

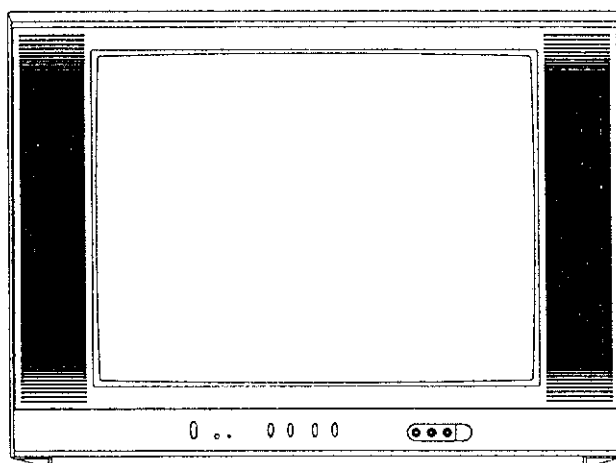
SERV. 14 147

# SERVICE MANUAL

## ORION

### TV-5532SI

COLOR TELEVISION RECEIVER



ORIGINAL  
CHASSIS CODE A

Best. Nr. SM5532

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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

## HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the CHASSIS CODE.)

1. MODEL NUMBER and CHASSIS CODE  
You can find it in the back of your unit.
2. PART NO. and DESCRIPTION  
You can find it in your SERVICE MANUAL.

## IMPORTANT

Inferior silicon grease can damage IC's and transistors.  
When replacing an IC's or transistors, use only specified silicon grease (YG6260M).  
Remove all old silicon before applying new silicon.

## CONTENTS

SERVICING NOTICES ON CHECKING .....	A1-1
HOW TO ORDER PARTS .....	A1-1
IMPORTANT .....	A1-1
CONTENTS .....	A2-1
GENERAL SPECIFICATIONS .....	A3-1-A3-4
DISASSEMBLY INSTRUCTIONS .....	
1. REMOVAL OF ANODE CAP .....	B1-1
2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC .....	B2-1, B2-2
SERVICE MODE LIST .....	C-1
CONFIRMATION OF HOURS USED .....	C-1
WHEN REPLACING EEPROM (MEMORY) IC .....	C-2
ELECTRICAL ADJUSTMENTS .....	D-1-D-5
BLOCK DIAGRAM .....	E-1, E-2
PRINTED CIRCUIT BOARDS .....	
MAIN/CRT .....	F-1-F-4
SCHEMATIC DIAGRAMS .....	
MICON/TUNER .....	G-1, G-2
IF/CHROMA .....	G-3, G-4
21PIN/AV SW .....	G-5, G-6
STEREO .....	G-7, G-8
SOUND AMP .....	G-9, G-10
DEFLECTION/CRT .....	G-11, G-12
POWER .....	G-13, G-14
WAVEFORMS .....	H-1, H-2
MECHANICAL EXPLODED VIEW .....	I-1
MECHANICAL REPLACEMENT PARTS LIST .....	J1-1
ELECTRICAL REPLACEMENT PARTS LIST .....	J2-1, J2-2

## GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size	21 inch / 544.5mmV
			CRT Type	Normal
			Deflection	90 degree
			Magnetic Field	BV/BH 0.45G/0.16G
		Color System		PAL
		Speaker		2 Speaker
			Position	Front
			Size	1.8 x 3.9 inch
			Impedance	8 ohm
		Sound Output	MAX	5.0±5.0 W
	10%(Typical)	4.0±4.0 W		
	DDR SECAM	No		
	NTSC3.58(AV)+NTSC4.43	No		
	PAL60Hz	Yes		
G-2	Tuning System	Broadcasting System		CCIR System B/G
		Tuner and Receive CH	System	1Tuner
			Destination	CCIR Hyper
			Tuning System	F-Synth
			Input Impedance	VHF/UHF 75 ohm
			CH Coverage	E2 - E4, X - Z-2, S1 - S10, E5 - E12, S11 - S41, E21 - E69
		Intermediate Frequency	Picture(FP)	38.90MHz
			Sound(FS)	33.4MHz
			FP-FS	5.5MHz
			Auto Tuning Method	C.C.I.R CH PLAN
	Preset CH	80		
	Stereo/Dual TV Sound	Yes		
	Tuner Sound Muting	Yes		
G-3	Power	Power Source	AC	230V AC 50Hz
			DC	
		Power Consumption		at AC
		Stand by (at AC)		60 W at AC 230 V 50 Hz
		Per Year		6 W at AC 230 V 50 Hz
				- kWh/Year
G-4	Regulation	Protector	Power Fuse	Yes
			Safety	CE
			Radiation	CE
		X-Radiation	PTB	
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	Menu Type	Yes
			Character	
			Picture	Yes
			Contrast	Yes
			Brightness	Yes
			Colour	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
			Control Level	Yes
			Volume	Yes
			Brightness	Yes
			Contrast	Yes
	Colour	Yes		
	Tint (NTSC Only)	No		
	Sharpness	Yes		
	Tuning	Yes		
	Bass	No		
	Treble	No		

A3-1

## GENERAL SPECIFICATIONS

		Balance	No	
		Back Light	No	
		Nicam ST	No	
		Tone 1/2	Yes	
		Pin Code	No	
		AV	Yes	
		Skip Channel	Yes	
		Hotel Lock	No	
		Sleep Timer	Yes	
		Sound Mute	Yes	
G-8	OSD Language		English German Spanish Italian	
G-9	Clock and Timer	Sleep Timer	Max Time	120 Min
			Step	10 Min
		On/Off Timer	Program(On Tim / Off Tim)	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		80-83 h
		Power Source	Voltage(D.C)	3V
			UM size x pcs	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	No		
	Reset / Tone 1/2	Yes		
	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
		Channel Lock		No
		Just Clock Function		No
		Game Position		No

A3-2

## GENERAL SPECIFICATIONS

		CH Label	No
		VM Circuit	No
		Full OSD	No
		Unifont	Yes
		Fastext	No
		Top Text	No
		Premiere	No
		Comb Filter	No
			Lines
		Auto CH Memory	No
		Stable Sound	No
		Auto Set Up	No
		FBT Leak Test Protect	No
		Power ON Memory	Yes
		Hotel Lock	No
G-12	Accessories	Owner's Manual	Language German
			w/Guarantee Card Yes
		Remote Control Unit	Yes
		Rod Antenna	No
			Poles Pole type
			Terminal
		Loop Antenna	No
			Terminal
		UV 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	No
		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
		300 ohm to 75 ohm Antenna Adapter	No
G-13	Interface	Switch	Front Power (Tact Sw) No
			System Select No
			Main Power SW Yes
			Sub Power No
			Channel Up Yes
			Channel Down Yes
			Volume Up Yes
			Volume Down Yes
		Rear	AC/DC No
			TV/CATV Selector No
			Degauss No
			Main Power SW No
		Indicator	Power No
			Stand-by Yes
			On Timer No
		Terminals	Front Video Input RCA x1
			Audio Input RCA x2
			Other Terminal No
		Rear	Video Input(Rear1) No
			Video Input(Rear2) No
			Audio Input(Rear1) No
			Audio Input(Rear2) No
			Video Output No
			Audio Output No
			Euro Scart(21Pin) Yes ( x1 )
			Component Input No
			Diversity No
			Ext Speaker No
			DC Jack 12V(Center +) No
			VHF/UHF Antenna Input D Type
			AC Outlet No
G-14	Set Size	Approx. W x D x H (mm)	580 x 492 x 447
G-15	Weight	Net (Approx.)	21.0kg (46.3 lbs)
		Gross (Approx.)	23.8kg (52.5 lbs)
G-16	Carton	Master Carton	No
		Content	== Sets

## GENERAL SPECIFICATIONS

		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)	658 x 575 x 544
		Design	As per Buyer's
		Description of Origin	No
	Drop Test		Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces
		Height (cm)	46
	Container Stuffing		288 Sets/40' container
G-17	Material	Cabinet	Cabinet Front PS 94 HB
			Cabinet Rear PS 94 HB
			Holder PS 94V0 NON-DECABROM
		PCB	Non-Halogen Demand No
			Eyelet Demand 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.

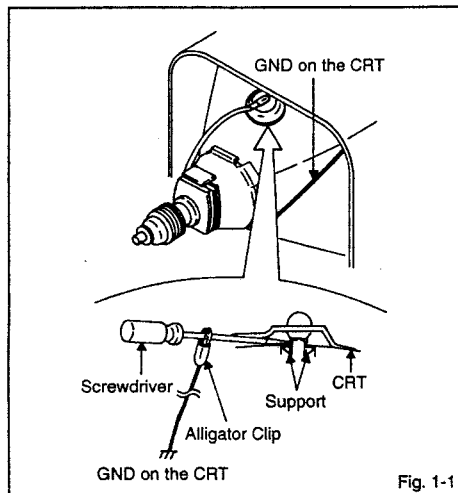


Fig. 1-1

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.)

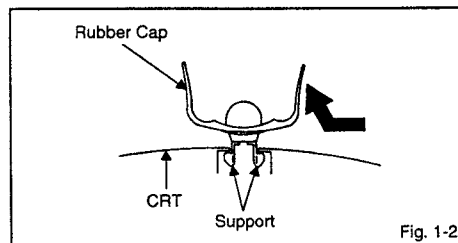


Fig. 1-2

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.)

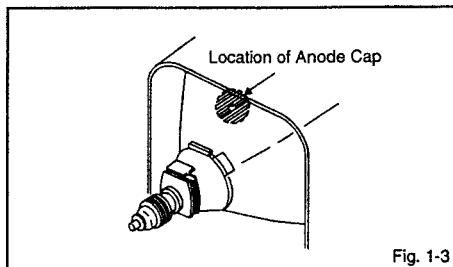


Fig. 1-3

#### 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.)

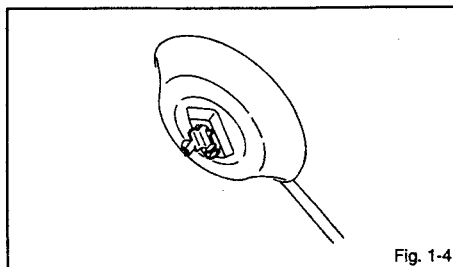


Fig. 1-4

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

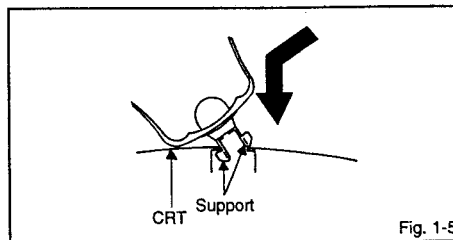


Fig. 1-5

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.

