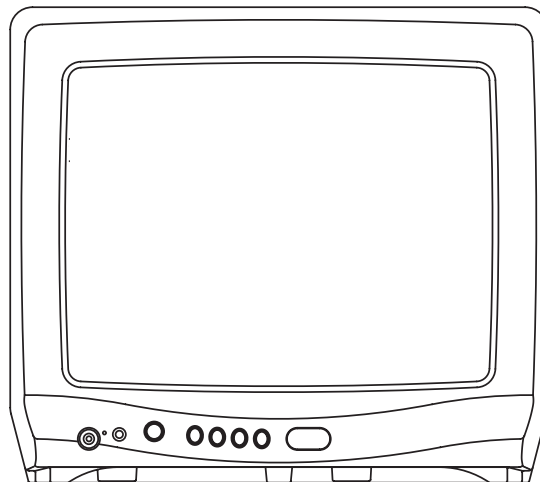


Pacific

PTV3606

SERVICE MANUAL

COLOR TELEVISION RECEIVER



**ORIGINAL
MFR'S VERSION A**

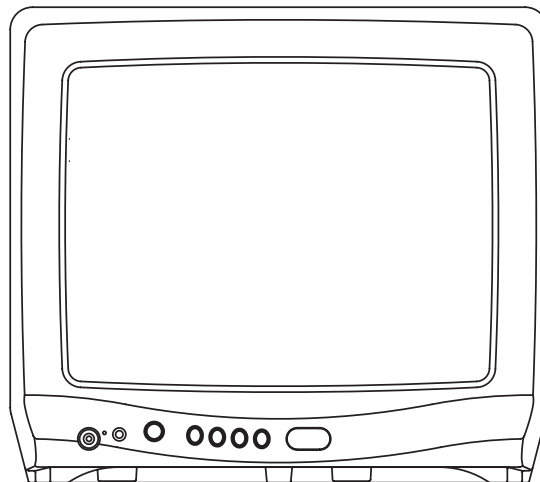
Design and specifications are subject to change without notice.

Pacific

PTV3606

SERVICE MANUAL

COLOR TELEVISION RECEIVER



**ORIGINAL
MFR'S VERSION A**

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 \triangle 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.

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GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size	14 inch / 335.4mmV	
			CRT Type	Normal	
			Deflection	90 degree	
			Magnetic Field BV/BH	+0.45G/0.18G	
			Color System	PAL	
			Speaker	1Speaker	
				Position	Bottom
				Size	3 Inch
				Impedance	8 ohm
			Sound Output	MAX	1.0 W
		10%(Typical)	0.8 W		
	PAL60Hz		Yes		
G-2	Tuning System	Broadcasting System		U.K. System I	
		Tuner and Receive CH	System	1Tuner	
			Destination	UK	
			Tuning System	F-Synth	
			Input Impedance	VHF/UHF 75 ohm	
				21 - 69	
			CH Coverage		
		Intermediate Frequency	Picture(FP)	39.5MHz	
			Sound(FS)	33.5MHz	
			FP-FS	6.0MHz	
	Preset CH		80		
	Stereo/Dual TV Sound		No		
	Tuner Sound Muting		Yes		
G-3	Power	Power Source	AC	230V AC 50Hz	
			DC		
		Power Consumption		at AC	
			Stand by (at AC) Per Year		44 W at AC 230 V 50 Hz 7 W at AC 230 V 50 Hz -- kWh/Year
	Protector	Power Fuse		Yes	
G-4	Regulation	Safety		CE	
		Radiation		CE	
		X-Radiation		-	
G-5	Temperature	Operation		+5°C ~ +40°C	
		Storage		-20°C ~ +60°C	
G-6	Operating Humidity			Less than 80% RH	
G-7	On Screen Display	Menu		Yes	
		Menu Type		Character	
		Picture		Yes	
			Contrast	Yes	
			Brightness	Yes	
			Color	Yes	
			Tint	No	
			Sharpness	Yes	
		Audio		No	
			Bass	No	
			Treble	No	
			Balance	No	
			BBE On/Off	No	
			Stable Sound On/Off	No	
		CH Tuning		Yes	
			Manual	Yes	
			Auto	Yes	
			CH Allocation	Yes	
		Language		Yes	
		Clock Set		No	
		On/Off Timer Set		No	
		Pin Code Registration		No	
		Nicam Auto Off		No	
		Colour System		No	
		Sound System		No	
		AV2 Output Source		No	
		HELPLINE		No	
		Control Level		Yes	
			Volume	Yes	
			Brightness	Yes	
			Contrast	Yes	
			Color	Yes	
			Tint (NTSC Only)	No	
			Sharpness	Yes	
			Tuning	Yes	
			Bass	No	
			Treble	No	
			Balance	No	
			Back Light	No	

GENERAL SPECIFICATIONS

		Nicam ST	No
		Tone 1/2	No
		Pin Code	No
		AV	Yes
		Skip	Yes
		Channel	Yes
		Hotel Lock	No
		Sleep Timer	Yes
		Sound Mute	Yes
G-8	OSD Language		English French Spanish German Italian
G-9	Clock and Timer	Sleep Timer	Max Time Step 120 Min 10 Min
		On/Off Timer	Program(On Timer / Off Timer) No
		Wake Up Timer	No
		Timer Back-up (at Power Off Mode)	more than -- Min Sec
G-10	Remote Control	Unit	RC-GE
		Glow in Dark Remocon	No
		Format	NEC
		Custom Code	80-63 h
		Power Source	Voltage(D.C) UM size x pcs 3V UM-4 x 2 pcs
		Total Keys	31 Keys
		Keys	Power(Stand By) Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0 / AV	Yes
		CH Up	No
		CH Down	No
		Volume Up / +	Yes
		Volume Down / -	Yes
		Quick View	No
		Sleep	Yes
		Info(CH Call)	Yes
		Normal	No
		Menu	Yes
		Enter	Yes
		Mute	Yes
		Fine Tuning +	No
		Fine Tuning -	No
		Tone 1/2	No
		TTEXT Keys	TEXT / MIX / TV Yes
			CH Up / Page Up Yes
			CH Down / Page Down Yes
			Red Yes
			Green Yes
			Yellow / Fine Tuning - Yes
			Cyan / Fine Tuning + Yes
			F/T/B(Expand) / Normal Yes
			Reveal / Skip Yes
			Display Cancel Yes
			Reset Yes
			Reset / Tone 1/2 No
			Hold / Status Yes
			Sub Page / Quick View Yes
G-11	Features	Auto Degauss	Yes
		Auto Shut Off	Yes
		Canal+	No
		CATV	No
		Anti-theft	No
		Memory(Last CH)	Yes
		Memory(Last Volume)	Yes
		BBE	No
		Auto Search	Yes
		CH Allocation	Yes
		Fine Tuning	Yes
		Channel Lock	No
		Just Clock Function	No
		Game Position	No
		CH Label	No

GENERAL SPECIFICATIONS

		VM Circuit		No
		Full OSD		No
		Unitext	Yes	
		Fasttext		No
		Top Text		No
		Premiere		No
		Comb Filter		No
			Lines	
		Auto CH Memory	Yes	
		Auto Set Up		No
		Stable Sound		No
		FBT Leak Test Protect		No
		Hotel Lock		No
		Power ON Memory	Yes	
G-12	Accessories	Owner's Manual	Language	English
			w/Guarantee Card	No
		Remote Control Unit		Yes
		Rod Antenna		No
			Poles	Pole
			Terminal	type
		Loop Antenna		Yes
			Terminal	Din Type
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Guarantee Card		No
		Warning Sheet		No
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Important Safeguard		No
		Dew/AHC Caution Sheet		No
		AC Plug Adapter		No
		Quick Set-up Sheet		Yes
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
			OEM Brand	No
			AC Cord	No
	AV Cord (2Pin-1Pin)	No		
	Registration Card	No		
	PTB Sheet	No		
	300 ohm to 75 ohm Antenna Adapter	No		
	Insurance Plan Leaflet	No		
G-13	Interface	Switch	Front	Power
				System Select
				Main Power SW
				Sub Power
				Channel Up
				Channel Down
				Volume Up
				Volume Down
			Rear	AC/DC
				TV/CATV Selector
				Degauss
				Main Power SW
		Indicator		Power
				Stand-by
				On Timer
		Terminals	Front	Video Input
				Audio Input
				Other Terminal
			Rear	Video Input(Rear1)
				Video Input(Rear2)
				Audio Input(Rear1)
				Audio Input(Rear2)
				Video Output
		Audio Output		
		Euro Scart(21Pin)		
		Component Input		
		Diversity		
		Ext Speaker		
		DC Jack 12V(Center +)		
		VHF/UHF Antenna Input		
		AC Outlet		
G-14	Set Size	Approx. W x D x H (mm)		362 x 360 x 320.5
G-15	Weight	Net (Approx.)		9.5 kg (--- lbs)
		Gross (Approx.)		11.5kg (---lbs)
G-16	Carton	Master Carton		No

GENERAL SPECIFICATIONS

		Content	----	Sets
		Material	--	/--
		Dimensions W x D x H(mm)	-- x -- x --	
		Description of Origin		No
		Gift Box		Yes
		Material		Double/Full Color
		Dimensions W x D x H(mm)	440 x 408 x 380	
		Design		As per Buyer's
		Description of Origin		No
		Drop Test		Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces
		Height (cm)		62
		Container Stuffing	866	Sets/40' container
G-17	Material	Cabinet	Cabinet Front	PS 94V0 DECABROM
			Cabinet Rear	PS 94V0 DECABROM
		PCB	Non-Halogen Demand	No
			Eyelet Demand	No
G-18	Environment	Pb Free	Lead-free Solder	No
			Other	No
		Cd Free		No

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.

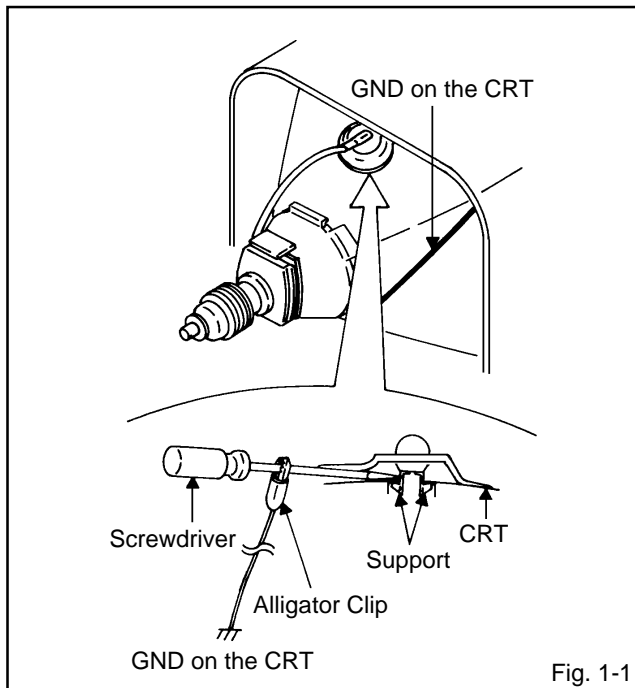


Fig. 1-1

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.)

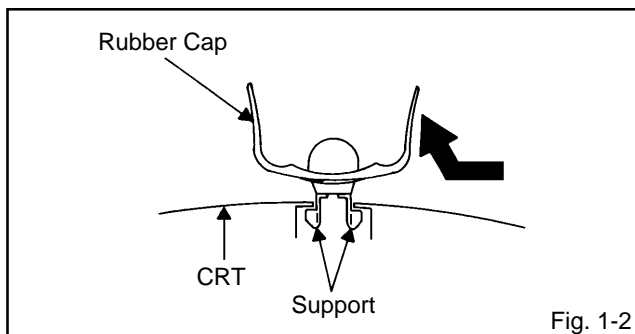


Fig. 1-2

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.)

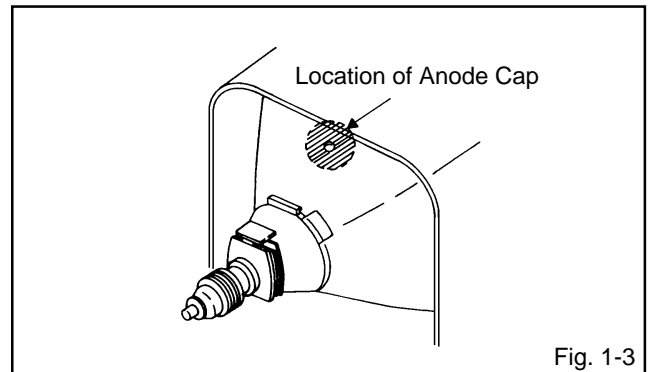


Fig. 1-3

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.)

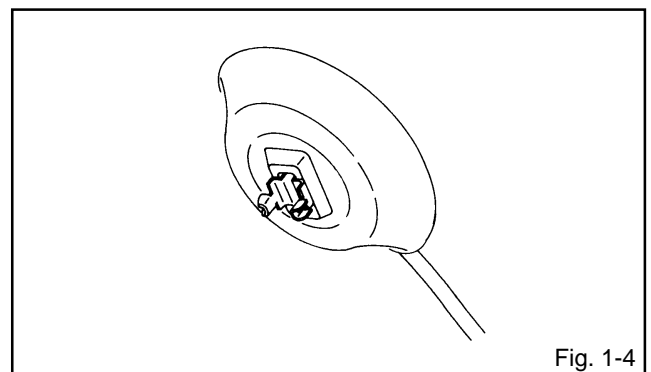


Fig. 1-4

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

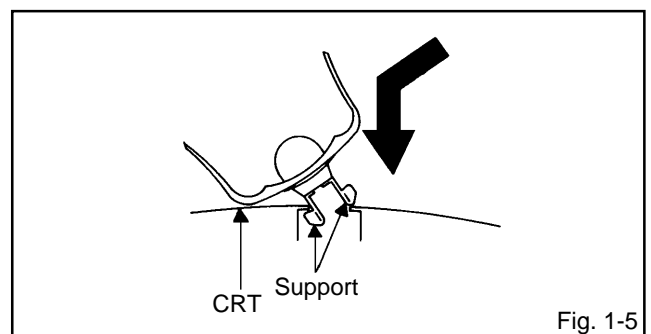


Fig. 1-5

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

DISASSEMBLY INSTRUCTIONS

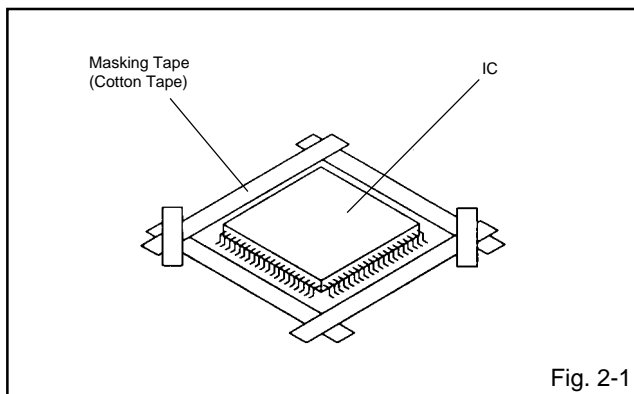
2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. (Refer to Fig. 2-1.)

NOTE

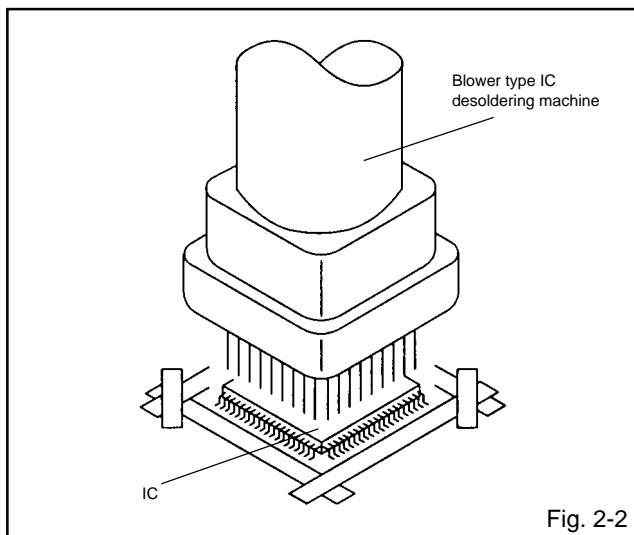
Masking is carried out on all the parts located within 10 mm distance from IC leads.



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

NOTE

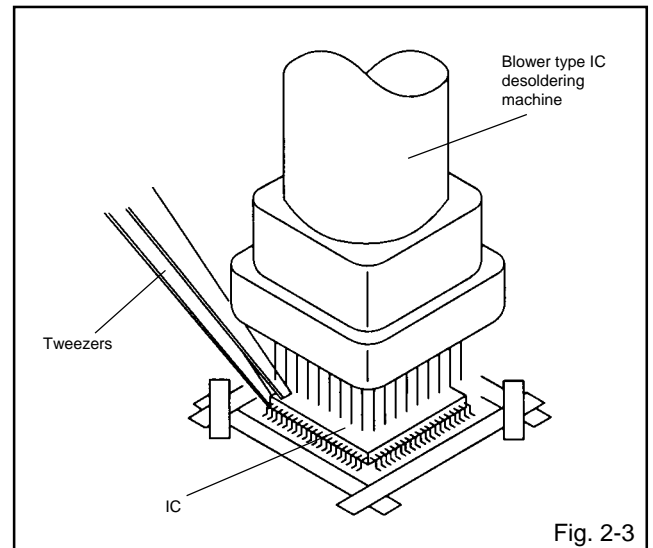
Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.



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. 2-3.)

NOTE

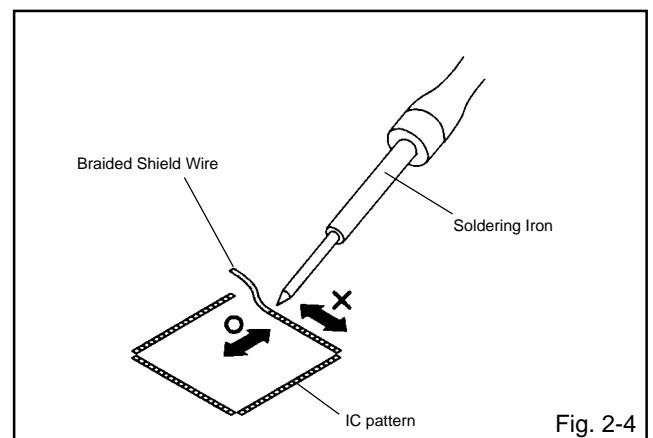
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. (Refer to Fig. 2-4.)

NOTE

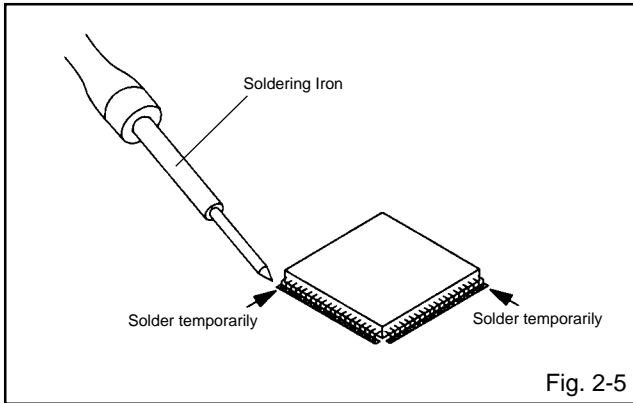
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



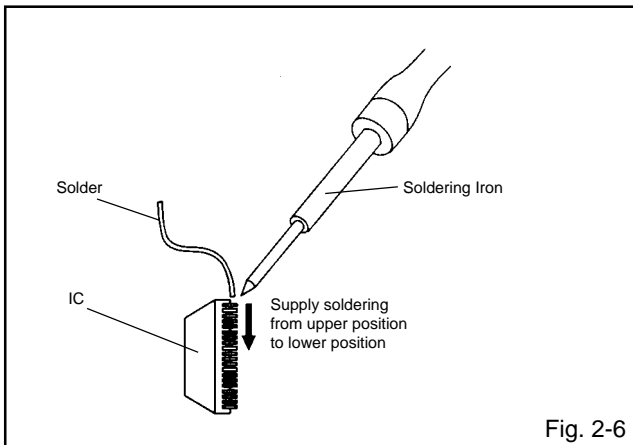
DISASSEMBLY INSTRUCTIONS

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. 2-5.)



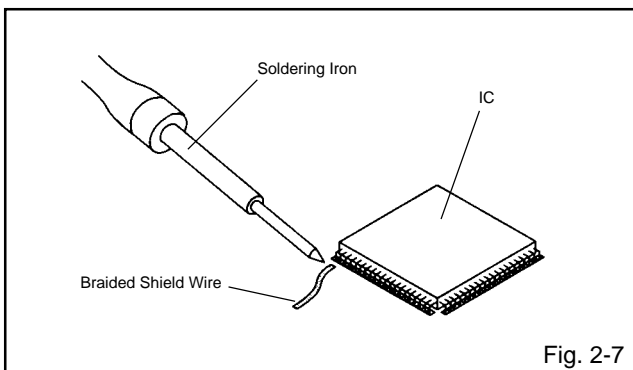
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 2-6.)



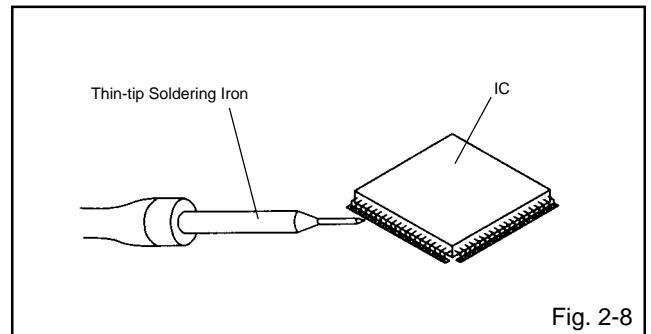
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 2-7.)

NOTE

Do not absorb the solder to excess.



4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. (Refer to Fig. 2-8.)



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 the Service Mode, press both set key and remote control key for more than 2 seconds.

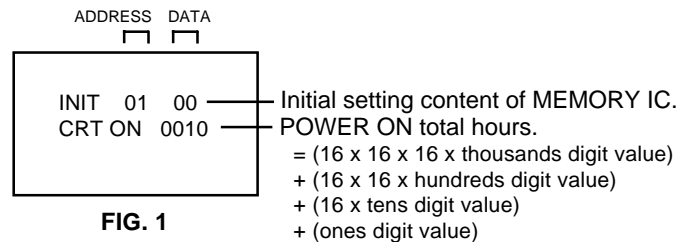
Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Reset the user setting items (PICTURE, VOLUME and LANGUAGE) to the initial state for delivery.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF 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.

NOTE: If you set a factory initialization, the total hours is reset to "0".

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 2 second.
3. After the confirmation of using hours, turn off the power.



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	+A	+B	+C	+D	+E	+F
00	---	00	00	00	00	19	60	40	00	41	00	01	03	00	00	00
10	10	00	80	80	80	00	00	---	---	---	---	---	---	---	---	---

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 for more than 2 seconds.

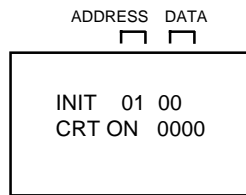


Fig. 1

3. ADDRESS is now selected and should "blink". Using the VOL. +/- 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. +/- 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.

After the data input, set to the initializing of shipping.

9. Turn POWER on.
10. While holding down VOLUME button on front cabinet, press key 1 on remote control for more than 2 seconds.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

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.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease (**YG6260M**) on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Pattern Generator

On-Screen Display Adjustment

1. In the condition of NO indication on the screen. Press the VOL. DOWN button on the set and the Channel button (**9**) on the remote control for more than 2 seconds to appear the adjustment mode on the screen as shown in **Fig. 1-1**.

