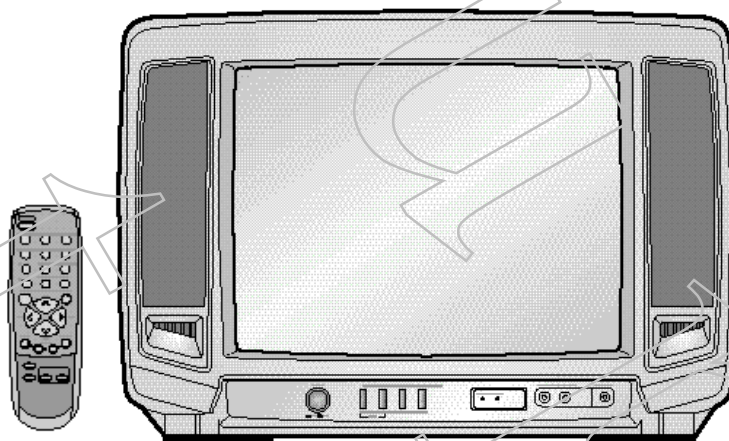


JVC

SERVICE MANUAL

COLOR TELEVISION

C-T2021



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SPECIFICATIONS

Items	Contents
Dimensions (W×H×D)	60.0cm×48.0cm×44.6cm
Mass	38.6lbs / 17.5kg
TV System and Color system	
TV RF System	CCIR(M) & (N)
Color System	NTSC-M / PAL-M / PAL-N
TV Receiving Channels and Frequency	
VHF	2-13
UHF	14-69
CATV	
Low Band	02-06
High Band	07-13
Mid Band	14-22
Super Band	23-36
Hyper Band	37-64
Ultra Band	65-94 , 100-125
Sub Mid Band	01 , 96-99
TV/CATV Total Channel	180 Channels
Intermediate Frequency	
Video IF Carrier	45.75 MHz
Sound IF Carrier	41.25 MHz (4.5MHz)
Color Sub Carrier	
	NTSC : 3.579545MHz
	PAL-M : 3.57561149MHz
	PAL-N : 3.58205625MHz
Power Input	RATING:110V-240V AC, 50Hz / 60Hz OPERATING: 100V-260V AC, 50Hz / 60Hz
Power Consumption	70W
Picture Tube	20"
Speaker	4-1/4" x 1-3/4", 4 ohm
Audio Power Output	1.5W + 1.5 W
Input (1 / 2)	Video : 1Vp-p 75ohm (RCA pin jack) Audio : -8dB, 47kohm (RCA pin jack)
Antenna terminal	75Ω (VHF/UHF) Terminal, F-Type Connector
Remote Control Unit	X-076N0DW030

Design & specification are subject to change without notice.

SAFETY PRECAUTIONS

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES


As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.

Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a  mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.

Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.

Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the external exposure metal [Note 2] should be more than 1M ohm by using the 500V insulation resistance meter [Note 1].
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Earphone jack

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

1. MODEL NUMBER and VERSION LETTER

The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.

2. PART NO. and DESCRIPTION

You can find it in your SERVICE MANUAL.

IMPORTANT

Inferior silicon grease can damage IC's and transistors.

When replacing an IC's or transistors, use only specified silicon grease (YG6260M).

Remove all old silicon before applying new silicon.

SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY INSTRUCTIONS

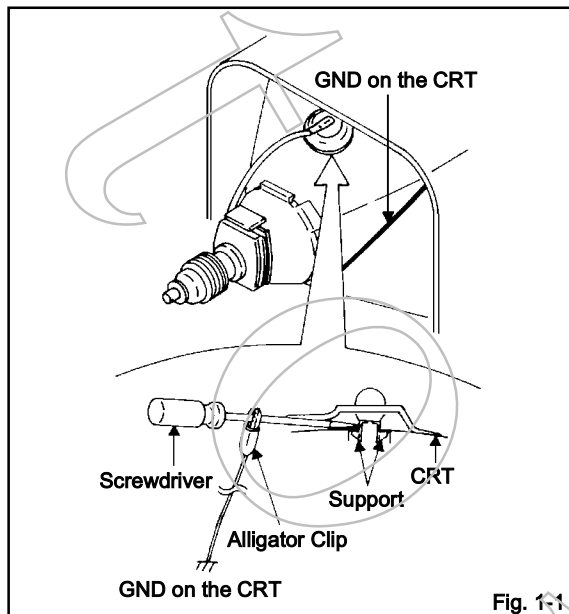
1. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

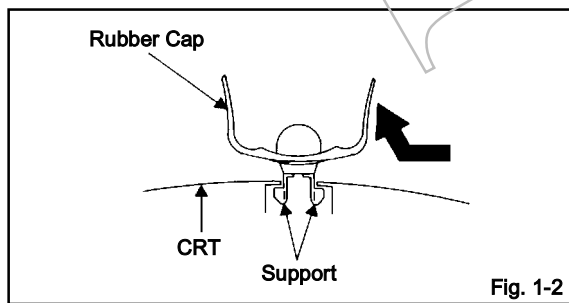
- * After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- * Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap.
(Refer to Fig. 1-1.)
Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground. While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver. A cracking noise will be heard as the voltage is discharged.



2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support.
(Refer to Fig. 1-2.)



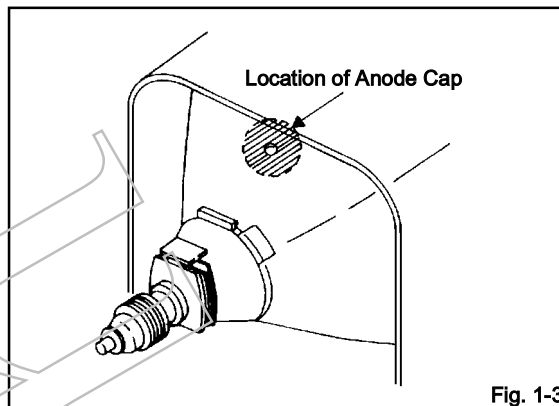
3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

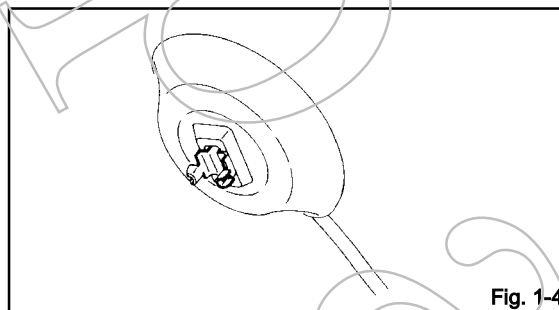
1. Clean the spot where the cap was located with a small amount of alcohol. (Refer to Fig. 1-3.)



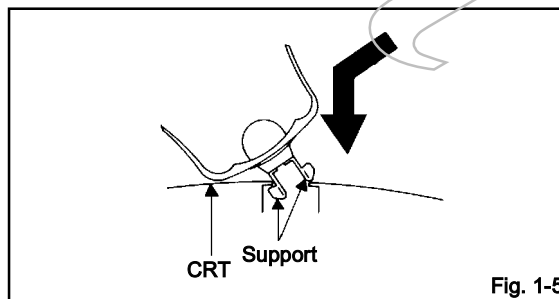
NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. (Refer to Fig. 1-4.)



4. Insert one end of the Anode Support into the anode button then the other as shown in Fig. 1-5.



5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter SERVICE MODE, unplug AC cord till lost actual clock time. Then press and hold Vol (-) button of main unit and remocon key for more than 1 second.

The both pressing of set key and remote control key will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 90 seconds before Power On.

Set Key	Remocon Key	Operations
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF USING HOURS". Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "NOTE FOR THE REPLACING OF MEMORY IC".
VOL. (-) MIN	8	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

CONFIRMATION OF USING HOURS

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

NOTE: The confirmation of using hours will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 90 seconds before Power On.

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button (6) on the remote control for more than 1 second.
3. After the confirmation of using hours, turn off the power.

ADDRESS		DATA	
INIT	00	83	Initial setting content of MEMORY IC.
CRT ON	0010		POWER ON total hours. = (16 x 16 x 16 x thousands digit value) + (16 x 16 x hundreds digit value) + (16 x tens digit value) + (ones digit value)

FIG. 1

NOTE FOR THE REPLACING OF MEMORY IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE:

1. Initial Data setting will not be possible if clock has been set. To reset clock, either unplug AC cord and allow at least 90 seconds before Power On.
2. No need setting for after INI 4F.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	90	DA	28	51	00	00	10	01	10	FF	FF	FF	FF	FF	FF	FF
10	03	0A	0A	11	17	20	28	2C	30	34	38	3C	40	44	4C	4E
20	51	55	56	57	58	59	5A	5B	5C	5D	5E	5F	60	61	62	62
30	63	63	64	65	66	67	69	6A	6B	6C	6D	6E	6F	70	71	72
40	74	75	76	77	78	79	7A	7B	7C	7D	7D	7E	7F	7F	7F	7F

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button (6) on the remote control for more than 1 second. ADDRESS and DATA should appear as FIG 1.
3. ADDRESS is now selected and should "blink". Using the VOL. UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using VOL. UP/DOWN button until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input. The unit will now have the correct DATA for the new MEMORY IC.

SERVICE ADJUSTMENT

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
Inferior silicon grease can damage IC's and transistors.
- When replacing IC's and transistors, use only specified silicon grease.
Remove all old silicon before applying new silicon.

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter

On-Screen Display Adjustment

1. Unplug the AC plug for more than 90 seconds to set the clock to the non-setting state. Then, set the volume level to minimum.
2. Press the VOL. DOWN button on the set and the Channel button (9) on the remote control for more than 1 second to appear the adjustment mode on the screen as shown in Fig. 1-1.

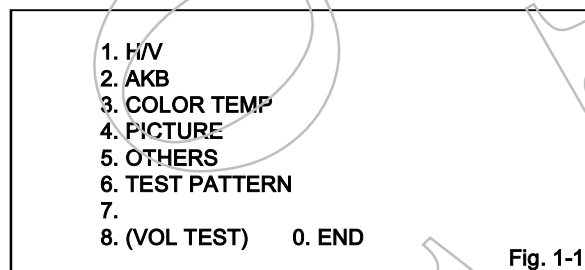


Fig. 1-1

3. Use the Channel button (1-8) on the remote control to select the options shown in Fig. 1-1.
4. Press the channel button (0) or MENU button on the remote control to end the adjustments.

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Place the set with Aging Test for more than 15 minutes.
2. Using the remote control, set the brightness and contrast to normal position.
3. Connect the digital voltmeter to TP401.
4. Set condition is AV MODE without signal.
5. Adjust the VR501 until the digital voltmeter is $134 \pm 0.5V$.

2-2: VCO FREERUN

1. Receive the VHF LOW.
2. Disconnect the Antenna while receiving the VHF LOW and set to the Noise screen.
3. Once turn off the Power and turn on the Power again.
4. Approx. 3 seconds later, input the Antenna again.
5. Connect the digital voltmeter to TP201.
6. Adjust the L204 until the digital voltmeter is $3.6 \pm 0.05V$.

2-3: RF AGC DELAY

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the VHF LOW (64dB).
3. Connect the digital voltmeter between the pin 5 of CP101 and the pin 1 (GND) of CP101.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (5) on the remote control to select "OTHERS". The Fig. 2-1 appears on the display.
5. Press the channel button (1) on the remote control to select "RF AGC DELAY".
6. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is $2.5 \pm 0.05V$.

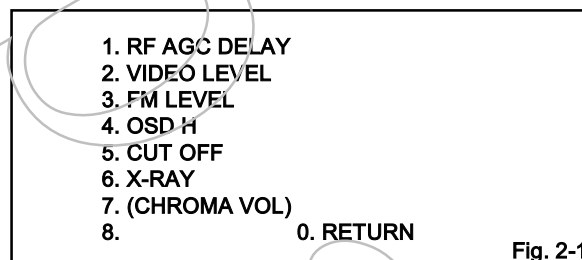


Fig. 2-1

2-4: FOCUS

1. Receive the monoscope pattern.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the Focus Volume until picture is distinct.

2-5: CUT OFF

1. Place the set with Aging Test for more than 15 minutes.
2. Set condition is AV MODE without signal.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (5) on the remote control to select "OTHERS". The Fig. 2-1 appears on the display.
5. Press the channel button (5) on the remote control to select "CUT OFF".
6. Adjust the Screen Volume until a dim raster is obtained.

ELECTRICAL ADJUSTMENTS

2-6: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the white 100% signal from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (2) on the remote control to select "AKB". The **Fig. 2-2** appears on the display.
5. Press the channel button (2) on the remote control to select the "R.BIAS".
6. Using the VOL. UP/DOWN button on the remote control, adjust the R.BIAS.
7. Press the CH. UP/DOWN button on the remote control to select the "G.BIAS", "B.BIAS", "R.DRIVE", "G.DRIVE" or "B.DRIVE".
8. Using the VOL. UP/DOWN button on the remote control, adjust the G.BIAS, B.BIAS, R.DRIVE, G.DRIVE or B.DRIVE.
9. Perform the above adjustments 7 and 8 until the white color is looked like a white.

- 1.
2. R.BIAS
3. G.BIAS
4. B.BIAS
5. R.DRIVE
6. G.DRIVE
7. B.DRIVE
8. AGC AUTO
0. RETURN

Fig. 2-2

2-7: HORIZONTAL PHASE

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (1) on the remote control to select "H/V". The **Fig. 2-3** appears on the display.
4. Press the channel button (1) on the remote control to select "H. PHASE 50/60".
5. Press the VOL. UP/DOWN button on the remote control until the right and left screen size of the vertical line becomes the same.
6. Receive the center cross signal of NTSC. Then perform the above adjustments 2~5.

1. H. PHASE 50/60
2. H. BLK
3. V. SIZE 50/60
4. V. POSI 50/60
5. V. LIN 50/60
6. V. SC 50/60
7. V. COMP
8. (H FREQ)
0. RETURN

Fig. 2-3

2-8: VERTICAL LINEARITY

NOTE: Adjust after performing adjustments in section 2-7.

1. Receive the cross hatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (1) on the remote control to select "H/V". The **Fig. 2-3** appears on the display.
4. Press the channel button (5) on the remote control to select "V. LIN 50/60".
5. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.
6. Receive the cross hatch signal of NTSC. Then perform the above adjustments 2~5.

2-9: VERTICAL POSITION

NOTE: Adjust after performing adjustments in section 2-8.

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (1) on the remote control to select "H/V". The **Fig. 2-3** appears on the display.
4. Press the channel button (4) on the remote control to select "V. POSI 50/60".
5. Adjust the **VR401** until the horizontal line becomes fit to the notch of the shadow mask.

2-10: VERTICAL SIZE

NOTE: Adjust after performing adjustments in section 2-9.

1. Receive the cross hatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (1) on the remote control to select "H/V". The **Fig. 2-3** appears on the display.
4. Press the channel button (3) on the remote control to select "V. SIZE 50/60".
5. Press the VOL. UP/DOWN button on the remote control until the rectangle on the center of the screen becomes square.
6. Receive a broadcast and check if the picture is normal.
7. Receive the cross hatch signal of NTSC. Then perform the above adjustments 2~6.

ELECTRICAL ADJUSTMENTS

2-11: OSD HORIZONTAL

1. Using the remote control, set brightness and contrast to normal position.
2. Activate the adjustment mode display of Fig. 1-1 and press the channel button (5) on the remote control to select "OTHERS". The Fig. 2-1 appears on the display.
3. Press the channel button (4) on the remote control to select "OSD H".
4. Press the VOL. UP/DOWN on the remote control until the difference of A and B becomes minimum. (Refer to Fig. 2-4)

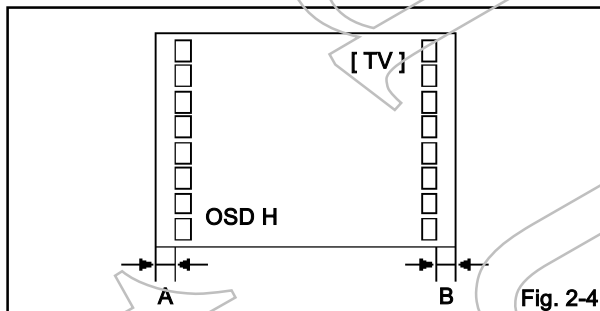


Fig. 2-4

2-12: SUB BRIGHTNESS

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the monoscope pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (4) on the remote control to select "PICTURE". The Fig. 2-5 appears on the display.
5. Press the channel button (1) on the remote control to select "BRIGHT".
6. Press the VOL. UP/DOWN button on the remote control until the white 10% is starting to be visible.
7. Receive the monoscope pattern. (Audio Video Input)
8. Press the TV/AV button on the remote control to set to the AV mode. Then perform the above adjustments 3~6.

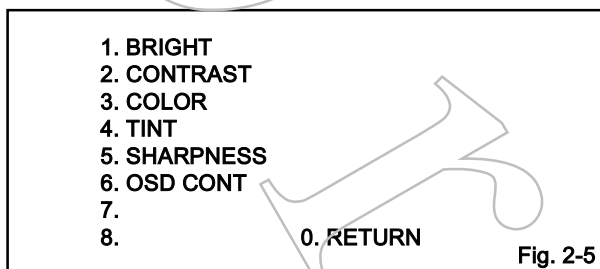


Fig. 2-5

2-13: SUB TINT/SUB COLOR

1. Receive the color bar pattern of NTSC. (RF Input)
2. Connect the oscilloscope to TP803.
3. Activate the adjustment mode display of Fig. 1-1 and press the channel button (4) on the remote control to select "PICTURE". The Fig. 2-5 appears on the display.
4. Press the channel button (4) on the remote control to select "TINT".
5. Press the VOL. UP/DOWN button on the remote control until the waveform becomes as shown in Fig. 2-6.
6. Connect the oscilloscope to TP801.
7. Press the CH DOWN button 1 time to set to "COLOR" mode.
8. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 110% of the white level. (Refer to Fig. 2-7)
9. Receive the color bar pattern of NTSC. (Audio Video Input)
10. Press the TV/AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~8.

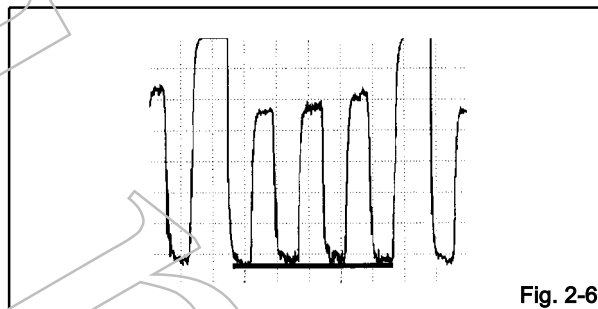


Fig. 2-6

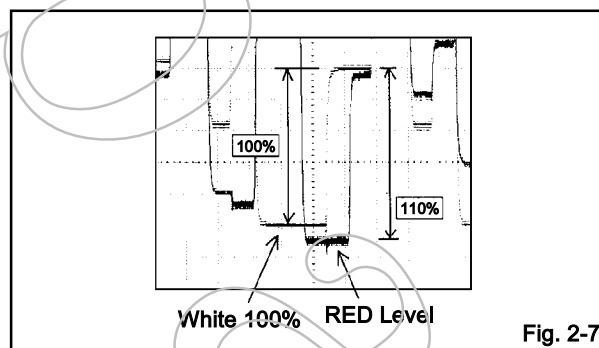
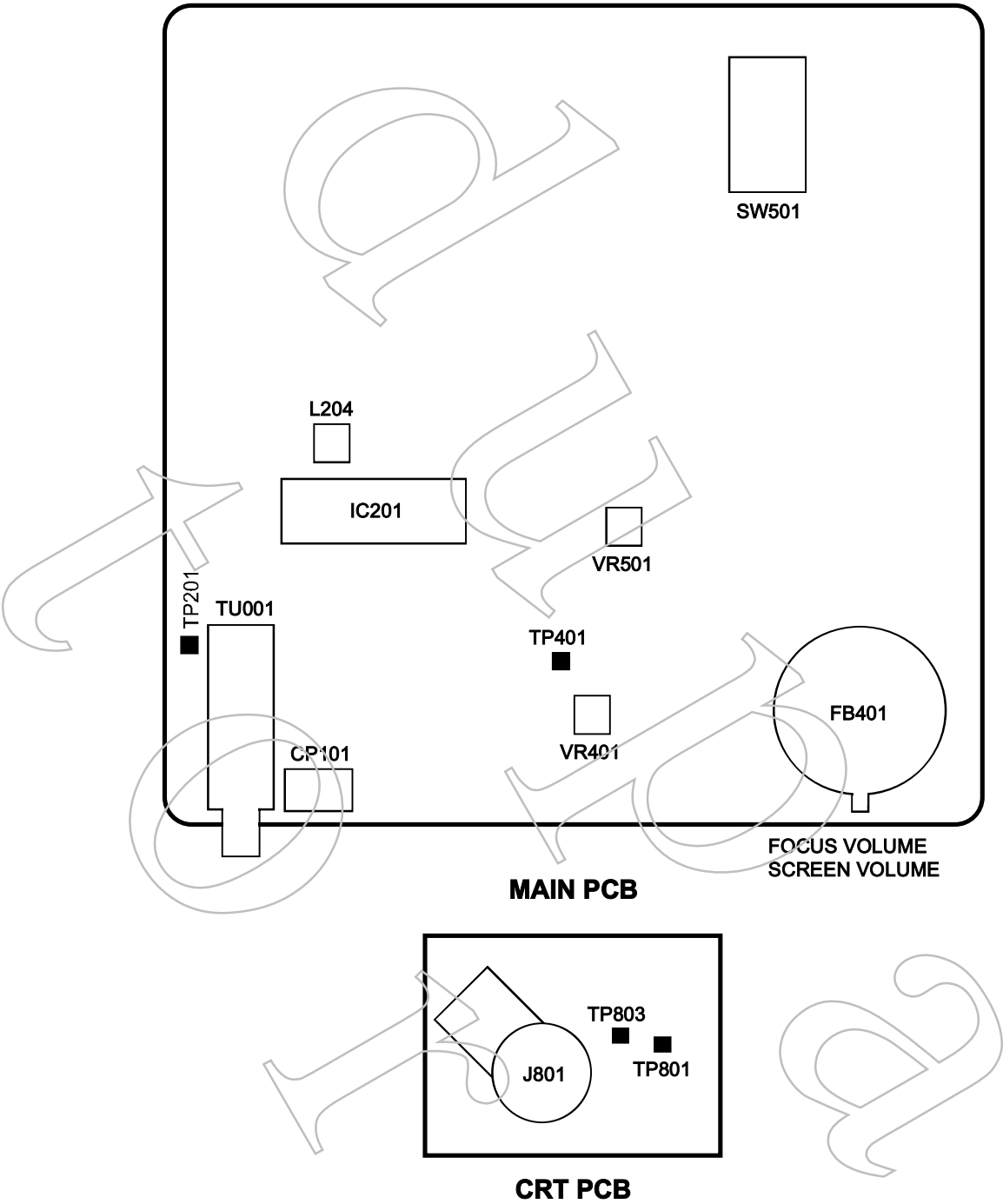


Fig. 2-7

ELECTRICAL ADJUSTMENTS

3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE



ELECTRICAL ADJUSTMENTS

4. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

4-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. (Refer to Fig. 4-1)
If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnelside of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

4-2: PURITY

NOTE

Adjust after performing adjustments in section 4-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

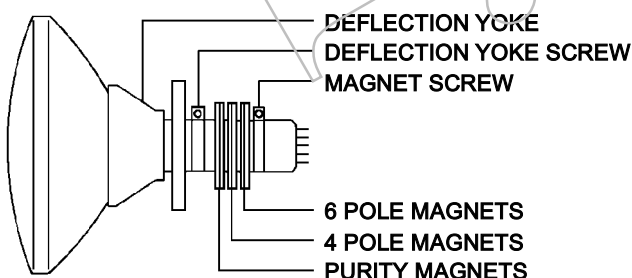


Fig. 4-1

4-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 4-2.