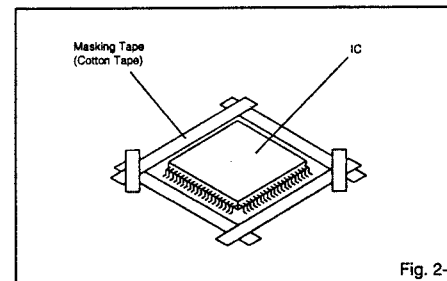


Fig. 2-1

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.

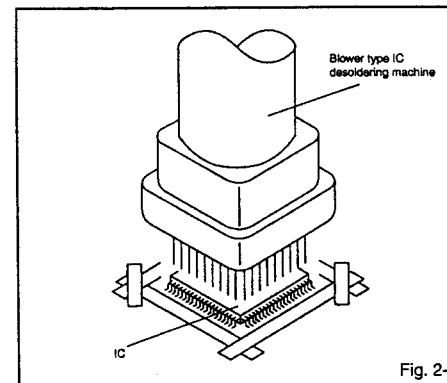


Fig. 2-2

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

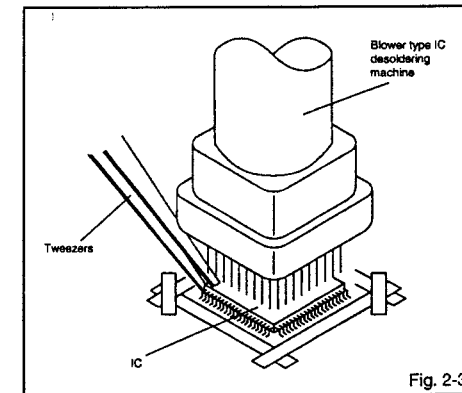


Fig. 2-3

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.

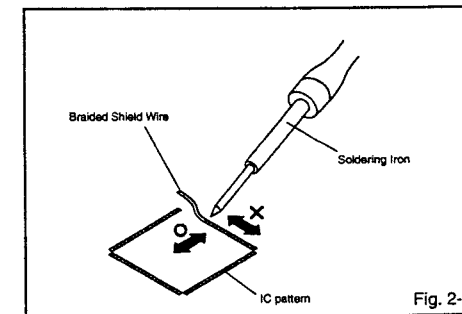
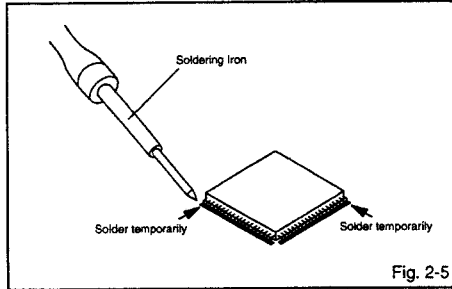


Fig. 2-4

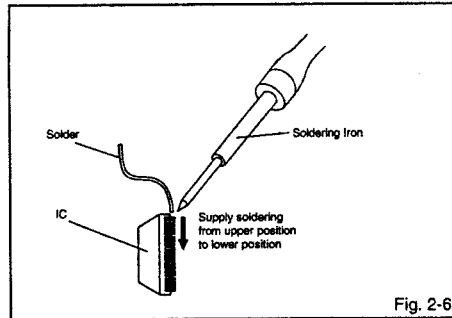
## DISASSEMBLY INSTRUCTIONS

### INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. (Refer to Fig. 2-5.)



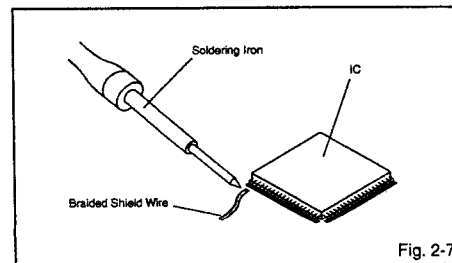
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 2-6.)



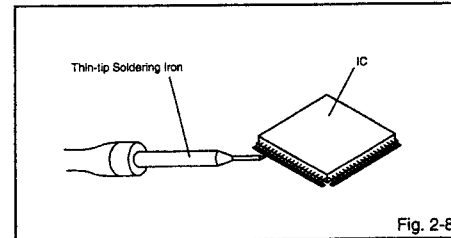
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 2-7.)

#### 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.

## ELECTRICAL ADJUSTMENTS

### 1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

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

#### CAUTION

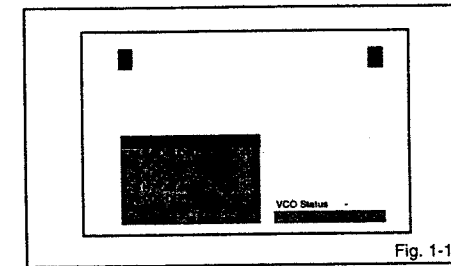
- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- 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.



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	RF 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 (63dB).
3. Connect the digital voltmeter between the pin 5 of CP101 and the pin 1 (GND) of CP101.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (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  $2.55 \pm 0.05V$ .

#### 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 (28) on the remote control to select "M R CUT OFF".
5. Using the VOL. UP/DOWN button on the remote control, adjust the M R CUT OFF.
6. Press the CH. UP/DOWN button on the remote control to select the "R DRIVE", "G DRIVE", or "M G CUT OFF".
7. Using the VOL. UP/DOWN button on the remote control, adjust the R DRIVE, G DRIVE, M G CUT OFF or M R CUT OFF.
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  $117 \pm 1V$ .

#### 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 GLAY SCALE 25% section become to be the half black.
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. Activate the adjustment mode display of Fig. 1-1 and press the channel button (22) on the remote control to select "CONT CENT".
2. Press the VOL. UP/DOWN button on the remote control until the cont cent step No. becomes "45".
3. 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 TP022.
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.

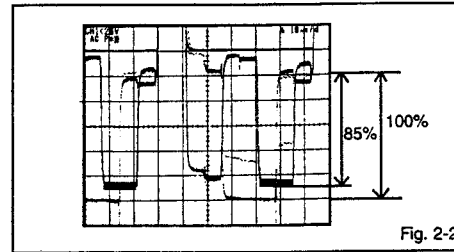


Fig. 2-2

### 2-12: VCO COARSE/VCO FINE

1. Connect the oscillator (38.9MHz) to between the TP001 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. Adjust the VR401 until the horizontal line becomes fit to notch of the shadow mask.

### 2-14: OSD HORIZONTAL

1. Activate the adjustment mode display of Fig. 1-1.
2. Press the VOL. UP/DOWN button on the remote control until the difference of A and B becomes minimum.  
(Refer to Fig. 2-3)

## ELECTRICAL ADJUSTMENTS

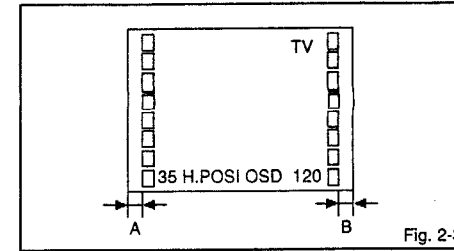


Fig. 2-3

### 2-15 : 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	RF AGC GAIN	00	00
04	R CUT OFF	00	00
06	G CUT OFF	00	00
09	V POSI 50	04	04
10	V POSI 60	03	03
18	BRIGHT MAX	25	25
19	BRIGHT MIN	03	03
20	TINT	45	45
21	SHARP	01	01
23	CONT MAX	55	55
24	CONT MIN	07	07
26	COLOR MAX	47	47
27	COLOR MIN	10	10
30	M B CUT OFF	127	127
31	CVBS OUT	31	31
32	APR THR	07	07
33	BELL	09	09
34	BANDPASS	06	06
35	H POSI OSD	120	120
36	V POSI OSD	49	49
37	H POSI TEXT	120	120
38	V POSI TEXT	57	57

## ELECTRICAL ADJUSTMENTS

### 3. PURITY AND CONVERGENCE ADJUSTMENTS

#### NOTE

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

#### 3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

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

#### 3-2: PURITY

#### NOTE

Adjust after performing adjustments in section 3-1.

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

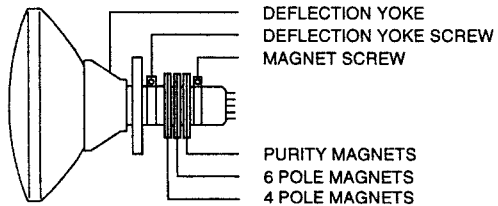


Fig. 3-1

#### 3-3: STATIC CONVERGENCE

#### NOTE

Adjust after performing adjustments in section 3-2.

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

#### 3-4: DYNAMIC CONVERGENCE

#### NOTE

Adjust after performing adjustments in section 3-3.

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

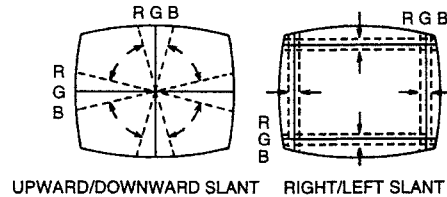


Fig. 3-2-a

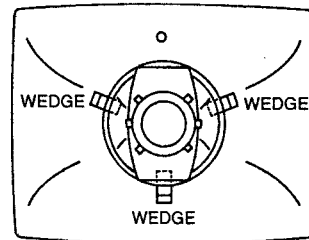


Fig. 3-2-b

## 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.

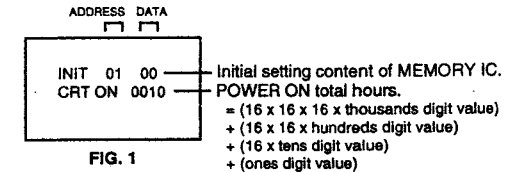


FIG. 1



## WHEN REPLACING EEPROM (MEMORY) IC

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

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	---	00	5A	30	24	31	90	41	01	45	00	41	03	5C	5D	73
10	00	00	08	80	03	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.

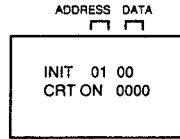


Fig. 1

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.