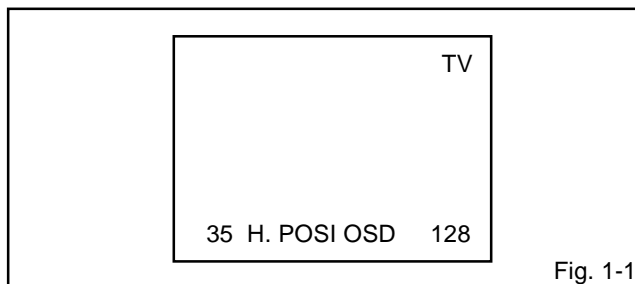


Fig. 1-1

2. Use the Channel UP/DOWN button or Channel button (**0-9**) on the remote control to select the options shown in **Fig. 1-2**.
3. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	CUT OFF	20	TINT
01	RF AGC	21	SHARP
02	AGC GAIN	22	CONT CENT
03	R DRIVE	23	CONT MAX
04	R CUT OFF	24	CONT MIN
05	G DRIVE	25	COLOR CENT
06	G CUT OFF	26	COLOR MAX
07	B DRIVE	27	COLOR MIN
08	H POSI 50	28	M R CUT OFF
09	V POSI 50	29	M G CUT OFF
10	V POSI 60	30	M B CUT OFF
11	V SIZE 50	31	CVBS OUT
12	V SIZE 60	32	APR THR
13	VCO COARSE	33	BELL
14	VCO FINE	34	BANDPASS
15	-	35	H POSI OSD
16	-	36	V POSI OSD
17	BRIGHT CENT	37	H POSI TXT
18	BRIGHT MAX	38	V POSI TXT
19	BRIGHT MIN	39	H POSI 60

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: AGC VOLTAGE

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the UHF ($63 \pm 1\text{dB}$).
3. Connect the digital voltmeter between the **TP002** and the **(GND)** of **TU001**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**01**) on the remote control to select "RF AGC".
5. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is $2.10 \pm 0.05\text{V}$.

2-2: CUT OFF

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. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**00**) 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 CUT OFF adjustment.

1. Place the set with Aging Test for more than 10 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 (**04**) on the remote control to select "R CUT OFF".
5. Using the VOL. UP/DOWN button on the remote control, adjust the R CUT OFF.
6. Press the CH. UP/DOWN button on the remote control to select the "R DRIVE", "G DRIVE", "G CUT OFF" or "B DRIVE".
7. Using the VOL. UP/DOWN button on the remote control, adjust the R DRIVE, G DRIVE, G CUT OFF or B DRIVE.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

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: 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 **TP501**.
4. Set condition is AV MODE without signal.
5. Adjust the **VR501** until the digital voltmeter is $135 \pm 0.5\text{V}$.

2-6: VERTICAL LINEARITY

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the **VR420** until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

ELECTRICAL ADJUSTMENTS

2-7: HORIZONTAL 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. 1-1** and press the channel button **(08)** on the remote control to select "H POSI(50)".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.
5. Receive the monoscope pattern of NTSC.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(39)** on the remote control to select "H POSI(60)".
8. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-8: 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. 1-1** and press the channel button **(11)** on the remote control to select "V SIZE(50)".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes $8 \pm 3\%$.
5. Receive the monoscope pattern of NTSC.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(12)** on the remote control to select "V SIZE(60)".
8. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes $8 \pm 3\%$.

2-9: BRIGHT CENT

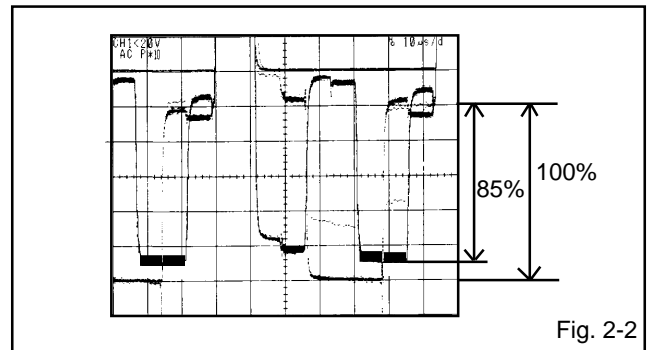
1. Place the set with Aging Test for more than 15 minutes.
2. Receive the monoscope pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(17)** on the remote control to select "BRIGHT CENT".
5. Press the VOL. UP/DOWN button on the remote control until the white 25% is starting to be visible.
6. Receive the monoscope pattern. (Audio Video Input)
7. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 3-5.

2-10: CONT CENT

1. Place the set with Aging Test for more than 15 minutes.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "CONT CENT".
3. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "30".
5. Press the AV button on the remote control to set the AV mode. Then perform the above adjustments 1, 2.

2-11: COLOR CENT

1. Receive the color bar pattern. (RF Input)
2. Connect the oscilloscope to **TP023**.
3. Using the remote control, set the brightness, contrast and color to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(25)** on the remote control to select "COLOR CENT".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 5 scales on the screen of the oscilloscope.
6. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to $85 \pm 10\%$ for the white level. (**Refer to Fig. 2-2**)
7. Receive the color bar pattern. (Audio Video Input)
8. Press the AV button on the remote control to set the AV mode. Then perform the above adjustments 2-6.



2-12: VCO COARSE/VCO FINE

1. Connect the oscillator (39.5MHz) to between the **TP003** and the **(GND)** of **TU001**.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "VCO COARSE".
3. Press the VOL. UP/DOWN button on the remote control until the "+" appear on the screen.
4. Press the CH UP button once to set to "VCO FINE" mode.
5. Press the VOL. UP/DOWN button on the remote control to select the 4 step down point from the upper limit on the "+".
(Example: In case of the "+" point 30~41, select 37.)

2-13: 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. 1-1** and press the channel button **(09)** on the remote control to select "V POSI(50)".
4. Check if the step No. V. POSI is "08".
5. Adjust the **VR401** until the horizontal line becomes fit to notch of the shadow mask.

ELECTRICAL ADJUSTMENTS

2-14 : Confirmation of Fixed Value (Step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	RF	AV
02	AGC GAIN	00	---
04	R CUTOFF	00	---
06	G CUTOFF	00	---
07	B DRIVE	31	---
10	V POSI 50/60	08	---
18	BRIGHT MAX	37	37
19	BRIGHT MIN	10	10
20	TINT	32	32
21	SHARP	04	04
23	CONT MAX	50	50
24	CONT MIN	10	10
26	COLOR MAX	39	39
27	COLOR MIN	14	14
30	MB CUTPOFF	80	---
31	CVBS OUT	16	---
32	APR THR	04	---
33	BELL	10	---
34	BANDPASS	06	---
35	H POSI OSD	128	---
36	V POSI OSD	50	---
37	H POSI TXT	122	---
38	V POSI TXT	58	---

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.

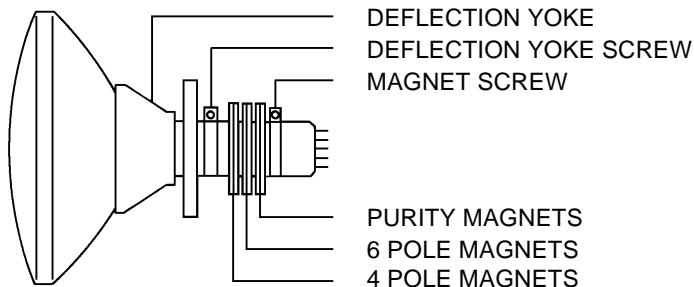


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

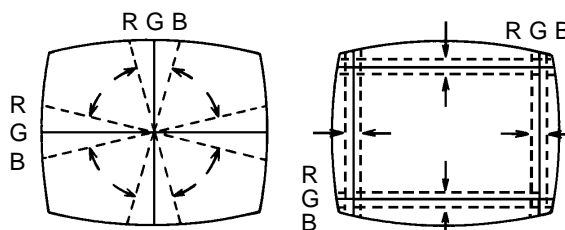
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

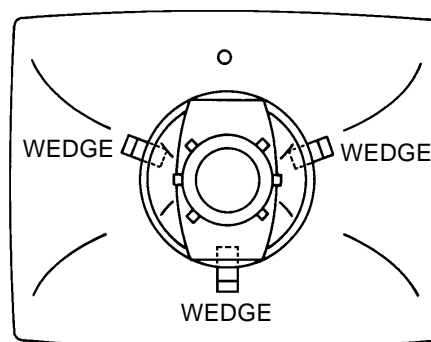
Adjust after performing adjustments in section 3-3.

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)**



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 3-2-a

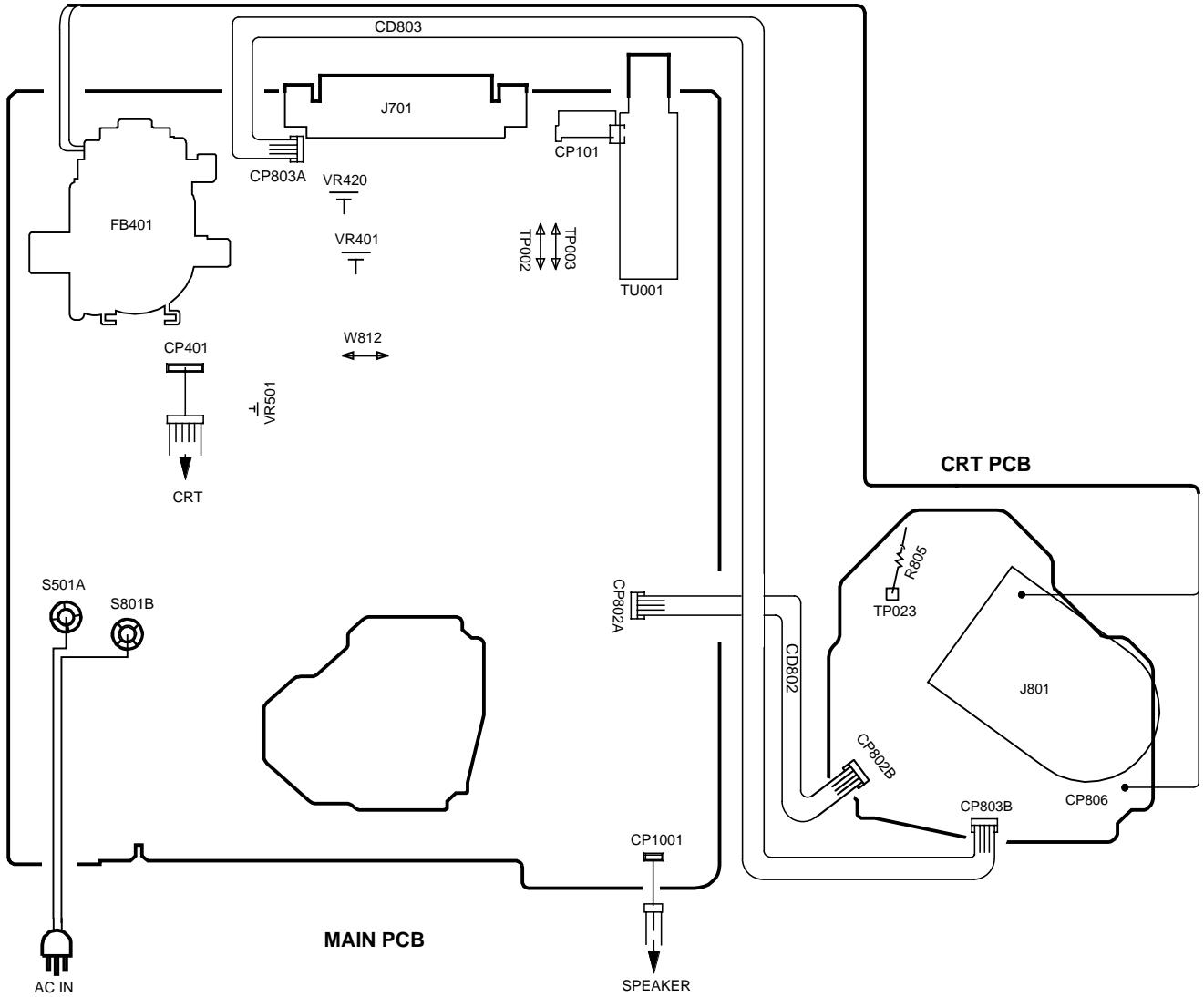


WEDGE POSITION

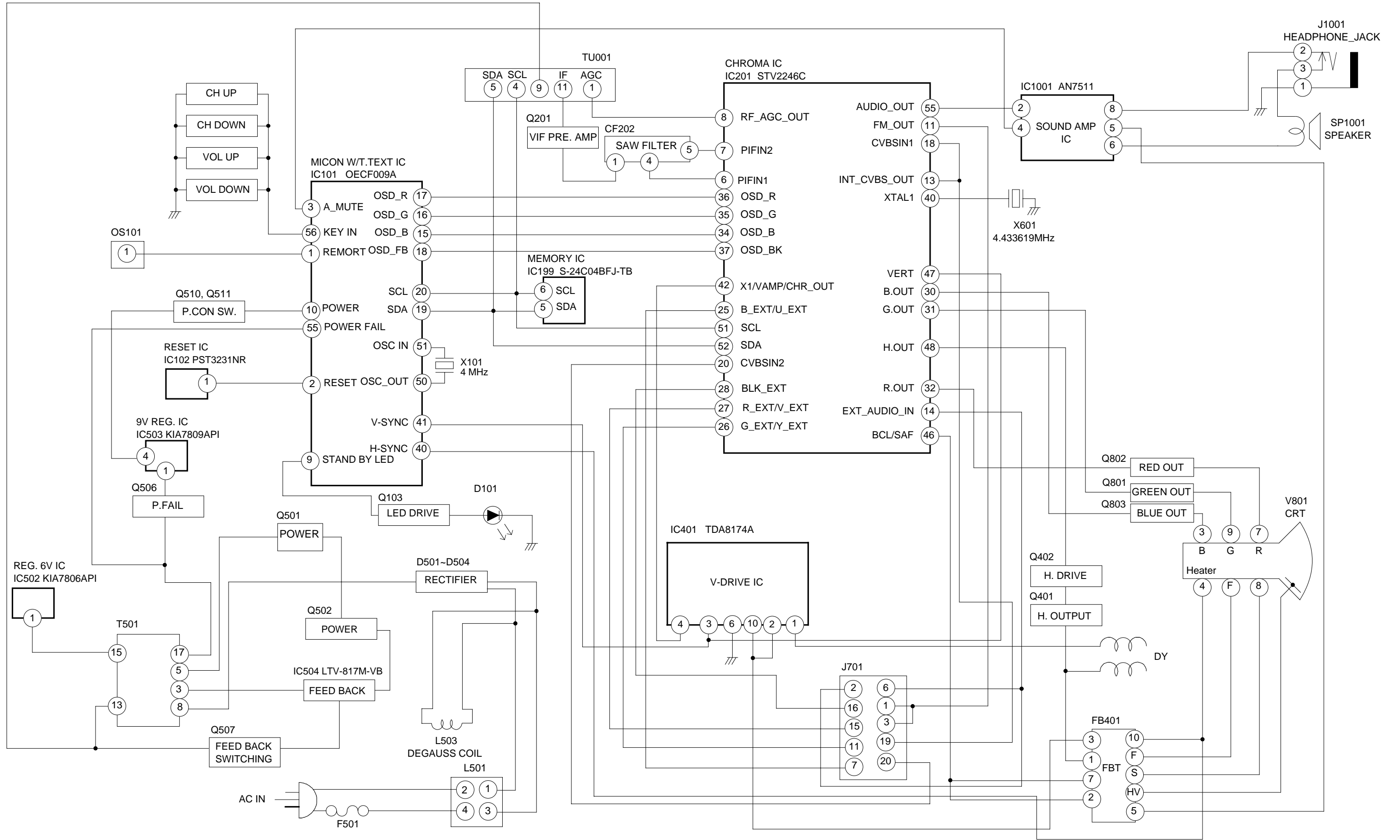
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

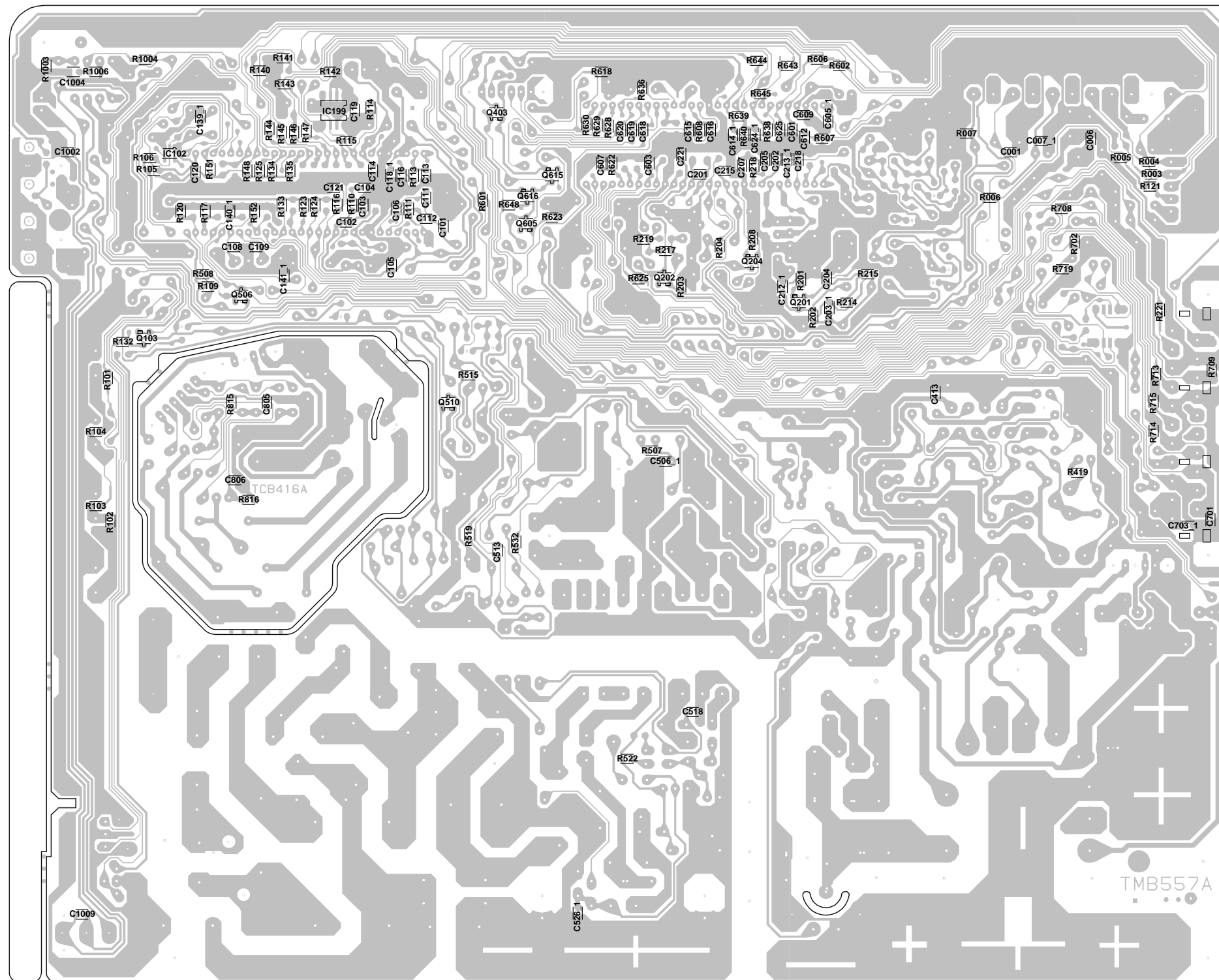
4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



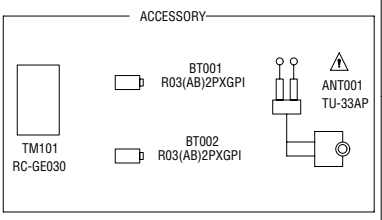
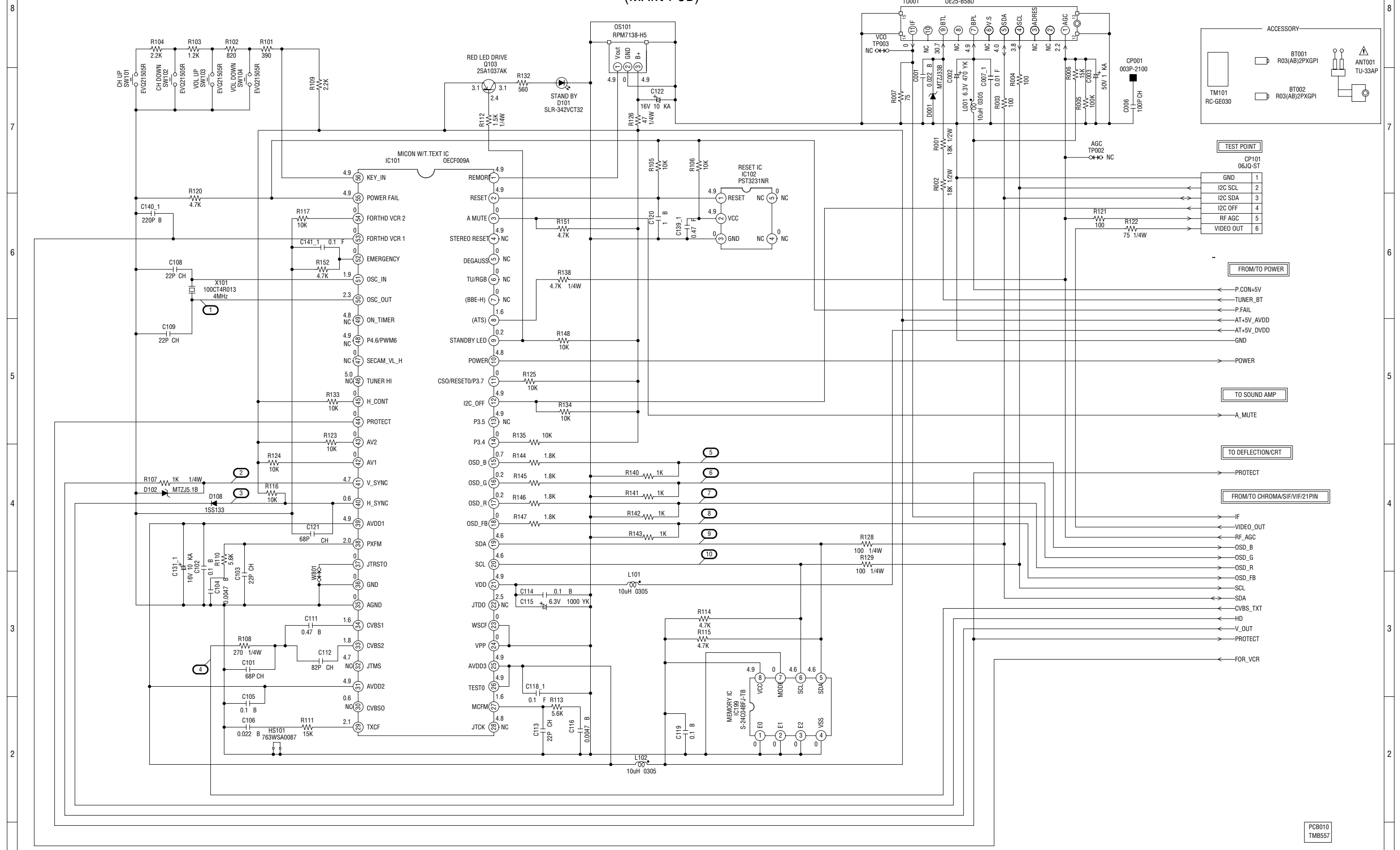
BLOCK DIAGRAM