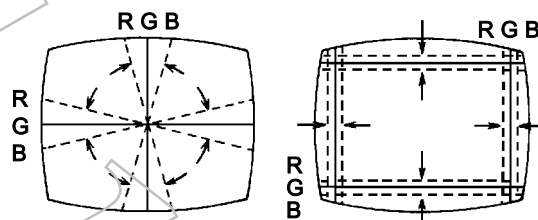
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

4-4: DYNAMIC CONVERGENCE

NOTE

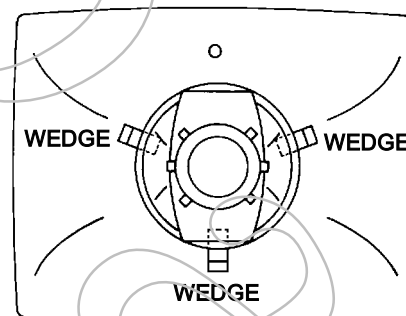
Adjust after performing adjustments in section 4-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. (Refer to Fig. 4-2-a)
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. (Refer to Fig. 4-2-b)



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 4-2-a



WEDGE POSITION

Fig. 4-2-b

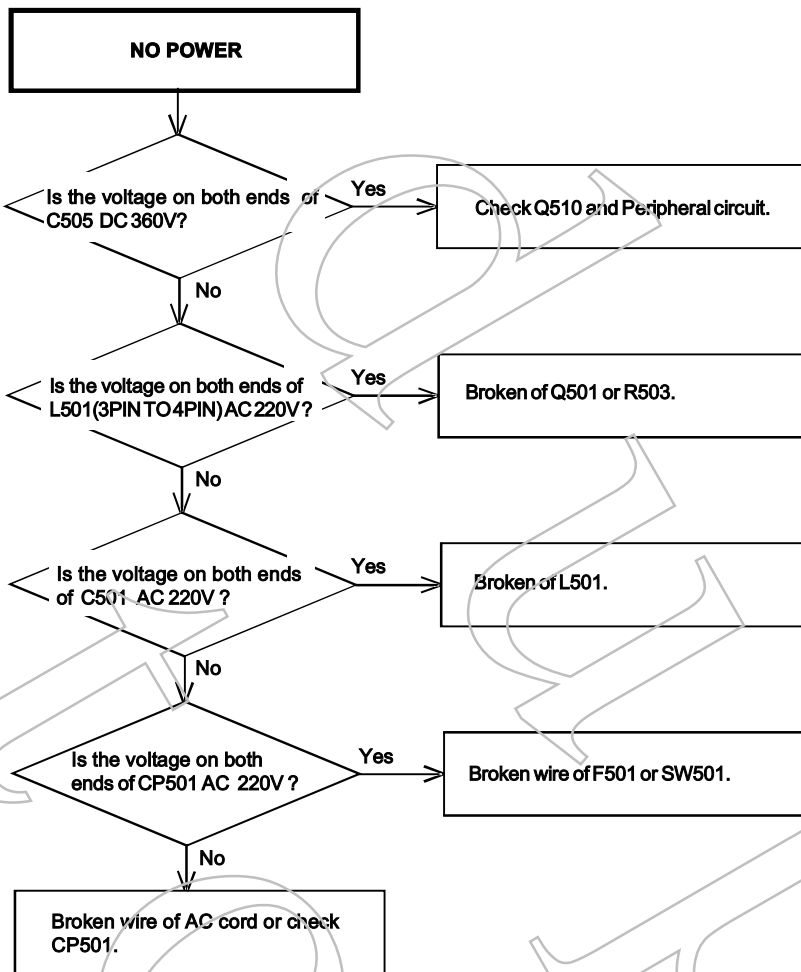
GUIDE FOR REPAIRING

IC DESCRIPTION

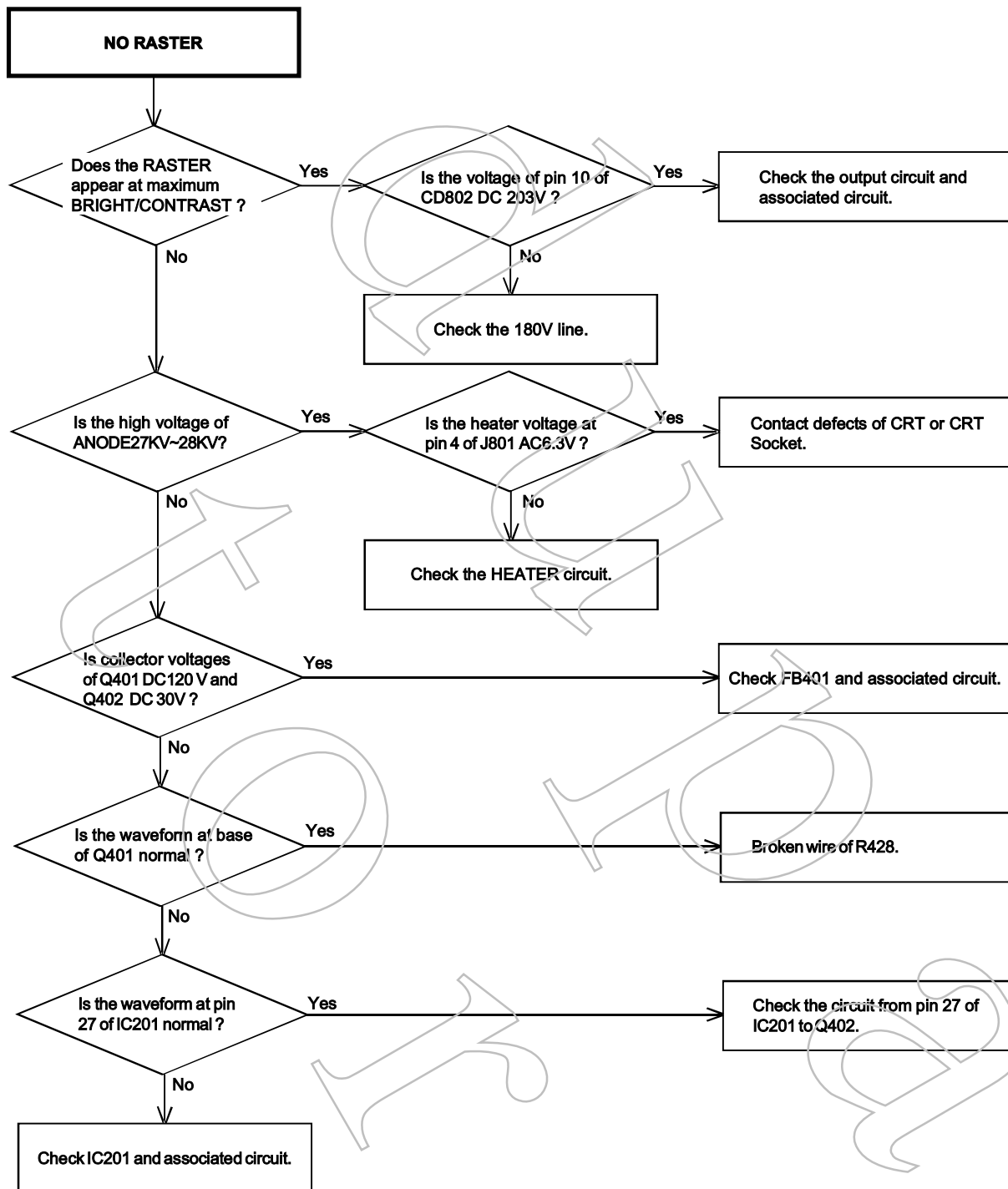
OEC3048A

No.	Port	Pin Name	I/O	Logic	Description
1	SDA0	SDA	I/O	1	Input/Output Data terminal for I2CBUS communication.
2	SCL0	SCL	OUT	1	Output Clock terminal for I2CBUS communication.
3	SDA1	—	I/O	—	Not used.
4	SCL1	—	OUT	—	Not used.
5	VSS	VSS	—		Negative power supply (Ground)
6	XT1	XT1	IN		Connect the main crystal (32.768kHz).
7	XT2	XT2	OUT		Connect the main crystal (32.768kHz).
8	VDD	VDD	—		Positive power supply (BACK_UP +5V)
9	AN4	key_A	IN		Main unit key input.
10	AN5	key_B	IN		
11	AN6	AFT	IN		AFT S.CURVE input for monitor tuner.
12	AN7	X-RAY IN	IN		X-RAY detection input (nom. 0V)
13	/RES	/RES	IN	0	System reset voltage input
14	FILT	FILTER	IN		Filter input for the Closed Caption
15	CVIN	CVIN	IN		Picture signal input for the Closed Caption (1Vp-p)
16	P30	SD	IN	0	Synchronization detector input
17	/VS	/VS	IN	0	Horizontal synchronization input
18	/HS	/HS	IN	0	Vertical synchronization input
19	R	R	OUT	1	Red output of RGB image output
20	G	G	OUT	1	Green output of RGB image output
21	B	B	OUT	1	Blue output of RGB image output
22	BL	BL	OUT	1	Fast blanking control signal
23	P31	IIC OFF	IN	0	Serial clock/data stop input
24	P32	ON TIMER	OUT	1	Output terminal control for ON_TIMER-LED voltage drive.
25	INT0	POWER FAIL	IN	0	Input for AC power.
26	INT1	X-RAY	OUT	1	X-RAY test output
27	P72	AKB DRIVE	OUT	1	Output signal to Adjustment of AKB WHITE
28	INT3	REMOCON	IN	0	Receive the remote control signal input.
29	P14	SPOT OFF	OUT	0	Output High at turning off a television.
30	PWM2	VOLUME FWN	OUT	1	Output signal to PWM output for volume control
31	P16	AV1	OUT	—	Output terminal for control AV_SW_IC (TUNER,AV1,AV2)
32	P17	AV2	OUT	—	
33	P00	POWER	OUT	1	For control of the user power switch ON/OFF.
34	P01	MUTE	OUT	0	Mute signal of TV mute.
35	P02	STAND BY	OUT	1	Output terminal control for STAND-BY-LED voltage drive.
36	P03	DEGAUSS-H	OUT	1	Degauss output

