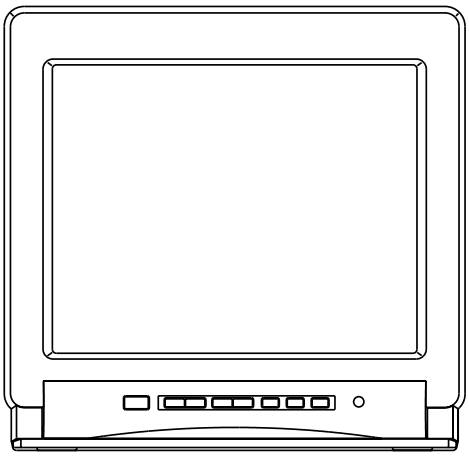
Memorex®

MT1098

SERVICE MANUAL

COLOR TELEVISION RECEIVER



ORIGINAL
MFR'S VERSION B

Design and specifications are subject to change without notice.

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 eternal 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.

CONTENTS

GENERAL SPECIFICATIONS

G-1.Outline of the Product

9 inch(222.8mmV):Measured diagonally

Color CRT 90 degree deflection

G-2.Broadcasting System

US System M

G-3.Color System ☒NTSC ☐PAL ☐SECAM or Monochrome signal

G-4.NTSC Playback(PAL 60Hz) ☐Yes ☐No ☒Not Applicable

G-5.NTSC 3.58+4.43/PAL60Hz ☐Yes ☐No ☒Not Applicable

G-6.Antenna Input Impedance

VHF/UHF 75 ohm unbalanced

G-7.Tuner and Receiving Contactless Electric tuner ☒1Tuner System ☐2Tuner System

channel Tuner ☐Oscar(W/O HYPER) ☐Oscar(W/ HYPER) ☐France CATV) ☒Others

Receiving channel

(USA) 2-69 , 4A , A-5~A-1 , A~I , J~W , W+1~W+84

Tuning System

☒Frequency syn. ☐Voltage syn. ☐Others

G-8.Preset Channel

-- channels

G-9.Intermediate Frequency

Picture(fP)	45.75MHz	_____ MHz	_____ MHz
Sound (fS)	41.25 MHz	_____ MHz	_____ MHz
fP-fS	4.50 MHz	_____ MHz	_____ MHz

G-10.Stereo/Dual TV Sound

☐ Yes(☐NICAM ☐GERMAN ☐USA ☐JAPAN) ☒No

G-11.Tuner Sound Muting ☐Yes ☒No

G-12.Power Source DC 12 V

G-13.Power Consumption: 35 W at DC 12 V

Stand by: 1 W at DC 12 V

Per Year: -- kWh / Year

G-14.Dimensions(Approx.)

232 mm(W) 289 mm(D) 224 mm(H)

G-15.Weight(Approx.) Net : 5.0 kg (11.0 lbs)

Gross: 6.0 kg (13.2 lbs)

G-16.Cabinet Material

Cabinet Front:	☒PS	☐94HB	☒DECABROM
	☐ABS	☐94V2	☐NON-DECA
		☒94V0	
Back Panel:	☒PS	☐94HB	☒DECABROM
	☐ABS	☐94V2	☐NON-DECA
		☒94V0	

G-17.Protector: ☒Power Fuse

GENERAL SPECIFICATIONS

G-18.Regulation

Safety

☐UL	☐CSA	☐SAA	☐SI	☐CE	☐SEV
☐BS	☐NF	☐NEMKO	☐FEMKO	☐DEMKO	☐IEC65
☐SEMKO	☐NZ	☐HOMOLO	☐SABS	☐CNS	☐SISIR
☐NOM	☐AS3159	☐DENTORI	☐UNE	☐GOST	☒NONE

Radiation

☒FCC	☐DOC	☐FTZ	☐PTT	☐CE	☐SEV
☐SABA	☐SI	☐NF	☐NZ	☐HOMOLO	☐UNE
☐CNS	☐CISPR13	☐DENTORI	☐AS/NZS	☐NONE	

X-Radiation

☐PTB	☒DHHS	☐HWC	☐DENTORI	☐NONE

G-19.Temperature : Operation 5 ºC ~ 40 ºC

Storage -20 ºC ~ 60 ºC

G-20.Operating Humidity Less than 80 %RH

G-21.Clock and Timer

Sleep Timer	☒Yes Max 120 Min.(10 Min. Step)	☐No
On/Off Timer	☐Yes _____ Programs	☒No
Wake Up Timer	☐Yes _____ Programs	☒No

G-22.Timer back up Time: More than -- Minutes (at Power Off Mode)

G-23.Terminals

☒VHF/UHF Antenna Input ☐ Din Type ☒ F-Type ☐ France Type

☐Front Video Input (RCA ø8.3)

☐Front Audio Input (RCA ø8.3)

☒Rear Video Input1 (RCA ø8.3)

☒Rear Audio Input1 (RCA ø8.3)

☒Rear Video Input2 (RCA ø8.3)

☒Rear Audio Input2 (RCA ø8.3)

☒Rear Video Output (RCA ø8.3)

☒Rear Audio Output (RCA ø8.3)

☐21 Pin	☒DC Jack(Center +)	☐Ear Phone Jack(ø3.5)
☐Head Phone Jack(ø3.5)	☐AC Outlet	☒Ext Speaker(ø3.5)
☐Diversity	☐S Input(Front)	☐S Input(Rear)

G-24.Indicator : ☐Power (____) ☐Stand By (____) ☐On Timer (____) ☒NONE

G-25.Display

On Screen Display

☒Menu ☐Clock Set(☐12H ☐24H)

☒CH Set ☒TV/CATV

☒Auto Ch Memory

☒ADD/Delete

☒Picture

☒Language

☐V-Chip

☒Control Level	☒Sound	☒Brightness	☒Contrast
	☒Color	☒Tint(NTSC Only)	☒Sharpness
	☐Tuning	☐Bass	☐Treble
	☐Balance	☐Back Light	
☐Stereo,Audio Output,SAP		☐Mid Night Theater	
☐Stereo,Audio Output		☐GAME	☐Picture Menu
☒AV	☒Channel	☐Clock	☐Hotel Lock
☒Sleep Timer	☐Sound Mute	☐Pin Code	

GENERAL SPECIFICATIONS

G-26.OSD Language

☒Eng ☐Ger ☒Fre ☒Spa ☐Ita ☐Por ☐Jpn

OSD Language Setting

☒Eng ☐Ger ☐Fre ☐Spa ☐Ita ☐Por ☐Jpn

☐Not Applicable

G-27.Speaker ☒NONE

Layout ☐Front ☐Side ☐Bottom

Size/Quantity _____ inches x _____ pcs

Imp. _____ohm

Power Max. _____ W

10 % _____ W (Typical)

G-28.EXT Speaker : ☒Yes ☐No

Imp. 8 ohm

Power Max. 1.2 W

10 % 0.8 W (Typical)

G-29.Carton

Master Carton: ☐Need ☒No Need

Content: ---- Set

Material: ---- / ---- Corrugated Carton

Dimensions: ---- mm(L) ---- mm(W) ---- mm(D)

Description of Origin ☐Yes ☐No

Gift Box

Material ☒Single/Brown Corrugated Carton (☐with Photo Label)

☐Double/White Corrugated Carton (☐with Photo Label)

☐Double Full Color Carton W/Photo

Dimensions: 294 mm(W) 348 mm(D) 295 mm(H)

Design: As Per Buyer 's

Description of Origin: ☒Yes ☐No

Drop Test Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces

Height ☐25cm ☐31cm ☐46cm ☐62cm ☒80cm

Container Stuffing: 2,140 Sets / 40' container

G-30.Accessories

☒Owner's Manual (☐W/Guarantee Card) [English/Spanish]

☐AC Plug Adapter
☐Battery (UM-___ x ___)
☐Safety Tip
☐Guarantee Card
☐Registration Card
☐Quick Set-Up Sheet
☐Information Sheet
☐75 ohm Coaxial Cable (☐Single Shield ☐Double Shield)
☐300 ohm to 75 ohm VHF Antenna Adaptor
☐21pin Cable
☐Rod Antenna
☐One Pole ☐Two Pole(☐F-Type ☐Din Type ☐France Type)
☐Loop Antenna (☐F-Type ☐Din Type ☐France Type)

☐Channel film
☒Remote Control Unit
☐Toll Free Insert Sheet
☐Audio-Video Cord (RCA)
☐Warning Sheet
☐Schematic Diagram
☐U/V Mixer
☒Car Cord

G-31.Other Features

☒Auto Degauss
☒Auto Shut Off
☐SAP
☒CATV(181CH)
☐Anti-Theft
☐Rental
☐Closed Caption

☒Auto CH Memory
☐Picture Menu
☐Comb Filter
☐Game Position
☐Mid Night Theater
☐V-Chip

GENERAL SPECIFICATIONS

G-32.Switch

Front

☒Power	☒Channel Up/Reset	☒Volume Up/Set+
☐System Select	☒Channel Down/Enter	☒Volume Down/Set-
☐Main Power SW	☐Sub Power	☒Menu
☒TV/AV	☒Picture	

Rear

☐AC/DC	☐TV/CATV Selector
☐Degauss	☐Main Power SW

G-33.Magnetic Field

☒BV : +0.45G	☐BV : +0.35G	☐BV : +0.25G
BH : 0.18G	BH : 0.30G	BH : 0.30G
☐BV : -0.15G	☐BV : -0.25G	☐BV : -0.50G
BH : 0.15G	BH : 0.15G	BH : 0.30G

G-34.Remote Control Unit: RC-CX

Power Source: D.C 3 V Battery UM - 4 x 2

Total 34 Keys

<CTV Control Keys>

☒ CTV Power	☒TV/AV
☒ 0	☒Volume Up
☒ 1	☒Volume Down
☒ 2	☒CH Up
☒ 3	☒CH Down
☒ 4	☒Sleep
☒ 5	☒Call
☒ 6	☒Reset
☒ 7	☒Enter
☒ 8	☒Menu
☒ 9	☒Set +
☒Quick View	☒Set -

<VP Control Keys>

☒VP POWER	☒Still
☒Play	☒Repeat
☒Stop	☒ATR
☒F.FWD	☒Tr+
☒Rew	☒Tr-

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.