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

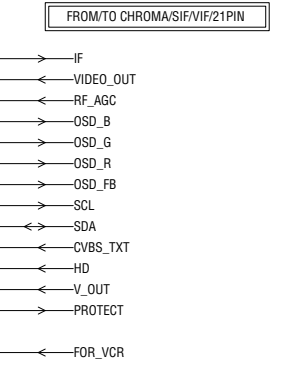
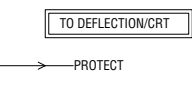
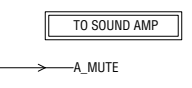
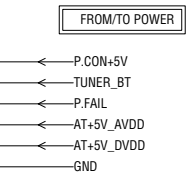


MICON/TUNER SCHEMATIC DIAGRAM (MAIN PCB)



TEST POINT

CP101	06JQ-ST
GND	1
I2C SCL	2
I2C SDA	3
I2C OFF	4
RF AGC	5
VIDEO OUT	6



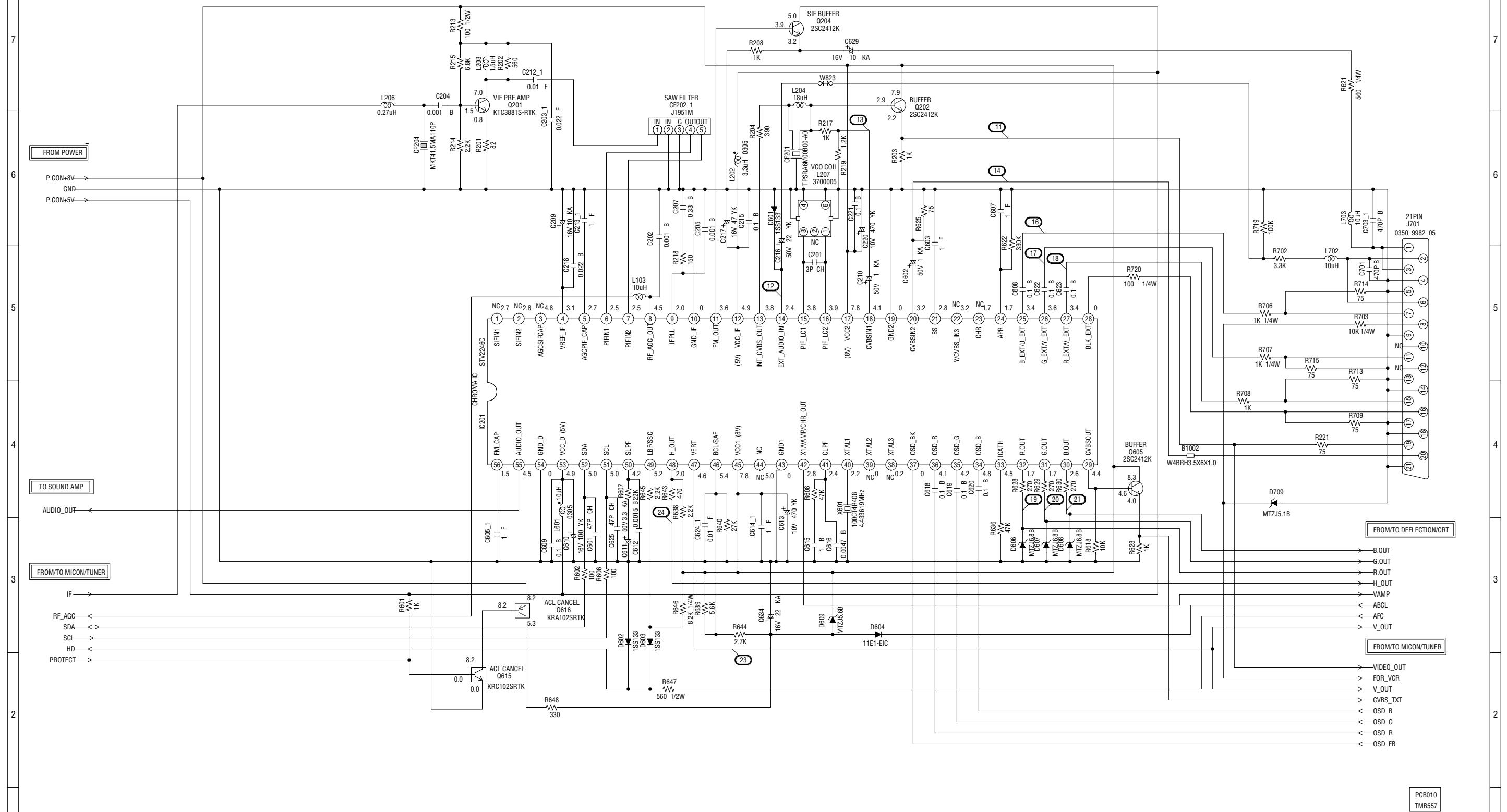
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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.

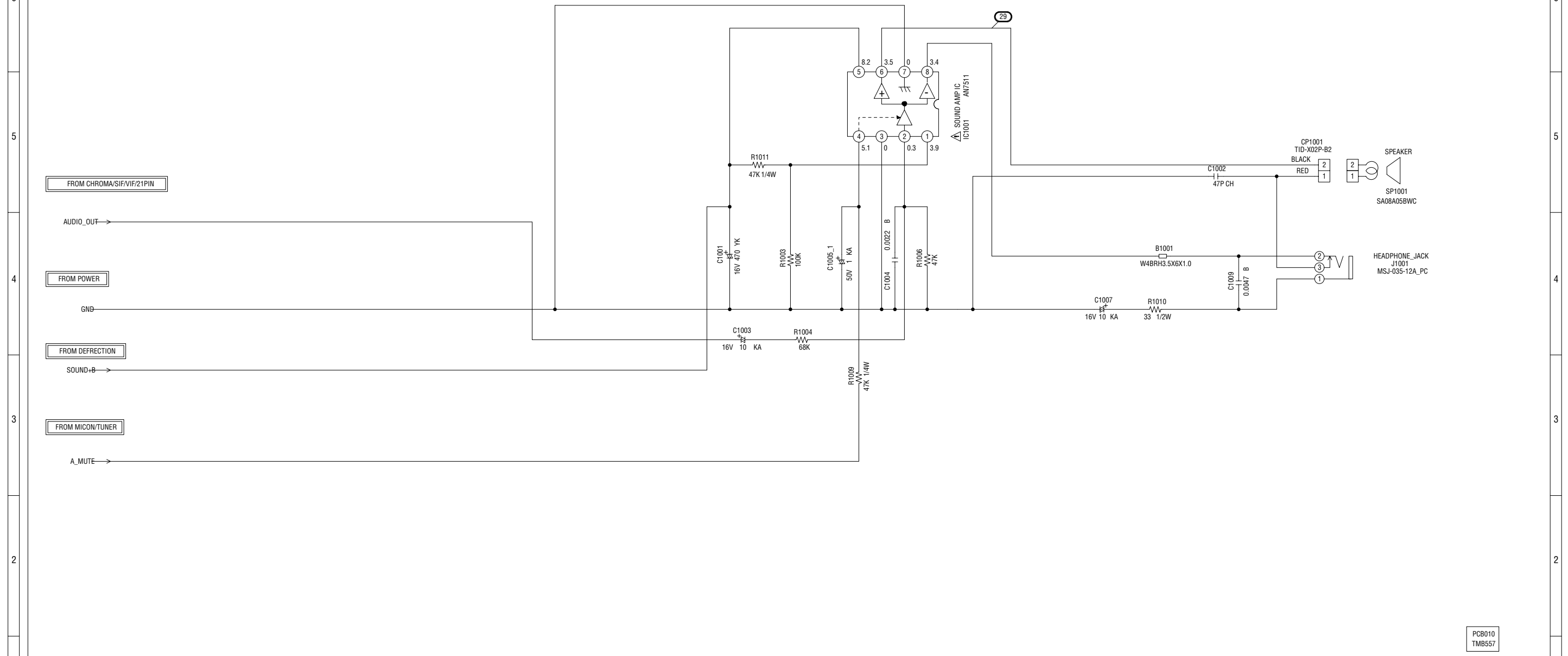
ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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

CHROMA/SIF/VIF/21PIN SCHEMATIC DIAGRAM (MAIN PCB)



SOUND AMP/FRONT AV SCHEMATIC DIAGRAM (MAIN PCB)



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

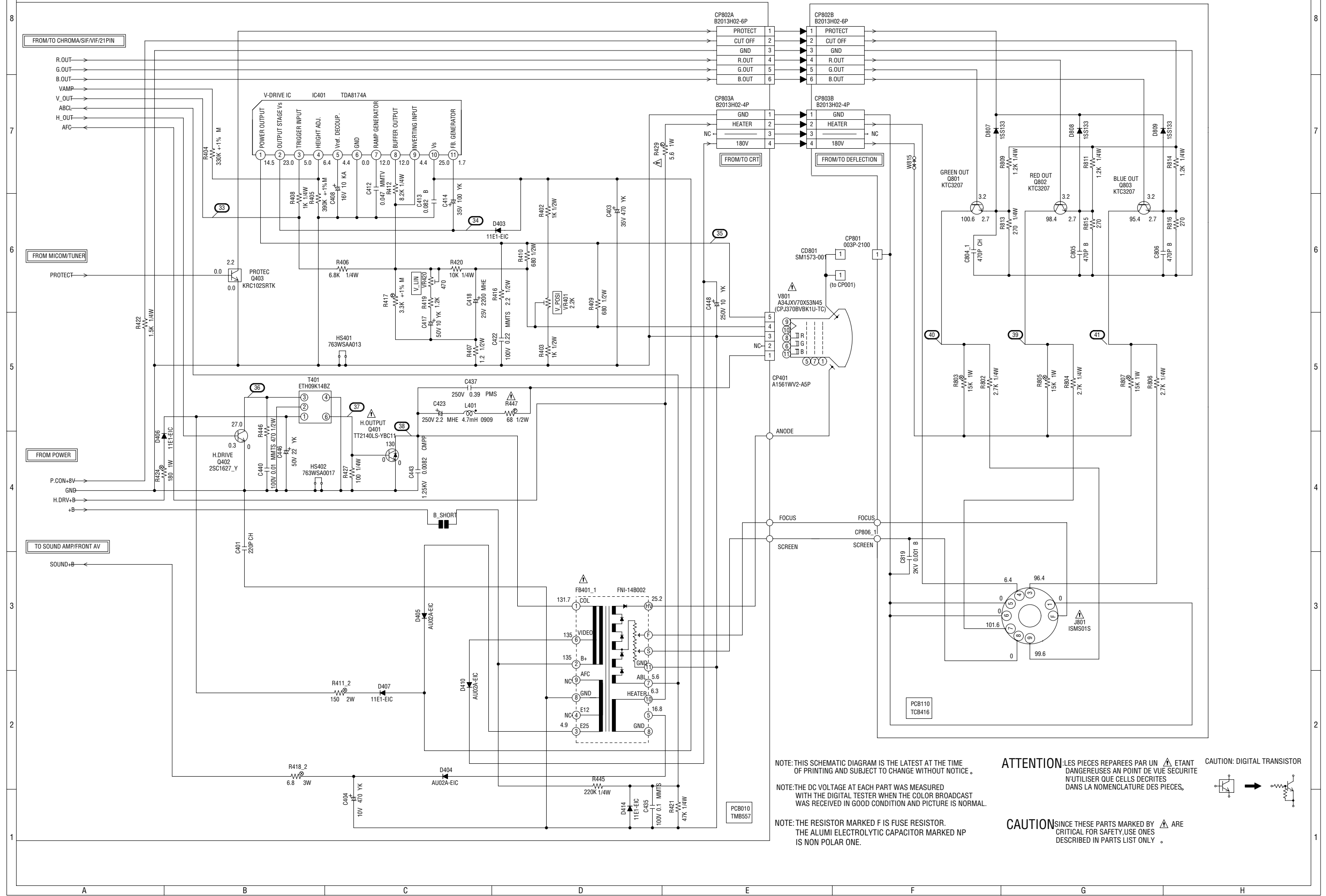
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

ATTENTION: LES PIÈCES RÉPARÉES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIÈCES.

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

PCB010
TMB557


DEFLECTION/CRT SCHEMATIC DIAGRAM (MAIN PCB)






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.

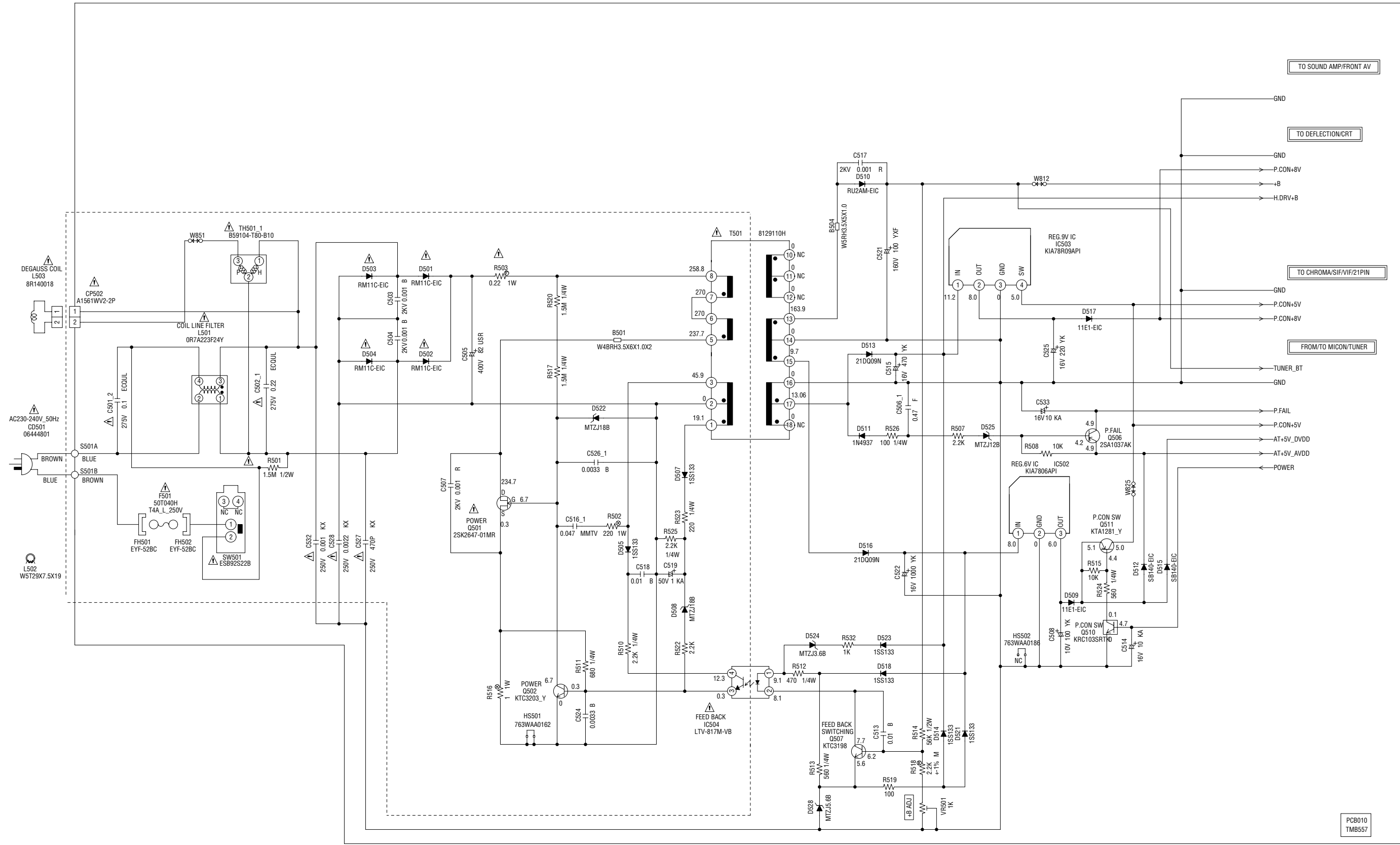
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

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  

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

POWER SCHEMATIC DIAGRAM (MAIN PCB)



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.

ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE NUTILISER QUE CELLS DECRIRES DANS LA NOMENCLATURE DES PIÈCES.

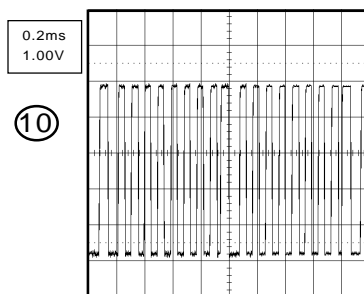
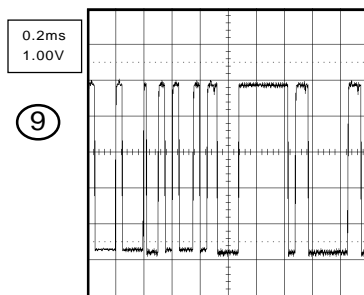
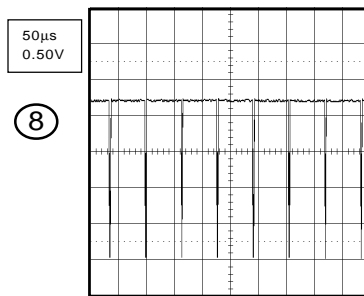
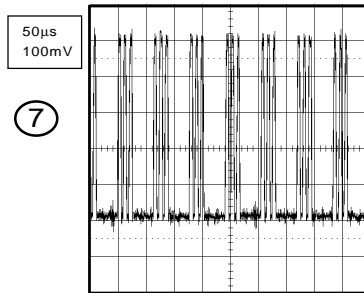
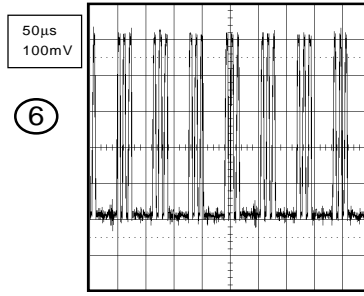
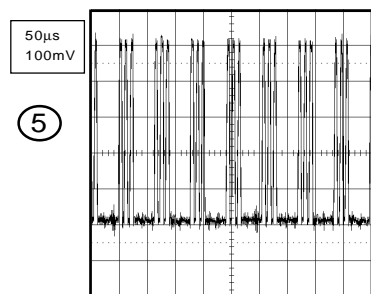
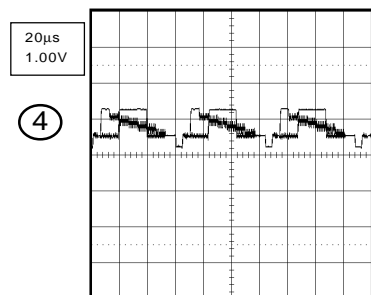
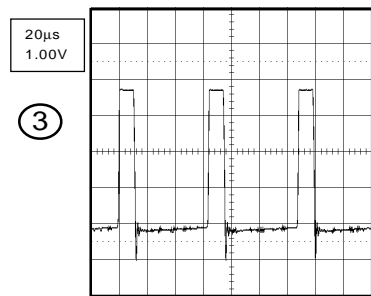
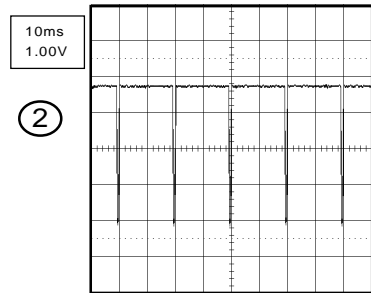
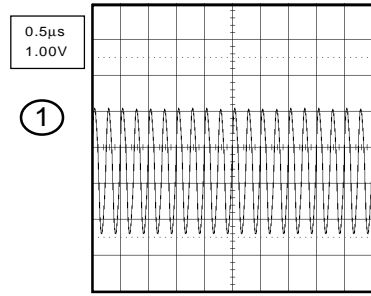
CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

CAUTION: DIGITAL TRANSISTOR

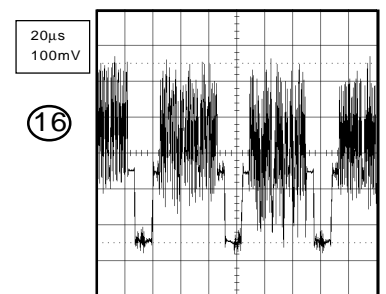
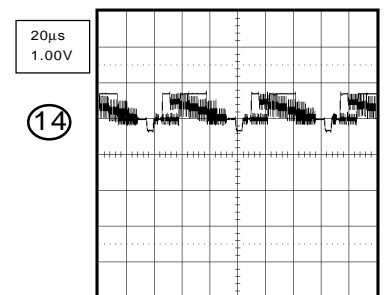
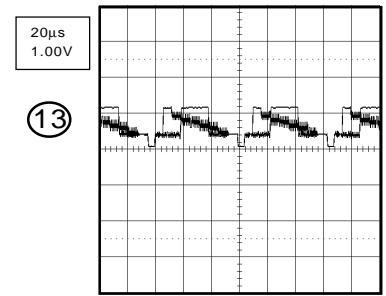
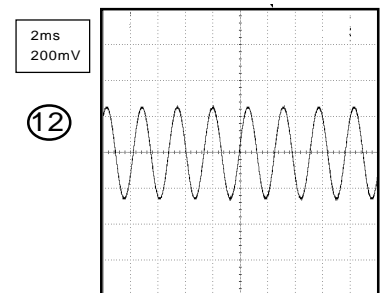
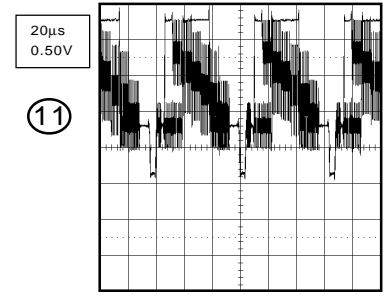
PCB010
TMB557

WAVEFORMS

MICON/TUNER

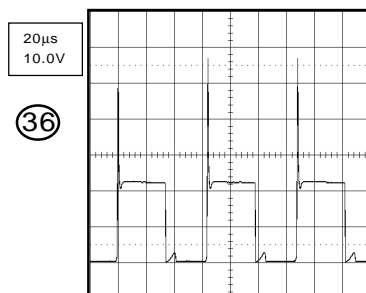
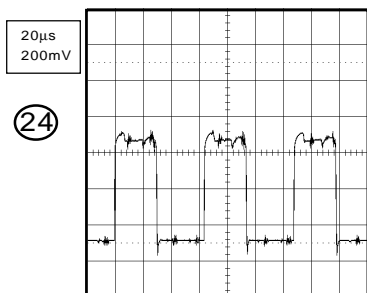
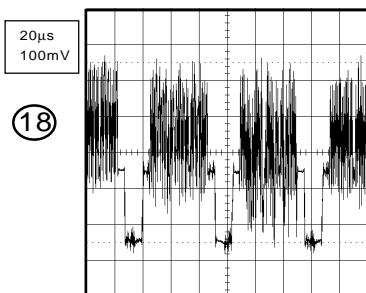
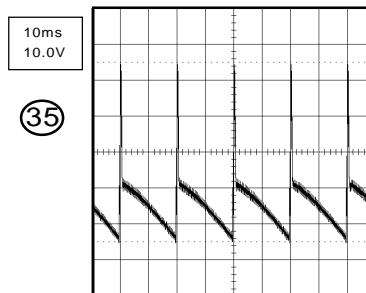
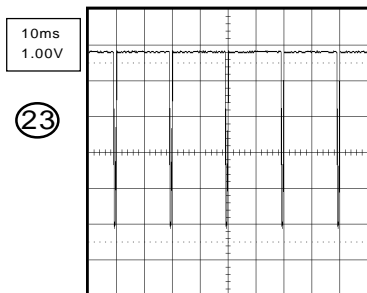
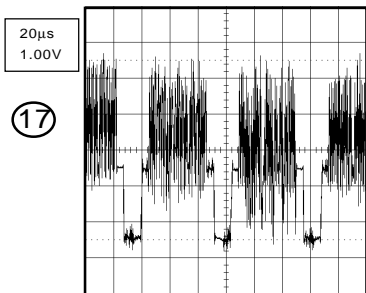