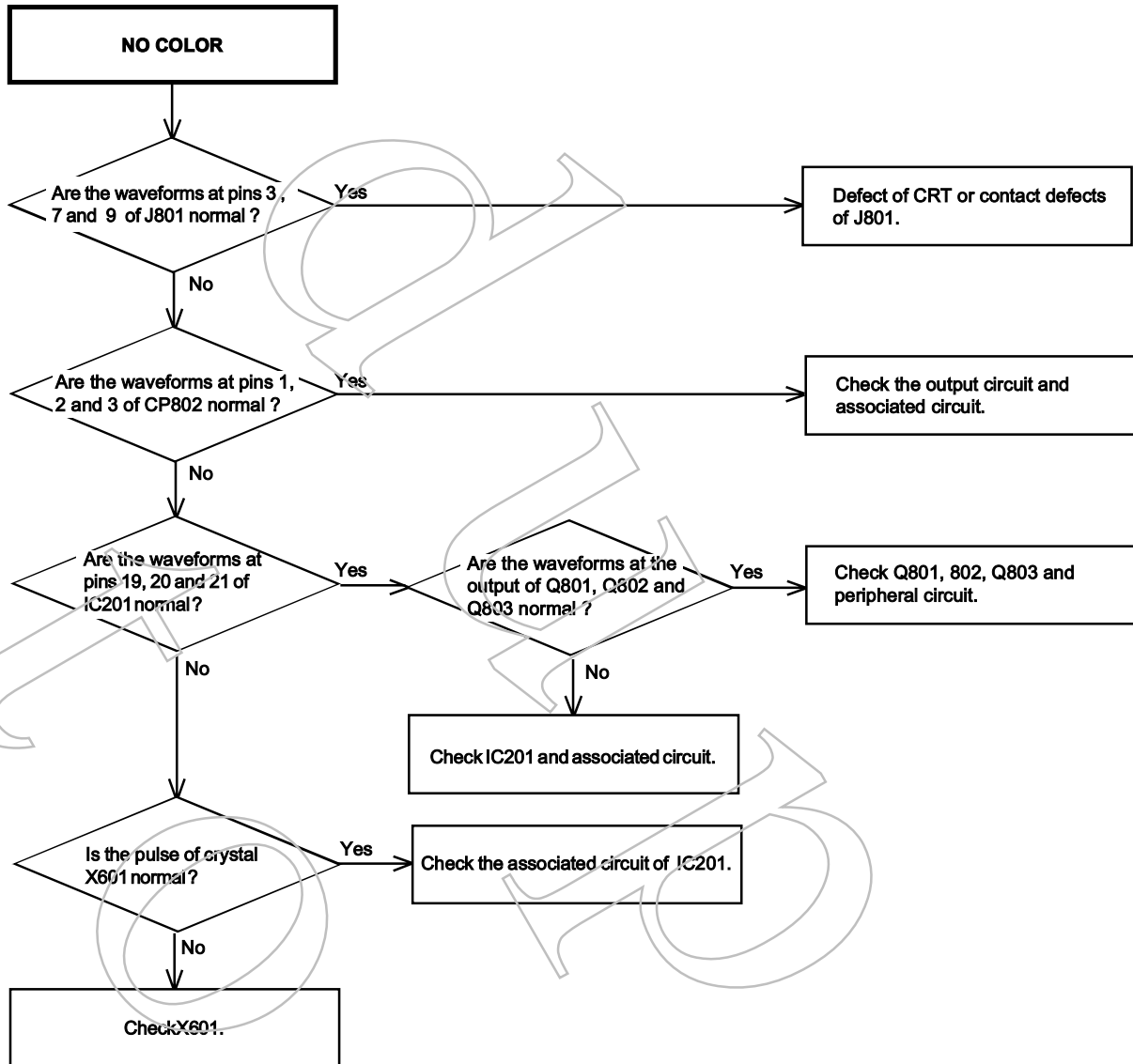
TROUBLESHOOTING GUIDE



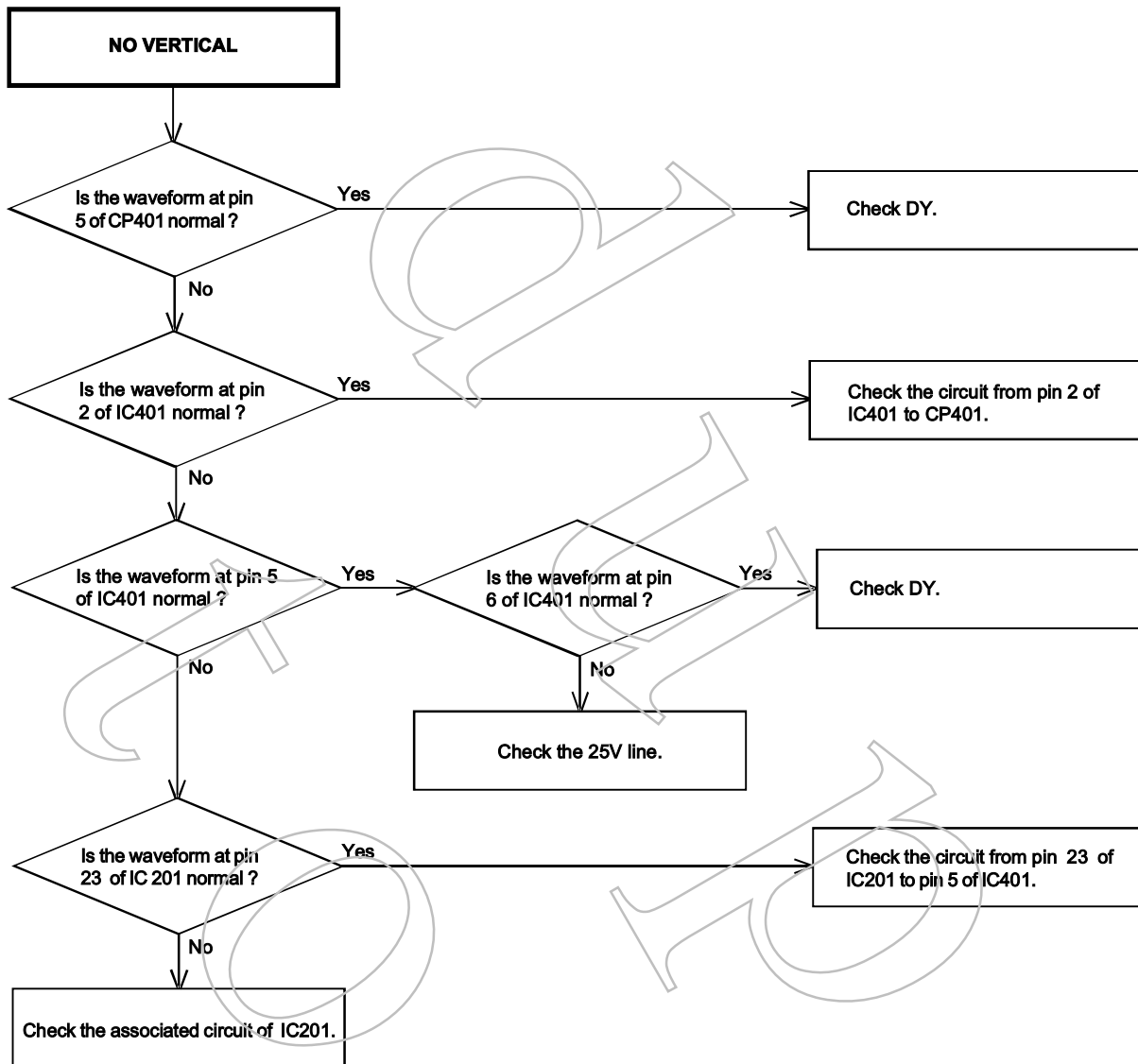
TROUBLESHOOTING GUIDE



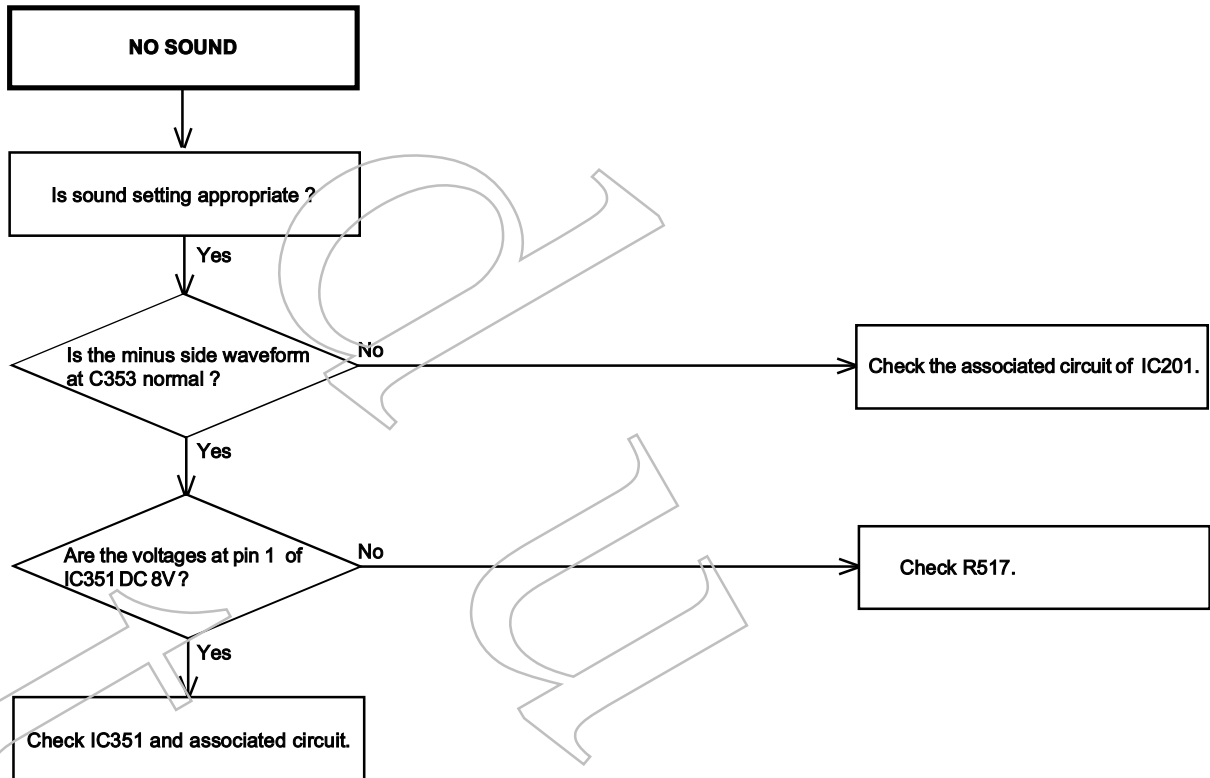
TROUBLESHOOTING GUIDE



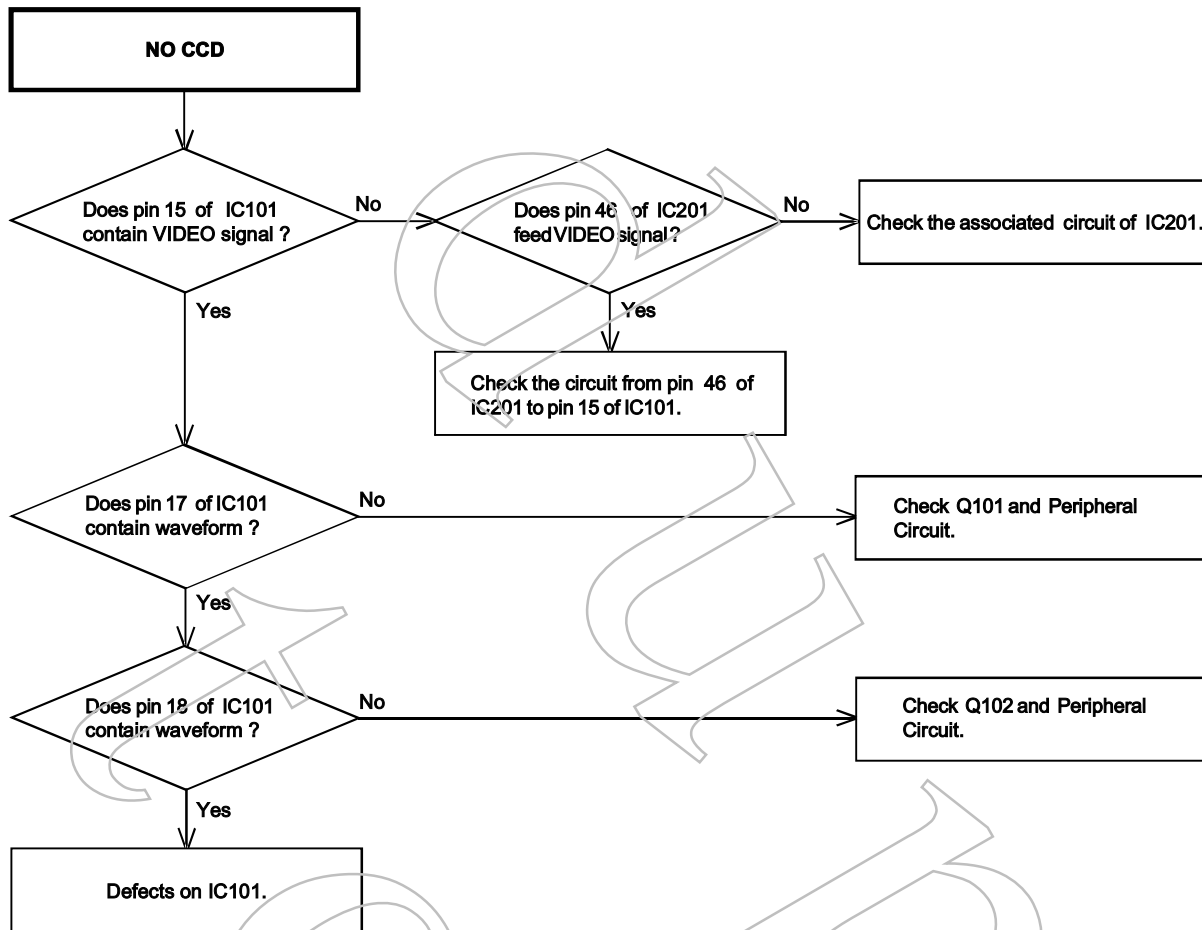
TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE



SPECIFICATIONS

Model	C-T1421	C-T2021
AC Power Input:	110V-240V 50Hz/60Hz (Rating), 100V-260V 50Hz/60Hz (Operating)	
AC Power Consumption:	44 Watts	70 Watts
TV Color System:	PAL-M, PAL-N, NTSC-M	
Picture Tube:	33.6 cm (measured diagonally)	48 cm (measured diagonally)
Audio Power Output Rating:	0.75+0.75 Watts (monaural)	1.5 + 1.5. Watts (monaural)
Speaker:	10.8 cm x 4.5 cm Full Range, 8 ohm x 2	10.8 cm x 4.5 cm Full Range, 4 ohm x 2
Input:	Video: 1.0Vp-p 75 ohm Audio: 300 mV, 47K ohm	
EARPHONE jack:	3.5 mm ø x 1	
Tuner Type:	181 Channel, Quartz PLL Frequency Synthesized	
Remote Control:	Infrared, Direct Access, 2 x AAA batteries	
Receiving Channels:	VHF 2-13 UHF 14-69 CATV 01-97 (5A)-(A-3) 98-99 (A-2)-(A-1) 14-22 (A)-(I) 23-36 (J)-(W) 37-65 (AA)-(FFF) 66-125 (GGG)-(125)	
Antenna Input Impedance:	75 Ohm (VHF/UHF/CATV) Coaxial Input	
Dimensions:	46 cm (W) x 36.3 cm (D) x 31.8 cm (H)	60 cm (W) x 48 cm (D) x 44.6 cm (H)
Weight:	9.5 kg	17.5 kg

ACCESSORIES:

Remote Control
AAA Batteries x 2
300-75 ohm Matching Transformer
Telescopic Antenna (C-T1421 only)

Specifications are subject to change without notice.

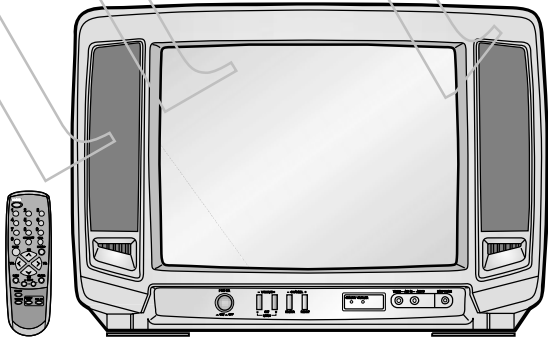
JVC

VICTOR COMPANY OF JAPAN LIMITED

JVC

COLOR TELEVISION
USER'S GUIDE

For models:
C-T1421
C-T2021

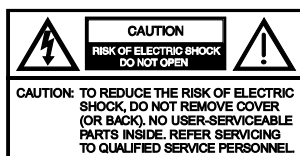


IMPORTANT NOTE TO THE CUSTOMER:

In the space below, enter the serial number for your television (located on the rear of the television cabinet).
Staple your sales receipt or invoice to the inside cover of this guide.
Keep this user's guide in a convenient place for future reference.
Keep the carton and original packaging for future use.

Serial Number





The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance with the FCC Rules could void the user's authority to operate this equipment.

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

IMPORTANT SAFEGUARDS

1. READ INSTRUCTIONS

All the safety and operating instructions should be read before the unit is operated.

2. RETAIN INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

3. HEED WARNINGS

All warnings on the unit and in the operating instructions should be adhered to.

4. FOLLOW INSTRUCTIONS

All operating and use instructions should be followed.

5. CLEANING

Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning the exterior cabinet only.

6. ATTACHMENTS

The manufacturer of this unit does not make any recommendations for attachments, as they may cause hazards.

7. WATER AND MOISTURE

Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

8. ACCESSORIES

Do not place this unit on an unstable cart, stand, tripod, bracket, or table.

The unit may fall, causing serious injury, and serious damage to the unit.

8A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. VENTILATION

Slots and openings in the cabinet back or bottom are provided for ventilation, and to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

10. POWER SOURCE

This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.

11. GROUNDING OR POLARIZATION

This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug, if your unit is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

PORTABLE CART WARNING
(symbol provided by RETAC)



83126A

13. LIGHTNING

To protect your unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.

14. POWER LINES

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

15. OVERLOADING

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

16. OBJECT AND LIQUID ENTRY

Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.

17. OUTDOOR ANTENNA GROUNDING

If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

18. SERVICING

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. DAMAGE REQUIRING SERVICE

Unplug this unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the unit.
- If the unit has been exposed to rain or water.
- If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
- If the unit has been dropped or the cabinet has been damaged.
- If the unit exhibits a distinct change in performance, this indicates a need for service.

20. REPLACEMENT PARTS

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original part.

Unauthorized substitutions may result in fire, electric shock or other hazards.

21. SAFETY CHECK

Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

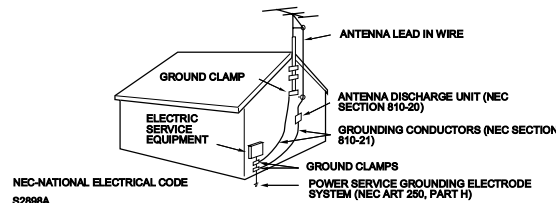
22. HEAT

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

23. NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

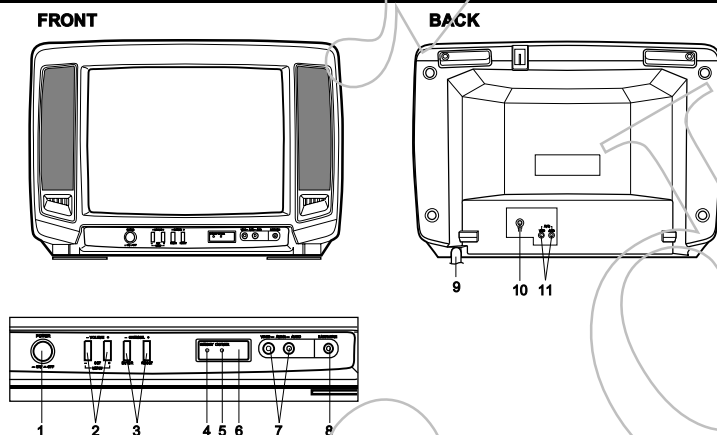
EXAMPLE OF ANTENNA GROUNDING AS PER THE NATIONAL ELECTRICAL CODE



FEATURES

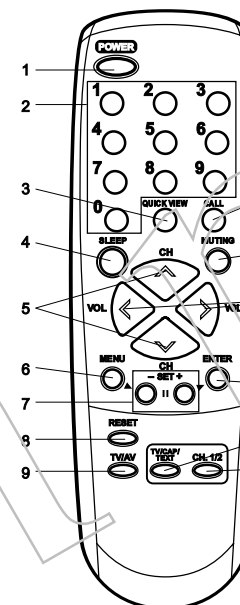
- **181 Channel Tuner** - The tuning system is capable of receiving all 68 VHF/UHF standard broadcast channels that are available in your area. When operating on a cable system, it can tune to the standard VHF channel frequencies plus up to 113 cable channel frequencies. The actual number of channels received depends upon channel reception in your area or your cable system.
- **On-Screen 3 Language Display** - This TV can display the on screen language in English, Spanish or Portuguese.
- **ON/OFF Timer** - Allows you to automatically turn on or off your TV at a set time.
- **Sleep Timer** - Operable from the remote control, this TV can be programmed up to 120 minutes to turn off automatically.
- **Picture Control Adjustments** - The On-Screen display allows precise remote control adjustment of BRIGHTNESS, COLOR, CONTRAST, SHARPNESS, TINT.
- **Closed Captioned Decoder** - Displays text captions or 1/2 of full screen text on the screen for hearing impaired viewers.
- **Front Video Input Jacks** - A VCR or other video device may be hooked up.
- **Auto Voltage** - This TV can be used from a household 110V-240V, 50/60Hz.

LOCATION OF CONTROLS



1. **POWER Button** - Press the POWER button on the front panel to put the TV into standby mode.
2. **VOLUME +/- Buttons** - Press to raise or lower the volume of the sound.
(MENU Buttons) - Press the both buttons to display the On-Screen menu function.
(SET +/- Buttons) - Press to select the desired setting during On-Screen operations.
3. **CHANNEL +/- Buttons** - Press to select a higher or lower numbered channel set into memory.
(Power on function) - You can also turn on the TV by pressing the CHANNEL + or - button on the front panel when the TV is in standby mode.
(ENTER Button) - Press to enter or select information for On-Screen operations.
(RESET Button) - Press to reset the On-Screen picture adjustments to their factory preset positions.
4. **STAND BY Indicator** - This indicator lights up showing the unit is in standby mode.
5. **ON TIMER Indicator** - This indicator lights up when ON TIMER program is turned ON.
6. **Remote Sensor** - Signals from the Remote Control unit are received here.
7. **AV 2 IN Jacks (Front)** - Audio and video signal cables from an external source can be connected here.
8. **EARPHONE Jack** - Plug an earphone with an 1/8 miniplug into this jack for listening.
9. **AC Power Cord** - Connect to the AC outlet.
10. **VHF/UHF IN (ANT) Jack** - Connect a VHF/UHF antenna or CATV cable to this jack.
11. **AV 1 IN Jacks (Rear)** - Audio and video signal cables from an external source (ex. VCR) can be connected here.

REMOTE CONTROL



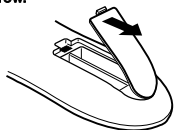
1. **POWER Button** - Press to turn the TV on or off when the TV is standby mode.
2. **10-key pad** - Allows direct access to any channel.
3. **QUICK VIEW Button** - Switches between the present channel and the last channel selected.
4. **SLEEP TIMER Button** - Sets the TV to turn off automatically after up to 120 minutes.
5. **CH +/- Buttons** - Press the + button to change to a higher numbered channel set into memory. Press the - button to change to a lower numbered channel set into memory.
(Power on function) - You can also turn on the TV by pressing the CHANNEL + or - button on the remote control when the TV is in standby mode.
6. **MENU Button** - Press to display the On-Screen menu function.
7. **SET +/- Buttons** - Press to select the desired setting during On-Screen operations.
8. **RESET Button** - Press to reset the On-Screen picture adjustments, clock setting and ON/OFF timer setting.
9. **TV/AV Button** - Switches between the TV and external input sources.
10. **CALL** - Displays the current status time, channel (or input), the present settings on the TV screen.
11. **MUTING Button** - Press to turn off the sound. Press again to turn the sound back on.
12. **VOL +/- Buttons** - Press the + button to increase, or the - button to decrease the volume level.
13. **ENTER Button** - Press to enter selected setup.
14. **TV/CAP/TEXT (Closed Caption) Button** - Switches between Caption, Text and TV modes for Closed-Captioned programs.
15. **CH. 1/2 Button** - Switches between Channel 1 and Channel 2 in the Closed Caption mode.

REMOTE CONTROL

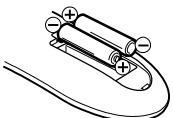
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BATTERY INSTALLATION

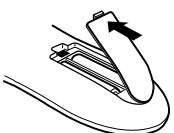
1. Open the battery compartment cover in the direction of the arrow.



2. Install two "AAA" (penlight size) batteries, paying attention to the polarity diagram in the battery compartment.



3. Replace the compartment cover.

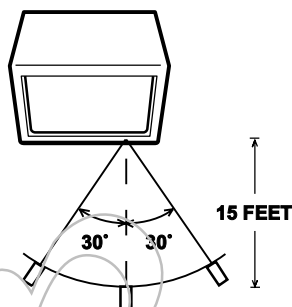


BATTERY PRECAUTIONS

The precautions below should be followed when using batteries in this device:

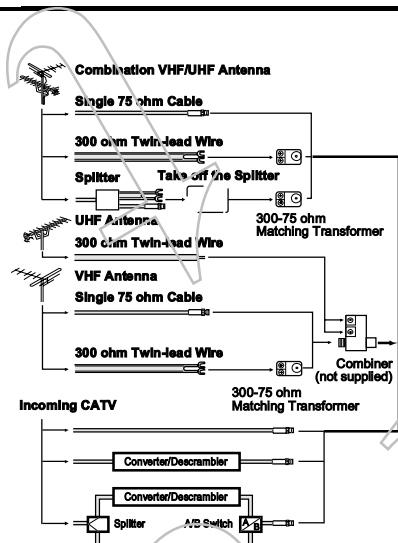
1. Use only the size and type of batteries specified.
2. Be sure to follow the correct polarity when installing the batteries as indicated in the battery compartment. Reversed batteries may cause damage to the device. To avoid a potential short circuit, insert the "+" end first.
3. Do not mix different types of batteries together (e.g. Alkaline and Carbon-zinc) or old batteries with fresh ones.
4. If the device is not to be used for a long period of time, remove the batteries to prevent damage or injury from possible battery leakage.
5. Do not try to recharge batteries not intended to be recharged; they can overheat and rupture. (Follow battery manufacturer's directions.)

EFFECTIVE DISTANCE OF THE REMOTE CONTROL TRANSMITTER



- NOTES:**
- When there is an obstacle between the TV and the transmitter, the transmitter may not operate.
 - When direct sunlight, an incandescent lamp, fluorescent lamp or any other strong light shines on the Remote sensor of the TV, the remote operation may be unstable.

ANTENNA/CATV CONNECTIONS

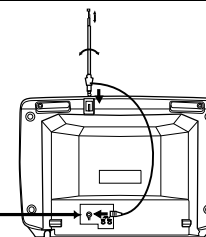


Combination VHF/UHF Antenna (Single 75 ohm Cable or 300 ohm Twin-lead Wire)

Connect the 75 ohm cable from a combination VHF/UHF antenna to the Antenna Jack. If your combination antenna has a 300 ohm Twin-lead Wire, use the 300-75 ohm Matching Transformer.

Combination VHF/UHF Antenna (Separate VHF and UHF 300 ohm Twin-leads)

Connect the UHF Twin-lead Wire to a Combiner (not supplied). Connect the VHF Twin-lead to the 300-75 ohm Matching Transformer. Attach the Transformer to the Combiner. Attach the Combiner to the Antenna Jack.



Indoor Antenna

A single pole antenna is supplied with the unit (C-T1421 only). Insert the antenna holder into the mounting hole on the back of the cabinet until it locks into place. Attach the antenna plug to the antenna jack. Adjust the length and angle of the antenna rod to receive the best possible picture.

Separate VHF/UHF Antennas

Connect the 75 ohm Cable from the VHF antenna and the UHF antenna Twin-lead to a combiner (not supplied). Attach the Combiner to the Antenna Jack.

NOTE: If your VHF antenna has a Twin-lead Wire, use the 300-75 ohm Matching Transformer, then connect the Transformer to the Combiner.

For Subscribers to Basic Cable TV Service

For basic cable service not requiring a Converter/Descrambler box, connect the CATV 75 ohm Coaxial Cable directly to the Antenna Jack on the back of the television.

For Subscribers to Scrambled Cable TV Service

If you subscribe to a cable service which requires the use of a Converter/Descrambler box, connect the Incoming cable to the Converter/Descrambler box and connect the output of the box to the Antenna Jack on the back of the television. Follow the connections shown left. Set the television to the output of the Converter/Descrambler box (usually channel 3 or 4) and use the Converter/Descrambler box to select channels.

For Subscribers to Unscrambled Basic Cable with Scrambled Premium Channels

If you subscribe to a cable service in which basic cable channels are unscrambled and premium channels require the use of a Converter/Descrambler box, you may wish to use a two-set signal splitter (sometimes called a "two-set coupler") and an A/B Switch box from the cable installer or an electronics supply store. Follow the connections shown left. With the switch in the "B" position, you can directly tune any unscrambled channels on your TV. With the switch in the "A" position, tune your TV to the output of the Converter/Descrambler box (usually channel 3 or 4) and use the box to tune scrambled channels.

CONNECTION TO OTHER EQUIPMENT

The exact arrangement you use to interconnect various video and audio components to the TV is dependent on the model and features of each component. Check the User's Guide provided with each component for the location of video and audio inputs and outputs.

