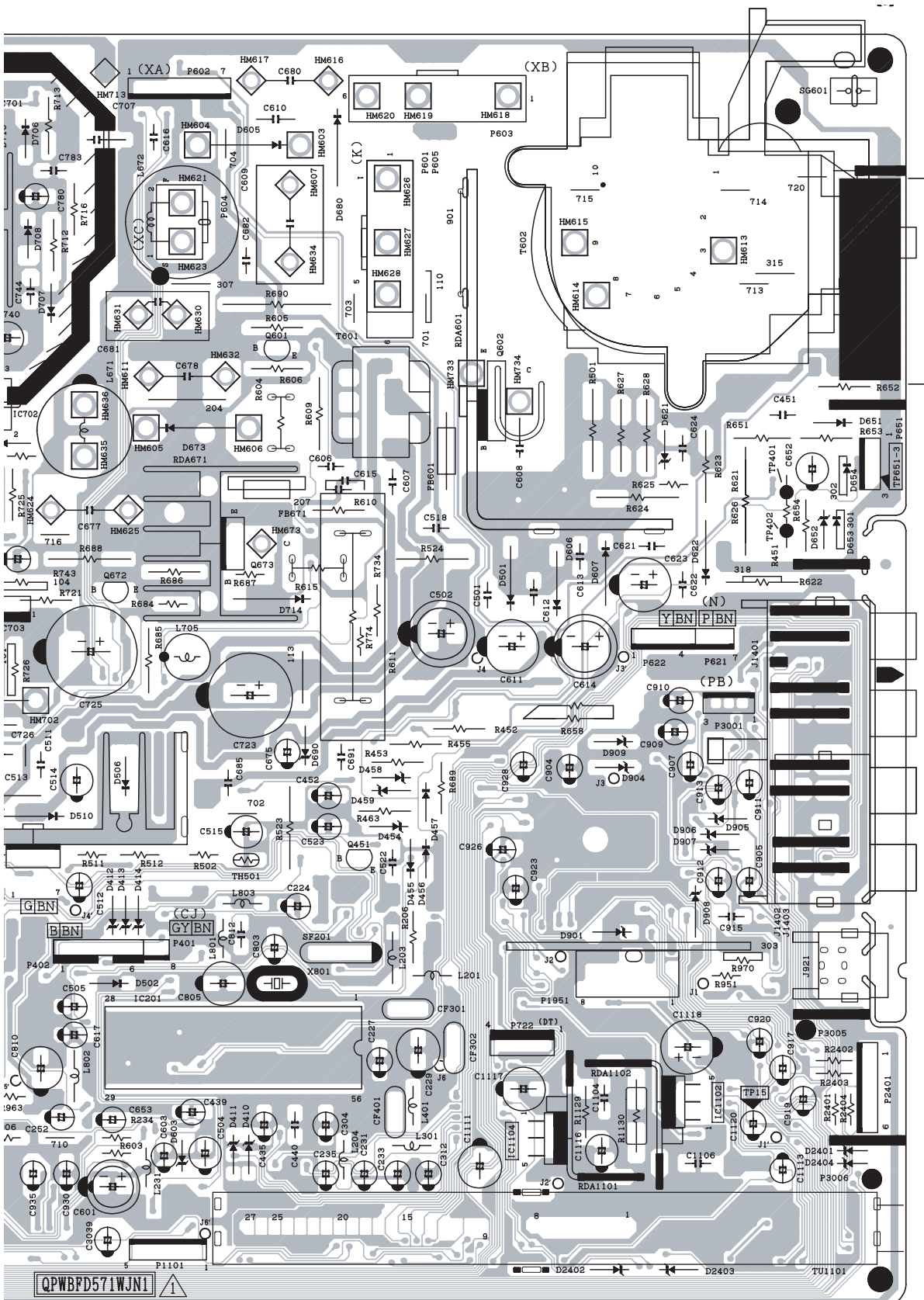


# PRINTED WIRING BOARD ASSEMBLIES

## PWB-A: MAIN Unit (Wiring Components Side)

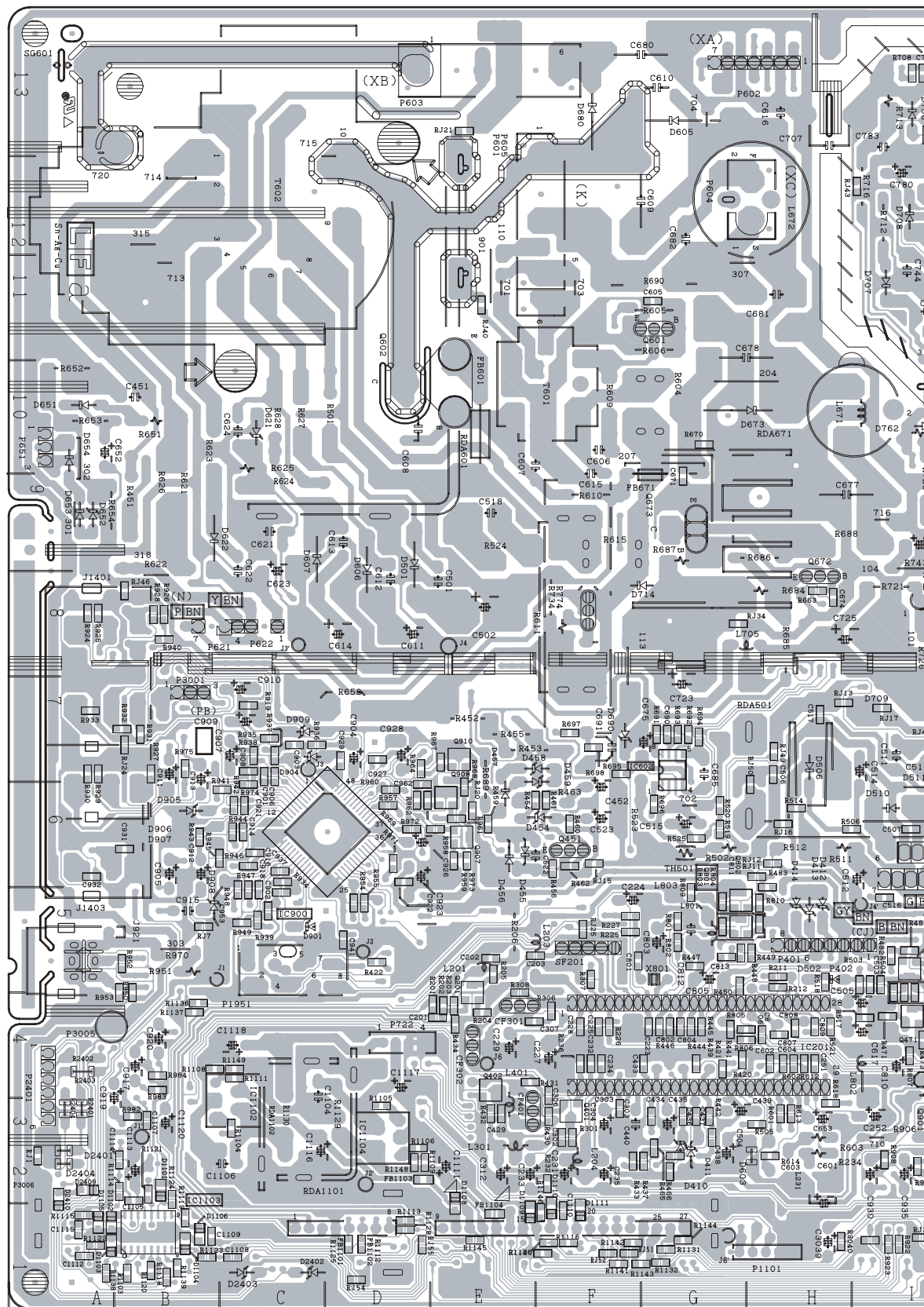






10	11	12	13	14	15	16	17	18	19
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1	2	3	4	5	6	7	8	9	10
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H