CHROMA/SIF/VIF/21PIN

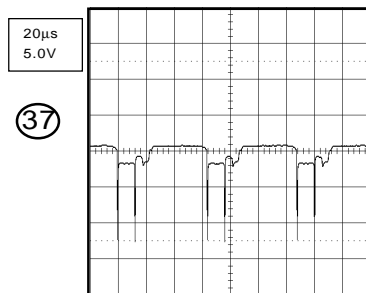
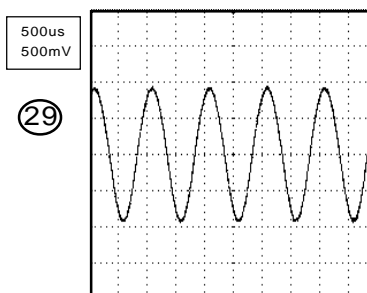
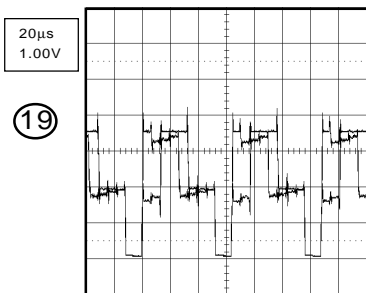


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

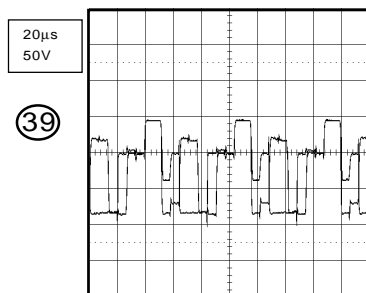
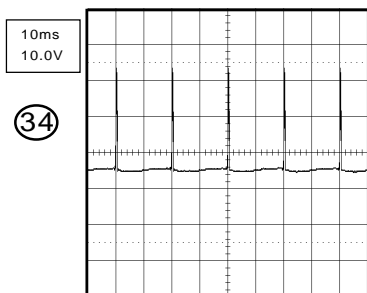
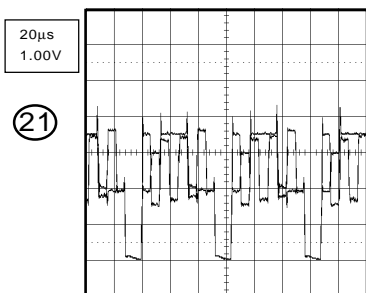
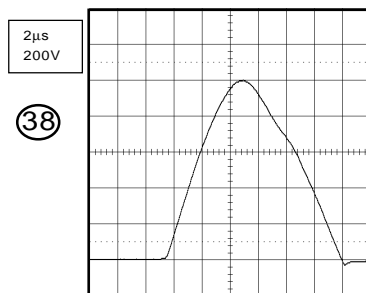
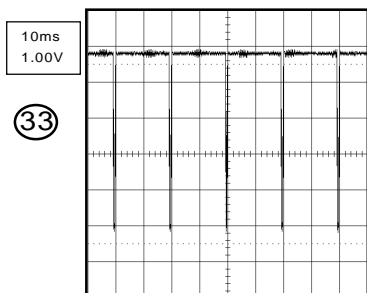
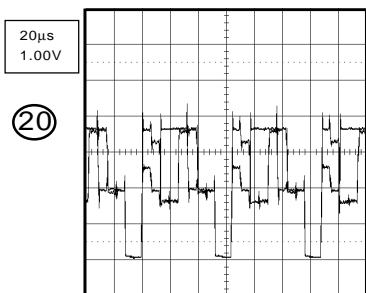
WAVEFORMS



SOUND AMP/FRONT AV

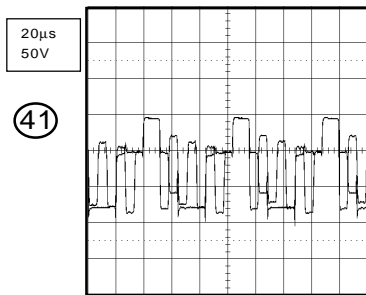
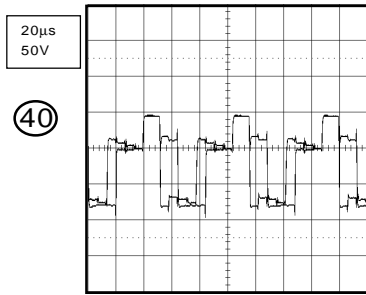


DEFLECTION/CRT



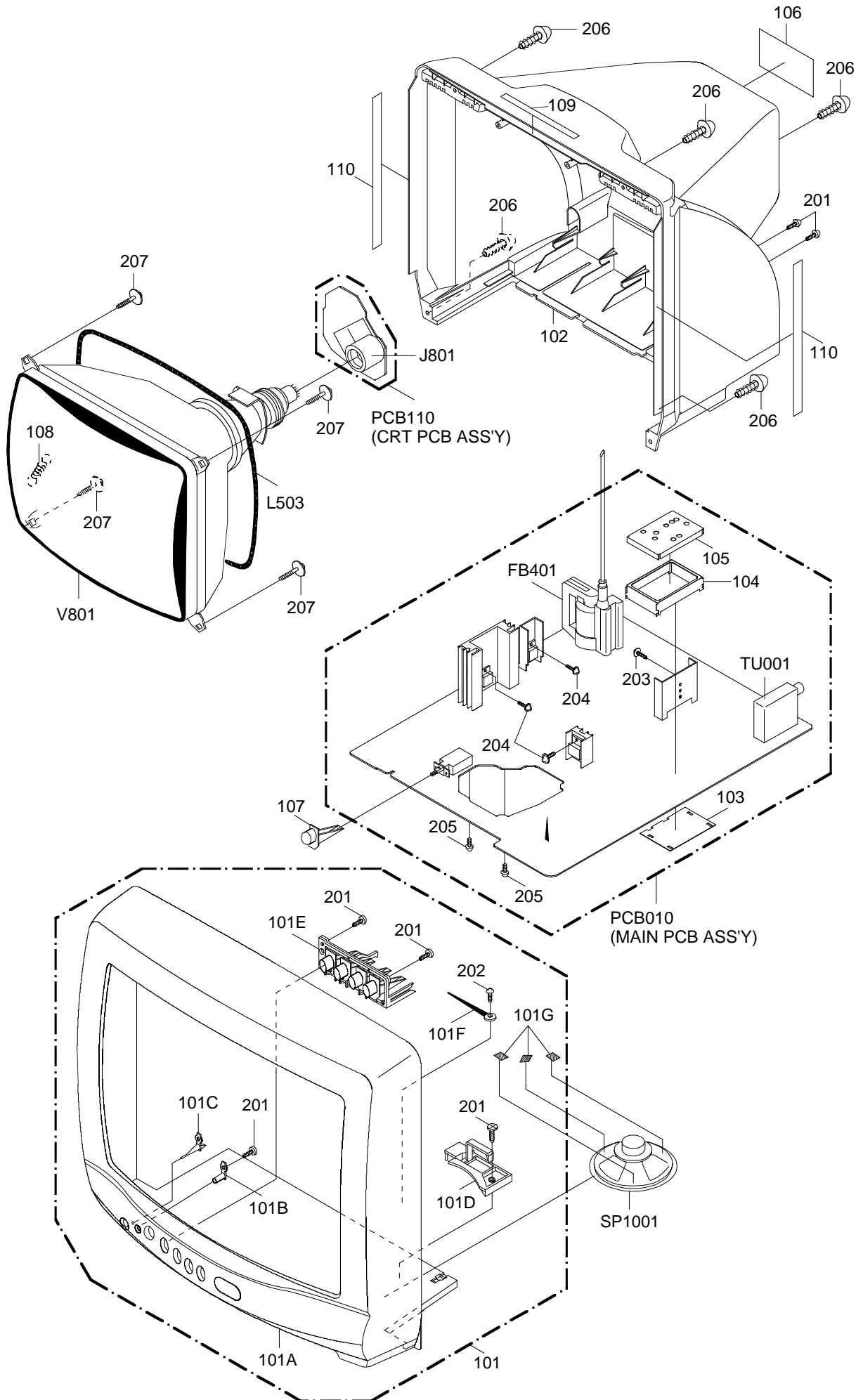
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS



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	A3M421I720	CABINET,FRONT ASSY	
101A	701WPJC340	CABINET,FRONT	
101B	713WPAA048	GUIDE,REMOCON	
101C	713WPAA111	GLASS LED	
101D	735WPA0396	SPEAKER,HOLDER	
101E	735WPBA808	BUTTON,FRAME	
101F	8995034000	CORD CLIP UL CO.	
101G	725000A063	SHEET,PC	
102	A3M421I740	CABINET,BACK ASSY	
103	752WSAA006	PLATE,SHIELD	
104	752WSAA008	SHIELD,CASE	
105	752WSAA013	SHIELD,LID	
106	722575A004	SHEET,RATING	
107	735WPBA809	BUTTON,POWER	
108	741WUA0019	SPRING,EARTH	
109	800WQ0A029	FELT,SHEET	10x150 T=0.5
110	800WQ00032	SHEET	18x165xT0.5
201	8110630A04	SCREW,TAP TITE(P)	BRAZIER 3x10
202	8110630604	SCREW,TAP TITE(P)	BRAZIER 3x6
203	8107630804	SCREW,TAP TITE(S)	BRAZIER 3x8
204	8109I30804	SCREW,TAP TITE(B)	WH7 3x8
205	8109630802	SCREW,TAP TITE(B)	BRAZIER 3x8
206	8117540A64	SCREW,TAPPING(B0)	TRUSS 4x16
207	8121J50B54	SCREW,TAP TITE(P)	GW20 5x28
---	792UHAA042	PACKAGE, TOP	
---	792UHAA043	PACKAGE, BOTTOM	
---	793UCDB170	GIFT BOX	
---	J3M42101A	INSTRUCTION BOOK	
---	J3M42107A	QUICK SET-UP SHEET	
---	JB5XD200	POLYBAG,INSTRUCTION(REDA CAUTION)	
---	A3M421I975	INSTRUCTION BOOK KIT	

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
RESISTORS			ICS		
△ R411	R3X28A151J	R,METAL OXIDE 150 OHM 2W	IC101	I5PD0F009A	IC OECF009A
△ R418	R3X28B6R8J	R,METAL OXIDE 6.8 OHM 3W	IC102	I9UF032310	IC PST3231NR
△ R424	R3X181181J	R,METAL OXIDE 180 OHM 1W	IC199	A3M401M015	IC S-24C04BFJ-TB
△ R429	R635815R6J	R,FUSE 5.6 OHM 1W	IC201	I0WDE246C0	IC STV2246C
△ R447	R635U2680J	R,FUSE 68 OHM 1/2W	IC401	I0WTD81740	IC TDA8174A
△ R501	R002T2155J	RC 1.5M OHM 1/2W	IC502	I1KA97806A	IC KIA7806API
△ R502	R3X181221J	R,METAL OXIDE 220 OHM 1W	IC503	I1KA98R09A	IC KIA78R09API
△ R503	R63581R22J	R,FUSE 0.22 OHM 1W	△ IC504	0002E00610	IC PHOTO COUPLER LTV-817M-VB
△ R516	R3X181010J	R,METAL OXIDE 1 OHM 1W	IC1001	I01DP75110	IC AN7511
△ R517	R002T4155J	RC 1.5M OHM 1/4W	TRANSISTORS		
△ R803	R3X181153J	R,METAL OXIDE 15K OHM 1W	Q103	T6YJ1037K0	TRANSISTOR,SILICON 2SA1037AKT146R,S
△ R805	R3X181153J	R,METAL OXIDE 15K OHM 1W	Q201	T8AA03881S	TRANSISTOR SILICON KTC3881S-RTK
△ R807	R3X181153J	R,METAL OXIDE 15K OHM 1W	Q202	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
CAPACITORS			Q204	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
C418	E5EZF3222M	CE 2200 UF 25V	△ Q401	TD3Q021400	TRANSISTOR SILICON TT2140LS-YBC11
C437	P4J7F3394J	CMPP 0.39 UF 250V PMS	Q402	TC5T01627Y	TRANSISTOR SILICON 2SC1627_Y(TPE2)
C443	P4N8FJ822H	CMPP 0.0082UF 1.25KV	Q403	TNAAB05003	COMPOUND TRANSISTOR KRC102SRTK
△ C501	P2122B104M	CMP 0.1 UF 275V ECQUL	△ Q501	T410K26470	FET 2SK2647-01MR
△ C502	P2122B224M	CMP 0.22 UF 275V ECQUL	Q502	TCAT032034	TRANSISTOR, SILICON KTC3203_Y-AT
C503	C0JBB0713K	CC 0.001 UF 2KV B	Q506	T6YJ1037K0	TRANSISTOR,SILICON 2SA1037AKT146R,S
C504	C0JBB0713K	CC 0.001 UF 2KV B	Q507	TCATC31980	TRANSISTOR,SILICON KTC3198-AT(Y,GR)
△ C505	E52DHH820M	CE 82 UF 400V	Q510	TNAAC05002	COMPOUND TRANSISTOR KRC103SRTK
△ C507	C03L0R713K	CC 0.001 UF 2KV R	Q511	TAAT01281Y	TRANSISTOR SILICON KTA1281_Y
C517	C03L0R713K	CC 0.001 UF 2KV R	Q605	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
C521	E62NFB101M	CE 100 UF 160V	Q615	TNAAB05003	COMPOUND TRANSISTOR KRC102SRTK
△ C527	CD39B0MQ2K	CC 470 PF 250V	Q616	TPAAB05001	COMPOUND TRANSISTOR KRA102SRTK
△ C528	CD39E0MH3M	CC 0.0022UF 250V	Q801	TCAT032070	TRANSISTOR SILICON KTC3207-AT
△ C532	CD39E0M13M	CC 0.001 UF 250V	Q802	TCAT032070	TRANSISTOR SILICON KTC3207-AT
C819	C0JBB0713K	CC 0.001 UF 2KV B	Q803	TCAT032070	TRANSISTOR SILICON KTC3207-AT
DIODES			COILS & TRANSFORMERS		
D001	D97U03301B	DIODE,ZENER MTZJ33B T-77	L001	02167F100J	COIL 10 UH
D101	0021721150	LED SLR-342VCT32	L101	02167F100J	COIL 10 UH
D102	D97U05R11B	DIODE,ZENER MTZJ5.1B T-77	L102	02167F100J	COIL 10 UH
D108	D1VT001330	DIODE,SILICON 1SS133T-77	L103	0216A6100K	COIL 10 UH
D403	D2WT011E10	DIODE SILICON 11E1-EIC	L202	02167F3R3J	COIL 3.3 UH
D404	D2WTAU02A0	DIODE SILICON AU02A-EIC	L203	0216A61R5K	COIL 1.5 UH
D405	D2WTAU02A0	DIODE SILICON AU02A-EIC	L204	0216A6180K	COIL 18 UH
D406	D2WT011E10	DIODE SILICON 11E1-EIC	L206	0216A6R27M	COIL 0.27 UH
D407	D2WT011E10	DIODE SILICON 11E1-EIC	L207	033700005R	COIL,VIDEO IFT 3700005
D410	D2WTAU02A0	DIODE SILICON AU02A-EIC	L401	021679472K	COIL 4.7 MH
D414	D2WT011E10	DIODE SILICON 11E1-EIC	△ L501	029T000094	COIL,LINE FILTER 0R7A223F24Y
△ D501	D2WTRM11C0	DIODE SILICON RM11C-EIC	L502	02AHB9A972	CORE,FERRITE W5T29X7.5X19
△ D502	D2WTRM11C0	DIODE SILICON RM11C-EIC	△ L503	028R140018	COIL,DEGAUSS 8R140018
△ D503	D2WTRM11C0	DIODE SILICON RM11C-EIC	L601	02167F100J	COIL 10 UH
△ D504	D2WTRM11C0	DIODE SILICON RM11C-EIC	L702	0216A6100K	COIL 10 UH
D505	D1VT001330	DIODE,SILICON 1SS133T-77	L703	0216A6100K	COIL 10 UH
D507	D1VT001330	DIODE,SILICON 1SS133T-77	T401	045009003J	TRANS,HORIZONTAL DRIVE ETH09K14BZ
D508	D97U01801B	DIODE,ZENER MTZJ18B T-77	△ T501	048129110H	TRANSFORMER,SWITCHING 8129110H
D509	D2WT011E10	DIODE SILICON 11E1-EIC	JACKS		
D510	D2WXRU2AM0	DIODE SILICON RU2AM-EIC	J701	063G100042	SOCKET,21PIN 0350_9982_05
D511	D2WXN49370	DIODE SILICON 1N4937	J801	066F120018	SOCKET,CATHODE RAY TUBE ISMS01S
D512	D2WXS1400	DIODE SCHOTTKY SB140-EIC	J1001	060J121014	JACK,RCA,3.5 MSJ-035-12A_PC
D513	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1	SWITCHES		
D514	D1VT001330	DIODE,SILICON 1SS133T-77	SW101	0504101T34	SWITCH,TACT EVQ21505R
△ D515	D2WXS1400	DIODE SCHOTTKY SB140-EIC	SW102	0504101T34	SWITCH,TACT EVQ21505R
D516	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1	SW103	0504101T34	SWITCH,TACT EVQ21505R
D517	D2WT011E10	DIODE SILICON 11E1-EIC	SW104	0504101T34	SWITCH,TACT EVQ21505R
D518	D1VT001330	DIODE,SILICON 1SS133T-77	△ SW501	0530105019	SWITCH ESB92S22B
D521	D1VT001330	DIODE,SILICON 1SS133T-77	VARIABLE RESISTORS		
D522	D97U01801B	DIODE,ZENER MTZJ18B T-77	VR401	V1163H3BTC	VOLUME,SEMI FIXED EVNCYAA03BE3
D523	D1VT001330	DIODE,SILICON 1SS133T-77	VR420	V1163Q2BTC	VOLUME,SEMI FIXED EVNCYAA03BQ2
D524	D97U03R61B	DIODE,ZENER MTZJ3.6B T-77	VR501	V116313BTC	VOLUME,SEMI FIXED EVNCYAA03B13
D525	D97U01201B	DIODE,ZENER MTZJ12B T-77	P.C. BOARD ASSEMBLIES		
D528	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	PCB010	A3M4211010K	PCB ASS'Y TMB557A
D601	D1VT001330	DIODE,SILICON 1SS133T-77	PCB110	A3M4201110K	PCB ASS'Y TCB416A
D602	D1VT001330	DIODE,SILICON 1SS133T-77	MISCELLANEOUS		
D603	D1VT001330	DIODE,SILICON 1SS133T-77	ANT001	125C500017	ANTENNA,LOOP TU-33AP
D604	D2WT011E10	DIODE SILICON 11E1-EIC	B501	024HT03563	CORE,BEADS W4BRH3.5X6X1.0X2
D606	D97U06R81B	DIODE,ZENER MTZJ6.8B T-77	B504	024HT03553	CORE,BEADS W5RH3.5X5X1.0
D607	D97U06R81B	DIODE,ZENER MTZJ6.8B T-77	B1001	024HT03564	CORE,BEADS W4BRH3.5X6X1.0
D608	D97U06R81B	DIODE,ZENER MTZJ6.8B T-77	B1002	024HT03564	CORE,BEADS W4BRH3.5X6X1.0
D609	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	BT001	1412004013	BATTERY,MANGAN R03(AB)2PXGPI
D709	D97U05R11B	DIODE,ZENER MTZJ5.1B T-77	BT002	1412004013	BATTERY,MANGAN R03(AB)2PXGPI
D807	D1VT001330	DIODE,SILICON 1SS133T-77	△ CD501	1206444801	CORD AC BUSH 6444801
D808	D1VT001330	DIODE,SILICON 1SS133T-77	CD801	1278140030	BRAIDED WIRE SM1573-001
D809	D1VT001330	DIODE,SILICON 1SS133T-77	CD802	WDL6028038	FLAT CABLE AWG26 6C BLACK 280MM
			CD803	WBL6026038	FLAT CABLE AWG26 4C BLACK 260MM

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
MISCELLANEOUS		
CF201	1012T6R014	FILTER,CERAMIC TRAP TPSRA6M00B00-A0
CF202	102E239R5B	FILTER SAW J1951M
CF204	1012T04101	FILTER,CERAMIC TRAP MKT41.5MA110P
CP001	069W01001A	CONNECTOR PCB SIDE 003P-2100
CP101	069X160379	CONNECTOR PCB SIDE 06JQ-ST
CP401	069S450089	CONNECTOR PCB SIDE A1561WV2-A5P
CP502	069S420110	CONNECTOR PCB SIDE A1561WV2-2P
CP801	069W01001A	CONNECTOR PCB SIDE 003P-2100
CP1001	069W120019	CONNECTOR PCB SIDE TID-X02P-B2
CP802A	067U006049	WIRE HOLDER B2013H02-6P
CP802B	067U006049	WIRE HOLDER B2013H02-6P
CP803A	067U004029	WIRE HOLDER B2013H02-4P
CP803B	067U004029	WIRE HOLDER B2013H02-4P
EL002	124120301A	EYE LET XRY20X30BD
△ F501	080NT04004	FUSE 50T040H
△ FB401	043214039F	TRANSFORMER,FLYBACK FNI-14B002
FH501	06710T0006	HOLDER,FUSE EYF-52BC
FH502	06710T0006	HOLDER,FUSE EYF-52BC
OS101	0773071001	REMOTE RECEIVER RPM7138-H5
SP1001	070C132019	SPEAKER SA08A05BWC
△ TH501	D8E080B100	DEGAUSS ELEMENT B59104-T80-B10
TM101	076N0GE030	TRANSMITTER RC-GE030
TU001	0144R07025	TUNER,UHF UE25-B58D
△ V801	098Y1404B9	CRT W/DY A34JXV70X53N45
X101	100CT4R013	CRYSTAL HC-49/U-S
X601	100CT4R408	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

SPEC.NO.	M3M4-21I
O/R NO.	U353551

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 \triangle 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.