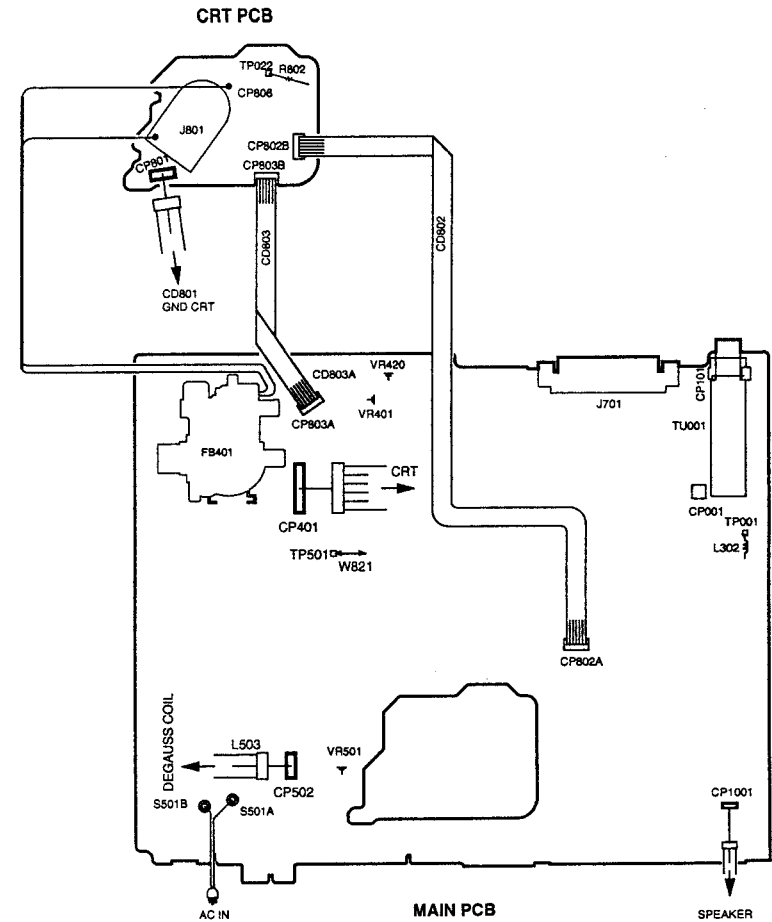
After the data input, set to the initializing of shipping.

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.

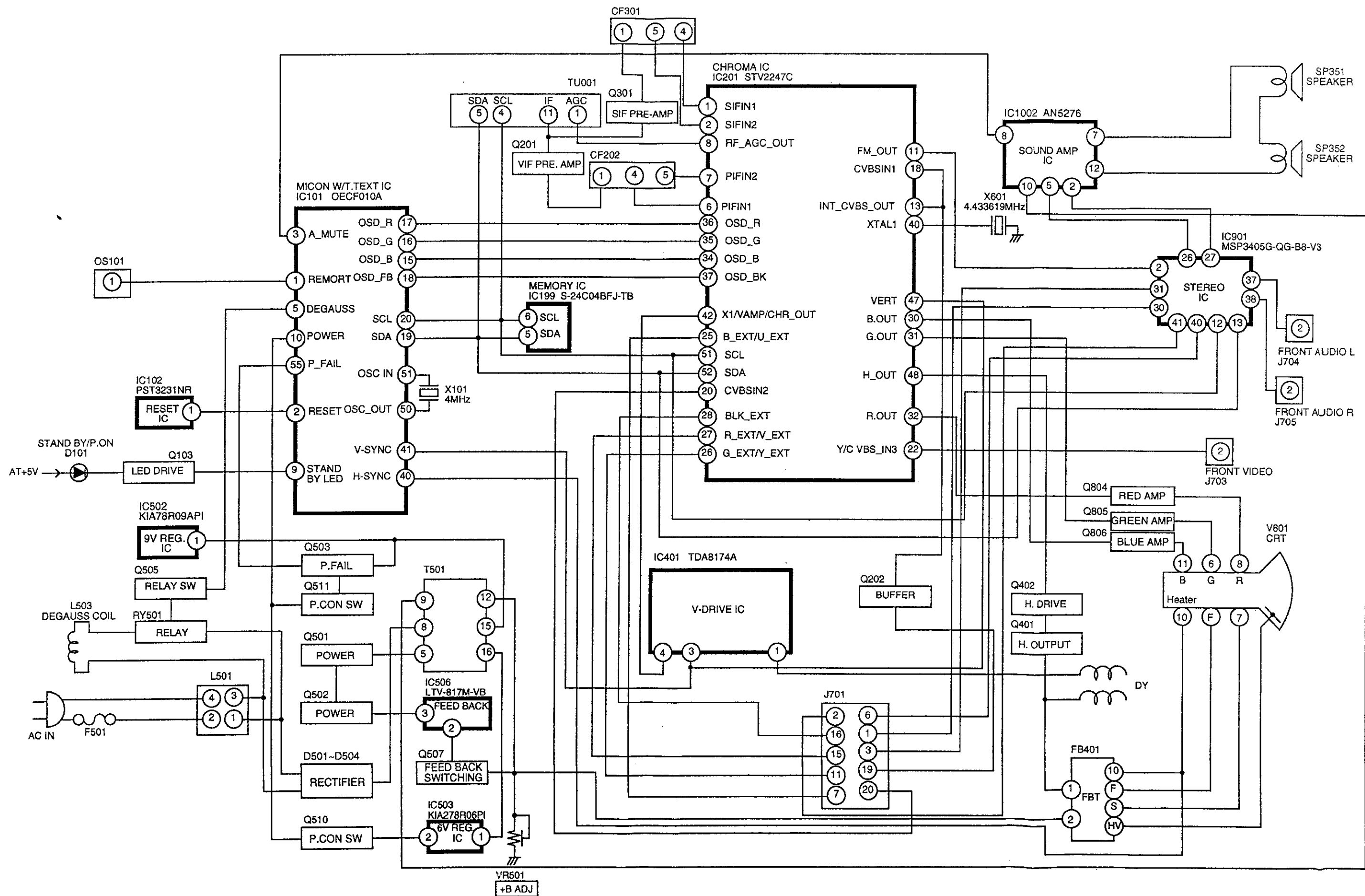
The unit will now have the correct DATA for the new MEMORY IC.

## ELECTRICAL ADJUSTMENTS

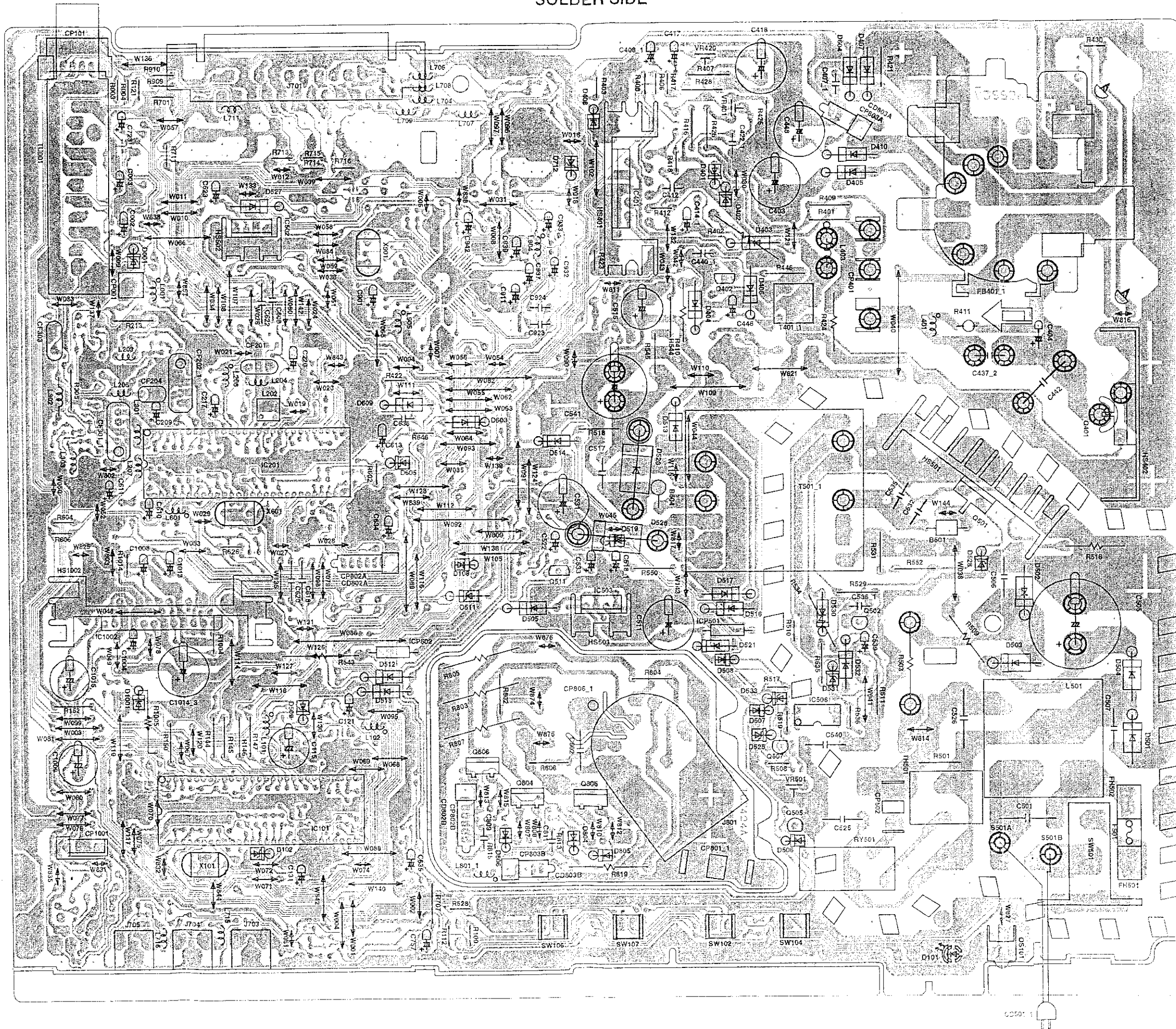
### 4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