G

F

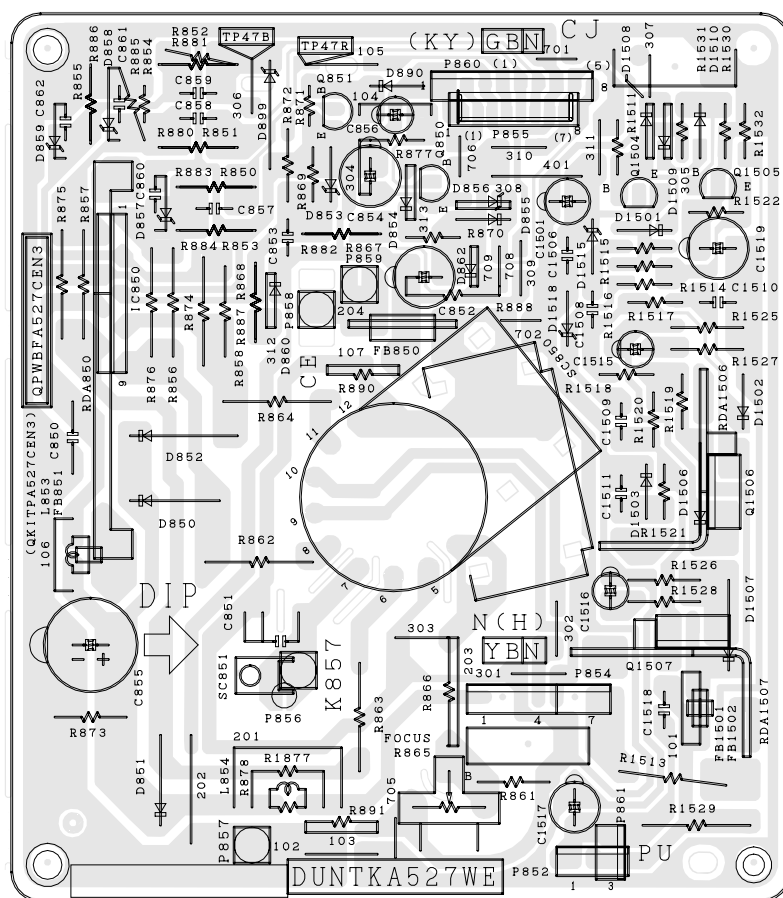
E

D

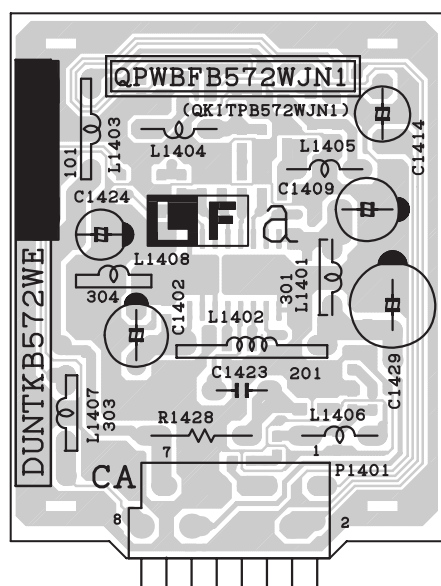
C

B

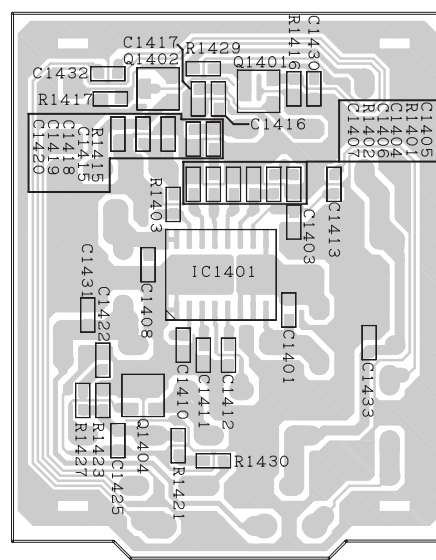
A



PWB-B: CRT Unit (Wiring Side)



PWB-D: 2 LINE Y/C Unit (Wiring Side)



PWB-D: 2 LINE Y/C 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  $\Delta$  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

p MARK: X-RAY RELATED PARTS

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

▲ $\Delta$ V101	VB80ALB20X+1E	X	Picture Tube	CX
	RCILGA045WJZZ	X	Degaussing Coil	AU
	QEARCA006WJZZ	X	Ground-Part	AG

## PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)

PWB-A	DUNTKD571WEB0	X	MAIN Unit	—
PWB-B	DUNTKA527WEE4	X	CRT Unit	—
PWB-D	DUNTKB572WEV0	X	2 LINE Y/C Unit	—

Ref. No.	Part No.	★	Description	Code
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## PWB-A: DUNTKD571WEB0 MAIN UNIT

### TUNER

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

TU1101	RTUDAA001WJQZ	X	Tuner	BY	
INTEGRATED CIRCUITS					
	IC101	VHIPQ050ES1-1+	X	PQ050ES1MXP	AD
▲	△ IC201	VHITB1253AN-1	X	TB1253AN	AT
	△ IC361	VHIAN5277//1	X	AN5277	AK
	△ IC501	VHITDA8177+-1	X	TDA8177	AH
	IC602	VHIBA15218F2EY	X	BA15218F	AD
	△ IC701	VHITEA1533A-1	X	TEA1533AP	AH
	△ IC702	RH-FXA003WJZZ	X	PC123Y82	AC
▲	△ IC703	VHISE135N++-F	X	I.C.	AF
	IC751	VHIPQ09RDA1-1	X	PQ090RDA1SZ	AE
	IC900	VHICXA2089Q-2Y	X	CXA2089Q-6T	AN
	IC1101	VHIPQ1CZ41H-1Y	X	PQ1CZ41H2ZPH	AG
	IC1102	VHIBA00BC0W-1S	X	BA00BC0WT-V5	AF
	IC1103	VHINJ2584AM-1Y	X	NJ2584AM	AH
	IC1104	VHIBA00BC0W-1S	X	BA00BC0WT-V5	AF
	IC1403	VHIPQ05RDA1-1	X	PQ050RDA1SZ	AE
	IC2001	RH-IXB644WJQ2Q	X	TMP88CS38BFG	AR
	IC2040	VHIIKIA7045A-1+	X	KIA7045AP	AD
	IC2101	VHIBR24L16F-1Y	X	BR24L16F	AE
	IC3001	VHICXA2194Q-1Y	X	CXA2194Q	AS
	IC3002	VHIBA15218F2EY	X	BA15218F	AD

### 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
	Q451	VS2SA1266-Y-1+	X	2SA1266(Y)	AA
	Q460	VSRT1N441C/-1Y	X	RT1N441C	AA
	Q471	VS2SD601AR/-1Y	X	2SD601AR	AB
	Q472	VS2SD601AR/-1Y	X	2SD601AR	AB
	Q473	VS2SD601AR/-1Y	X	2SD601AR	AB
	Q601	VS2SC2482//1+	X	2SC2482	AC
$\Delta$	Q602	VS2SC5931++-F	X	2SC5931	AL
	Q672	VS2SA1266-Y-1+	X	2SA1266(Y)	AA
	Q673	VS2SD1830//1E	X	2SD1830	AF
$\Delta$	Q701	VSSPA11N603-1	X	SPA11N603	AM
	Q751	VS2SC3198-G-1+	X	2SC3198-G	AA
	Q754	VS2SC3198-G-1+	X	2SC3198-G	AA
	Q755	VS2SD601AR/-1Y	X	2SD601AR	AB
	Q756	VS2SD601AR/-1Y	X	2SD601AR	AB
	Q757	VS2SC3198-G-1+	X	2SC3198-G	AA
	Q758	VS2SA1266-Y-1+	X	2SA1266(Y)	AA
	Q781	VS2SD601AR/-1Y	X	2SD601AR	AB
	Q782	VS2SD601AR/-1Y	X	2SD601AR	AB
	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
	Q2041	VS2SB709AR/-1Y	X	2SB709AR	AB
	Q2042	VS2SB709AR/-1Y	X	2SB709AR	AB
	Q2060	VS2SD601AR/-1Y	X	2SD601AR	AB
	Q2201	VS2SD601AR/-1Y	X	2SD601AR	AB
	Q2211	VS2SD601AR/-1Y	X	2SD601AR	AB

### DIODES

D103	RH-DX0441CEZZY	X	Diode	AA
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Ref. No.	Part No.	★	Description	Code
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## PWB-A: DUNTKD571WEB0

### MAIN UNIT

#### DIODES

D361	VHD1SS133++-1Y	X	Diode		AA
D362	VHD1SS133++-1Y	X	Diode		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
D413	RH-EX0614GEZZY	X	Zener	Diode 5.6V	AB
D414	RH-EX0614GEZZY	X	Zener	Diode 5.6V	AB
D454	RH-EX0628GEZZY	X	Zener	Diode 8.2V	AB
D455	VHD1SS133++-1Y	X	Diode		AA
D501	RH-DX0302CEZZY	X	Diode		AC
D502	VHD1SS133++-1Y	X	Diode		AA
D510	RH-DX0441CEZZY	X	Diode		AA
△ D605	RH-DX0255CEZZ	X	Diode		AF
△ D606	RH-DX0302CEZZY	X	Diode		AC
D607	RH-DX0471CEZZY	X	Diode		AC
D621	RH-EX0631GEZZY	X	Zener	Diode 9.1V	AB
△ D622	RH-DX0131CEZZY	X	Diode		AB
▲ △ D651	VHD1SS244//-1Y	X	Diode		AB
▲ △ D652	RH-EX0641GEZZY	X	Zener	Diode 12V	AB
▲ △ D653	VHD1SS133++-1Y	X	Diode		AA
▲ △ D654	VHD1SS133++-1Y	X	Diode		AA
△ D673	RH-DXA006WJZZ	X	Diode		AD
△ D701	RH-DX0477CEZZ	X	Diode		AF
D706	VHD1SS133++-1Y	X	Diode		AA
D707	VHD1SS244//-1Y	X	Diode		AB
D708	VHD1SS244//-1Y	X	Diode		AB
△ D709	RH-DXA006WJZZ	X	Diode		AD
D710	RH-EX0650GEZZY	X	Zener	Diode 16V	AB
D711	RH-EX0655GEZZY	X	Zener	Diode 0	AB
D712	RH-DX0468CEZZ	X	Diode		AD
D725	RH-DX0302CEZZY	X	Diode		AC
D726	RH-DX0461CEZZ	X	Diode		AD
D746	VHD1SS133++-1Y	X	Diode		AA
D751	VHD1SS133++-1Y	X	Diode		AA
D752	VHD1SS133++-1Y	X	Diode		AA
D753	VHD1SS133++-1Y	X	Diode		AA
D754	VHD1SS133++-1Y	X	Diode		AA
D755	VHD1SS133++-1Y	X	Diode		AA
D756	VHD1SS133++-1Y	X	Diode		AA
D757	RH-EX0624GEZZY	X	Zener	Diode	AB
D759	VHD1SS133++-1Y	X	Diode		AA
D761	RH-EX0611GEZZY	X	Zener	Diode 5.1V	AB
D762	VHD1SS133++-1Y	X	Diode		AA
D763	VHD1SS133++-1Y	X	Diode		AA
D767	RH-EX0637GEZZY	X	Zener	Diode	AB
D770	RH-DX0473CEZZ	X	Diode		AD
D904	RH-EX0631GEZZY	X	Zener	Diode 9.1V	AB
D905	RH-EX0631GEZZY	X	Zener	Diode 9.1V	AB
D906	RH-EX0631GEZZY	X	Zener	Diode 9.1V	AB
D907	RH-EX0631GEZZY	X	Zener	Diode 9.1V	AB
D908	RH-EX0631GEZZY	X	Zener	Diode 9.1V	AB
D909	RH-EX0631GEZZY	X	Zener	Diode 9.1V	AB
D1101	RH-EX1398CEZZY	X	Diode		AB
D1102	RH-EX1398CEZZY	X	Diode		AB
D1103	RH-EX1398CEZZY	X	Diode		AB
D1104	RH-EX1398CEZZY	X	Diode		AB
D1105	RH-EX1398CEZZY	X	Diode		AB
D1106	RH-EX1398CEZZY	X	Diode		AB
D1107	VHDB051L40-1Y	X	Diode		AD
D1108	RH-EX1394CEZZY	X	Diode		AB
D1109	RH-EX1394CEZZY	X	Diode		AB
D1110	RH-EX1394CEZZY	X	Diode		AB
D1111	RH-EX1394CEZZY	X	Diode		AB
D2001	VHD1SS133++-1Y	X	Diode		AA