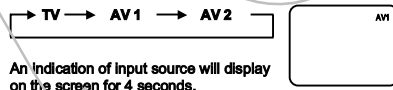
The connection diagrams in the following are offered as suggestions. You may need to modify them to accommodate your particular assortment of components. The diagrams are intended to show component video and audio interconnections only.

Press the TV/AV button to select the AV mode to use the TV as a monitor.
Operate your VCR as usual.

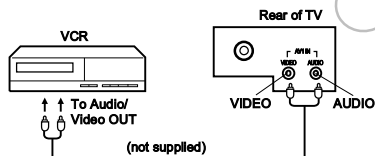
TV/AV SELECTION

If you connect the TV to VCR, camcorder, TV game or DVD you can select by pressing the TV/AV button.

Press the TV/AV button repeatedly to select the desired mode.

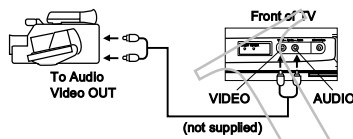


1. To connect the TV to a VCR (ex. Use AV 1 IN jacks to connect it.)



- Select "AV 1" by pressing the TV/AV button to display the VCR picture.

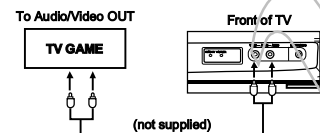
2. To connect the TV to a camcorder To playback from the camcorder, connect the camcorder to the TV as shown.



- Select "AV 2" by pressing the TV/AV button to display the camcorder picture.

2. To connect the TV to a TV Game

The TV can also be used as a display device for many video games. However, due to the wide variety of different types of signal generated by these devices and subsequent hook-up variations required, they have not all been included in the suggested connection diagrams. You'll need to consult each component's Owner's Manual for additional information.



- Select "AV 2" by pressing the TV/AV button to display the TV GAME picture.

SETTING LANGUAGE

This TV can display the channel number, on-screen displays and picture adjustments on the screen in English, Spanish or Portuguese.

On-screen language selection (step 3) will automatically appear on the screen when you press the MENU button initially. Select the language you prefer first, then proceed with the other menu options.

1 Press the MENU button.



2 Press the SET + or - button to select the LANGUAGE mode, then press the ENTER button.

3 Press the SET + or - button until the "►" indicator points to the desired language: English (ENGLISH), Spanish (ESPAÑOL) or Portuguese (PORTUGUES), then press the ENTER button.



4 Press the MENU button.

NOTE:
If Spanish or Portuguese is chosen, the Closed Caption indicators will be in the selected language, but the Closed Caption text will not be affected by the language selection.

SETTING CLOCK

You must set the time manually for CALL and ON/OFF TIMER.

1 Press the MENU button.



2 Press the SET + or - button until the indicator next to "CLOCK SET" begins to flash, then Press the ENTER button.



3 Press the SET + or - button to set the hour, then press the ENTER button.



4 Press the SET + or - button to set the minute. If you want to change the hour, press the RESET button.

5 Press the ENTER button.

NOTES:

- After a power failure, disconnection of the power plug or turning the TV power off by pressing the POWER button on the front panel, the time display will be lost. In this case, set present time again.
- When you set the minute, you can change in 10-minutes by holding down the SET + or - button.

COLOR SYSTEM

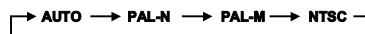
The color system is automatically selected, but if the picture is not clear or no color appears, select the color system manually.

1 Press the MENU button.



2 Press the SET + or - button to select the "COLOR" option then press the ENTER button.

3 Press the ENTER button to select the desired COLOR SYSTEM.



4 Press the MENU button.

TO MEMORIZE CHANNELS

This TV is equipped with a channel memory feature which allows channels to skip up or down to the next channel set into memory, skipping over unwanted channels. Before selecting channels, they must be programmed into the TV's memory. In addition to normal VHF and UHF channels, this TV can receive up to 113 Cable TV channels. To use this TV with an antenna, set the TV/CATV menu option to the TV setting. When shipped from the factory, this menu option is in the CATV setting.

TV/CATV SELECTION

- 1 Press the MENU button.
- 2 Press the SET + or – button until the indicator next to "CH SET UP" begins to flash, then press the ENTER button.
- 3 Press the SET + or – button until the indicator next to "TV/CATV" begins to flash.
- 4 Press the ENTER button to select the TV or CATV mode. The arrow indicates the selected mode.
- 5 Press the MENU button.



NOTE: Contact your cable company to determine the type of cable system used in your area.

AUTOMATIC CHANNEL MEMORY

- 1 Press the MENU button.
- 2 Press the SET + or – button until the indicator next to "CH SET UP" begins to flash, then press the ENTER button.
- 3 Press the SET + or – button until the indicator next to "AUTO CH MEMORY" begins to flash, then press the ENTER button. The TV will begin memorizing all the channels available in your area.
- 4 Press the MENU button.



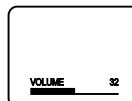
TO ADD/DELETE CHANNELS

- 1 Press the MENU button.
- 2 Press the SET + or – button until the indicator next to "CH SET-UP" begins to flash, then press the ENTER button.
- 3 Press the SET + or – button until the indicator next to "ADD/DELETE" begins to flash, then press the ENTER button.
- 4 Select the desired channels to be added or deleted using the 10-key pad (0-9) or the CH + or – button.
- 5 Press the ENTER button to select ADD or DELETE. If an unmemorized channel was selected (step 4), the channel indication will be red. Press the CH + or – button if you wish to ADD the unmemorized channel. The channel indicator will change from red to green when a channel is added and the channel will be memorized. If a memorized channel was selected (step 4), the channel indication will be green. Press the CH + or – button if you wish to DELETE the channel from memory. The channel indicator will change from green to red when a channel is deleted. Repeat Steps 4 and 5 for each channel to be added or deleted.
- 6 Press the MENU button after adding or deleting all of the desired channels, to return to normal TV viewing.



TV BASIC OPERATION

- 1 Press the POWER button on the front panel to put the TV into standby mode. The STAND BY indicator will light.
- 2 Press the POWER button on the remote control to turn on the TV. You can also turn on the TV by pressing the CHANNEL UP or DOWN button on the front panel or on the remote control when the TV is in standby mode.
- 3 The VOLUME can be adjusted to a desired level by pressing the VOL (VOLUME) > or < button. Adjust the volume level by pressing the VOL > or < button. The volume level will be indicated on the screen by green bar. As the volume level increases, so do the number of bar. If the volume decreases, the number of green bar also decreases.
- 4 Set the TV/CATV menu option to the appropriate position. When shipped from the factory, this menu option is in the CATV setting. See "TO MEMORIZE CHANNELS".
- 5 CH (CHANNEL) ^ and v buttons. Press and release the CH (CHANNEL) ^ or v button. The channel automatically stops at the next channel set into memory.



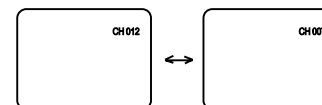
TV - VHF/UHF channels
CATV - CABLE TV channels

For proper operation, before selecting channels, they should be set into the TV's memory. See "TO MEMORIZE CHANNELS".



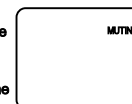
QUICK VIEW button

Returns to the channel viewed just before the channel currently onscreen.



MUTING button

The MUTING button instantly turns the volume down completely when you press it. Press MUTING button and the volume level will instantly go to zero. To restore the volume to its previous level, press MUTING button again.



10-key pad (0-9)

Press these buttons to select a channel. The channel number will appear on the upper right corner of the TV screen. If an invalid channel number is selected, the display will revert to the original channel.

TV Mode Direct Channel Selection

When the TV/CATV menu option is in the TV position, all channels can be instantly selected by using two buttons. (For example, to select channel 2, press "0", then "2". If you press only "2", channel selection will be delayed for a few seconds.) For channels 10 and above, press the 2 digits in order.

CATV Mode Direct Channel Selection

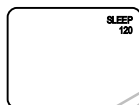
When the TV/CATV menu option is in the CATV position, channels can be selected as follows:

- | | |
|-------------|---|
| CH. 1-9 | Press "0" twice, then 1-9 as needed. Example, to select channel 2, press "002". |
| CH. 10-12 | Press "0", then remaining 2 digits. Example, to select channel 12, press "012". |
| CH. 13-99 | Press the 2 digits in order. Example, to select channel 36, press "36". |
| CH. 100-125 | Press the 3 digits in order. Example, to select channel 120, press "120". |

NOTE: If the station being viewed stops broadcasting, the TV will automatically shut off after 15 minutes.

SLEEP TIMER button

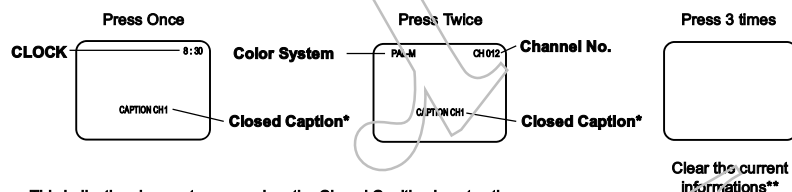
The Sleep Timer can turn the TV off for you after you fall asleep. Program it to work in intervals of 10 minutes, for a total time of up to 120 minutes.



- To change the sleep timer setting:
Press the SLEEP button repeatedly until the display turns to desired time.
- To cancel the sleep timer:
Press the SLEEP button repeatedly until the display turns to 0.

CALL button

Press the CALL button to display the current informations on the screen.

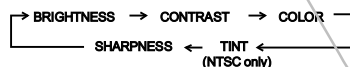
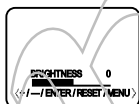


- This indication does not appear when the Closed Caption is not active.
- In the AV mode, "AV 1" or "AV 2" continues to display when there is no signal.

PICTURE ADJUSTMENTS

You can adjust the settings for color, sharpness, contrast, brightness, tint (NTSC only) and component.

- Press the MENU button.
- Press the SET + or - button until the indicator next to "PICTURE" begins to flash, then press the ENTER button.
- Press the ENTER button repeatedly to select the item you want to adjust.



- Press the SET + or - button to adjust the setting.

	+	-
BRIGHTNESS	Increase brightness	decrease brightness
CONTRAST	Increase contrast	decrease contrast
COLOR	be brilliant color	be pale color
TINT (NTSC only)	be greenish color	be reddish color
SHARPNESS	makes picture clearer	makes picture softer

TO RETURN TO INITIAL SETTING

Press the RESET button while the picture adjusting mode appears on the screen (except the adjusting component).

NOTE: The on-screen display will disappear 6 seconds after finishing an adjustment. The settings can only be adjusted when they are displayed on the TV screen.

CLOSED CAPTION

WHAT IS CLOSED CAPTIONING?

This television has the capability to decode and display Closed Captioned television programs. Closed Captioning will display text on the screen for hearing impaired viewers or it will translate and display text in another language.

TO VIEW CLOSED CAPTIONS

Press the TV/CAP/TEXT button on the remote control to switch between normal TV and the two Closed Caption Modes (Captions and 1/2 of Full Screen Text).

Captions: This Closed Caption Mode will display text on the screen in English or another language (depending on the setting of the Closed Captions CH. 1/2 button). Generally, Closed Captions in English are transmitted on Captions Channel 1 and Closed Captions in other languages are transmitted on Captions Channel 2.

Text: The Text Closed Caption Mode will usually fill 1/2 of full screen with a programming schedule or other information. After selecting a Closed Caption Mode, it will stay in effect until it is changed, even if the channel is changed. If the Captions signal is lost due to a commercial or a break in the signal, the Captions will reappear when the signal is received again. If the channels are changed, the Captions will be delayed approximately 10 seconds. The Captions will appear in places on the screen where they will least interfere with the picture, usually on the bottom of the screen. News programs will usually show three-line Closed Captions which scroll onto the screen. Most other shows provide two or three lined Captions placed near the character who is speaking so the viewer can follow the dialogue. Words in italics or underlined describe titles, words in foreign languages or words requiring emphasis. Words that are sung usually appear enclosed by musical notes. For television programs broadcasting with Closed Captions, look in your TV guide for the Closed Captions symbol (CC).

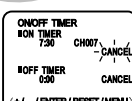
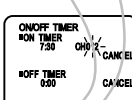
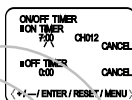
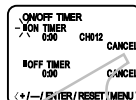
- When activating the Closed Captioned Decoder, there will be a short delay before the Closed Captioned text appears on the screen.
- Closed Captioned text is only displayed in locations where it is available.
- If no caption signal is received, no captions will appear, but the television will remain in the Caption Mode.
- Misspellings or unusual characters may occasionally appear during Closed Captioning. This is normal with Closed Captioning, especially with live programs. This is because during live programs, captions are also entered live. These transmissions do not allow time for editing.
- When Captions are being displayed, on-screen displays, such as volume and MUTE may not be seen or may interfere with Closed Captions.
- Some cable systems and copy protection systems may interfere with the Closed Captioned signal.
- If using an indoor antenna or if TV reception is very poor, the Closed Caption Decoder may not appear or may appear with strange characters or misspelled words. In this case, adjust the antenna for better reception or use an outdoor antenna.

ON/OFF TIMER

ON TIMER SETTING

This feature allows you to have the TV automatically turn "ON" at predetermined time. If you program the "ON" timer once the timer will turn "ON" the TV daily at the same time and to the same channel. If the power has been turned on at programmed time, the channel is changed to a programmed one.

- Press the MENU button.
- Press the SET + or - button until the indicator next to "ON/OFF TIMER" begins to flash, then press the ENTER button.
- Press the SET + or - button until the indicator next to "ON TIMER" begins to flash, then press the ENTER button.
- Press the SET + or - button to set the hour, then press the ENTER button. If you want to change the hour, press the RESET button.
- Press the SET + or - button to set the minute, then press the ENTER button. You can change in 10-minute steps by holding down the SET + or - button.
- Press the SET + or - button to set the channel, then press the ENTER button. You can set the channel which is added in the CH SET UP option.
- Press the SET + or - button to select the SET mode.
- Press the MENU button.



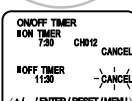
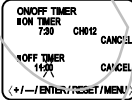
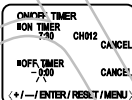
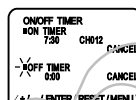
NOTES:

- You cannot set the ON/OFF TIMER when the clock is not set.
- This TV will automatically turn off approximately 1 hour later after the ON TIMER turns on the TV unless any buttons are pressed.
- To cancel the ON TIMER function: To cancel ON TIMER in step 7 above press the SET + or - button to select the CANCEL mode.

OFF TIMER SETTING

This feature allows you to have the TV turn "OFF" automatically at a predetermined time. If you program the OFF TIMER once, The TV will be automatically turned off at the same time daily.

- Press the MENU button.
- Press the SET + or - button until the indicator next to "ON/OFF TIMER" begins to flash, then press the ENTER button.
- Press the SET + or - button until the indicator next to "OFF TIMER" begins to flash, then press the ENTER button.
- Press the SET + or - button to set the hour, then press the ENTER button. If you want to change the hour, press the RESET button.
- Press the SET + or - button to set the minute, then press the ENTER button. You can change in 10-minute steps by holding down the SET + or - button.
- Press the SET + or - button to select the SET mode.
- Press the MENU button.



NOTES:

- If station being viewed stops broadcasting, the TV will automatically shut itself off after 15 minutes.
- To cancel the OFF TIMER function: To cancel OFF TIMER, in step 7 above press the SET + or - button to select the CANCEL mode.





TROUBLESHOOTING GUIDE

Before requesting service, please refer to the following chart for the symptom and possible solution.

SYMPTOMS	POSSIBLE SOLUTIONS
TV does not operate	<ul style="list-style-type: none"> Make sure the power cord is plugged in. Try another AC outlet. Power is off, check fuse or circuit breaker. Unplug unit for an hour, then plug it back in.
Poor sound or No sound	<ul style="list-style-type: none"> Station or CATV experiencing problems, tune to another station. Check sound adjustments (Volume and Muting). Check for sources of possible interference.
Poor picture or No picture	<ul style="list-style-type: none"> Station or CATV experiencing problems, tune to another station. Make sure channels are set into memory. Check antenna or CATV connections, reorient antenna. Check for sources of possible interference. Check picture control adjustments.
Poor reception on some channels	<ul style="list-style-type: none"> Station or CATV experiencing problems, tune to another station. Make sure channels are set into memory. Station signal is weak, reorient antenna to receive desired station. Check for sources of possible interference.
Poor color or no color	<ul style="list-style-type: none"> Station or CATV experiencing problems, tune to another station. Make sure channels are set into memory. Check picture control adjustments. Check antenna or CATV connections, reorient antenna. Check for sources of possible interference. Check the color system.
Picture wobbles or drifts	<ul style="list-style-type: none"> Station or CATV experiencing problems, tune to another station. Make sure channels are set into memory. CATV company is scrambling signal. Check antenna orientation.
No CATV reception	<ul style="list-style-type: none"> Check all CATV connections. Set TV/CATV menu option to the CATV mode. Station or CATV system problems, try another station.
Horizontal or diagonal bars on screen	<ul style="list-style-type: none"> Check antenna connections, reorient antenna. Check for sources of possible interference.
No reception above channel 13	<ul style="list-style-type: none"> Make sure TV/CATV menu option is in the appropriate mode. If using antenna, check UHF antenna connections.
No Remote operation	<ul style="list-style-type: none"> Batteries are weak, dead or inserted incorrectly. Remote is out of range, move closer to TV within (15 feet). Make sure Remote is aimed at sensor. Confirm there are no obstructions between the Remote and the TV. Make sure the power cord is plugged in.
TV shuts off	<ul style="list-style-type: none"> No broadcast on station tuned. Sleep Timer is set. ON/OFF TIMER is set. Power interrupted. Approximately 1 hour has passed after the ON TIMER turns on and no button was pressed (See page 14).
Closed - Caption is not activated.	<ul style="list-style-type: none"> TV station experiencing problems or program tuned is not closed captioned. Try another channel. Check CATV connection or VHF/UHF antenna, reposition or rotate antenna. Press TV/CAP/TEXT button to turn on the closed caption decoder.
Display is not shown in your language.	<ul style="list-style-type: none"> Select proper language in the menu options.

SEMICONDUCTOR BASE CONNECTIONS

DIODE



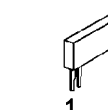
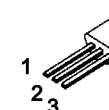
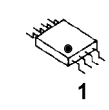
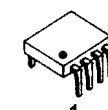
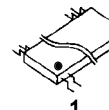
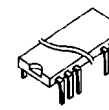
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HZ27-1L TD
MTZJ18B T-77
MTZJ30B T-77
MTZJ33B T-77
MTZJ5.1B T-77
MTZJ5.6B T-77
MTZJ6.8B T-77

11E1-EIC
11EQS04N-TA1B2

10ELS6TA1B2
21DQ09N-TA2B1
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LA76612

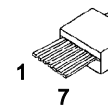
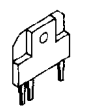
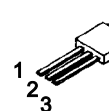
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S-24C02BDP-1A

NJM2534V(Te2)

PST600H

NJM2245L

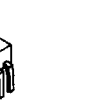
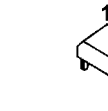
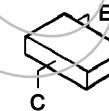
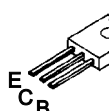
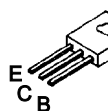
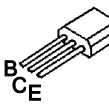
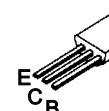


KIA7805API
KIA7806API
KIA7809API

AN7523

LA78040

TRANSISTOR



2SA1371(D,E)-AE
2SA1624-AA
2SB926(S,T)-AA
2SC1815Y(TPE2)
2SC2909(S,T)-AA
2SC4204-AA
2SD1207(S,T)-AE

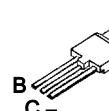
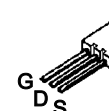
2SC1740SP TP

2SC2621(D,E)-RAC

2SC4217(D,E)-RAC

2SA1037AKT146R,S
2SC2412KT146 R,S
DTA114EKAT146
DTC114TKAT146
DTC144EKAT146

TLP621(D4-GR-LF2)