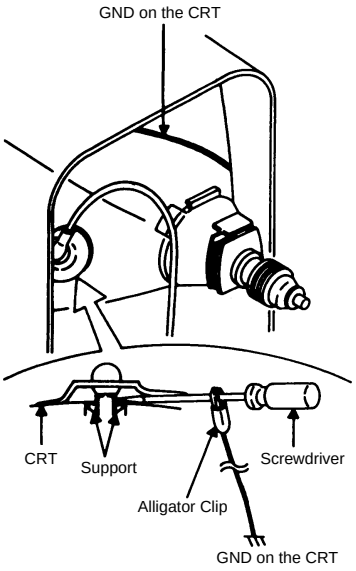


Fig. 1-1

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.)**

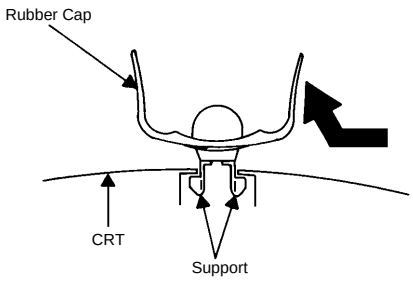


Fig. 1-2

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.)**

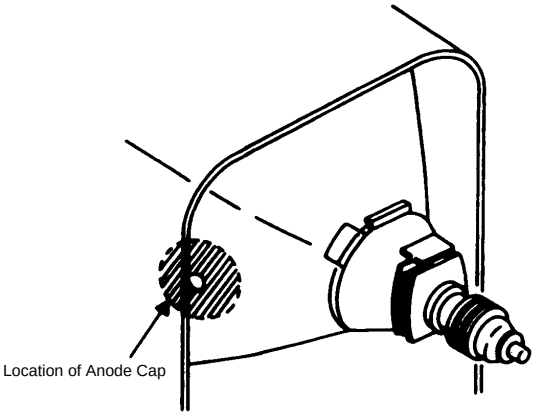


Fig. 1-3

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.)**

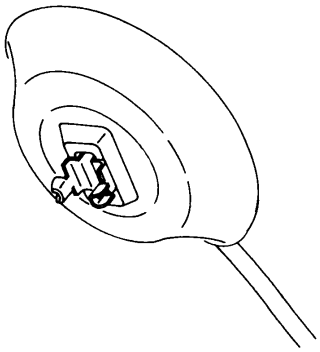


Fig. 1-4

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

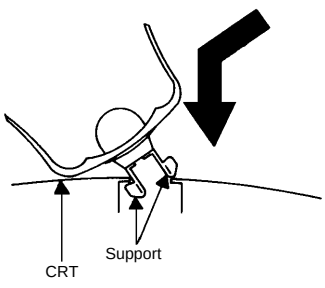


Fig. 1-5

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

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF DEFLECTION YOKE

(Refer to Fig. 2-1)

1. Loosen the screw ①.
2. Remove the Convergence • Purity Magnet in the direction of arrow (A).
3. Remove the 3 Wedges.
4. Remove the Deflection Yoke in the direction of arrow (A).

INSTALLATION

Install new Deflection Yoke in reverse steps of REMOVAL.

NOTE

After adjusting the purity and the convergence, fix the screw ① and lock the wedges.

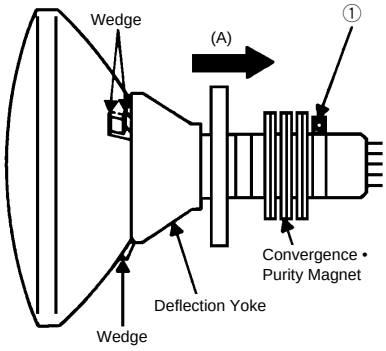


Fig. 2-1

DISASSEMBLY INSTRUCTIONS

3. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 3-1.)**

   NOTE

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

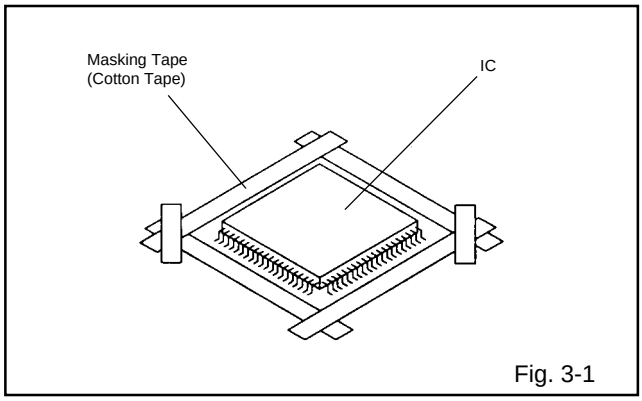


Fig. 3-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 3-2.)**

   NOTE

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

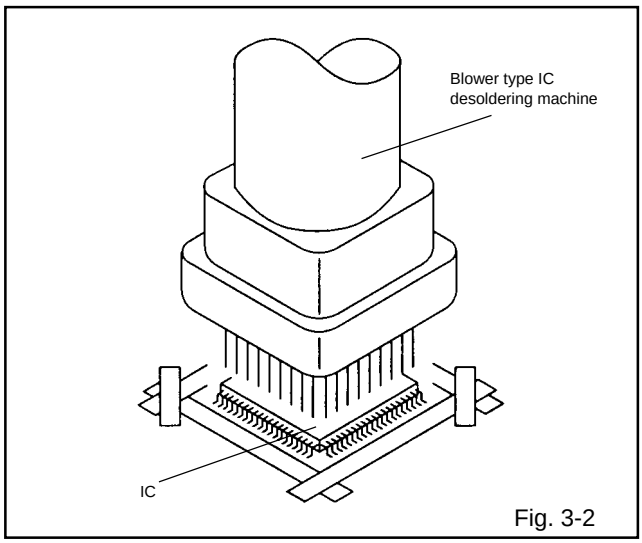


Fig. 3-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 3-3.)**

   NOTE

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

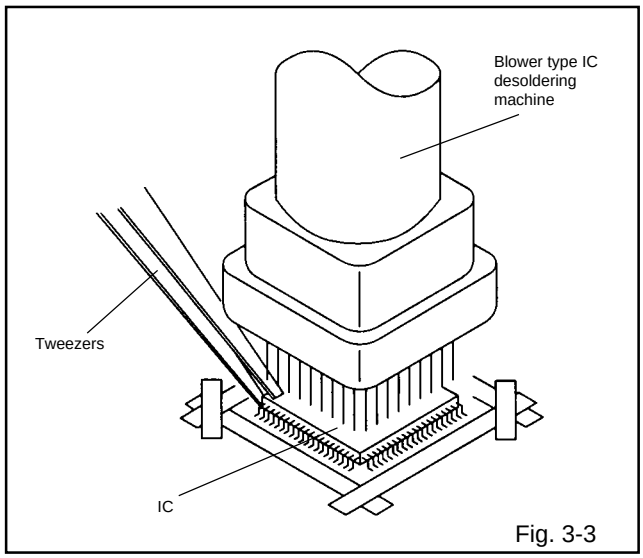


Fig. 3-3

4. Peel off the Masking Tape.

5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 3-4.)**

   NOTE

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

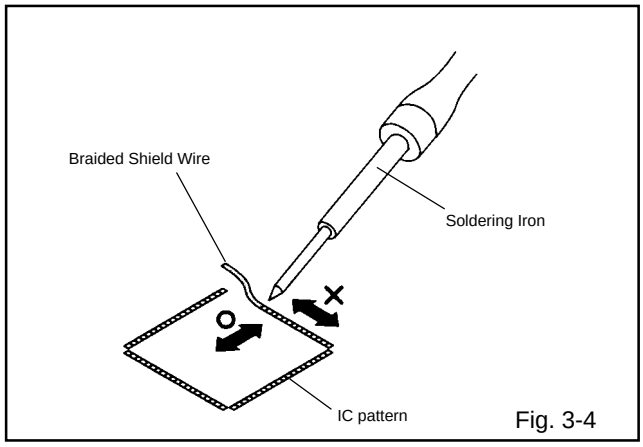


Fig. 3-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 3-5.)**

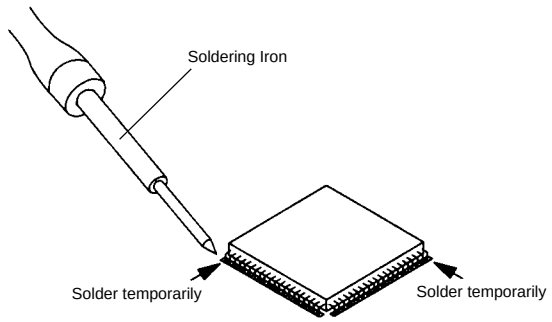


Fig. 3-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 3-6.)**

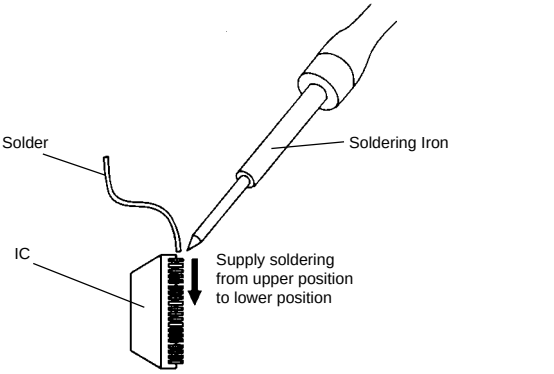


Fig. 3-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 3-7.)**

   NOTE

   Do not absorb the solder to excess.

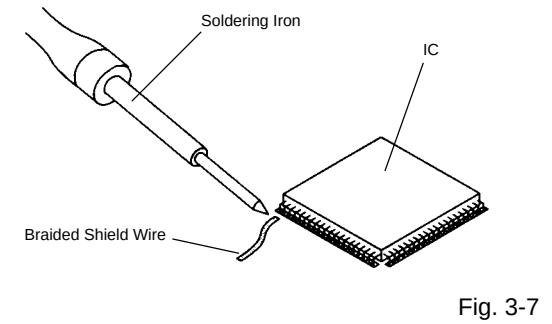


Fig. 3-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 3-8.)**

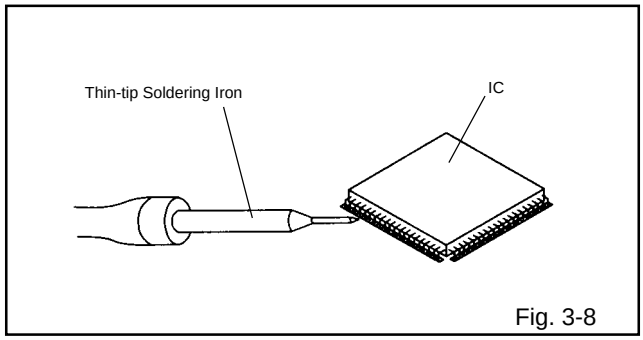


Fig. 3-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   NOTE

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, be always sure to replace the IC in this case.

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 simultaneously for more tan 1 second.

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 "PREVENTIVE CHECKS AND SERVICE INTERVALS" (CONFIRMATION OF HOURS USED). Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (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 HOURS USED

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

1. Set the VOLUME to minimum.
2. While holding down VOLUME button on front cabinet, press key 6 on remote control simultaneously for more than 1 second.
3. After the confirmation of using hours, turn off the power.

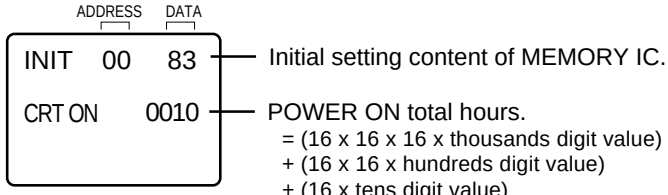


FIG. 1

WHEN REPLACING EEPROM (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.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9
00	9C	2C	00	00	00	00	00	1B	84	0D

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. While holding down VOLUME button on front cabinet, press key 6 on remote control simultaneously for more than 1 second.
3. ADDRESS and DATA should appear as FIG 1.
4. ADDRESS is now selected and should "blink". Using the SET + or - keys on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press ENTER to select DATA. When DATA is selected, it will "blink".
6. Again, step through the DATA using SET + or - until required DATA value has been selected.
7. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 7 until all data has been checked.
9. 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.