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D2040	RH-EX0619GEZZY	X	Zener Diode, 6.2V	AB
D2041	VHD1SS133++-1Y	X	Diode	AA
D2042	VHD1SS133++-1Y	X	Diode	AA
D2060	RH-EX0619GEZZY	X	Zener Diode, 6.2V	AB

#### PACKAGED CIRCUITS

TH501	RH-HZ0004GEZZ+	X	Thermistor	AD
△ VA701	RH-VXA009WJZZ	X	VARISTOR	AC
△ PR701	RMPTP0092CEZZ	X	Packaged Circuit	AF
X801	RCRSAA010WJZZ	X	Crystal	AD

#### FILTERS AND COILS

CF302	RFILC0449CEZZ+	X	Filter	AC
CF401	RFILC0446CEZZ+	X	Filter	AC
CF2040	RCRM-0003CEZZ+	X	Ceramic Vibrator	AD
L201	VP-XF1R2K0000Y	X	Peaking,1.2mH	AA
L203	VP-XF100K0000Y	X	Peaking,10mH	AA
L204	VP-XF100K0000Y	X	Peaking,10mH	AA
L231	VP-XF680K0000Y	X	Peaking,68mH	AA
L301	VP-XF8R2K0000Y	X	Peaking,8.2mH	AA
L401	VP-XF100K0000Y	X	Peaking,10mH	AA
L671	RCILZ1005CEZZ	X	LZ1005CE	AF
L672	RCILZA062WJZZ	X	coil	AG
△ L701	RCILF0345CEZZ	X	Coil	AE
△ L702	RCILF0345CEZZ	X	Coil	AE
L705	RCILP0179CEZZ+	X	Coil	AB
L728	RCILP0179CEZZ+	X	Coil	AB
L729	RCILP0179CEZZ+	X	Coil	AB
L801	VP-XF100K0000Y	X	Peaking,10mH	AA
L802	VP-XF100K0000Y	X	Peaking,10mH	AA
L1101	RCILP0177CEZZ+	X	Oscillation Coil	AB
L2040	RCILBA007WJZZ	X	Oscillation Coil	AD
SF201	RFILCA045WJPZ	X	FILTER (SAW)	AF

#### TRANSFORMERS

△ T601	RTRNZ0057PEZZ	X	Transformer	AF
▲ △ T602	RTRNFA106WJZZ	X	Flyback Transformer	AW
△ T702	RTRNWA228WJQZ	X	Transformer	AN

#### CAPACITORS

[EL... Electrolytic, M-Poly... Metalized Polypro Film]

C101	VCEA0A0JW108M+	X	1000 6.3V	EL.	AB
C103	VCEA0A1CW108M+	X	1000 16V	EL.	AC
C201	VCKYCY1HB102KY	X	1000p 50V	Ceramic	AA
C202	VCKYCY1HB103KY	X	0.01 50V	Ceramic	AA
C203	VCKYCY1HB102KY	X	1000p 50V	Ceramic	AA
C223	VCKYCY1CF104ZY	X	0.1 16V	Ceramic	AA
C224	VCEA0A1HW474M+	X	0.47 50V	EL.	AA
C225	VCKYCY1CF104ZY	X	0.1 16V	Ceramic	AA
C227	VCEA0A1HW106M+	X	10 50V	EL.	AA
C228	VCKYCY1CF104ZY	X	0.1 16V	Ceramic	AA
C229	VCEA0A1CW477M+	X	470 16V	EL.	AB
C231	VCEA0A1EW476M+	X	47 25V	EL.	AA
C232	VCKYCY1HB222KY	X	2200p 50V	Ceramic	AA
C233	VCEA0A1HW474M+	X	0.47 50V	EL.	AA
C234	VCKYCY1HB103KY	X	0.01 50V	Ceramic	AA
C235	VCEA0A1HW106M+	X	10 50V	EL.	AA
C251	VCKYCY1CF104ZY	X	0.1 16V	Ceramic	AA
C252	VCEA0A1EW476M+	X	47 25V	EL.	AA
C302	VCCCCY1HH151JY	X	150p 50V	Ceramic	AA
C303	VCCCCY1HH330JY	X	33p 50V	Ceramic	AA
C304	VCEA0A1HW475M+	X	4.7 50V	EL.	AA
C306	VCCCCY1HH330JY	X	33p 50V	Ceramic	AA
C307	VCKYCY1CF104ZY	X	0.1 16V	Ceramic	AA
C312	VCEA0A1EW476M+	X	47 25V	EL.	AA
C360	VCEA0A1HW475M+	X	4.7 50V	EL.	AA
C361	VCEA0A1HW105M+	X	1 50V	EL.	AA
C362	VCKYCY1EB223KY	X	0.022 25V	Ceramic	AA
C363	VCKYCY1EB223KY	X	0.022 25V	Ceramic	AA
C364	VCEA0A1EW227M+	X	220 25V	EL.	AB
C365	VCEA0A1HW105M+	X	1 50V	EL.	AA
C366	VCEA0A1HW106M+	X	10 50V	EL.	AA
C367	VCEA0A1VW108M+	X	1000 35V	EL.	AD

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### MAIN UNIT

#### CAPACITORS

[EL... Electrolytic, M-Poly... Metalized Polypro Film]

C368	VCKYPA1HF103Z+	X	0.01	50V	Ceramic	AA
C369	VCEA0A1CW227M+	X	220	16V	EL.	AB
C370	VCEA0A1CW227M+	X	220	16V	EL.	AB
C371	VCEA0A1EW108M+	X	1000	25V	EL.	AC
C372	VCEA0A1EW108M+	X	1000	25V	EL.	AC
C373	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C375	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C429	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C433	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C434	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C435	VCEA0A1HW105M+	X	1	50V	EL.	AA
C436	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C437	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C438	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C439	VCEA0A1HW106M+	X	10	50V	EL.	AA
C440	VCIFYA1HA224J+	X	0.22	50V	Mylar	AB
C451	VCQYTA2AA104K+	X	0.1	100V	Mylar	AB
C452	VCEA0A1EW336M+	X	33	25V	EL.	AA
C471	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C473	VCCCCY1HH331JY	X	330p	50V	Ceramic	AA
C474	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C475	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C476	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C501	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C502	VCEA0A1VW477M+	X	470	35V	EL.	AC
C504	VCEA0A1HC474M+	X	0.47	50V	EL.	AC
C505	VCEA0A1HW474M+	X	0.47	50V	EL.	AA
C506	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C507	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C510	RC-FZ0272CEZZ+	X	0.39	100V	Mylar	AC
C512	VCEA0A1EW476M+	X	47	25V	EL.	AA
C514	VCEA0A1VW107M+	X	100	35V	EL.	AB
C516	VCKYCY1HB472KY	X	100	35V	EL.	AA
C517	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C518	VCQYTA2AA104K+	X	0.1	100V	Mylar	AB
C522	VCIFYA1HA334J+	X	0.33	50V	Mylar	AB
C523	VCEA0A1HW105M+	X	1	50V	EL.	AA
C601	VCEA0A1CW108M+	X	1000	16V	EL.	AC
C602	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C603	VCEA0A1HW225M+	X	2.2	50V	EL.	AA
C604	VCKYCY1EB223KY	X	0.022	25V	Ceramic	AA
C606	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C607	VCKYPA1HB472K+	X	4700p	50V	Ceramic	AA
C608	RC-KZ0033CEZZ	X	150p	2kV	Ceramic	AB
▲ ▲ C609	VCFPVC3ZA173H	X	17000p	1800V	M.Poly.	AD
C610	RC-KZ0006TAZZ	X	270p	2kV	Ceramic	AB
C611	VCEA0A1EW477M+	X	470	25V	EL.	AB
C614	VCEA0A1EW108M+	X	1000	25V	EL.	AC
C615	VCIFYB2EB823J	X	0.082	250V	M.Poly..	AB
C616	VCKYPA2HB471K+	X	470p	500V	Ceramic	AA
C617	VCEA0A1HW474M+	X	0.47	50V	EL.	AA
C622	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C623	VCEA4A2EN106M+	X	10	250V	EL.	AD
C652	VCEA0A1HW476M+	X	47	50V	EL.	AB
C653	VCEA0A1HW106M+	X	10	50V	EL.	AA
C674	VCKYCY1HB391KY	X	390p	50V	Ceramic	AA
C675	VCEA0A1HW106M+	X	10	50V	EL.	AA
C677	RC-FZA178WJZZ	X	4.7	63V	M.Poly.	AF
▲ ▲ C678	VCQPPC2GB563J	X	0.056	400V	Mylar	AC
C681	VCFPFA2EB514J	X	0.51	250V	M.Poly.	AC
C682	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C685	VCQYTA1HM333J+	X	0.033	50V	Mylar	AA
C691	VCQYTA1HM682J+	X	6800P	50V	Mylar	AA