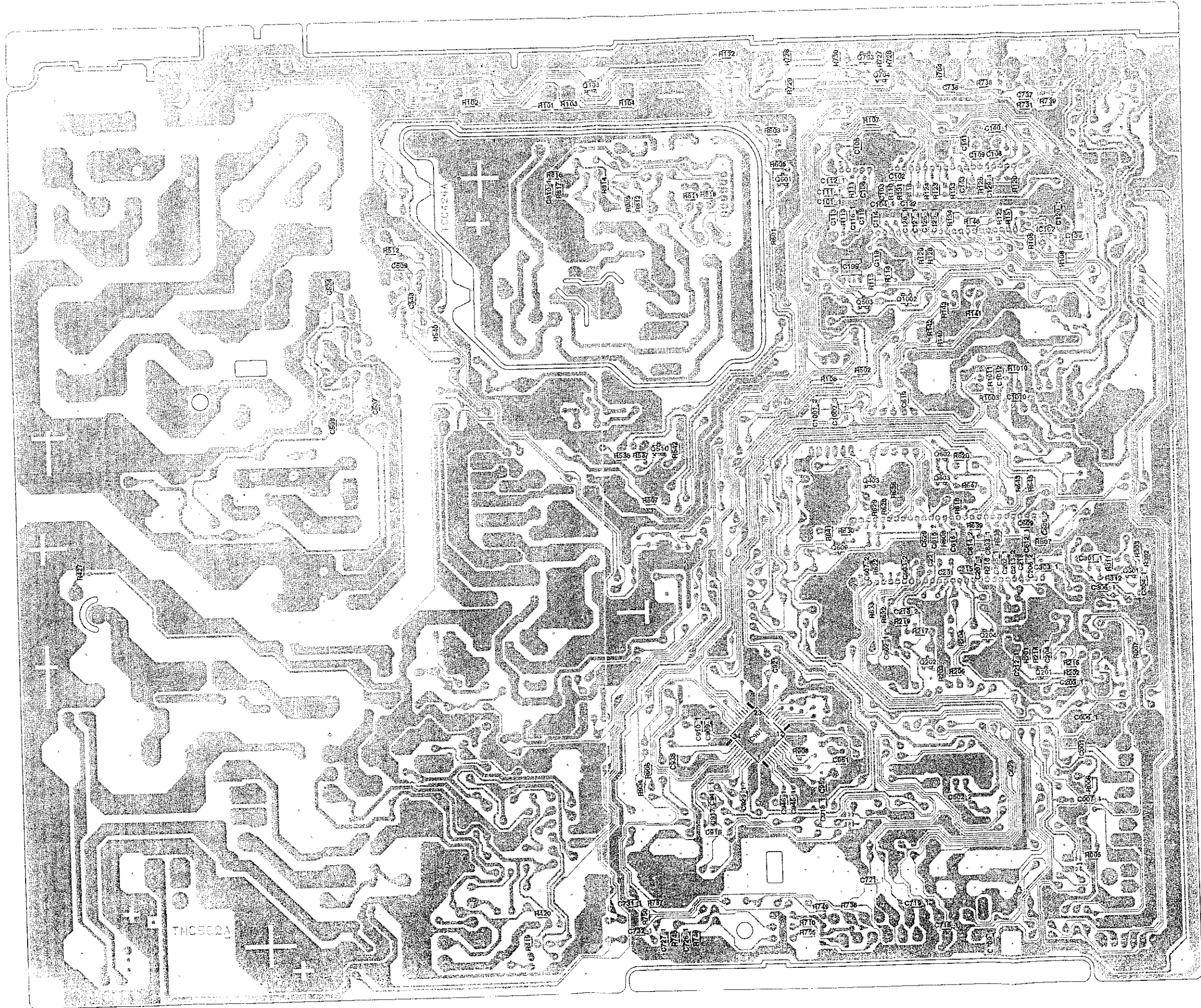
# BLOCK DIAGRAM



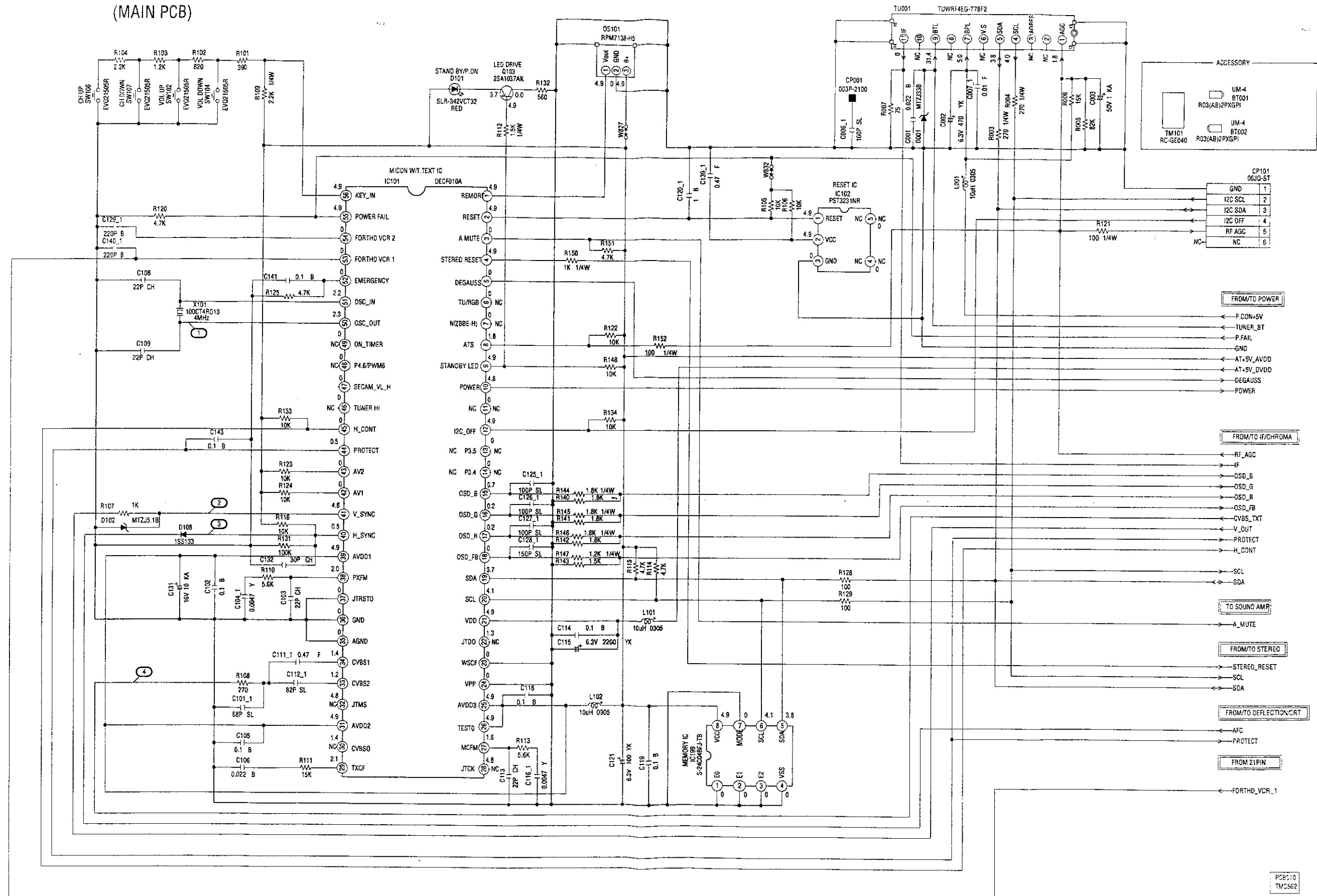
PRINTED CIRCUIT BOARDS  
MAIN/CRT (INSERTED PARTS)  
SOLDER SIDE



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



# MICON/TUNER SCHEMATIC DIAGRAM (MAIN PCB)

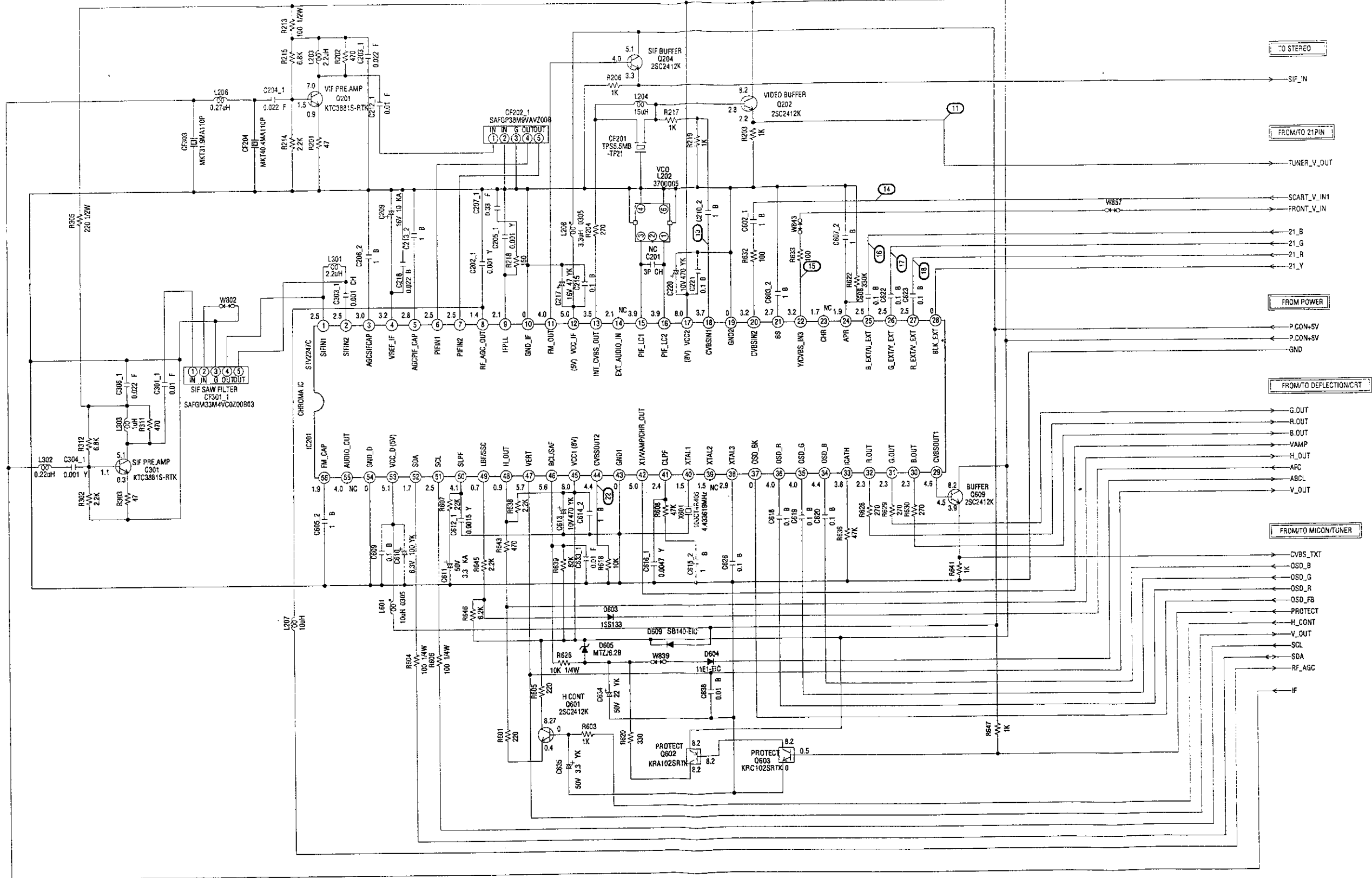


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

PCB:10  
TM2562

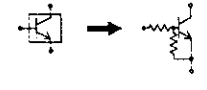
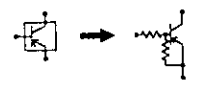
# IF/CHROMA SCHEMATIC DIAGRAM (MAIN PCB)