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 (YG6260M).
  Remove all old silicon before applying new silicon.

1-1: Prepare the following measurement tools for electrical adjustments.

1. Synchro Scope
2. Digital Voltmeter

2. BASIC ADJUSTMENTS

On-Screen Display Adjustment

Press the VOL. DOWN button on the set and the Channel button **(9)** on the remote control simultaneously for more than 1 second to appear the adjustment mode on the screen as shown in **Fig. 2-1.**

NOTE

Use the Channel buttons **(1-8)** on the remote control to select the options shown in **Fig. 2-1.**
Press the Channel button **(0)** on the remote control to end the adjustments.

1. H/V
2. AKB
3. COLOR TEMP
4. PICTURE
5. OTHERS
6. TEST PATTERN
7. STEREO/SAP
8. (VOL TEST) 0. END

Fig. 2-1

2-1: RF AGC DELAY

1. Receive an 63dB monoscope pattern.
2. Connect the digital voltmeter between the **pin 2 of CP101** and the **pin 6 (GND) of CP101.**
3. Activate the adjustment mode display of **Fig. 2-1** and press the channel button **(5)** on the remote control to select "OTHER". The **Fig. 2-2** appears on the display.
4. Press the channel button **(1)** on the remote control to select "RF AGC DELAY".
5. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is 2.80 ± 0.05V.

1. RF AGC DELAY
2. VIDEO LEVEL
3. FM LEVEL
4. OSD H
5. CUT OFF
6. X-RAY
7.
8. 0. RETURN

Fig. 2-2

2-2: CUT OFF

1. Using the remote control, set the brightness and contrast to normal position.
2. Activate the adjustment mode display of **Fig. 2-1** and press the channel button **(5)** on the remote control to select "OTHERS". The **Fig. 2-2** appears on the display.
3. Press the channel button **(5)** on the remote control to select "CUT OFF".
4. Adjust the **Screen Volume** until a dim raster is obtained.

2-3: WHITE BALANCE

NOTE:

Adjust after performing adjustments in section 2-2.

1. Receive the color bar pattern.
2. Activate the adjustment mode display of **Fig. 2-1** and press the channel button **(2)** on the remote control to select "AKB". The **Fig. 2-3** appears on the display.
3. Adjust the adjustment mode display of **Fig. 2-3** until the white color is looked like a white.

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

Fig. 2-3

2-4: SUB BRIGHTNESS

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

ELECTRICAL ADJUSTMENTS

1. BRIGHT
2. CONTRAST
3. COLOR
4. TINT
5. SHARPNESS
6. OSD CONT
7.
8. 0. RETURN

Fig. 2-4

2-5: SUB TINT/SUB COLOR

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the synchro scope to **TP023.**
4. Activate the adjustment mode display of **Fig. 2-1** and press the channel button **(4)** on the remote control to select "PICTURE". The **Fig. 2-4** appears on the display.
5. Press the channel button **(3)** on the remote control to select "COLOR".
6. Adjust the LEVEL "B" section of Blue to the LEVEL "E" section of White by pressing the VOL. UP/DOWN button on the remote control. **(Refer to Fig. 2-5)**
7. If the LEVEL "B" section through "D" section are not the same compared with "E" section, adjust the LEVEL again.
8. Press the color bar pattern. (Audio Video Input)
9. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~7.

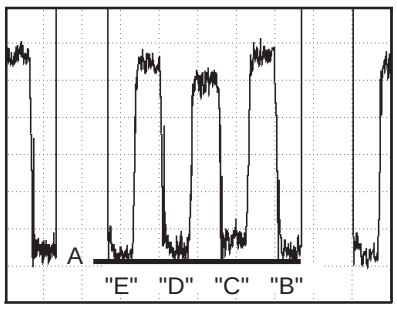


Fig. 2-5

2-6: VCO FREERUN

1. Receive an 80dB monoscope pattern.
2. Connect the digital voltmeter to **TP201**.
3. Adjust the **L205** until the digital voltmeter is 3.1 ± 0.05V

2-7: SUB CONTRAST

1. Receive the monoscope pattern. (RF Input)
2. Activate the adjustment mode display of **Fig. 2-1** and press the channel button **(4)** on the remote control to select "PICTURE". The **Fig. 2-4** appears on the display.
3. Press the channel button **(2)** on the remote control to select "CONTRAST".
4. Check if the step No. of contrast is "70".
5. Receive the monoscope pattern. (Audio Video Input)
6. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~4.

2-8: FOCUS

1. Receive an 70dB monoscope pattern.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

2-9: VERTICAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 2-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-6** appears on the display.
4. Press the channel button **(4)** on the remote control to select "V.POSI".
5. Press the VOL. UP/DOWN button on the remote control until the horizontal line of the color bar comes to approximate center of the CRT.
   Perform the adjustment of step 5 to step 12.

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

Fig. 2-6

2-10: VERTICAL LINEALITY

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

1. Receive the crosshatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to al position.
3. Activate the adjustment mode display of **Fig. 2-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-6** appears on the display.
4. Press the channel button **(5)** on the remote control to select "V. LIN".
5. Check if the step N0. V.LIN is "17".
6. Press the VOL. UP/DOWN button on the remote control until the right and left screen size of the vertical line becomes the same.

ELECTRICAL ADJUSTMENTS

2-11: VERTICAL SIZE

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 2-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-6** appears on the display.
4. Press the channel button **(3)** on the remote control to select "V.SIZE".
5. Press the VOL. UP/DOWN button on the remote control until the center of crosshatch is square.

2-12: HORIZONTAL PHASE

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 2-1** and press the channel button **(1)** on the remote control to select "H/V". The **Fig. 2-6** appears on the display.
4. Press the channel button **(1)** on the remote control to select "H.PHASE".
5. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-13: OSD HORIZONTAL

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

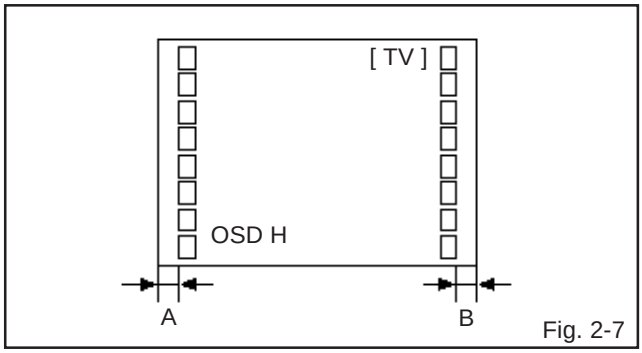


Fig. 2-7

2-14: DC CONSTANT VOLTAGE

1. Using the remote control, set the brightness and contrast to normal position.
2. Connect the digital voltmeter to **TP401.**
3. Set condition is AV MODE without signal.
4. Adjust the VR501 until the DC voltage is 99 ± 0.5V.

ELECTRICAL ADJUSTMENTS

3. 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.

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**
   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 funnel side 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.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

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.

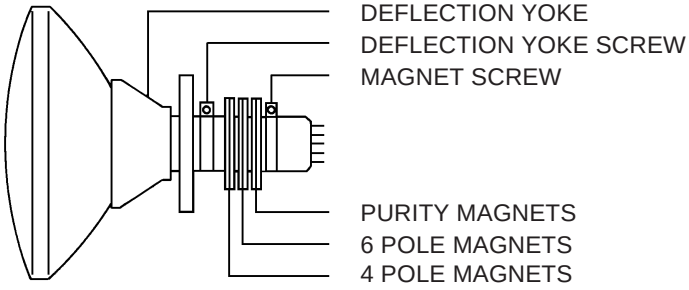


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

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.

3-4: DYNAMIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 3-2-b)**

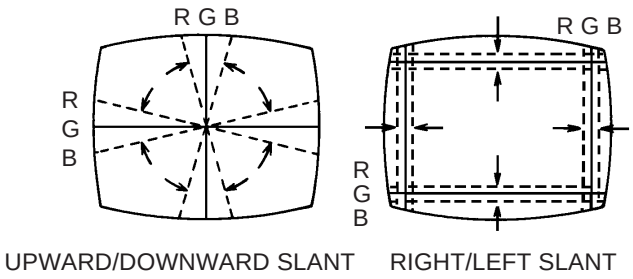


Fig. 3-2-a

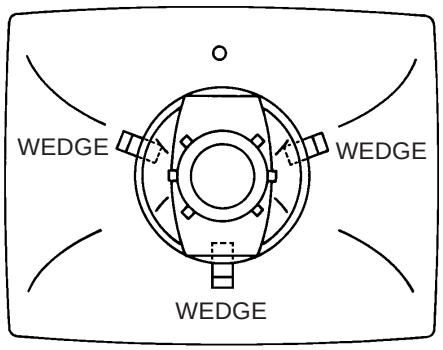
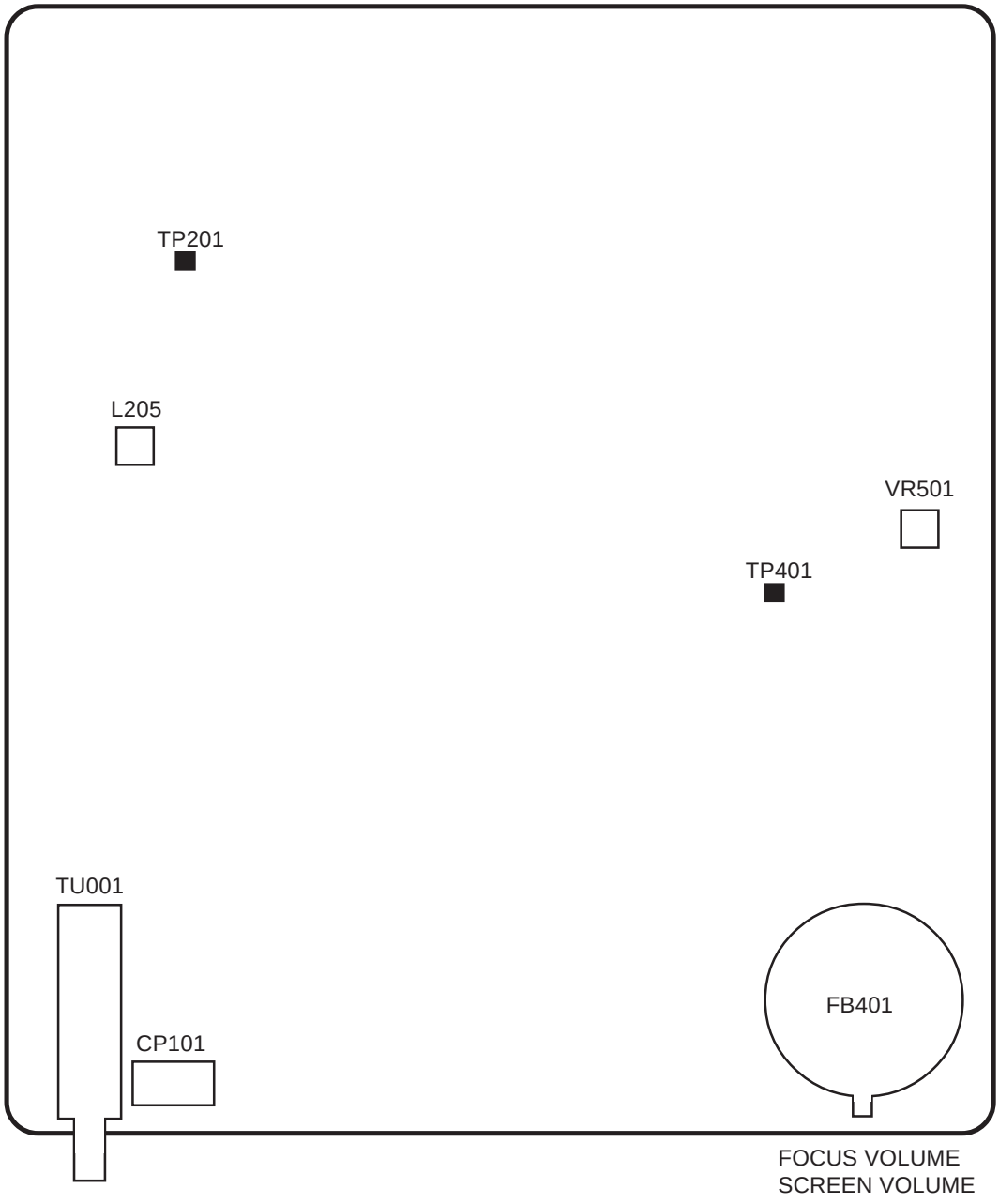
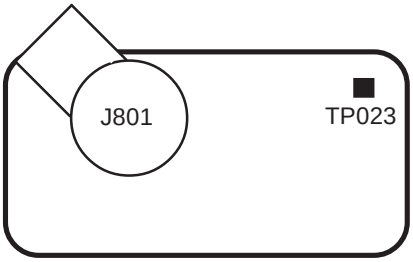