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▲ C701	RC-FZA146WJZZ	X	0.33	AC275V	M.Poly.	AC
C702	RC-KZ0029CEZZ+	X	0.01	AC250V	Ceramic	AB
C703	RC-KZ0029CEZZ+	X	0.01	AC250V	Ceramic	AB
▲ C705	RC-EZ0722CEZZ	X	820	200V	EL.	AL
▲ C706	RC-KZ0089GEZZA	X	1000p	AC250V	Ceramic	AB
▲ C707	RC-KZ0092GEZZA	X	3300p	AC250V	Ceramic	AC
▲ C708	RC-FZA146WJZZ	X	0.33	AC275V	M.Poly.	AC
▲ C723	RC-EZ0724CEZZ	X	100	160V	EL.	AE
▲ C725	RC-EZA065WJZZ	X	330	160V	EL.	AG
C726	RC-KZ0226CEZZ+	X	560p	2kV	Ceramic	AB
C727	RC-KZ0226CEZZ+	X	560p	2kV	Ceramic	AB
C729	VCEA0A1HW106M+	X	10	50V	EL.	AA
C730	VCEA4A1VN108M+	X	1000	35V	EL.	AD
C731	RC-EZ0385CEZZ+	X	1000	16V	EL.	AD
C732	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C733	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C734	VCKYPA2HB471K+	X	470p	500V	Ceramic	AA
C735	VCKYPA2HB471K+	X	470p	500V	Ceramic	AA
C736	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C737	VCEA0A1HW226M+	X	22	50V	EL.	AA
C738	VCFPVC3CA102H	X	1000p	1250V	M.Poly.	AC
C739	RC-EZ0385CEZZ+	X	1000	16V	EL.	AD
C740	VCEA0A1HW476M+	X	47	50V	EL.	AB
C741	VCEA4A2AN105M+	X	1	100V	EL.	AB
C742	VCQYTA1HM683J+	X	68000p	50	Mylar	AB
C743	RC-KZ0036CEZZ+	X	330p	2kV	Ceramic	AC
C744	VCKYPA2HB471K+	X	470p	500V	Ceramic	AA
C745	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C746	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C747	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C750	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C753	RC-KZ0036CEZZ+	X	330p	2kV	Ceramic	AC
C754	VCKYPA2HB472K+	X	4700p	500V	Ceramic	AB
C755	VCEA0A1EW476M+	X	47	25V	EL.	AA
C758	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C780	VCEA0A1HW226M+	X	22	50V	EL.	AA
C781	VCIFYA1HA105J+	X	1	50V	M-Poly.	AC
C782	VCKYCY1HB102KY	X	1000p	50V	Ceramic	AA
C783	VCQYTA1HM103J+	X	0.01	50V	Mylar	AA
C784	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C790	VCEA4W1CN478M	X	10	50 V	EL.	AE
C791	VCKYPA2HB102K+	X	1000p	500V	Ceramic	AA
C801	VCCCCY1HH110JY	X	11p	50V	Ceramic	AA
C802	VCKYCY1HB222KY	X	2200p	50V	Ceramic	AA
C803	VCEA0A1HW224M+	X	0.22	50V	EL.	AA
C804	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C805	VCEA0A0JW108M+	X	1000	6.3V	EL.	AB
C806	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C807	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C808	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C809	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C810	VCEA0A1CW477M+	X	470	16V	EL.	AB
C812	VCQYTA1HM104J+	X	0.1	50V	Mylar	AB
C901	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C902	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C903	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C904	VCEA0A1HW105M+	X	1	50V	EL.	AA
C905	VCEA0A1HW105M+	X	1	50V	EL.	AA
C906	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C907	VCEA0A1HW105M+	X	1	50V	EL.	AA
C908	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C909	VCEA0A1HW105M+	X	1	50V	EL.	AA
C910	VCEA0A1HW105M+	X	1	50V	EL.	AA
C911	VCEA0A1HW105M+	X	1	50V	EL.	AA
C912	VCEA0A1HW105M+	X	1	50V	EL.	AA
C913	VCEA0A1HW105M+	X	1	50V	EL.	AA
C914	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C915	VCKYPA1HF103Z+	X	0.01	50V	Ceramic	AA
C916	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA



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### MAIN UNIT

#### CAPACITORS

[EL... Electrolytic, M-Poly... Metalized Polypro Film]

C917	VCEA0A1HW105M+	X	1	50V	EL.	AA
C918	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C919	VCEA0A1HW105M+	X	1	50V	EL.	AA
C920	VCEA0A1HW105M+	X	1	50V	EL.	AA
C921	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C922	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C923	VCEA0A1CW107M+	X	100	16V	EL.	AA
C926	VCEA0A1EW476M+	X	47	25V	EL.	AA
C928	VCEA0A1HW105M+	X	1	50V	EL.	AA
C930	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C931	VCKYCY1HB183KY	X	0.018	50V	Ceramic	AA
C932	VCKYCY1HB183KY	X	0.018	50V	Ceramic	AA
C933	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C934	VCEA0A1EW476M+	X	47	25V	EL.	AA
C935	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C936	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C937	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C953	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C956	VCEA0A1CW477M+	X	470	16V	EL.	AB
C962	VCCCCY1HH470JY	X	47p	50V	Ceramic	AA
C1101	VCCCCY1HH271JY	X	270p	50V	Ceramic	AA
C1102	VCEA0A0JW108M+	X	1000	6.3V	EL.	AB
C1103	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1104	VCFYFA1HA334J+	X	0.33	50V	Mylar	AB
C1105	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1106	VCFYFA1HA334J+	X	0.33	50V	Mylar	AB
C1107	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1108	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C1109	VCKYCY0JF105ZY	X	1000000pF	6.3V	Ceramic	AA
C1110	VCKYCY1HB102KY	X	1000p	50V	Ceramic	AA
C1111	VCEA0A0JW108M+	X	1000	6.3V	EL.	AB
C1112	VCKYCY0JF105ZY	X	1000000pF	6.3V	Ceramic	AA
C1113	VCEA0A1CW476M+	X	47	16V	EL.	AA
C1114	VCKYCY0JF105ZY	X	1000000pF	6.3V	Ceramic	AA
C1115	VCKYCY0JF105ZY	X	1000000pF	6.3V	Ceramic	AA
C1116	VCEA0A1AW477M+	X	470	10V	EL.	AB
C1117	VCEA0A0JW108M+	X	1000	6.3V	EL.	AB
C1118	VQYTA1HM104J+	X	0.1	50V	Mylar	AB
C1120	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C1434	VCEA0A1EW476M+	X	47	25V	EL.	AA
C1437	VCEA0A1EW476M+	X	47	25V	EL.	AA
C2001	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA
C2002	VCKYCY1HF103ZY	X	0.01	50V	Ceramic	AA
C2025	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA
C2040	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C2041	VCEA0A1HW105M+	X	1	50V	EL.	AA
C2044	VCCCCY1HH100DY	X	10p	50V	Ceramic	AA
C2046	VCEA0A1EW476M+	X	47	25V	EL.	AA
C2047	VCKYCY1CB473KY	X	0.047	16V	Ceramic	AA
C2060	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C2061	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA
C2062	VCEA0A1CW107M+	X	100	16V	EL.	AA
C2063	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C2064	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C2201	VCKYCY1HB681KY	X	680p	50V	Ceramic	AA
C2202	VCCCCY1HH330JY	X	33p	50V	Ceramic	AA
C2601	VCEA0A1EW476M+	X	47	25V	EL.	AA
C2602	VCCCCY1HH101JY	X	100p	50V	Ceramic	AA
C3001	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3002	VCKYCY1HB562KY	X	5600p	50V	Ceramic	AA
C3003	VCKYCY1EB123KY	X	0.012	25V	Ceramic	AA
C3004	VCEA0A1HW105M+	X	1	50V	EL.	AA
C3005	VCEA0A1HW475M+	X	4.7	50V	EL.	AA