2SK3255LS-CB11

2SD2499

C-T2021 STANDARD CIRCUIT DIAGRAM

NOTE ON USING CIRCUIT DIAGRAMS

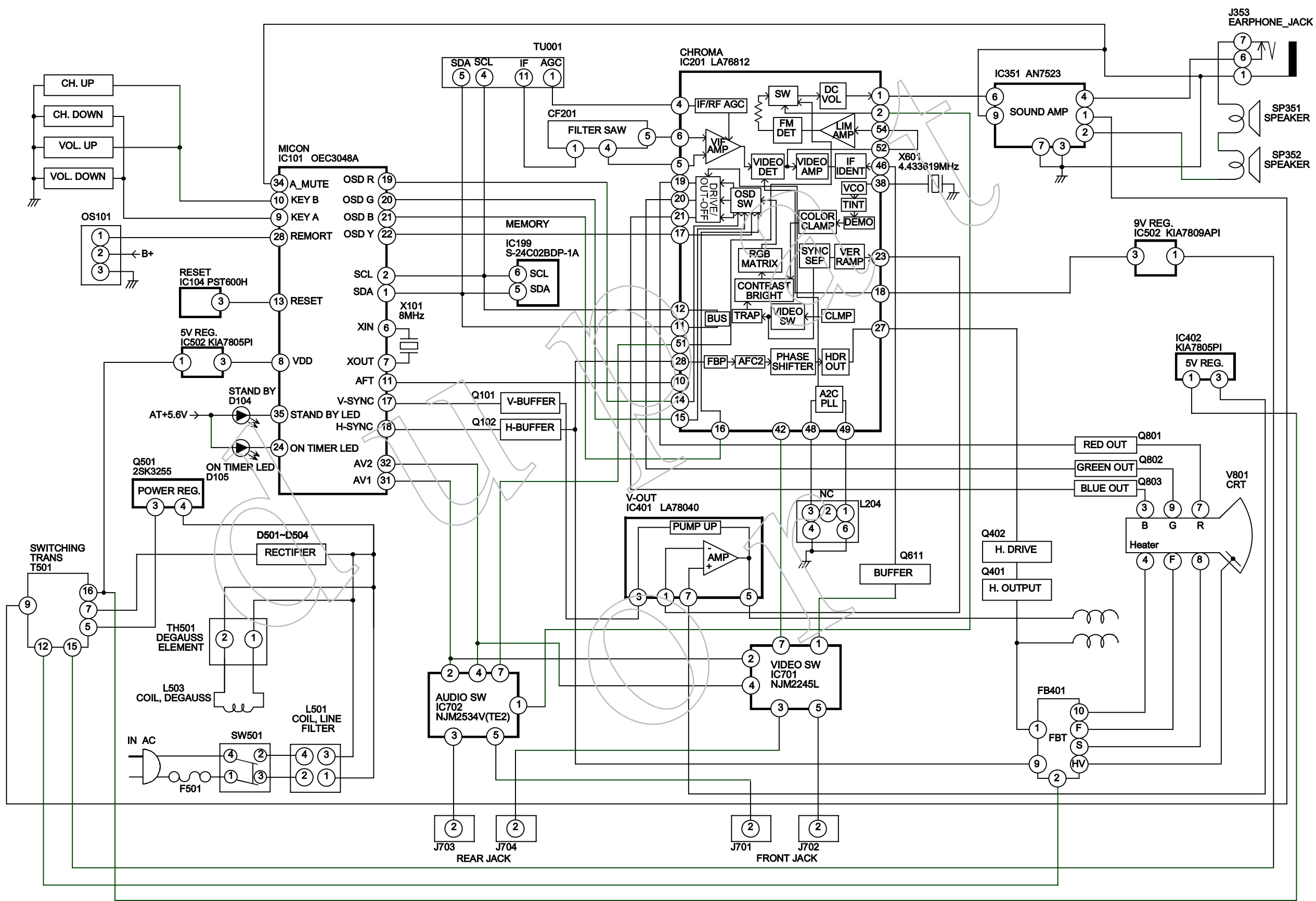
- 1.SAFETY
- The Components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.
- 2.INDICATION OF PARTS SYMBOL [EXAMPLE]
- In the PC board :R1209→R209
- 3.NOTE FOR REPAIRING SERVICE
- This model's power circuit is partly different in the GND.
- Please, care must be taken for the following points.
- (1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected , a fuse or any parts will be broken.
- ◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

CONTENTS

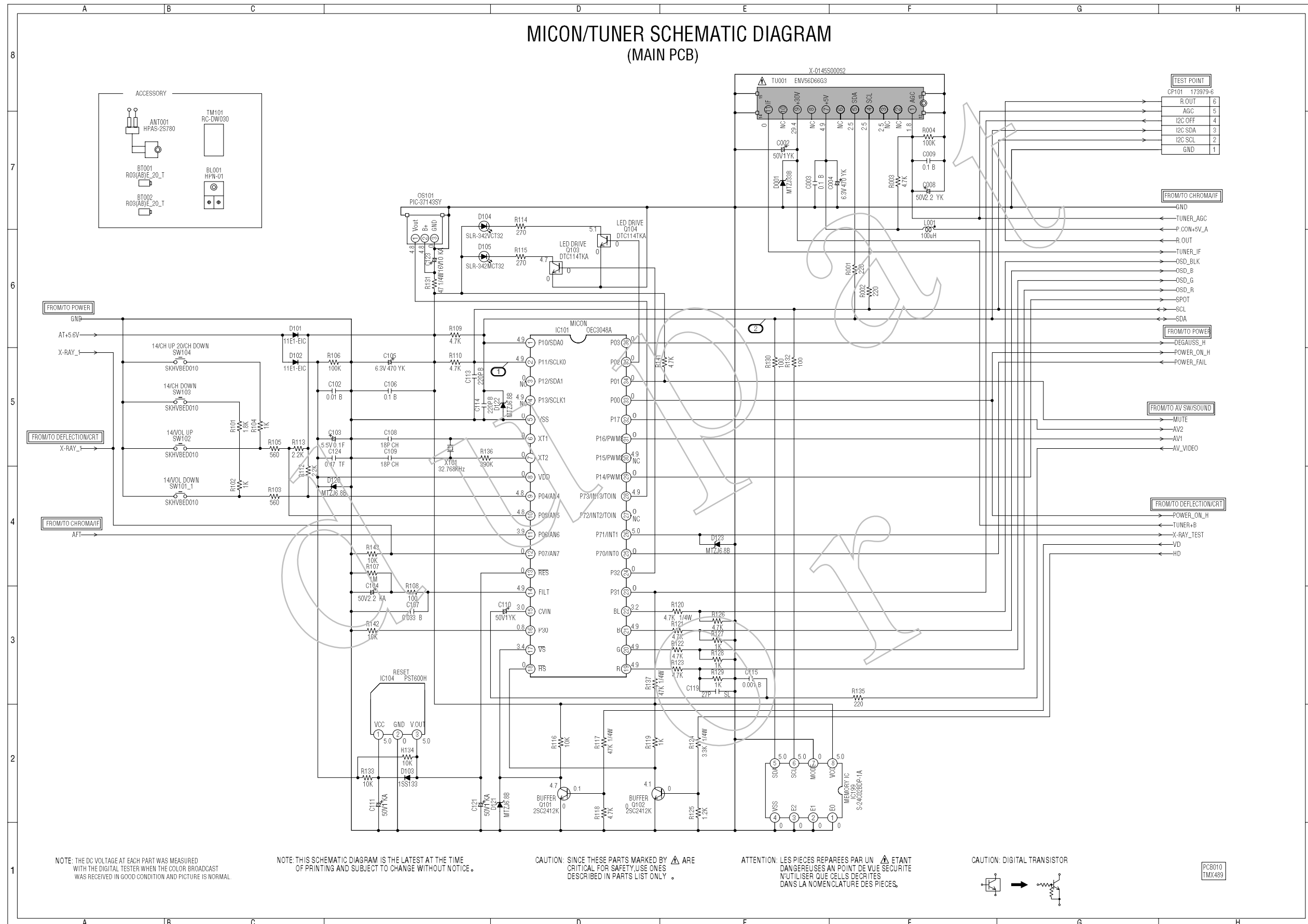
SEMICONDUCTOR BASE CONNECTIONS.....	2
BLOCK DIAGRAMS	3
CIRCUIT DIAGRAMS	5
MAIN PCB MICON/TUNER SCHEMATIC DIAGRAM	
MAIN PCB CHROMA/IF SCHEMATIC DIAGRAM	
MAIN PCB POWER SCHEMATIC DIAGRAM	
MAIN PCB DEFLECTION SCHEMATIC DIAGRAM	
MAIN PCB AV SW / SOUND SCHEMATIC DIAGRAM	

BLOCK DIAGRAM

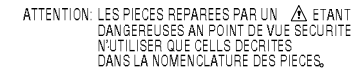
BLOCK DIAGRAM



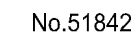
MICON/TUNER SCHEMATIC DIAGRAM (MAIN PCB)



CHROMA/IF SCHEMATIC DIAGRAM



POWER SCHEMATIC DIAGRAM (MAIN PCB)

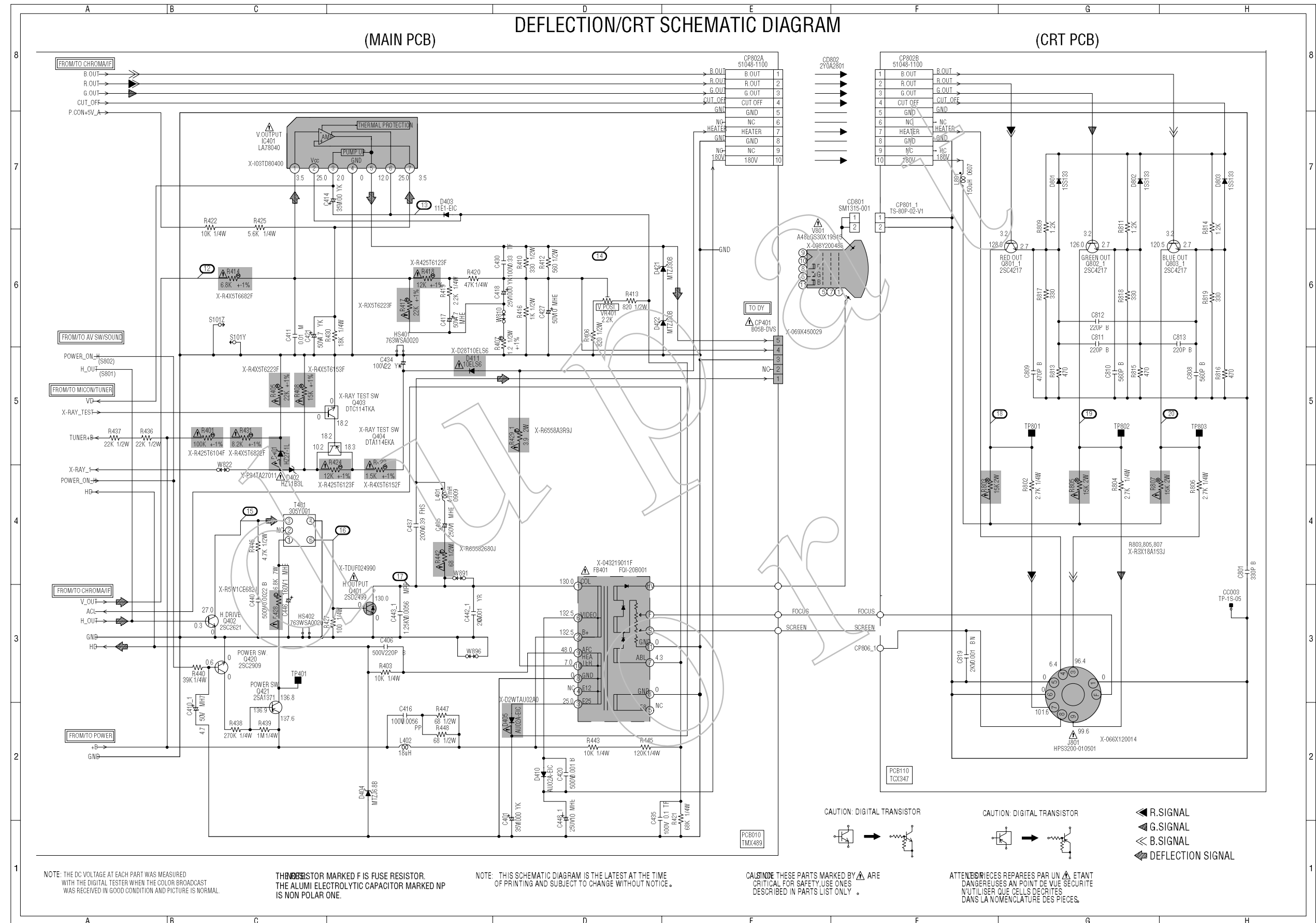


ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

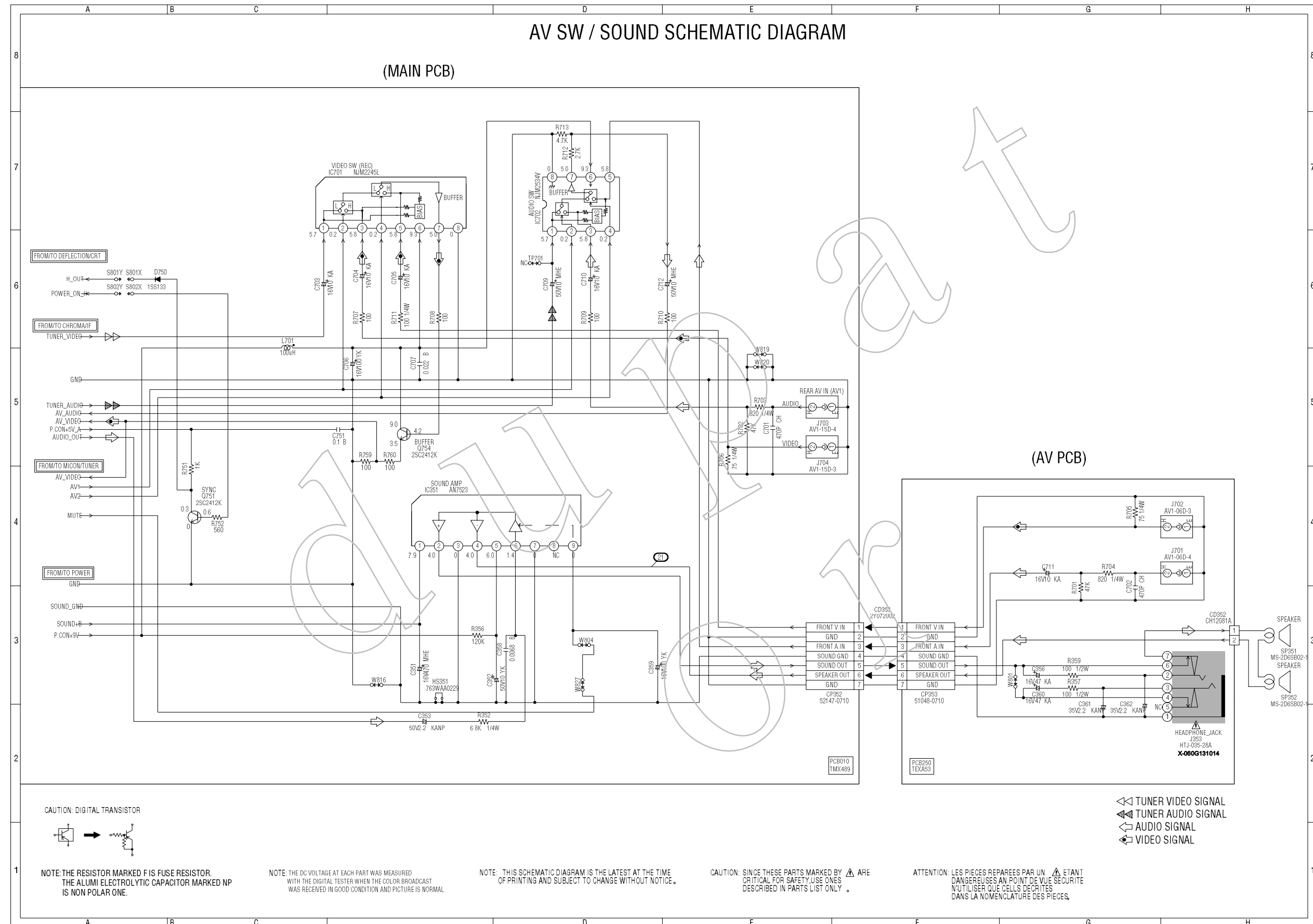
CAUTION: DIGITAL TRANSISTOR



[MAIN PWB(DEFLECTION) & CRT PWB CIRCUIT DIAGRAM]

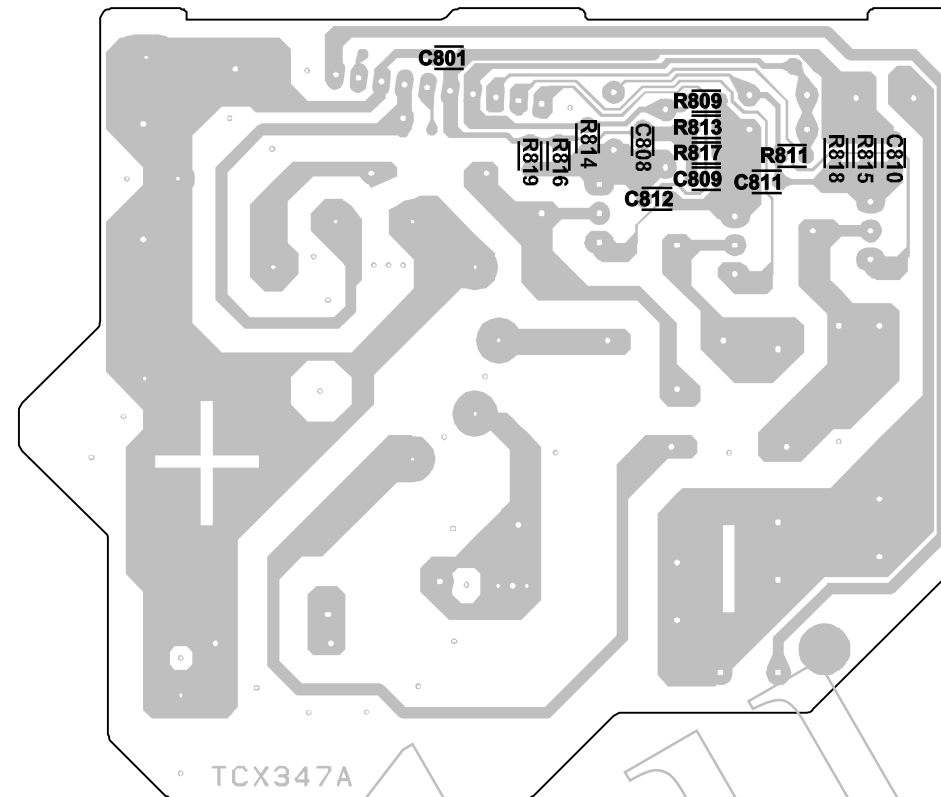


[MAIN PWB (AV SW) & AV PCB CIRCUIT DIAGRAM]

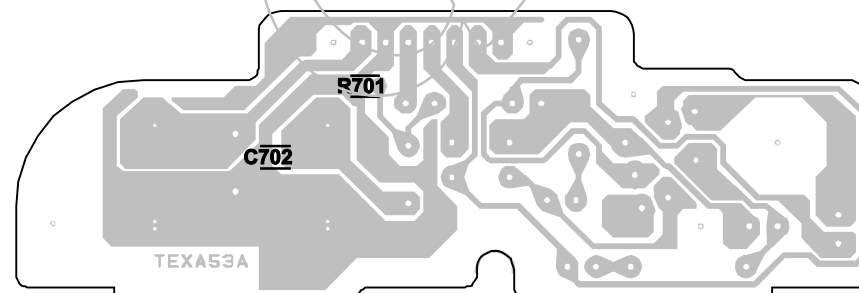


PATTERN DIAGRAM

[CRT PWB PATTERN(CHIP MOUNTED PARTS)]



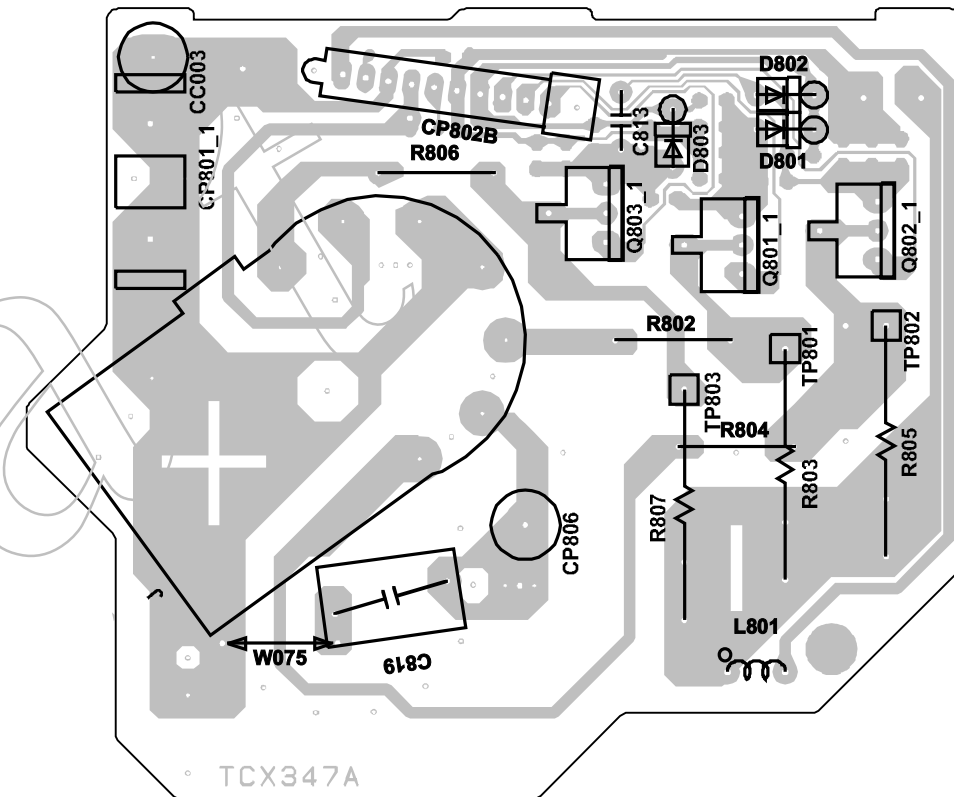
[AV PWB PATTERN(CHIP MOUNTED PARTS)]