Fig. 3-2-b

MAJOR COMPONENTS LOCATION GUIDE

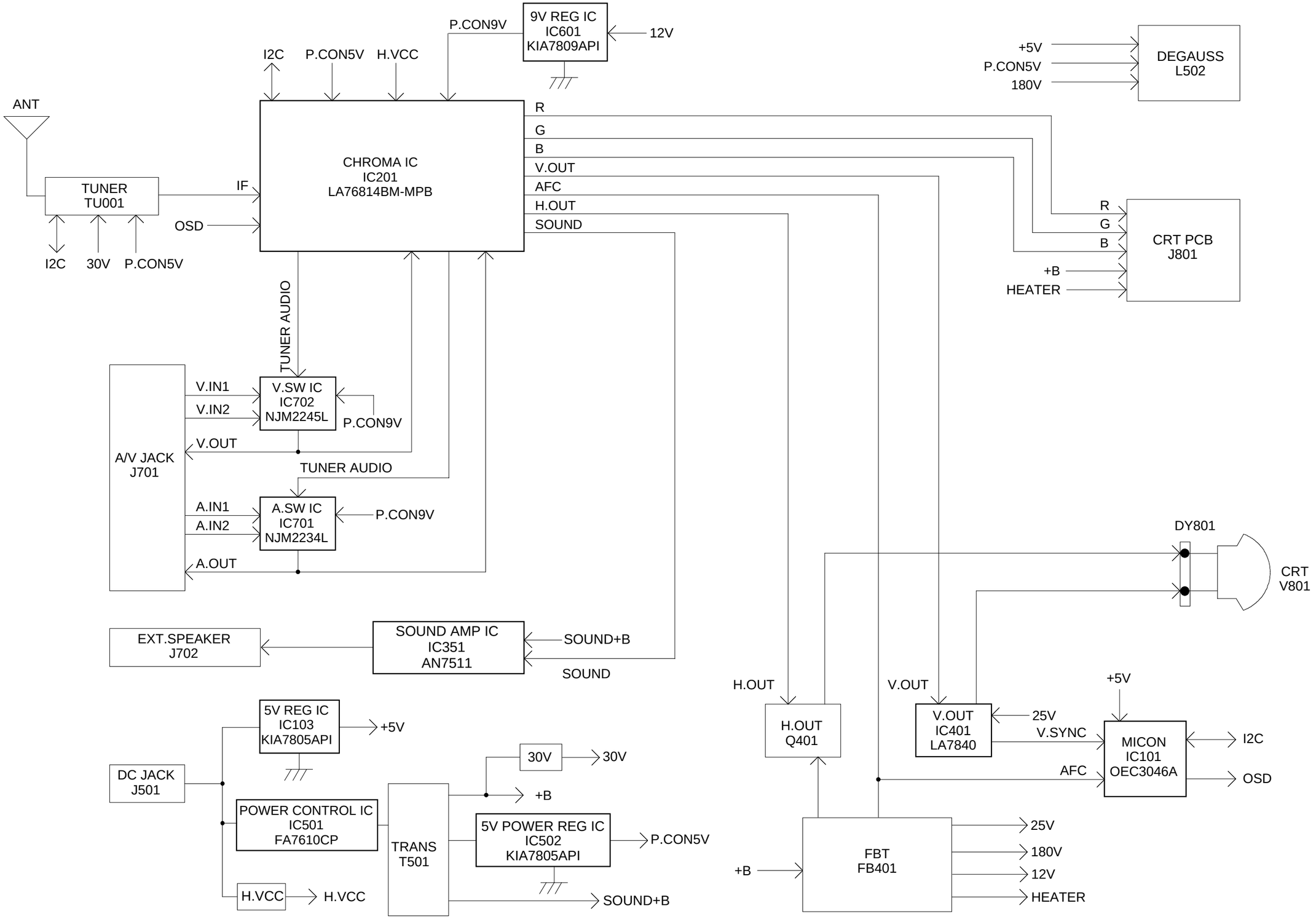


MAIN

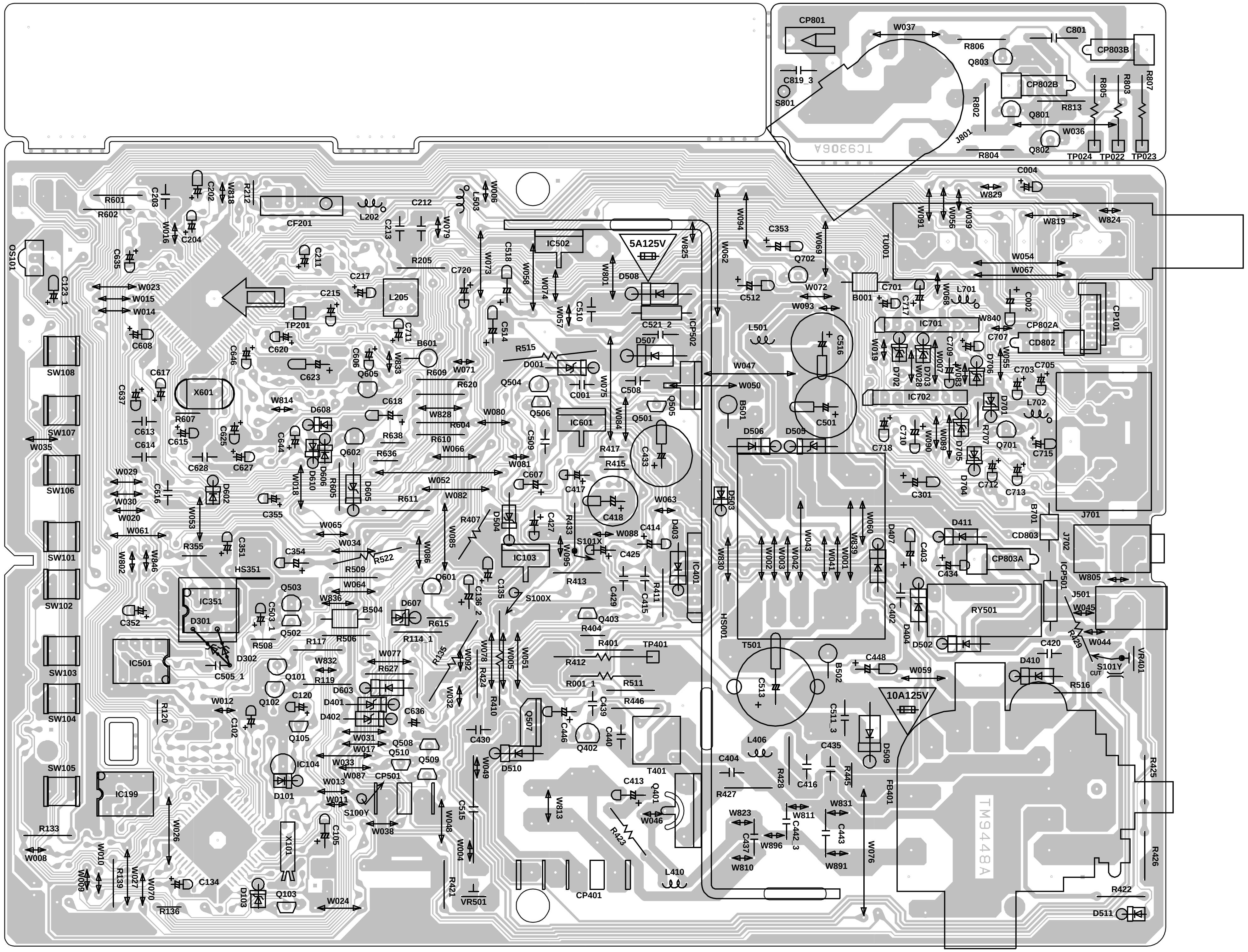


CRT

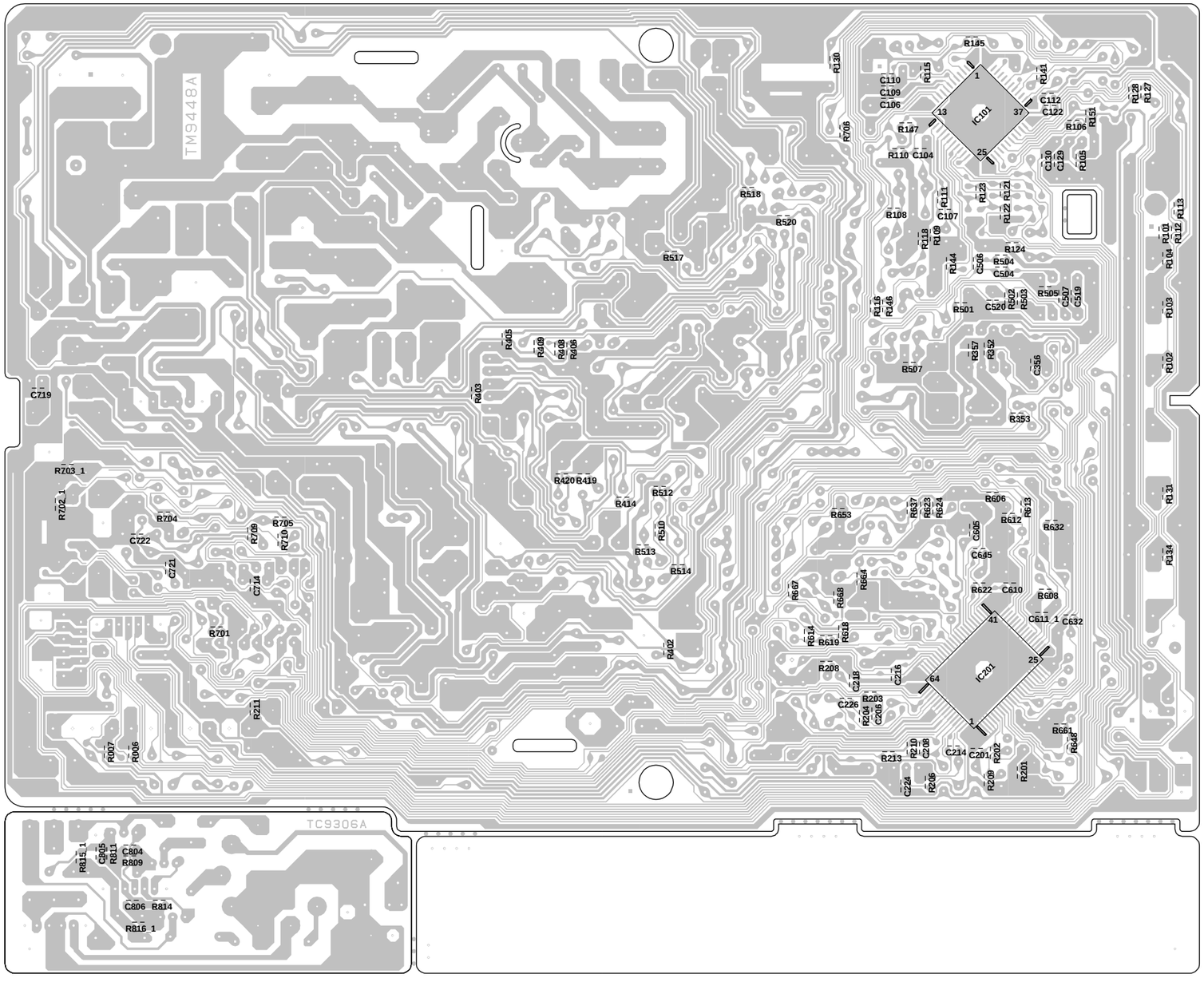
BLOCK DIAGRAM



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



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



MICON/TUNER SCHEMATIC DIAGRAM
(MAIN PCB)

ACCESSORY
TM101 R25-1213
CD501 SI-PC107-67

TU001 TECC1040PG32D
OS101 PIC-26043LM-2
B001 BL01RN1-A63
5V REG. IC IC103 KIA7805API
MICON IC IC101 OEC3046A
RESET IC IC104 PST600C
X-RAY SW Q103 DTC114TS
RESET SW Q105 DTC114TS
V-BUFFER Q101 2SC1815Y
H-BUFFER Q102 2SC1815Y
MEMORY IC IC199 S-24C01BDP
X101 100CT32R803
D101 1SS133
D103 MTZJ5.6B

PICTURE SW106 SKHVBED010
MENU SW107 SKHVBED010
TV/AV SW108 SKHVBED010
CH UP SW101 SKHVBED010
CH DOWN SW102 SKHVBED010