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C3006	VCEA0A1HW106M+	X	10	50V	EL.	AA
C3007	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3008	VCKYCY1CF104ZY	X	0.1	16V	Ceramic	AA
C3009	VCEA0A1CW477M+	X	470	16V	EL.	AB
C3010	VCE9GA1HW475M+	X	4.7	50V	EL.	AB
C3011	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3012	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3013	VCKYCY1HB272KY	X	2700p	50V	Ceramic	AA
C3014	VCKYCY1CB473KY	X	0.047	16V	Ceramic	AA
C3015	VCEACA1HC335K+	X	3.3	50V	EL.	AC
C3016	VCE9GA1HW475M+	X	4.7	50V	EL.	AB
C3017	VCEACA1CC106K+	X	10	16V	EL.	AC
C3018	VCEA0A1HW105M+	X	1	50V	EL.	AA
C3019	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3020	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3021	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3022	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3025	VCKYCY1CB473KY	X	0.047	16V	Ceramic	AA
C3027	VCKYCY1CB473KY	X	0.047	16V	Ceramic	AA
C3028	VCKYCY1HB682KY	X	6800p	50V	Ceramic	AA
C3029	VCKYCY1HB682KY	X	6800p	50V	Ceramic	AA
C3036	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3038	VCKYCY1HB102KY	X	1000p	50V	Ceramic	AA
C3039	VCEA0A1HW475M+	X	4.7	50V	EL.	AA
C3040	VCEA0A1AW227M+	X	220	10V	EL.	AB
C3041	VCKYCY1HB102KY	X	1000p	50V	Ceramic	AA
C3043	VCEA0A1CW106M+	X	10	16V	EL.	AA

#### RESISTORS

[M-Ox... Metal Oxide, M-Film ... Metal Film]

RJ7	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ8	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ11	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ12	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ13	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ14	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ16	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ20	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ21	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ23	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ24	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ25	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ30	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ33	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ36	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ38	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ39	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ40	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ42	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ45	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ48	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ50	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
RJ51	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R201	VRS-CY1JF151JY	X	150	1/16W	M-Ox.	AA
R202	VRS-CY1JF122JY	X	1.2k	1/16W	M-Ox.	AA
R203	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R204	VRS-CY1JF270JY	X	27	1/16W	M-Ox.	AA
R205	VRS-CY1JF331JY	X	330	1/16W	M-Ox.	AA
R206	VRD-RA2BE101JY	X	100	1/8W	Carbon	AA
R211	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R212	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R225	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R226	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R227	VRS-CY1JF273JY	X	27k	1/16W	M-Ox.	AA
R232	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R234	VRD-RA2BE271JY	X	270	1/8W	Carbon	AA
R236	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R301	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R305	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R306	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA

Ref. No. Part No. ★ Description Code

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### RESISTORS

[M-Ox. --- Metal Oxide, M-Film --- Metal Film]

R307	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R308	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R355	VRD-RA2BE821JY	X	820	1/8W	Carbon	AA
R361	VRD-RA2BE224JY	X	220k	1/8W	M-Ox.	AA
R362	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R363	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R364	VRD-RA2BE152JY	X	1.5k	1/8W	Carbon	AA
R365	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
△ R367	VRN-RL3DB1R2J+	X	1.2	2W	M-Film	AB
R368	VRD-RA2BE222JY	X	2.2k	1/8W	Carbon	AA
R369	VRD-RA2BE822JY	X	8.2k	1/8W	Carbon	AA
R371	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R372	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R422	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R430	VRS-CY1JF391JY	X	390	1/16W	M-Ox.	AA
R431	VRS-CY1JF331JY	X	330	1/16W	M-Ox.	AA
R432	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R437	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R438	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R439	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
R441	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R442	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R444	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R445	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R446	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R447	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R448	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R449	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R450	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
△ R451	VRS-RG3AB103J+	X	10k	1W	M-Ox.	AB
R452	VRD-RM2HD473JY	X	47k	1/2W	Carbon	AA
R453	VRD-RM2HD223JY	X	22k	1/2W	Carbon	AA
R454	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R456	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R460	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R461	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
R462	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R463	VRD-RA2EE680JY	X	68	1/4W	Carbon	AA
R464	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R467	VRS-CY1JF123JY	X	12k	1/16W	M-Ox.	AA
R471	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R472	VRS-CY1JF273JY	X	27k	1/16W	M-Ox.	AA
R473	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R474	VRS-CY1JF681JY	X	680	1/16W	M-Ox.	AA
R475	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R476	VRS-CY1JF393JY	X	39k	1/16W	M-Ox.	AA
R477	VRS-CY1JF182JY	X	1.8k	1/16W	M-Ox.	AA
R478	VRS-CY1JF151JY	X	150	1/16W	M-Ox.	AA
R479	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R480	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R481	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
R482	VRS-CY1JF100JY	X	10	1/16W	M-Ox.	AA
R483	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
△ R501	VRN-RL3ABR47J+	X	0.47	1W	M-Film	AB
R502	VRN-RA2BK822FY	X	8.2k	1/8W	M-Film	AB
R503	VRS-CY1JF105JY	X	1M	1/16W	M-Ox.	AA
R504	VRS-CY1JF154JY	X	150k	1/16W	M-Ox.	AA
R505	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R510	VRN-RA2BK103FY	X	10k	1/8W	M-Film	AB
R511	VRN-RA2BK222FY	X	2.2k	1/8W	M-Film	AB
R512	VRN-RA2BK272FY	X	2.7k	1/8W	M-Film	AB
R513	VRD-RM2HD1R5JY	X	1.5	1/2W	Carbon	AA
R517	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA

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R518	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R521	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
△ R523	VRN-RL3DBR68J+	X	0.68	2W	M-Film	AB
△ R524	VRS-RG3AB561J+	X	560	1W	M-Ox.	AB
R601	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R603	VRD-RA2BE472JY	X	4.7k	1/8W	Carbon	AA
△ R604	VRS-KA3NG472J	X	4700	7W	M-Ox.	AD
R605	VRD-RM2HD331JY	X	330	1/2W	Carbon	AA
R606	VRD-RM2HD331JY	X	330	1/2W	Carbon	AA
△ R609	VRS-RG3DB332J+	X	3.3k	2W	M-Ox.	AB
R610	VRD-RM2HD150JY	X	15	1/2W	Carbon	AA
R611	VRW-KQ41C3R3K	X	3.3	15W	Cement	AD
△ R612	VRS-CY1JF154JY	X	150k	1/16W	M-Ox.	AA
△ R613	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
△ R614	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
△ R618	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
△ R621	VRN-RL3DB1R5J+	X	1.5	2W	M-Film	AB
△ R622	VRN-RL3ABR47J+	X	0.47	1W	M-Film	AB
△ R623	VRN-RL3ABR47J+	X	4.7	1W	M-Film	AB
△ R624	VRS-RG3DB332J+	X	3.3k	2W	M-Ox.	AB
△ R627	VRN-RL3ABR47J+	X	0.47	1W	M-Film	AB
△ R628	VRN-RL3ABR47J+	X	0.47	1W	M-Film	AB
▲ △ R651	VRS-RG2HC270J+	X	27	1/2W	M-Ox.	AB
▲ △ R652	VRD-RA2EE103GY	X	10k	1/4W	Carbon	AA
▲ △ R653	VRD-RA2EE562GY	X	5.6k	1/4W	Carbon	AA
▲ △ R654	VRD-RA2BE683JY	X	68k	1/8W	Carbon	AA
R663	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R670	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R684	VRD-RA2BE472JY	X	4.7k	1/8W	Carbon	AA
R685	VRD-RA2BE822JY	X	8.2k	1/8W	Carbon	AA
R686	VRD-RA2EE332JY	X	3.3k	1/4W	Carbon	AA
R687	VRD-RA2BE103JY	X	10k	1/8W	Carbon	AA
△ R688	VRN-RL3DB3R3J+	X	3.3	2W	M-Film	AB
R689	VRD-RM2HD824JY	X	820k	1/2W	Carbon	AA
△ R690	VRS-RG3LB122J+	X	1.2k	3W	M-Ox.	AB
R691	VRS-CY1JF394JY	X	390k	1/16W	M-Ox.	AA
R692	VRS-CY1JF153JY	X	15k	1/16W	M-Ox.	AA
R693	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R694	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R695	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R696	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R697	VRS-CY1JF684JY	X	680k	1/16W	M-Ox.	AA
R698	VRS-CY1JF335JY	X	3.3M	1/16W	M-Ox.	AA
△ R701	RR-DZ0049CEZZY	X	3.9M	1/2W	Solid	AB
△ R703	VRW-KQ4AC1R2K	X	1.2	10W	Cement	AD
△ R705	VRN-RL3DBR15J+	X	0.15	2W	M-Film	AB
△ R706	VRN-RL3DBR15J+	X	0.15	2W	M-Film	AB
R707	VRD-RM2HD270JY	X	27	1/2W	Carbon	AA
R708	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R709	VRS-CY1JF393JY	X	39k	1/16W	M-Ox.	AA
△ R710	VRS-RG2HC103J+	X	10k	1/2W	M-Ox.	AB
R711	VRS-CY1JF334JY	X	330k	1/16W	M-Ox.	AA
R712	VRD-RM2HD100JY	X	10	1/2W	Carbon	AA
△ R713	VRS-RG2HC152J+	X	1.5k	1/2W	M-Ox.	AB
R714	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R715	VRS-RG2HC560J+	X	56	1/2W	M-Ox.	AB
R716	VRD-RM2HD100JY	X	10	1/2W	Carbon	AA
R720	VRD-RA2BE473JY	X	47k	1/8W	Carbon	AA
R724	VRD-RM2HD101JY	X	100	1/2W	Carbon	AA
R725	VRD-RM2HD152JY	X	1.5k	1/2W	Carbon	AA
R734	VRD-RM2HD124JY	X	120k	1/2W	Carbon	AA
△ R737	VRN-RL3LBR82J+	X	0.82	3W	M-Film	AC
R743	VRD-RM2HD470JY	X	47	1/2W	Carbon	AA
R744	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R745	VRD-RA2BE683JY	X	68k	1/8W	Carbon	AA
R750	VRS-CY1JF224JY	X	220k	1/16W	M-Ox.	AA
R751	VRD-RA2BE473JY	X	47k	1/8W	Carbon	AA
R752	VRD-RA2BE392JY	X	3.9k	1/8W	Carbon	AA
R753	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA