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

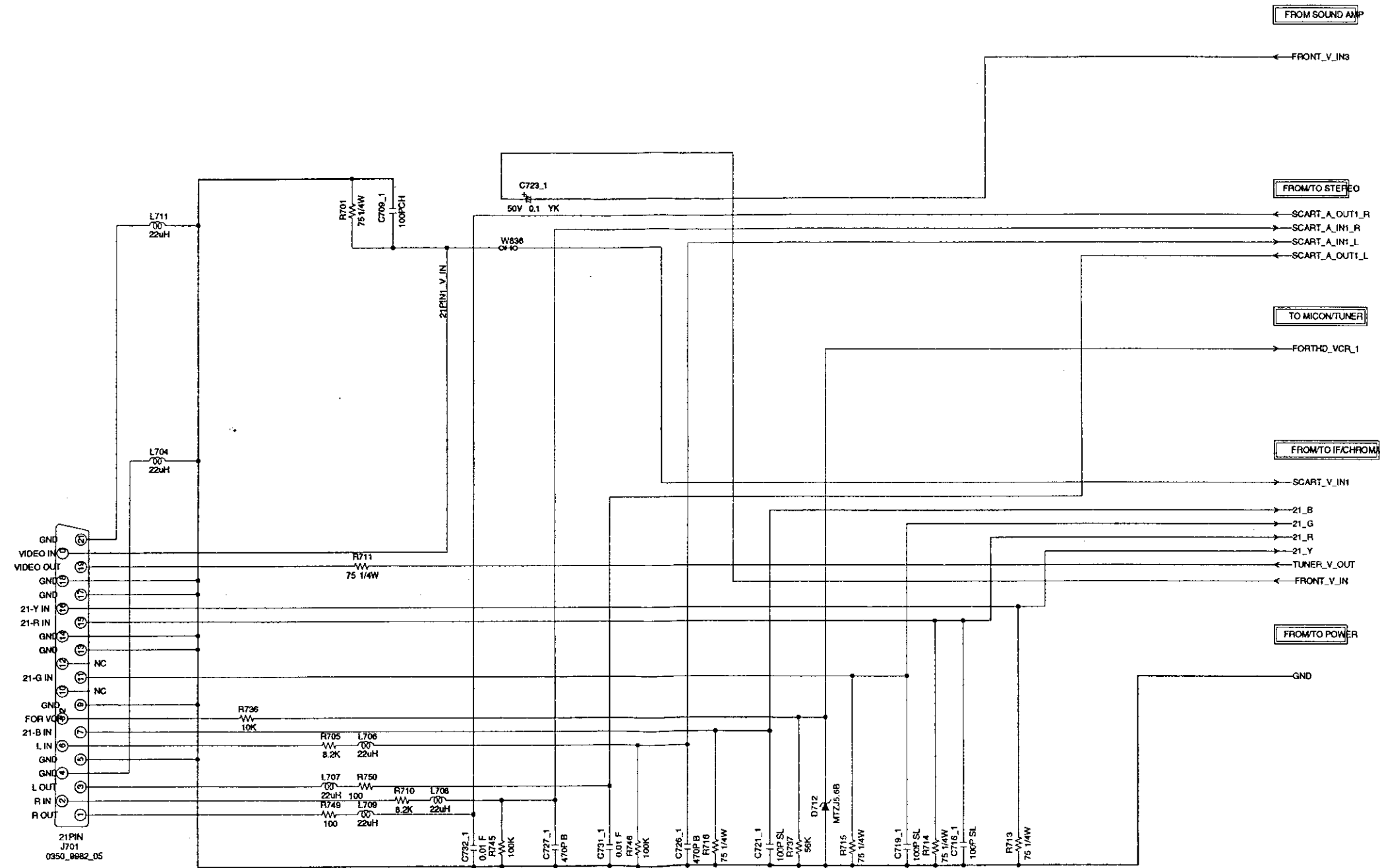
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR



PCB010  
TMC562

# 21PIN/AV SW SCHEMATIC DIAGRAM (MAIN PCB)

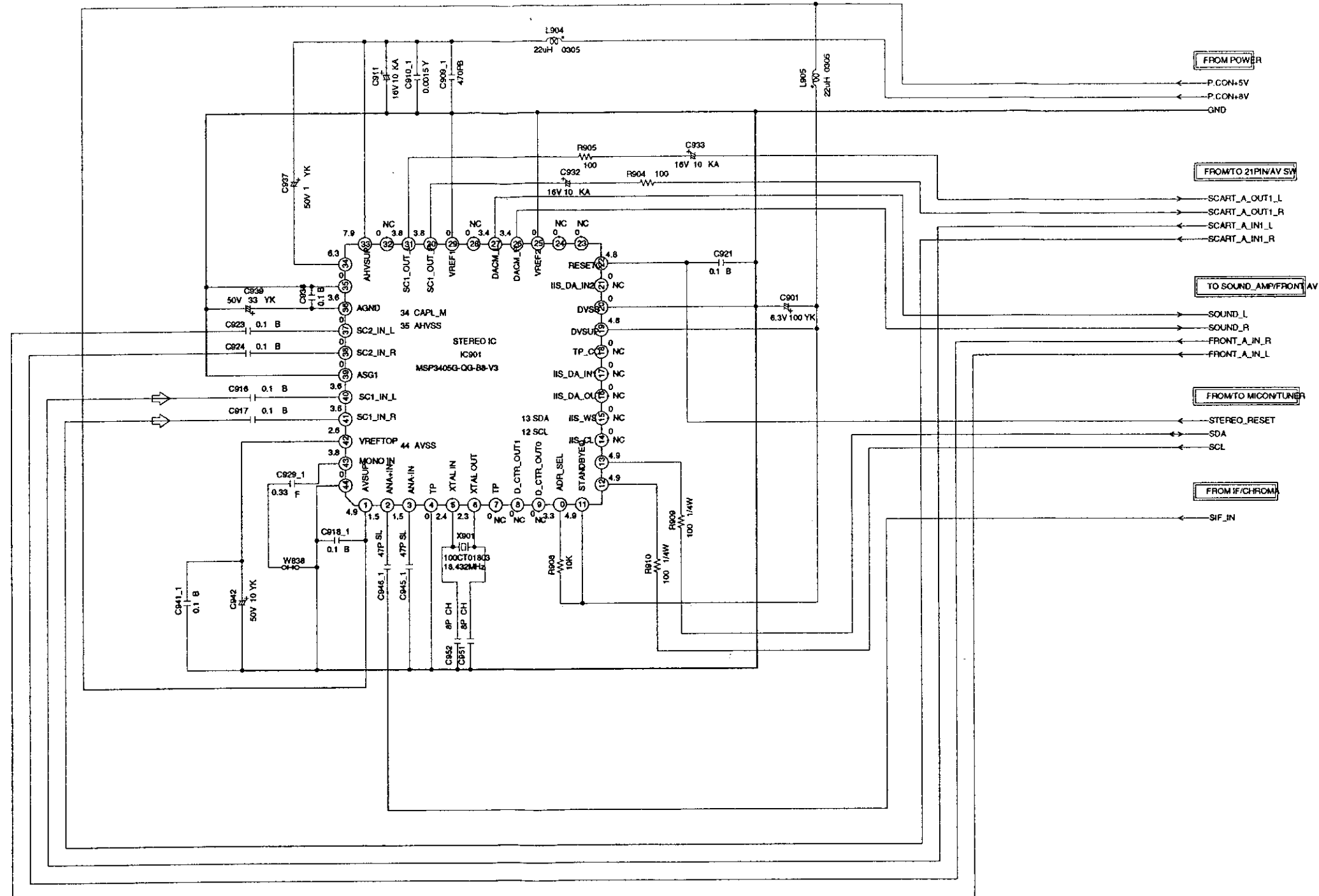


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

PCB01b  
TMC5d2

# STEREO SCHEMATIC DIAGRAM (MAIN PCB)



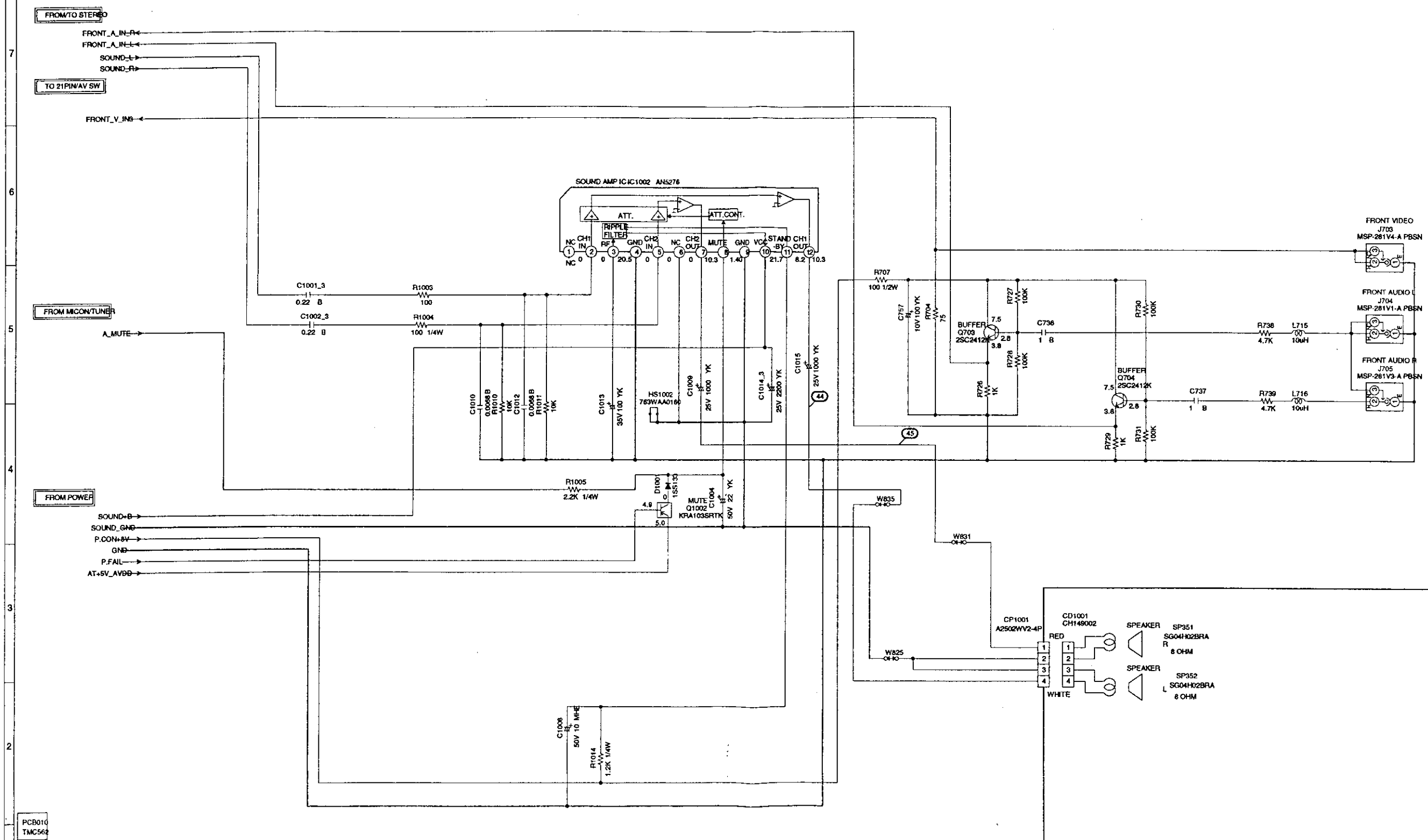
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