VOL UP SW103 SKHVBED010
VOL DOWN SW104 SKHVBED010
POWER SW105 SKHVBED010

FROM/TO POWER: +5V, UNREG+12V, P.CON+5V, +B, POWER, GND, PROTECTOR
TO AV/SOUND: POWER, AV2, AV1, AUDIO_MUTE, EXT.MUTE
FROM/TO DEFLECTION/CRT: X-RAY_TEST, V_SYNC, H_SYNC, X_RAY
FROM/TO CHROMA: AGC, IF, I2C_OFF, I2C_SCL, I2C_SDA, OSD_BLANKING, OSD_BLUE, OSD_GREEN, OSD_RED, AFT_IN

PCB010
TM9448

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

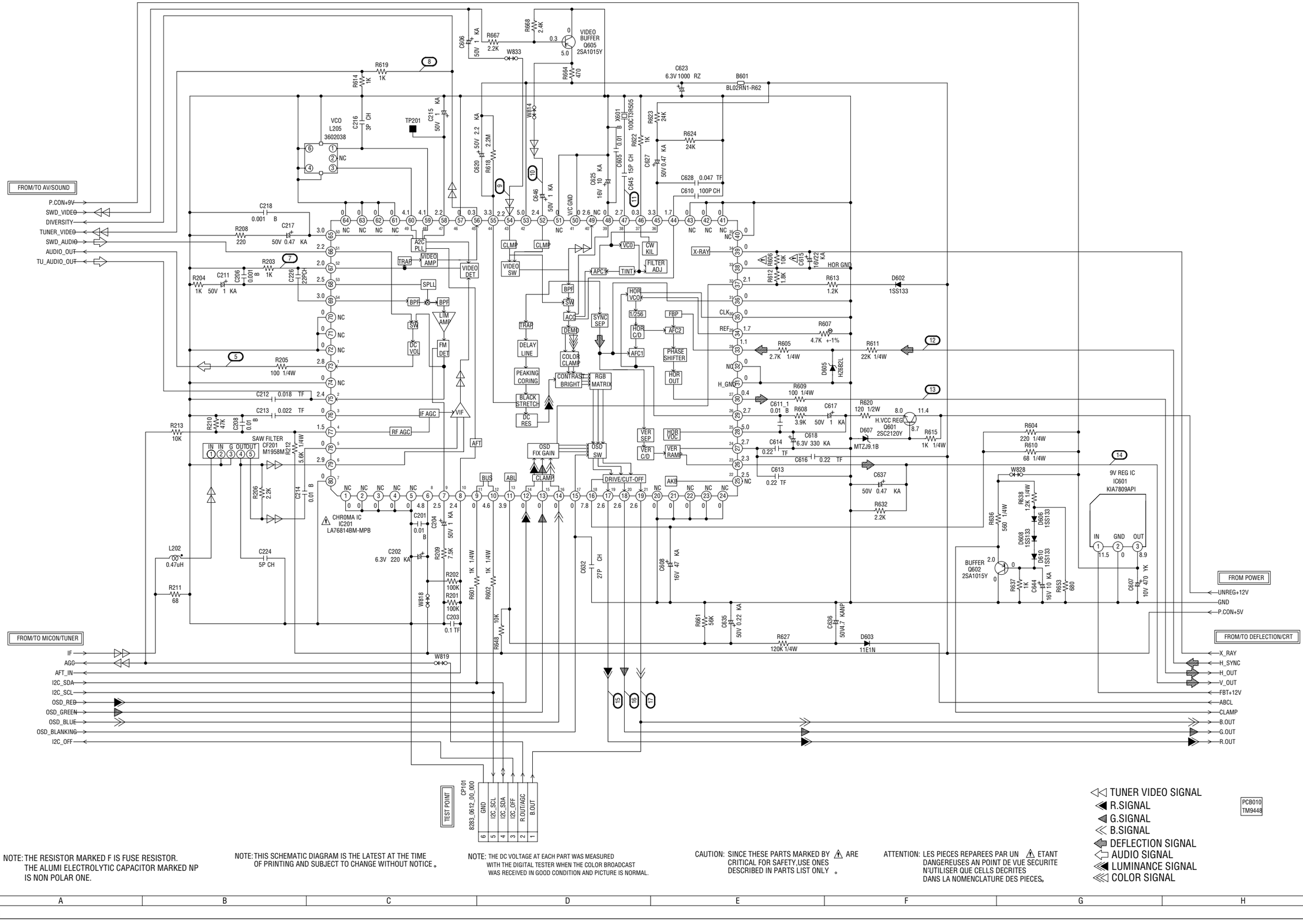
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION: DIGITAL TRANSISTOR

TUNER VIDEO SIGNAL
R.SIGNAL
G.SIGNAL
B.SIGNAL
DEFLECTION SIGNAL

CHROMA SCHEMATIC DIAGRAM (MAIN PCB)



NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

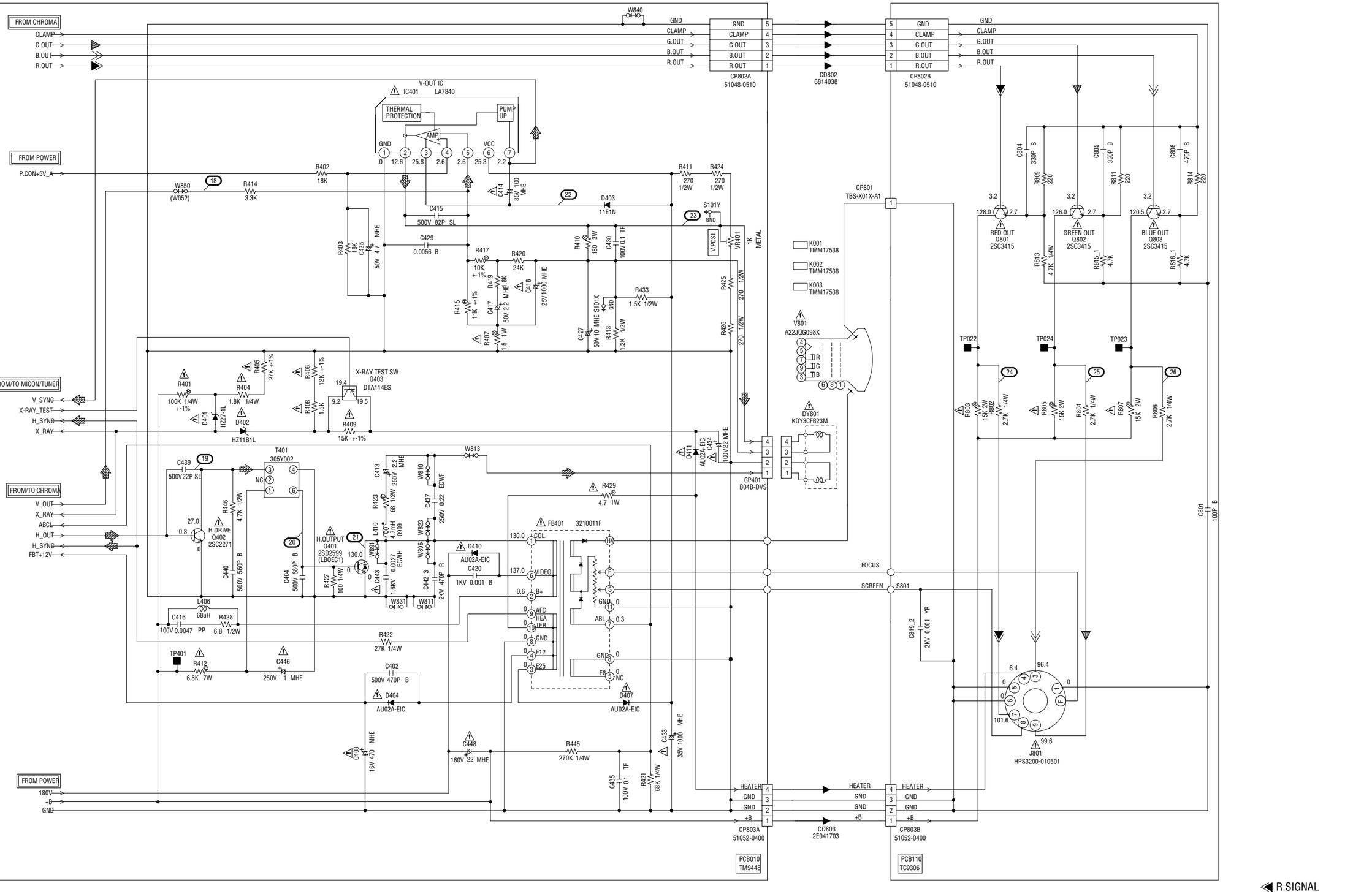
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