Ref. No. Part No. ★ Description Code

## PWB-A: DUNTKD571WEB0 MAIN UNIT

### RESISTORS

[M-Ox. --- Metal Oxide, M-Film --- Metal Film]

△ R754	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R755	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R756	VRD-RA2BE152JY	X	1.5k	1/8W	Carbon	AA
△ R757	VRN-RL3DB4R7J+	X	4.7	2W	M-Film	AB
R759	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R761	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R762	VRD-RA2EE151JY	X	150	1/4W	Carbon	AA
R764	VRD-RM2HD332JY	X	3.3k	1/2W	Carbon	AA
R767	VRD-RM2HD151JY	X	150	1/2W	Carbon	AA
R768	VRD-RA2BE393JY	X	39k	1/8W	Carbon	AA
R775	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R776	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R778	VRS-RG3AB181J+	X	180	1W	M-Ox.	AB
R781	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R782	VRS-CY1JF393JY	X	39k	1/16W	M-Ox.	AA
R784	VRS-RG3AB391J+	X	390	1W	M-Ox.	AB
R801	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R802	VRS-CY1JF471JY	X	470	1/16W	M-Ox.	AA
R803	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R805	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R806	VRS-CY1JF681JY	X	680	1/16W	M-Ox.	AA
R807	VRS-CY1JF681JY	X	680	1/16W	M-Ox.	AA
R808	VRS-CY1JF681JY	X	680	1/16W	M-Ox.	AA
R810	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R903	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R904	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R905	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R906	VRD-RA2BE332JY	X	3.3k	1/8W	Carbon	AA
R907	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
R908	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R910	VRD-RA2BE102JY	X	1k	1/8W	Carbon	AA
R911	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R912	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R913	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R914	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
R915	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R916	VRS-CY1JF683JY	X	68k	1/16W	M-Ox.	AA
R917	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R918	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R922	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R923	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R924	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R925	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R926	VRS-CY1JF680JY	X	68	1/16W	M-Ox.	AA
R927	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R929	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R930	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R931	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R932	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R933	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R934	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R935	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R936	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R937	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R938	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R939	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R940	VRS-CY1JF8R2JY	X	8.2	1/16W	M-Ox.	AA
R941	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R942	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R943	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R944	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R945	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R946	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA

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R947	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R948	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R949	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R950	VRS-CY1JF560JY	X	56	1/16W	M-Ox.	AA
R951	VRD-RA2BE680JY	X	68	1/8W	Carbon	AA
R952	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R953	VRS-CY1JF220JY	X	22	1/16W	M-Ox.	AA
R954	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R955	VRS-CY1JF221JY	X	220	1/16W	M-Ox.	AA
R957	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R958	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R959	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R960	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R961	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R962	VRS-CY1JF272JY	X	2.7k	1/16W	M-Ox.	AA
R963	VRD-RA2BE101JY	X	100	1/8W	Carbon	AA
R964	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R967	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R968	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R969	VRS-CY1JF472FY	X	4.7k	1/16W	M-Ox.	AA
R970	VRD-RA2BE6R8JY	X	6.8	1/8W	Carbon	AA
R971	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R972	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R973	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R974	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R975	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R982	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R983	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R984	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R1101	VRS-CY1JF393JY	X	39k	1/16W	M-Ox.	AA
R1102	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
R1103	VRS-CY1JF470JY	X	47	1/16W	M-Ox.	AA
R1104	VRS-CY1JF393JY	X	39k	1/16W	M-Ox.	AA
R1105	VRS-CY1JF393JY	X	39k	1/16W	M-Ox.	AA
R1106	VRS-CY1JF333FY	X	33k	1/16W	M-Ox.	AA
R1107	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R1108	VRS-CY1JF333FY	X	33k	1/16W	M-Ox.	AA
R1109	VRS-CY1JF153FY	X	15k	1/16W	M-Ox.	AA
R1111	VRS-CY1JF104FY	X	100k	1/16W	M-Ox.	AA
R1112	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1113	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1114	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1115	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1116	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1118	VRS-CY1JF470JY	X	47	1/16W	M-Ox.	AA
R1119	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1120	VRS-CY1JF470JY	X	47	1/16W	M-Ox.	AA
R1121	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1122	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1123	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1124	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1125	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1126	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1128	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1130	QJUM-2001CEFWY	X	Jumper Wire			—
R1131	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1132	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R1136	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
R1137	VRS-CY1JF823JY	X	82k	1/16W	M-Ox.	AA
R1140	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R1141	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R1142	VRS-CY1JF750JY	X	75	1/16W	M-Ox.	AA
R1143	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
R1144	VRS-CY1JF104JY	X	100k	1/16W	M-Ox.	AA
R1145	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
△ R1420	VRN-RL3LB2R7J+	X	2.7	3W	M-Film	AC
R2001	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2004	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2008	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA



Ref. No. Part No. ★ Description Code

## PWB-A: DUNTKD571WEB0 MAIN UNIT

### RESISTORS

[M-Ox. --- Metal Oxide, M-Film --- Metal Film]

R2010	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2013	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R2021	VRS-CY1JF334JY	X	330k	1/16W	M-Ox.	AA
R2023	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2024	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R2025	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R2026	VRS-CY1JF472JY	X	4.7k	1/16W	M-Ox.	AA
R2027	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2028	VRD-RA2BE102JY	X	1k	1/8W	Carbon	AA
R2031	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R2032	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2033	VRS-CY1JF334JY	X	330k	1/16W	M-Ox.	AA
R2034	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2040	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2041	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R2042	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2043	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	AA
R2045	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R2046	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2047	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2048	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
R2051	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2054	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R2060	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2061	VRS-CY1JF562JY	X	5.6k	1/16W	M-Ox.	AA
R2062	VRS-CY1JF223JY	X	22k	1/16W	M-Ox.	AA
R2063	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R2064	VRS-CY1JF332JY	X	3.3k	1/16W	M-Ox.	AA
R2084	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2085	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2086	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2087	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2088	VRS-CY1JF224JY	X	220k	1/16W	M-Ox.	AA
R2089	VRS-CY1JF273JY	X	27k	1/16W	M-Ox.	AA
R2090	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R2092	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2093	VRS-CY1JF224JY	X	220k	1/16W	M-Ox.	AA
R2094	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R2095	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2096	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2101	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2102	VRS-CY1JF101JY	X	100	1/16W	M-Ox.	AA
R2201	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R2202	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2203	VRS-CY1JF473JY	X	47k	1/16W	M-Ox.	AA
R2211	VRS-CY1JF222JY	X	2.2k	1/16W	M-Ox.	AA
R2212	VRS-CY1JF682JY	X	6.8k	1/16W	M-Ox.	AA
R2213	VRS-CY1JF333JY	X	33k	1/16W	M-Ox.	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	M-Ox.	AA
R2502	VRS-CY1JF183JY	X	18k	1/16W	M-Ox.	AA
R2503	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	AA
R2504	VRS-CY1JF103JY	X	10k	1/16W	M-Ox.	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	00	1/16W	M-Ox.	AA
R2601	VRD-RA2BE100JY	X	10	1/8W	Carbon	AA
R2603	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA

Ref. No.	Part No.	★	Description	Code
R2605	VRS-CY1JF000JY	X	00 1/16W	M-Ox. AA
R2606	VRS-CY1JF000JY	X	00 1/16W	M-Ox. AA
R3001	VRS-CY1JF221JY	X	220 1/16W	M-Ox. AA
R3002	VRS-CY1JF221JY	X	220 1/16W	M-Ox. AA
R3003	VRS-CY1JF105JY	X	1M 1/16W	M-Ox. AA
R3004	VRS-CY1JF104JY	X	100k 1/16W	M-Ox. AA
R3005	VRS-CY1JF623JY	X	62k 1/16W	M-Ox. AA
R3007	VRS-CY1JF332JY	X	3.3k 1/16W	M-Ox. AA
R3008	VRS-CY1JF302JY	X	3k 1/16W	M-Ox. AA
R3010	VRS-CY1JF392JY	X	3.9k 1/16W	M-Ox. AA
R3011	VRS-CY1JF102JY	X	1k 1/16W	M-Ox. AA
R3012	VRS-CY1JF102JY	X	1k 1/16W	M-Ox. AA
R3017	VRS-CY1JF102JY	X	1k 1/16W	M-Ox. AA
R3018	VRS-CY1JF102JY	X	1k 1/16W	M-Ox. AA
R3024	VRD-RA2BE102JY	X	1k 1/8W	Carbon AA
R3027	VRS-CY1JF000JY	X	00 1/16W	M-Ox. AA
R3029	VRS-CY1JF153JY	X	15k 1/16W	M-Ox. AA
R3030	VRS-CY1JF473JY	X	47k 1/16W	M-Ox. AA
R3031	VRS-CY1JF474JY	X	470k 1/16W	M-Ox. AA
R3032	VRS-CY1JF102JY	X	1k 1/16W	M-Ox. AA
R3033	VRS-CY1JF474JY	X	470k 1/16W	M-Ox. AA
R3034	VRS-CY1JF000JY	X	00 1/16W	M-Ox. AA
R3035	VRS-CY1JF102JY	X	1k 1/16W	M-Ox. AA
R3036	VRS-CY1JF102JY	X	1k 1/16W	M-Ox. AA
R3037	VRS-CY1JF153JY	X	15k 1/16W	M-Ox. AA
R3038	VRS-CY1JF473JY	X	47k 1/16W	M-Ox. AA
R3039	VRS-CY1JF102JY	X	1k 1/16W	M-Ox. AA