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GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size	14 inch / 335.4mmV	
			CRT Type	Normal	
			Deflection	90 degree	
			Magnetic Field BV/BH	+0.45G/0.18G	
			Color System	PAL	
			Speaker	1Speaker	
				Position	Bottom
				Size	3 Inch
				Impedance	8 ohm
			Sound Output	MAX	1.0 W
		10%(Typical)	0.8 W		
	PAL60Hz		Yes		
G-2	Tuning System	Broadcasting System		U.K. System I	
		Tuner and Receive CH	System	1Tuner	
			Destination	UK	
			Tuning System	F-Synth	
			Input Impedance	VHF/UHF 75 ohm	
				21 - 69	
			CH Coverage		
		Intermediate Frequency	Picture(FP)	39.5MHz	
			Sound(FS)	33.5MHz	
			FP-FS	6.0MHz	
	Preset CH		80		
	Stereo/Dual TV Sound		No		
	Tuner Sound Muting		Yes		
G-3	Power	Power Source	AC	230V AC 50Hz	
			DC		
		Power Consumption		at AC	
			Stand by (at AC) Per Year		44 W at AC 230 V 50 Hz 7 W at AC 230 V 50 Hz -- kWh/Year
	Protector	Power Fuse		Yes	
G-4	Regulation	Safety		CE	
		Radiation		CE	
		X-Radiation		-	
G-5	Temperature	Operation		+5°C ~ +40°C	
		Storage		-20°C ~ +60°C	
G-6	Operating Humidity			Less than 80% RH	
G-7	On Screen Display	Menu		Yes	
		Menu Type		Character	
		Picture		Yes	
			Contrast	Yes	
			Brightness	Yes	
			Color	Yes	
			Tint	No	
			Sharpness	Yes	
			Audio	No	
			Bass	No	
			Treble	No	
			Balance	No	
			BBE On/Off	No	
			Stable Sound On/Off	No	
			CH Tuning	Yes	
			Manual	Yes	
			Auto	Yes	
			CH Allocation	Yes	
			Language	Yes	
			Clock Set	No	
			On/Off Timer Set	No	
			Pin Code Registration	No	
			Nicam Auto Off	No	
			Colour System	No	
			Sound System	No	
			AV2 Output Source	No	
			HELPLINE	No	
			Control Level	Yes	
			Volume	Yes	
			Brightness	Yes	
			Contrast	Yes	
			Color	Yes	
			Tint (NTSC Only)	No	
			Sharpness	Yes	
			Tuning	Yes	
			Bass	No	
			Treble	No	
			Balance	No	
			Back Light	No	

GENERAL SPECIFICATIONS

		Nicam ST	No
		Tone 1/2	No
		Pin Code	No
		AV	Yes
		Skip	Yes
		Channel	Yes
		Hotel Lock	No
		Sleep Timer	Yes
		Sound Mute	Yes
G-8	OSD Language		English French Spanish German Italian
G-9	Clock and Timer	Sleep Timer	Max Time Step 120 Min 10 Min
		On/Off Timer	Program(On Timer / Off Timer)
		Wake Up Timer	No
		Timer Back-up (at Power Off Mode)	more than -- Min Sec
G-10	Remote Control	Unit	RC-GE
		Glow in Dark Remocon	No
		Format	NEC
		Custom Code	80-63 h
		Power Source	Voltage(D.C) UM size x pcs 3V UM-4 x 2 pcs
		Total Keys	31 Keys
		Keys	Power(Stand By) Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0 / AV	Yes
		CH Up	No
		CH Down	No
		Volume Up / +	Yes
		Volume Down / -	Yes
		Quick View	No
		Sleep	Yes
		Info(CH Call)	Yes
		Normal	No
		Menu	Yes
		Enter	Yes
		Mute	Yes
		Fine Tuning +	No
		Fine Tuning -	No
		Tone 1/2	No
		TTEXT Keys	TEXT / MIX / TV Yes
			CH Up / Page Up Yes
			CH Down / Page Down Yes
			Red Yes
			Green Yes
			Yellow / Fine Tuning - Yes
			Cyan / Fine Tuning + Yes
			F/T/B(Expand) / Normal Yes
			Reveal / Skip Yes
			Display Cancel Yes
			Reset Yes
			Reset / Tone 1/2 No
			Hold / Status Yes
			Sub Page / Quick View Yes
G-11	Features	Auto Degauss	Yes
		Auto Shut Off	Yes
		Canal+	No
		CATV	No
		Anti-theft	No
		Memory(Last CH)	Yes
		Memory(Last Volume)	Yes
		BBE	No
		Auto Search	Yes
		CH Allocation	Yes
		Fine Tuning	Yes
		Channel Lock	No
		Just Clock Function	No
		Game Position	No
		CH Label	No

GENERAL SPECIFICATIONS

		VM Circuit		No
		Full OSD		No
		Unitext	Yes	
		Fasttext		No
		Top Text		No
		Premiere		No
		Comb Filter		No
			Lines	
		Auto CH Memory	Yes	
		Auto Set Up		No
		Stable Sound		No
		FBT Leak Test Protect		No
		Hotel Lock		No
		Power ON Memory	Yes	
G-12	Accessories	Owner's Manual	Language	English
			w/Guarantee Card	No
		Remote Control Unit		Yes
		Rod Antenna		No
			Poles	Pole
			Terminal	type
		Loop Antenna		Yes
			Terminal	Din Type
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Guarantee Card		No
		Warning Sheet		No
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Important Safeguard		No
		Dew/AHC Caution Sheet		No
		AC Plug Adapter		No
		Quick Set-up Sheet		Yes
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
			OEM Brand	No
			AC Cord	No
	AV Cord (2Pin-1Pin)	No		
	Registration Card	No		
	PTB Sheet	No		
	300 ohm to 75 ohm Antenna Adapter	No		
	Insurance Plan Leaflet	No		
G-13	Interface	Switch	Front	Power
				System Select
				Main Power SW
				Sub Power
				Channel Up
				Channel Down
				Volume Up
				Volume Down
			Rear	AC/DC
				TV/CATV Selector
				Degauss
				Main Power SW
		Indicator		Power
				Stand-by
				On Timer
		Terminals	Front	Video Input
				Audio Input
				Other Terminal
			Rear	Video Input(Rear1)
				Video Input(Rear2)
				Audio Input(Rear1)
				Audio Input(Rear2)
				Video Output
		Audio Output		
		Euro Scart(21Pin)		
		Component Input		
		Diversity		
		Ext Speaker		
		DC Jack 12V(Center +)		
		VHF/UHF Antenna Input		
		AC Outlet		
G-14	Set Size	Approx. W x D x H (mm)		362 x 360 x 320.5
G-15	Weight	Net (Approx.)		9.5 kg (--- lbs)
		Gross (Approx.)		11.5kg (---lbs)
G-16	Carton	Master Carton		No

GENERAL SPECIFICATIONS

		Content	----	Sets
		Material	--	/--
		Dimensions W x D x H(mm)	--	x --
		Description of Origin		No
		Gift Box		Yes
		Material		Double/Full Color
		Dimensions W x D x H(mm)	440	x 408 x 380
		Design		As per Buyer's
		Description of Origin		No
		Drop Test		Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces
		Height (cm)		62
		Container Stuffing	866	Sets/40' container
G-17	Material	Cabinet	Cabinet Front	PS 94V0 DECABROM
			Cabinet Rear	PS 94V0 DECABROM
		PCB	Non-Halogen Demand	No
			Eyelet Demand	No
G-18	Environment	Pb Free	Lead-free Solder	No
			Other	No
		Cd Free		No

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF ANODE CAP

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

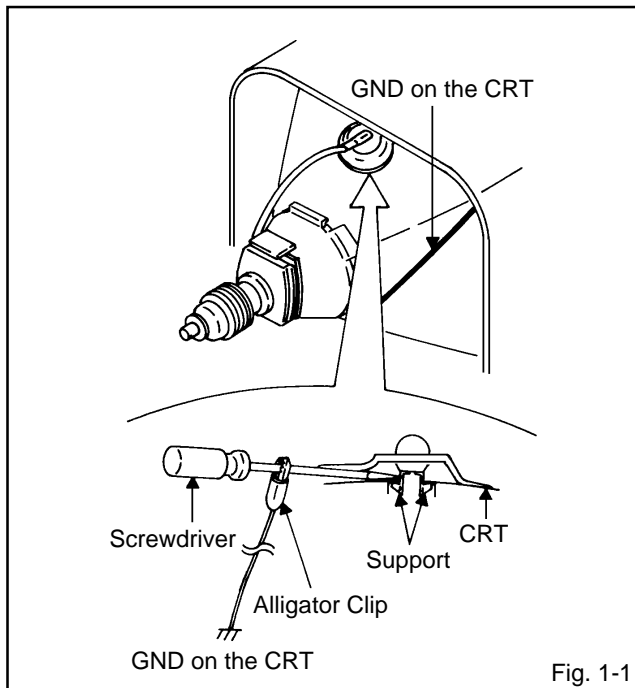
- * After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- * Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

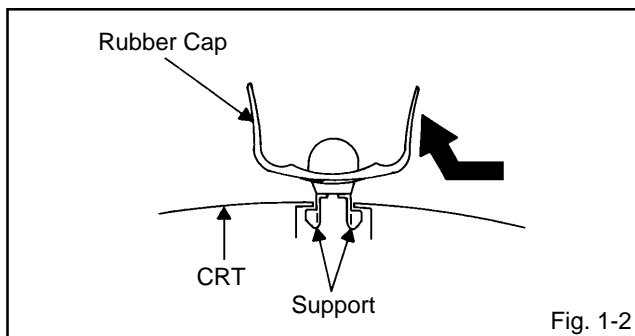
1. Follow the steps as follows to discharge the Anode Cap. (Refer to Fig. 1-1.)

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.)



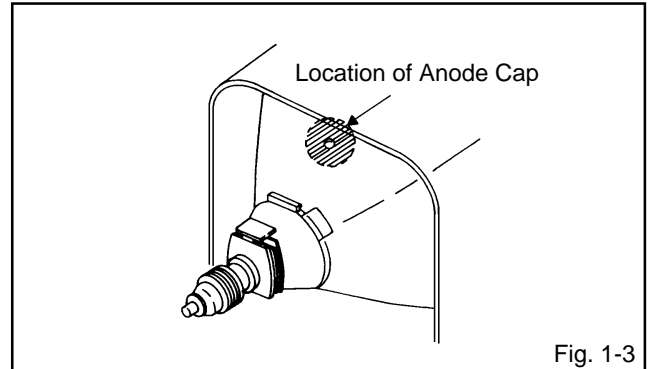
3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

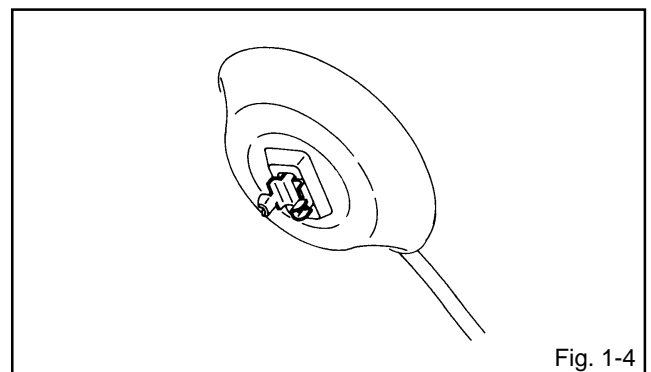
1. Clean the spot where the cap was located with a small amount of alcohol. (Refer to Fig. 1-3.)



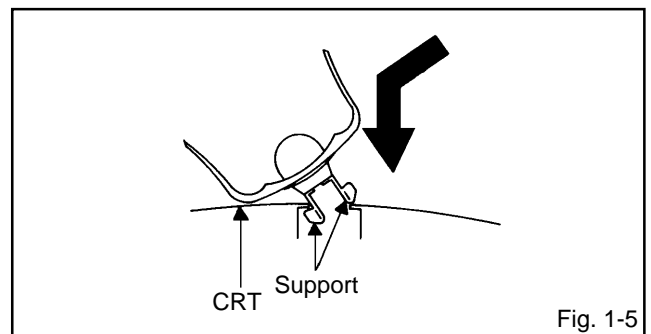
NOTE

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.

DISASSEMBLY INSTRUCTIONS

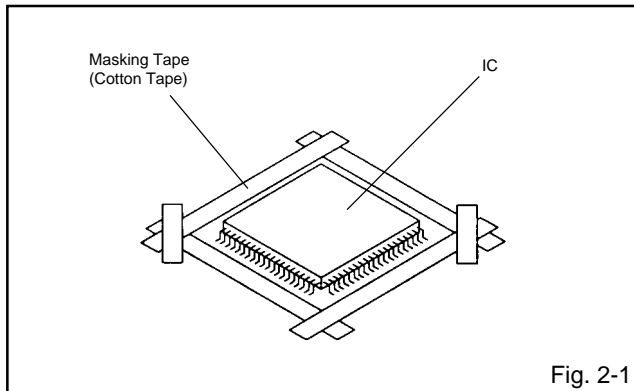
2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. (Refer to Fig. 2-1.)

NOTE

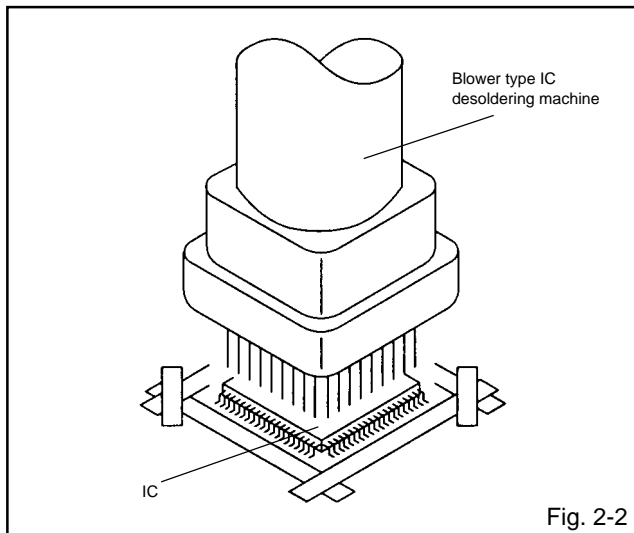
Masking is carried out on all the parts located within 10 mm distance from IC leads.



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

NOTE

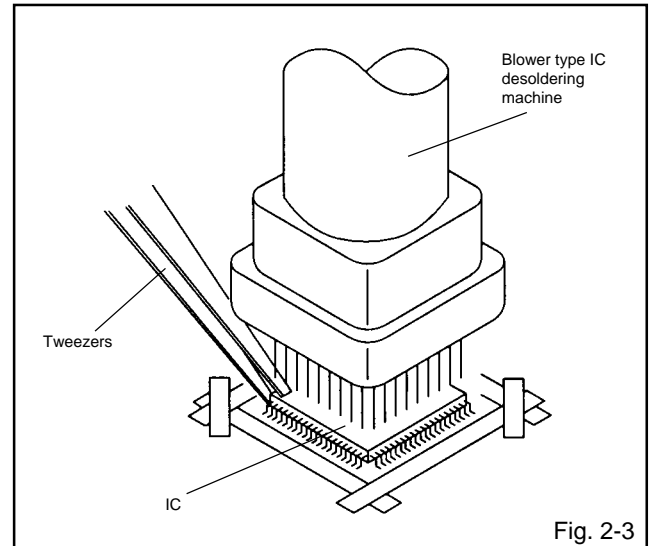
Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.



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. 2-3.)

NOTE

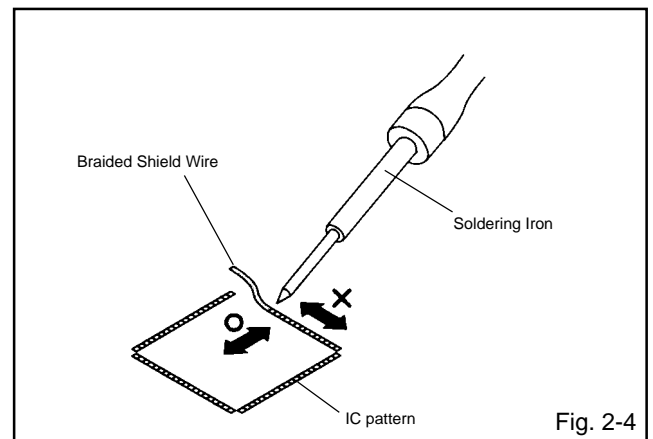
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. (Refer to Fig. 2-4.)

NOTE

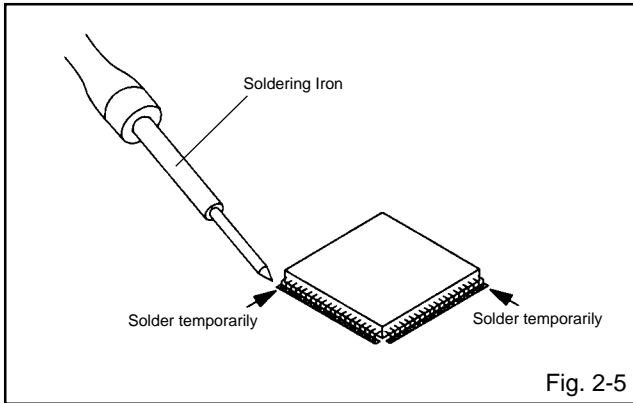
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



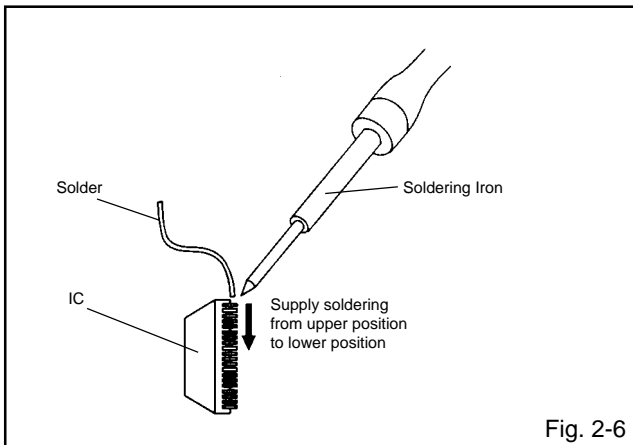
DISASSEMBLY INSTRUCTIONS

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. 2-5.)



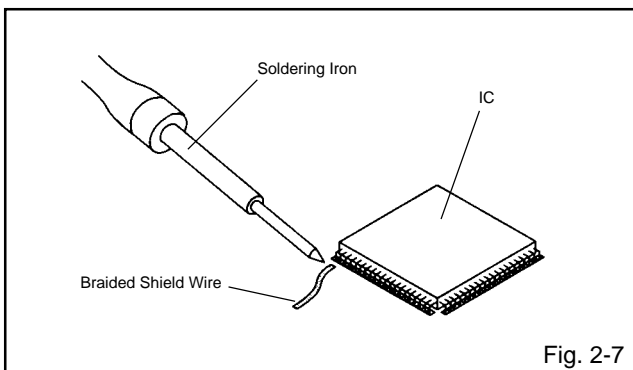
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 2-6.)



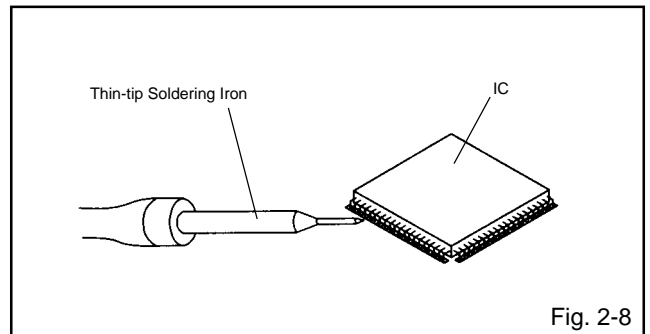
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 2-7.)

NOTE

Do not absorb the solder to excess.



4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. (Refer to Fig. 2-8.)



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 the Service Mode, press both set key and remote control key for more than 2 seconds.

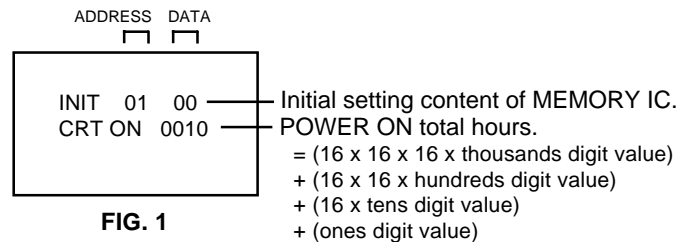
Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Reset the user setting items (PICTURE, VOLUME and LANGUAGE) to the initial state for delivery.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF 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.

NOTE: If you set a factory initialization, the total hours is reset to "0".

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 2 second.
3. After the confirmation of using hours, turn off the power.



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	+A	+B	+C	+D	+E	+F
00	---	00	00	00	00	19	60	40	00	41	00	01	03	00	00	00
10	10	00	80	80	80	00	00	---	---	---	---	---	---	---	---	---

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 for more than 2 seconds.

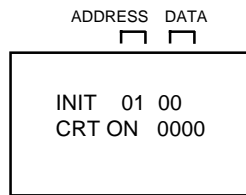


Fig. 1

3. ADDRESS is now selected and should "blink". Using the VOL. +/- 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. +/- 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.

After the data input, set to the initializing of shipping.

9. Turn POWER on.
10. While holding down VOLUME button on front cabinet, press key 1 on remote control for more than 2 seconds.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

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.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease (**YG6260M**) on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Pattern Generator

On-Screen Display Adjustment

1. In the condition of NO indication on the screen. Press the VOL. DOWN button on the set and the Channel button (**9**) on the remote control for more than 2 seconds to appear the adjustment mode on the screen as shown in **Fig. 1-1**.

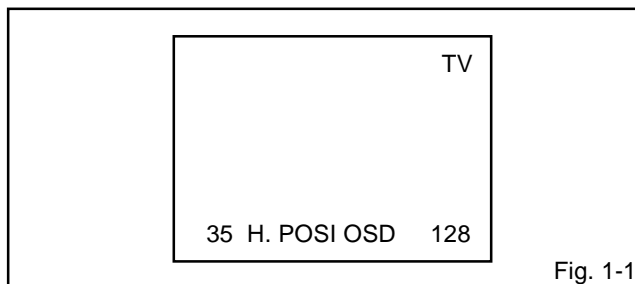


Fig. 1-1

2. Use the Channel UP/DOWN button or Channel button (**0-9**) on the remote control to select the options shown in **Fig. 1-2**.
3. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	CUT OFF	20	TINT
01	RF AGC	21	SHARP
02	AGC GAIN	22	CONT CENT
03	R DRIVE	23	CONT MAX
04	R CUT OFF	24	CONT MIN
05	G DRIVE	25	COLOR CENT
06	G CUT OFF	26	COLOR MAX
07	B DRIVE	27	COLOR MIN
08	H POSI 50	28	M R CUT OFF
09	V POSI 50	29	M G CUT OFF
10	V POSI 60	30	M B CUT OFF
11	V SIZE 50	31	CVBS OUT
12	V SIZE 60	32	APR THR
13	VCO COARSE	33	BELL
14	VCO FINE	34	BANDPASS
15	-	35	H POSI OSD
16	-	36	V POSI OSD
17	BRIGHT CENT	37	H POSI TXT
18	BRIGHT MAX	38	V POSI TXT
19	BRIGHT MIN	39	H POSI 60

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: AGC VOLTAGE

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the UHF ($63 \pm 1\text{dB}$).
3. Connect the digital voltmeter between the **TP002** and the **(GND)** of **TU001**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**01**) on the remote control to select "RF AGC".
5. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is $2.10 \pm 0.05\text{V}$.

2-2: CUT OFF

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. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**00**) 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 CUT OFF adjustment.

1. Place the set with Aging Test for more than 10 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 (**04**) on the remote control to select "R CUT OFF".
5. Using the VOL. UP/DOWN button on the remote control, adjust the R CUT OFF.
6. Press the CH. UP/DOWN button on the remote control to select the "R DRIVE", "G DRIVE", "G CUT OFF" or "B DRIVE".
7. Using the VOL. UP/DOWN button on the remote control, adjust the R DRIVE, G DRIVE, G CUT OFF or B DRIVE.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

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: 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 **TP501**.
4. Set condition is AV MODE without signal.
5. Adjust the **VR501** until the digital voltmeter is $135 \pm 0.5\text{V}$.