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

PCB01C  
TMC566



# SOUND AMP SCHEMATIC DIAGRAM (MAIN PCB)



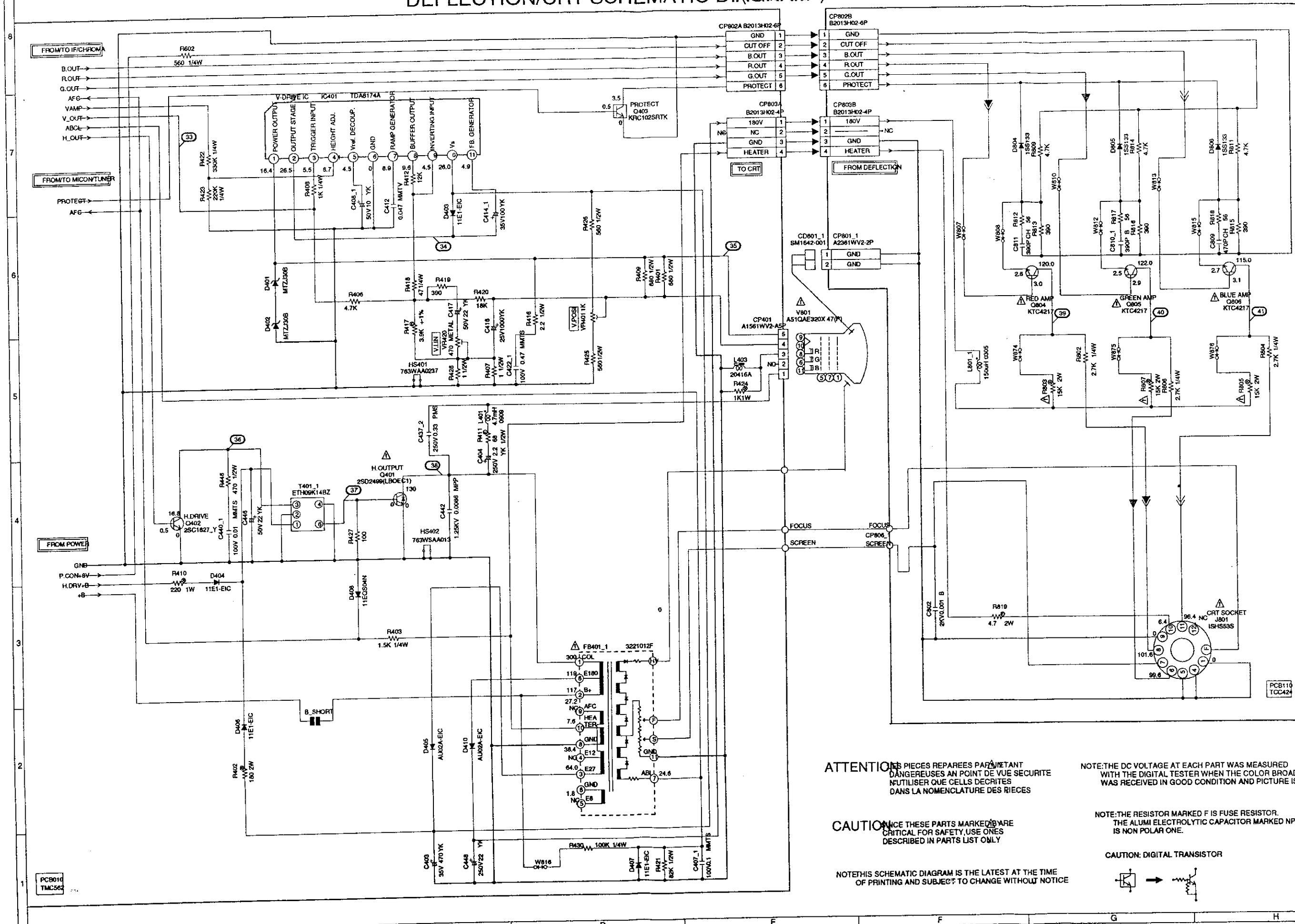
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

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.

CAUTION: DIGITAL TRANSISTOR



# DEFLECTION/CRT SCHEMATIC DIAGRAM (B)



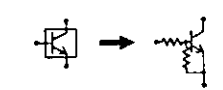
**ATTENTION** LES PIÈCES RÉPARÉES PAR UN  
DANGEREUSES AN POINT DE VUE SECURITE  
UTILISER QUE CELLES DECRITES  
DANS LA NOMENCLATURE DES RIECES

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** THESE PARTS MARKED **CRITICAL FOR SAFETY** ARE  
CRITICAL FOR SAFETY. USE ONES  
DESCRIBED IN PARTS LIST ONLY

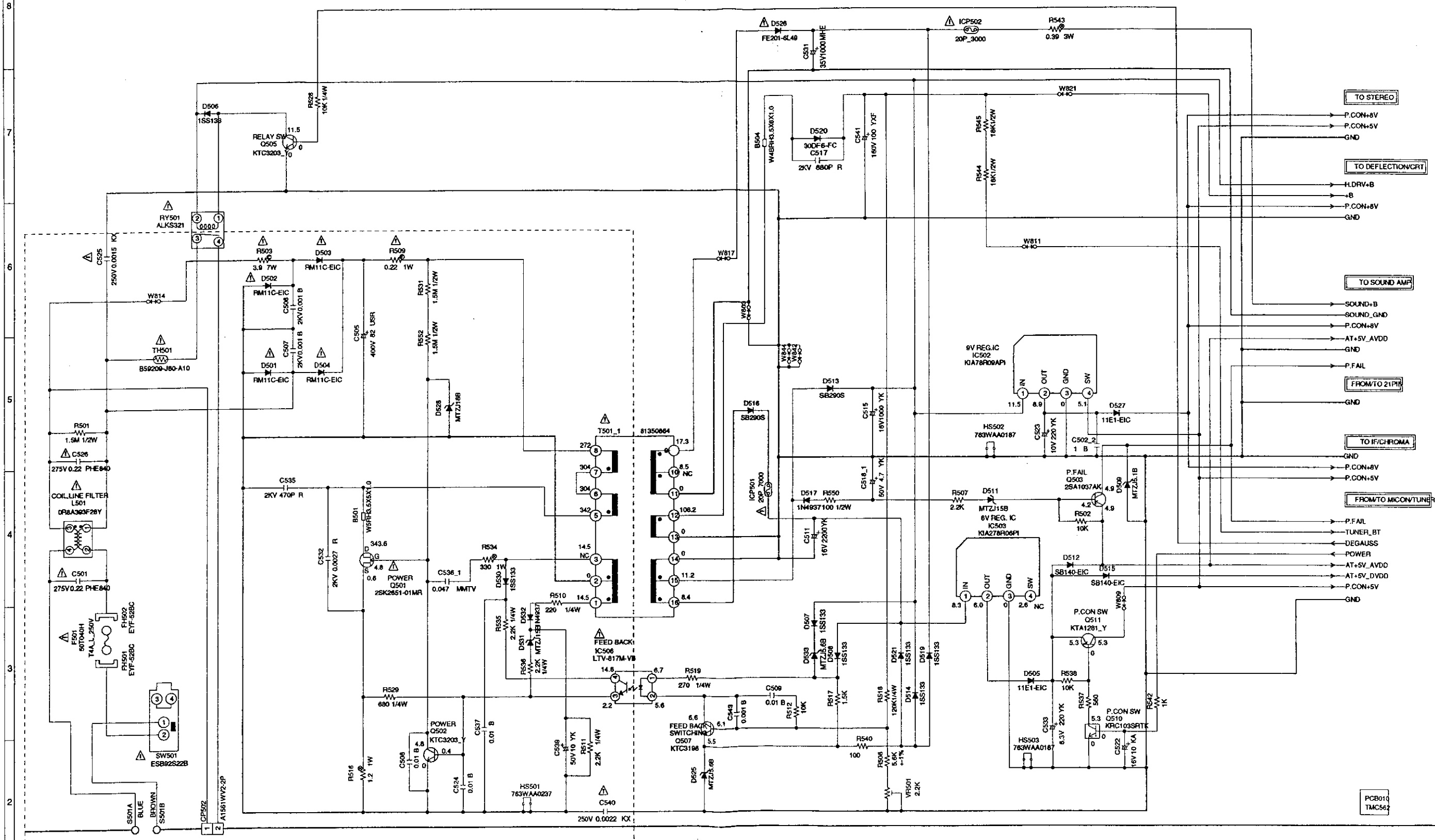
NOTE: THE RESISTOR MARKED **F** IS FUSE RESISTOR.  
THE ALUMI ELECTROLYTIC CAPACITOR MARKED **NP**  
IS NON POLAR ONE.

CAUTION: DIGITAL TRANSISTOR



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

# POWER SCHEMATIC DIAGRAM (MAIN PCB)



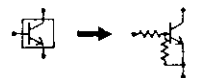
**CAUTION** THESE PARTS MARKED WITH THIS SYMBOL ARE CRITICAL FOR SAFETY. USE ONES DESCRIBED IN PARTS LIST ONLY.