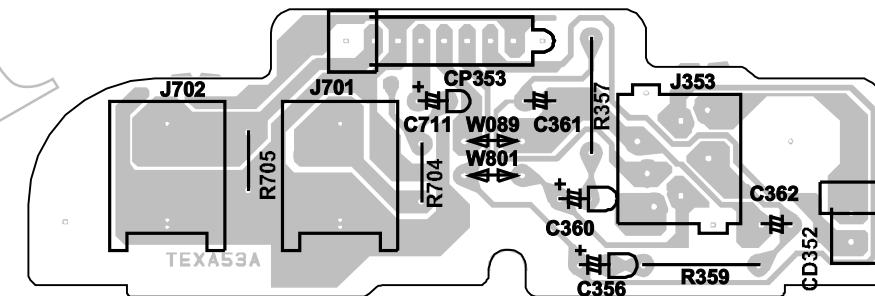
No.51842

2-15

[CRT PWB PATTERN(INSERTED PARTS)]



[AV PWB PATTERN(INserted PARTS)]

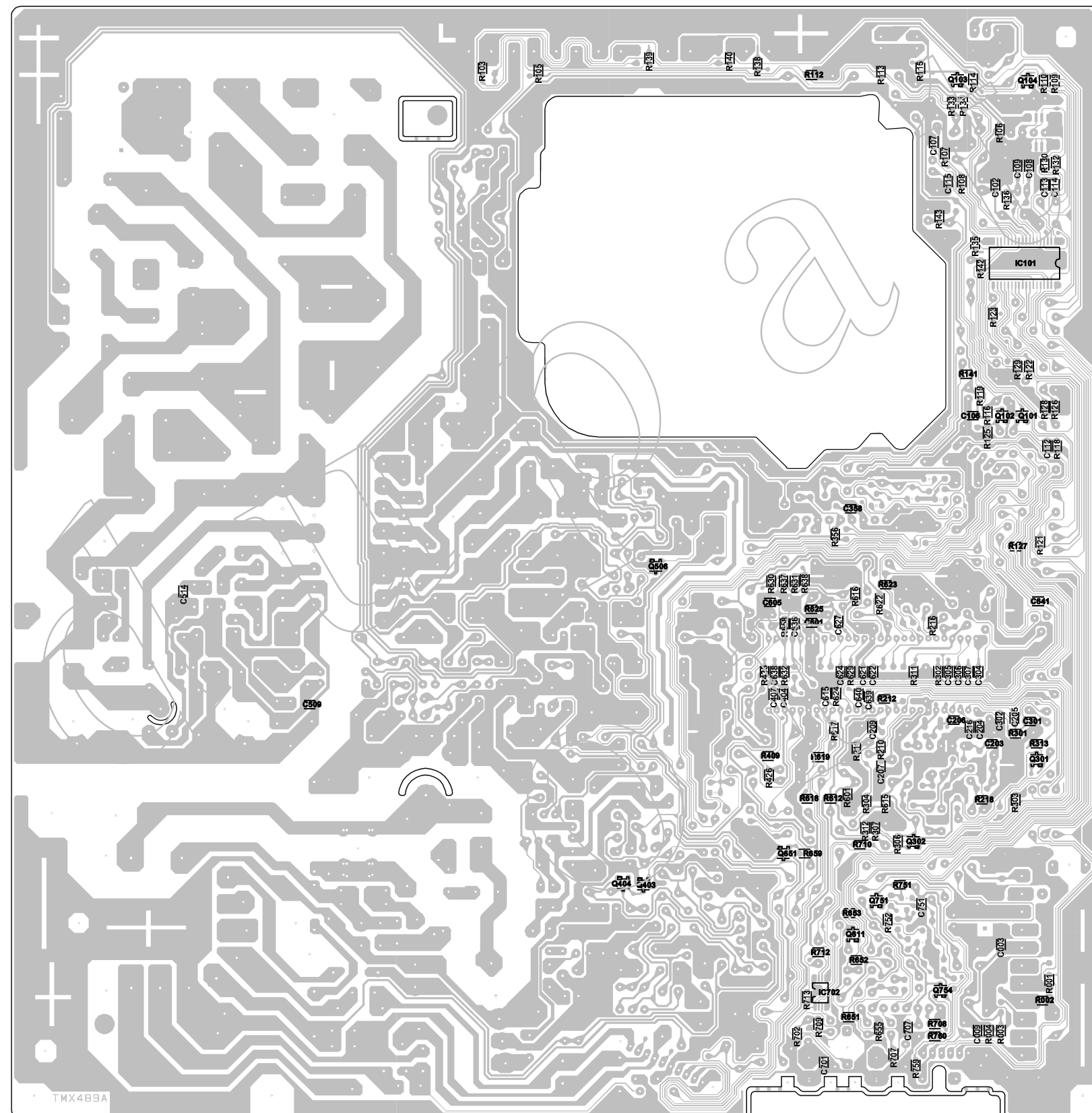


No.51842

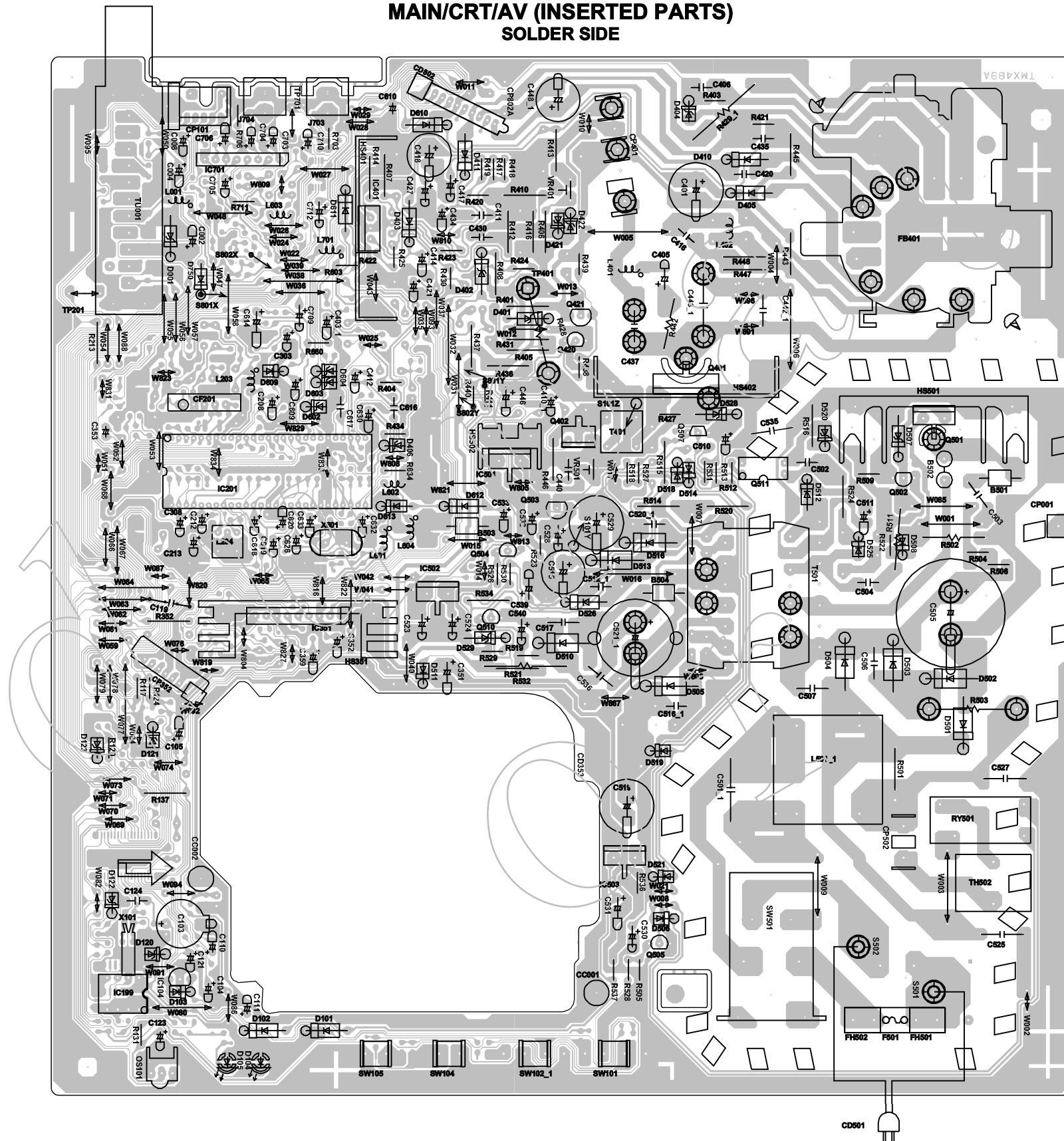
2-16

[MAIN PWB PATTERN(CHIP MOUNTED PARTS)]

PRINTED CIRCUIT BOARDS
MAIN/CRT/AV (CHIP MOUNTED PARTS)
SOLDER SIDE



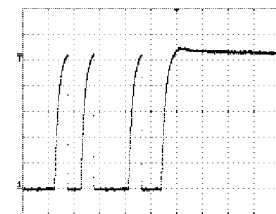
**PRINTED CIRCUIT BOARDS
MAIN/CRT/AV (INSERTED PARTS)
SOLDER SIDE**



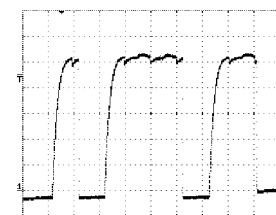
WAVEFORMS

WAVEFORMS

MICON/TUNER

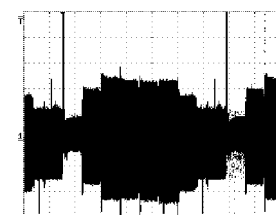


① 100mV 10 s/div

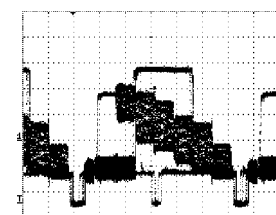


② 100mV 10 s/div

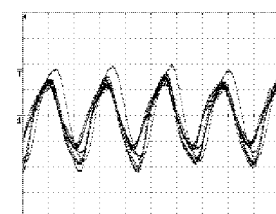
CHROMA/IF



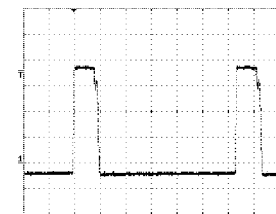
③ 10mV 10 s/div



④ 20mV 10 s/div



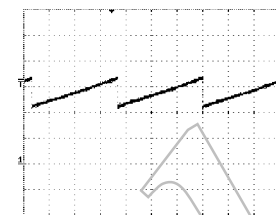
⑤ 5.0mV 100ns/div



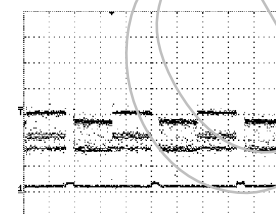
⑥ 200mV 10 s/div



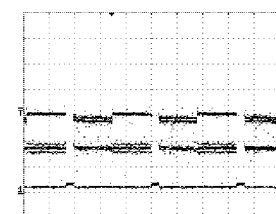
⑦ 20mV 10 s/div



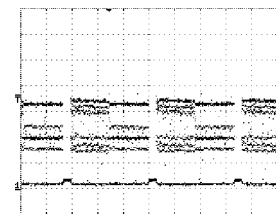
⑧ 100mV 5ms/div



⑨ 100mV 5ms/div

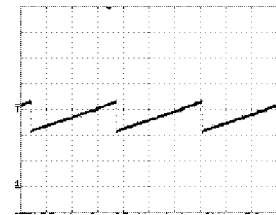


⑩ 100mV 5ms/div

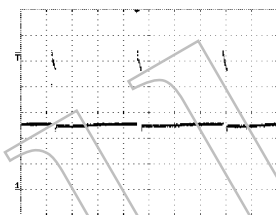


⑪ 100mV 5ms/div

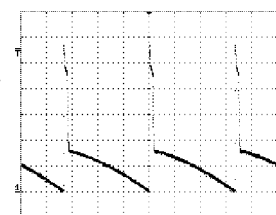
DEFLECTION/CRT



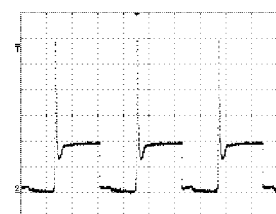
⑫ 100mV 5ms/div



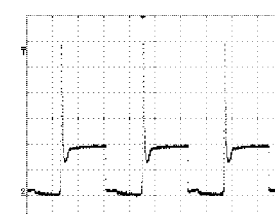
⑬ 1.0V 5ms/div



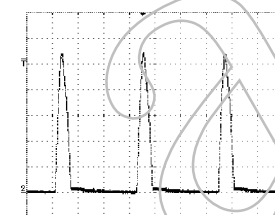
⑭ 1.0V 5ms/div



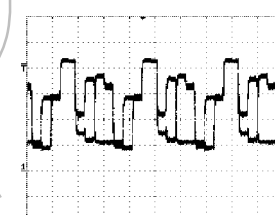
⑮ 1.0V 20 s/div



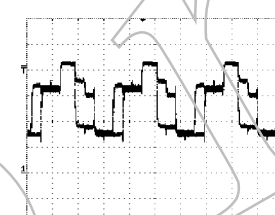
⑯ 1.0V 20 s/div



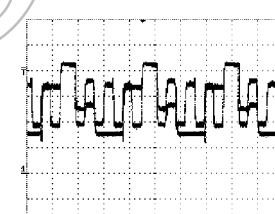
⑰ 1.0V 20 s/div



⑱ 5.0V 20 s/div



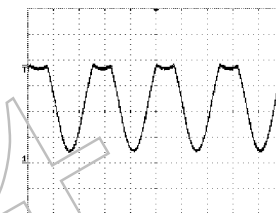
⑲ 5.0V 20 s/div



⑳ 5.0V 20 s/div

WAVEFORMS

AV SW/SOUND



㉑ 200mV 1ms/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

No.51842

2-21

2-22

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

No.51842

VP0106
H.K

PARTS LIST

CAUTION

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

ABBREVIATIONS OF RESISTORS, CAPACITORS

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
 CE..... ALUMI ELECTROLYTIC CAPACITOR
 CP..... POLYESTER CAPACITOR
 CPP..... POLYPROPYLENE CAPACITOR
 CPL..... PLASTIC CAPACITOR
 CMP..... METAL POLYESTER CAPACITOR
 CMPL..... METAL PLASTIC CAPACITOR
 CMPP..... METAL POLYPROPYLENE CAPACITOR

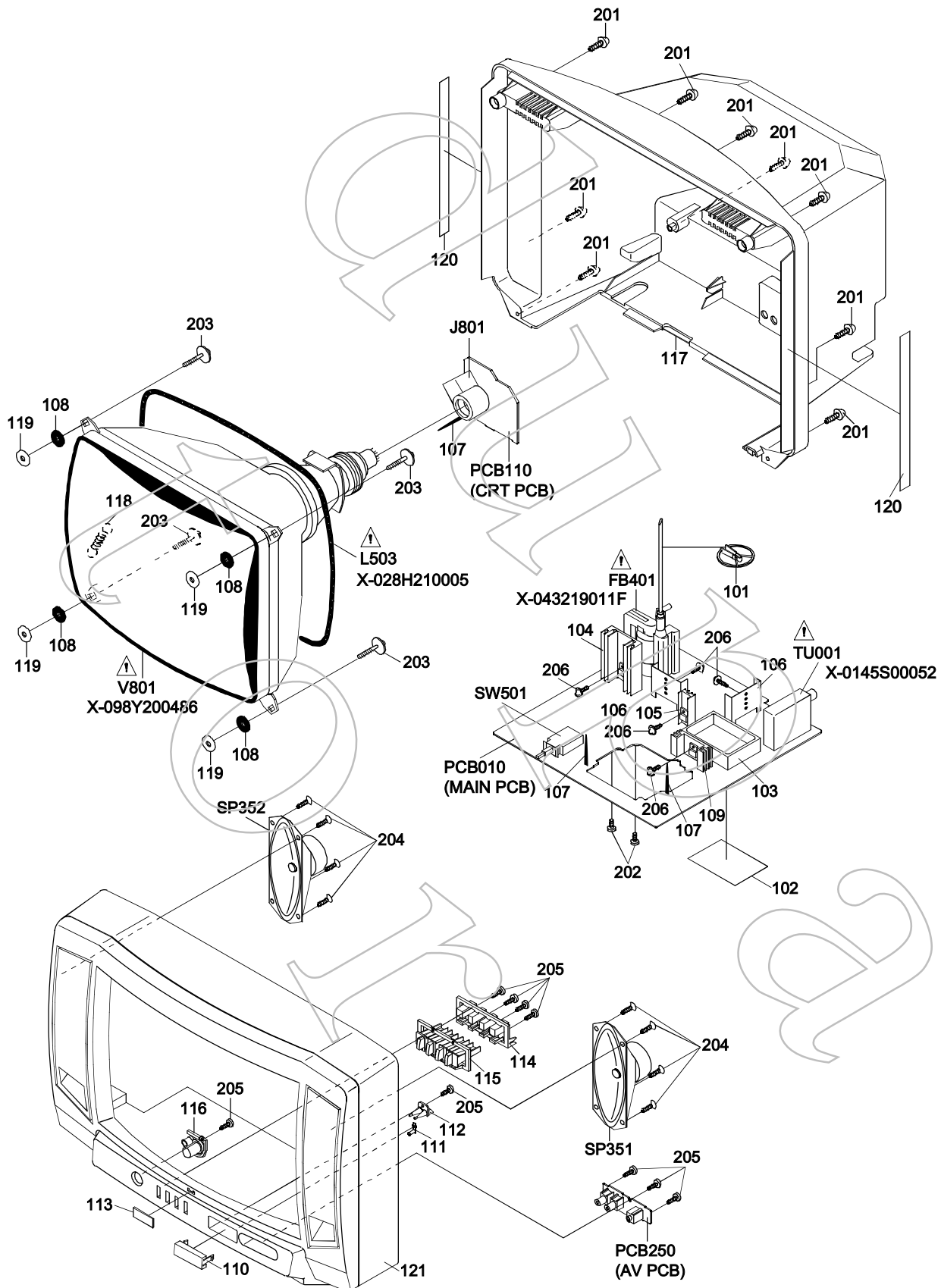
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USING P.W. BOARD

	Model
P.W.B ASS'Y	C-T2021
MAIN PCB ASS'Y	X-A3H805C01A
CRT PCB ASS'Y	X-A3H805C11A
AV PCB ASS'Y	X-A3H805C25A

MECHANICAL EXPLODED VIEW



MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
101	X-899HV3T001	HOLDER, ANODE WIRE	
102	X-752WSAA006	PLATE, SHIELD	
103	X-752WSAA008	SHIELD, CASE	
104	X-763WAA0228	HEAT SINK	
105	X-763WAA0230	HEAT SINK	
106	X-763WSA0020	HEAT SINK	
107	X-8990TPA002	COATING CLIP	
108	X-800WR0A002	SHEET, CRT SUPPORT	
109	X-763WAA0229	HEAT SINK	
110	X-711WPD0590	PLATE, FRONT	
111	X-713WPA0143	GUIDE, REMOCON	
112	X-713WPA0142	GLASS, LED	
113	X-7235380002	BADGE, BRAND	
114	X-735WPA0541	BUTTON, BASE	
115	X-735WPB0106	BUTTON, FRAME	
116	X-735WPB0114	BUTTON, POWER	
117	X-702WPA0825	CABINET, BACK	
118	X-741WUAA001	SPRING, EARTH	
119	X-769WSA0004	WASHER	9.5x22xT3
120	X-800WQ00038	FELT SHEET	18x270xT0.5
121	PDW-1759	FRONT CABINET	
201	X-8117540A64	SCREW, TAPPING(B0) TRUSS	4x16
202	X-8109630802	SCREW, TAP TITE(B) BRAZIER	3x8
203	X-8111J50D04	SCREW, TAPPING(A) GW22	5x40
204	X-8117330A04	SCREW, TAPPING(B0) FLAT	3x10
205	X-8110630A04	SCREW, TAP TITE(P) BRAZIER	3x10
206	X-8109I30A04	SCREW, TAP TITE(B) WH7	3x10