### SWITCHES

S2501	QSW-K0003AJZZ+	X	Push button switch	AB
S2502	QSW-K0003AJZZ+	X	Push button switch	AB
S2503	QSW-K0003AJZZ+	X	Push button switch	AB
S2504	QSW-K0003AJZZ+	X	Push button switch	AB
S2505	QSW-K0003AJZZ+	X	Push button switch	AB
S2506	QSW-K0003AJZZ+	X	Push button switch	AB

### FERRITE BEAD

FB601	RBLN-0047CEZZY	X	Ferrite Bead	AB
FB706	RBLN-0037CEZZY	X	Ferrite Bead	AA
FB707	RBLN-0020CEZZ+	X	Ferrite Bead	AB
FB1103	RBLN-0210TAZZY	X	Ferrite Bead	AB
FB1104	RBLN-0210TAZZY	X	Ferrite Bead	AB
FB2001	RBLN-0037CEZZY	X	Ferrite Bead	AA

### MISCELLANEOUS PARTS

△ ACC701	QACCD012WJPZ	X	AC Cord	AH
△ F701	QFS-B4023CEZZ	X	FUSE - 4A 125V	AC
FH701	QFSDH1013CEZZ+	X	FUSE CLIP	AA
FH702	QFSDH1014CEZZ+	X	FUSE CLIP	AA
J904	QJAKGA023WJZZ	X	JACK (A/V)	AD
J921	QSODC0456CEZZ	X	Socket, S-Video	AD
J1401	QTANJ1101SEZZ	X	AV In/Out Terminal	AH
P361	QPLGN0461CEZZA	X	plug,4pin(S1-4)	AB
P401	QPLGN0861CEZZA	X	plug,8pin(CJ)	AC
P601	QPLGN0161FJZZ	X	plug 6Pin(K1-6)	AD
P621	QPLGN0761CEZZA	X	plug,7pin(N)	AC
P651	QPLGN0361CEZZA	X	plug,3pin (TP651-3)	AB
P702	QPLGN0269GEZZ	X	plug 2pin(P1-2)	AB
P703	QPLGN0260CEZZ	X	plug 2pin(M1-2)	AB
P721	QPLGN0461CEZZA	X	plug,4pin(S1-4)	AB
P722	QPLGN0461CEZZA	X	plug,4pin(S1-4)	AB
P1101	QPLGN0561CEZZA	X	plug 5Pin(KA)	AB
P2401	QPLGN0661CEZZA	X	plug,6pin	AB
RDA361	PRDAR0258PEFW	X	Heat Sink	AE
RDA501	PRDARA039WJFW	X	Heat Sink	AF
RDA601	PRDARA041WJFW	X	Heat Sink	AF
RDA671	PRDARA057WJFW	X	Heat Sink	AE
RDA701	PRDAR0279PEFW	X	Heat Sink	AD
RDA750	PRDAR5072CEFW	X	Heat Sink	AC
RDA1101	PRDAR5072CEFW	X	Heat Sink	AC
RDA1102	PRDAR5072CEFW	X	Heat Sink	AC
RDA1403	PRDAR5072CEFW	X	Heat Sink	AC

Ref. No.	Part No.	★ Description	Code
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**PWB-A: DUNTKD571WEB0****MAIN UNIT****MISCELLANEOUS PARTS**

RY701	RRLYJ0081CEZZ	X	Relay	AE
RY702	RRLYJ0088CEZZ	X	Relay	AE
TP701	QLUGP0102PEZZ	X	Test point	AA
RMC2601	RRMCA022WJZZ	X	R/C Receiver	AE

**PWB-B: DUNTKA527WEE4****CRT UNIT****INTEGRATED CIRCUITS**

△ IC850	VHITDA6103Q-1	X	TDA6103Q/N3	AK
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**TRANSISTORS**

Q850	VS2SA1266-Y-1+	X	2SA1266(Y)	AA
Q851	VS2SC3198-G-1+	X	2SC3198-G	AA
Q1504	VS2SC3198-G-1+	X	2SC3198-G	AA
Q1505	VS2SA1266-Y-1+	X	2SA1266(Y)	AA
Q1506	VS2SA2005++1E	X	2SA2005E	AD
Q1507	VS2SC5511++1E	X	2SC5511E	AD

**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	Diode	AA
D855	VHD1SS119//-1Y	X	Diode	AA
D862	VHD1SS119//-1Y	X	Diode	AA
D1502	VHD1SS119//-1Y	X	Diode	AA
D1503	VHD1SS119//-1Y	X	Diode	AA
D1506	RH-DX0487CEZZY	X	Diode	AC
D1507	RH-DX0487CEZZY	X	Diode	AC
D1510	VHD1SS119//-1Y	X	Diode	AA

**CAPACITORS****[EL... Electrolytic, M-Poly... Metalized Polyprop Film]**

C850	VCFYSB2EB224K	X	0.22 250V	M.Poly.	AC
C851	RC-KZ018JCEZZ	X	0.01 AC250V	Ceramic	AB
C852	VCEA0A1CW107M+	X	100 16V	EL.	AA
C853	VCFYFA1HA224J+	X	0.22 50V	Mylar	AB
C854	VCEA0A1CW227M+	X	220 16V	EL.	AB
C855	VCEA0A2EW106M+	X	10 250V	EL.	AC
C856	VCEA0A1HW226M+	X	22 50V	EL.	AA
C1501	VCEA0A1CW476M+	X	47 16V	EL.	AA
C1506	VCKYPA1HF103Z+	X	0.01 50V	Ceramic	AA
C1508	VCKYPA2HB472K+	X	4700p 500V	Ceramic	AB
C1509	VCKYPA1HB472K+	X	4700p 50V	Ceramic	AA
C1510	VCKYPA1HF103Z+	X	0.01 50V	Ceramic	AA
C1511	VCKYPA1HF103Z+	X	0.01 50V	Ceramic	AA
C1515	VCEA0A1HW476M+	X	47 50V	EL.	AB
C1516	VCEA0A1HW476M+	X	47 50V	EL.	AB
C1517	VCEA0A2AW106M+	X	10 100V	EL.	AB
C1518	VCCSPA2HL560K+	X	56p 500V	Ceramic	AB
C1519	VCEA0A2CW106M+	X	10 160V	EL.	AC

**RESISTORS****[M-Ox... Metal Oxide, M-Film ... Metal Film]**

△ R850	VRS-SV2HC152J	X	1.5k 1/2W	M-Ox.	AA
△ R851	VRS-SV2HC152J	X	1.5k 1/2W	M-Ox.	AA
△ R852	VRS-SV2HC152J	X	1.5k 1/2W	M-Ox.	AA
△ R853	VRS-SV2HC272J	X	2.7k 1/2W	M-Ox.	AA
△ R854	VRS-SV2HC272J	X	2.7k 1/2W	M-Ox.	AA
△ R855	VRS-SV2HC272J	X	2.7k 1/2W	M-Ox.	AA
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

Ref. No.	Part No.	★ Description	Code
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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	M-Ox.	AA
△ R868	VRS-SV2HC682J	X	6.8k 1/2W	M-Ox.	AA
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	M-Ox.	AA
R1511	VRD-RA2BE101JY	X	100 1/8W	Carbon	AA
△ R1513	VRS-VV3DB561J	X	560 2W	M-Ox.	AA
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	M-Ox.	AA
R1530	VRD-RA2BE122JY	X	1.2k 1/8W	Carbon	AA

**FERRITE BEAD**

FB1501	RBLN-0020CEZZ+	X	Ferrite Bead	AB
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**MISCELLANEOUS PARTS**

P854	QPLGN0741CEZZ	X	plug (7 pins)	AB
P860	QPLGN0841CEZZ	X	plug (8 pins)	AB
△ P861	QPLGN0241CEZZ	X	plug (2 PINS)	AA
△ RDA850	PRDAR0248PEFW	X	Heat Sink	AD
RDA1506	PRDAR5072CEFW	X	Heat Sink	AC
RDA1507	PRDAR5072CEFW	X	Heat Sink	AC
SC850	QSOCV1011CEZZ	X	CRT Socket	AE

**PWB-D: DUNTKB572WEV0****2 LINE Y/C UNIT****INTEGRATED CIRCUITS**

IC1401	VHITC90A45F-1Y	X	TC90A45AF	AM
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**TRANSISTORS**

Q1401	VS2SD601AR/-1Y	X	2SD601AR	AB
Q1402	VS2SD601AR/-1Y	X	2SD601AR	AB
Q1404	VS2SB709AR/-1Y	X	2SB709AR	AB

**FILTERS AND COILS**

L1401	VP-XF100K0000Y	X	Peaking,10mH	AA
L1402	VP-XF100K0000Y	X	Peaking,10mH	AA
L1403	VP-XF100K0000Y	X	Peaking,10mH	AA
L1404	VP-XF220K0000Y	X	Peaking,22mH	AA
L1405	VP-XF220K0000Y	X	Peaking,22mH	AA
L1408	VP-XF100K0000Y	X	Peaking,10mH	AA

**CAPACITORS****[EL... Electrolytic, M-Poly... Metalized Polyprop Film]**

C1401	VCKYCY1HB103KY	X	0.01 50V	Ceramic	AA
C1402	VCEA0A1AW227M+	X	220 10V	EL.	AB
C1403	VCCCCY1HH330JY	X	33p 50V	Ceramic	AA
C1404	VCCCCY1HH181JY	X	180p 50V	Ceramic	AA
C1405	VCKYCY1HB103KY	X	0.01 50V	Ceramic	AA
C1406	VCKYCY1HB103KY	X	0.01 50V	Ceramic	AA
C1407	VCKYCY1HB103KY	X	0.01 50V	Ceramic	AA