2-6: VERTICAL LINEARITY

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the **VR420** until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

ELECTRICAL ADJUSTMENTS

2-7: HORIZONTAL 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. 1-1** and press the channel button **(08)** on the remote control to select "H POSI(50)".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.
5. Receive the monoscope pattern of NTSC.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(39)** on the remote control to select "H POSI(60)".
8. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-8: 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. 1-1** and press the channel button **(11)** on the remote control to select "V SIZE(50)".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes $8 \pm 3\%$.
5. Receive the monoscope pattern of NTSC.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(12)** on the remote control to select "V SIZE(60)".
8. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes $8 \pm 3\%$.

2-9: BRIGHT CENT

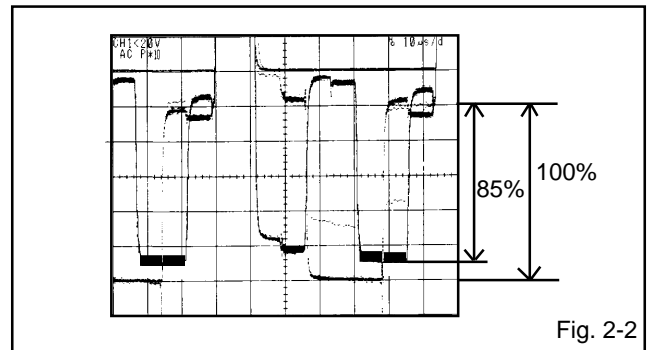
1. Place the set with Aging Test for more than 15 minutes.
2. Receive the monoscope pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(17)** on the remote control to select "BRIGHT CENT".
5. Press the VOL. UP/DOWN button on the remote control until the white 25% is starting to be visible.
6. Receive the monoscope pattern. (Audio Video Input)
7. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 3-5.

2-10: CONT CENT

1. Place the set with Aging Test for more than 15 minutes.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "CONT CENT".
3. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "30".
5. Press the AV button on the remote control to set the AV mode. Then perform the above adjustments 1, 2.

2-11: COLOR CENT

1. Receive the color bar pattern. (RF Input)
2. Connect the oscilloscope to **TP023**.
3. Using the remote control, set the brightness, contrast and color to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(25)** on the remote control to select "COLOR CENT".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 5 scales on the screen of the oscilloscope.
6. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to $85 \pm 10\%$ for the white level. (**Refer to Fig. 2-2**)
7. Receive the color bar pattern. (Audio Video Input)
8. Press the AV button on the remote control to set the AV mode. Then perform the above adjustments 2-6.



2-12: VCO COARSE/VCO FINE

1. Connect the oscillator (39.5MHz) to between the **TP003** and the **(GND)** of **TU001**.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "VCO COARSE".
3. Press the VOL. UP/DOWN button on the remote control until the "+" appear on the screen.
4. Press the CH UP button once to set to "VCO FINE" mode.
5. Press the VOL. UP/DOWN button on the remote control to select the 4 step down point from the upper limit on the "+".
(Example: In case of the "+" point 30~41, select 37.)

2-13: 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. 1-1** and press the channel button **(09)** on the remote control to select "V POSI(50)".
4. Check if the step No. V. POSI is "08".
5. Adjust the **VR401** until the horizontal line becomes fit to notch of the shadow mask.

ELECTRICAL ADJUSTMENTS

2-14 : Confirmation of Fixed Value (Step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	RF	AV
02	AGC GAIN	00	---
04	R CUTOFF	00	---
06	G CUTOFF	00	---
07	B DRIVE	31	---
10	V POSI 50/60	08	---
18	BRIGHT MAX	37	37
19	BRIGHT MIN	10	10
20	TINT	32	32
21	SHARP	04	04
23	CONT MAX	50	50
24	CONT MIN	10	10
26	COLOR MAX	39	39
27	COLOR MIN	14	14
30	MB CUTPOFF	80	---
31	CVBS OUT	16	---
32	APR THR	04	---
33	BELL	10	---
34	BANDPASS	06	---
35	H POSI OSD	128	---
36	V POSI OSD	50	---
37	H POSI TXT	122	---
38	V POSI TXT	58	---

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.

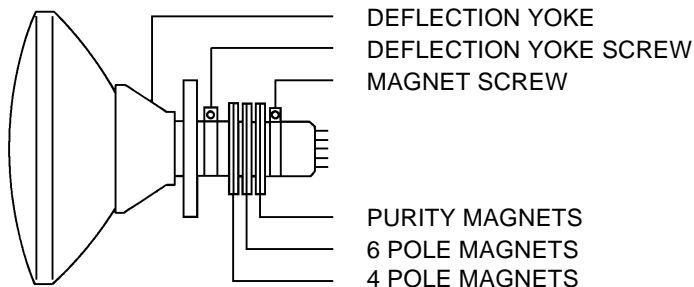


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

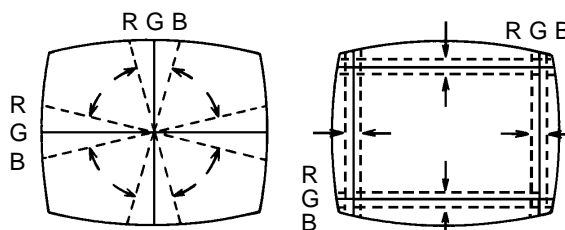
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

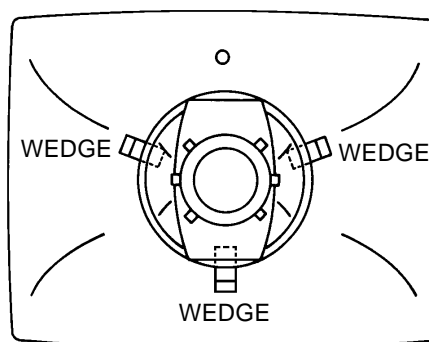
Adjust after performing adjustments in section 3-3.

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)**



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 3-2-a

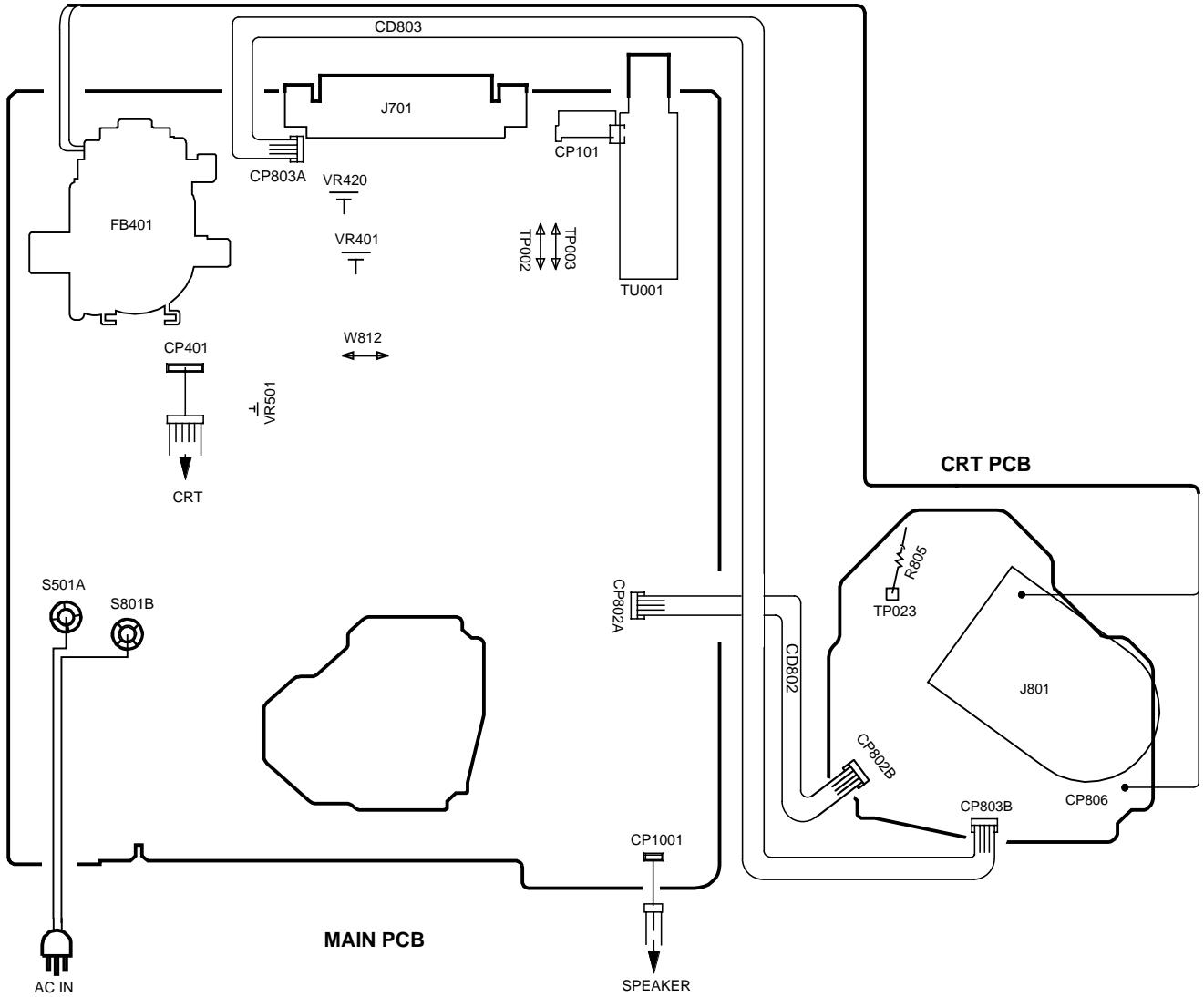


WEDGE POSITION

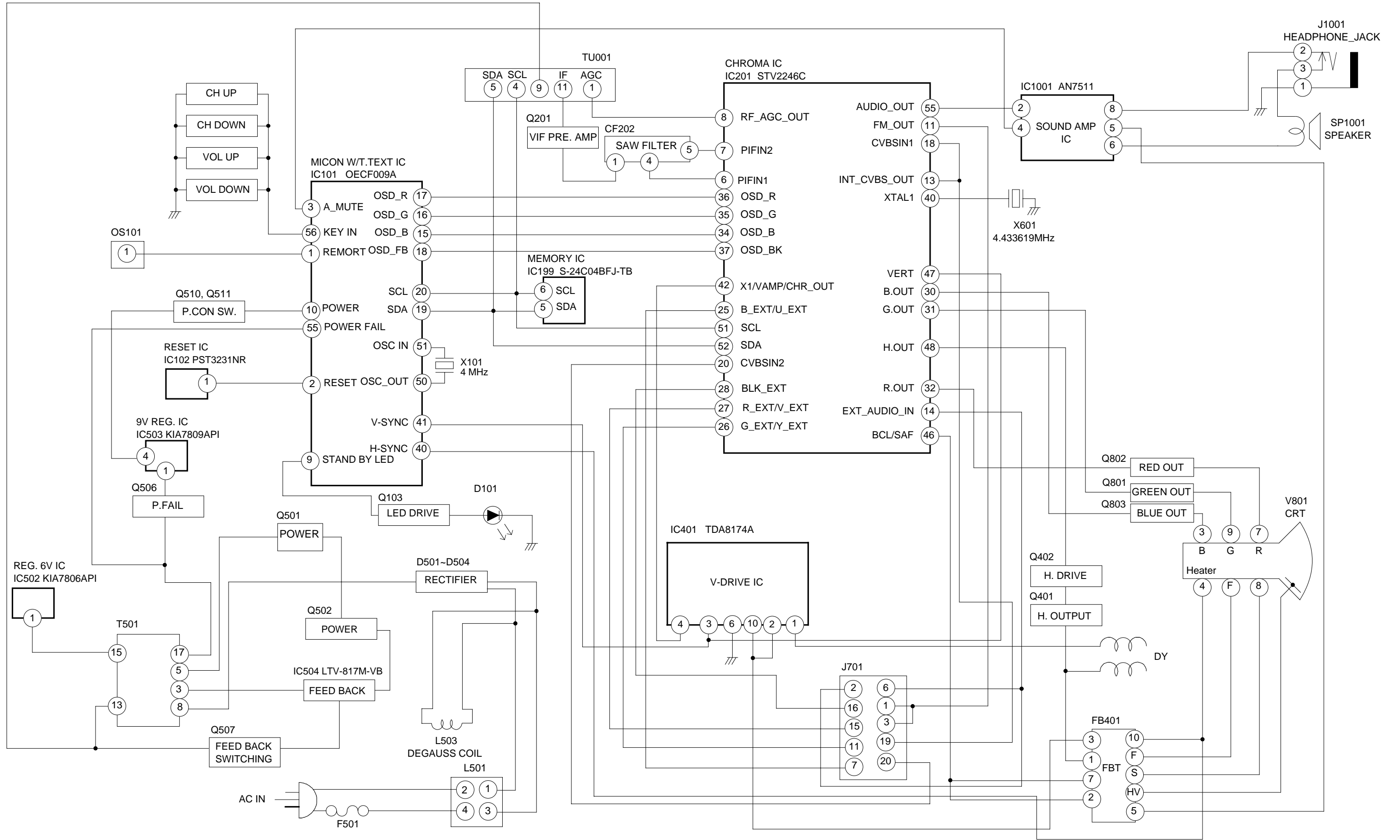
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

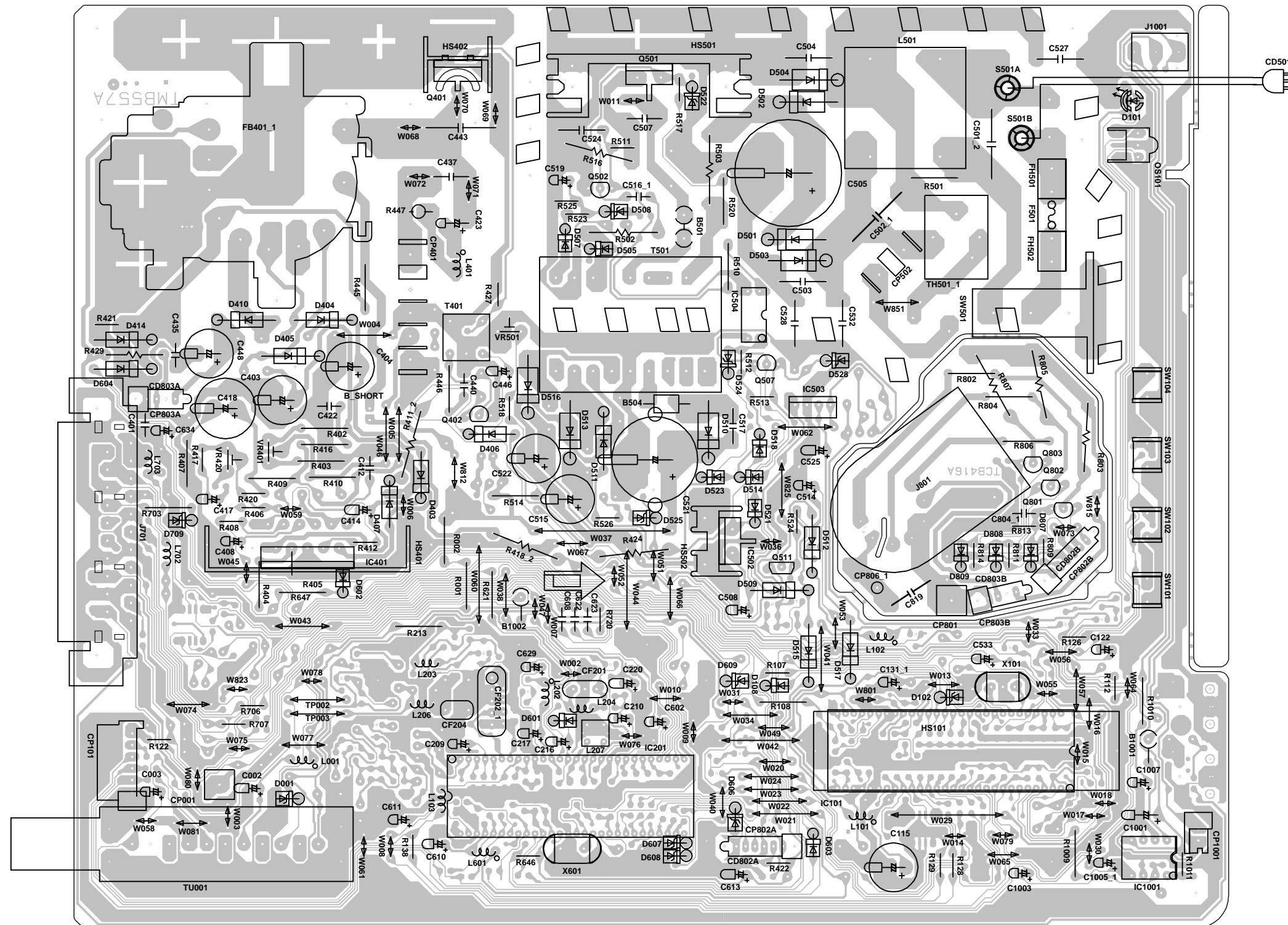
4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



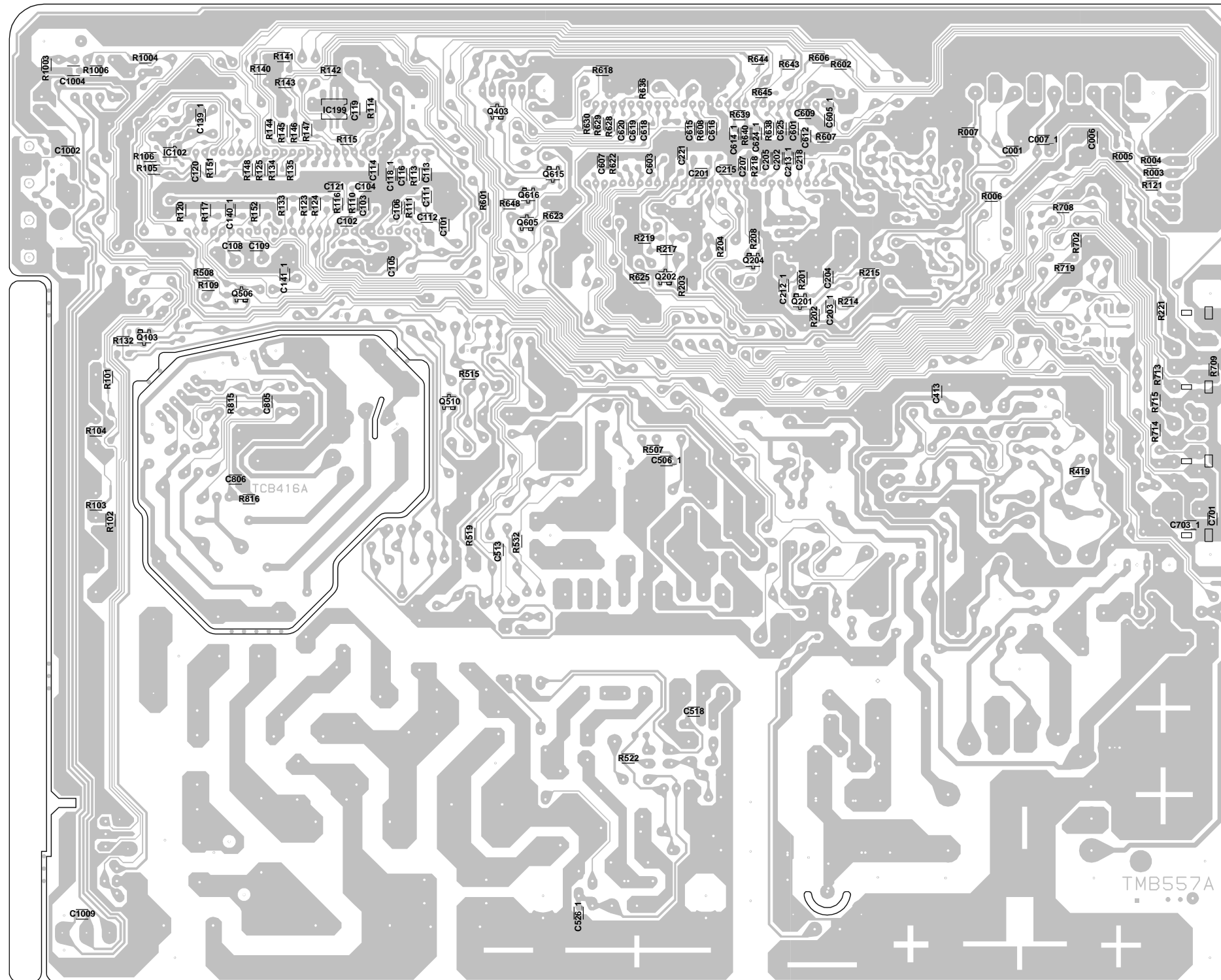
BLOCK DIAGRAM



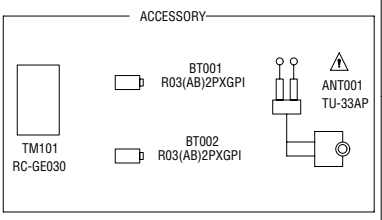
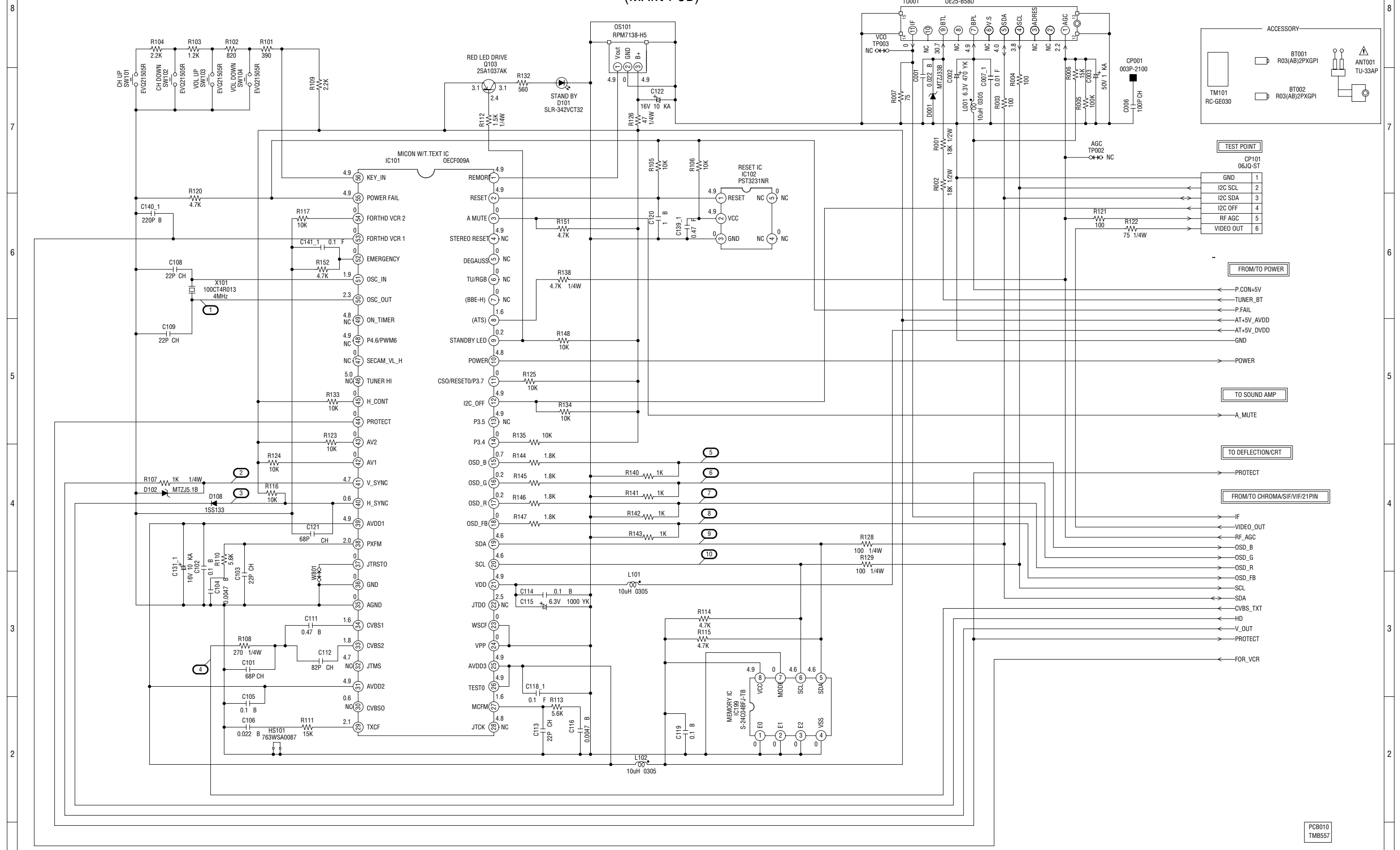
PRINTED CIRCUIT BOARDS
MAIN/CRT (INSERTED PARTS)
SOLDER SIDE