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
RESISTORS			RESISTORS		
R001	X-R803R9221J	RC 220 OHM 1/16W	Δ R418	X-R425T6123F	R,METAL 12K OHM 1/6W
R002	X-R803R9221J	RC 220 OHM 1/16W	R419	X-R002T4222J	RC 2.2K OHM 1/4W
R003	X-R803R9472J	RC 4.7K OHM 1/16W	R420	X-R002T4473J	RC 4.7K OHM 1/4W
R004	X-R803R9104J	RC 100K OHM 1/16W	R421	X-R002T4683J	RC 68K OHM 1/4W
R103	X-R803R9561J	RC 56K OHM 1/16W	R422	X-R002T4103J	RC 10K OHM 1/4W
R105	X-R803R9561J	RC 56K OHM 1/16W	Δ R423	X-R4X5T6152F	R,METAL 15K OHM 1/6W
R106	X-R803R9104J	RC 100K OHM 1/16W	Δ R424	X-R425T6123F	R,METAL 12K OHM 1/6W
R107	X-R803R9105J	RC 1M OHM 1/16W	R425	X-R002T4562J	RC 5.6K OHM 1/4W
R108	X-R803R9101J	RC 100 OHM 1/16W	R426	X-R803R9225J	RC 2.2M OHM 1/16W
R109	X-R801R7472J	RC 4.7K OHM 1/10W	R427	X-R802T4101J	RC 100 OHM 1/4W
R110	X-R803R9472J	RC 4.7K OHM 1/16W	Δ R428	X-R5W1CL682J	R,CEMENT 6.8K OHM 7W
R112	X-R803R9222J	RC 2.2K OHM 1/16W	Δ R429	X-R658A3R9J	R,FUSE 3.9 OHM 2W
R113	X-R803R9222J	RC 2.2K OHM 1/16W	R430	X-R002T4183J	RC 18K OHM 1/4W
R114	X-R803R9271J	RC 270 OHM 1/16W	Δ R431	X-R4X5T6822F	R,METAL 8.2K OHM 1/6W
R115	X-R803R9271J	RC 270 OHM 1/16W	R434	X-R002T4103J	RC 10K OHM 1/4W
R116	X-R803R9103J	RC 10K OHM 1/16W	R435	X-R803R932J	RC 3.3K OHM 1/16W
R117	X-R002T4473J	RC 4.7K OHM 1/4W	R436	X-R002T2223J	RC 22K OHM 1/2W
R118	X-R803R9472J	RC 4.7K OHM 1/16W	R437	X-R002T2223J	RC 22K OHM 1/2W
R119	X-R803R9102J	RC 1K OHM 1/16W	R438	X-R002T4274J	RC 270K OHM 1/4W
R120	X-R002T4472J	RC 4.7K OHM 1/4W	R439	X-R002T4105J	RC 1M OHM 1/4W
R121	X-R801R7472J	RC 4.7K OHM 1/10W	R440	X-R002T4393J	RC 39K OHM 1/4W
R122	X-R803R9472J	RC 4.7K OHM 1/16W	Δ R442	X-R658A2680J	R,FUSE 68 OHM 1/2W
R123	X-R803R9472J	RC 4.7K OHM 1/16W	R443	X-R002T4103J	RC 10K OHM 1/4W
R124	X-R002T4332J	RC 3.3K OHM 1/4W	R445	X-R002T4124J	RC 120K OHM 1/4W
R125	X-R803R9122J	RC 1.2K OHM 1/16W	R446	X-R002T4272J	RC 4.7K OHM 1/2W
R126	X-R803R9472J	RC 4.7K OHM 1/16W	R447	X-R002T2680J	RC 68 OHM 1/2W
R127	X-R801R7102J	RC 1K OHM 1/10W	R448	X-R002T2680J	RC 68 OHM 1/2W
R128	X-R803R9102J	RC 1K OHM 1/16W	Δ R501	X-R002T2155J	RC 1.5M OHM 1/2W
R129	X-R803R9102J	RC 1K OHM 1/16W	R502	X-R3X181R47J	R,METAL 0.47 OHM 1W
R130	X-R803R9101J	RC 100 OHM 1/16W	Δ R503	X-R5W2CE3R9J	R,CEMENT 3.9 OHM 7W
R131	X-R002T4470J	RC 47 OHM 1/4W	R504	X-R002T4225J	RC 2.2M OHM 1/4W
R132	X-R803R9101J	RC 100 OHM 1/16W	R505	X-R002T4103J	RC 10K OHM 1/4W
R133	X-R801R7103J	RC 10K OHM 1/10W	R506	X-R002T4225J	RC 2.2M OHM 1/4W
R134	X-R801R7103J	RC 10K OHM 1/10W	R509	X-R002T4103J	RC 10K OHM 1/4W
R135	X-R801R7221J	RC 220 OHM 1/10W	Δ R511	X-R3X181R21J	R,METAL 820 OHM 1W
R136	X-R803R9394J	RC 390K OHM 1/16W	R512	X-R002T4822J	RC 8.2K OHM 1/4W
R137	X-R002T4473J	RC 4.7K OHM 1/4W	R513	X-R002T4152J	RC 15K OHM 1/4W
R138	X-R803R9482J	RC 18K OHM 1/16W	R514	X-R002T2223J	RC 22K OHM 1/2W
R139	X-R803R9102J	RC 1K OHM 1/16W	R515	X-R002T2273J	RC 27K OHM 1/2W
R140	X-R803R9102J	RC 1K OHM 1/16W	R516	X-R002T4103J	RC 10K OHM 1/4W
R141	X-R803R9472J	RC 4.7K OHM 1/16W	R518	X-R002T4122J	RC 1.2K OHM 1/4W
R142	X-R803R9103J	RC 10K OHM 1/16W	R519	X-R002T4473J	RC 4.7K OHM 1/4W
R143	X-R803R9103J	RC 10K OHM 1/16W	R520	X-R002T2154J	RC 150K OHM 1/2W
R210	X-R803R9563J	RC 56K OHM 1/16W	R521	X-R002T4562J	RC 5.6K OHM 1/4W
R211	X-R803R9104J	RC 100K OHM 1/16W	R522	X-R002T4101J	RC 100 OHM 1/4W
R212	X-R803R9101J	RC 100 OHM 1/16W	R523	X-R002T4221J	RC 220 OHM 1/4W
R213	X-R002T4101J	RC 100 OHM 1/4W	R524	X-R002T4102J	RC 1K OHM 1/4W
R216	X-R803R9331J	RC 330 OHM 1/16W	R526	X-R002T4472J	RC 4.7K OHM 1/4W
R218	X-R803R9221J	RC 220 OHM 1/16W	R527	X-R002T4102J	RC 1K OHM 1/4W
R301	X-R803R9101J	RC 100 OHM 1/16W	R528	X-R002T4103J	RC 10K OHM 1/4W
R302	X-R803R9681J	RC 680 OHM 1/16W	R529	X-R002T4183J	RC 18K OHM 1/4W
R303	X-R803R9102J	RC 1K OHM 1/16W	R530	X-R002T4102J	RC 1K OHM 1/4W
R304	X-R803R9273J	RC 27K OHM 1/16W	R531	X-R002T4331J	RC 330 OHM 1/4W
R306	X-R803R9563J	RC 56K OHM 1/16W	Δ R532	X-R3X18AR82J	R,METAL OXIDE 0.82 OHM 2W
R307	X-R803R9563J	RC 56K OHM 1/16W	R534	X-R002T2223J	RC 22K OHM 1/2W
R311	X-R803R9102J	RC 1K OHM 1/16W	R536	X-R002T4220J	RC 22 OHM 1/4W
R312	X-R803R9102J	RC 1K OHM 1/16W	R537	X-R002T4221J	RC 220 OHM 1/4W
R313	X-R803R9101J	RC 100 OHM 1/16W	R601	X-R803R9822J	RC 8.2K OHM 1/16W
R352	X-R002T4682J	RC 6.8K OHM 1/4W	R603	X-R002T4471J	RC 470 OHM 1/4W
R356	X-R803R9124J	RC 120K OHM 1/16W	R612	X-R803R9472J	RC 4.7K OHM 1/16W
R357	X-R002T2101J	RC 100 OHM 1/2W	R615	X-R803R9222J	RC 2.2K OHM 1/16W
R359	X-R002T2101J	RC 100 OHM 1/2W	R616	X-R803R9185J	RC 1.8M OHM 1/16W
Δ R401	X-R425T6104F	R,METAL 100K OHM 1/6W	R617	X-R803R9101J	RC 100 OHM 1/16W
R403	X-R002T4103J	RC 10K OHM 1/4W	R618	X-R803R9101J	RC 100 OHM 1/16W
R404	X-R002T4151J	RC 150 OHM 1/4W	R619	X-R803R9101J	RC 100 OHM 1/16W
Δ R405	X-R4X5T6223F	R,METAL 22K OHM 1/6W	R622	X-R803R9106J	RC 10M OHM 1/16W
R406	X-R002T2821J	RC 820 OHM 1/2W	R623	X-R803R9102J	RC 1K OHM 1/16W
R407	X-R426T21R2F	R,METAL 1.2 OHM 1/2W	R624	X-R803R9103J	RC 10K OHM 1/16W
Δ R408	X-R4X5T6153F	R,METAL 15K OHM 1/6W	R625	X-R803R9221J	RC 220 OHM 1/16W
R409	X-R803R9562J	RC 5.6K OHM 1/16W	R629	X-R803R9103J	RC 10K OHM 1/16W
R410	X-R002T2331J	RC 330 OHM 1/2W	R630	X-R803R9123J	RC 12K OHM 1/16W
R411	X-R002T4101J	RC 100 OHM 1/4W	R631	X-R803R9123J	RC 12K OHM 1/16W
R412	X-R002T2561J	RC 560 OHM 1/2W	R632	X-R803R9332J	RC 3.3K OHM 1/16W
R413	X-R002T2821J	RC 820 OHM 1/2W	Δ R634	X-R4X5T6472F	R,METAL 4.7K OHM 1/6W
Δ R414	X-R4X5T6682F	R,METAL 6.8K OHM 1/6W	R637	X-R803R9123J	RC 12K OHM 1/16W
R416	X-R002T2102J	RC 1K OHM 1/2W	R638	X-R803R9123J	RC 12K OHM 1/16W
Δ R417	X-R4X5T6223F	R,METAL 22K OHM 1/6W	R651	X-R803R9271J	RC 270 OHM 1/16W

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
RESISTORS			CAPACITORS		
R652	X-R803R9221J	RC 220 OHM 1/16W	C306	X-CS0PB0413K	CC 0.001 UF 50V B
R653	X-R801R7561J	RC 560 OHM 1/10W	C307	X-CS0PCH4Q1J	CC 47 PF 50V CH
R655	X-R803R9331J	RC 330 OHM 1/16W	C308	X-E524U2100U	CE 10 UF 16V
R658	X-R803R9221J	RC 220 OHM 1/16W	C351	X-E5EZT2471M	CE 470 UF 16V
R659	X-R803R9103J	RC 10K OHM 1/16W	C352	X-E02LU5100M	CE 10 UF 50V
R660	X-R002T4510J	RC 51 OHM 1/4W	C353	X-E00NU52R2M	CE 2.2 UF 50V
R701	X-R803R9473J	RC 47K OHM 1/16W	C356	X-E50HU2470M	CE 47 UF 16V
R702	X-R803R9473J	RC 47K OHM 1/16W	C358	X-CS0PB04U3K	CC 0.0068UF 50V B
R703	X-R002T4821J	RC 820 OHM 1/4W	C359	X-E02LU2101M	CE 100 UF 16V
R704	X-R002T4821J	RC 820 OHM 1/4W	C360	X-E50HU2470M	CE 47 UF 16V
R705	X-R002T4750J	RC 75 OHM 1/4W	C361	X-E00NU42R2M	CE 2.2 UF 35V
R706	X-R002T4750J	RC 75 OHM 1/4W	C362	X-E00NU42R2M	CE 2.2 UF 35V
R707	X-R803R9101J	RC 100 OHM 1/16W	C401	X-E02LU4102M	CE 1000 UF 35V
R708	X-R803R9101J	RC 100 OHM 1/16W	C403	X-E02LU5100M	CE 10 UF 50V
R709	X-R803R9101J	RC 100 OHM 1/16W	C404	X-CS0PB0414K	CC 0.01 UF 50V B
R710	X-R803R9101J	RC 100 OHM 1/16W	C405	X-E5EZTD010M	CE 1 UF 250V
R711	X-R002T4101J	RC 100 OHM 1/4W	C406	X-C0JTB05H2K	CC 220 PF 500V B
R712	X-R803R9272J	RC 2.7K OHM 1/16W	C407	X-CS0PB04E4K	CC 0.015 UF 50V B
R713	X-R803R9472J	RC 4.7K OHM 1/16W	C410	X-E524U54R7D	CE 4.7 UF 50V
R751	X-R803R9102J	RC 1K OHM 1/16W	C411	X-P1S3T0103J	CP 0.01 UF 50V
R752	X-R803R9561J	RC 560 OHM 1/16W	C412	X-E02LU5010M	CE 1 UF 50V
R759	X-R803R9101J	RC 100 OHM 1/16W	C414	X-E02LU4101M	CE 100 UF 35V
R760	X-R803R9101J	RC 100 OHM 1/16W	C416	X-P3N1F1562J	CCPP 0.0056UF 100V
R802	X-R002T4272J	RC 2.7K OHM 1/4W	C417	X-E5LZ154K7M	CE 4.7 UF 50V
Δ R803	X-R3X18A153J	R,METAL OXIDE 15K OHM 2W	C418	X-E02LF3102M	CE 1000 UF 25V
R804	X-R002T4272J	RC 2.7K OHM 1/4W	C420	X-C0JTB0513K	CC 0.001 UF 500V B
Δ R805	X-R3X18A153J	R,METAL OXIDE 15K OHM 2W	C421	X-E02LU54R7M	CE 4.7 UF 50V
R806	X-R002T4272J	RC 2.7K OHM 1/4W	C427	X-E5EZT5100M	CE 10 UF 50V
Δ R807	X-R3X18A153J	R,METAL OXIDE 15K OHM 2W	C430	X-P613T1334J	CCMPL 0.33 UF 100V TF
R809	X-R803R9122J	RC 1.2K OHM 1/16W	C434	X-E02LU8220M	CE 22 UF 100V
R811	X-R803R9122J	RC 1.2K OHM 1/16W	C435	X-P613T1104J	CCMPL 0.1 UF 100V TF
R813	X-R803R9471J	RC 4.7K OHM 1/16W	C437	X-P447Z2394J	CCMPP 0.39 UF 200V FHS
R814	X-R803R9122J	RC 1.2K OHM 1/16W	C440	X-C0JTB05H3K	CC 0.0022UF 500V B
R815	X-R803R9471J	RC 4.7K OHM 1/16W	C442	X-C0JLYR713K	CC 0.001 UF 2KV YR
R816	X-R803R9471J	RC 4.7K OHM 1/16W	C443	X-P4N8FJ562H	CCMPP 0.0056UF 1.25KV
R817	X-R803R9331J	RC 330 OHM 1/16W	C446	X-E5EZTB010M	CE 1 UF 160V
R818	X-R803R9331J	RC 330 OHM 1/16W	C448	X-E5EZTD100M	CE 10 UF 250V
R819	X-R803R9331J	RC 330 OHM 1/16W	Δ C501	X-P247Z224M	CCMP 0.22UF 275V PHE840
CAPACITORS			C502	X-P1S3T0223J	CP 0.022 UF 50V
C002	X-E02LU5010M	CE 1 UF 50V	C503	X-C0JLYR7Q2K	CC 470 PF 2KV YR
C005	X-CS0PB0215K	CC 0.1 UF 16V B	C504	X-P1S3T0103J	CP 0.01 UF 50V
C004	X-E02LU0471M	CE 470 UF 6.3V	C505	X-E52N0H331M	CC 330 UF 400V USC
C008	X-E02LU52R2M	CE 2.2 UF 50V	C506	X-C13H807H3K	CC 0.0022UF 2KV B
C009	X-CS0PB0215K	CC 0.1 UF 16V B	C507	X-C13H807H3K	CC 0.0022UF 2KV B
C102	X-CS0PB0414K	CC 0.01 UF 50V B	C509	X-CS0PB04U3K	CC 0.0068UF 50V B
C103	X-E51A0P104Z	CE 0.1 F 5.5V	C510	X-E02LU2470M	CE 47 UF 16V
C104	X-E50HU52R2M	CE 2.2 UF 50V	C511	X-E02LU5470M	CE 47 UF 50V
C105	X-E02LU0471M	CE 470 UF 6.3V	C512	X-C0JTB05Q2K	CC 470 PF 500V B
C106	X-CS0PB0215K	CC 0.1 UF 16V B	C514	X-CS0PB0414K	CC 0.01 UF 50V B
C107	X-CS0PB03L4K	CC 0.033 UF 25V B	C515	X-E5EZT3102M	CE 1000 UF 25V
C108	X-CS0PCH4G1J	CC 18 PF 50V CH	C516	X-C0JTB05Q2K	CC 470 PF 500V B
C109	X-CS0PCH4G1J	CC 18 PF 50V CH	C517	X-C0JLYR7Q2K	CC 470 PF 2KV YR
C110	X-E02LU5010M	CE 1 UF 50V	C519	X-E5EZT2222M	CE 2200 UF 16V
C111	X-E50HU5010M	CE 1 UF 50V	C520	X-C0JTB05Q2K	CC 470 PF 500V B
C112	X-CS0PB04W3K	CC 0.0082UF 50V B	Δ C521	X-E62NFC221M	CE 220 UF 200V
C113	X-CS0PB04H2K	CC 220 PF 50V B	C523	X-E5EZT2101M	CE 100 UF 16V
C114	X-CS0PB04H2K	CC 220 PF 50V B	C524	X-E5EZT2101M	CE 100 UF 16V
C115	X-CS0PB0413K	CC 0.001 UF 50V B	Δ C525	X-CB3930M13M	CC 0.001 UF 250V
C119	X-CHG0SL4K1J	CC 27 PF 50V SL	Δ C527	X-CB3930M13M	CC 0.001 UF 250V
C121	X-E50HU5010M	CE 1 UF 50V	C528	X-E5EZT2470M	CE 47 UF 16V
C123	X-E50HU2100M	CE 10 UF 16V	C529	X-E5EZT2222M	CE 2200 UF 16V
C124	X-P6M9J10474J	CCMPL 0.47 UF 50V IF	C530	X-E5LZ12101M	CE 100 UF 16V
C203	X-CS0PB0414K	CC 0.01 UF 50V B	C531	X-E5EZT0102M	CE 1000 UF 6.3V
C204	X-CS0PB04H4K	CC 0.022 UF 50V B	C532	X-E5LZU2101M	CE 100 UF 16V
C205	X-CS0PB0414K	CC 0.01 UF 50V B	C533	X-E5EZU1331M	CE 330 UF 10V
C206	X-CS0PB0414K	CC 0.01 UF 50V B	Δ C535	X-CB3930M13M	CC 0.001 UF 250V
C207	X-CS0PB0414K	CC 0.01 UF 50V B	C536	X-C0JLYR713K	CC 0.001 UF 2KV YR
C208	X-E02LU0471M	CE 470 UF 6.3V	C539	X-E5EZT50R1M	CE 0.1 UF 50V
C209	X-CS0PB0215K	CC 0.1 UF 16V B	C540	X-E5EZT8100M	CE 10 UF 100V
C212	X-E524U5R47D	CE 0.47 UF 50V	C601	X-CS0PB03L4K	CC 0.033 UF 25V B
C213	X-E524U5R47D	CE 0.47 UF 50V	C605	X-CS0PCH4H1J	CC 22 PF 50V CH
C216	X-CS0PB04L3K	CC 0.0033UF 50V B	C609	X-E623U50R1D	CE 0.1 UF 50V
C301	X-CS0PF0414Z	CC 0.01 UF 50V F	C610	X-E62KU3330M	CE 33 UF 25V
C302	X-CS0PB04E4K	CC 0.015 UF 50V B	C614	X-E02LT1102M	CE 1000 UF 10V
C303	X-E50HU5010M	CE 1 UF 50V	C615	X-CS0PB0414K	CC 0.01 UF 50V B
C304	X-CS0PCH4Q1J	CC 47 PF 50V CH	C616	X-P6M9T0224J	CCMPL 0.22 UF 50V TF
C305	X-CS0PB0215K	CC 0.1 UF 16V B	C617	X-P6M9T0334J	CCMPL 0.33 UF 50V IF