**ATTENTION** CES PIÈCES REPARÉES PARTICULIÈREMENT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIÈCES

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

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

CAUTION: DIGITAL TRANSISTOR

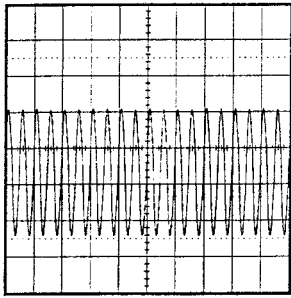


# WAVEFORMS

## MICON/TUNER

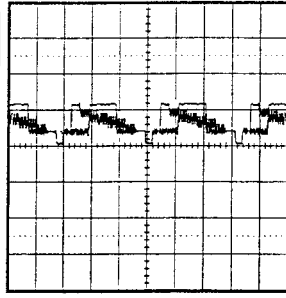
0.5 $\mu$ s  
1V

①



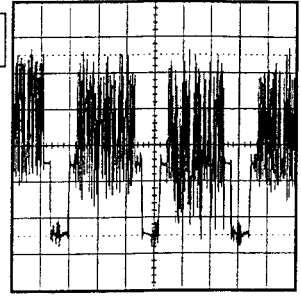
20 $\mu$ s  
1V

⑬



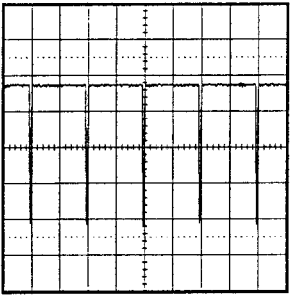
20 $\mu$ s  
100mV

⑱



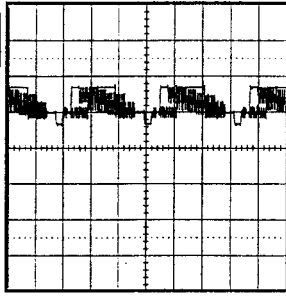
10ms  
1V

②



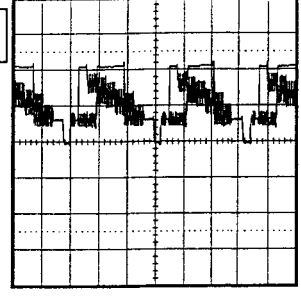
20 $\mu$ s  
1V

⑭



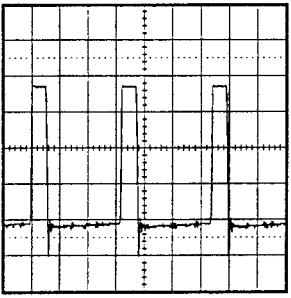
20 $\mu$ s  
1V

⑳



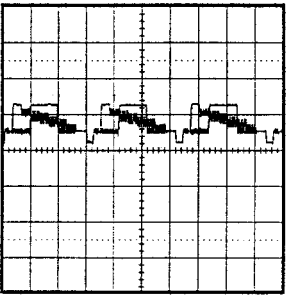
20 $\mu$ s  
1V

③



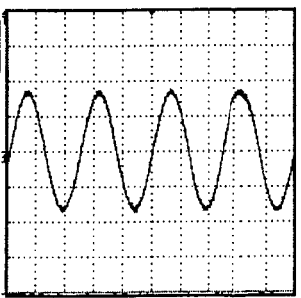
20 $\mu$ s  
1V

⑮



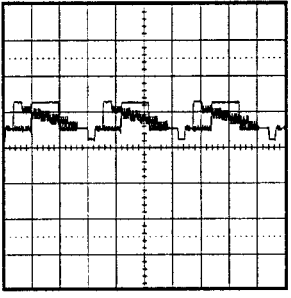
1ms  
500mV

④④



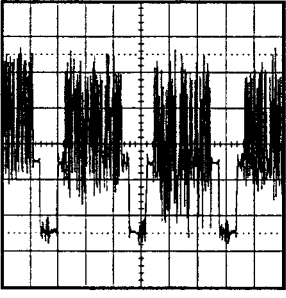
20 $\mu$ s  
1V

④



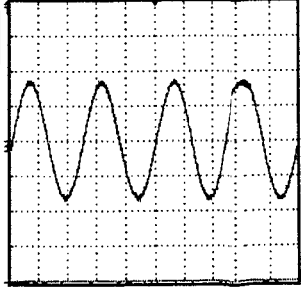
20 $\mu$ s  
100mV

⑯



1ms  
500mV

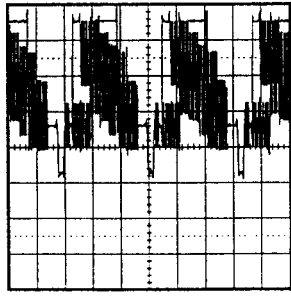
④⑤



## IF/CHROMA

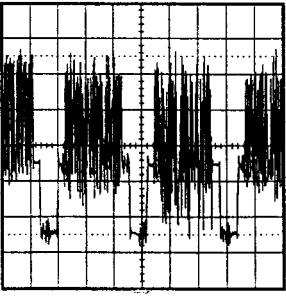
20 $\mu$ s  
0.5V

⑪



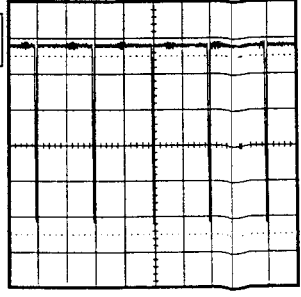
20 $\mu$ s  
1V

⑰



10ms  
1V

③③

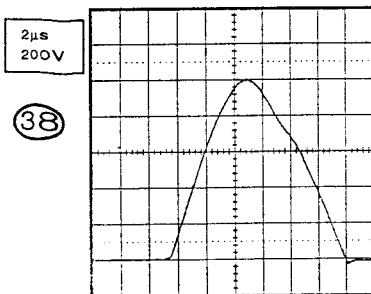
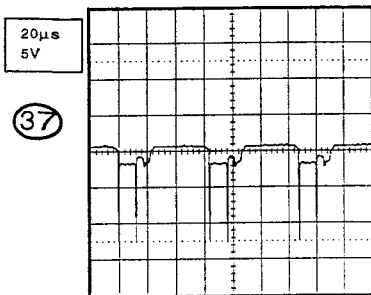
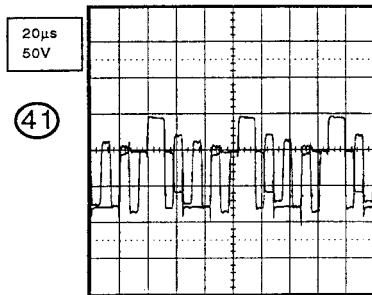
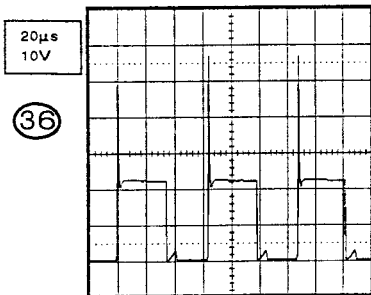
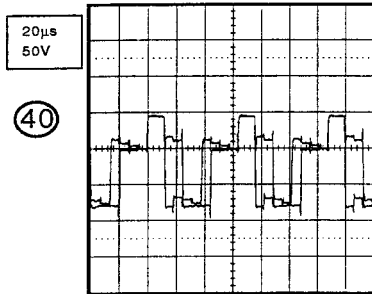
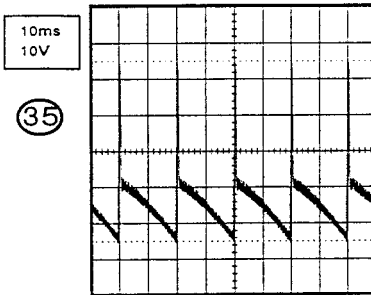
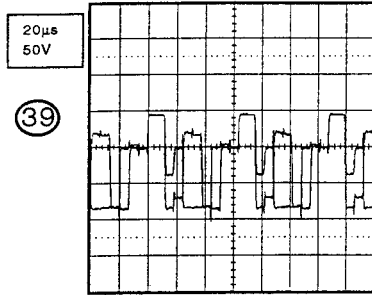
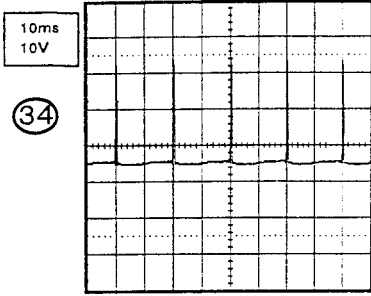


## SOUND AMP

## DEFLECTION/CRT

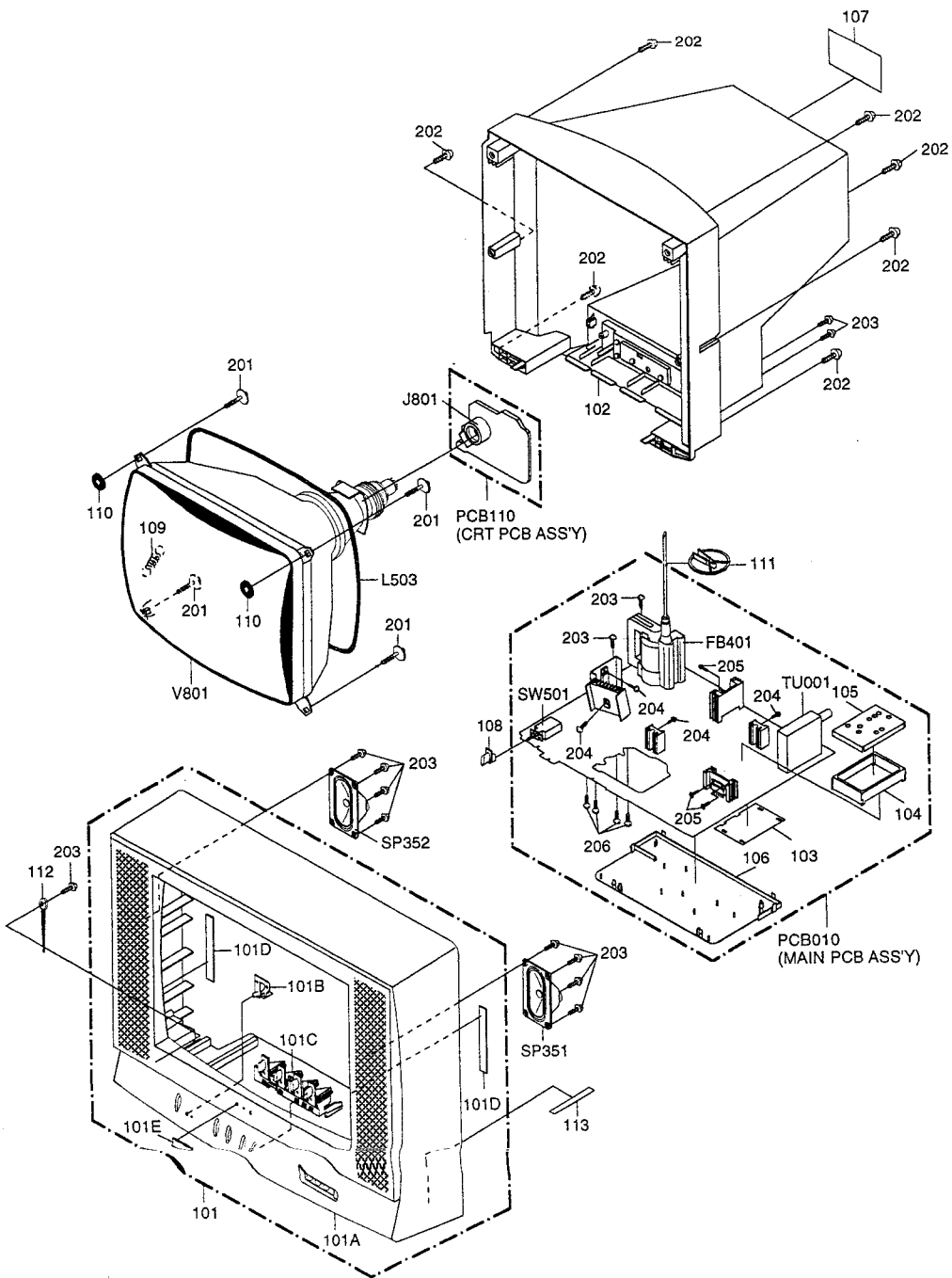
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