Ref. No. Part No. ★ Description Code

## PWB-D: DUNTKB572WEV0 2 LINE Y/C UNIT

### CAPACITORS

#### [EL... Electrolytic, M-Poly... Metalized Polypro Film]

C1408	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C1409	VCEA0A1CW476M+	X	47	16V	EL.	AA
C1410	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C1411	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C1412	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C1413	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C1414	VCE9GA1HW105M+	X	1	50V	EL.	AB
C1415	VCCCCY1HH120JY	X	12p	50V	Ceramic	AA
C1416	VCCCCY1HH3R0CY	X	3p	50V	Ceramic	AA
C1417	VCCCCY1HH270JY	X	27p	50V	Ceramic	AA
C1418	VCCCCY1HH120JY	X	12p	50V	Ceramic	AA
C1419	VCCCCY1HH3R0CY	X	3p	50V	Ceramic	AA
C1420	VCCCCY1HH270JY	X	27p	50V	Ceramic	AA
C1423	VCFYFA1HA474J+	X	0.47	50V	Mylar	AB
C1424	VCEA0A1CW107M+	X	100	16V	EL.	AA
C1425	VCCCCY1HH820JY	X	82p	50V	Ceramic	AA
C1429	VCEA0A1CW107M+	X	100	16V	EL.	AA
C1430	VCKYCY1CB104KY	X	0.1	16V	Ceramic	AA
C1431	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA
C1432	VCKYCY1HB103KY	X	0.01	50V	Ceramic	AA

### RESISTORS

#### [M-Ox... Metal Oxide, M-Film ... Metal Film]

R1401	VRS-CY1JF821JY	X	820	1/16W	M-Ox.	AA
R1402	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R1403	VRS-CY1JF361JY	X	360	1/16W	M-Ox.	AA
R1415	VRS-CY1JF391JY	X	390	1/16W	M-Ox.	AA
R1416	VRS-CY1JF102JY	X	1k	1/16W	M-Ox.	AA
R1417	VRS-CY1JF152JY	X	1.5k	1/16W	M-Ox.	AA
R1421	VRS-CY1JF152FY	X	1.5k	1/16W	M-Ox.	AA
R1423	VRS-CY1JF102FY	X	1k	1/16W	M-Ox.	AA
R1427	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R1428	VRD-RA2BE332JY	X	3.3k	1/8W	Carbon	AA
R1429	VRS-CY1JF000JY	X	00	1/16W	M-Ox.	AA
R1430	VRS-CY1JF151JY	X	150	1/16W	M-Ox.	AA

### MISCELLANEOUS PARTS

P1401	QPLGZ0810CEZZ	X	plug 32"	AD
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## MISCELLANEOUS PARTS

SP1	VSP1206PB708A	X	speaker	AL
SP2	VSP1206PB708A	X	speaker	AL
	QCNW-B174WJZZ	X	Wire (SPEAKER)	AF
	QCNW-B175WJZZ	X	Wire (CJ)	AE
	QCNW-B176WJZZ	X	Wire (N)	AE

## SUPPLIED ACCESSORIES

TINS-C432WJZZ	X	OPERATION MANUAL	AG
RRMCGA447WJSA	X	Infrared R-C Unit	AT
TGAN-A216WJN1	X	WARRANTY CARD	AC

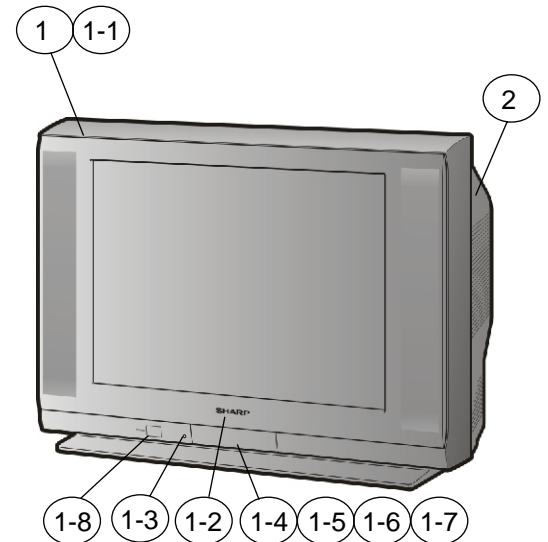
Ref. No. Part No. ★ Description Code

## PACKING PARTS (NOT REPLACEMENT ITEM)

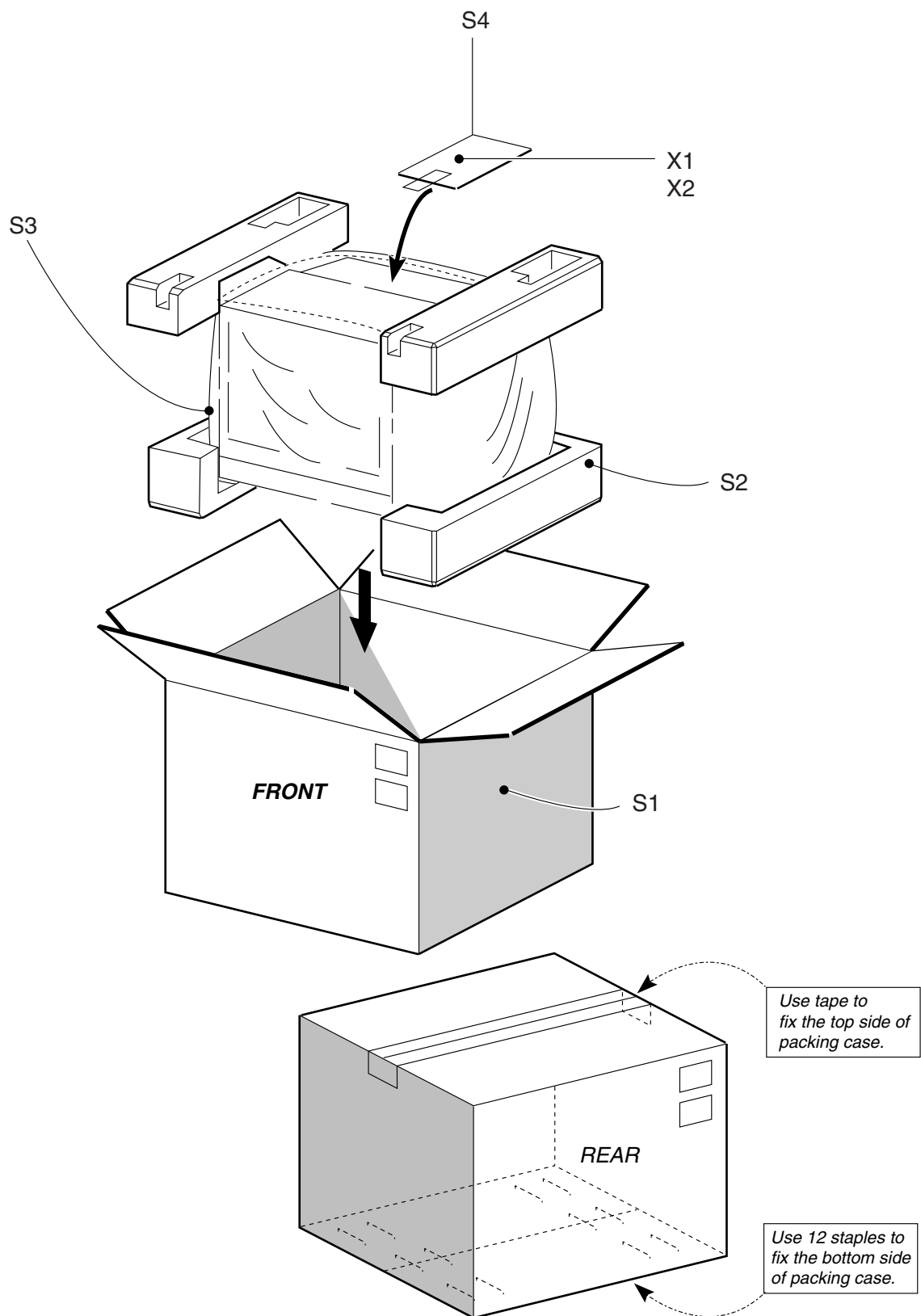
SPAKCC632WJZZ	X	Packing Case	BC
SPAKP0110GJZZ	X	Buffer Material	AG
SPAKXA190WJZZ	X	Wrapping Sheet	AY
SSAKA0101GJZZ	X	Wrapping Sack	AC

## CABINET PARTS

1	CCABAB401WEH0	X	Front Cabinet Ass'y	BN
1-1	Not Available		Front Cabinet	
1-2	HBDGB3141CESA	X	BADGE	AF
1-3	GCOVAA343WJSA	X	R/C COVER	AE
1-4	GCOVHA017WJKZ	X	COVER	AE
1-5	GDORFA034WJKB	X	DOOR (LM315 COLOR)	
1-6	MSPRPA012WJFW	X	SPRING (DOOR)	AB
1-7	HINDPA311WJSA	X	INDICATION PLATE	AE
1-8	JBTN-A119WJKB	X	BUTTON (LM315 COLOR)	
2	GCABBA836WJKA	X	REAR CABINET	BM



## PACKING OF THE SET





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J B

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