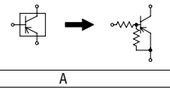
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

DEFLECTION/CRT SCHEMATIC DIAGRAM (MAIN PCB)



CAUTION: DIGITAL TRANSISTOR



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

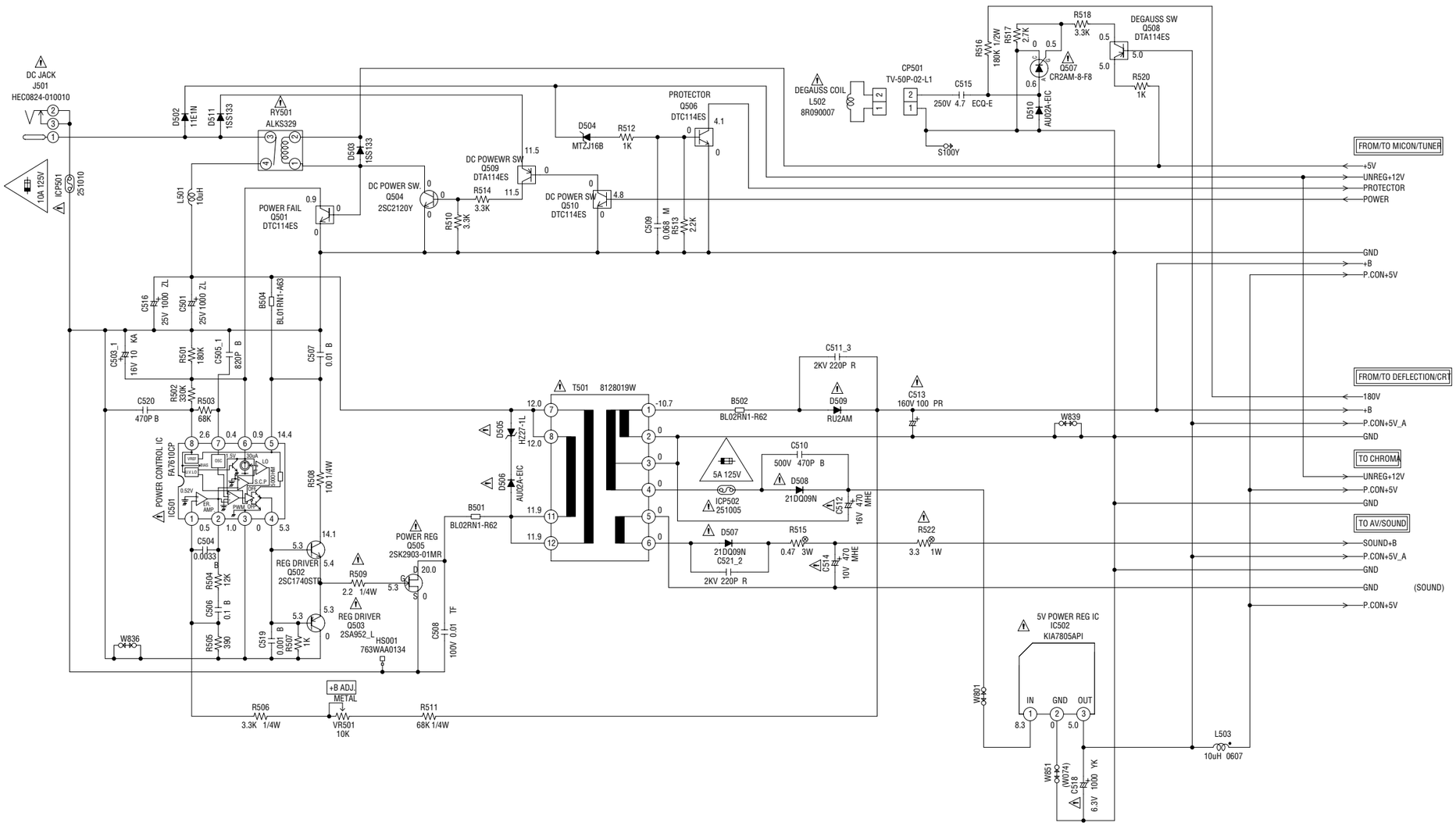
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

◀ R.SIGNAL
◀ G.SIGNAL
≪ B.SIGNAL
◀ DEFLECTION SIGNAL

POWER SCHEMATIC DIAGRAM

(TV MAIN PCB)



10A 125V 5A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 10A 125V (ICP501) , 5A 125V (ICP502).

ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 10A 125V (ICP501) , 5A 125V (ICP502).

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY.USE ONES DESCRIBED IN PARTS LIST ONLY 。

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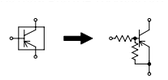
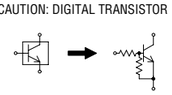
CAUTION: DIGITAL TRANSISTOR



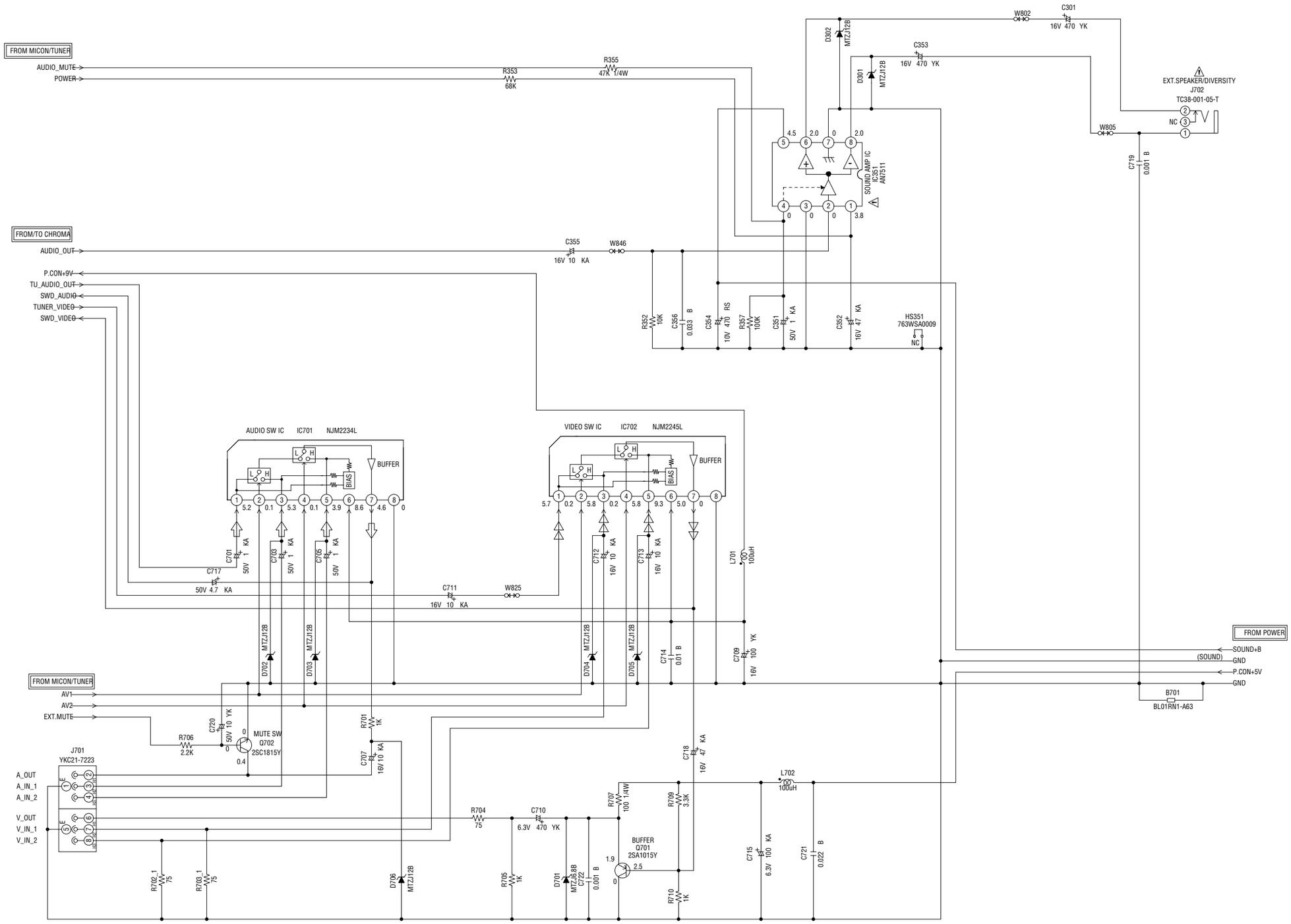
CAUTION: DIGITAL TRANSISTOR



PCB010
TM9448

AV/SOUND SCHEMATIC DIAGRAM

(TV MAIN PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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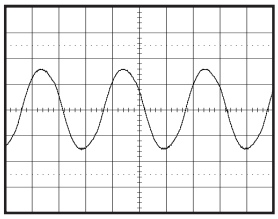
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