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



MICON/TUNER SCHEMATIC DIAGRAM (MAIN PCB)



TEST POINT

CP101	06JQ-ST
GND	1
I2C SCL	2
I2C SDA	3
I2C OFF	4
RF AGC	5
VIDEO OUT	6

FROM/TO POWER

- ← P.CON+5V
- ← TUNER_BT
- ← P.FAIL
- ← AT+5V_AVDD
- ← AT+5V_DVDD
- ← GND
- POWER

TO SOUND AMP

- A_MUTE

TO DEFLECTION/CRT

- PROTECT

FROM/TO CHROMA/SIF/VIF/Z1PIN

- IF
- ← VIDEO_OUT
- ← RF_AGC
- OSD_B
- OSD_G
- OSD_R
- OSD_FB
- SCL
- SDA
- ← CVBS_TXT
- ← HD
- ← V_OUT
- ← PROTECT
- ← FOR_VCR

PCB010
TMB557

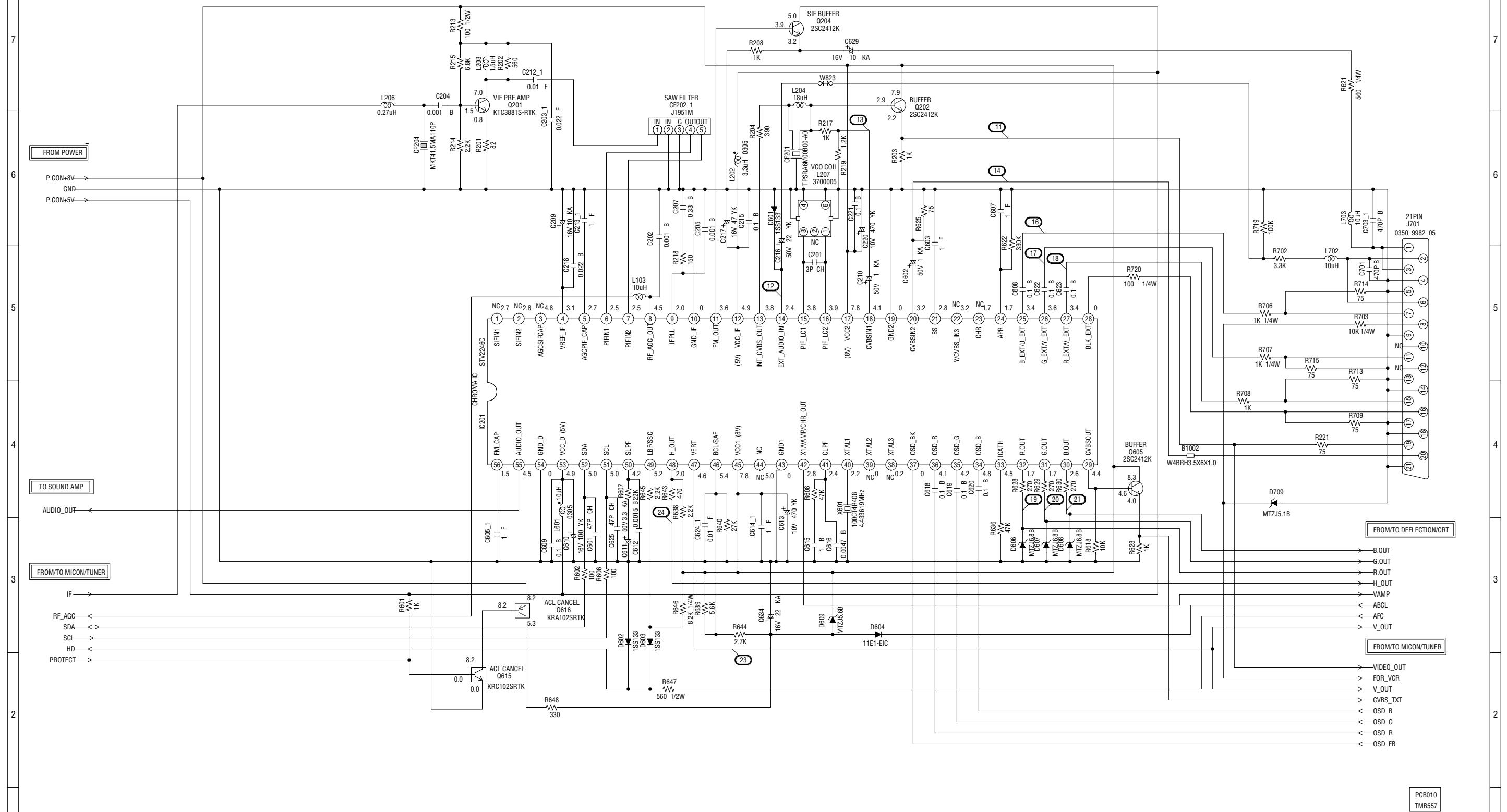
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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.

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

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

CHROMA/SIF/VIF/21PIN SCHEMATIC DIAGRAM (MAIN PCB)



FROM POWER

TO SOUND AMP

FROM/TO MICON/TUNER

FROM/TO DEFLECTION/CRT

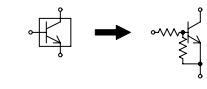
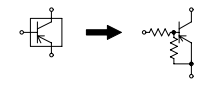
FROM/TO MICON/TUNER

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.

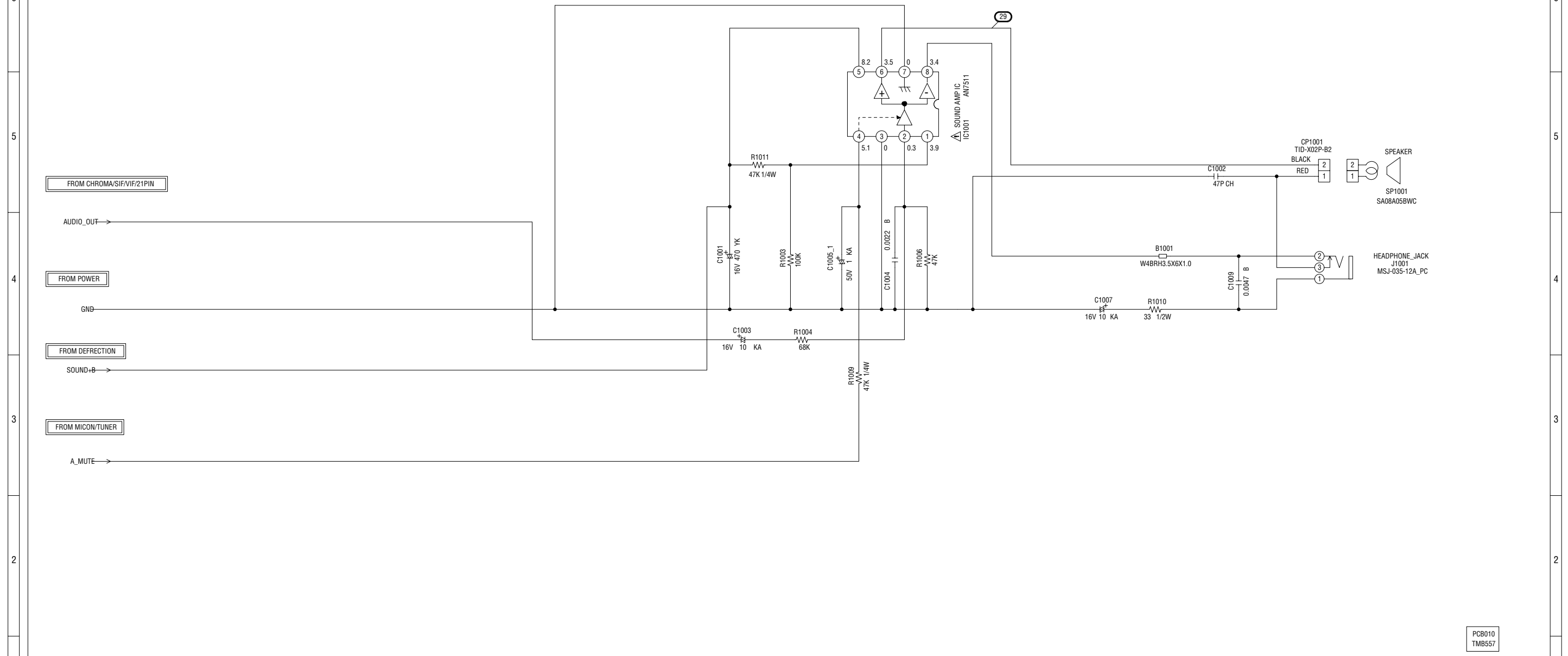
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR



PCB010
TMB557

SOUND AMP/FRONT AV SCHEMATIC DIAGRAM (MAIN PCB)



PCB010
TMB557

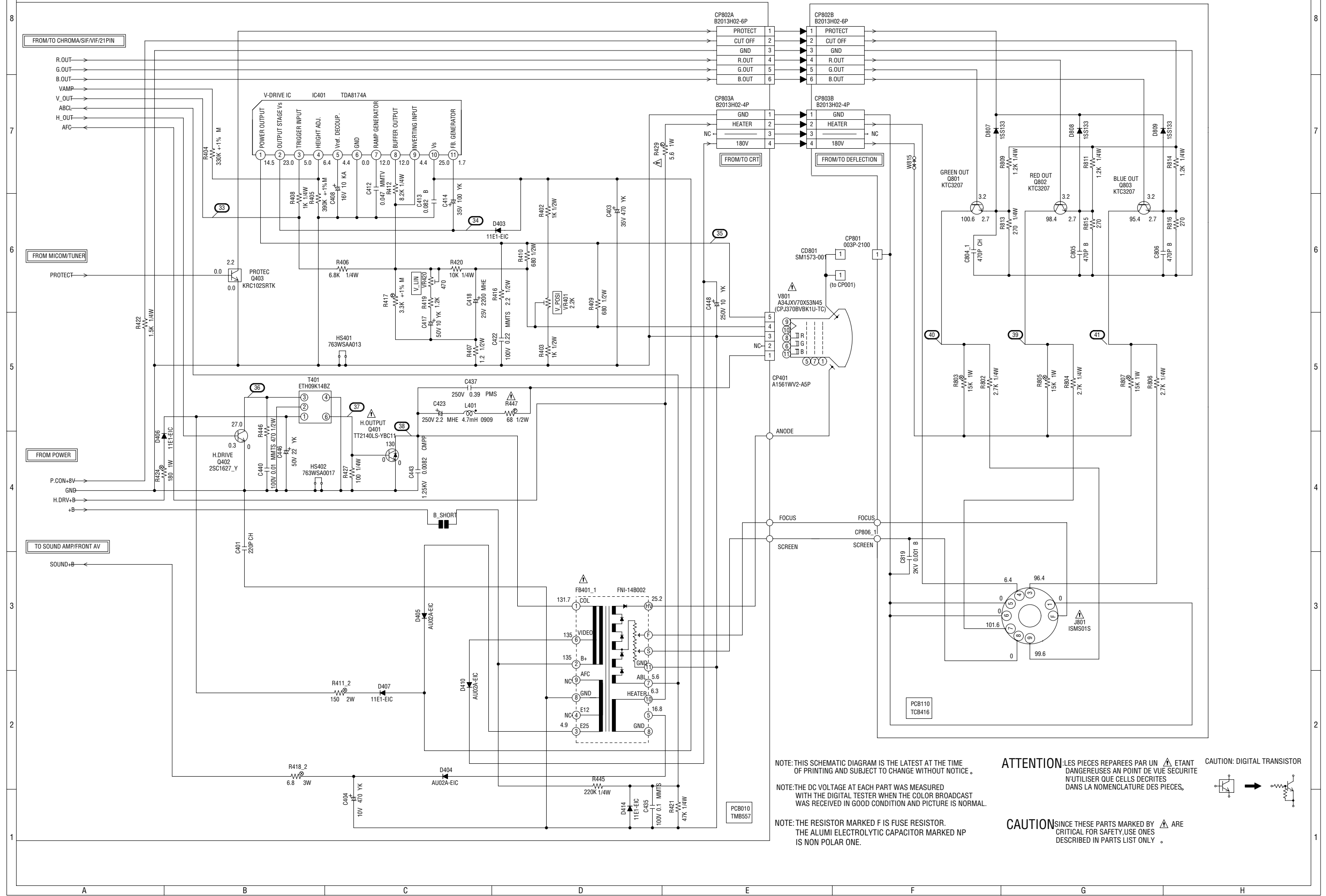
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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.

ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIÈCES.

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

DEFLECTION/CRT SCHEMATIC DIAGRAM (MAIN PCB)



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.

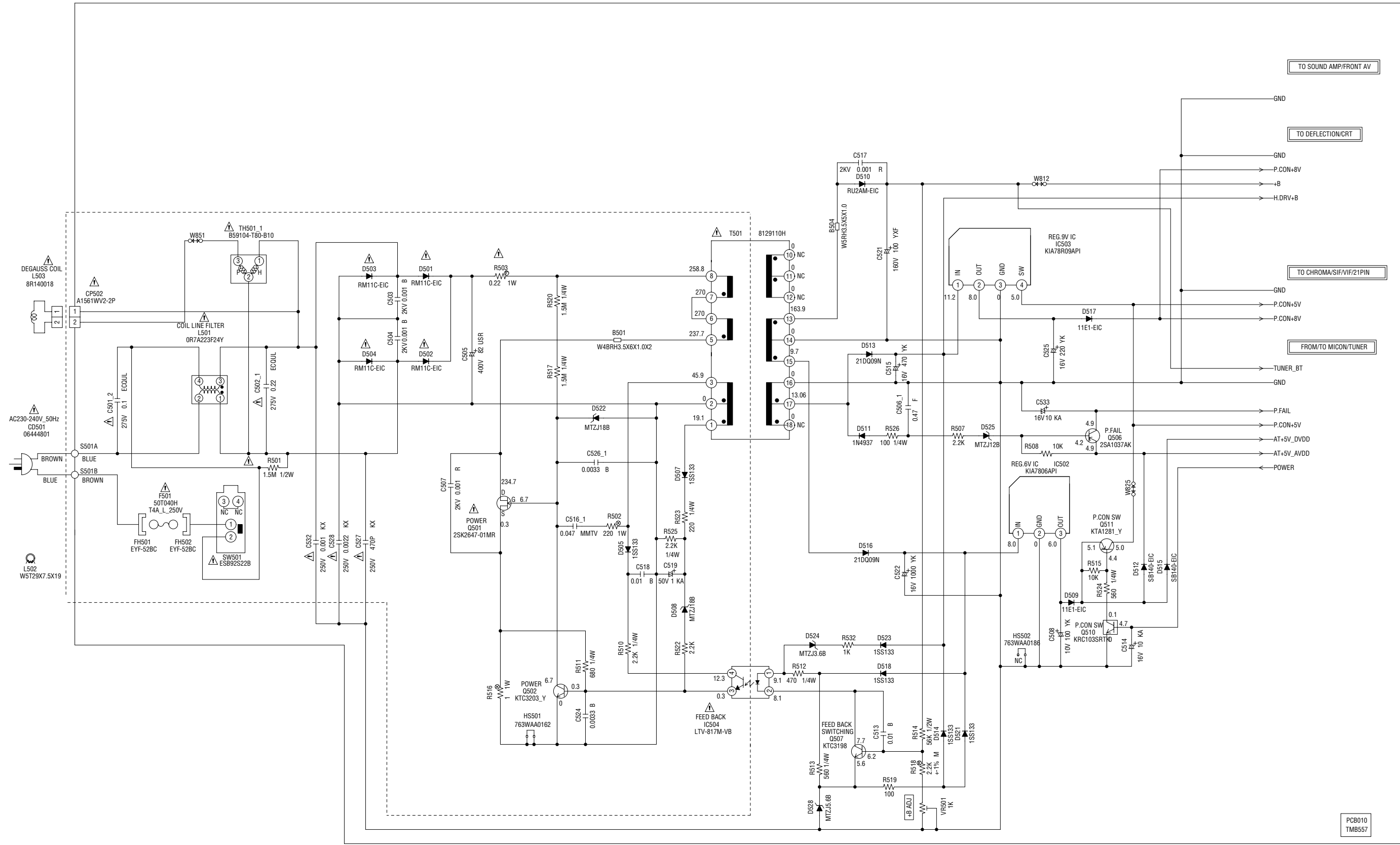
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

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

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

POWER SCHEMATIC DIAGRAM (MAIN PCB)



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.

ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE NUTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

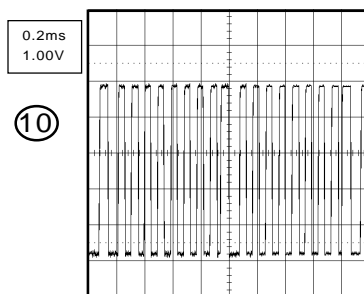
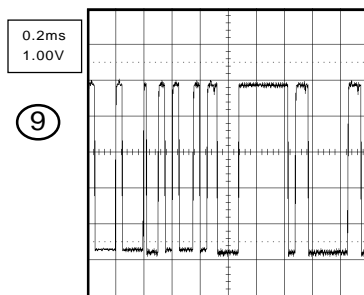
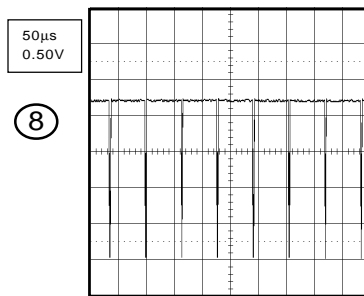
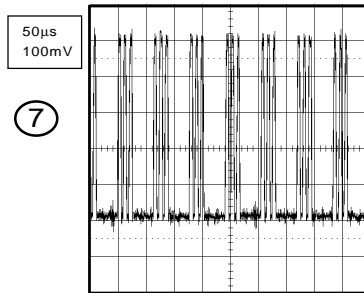
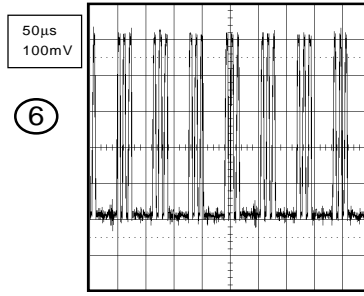
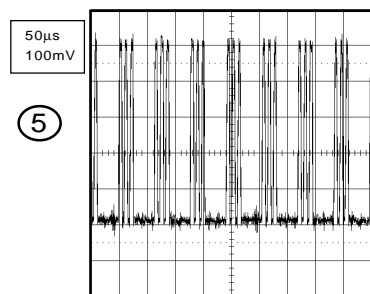
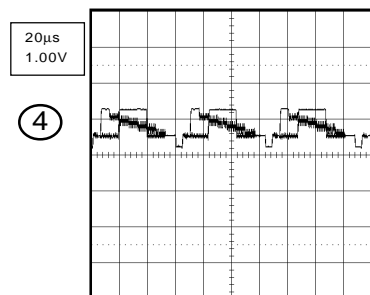
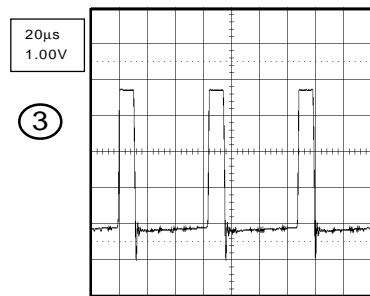
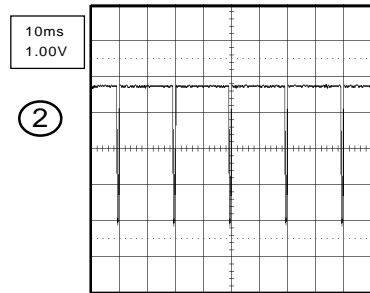
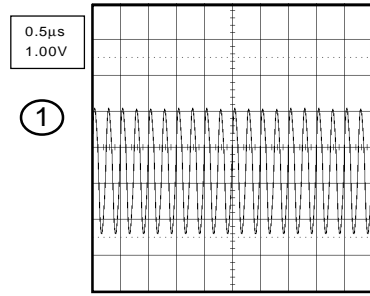
CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

CAUTION: DIGITAL TRANSISTOR

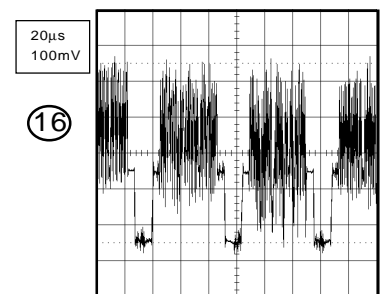
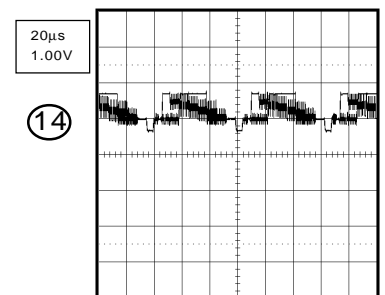
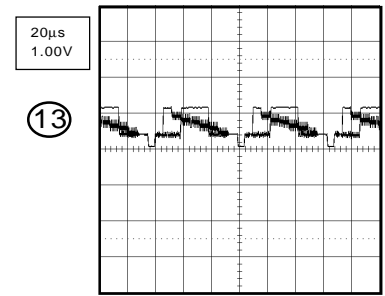
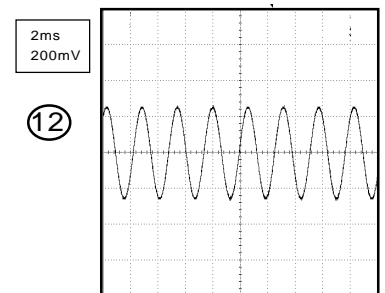
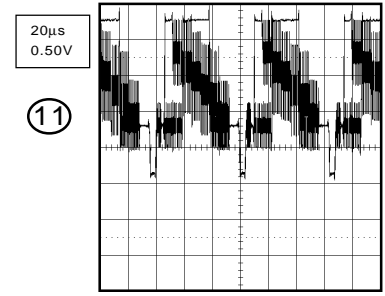
PCB010
TMB557