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
CAPACITORS			DIODES		
C618	X-E524U5010D	CE 1 UF 50V	D528	X-D97U05R61B	DIODE,ZENER MTZJ5 1B T-77
C619	X-E524U5010D	CE 1 UF 50V	D529	X-D97U05R11B	DIODE,ZENER MTZJ5 1B T-77
C620	X-E524U5010D	CE 47 UF 16V	D602	X-D97U05R61B	DIODE,ZENER MTZJ5 6B T-77
C621	X-CS0PB0414K	CC 0.01 UF 50V B	D603	X-D97U05R61B	DIODE,ZENER MTZJ5 6B T-77
C622	X-CS0PB0414K	CC 0.01 UF 50V B	D804	X-D97U05R61B	DIODE,ZENER MTZJ5 6B T-77
C624	X-CS0PB03Q4K	CC 0.047 UF 25V B	D809	X-D1VT001330	DIODE,SILICON 1SS133T-77
C626	X-E524U5010D	CE 0.47 UF 50V	D810	X-D2WT011E10	DIODE,SILICON 11E1-EIC
C627	X-CS0PCH41-IJ	CC 16 PF 50V CH	D811	X-D281 10EL56	DIODE,RECTIFIER 10EL56TA1B2
C630	X-E524U5010D	CE 470 UF 6.3V	D812	X-D28TQ04N0	DIODE,SCHOTTKY 11EQS04N-TA1B2
C632	X-E524U5010D	CE 1 UF 50V	D813	X-D28TQ04N0	DIODE,SCHOTTKY 11EQS04N-TA1B2
C633	X-E02LU5100M	CE 10 UF 50V	D750	X-D1VT001330	DIODE,SILICON 1SS133T-77
C636	X-CS0PB0414K	CC 0.01 UF 50V B	D801	X-D1VT001330	DIODE,SILICON 1SS133T-77
C638	X-CS0PB0414K	CC 0.01 UF 50V B	D802	X-D1VT001330	DIODE,SILICON 1SS133T-77
C639	X-CS0PB0215K	CC 0.1 UF 16V B	D803	X-D1VT001330	DIODE,SILICON 1SS133T-77
C640	X-CS0PB0215K	CC 0.1 UF 16V B	ICS		
C641	X-CS0PB0215K	CC 0.1 UF 16V B	IC101	X-IC3F03048A	IC OEC3048A
C701	X-CS0PCH4Q2J	CC 470 PF 50V CH	IC104	X-19UJ01600H	IC PSI1600H
C702	X-CS0PCH4Q2J	CC 470 PF 50V CH	IC199	X-A3H805C015	IC S-24C02BDP-1A
C703	X-E50HU2100M	CE 10 UF 16V	IC201	X-103DE68120	IC LA76812
C704	X-E50HU2100M	CE 10 UF 16V	IC351	X-10FSP75230	IC AN7523
C705	X-E50HU2100M	CE 10 UF 16V	IC401	X-103T080400	IC LA78040
C706	X-E02LU2101M	CE 100 UF 16V	IC501	X-11KA97806A	IC KIA7806AP1
C707	X-CS0PB04H4K	CC 0.022UF 50V B	IC502	X-11KA97809A	IC KIA7809AP1
C709	X-E524U5010D	CE 10 UF 50V	IC503	X-11KA97805A	IC KIA7805AP1
C710	X-E50HU2100M	CE 10 UF 16V	IC701	X-10QSQ2245L	IC NJM245L
C711	X-E50HU2100M	CE 10 UF 16V	IC702	X-10QSQ2534V	IC NJM2534V(TE2)
C712	X-E524U5010D	CE 10 UF 50V	TRANSISTORS		
C751	X-CS0PB0215K	CC 0.1 UF 16V B	Q101	X-T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S
C801	X-CS0PB04L2K	CC 330 PF 50V B	Q102	X-T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S
C808	X-CS0PB04S2K	CC 560 PF 50V B	Q103	X-TNYJ050001	COMPOUND TRANSI DTC114TKAT146
C809	X-CS0PB04Q2K	CC 470 PF 50V B	Q104	X-TNYJ050001	COMPOUND TRANSI DTC114TKA146
C810	X-CS0PB04S2K	CC 560 PF 50V B	Q301	X-T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S
C811	X-CS0PB04H2K	CC 220 PF 50V B	Q302	X-T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S
C812	X-CS0PB04H2K	CC 220 PF 50V B	Q401	X-TDUF024990	TRANSISTOR,SILICON 2SD2499
C813	X-CHGTB04H2K	CC 220 PF 50V B	Q402	X-TC3Q026210	TRANSISTOR,SILICON 2SC2621(D,E)-RAC
C819	X-C034EN713K	CC 0.001UF 2KV BN	Q403	X-TMYJ050001	COMPOUND TRANSI DTC114TKAT146
D001	X-D97U03301B	DIODE,ZENER MTZJ33B T-77	Q404	X-TPYJ050001	COMPOUND TRANSI DTA114EKAT146
D101	X-D2WT011E10	DIODE,SILICON 11E1-EIC	Q420	X-TC3T029090	TRANSISTOR,SILICON 2SC2909(S,T)-AA
D102	X-D2WT011E10	DIODE,SILICON 11E1-EIC	Q421	X-TA3T1371A0	TRANSISTOR,SILICON 2SA137(D,E)-AE
D103	X-D1VT001330	DIODE,SILICON 1SS133T-77	Q501	X-123H032550	HEI 2SK325LS-CB11
D104	X-0021721150	LED SLR-342VCT32	Q502	X-TC3T042040	TRANSISTOR,SILICON 2SC4204-AA
D105	X-0021721150	LED SLR-342MCT32	Q503	X-TD3T012070	TRANSISTOR,SILICON 2SD1207(S,T)-AE
D120	X-D97U06R81B	DIODE,ZENER MTZJ6 8B T-77	Q504	X-TBWU009260	TRANSISTOR,SILICON 2SB926(S,T)-AA
D121	X-D97U06R81B	DIODE,ZENER MTZJ6 8B T-77	Q505	X-TC5T018154	TRANSISTOR,SILICON 2SC1815Y(TPE2)
D122	X-D97U06R81B	DIODE,ZENER MTZJ6 8B T-77	Q506	X-TNYJ050001	COMPOUND TRANSI DTC144EKAT146
D123	X-D97U06R81B	DIODE,ZENER MTZJ6 8B T-77	Q507	X-TCYT174050	TRANSISTOR,SILICON 2SC1740SP TP
Δ D401	X-D94TA27011	DIODE,ZENER HZ27-1L TD	Q510	X-1A31016240	TRANSISTOR,SILICON 2SA1624-AA
Δ U402	X-0941A11B13	DIODE,ZENER HZ11B3L 1D	Q511	X-0002500560	PHOTO COUPLER TLP621(4-GR-LF2)
Δ D403	X-D2WT011E10	DIODE,SILICON 11E1-EIC	Q611	X-16YJ1037K0	TRANSISTOR,SILICON 2SA1037AK146H,S
Δ D404	X-D97U06R81B	DIODE,ZENER MTZJ6 8B T-77	Q651	X-T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S
Δ D405	X-D2WTAU02A0	DIODE,SILICON AU02A-EIC	Q751	X-T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S
Δ D406	X-D97U05R61B	DIODE,ZENER MTZJ5 6B T-77	Q754	X-T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S
Δ D410	X-D2WTAU02A0	DIODE,SILICON AU02A-EIC	Q801	X-TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
Δ D411	X-D28T10EL56	DIODE,RECTIFIER 10EL56TA1B2	Q802	X-TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
Δ U421	X-D97U03001B	DIODE,ZENER MTZJ30B T-77	Q803	X-TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
Δ D422	X-D97U03001B	DIODE,ZENER MTZJ30B T-77	COILS & TRANSFORMERS		
Δ D501	X-D2WTRM11C0	DIODE,SILICON RM11C-EIC	L001	X-021673101K	COIL 100 UH
Δ D502	X-D2WTRM11C0	DIODE,SILICON RM11C-EIC	L203	X-021673101K	COIL 100 UH
Δ D503	X-D2WTRM11C0	DIODE,SILICON RM11C-EIC	L204	X-0336020388	COIL VIDEO IFT 3602038
Δ D504	X-D2WTRM11C0	DIODE,SILICON RM11C-EIC	L401	X-021679472K	COIL 4.7 MH
Δ D505	X-D28T21DQ09	DIODE,SCHOTTKY 21DQ09N-TA2B1	L402	X-021U6D180K	COIL 18 UH
U506	X-D1VT1001330	DIODE,SILICON 1SS133T-77	Δ L501	X-029F000074	COIL,LINE FILTER FET24S-H22502
D507	X-D97U01801B	DIODE,ZENER MTZJ18B T-77	Δ L503	X-028H210005	COIL,DE-GAUSS 8H210005
U508	X-D1VT1001330	DIODE,SILICON 1SS133T-77	L601	X-021673101K	COIL 100 UH
Δ D510	X-D2WXR02AM0	DIODE,SILICON RU2AM-EIC	L602	X-0216A6101K	COIL 100 UH
D511	X-D1VT001330	DIODE,SILICON 1SS133T-77	L603	X-021LA6220K	COIL 22 UH
D512	X-D28T10EL56	DIODE,RECTIFIER 10EL56TA1B2	L604	X-021673101K	COIL 100 UH
Δ D513	X-D28T21DQ09	DIODE,SCHOTTKY 21DQ09N-TA2B1	L701	X-021673101K	COIL 100 UH
D514	X-D1VT001330	DIODE,SILICON 1SS133T-77	L801	X-02167D151K	COIL 150 UH
D516	X-D28T21DQ09	DIODE,SCHOTTKY 21DQ09N-TA2B1	Δ T401	X-03305Y0018	TRANS,HORI.DRIVE 305Y001
D518	X-D1VT1001330	DIODE,SILICON 1SS133T-77	Δ L501	X-0481290754	TRANS,SWITCHING 81290754
D519	X-D1VT001330	DIODE,SILICON 1SS133T-77			
D520	X-D97U01801B	DIODE,ZENER MTZJ18B T-77			
D521	X-D1VT001330	DIODE,SILICON 1SS133T-77			
D525	X-D1VT001330	DIODE,SILICON 1SS133T-77			
D526	X-D28T10EL56	DIODE,RECTIFIER 10EL56TA1B2			

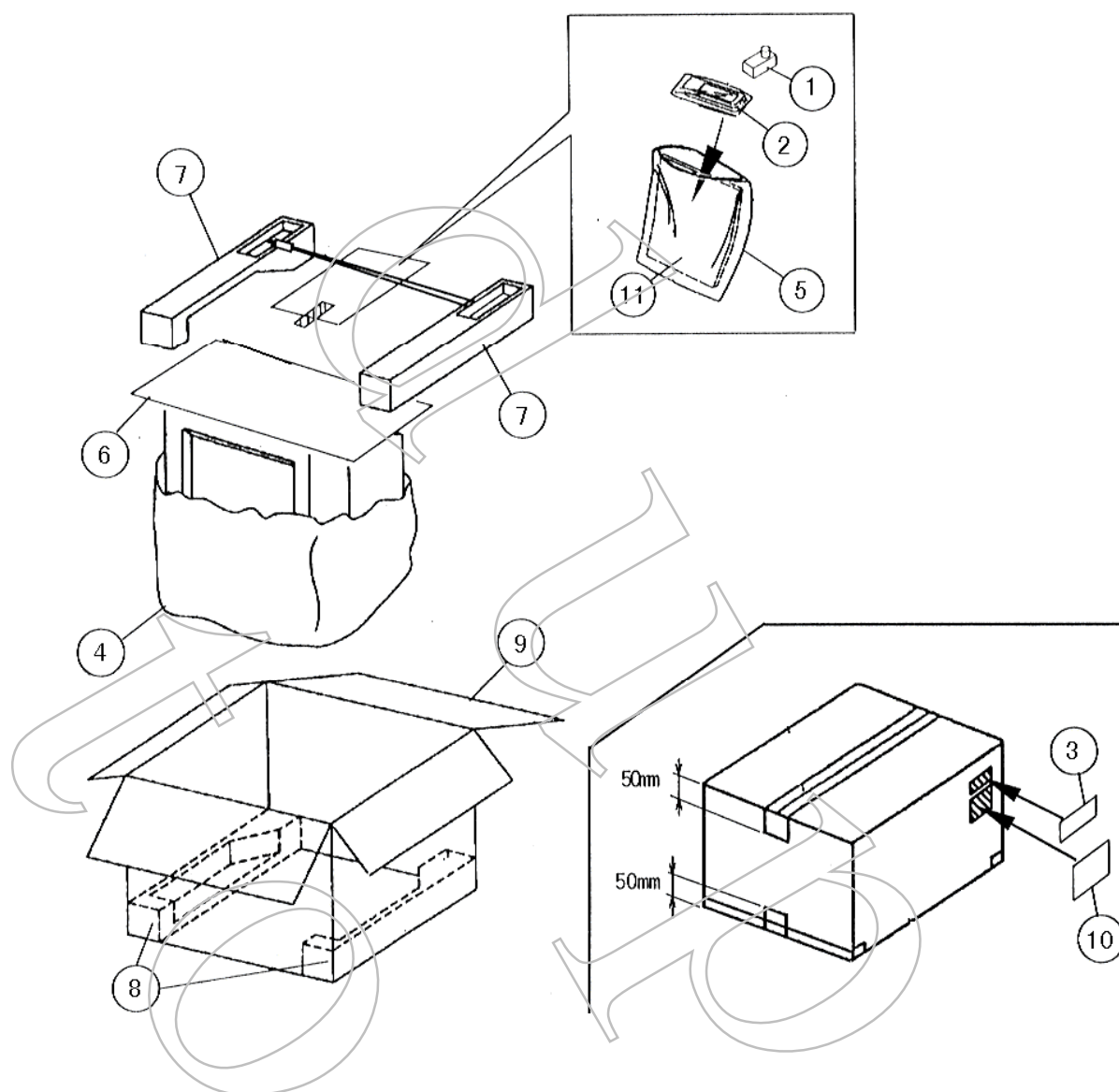
ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
JACKS			
△ J353	X-060G131014	RCA JACK	HTJ-035-28A
J701	X-060Q401049	RCA JACK	AV1-06D-4
J702	X-060Q401048	RCA JACK	AV1-06D-3
J703	X-060Q401073	RCA JACK	AV1-15D-4
J704	X-060Q401072	RCA JACK	AV1-15D-3
△ J801	X-066X120014	SOCKET, CATHODE RAY TUBE	HPS3200-010501
SWITCHES			
SW101	X-0504201T31	SWITCH, TACT	SKHVBD010
SW102	X-0504201T31	SWITCH, TACT	SKHVBD010
SW104	X-0504201T31	SWITCH, TACT	SKHVBD010
SW105	X-0504201T31	SWITCH, TACT	SKHVBD010
△ SW501	X-0530205002	SWITCH PLUS	SDDFC30400
VARIABLE RESISTORS			
VR401	X-V1163H3BTC	VOLUME, SEMI FIXED	EVN0YAA03BE3
VR501	X-V1262L2BT6	VOLUME, SEMI FIXED	RH063LCN2R
MISCELLANEOUS			
B501	X-024AT03655	CORE, BEADS	BL01RN1-A63T6
B502	X-024AT03482	CORE, BEADS	BL02RN2-R62T4
B503	X-024AT03655	CORE, BEADS	BL01RN1-A63T6
B504	X-024AT03655	CORE, BEADS	BL01RN1-A63T6
BT001	X-1412004008	BATTERY, MANGAN	R03(AB)E_20_T
BT002	X-1412004008	BATTERY, MANGAN	R03(AB)E_20_T
CD352	X-06CH12081A	CORD CONNECTOR	CH12081A
CD353	X-122Y072002	CORD JUMPER	2Y072002
△ CD501	X-12064F4801	CORD AC BUSH	064F4801
CD801	X-1278200015	BRAIDED WIRE	SM1315-001
CD802	X-122Y0A2801	CORD JUMPER	2Y0A2801
CF201	X-102E045R7E	FILTER, SAW	M1866M
CP001	X-069W01001A	CONNECTOR PCB SIDE	003P-2100
CP101	X-0694260139	CONNECTOR PCB SIDE	173979-6
CP352	X-069R270589	CONNECTOR PCB SIDE	52147-0710
CP353	X-067R007019	WIRE HOLDER	51048-0710
△ CP401	X-069X450029	CONNECTOR PCB SIDE	B05B-DVS
CP502	X-069W420029	CONNECTOR PCB SIDE	TV-50P-02-A1
CP601	X-069W320018	CONNECTOR PCB SIDE	TS-80P-02-V1
CP802A	X-067R010019	WIRE HOLDER	51048-1000
CP802B	X-067R010019	WIRE HOLDER	51048-1000
EL001	X-124116281A	EYE LET	XRY16X28BD
EL002	X-124120301A	EYE LET	XRY20X30BD
△ F501	X-080NT05003	FUSE	50T050HCC
△ FB401	X-043219011F	TRANSFORMER, FLYBACK	FQ1-20B001
FH501	X-06710T0006	HOLDER, FUSE	EYF-52BC
FH502	X-06710T0006	HOLDER, FUSE	EYF-52BC
OS101	X-077Q037003	REMOTE RECEIVER	PIC-37143SY
△ RY501	X-0560V20115	RELAY	ALKS321
SP351	X-070W463003	SPEAKER	MS-2D6SB02-1
SP352	X-070W463003	SPEAKER	MS-2D6SB02-1
TH502	X-D8R0A140M0	DECAUSS ELEMENT	PTH451A140M21
△ TU001	X-0145S00052	TUNER, VHF-UHF	ENV56D66G3
△ V801	X-098Y200486	CRT W/DY	A48LGS30X19S15
X101	X-100DA32R01	CRYSTAL	DT-26
X601	X-100CT4R406	CRYSTAL	HC-49/U

RESISTOR RC..... CARBON RESISTOR

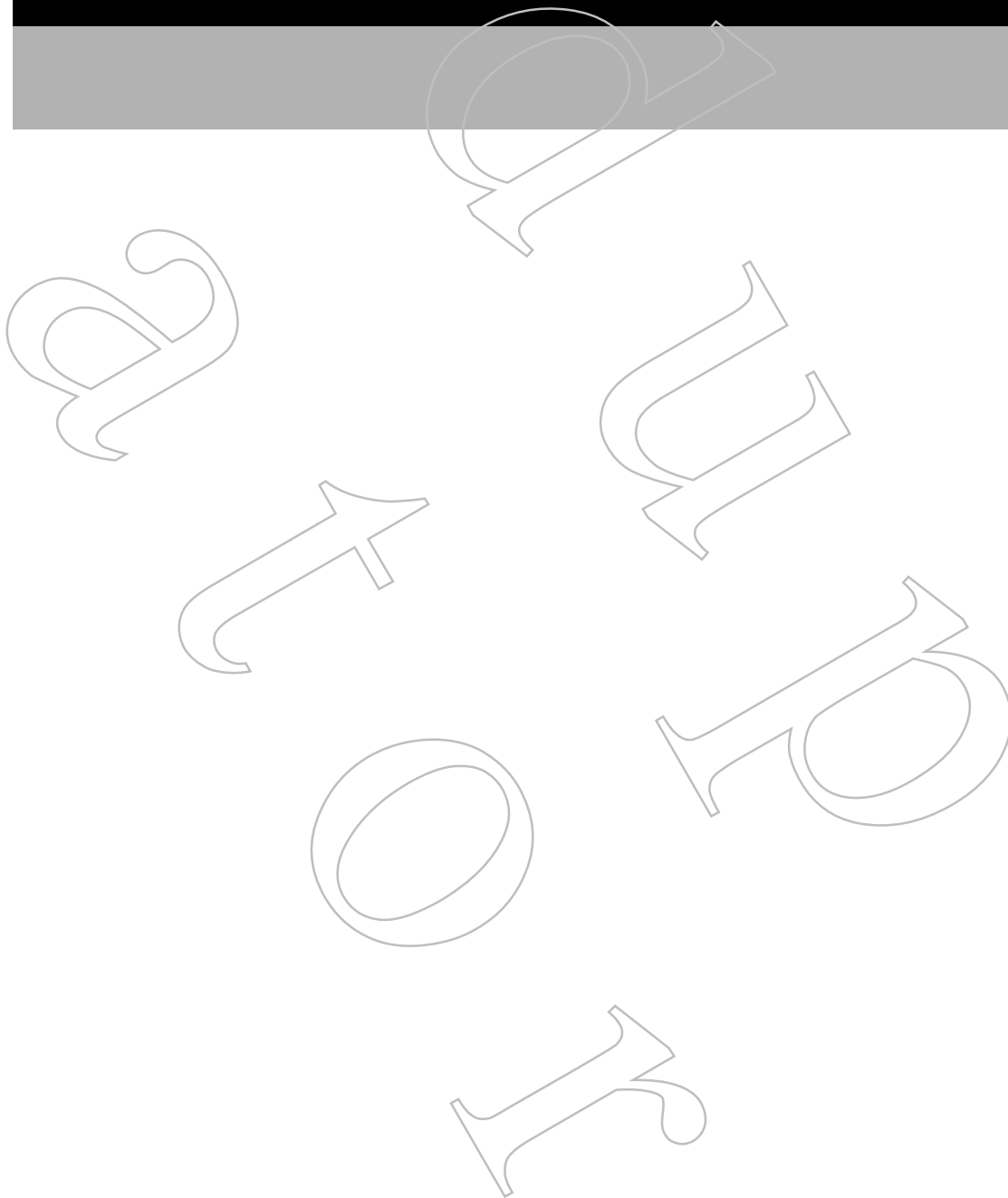
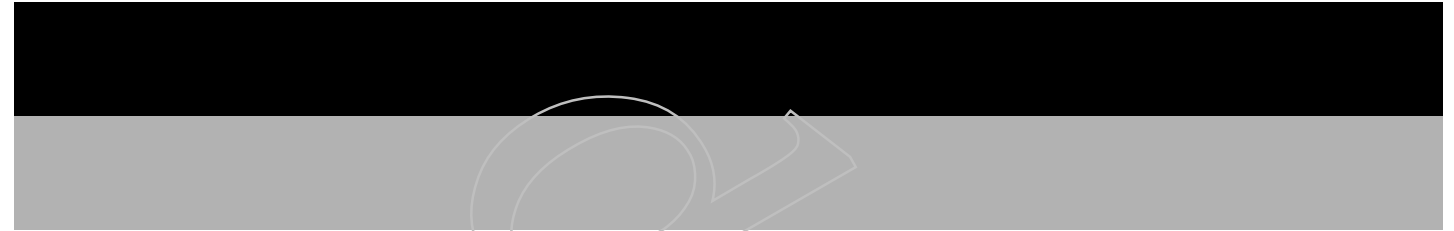
CAPACITORS
 CC..... CERAMIC CAPACITOR
 CE..... ALUMI ELECTROLYTIC CAPACITOR
 CP..... POLYESTER CAPACITOR
 CPP..... POLYPROPYLENE CAPACITOR
 CPL..... PLASTIC CAPACITOR
 CMP..... METAL POLYESTER CAPACITOR
 CMPL..... METAL PLASTIC CAPACITOR
 CMPP..... METAL POLYPROPYLENE CAPACITOR





ACCESSORY REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	X-023C00022A	Matching Box HPN-01
2	X-076N0DW030	ROMOTE CONTROL RC-DW030
3	X-7225380010	Rating Label
4	CP30897-002	Poly Bag(for TV Set)
5	CP30897-002	Poly Bag(for Inst Book)
6	CP30899-001	Top Cover
7	J-0137	Cushion(Top) 2pcs in 1 set
8	J-0138	Cushion(Bottom) 2pcs in 1 set
9	GQ10036-002A	Packing Case
10	GQ30031-002A	POS Label
11	X-3H70301A	Instruction Book



JVC

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