⇦ AUDIO SIGNAL

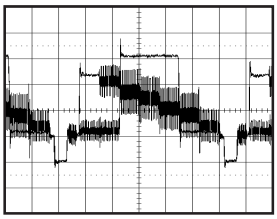
⇦⇦ TUNER VIDEO SIGNAL

WAVEFORMS

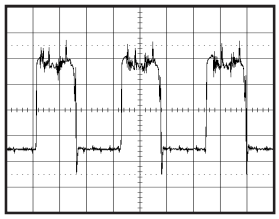
MICON/TUNER



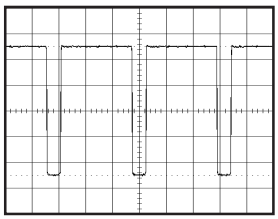
① 0.5V 10µs/div



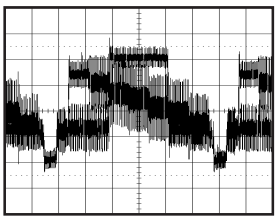
⑧ 0.5V 10µs/div



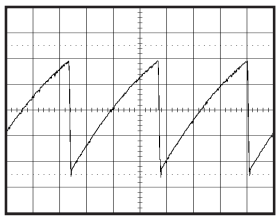
⑬ 200mV 20µs/div



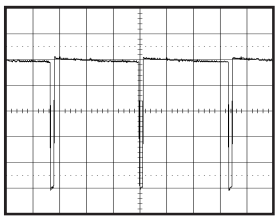
③ 1.0V 20µs/div



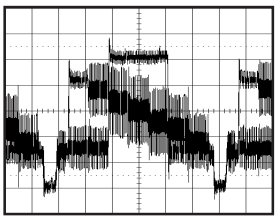
⑨ 0.5V 10µs/div



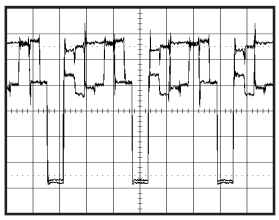
⑭ 200mV 5ms/div



④ 1.0V 5ms/div

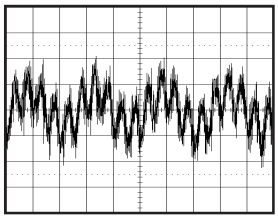


⑩ 200mV 10µs/div

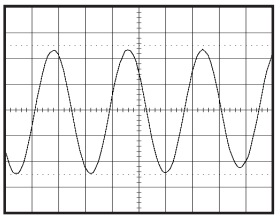


⑮ 0.5V 20µs/div

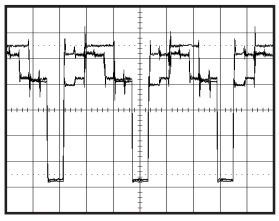
CHROMA



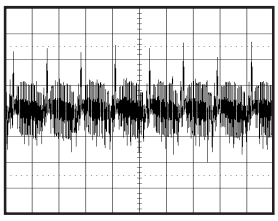
⑤ 20.0mV 1ms/div



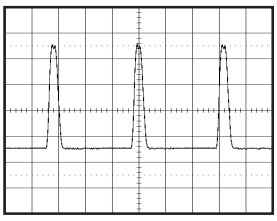
⑪ 100mV 0.1µs/div



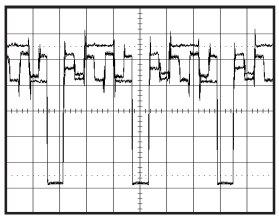
⑯ 0.5V 20µs/div



⑦ 200mV 50µs/div



⑫ 10.0V 20µs/div

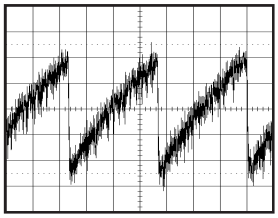


⑰ 0.5V 20µs/div

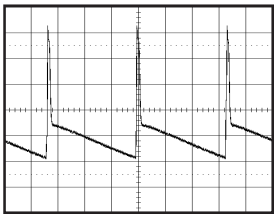
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

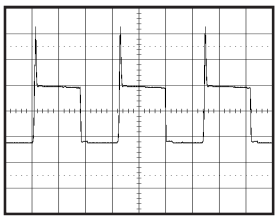
DEFLECTION/CRT



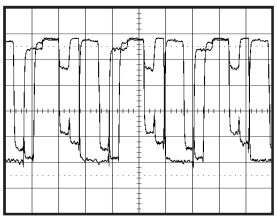
⑱ 200mV 5ms/div



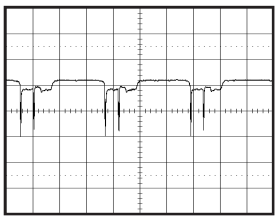
㉓ 10.0V 5ms/div



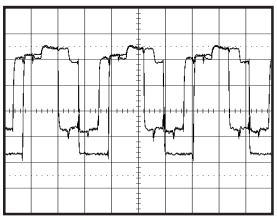
⑲ 20.0V 20µs/div



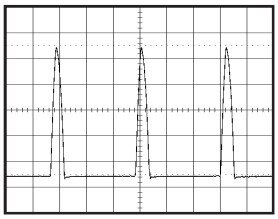
㉔ 10.0V 20µs/div



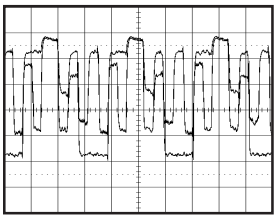
⑳ 5.0V 20µs/div



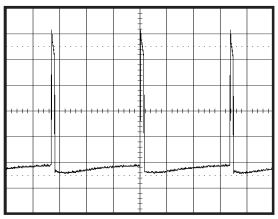
㉕ 10.0V 20µs/div



㉑ 200V 20µs/div



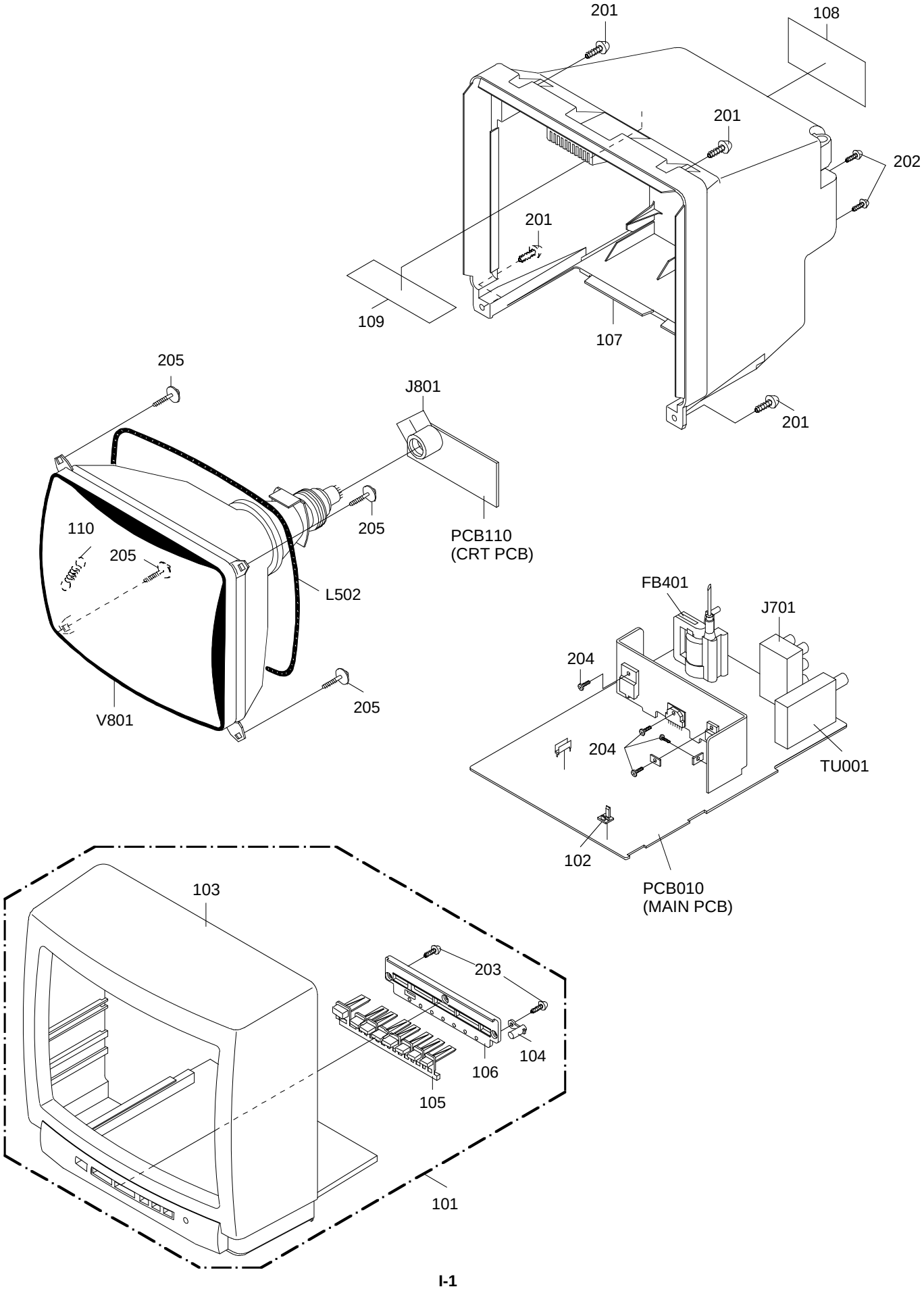
㉖ 10.0V 20µs/div



㉒ 5.0V 5ms/div

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

MECHANICAL EXPLODED VIEW



MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
101	A3I506I720	CABINET,FRONT ASS'Y		
102	735WPAA423	REMOCON HOLDER		
103	701WPJB504	CABINET,FRONT		
104	713WPA0101	GUIDE,REMOCON		
105	735WPAA402	BUTTON,FRAME		
106	735WPAA403	BUTTON,HOLDER		
107	702WPA0666	CABINET,BACK(1/4)		
108	722A08A096	SHEET,RATING		
109	7260000321	SHEET,CRT SERVICEMAN		
110	741WUA0019	SPRING,EARTH		
201	8117540A64	SCREW,TAPPING(B0)	TRUSS	4x16
202	8110630A04	SCREW,TAP TITE(P)	BRAZIER	3x10
203	8110630804	SCREW,TAP TITE(P)	BRAZIER	3x8
204	8109I30A04	SCREW,TAP TITE(B)	WH7	3x10
205	8141J40B84	SCREW,TAP TITE(P)	GW1	4x28
	JA5K0100	POLY BAG		
	J3I50601	INSTRUCTION BOOK		
	793WCDB102	GIFT BOX		
---	A3I506I975	INSTRUCTION BOOK KIT		
---	792WHA0256	PACKAGE,BOTTOM		
---	792WHA0255	PACKAGE,TOP		
---	791WHA0022	LAMIFILM BAG		