WAVEFORMS

MICON/TUNER

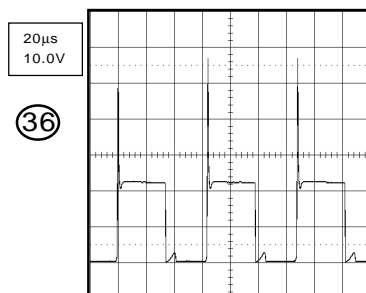
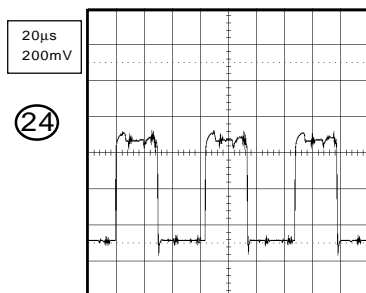
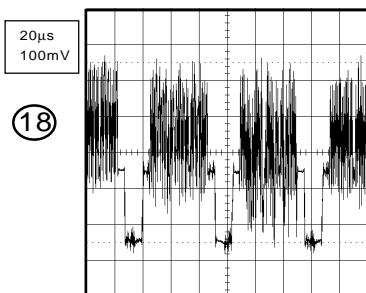
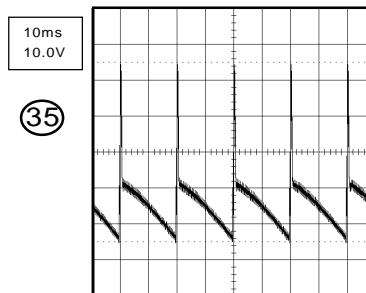
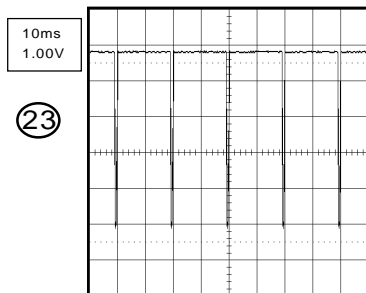
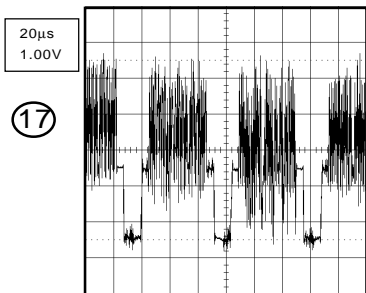


CHROMA/SIF/VIF/21PIN

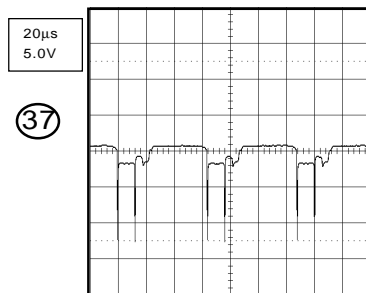
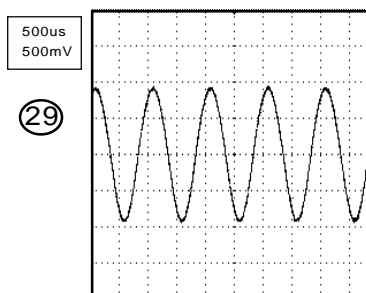
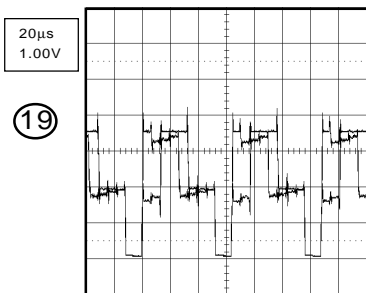


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

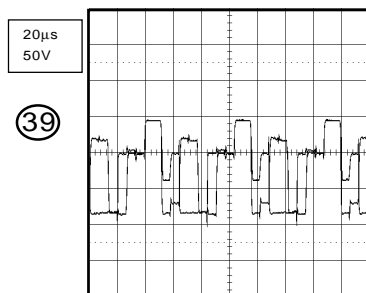
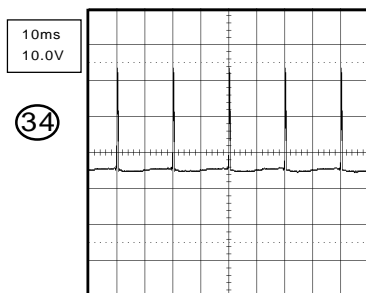
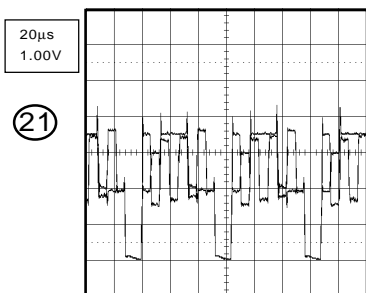
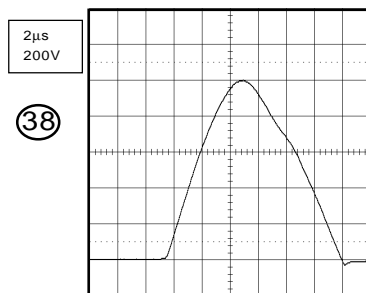
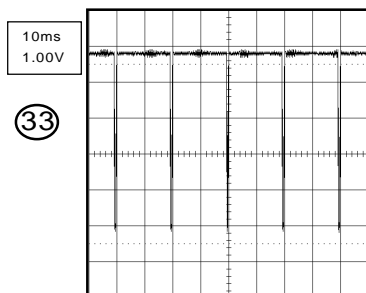
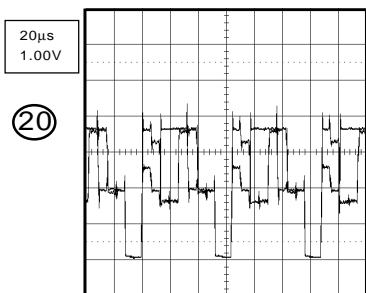
WAVEFORMS



SOUND AMP/FRONT AV

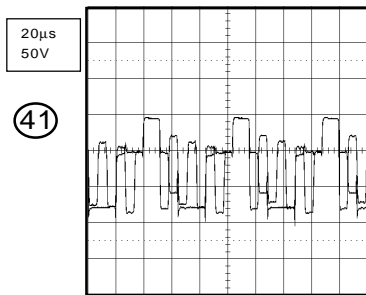
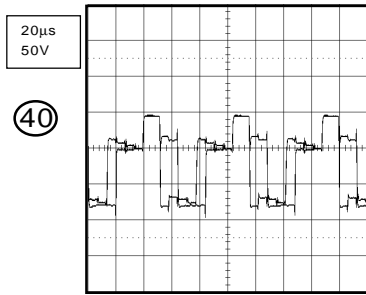


DEFLECTION/CRT



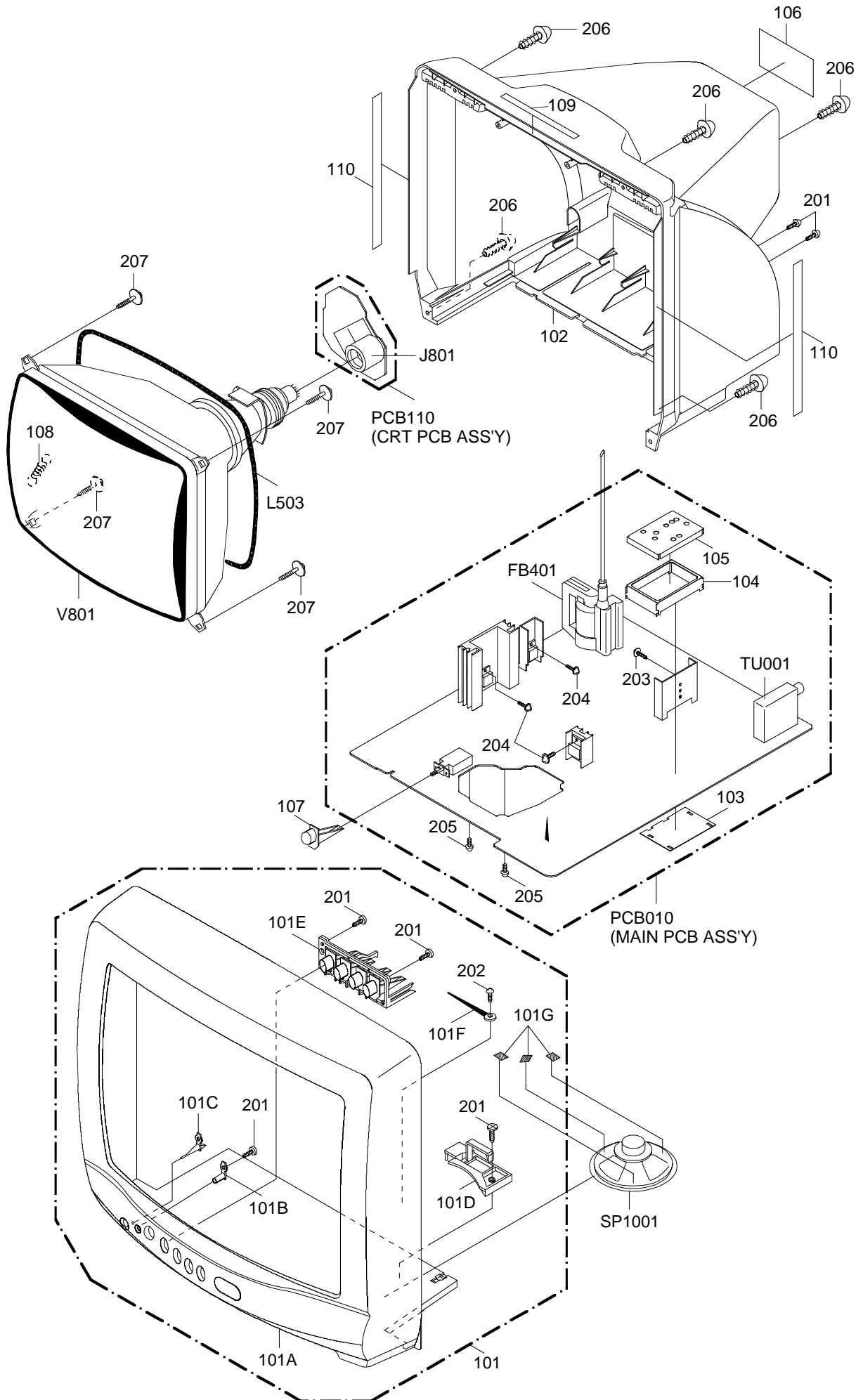
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS



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	A3M421I720	CABINET,FRONT ASSY	
101A	701WPJC340	CABINET,FRONT	
101B	713WPAA048	GUIDE,REMOCON	
101C	713WPAA111	GLASS LED	
101D	735WPA0396	SPEAKER,HOLDER	
101E	735WPBA808	BUTTON,FRAME	
101F	8995034000	CORD CLIP UL CO.	
101G	725000A063	SHEET,PC	
102	A3M421I740	CABINET,BACK ASSY	
103	752WSAA006	PLATE,SHIELD	
104	752WSAA008	SHIELD,CASE	
105	752WSAA013	SHIELD,LID	
106	722575A004	SHEET,RATING	
107	735WPBA809	BUTTON,POWER	
108	741WUA0019	SPRING,EARTH	
109	800WQ0A029	FELT,SHEET	10x150 T=0.5
110	800WQ00032	SHEET	18x165xT0.5
201	8110630A04	SCREW,TAP TITE(P)	BRAZIER 3x10
202	8110630604	SCREW,TAP TITE(P)	BRAZIER 3x6
203	8107630804	SCREW,TAP TITE(S)	BRAZIER 3x8
204	8109I30804	SCREW,TAP TITE(B)	WH7 3x8
205	8109630802	SCREW,TAP TITE(B)	BRAZIER 3x8
206	8117540A64	SCREW,TAPPING(B0)	TRUSS 4x16
207	8121J50B54	SCREW,TAP TITE(P)	GW20 5x28
---	792UHAA042	PACKAGE, TOP	
---	792UHAA043	PACKAGE, BOTTOM	
---	793UCDB170	GIFT BOX	
---	J3M42101A	INSTRUCTION BOOK	
---	J3M42107A	QUICK SET-UP SHEET	
---	JB5XD200	POLYBAG,INSTRUCTION(REDAUTION)	
---	A3M421I975	INSTRUCTION BOOK KIT	

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
RESISTORS			ICS		
△ R411	R3X28A151J	R,METAL OXIDE 150 OHM 2W	IC101	I5PD0F009A	IC OECF009A
△ R418	R3X28B6R8J	R,METAL OXIDE 6.8 OHM 3W	IC102	I9UF032310	IC PST3231NR
△ R424	R3X181181J	R,METAL OXIDE 180 OHM 1W	IC199	A3M401M015	IC S-24C04BFJ-TB
△ R429	R635815R6J	R,FUSE 5.6 OHM 1W	IC201	I0WDE246C0	IC STV2246C
△ R447	R635U2680J	R,FUSE 68 OHM 1/2W	IC401	I0WTD81740	IC TDA8174A
△ R501	R002T2155J	RC 1.5M OHM 1/2W	IC502	I1KA97806A	IC KIA7806API
△ R502	R3X181221J	R,METAL OXIDE 220 OHM 1W	IC503	I1KA98R09A	IC KIA78R09API
△ R503	R63581R22J	R,FUSE 0.22 OHM 1W	△ IC504	0002E00610	PHOTO COUPLER LTV-817M-VB
△ R516	R3X181010J	R,METAL OXIDE 1 OHM 1W	IC1001	I01DP75110	IC AN7511
△ R517	R002T4155J	RC 1.5M OHM 1/4W	TRANSISTORS		
△ R803	R3X181153J	R,METAL OXIDE 15K OHM 1W	Q103	T6YJ1037K0	TRANSISTOR,SILICON 2SA1037AKT146R,S
△ R805	R3X181153J	R,METAL OXIDE 15K OHM 1W	Q201	T8AA03881S	TRANSISTOR SILICON KTC3881S-RTK
△ R807	R3X181153J	R,METAL OXIDE 15K OHM 1W	Q202	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
CAPACITORS			Q204	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
C418	E5EZF3222M	CE 2200 UF 25V	△ Q401	TD3Q021400	TRANSISTOR SILICON TT2140LS-YBC11
C437	P4J7F3394J	CMPP 0.39 UF 250V PMS	Q402	TC5T01627Y	TRANSISTOR SILICON 2SC1627_Y(TPE2)
C443	P4N8FJ822H	CMPP 0.0082UF 1.25KV	Q403	TNAAB05003	COMPOUND TRANSISTOR KRC102SRTK
△ C501	P2122B104M	CMP 0.1 UF 275V ECQUL	△ Q501	T410K26470	FET 2SK2647-01MR
△ C502	P2122B224M	CMP 0.22 UF 275V ECQUL	Q502	TCAT032034	TRANSISTOR, SILICON KTC3203_Y-AT
C503	C0JBB0713K	CC 0.001 UF 2KV B	Q506	T6YJ1037K0	TRANSISTOR,SILICON 2SA1037AKT146R,S
C504	C0JBB0713K	CC 0.001 UF 2KV B	Q507	TCATC31980	TRANSISTOR,SILICON KTC3198-AT(Y,GR)
△ C505	E52DHH820M	CE 82 UF 400V	Q510	TNAAC05002	COMPOUND TRANSISTOR KRC103SRTK
△ C507	C03L0R713K	CC 0.001 UF 2KV R	Q511	TAAT01281Y	TRANSISTOR SILICON KTA1281_Y
C517	C03L0R713K	CC 0.001 UF 2KV R	Q605	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
C521	E62NFB101M	CE 100 UF 160V	Q615	TNAAB05003	COMPOUND TRANSISTOR KRC102SRTK
△ C527	CD39B0MQ2K	CC 470 PF 250V	Q616	TPAAB05001	COMPOUND TRANSISTOR KRA102SRTK
△ C528	CD39E0MH3M	CC 0.0022UF 250V	Q801	TCAT032070	TRANSISTOR SILICON KTC3207-AT
△ C532	CD39E0M13M	CC 0.001 UF 250V	Q802	TCAT032070	TRANSISTOR SILICON KTC3207-AT
C819	C0JBB0713K	CC 0.001 UF 2KV B	Q803	TCAT032070	TRANSISTOR SILICON KTC3207-AT
DIODES			COILS & TRANSFORMERS		
D001	D97U03301B	DIODE,ZENER MTZJ33B T-77	L001	02167F100J	COIL 10 UH
D101	0021721150	LED SLR-342VCT32	L101	02167F100J	COIL 10 UH
D102	D97U05R11B	DIODE,ZENER MTZJ5.1B T-77	L102	02167F100J	COIL 10 UH
D108	D1VT001330	DIODE,SILICON 1SS133T-77	L103	0216A6100K	COIL 10 UH
D403	D2WT011E10	DIODE SILICON 11E1-EIC	L202	02167F3R3J	COIL 3.3 UH
D404	D2WTAU02A0	DIODE SILICON AU02A-EIC	L203	0216A61R5K	COIL 1.5 UH
D405	D2WTAU02A0	DIODE SILICON AU02A-EIC	L204	0216A6180K	COIL 18 UH
D406	D2WT011E10	DIODE SILICON 11E1-EIC	L206	0216A6R27M	COIL 0.27 UH
D407	D2WT011E10	DIODE SILICON 11E1-EIC	L207	033700005R	COIL,VIDEO IFT 3700005
D410	D2WTAU02A0	DIODE SILICON AU02A-EIC	L401	021679472K	COIL 4.7 MH
D414	D2WT011E10	DIODE SILICON 11E1-EIC	△ L501	029T000094	COIL,LINE FILTER 0R7A223F24Y
△ D501	D2WTRM11C0	DIODE SILICON RM11C-EIC	L502	02AHB9A972	CORE,FERRITE W5T29X7.5X19
△ D502	D2WTRM11C0	DIODE SILICON RM11C-EIC	△ L503	028R140018	COIL,DEGAUSS 8R140018
△ D503	D2WTRM11C0	DIODE SILICON RM11C-EIC	L601	02167F100J	COIL 10 UH
△ D504	D2WTRM11C0	DIODE SILICON RM11C-EIC	L702	0216A6100K	COIL 10 UH
D505	D1VT001330	DIODE,SILICON 1SS133T-77	L703	0216A6100K	COIL 10 UH
D507	D1VT001330	DIODE,SILICON 1SS133T-77	T401	045009003J	TRANS,HORIZONTAL DRIVE ETH09K14BZ
D508	D97U01801B	DIODE,ZENER MTZJ18B T-77	△ T501	048129110H	TRANSFORMER,SWITCHING 8129110H
D509	D2WT011E10	DIODE SILICON 11E1-EIC	JACKS		
D510	D2WXRU2AM0	DIODE SILICON RU2AM-EIC	J701	063G100042	SOCKET,21PIN 0350_9982_05
D511	D2WXN49370	DIODE SILICON 1N4937	J801	066F120018	SOCKET,CATHODE RAY TUBE ISMS01S
D512	D2WXS1400	DIODE SCHOTTKY SB140-EIC	J1001	060J121014	JACK,RCA,3.5 MSJ-035-12A_PC
D513	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1	SWITCHES		
D514	D1VT001330	DIODE,SILICON 1SS133T-77	SW101	0504101T34	SWITCH,TACT EVQ21505R
△ D515	D2WXS1400	DIODE SCHOTTKY SB140-EIC	SW102	0504101T34	SWITCH,TACT EVQ21505R
D516	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1	SW103	0504101T34	SWITCH,TACT EVQ21505R
D517	D2WT011E10	DIODE SILICON 11E1-EIC	SW104	0504101T34	SWITCH,TACT EVQ21505R
D518	D1VT001330	DIODE,SILICON 1SS133T-77	△ SW501	0530105019	SWITCH ESB92S22B
D521	D1VT001330	DIODE,SILICON 1SS133T-77	VARIABLE RESISTORS		
D522	D97U01801B	DIODE,ZENER MTZJ18B T-77	VR401	V1163H3BTC	VOLUME,SEMI FIXED EVNCYAA03BE3
D523	D1VT001330	DIODE,SILICON 1SS133T-77	VR420	V1163Q2BTC	VOLUME,SEMI FIXED EVNCYAA03BQ2
D524	D97U03R61B	DIODE,ZENER MTZJ3.6B T-77	VR501	V116313BTC	VOLUME,SEMI FIXED EVNCYAA03B13
D525	D97U01201B	DIODE,ZENER MTZJ12B T-77	P.C. BOARD ASSEMBLIES		
D528	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	PCB010	A3M4211010K	PCB ASS'Y TMB557A
D601	D1VT001330	DIODE,SILICON 1SS133T-77	PCB110	A3M4201110K	PCB ASS'Y TCB416A
D602	D1VT001330	DIODE,SILICON 1SS133T-77	MISCELLANEOUS		
D603	D1VT001330	DIODE,SILICON 1SS133T-77	ANT001	125C500017	ANTENNA,LOOP TU-33AP
D604	D2WT011E10	DIODE SILICON 11E1-EIC	B501	024HT03563	CORE,BEADS W4BRH3.5X6X1.0X2
D606	D97U06R81B	DIODE,ZENER MTZJ6.8B T-77	B504	024HT03553	CORE,BEADS W5RH3.5X5X1.0
D607	D97U06R81B	DIODE,ZENER MTZJ6.8B T-77	B1001	024HT03564	CORE,BEADS W4BRH3.5X6X1.0
D608	D97U06R81B	DIODE,ZENER MTZJ6.8B T-77	B1002	024HT03564	CORE,BEADS W4BRH3.5X6X1.0
D609	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	BT001	1412004013	BATTERY,MANGAN R03(AB)2PXGPI
D709	D97U05R11B	DIODE,ZENER MTZJ5.1B T-77	BT002	1412004013	BATTERY,MANGAN R03(AB)2PXGPI
D807	D1VT001330	DIODE,SILICON 1SS133T-77	△ CD501	1206444801	CORD AC BUSH 6444801
D808	D1VT001330	DIODE,SILICON 1SS133T-77	CD801	1278140030	BRAIDED WIRE SM1573-001
D809	D1VT001330	DIODE,SILICON 1SS133T-77	CD802	WDL6028038	FLAT CABLE AWG26 6C BLACK 280MM
			CD803	WBL6026038	FLAT CABLE AWG26 4C BLACK 260MM

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
MISCELLANEOUS		
CF201	1012T6R014	FILTER,CERAMIC TRAP TPSRA6M00B00-A0
CF202	102E239R5B	FILTER SAW J1951M
CF204	1012T04101	FILTER,CERAMIC TRAP MKT41.5MA110P
CP001	069W01001A	CONNECTOR PCB SIDE 003P-2100
CP101	069X160379	CONNECTOR PCB SIDE 06JQ-ST
CP401	069S450089	CONNECTOR PCB SIDE A1561WV2-A5P
CP502	069S420110	CONNECTOR PCB SIDE A1561WV2-2P
CP801	069W01001A	CONNECTOR PCB SIDE 003P-2100
CP1001	069W120019	CONNECTOR PCB SIDE TID-X02P-B2
CP802A	067U006049	WIRE HOLDER B2013H02-6P
CP802B	067U006049	WIRE HOLDER B2013H02-6P
CP803A	067U004029	WIRE HOLDER B2013H02-4P
CP803B	067U004029	WIRE HOLDER B2013H02-4P
EL002	124120301A	EYE LET XRY20X30BD
△ F501	080NT04004	FUSE 50T040H
△ FB401	043214039F	TRANSFORMER,FLYBACK FNI-14B002
FH501	06710T0006	HOLDER,FUSE EYF-52BC
FH502	06710T0006	HOLDER,FUSE EYF-52BC
OS101	0773071001	REMOTE RECEIVER RPM7138-H5
SP1001	070C132019	SPEAKER SA08A05BWC
△ TH501	D8E080B100	DEGAUSS ELEMENT B59104-T80-B10
TM101	076N0GE030	TRANSMITTER RC-GE030
TU001	0144R07025	TUNER,UHF UE25-B58D
△ V801	098Y1404B9	CRT W/DY A34JXV70X53N45
X101	100CT4R013	CRYSTAL HC-49/U-S
X601	100CT4R408	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

SPEC.NO.	M3M4-21I
O/R NO.	U353551

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