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
RESISTORS				
⚠ R001	R3X181563J	R,METAL OXIDE	56K OHM 1W	or
	R3U28A563J	R,METAL OXIDE	56K OHM 2W	
R114	R3X101151J	R,METAL	150 OHM 1W	
⚠ R135	R3X28B220J	R.METAL	22 OHM 3W	
⚠ R401	R4X5T4104F	R,METAL	100K OHM 1/4W	
⚠ R404	R002T4182J	RC	1.8K OHM 1/4W	
⚠ R405	R801R7273F	RC	27K OHM 1/10W	
⚠ R406	R801R7123F	RC	12K OHM 1/10W	
⚠ R407	R3X2811R5J	R.METAL OXIDE	1.5 OHM 1W	
⚠ R408	R801R7152J	RC	1.5K OHM 1/10W	
⚠ R409	R801R7153F	RC	15K OHM 1/10W	
R410	R3X28B181J	R.METAL	180 OHM 3W	
⚠ R412	R5X2CE682J	R,CEMENT	6.8K OHM 7W	
R423	R65582680J	R,FUSE	68 OHM 1/2W	
R429	R655814R7J	R,FUSE	4.7 OHM 1W	
⚠ R509	R002T42R2J	RC	2.2 OHM 1/4W	
R515	R3X28BR47J	R.METAL OXIDE	0.47 OHM 3W	
⚠ R522	R3X1813R3J	R,METAL OXIDE	3.3 OHM 1W	
⚠ R606	R801R7103J	RC	10K OHM 1/10W	
⚠ R803	R3X28A153J	R,METAL OXIDE	15K OHM 2W	
⚠ R805	R3X28A153J	R,METAL OXIDE	15K OHM 2W	
⚠ R807	R3X28A153J	R,METAL OXIDE	15K OHM 2W	
CAPACITORS				
⚠ C403	E5EZT2471M	CE	470 UF 16V	
⚠ C414	E5EZT4101M	CE	100 UF 35V	
⚠ C418	E5EZF3102M	CE	1000 UF 25V	or
	E02YF3102M	CE	1000 UF 25V	
⚠ C433	E5EZF4102M	CE	1000 UF 35V	
⚠ C434	E5EZT8220M	CE	22 UF 100V	
C437	P411F3224J	CMPP	0.22 UF 250V ECWF	or
	P447F2224J	CMPP	0.22 UF 200V FHS	
C442	C03L0R7Q2K	CC	470 PF 2KV R	
⚠ C443	P414F9272H	CMPP	0.0027UF 1.6KV ECWH	or
	P4J239272H	CMPP	0.0027UF 1.6KV	
⚠ C446	E5EZTD010M	CE	1 UF 250V	
⚠ C448	E5EZTB220M	CE	22 UF 160V	
C501	E62FF3102M	CE	1000 UF 25V	
C511	C03L0R7H2K	CC	220 PF 2KV R	
⚠ C512	E5EZT2471M	CE	470 UF 16V	
⚠ C513	E53VFB101M	CE	100 UF 160V	
⚠ C514	E5EZT1471M	CE	470 UF 10V	
C515	P21503475K	CMP	4.7 UF 250V ECQ-E	
C516	E62FF3102M	CE	1000 UF 25V	
⚠ C518	E02LT0102M	CE	1000 UF 6.3V	
C521	C03L0R7H2K	CC	220 PF 2KV R	
⚠ C615	E50HU2220M	CE	22 UF 16 V	
C819	C0JLYR713K	CC	0.001 UF 2KV YR	or
	C01BBP713K	CC	0.001 UF 2KV BP	
DIODES				
D001	D94TA30013	DIODE ZENER	HZ30-3L TD	
D101	D1VT001330	DIODE,SILICON	1SS133T-77	
D103	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77	
D301	D97U01201B	DIODE,ZENER	MTZJ12B T-77	
D302	D97U01201B	DIODE,ZENER	MTZJ12B T-77	
⚠ D401	D94TA27011	DIODE ZENER	HZ27-1L TD	
⚠ D402	D94TA11B11	DIODE ZENER	HZ11B1L TD	
D403	D28T11E1N1	DIODE SILICON	11E1N-TA1B2	
⚠ D404	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
⚠ D407	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
⚠ D410	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
⚠ D411	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
D502	D28T11E1N1	DIODE SILICON	11E1N-TA1B2	
D503	D1VT001330	DIODE,SILICON	1SS133T-77	
D504	D97U01601B	DIODE ZENER	MTZJ16B T-77	
⚠ D505	D94TA27011	DIODE ZENER	HZ27-1L TD	
⚠ D506	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
⚠ D507	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1	
⚠ D508	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1	
⚠ D509	D2BTRU2AM0	DIODE SILICON	RU2AM V1	
D510	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
D511	D1VT001330	DIODE,SILICON	1SS133T-77	
D602	D1VT001330	DIODE,SILICON	1SS133T-77	
D603	D28T11E1N1	DIODE SILICON	11E1N-TA1B2	
D605	D94TA6RB12	DIODE ZENER	HZ6B2L TD	
D606	D1VT001330	DIODE,SILICON	1SS133T-77	
D607	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77	
D608	D1VT001330	DIODE,SILICON	1SS133T-77	

REF. NO.	PART NO.	DESCRIPTION	
DIODES			
D610	D1VT001330	DIODE,SILICON	1SS133T-77
D701	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D702	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D703	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D704	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D705	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D706	D97U01201B	DIODE,ZENER	MTZJ12B T-77
ICS			
IC101	I53F03046A	IC	OEC3046A
⚠ IC103	I1KA97805A	IC	KIA7805API
IC104	I9UJ0T600C	IC	PST600C
IC199	A3I501I015	IC	S-24C01BDP
IC201	I03FE814B0	IC	LA76814BM-MPB
⚠ IC351	I01DP75110	IC	AN7511
⚠ IC401	I03SD78400	IC	LA7840
⚠ IC501	IDJD076100	IC	FA7610CP
⚠ IC502	I1KA97805A	IC	KIA7805API
IC601	I1KA97809A	IC	KIA7809API
IC701	I0QS02234L	IC	NJM2234L
IC702	I0QS02245L	IC	NJM2245L
TRANSISTORS			
Q101	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
Q102	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
Q103	TNYTJ03001	COMPOUND TRANSISTOR	DTC114TSTP
Q105	TNYTJ03001	COMPOUND TRANSISTOR	DTC114TSTP
⚠ Q401	TDUU025990	TRANSISTOR SILICON	2SD2599(LBOEC1)
⚠ Q402	TC3T022710	TRANSISTOR,SILICON	2SC2271(D,E)-AE
Q403	TPYTB03001	COMPOUND TRANSISTOR	DTA114ESTP
Q501	TNYTB03001	COMPOUND TRANSISTOR	DTC114ESTP
Q502	TCYT1740S0	TRANSISTOR,SILICON	2SC1740STP
⚠ Q503	TAST00952L	TRANSISTOR,SILICON	2SA952(C)-T_L
Q504	TC5T021204	TRANSISTOR,SILICON	2SC2120Y(TPE2)
⚠ Q505	T410029030	FET	2SK2903-01MR
Q506	TNYTB03001	COMPOUND TRANSISTOR	DTC114ESTP
⚠ Q507	TF6FR2AM80	THYRISTOR	CR2AM-8-F8
Q508	TPYTB03001	COMPOUND TRANSISTOR	DTA114ESTP
Q509	TPYTB03001	COMPOUND TRANSISTOR	DTA114ESTP
Q510	TNYTB03001	COMPOUND TRANSISTOR	DTC114ESTP
Q601	TC5T021204	TRANSISTOR,SILICON	2SC2120Y(TPE2)
Q602	TA5T010154	TRANSISTOR,SILICON	2SA1015Y(TPE2)
Q605	TA5T010154	TRANSISTOR,SILICON	2SA1015Y(TPE2)
Q701	TA5T010154	TRANSISTOR,SILICON	2SA1015Y(TPE2)
Q702	TC5T018154	TRANSISTOR,SILICON	2SC1815Y(TPE2)
⚠ Q801	TCYT034150	TRANSISTOR,SILICON	2SC3415T93-(N,P)
⚠ Q802	TCYT034150	TRANSISTOR,SILICON	2SC3415T93-(N,P)
⚠ Q803	TCYT034150	TRANSISTOR,SILICON	2SC3415T93-(N,P)
COILS &TRANSFORMERS			
L202	021673R47M	COIL	0.47 UH
L205	0336020388	COIL VIDEO IFT	3602038
L406	021U6D680K	COIL	68 UH
L410	021679472K	COIL	4.7 MH
L501	021W67100M	COIL	10 UH
⚠ L502	028R090007	COIL,DEGAUSS	8R090007
L503	02167D100K	COIL	10 UH
L701	021673101K	COIL	100 UH
L702	021673101K	COIL	100 UH
T401	03305Y002S	TRANS,HORIZONTAL DRIVE	305Y002
⚠ T501	048128019W	TRANSFORMER,SWITCHING	8128019W
JACKS			
⚠ J501	0602602006	JACK DC	HEC0824-010010
J701	060Q441002	RCA JACK	YKC21-7223
⚠ J702	060C121010	EAR PHONE JACK 3.5	TC38-001-05-T
⚠ J801	066X120014	SOCKET,CRT	HPS3200-010501
SWITCHES			
SW101	0504201T31	SWITCH,TACT	SKHVBED010
SW102	0504201T31	SWITCH,TACT	SKHVBED010
SW103	0504201T31	SWITCH,TACT	SKHVBED010
SW104	0504201T31	SWITCH,TACT	SKHVBED010
SW105	0504201T31	SWITCH,TACT	SKHVBED010
SW106	0504201T31	SWITCH,TACT	SKHVBED010
SW107	0504201T31	SWITCH,TACT	SKHVBED010
SW108	0504201T31	SWITCH,TACT	SKHVBED010
VARIABLE RESISTORS			
VR401	V126213BT2	VOLUME,SEMI FIXED	RH0684C13R
VR501	V126214BT2	VOLUME,SEMI FIXED	RH0684C14R
P.C.BOARD ASSEMBLIES			
PCB010	A3I506I010	PCB ASS'Y	TM9448A

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
P.C.BOARD ASSEMBLIES			
PCB110	A3I506I110	PCB ASS'Y	TC9306A
MISCELLANEOUS			
B001	024AT03655	CORE BEADS	BL01RN1-A63T6
B501	024AT03481	CORE,BEADS	BL02RN1-R62T2
B502	024AT03481	CORE,BEADS	BL02RN1-R62T2
B504	024AT03655	CORE BEADS	BL01RN1-A63T6
B601	024AT03481	CORE,BEADS	BL02RN1-R62T2
B701	024AT03655	CORE BEADS	BL01RN1-A63T6
CD501	121B164101	CORD,CAR BATTERY	SI-PC107-67
CD802	WCL6814038	FLAT CABLE	AWG26 5C GRAY 140MM
CD803	WBL6018038	FLAT CABLE	AWG26 4C BLACK 180MM
CF201	102E245R71	FILTER,SAW	M1958M
CP101	069E260129	CONNECTOR PCB SIDE	8283_0612_00_000
CP401	069X440029	CONNECTOR PCB SIDE	B04B-DVS
CP501	069W420069	CONNECTOR PCB SIDE	TV-50P-02-L1
CP801	069W010030	CONNECTOR PCB SIDE	TBS-X01X-A1
CP802A	067R005019	WIRE HOLDER	51048-0510
CP802B	067R005019	WIRE HOLDER	51048-0510
CP803A	067R104019	WIRE HOLDER	51052-0400
CP803B	067R104019	WIRE HOLDER	51052-0400
CUS001	800WFAA006	CUSHION A	
⚠ DY801	0271080901	DY	KDY3CFB23M
⚠ FB401	043210011F	TRANSFORMER,FLYBACK	3210011F
⚠ ICP501	083PC10002	MICRO FUSE	251010
⚠ ICP502	083PC05002	MICRO FUSE	251005
K001	1291000016	WEDGE	TMM17538
K002	1291000016	WEDGE	TMM17538
K003	1291000016	WEDGE	TMM17538
OS101	077Q014005	REMOTE RECEIVER	PIC-26043LM-2
RY501	0560V50118	RELAY	ALKS329
TM101	076R0CX010	TRANSMITTER	R25-1213
⚠ TU001	0145K00055	TUNER,VHF-UHF	TECC1040PG32D
⚠ V801	09D1090401	CRT W/O DY	A22JQG098X
X101	100C32R803	CRYSTAL DSVT-200	32.768KHz
X601	100CT3R505	CRYSTAL HC-49/C	3.579545MHz

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

SPEC.NO.	M3I5-06I
O/R NO.	WIX3011