# 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	A3M502K720	CABINET,FRONT ASSY		
101A	701WPA0205	CABINET,FRONT		
101B	713WPA0205	GUIDE,REMOCON		
101C	735WPBA590	BUTTON,FRAME		
101D	800WQ00045	FELT SHEET	5x150xT0.5	
101E	7232020561	BADGE,BRAND		
102	A3M502K740	CABINET,BACK ASSY		
103	752WSAA006	PLATE,SHIELD		
104	752WSAA008	SHIELD,CASE		
105	752WSAA013	SHIELD,LID		
106	755WPA015	COVER PCB		
107	722202A682	SHEET,RATING		
108	735WPBA506	BUTTON,POWER		
109	741WUA0001	SPRING,EARTH		
110	800WR0A003	SHEET,CRT SUPPORT		
111	899HV3T000	HOLDER,ANODE WIRE		
112	899S034000	CORD CLIP UL CO.		
113	7220001027	SHEET,PTB		
201	8111J50D05	SCREW,TAPPING(A)	GW22	5x35
202	8117540A64	SCREW,TAPPING(B0)	TRUSS	4x16
203	8110630A04	SCREW,TAP TITE(P)	BRAZIER	3x10
203	8110630A04	SCREW,TAP TITE(P)	BRAZIER	3x10
204	8109130A04	SCREW,TAP TITE(B)	WH7	3x10
205	8107630804	SCREW,TAP TITE(S)	BRAZIER	3x8
206	8109630802	SCREW,TAP TITE(B)	BRAZIER	3x8
---	791MHA0004	LAMIFILM BAG		
---	792UHAA039	PACKAGE,TOP		
---	792UHAA040	PACKAGE,BOTTOM		
---	793UCDB102	GIFT BOX		
---	JB5X0100	POLYBAG,INSTRUCTION		
---	J3M50201A	INSTRUCTION BOOK		
---	A3M502D975	INSTRUCTION BOOK KIT		

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>RESISTORS</b>					
▲ R402	R3X18A181J	R,METAL OXIDE	D530	D1VT001330	DIODE,SILICON
▲ R410	R3X181221J	R,METAL OXIDE	D531	D97U01501B	DIODE,ZENER
▲ R411	R635U2680J	R,FUSE	D532	D2WXXN49370	DIODE SILICON
▲ R424	R3X181102J	R,METAL OXIDE	D533	D97U05R61B	DIODE,ZENER
▲ R501	R002T2155J	RC	D603	D1VT001330	DIODE,SILICON
▲ R503	RSY2CE3R9J	R,CEMENT	D604	D2W7011E10	DIODE SILICON
▲ R509	R635B1R22J	R,FUSE	D605	D97U06R21B	DIODE,ZENER
▲ R516	R3X1811R2J	R,METAL OXIDE	D809	D2WXS81400	DIODE SCHOTTKY
▲ R534	R3X181331J	R,METAL OXIDE	D712	D97U05R61B	DIODE,ZENER
▲ R543	R3X20B939J	R,METAL OXIDE	D804	D1VT001330	DIODE,SILICON
▲ R803	R3X18A153J	R,METAL OXIDE	D805	D1VT001330	DIODE,SILICON
▲ R805	R3X18A153J	R,METAL OXIDE	D806	D1VT001330	DIODE,SILICON
▲ R807	R3X18A153J	R,METAL OXIDE	D1001	D1VT001330	DIODE,SILICON
▲ R819	R635BA4R7J	R,FUSE			

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>CAPACITORS</b>					
▲ C414	E02LU4101M	CE	IC101	I5PD0F010A	IC
C418	E02LF3102M	CE	IC102	I9UF032310	IC
C437	P4J7F3334J	CMPP	IC199	A3M502D015	IC
C442	P4N8FJ862H	CMPP	IC201	I0WDE2247C	IC
▲ C446	E02LU5220M	CE	▲ IC401	I0WTD81740	IC
▲ C449	E0ELFD220M	CE	IC502	I1KA98R09A	IC
▲ C501	P247ZB224M	CMPP	IC503	I1KA98R060	IC
C505	E52DH820M	CE	▲ IC506	0002E00610	PHOTO COUPLER
C506	COJBB0713K	CC	IC901	I19F3405G	IC
C507	COJBB0713K	CC	IC1002	I0FSP52760	IC
C511	E02LF2222M	CE			
C517	CO3L0R7U2K	CC	<b>TRANSISTORS</b>		
▲ C525	CD39E0ME3M	CC	Q103	T8YJ1037K0	TRANSISTOR,SILICON
▲ C525	CD39E0M13M	CC	Q201	T8AA03881S	TRANSISTOR SILICON
▲ C526	P247ZB224M	CMPP	Q202	T8YJ2412K0	TRANSISTOR SILICON
▲ C531	E5EZF4102M	CE	Q204	T8YJ2412K0	TRANSISTOR SILICON
C532	CO3L0R7K3K	CC	Q301	T8AA03881S	TRANSISTOR SILICON
C535	COPLRR7Q2K	CC	Q401	T0DU024990	TRANSISTOR SILICON
C540	CO39E0MH3M	CC	Q402	TC05T01627Y	TRANSISTOR SILICON
C540	CO3L0R7H3K	CC	Q403	TNAAB05003	COMPOUND TRANSISTOR
C541	E62NFB101M	CE	▲ Q501	T41F026510	TRANSISTOR FIELD EFF
C802	COJBB0713K	CC	▲ Q502	TCAT032034	TRANSISTOR, SILICON
C1009	E02LF3102M	CE	Q503	T8YJ1037K0	TRANSISTOR,SILICON
C1014	E02LF3102M	CE	Q505	TCAT032034	TRANSISTOR, SILICON
C1015	E02LF3102M	CE	Q507	TCATC31980	TRANSISTOR,SILICON
			Q510	TNAAC05002	COMPOUND TRANSISTOR
			Q511	TAAT01281Y	TRANSISTOR SILICON
			Q601	T8YJ2412K0	TRANSISTOR SILICON
			Q602	TPAA05001	COMPOUND TRANSISTOR
			Q603	TNAAB05003	COMPOUND TRANSISTOR
			Q609	T8YJ2412K0	TRANSISTOR SILICON
			Q703	T8YJ2412K0	TRANSISTOR SILICON
			Q704	T8YJ2412K0	TRANSISTOR SILICON
			▲ Q804	TCA0042170	TRANSISTOR SILICON
			▲ Q805	TCA0042170	TRANSISTOR SILICON
			▲ Q806	TCA0042170	TRANSISTOR SILICON
			Q1002	TPAAC05002	COMPOUND TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>DIODES</b>					
D001	D97U03301B	DIODE,ZENER	L001	02167F100J	COIL
D101	0021721150	LED	L101	02167F100J	COIL
D102	D97U05R11B	DIODE,ZENER	L102	02167F100J	COIL
D108	D1VT001330	DIODE,SILICON	L202	033700005R	COIL,VIDEO IFT
D401	D97U03301B	DIODE,ZENER	L203	0216A62R2K	COIL
D402	D97U03301B	DIODE,ZENER	L204	0216A6150K	COIL
D403	D2W7011E10	DIODE SILICON	L206	0216A6R27M	COIL
D404	D2W7011E10	DIODE SILICON	L207	0216A6100J	COIL
D405	D2W7011E10	DIODE SILICON	L208	02167F3R3J	COIL
▲ D406	D2W7011E10	DIODE SILICON	L301	0216A6R2K0	COIL
D407	D2W7011E10	DIODE SILICON	L302	0216A6R2K0	COIL
D408	D2W7011E10	DIODE SILICON	L303	0216A61R0K	COIL
▲ D410	D2W7011E10	DIODE SILICON	L401	021679472K	COIL
D501	D2W7011E10	DIODE SILICON	L403	022900033A	COIL,LINEARITY
D502	D2W7011E10	DIODE SILICON	▲ L501	0297000091	COIL,LINE FILTER
D503	D2W7011E10	DIODE SILICON	L503	028R200015	COIL,DEGAUSS
D504	D2W7011E10	DIODE SILICON	L904	02AHB9A972	CORE,FERRITE
D505	D2W7011E10	DIODE SILICON	L601	02167F100J	COIL
D506	D1VT001330	DIODE,SILICON	L704	0216A6220J	COIL
D507	D1VT001330	DIODE,SILICON	L706	0216A6220J	COIL
D508	D1VT001330	DIODE,SILICON	L707	0216A6220J	COIL
D509	D97U05R11B	DIODE,ZENER	L708	0216A6220J	COIL
D511	D97U01501B	DIODE,ZENER	L709	0216A6220J	COIL
D512	D2WXS81400	DIODE SCHOTTKY	L711	0216A6220J	COIL
D513	D2WXS8290S0	DIODE SILICON	L715	0216A6100J	COIL
D514	D1VT001330	DIODE,SILICON	L716	0216A6100J	COIL
D515	D2WXS81400	DIODE SCHOTTKY			
D516	D2WXS8290S0	DIODE SILICON			
D517	D2WXS8290S0	DIODE SILICON			
D519	D1VT001330	DIODE,SILICON			
D520	D28F30DF60	DIODE RECTIFIER			
D521	D1VT001330	DIODE,SILICON			
D525	D97U05R61B	DIODE,ZENER			
D528	D2CF2016L0	DIODE SILICON			
D527	D2W7011E10	DIODE SILICON			

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>COILS &amp; TRANSFORMERS</b>					
L801	02167F151J	COIL	J701	063G100042	SOCKET,21PIN
L904	02167F220J	COIL	J703	060J421029	PCA JACK
L905	02167F220J	COIL	J704	060J421027	PCA JACK
T401	045009003J	TRANS,HORIZONTAL DRIVE	J705	060J421028	PCA JACK
▲ T501	0481350864	TRANSFORMER,SWITCHING	▲ J801	066F130020	SOCKET,CATHODE RAY,TUBE ISHSS3S
<b>JACKS</b>					
<b>SWITCHES</b>					
SW102	0504101T34	SWITCH,TACT	SW104	0504101T34	SWITCH,TACT
SW106	0504101T34	SWITCH,TACT	SW107	0504101T34	SWITCH,TACT
▲ SW501	0530105019	SWITCH			
<b>VARIABLE RESISTORS</b>					
VR401	V116313B7E	VOLUME,SEMI FIXED	VR420	V1K62Q2B7E	VOLUME,SEMI FIXED
VR501	V116313B7E	VOLUME,SEMI FIXED			
<b>P.C. BOARD ASSEMBLIES</b>					
PCB110	A3M502K010K	PCB ASS'Y	PCB110	A3M502K110K	PCB ASS'Y
<b>MISCELLANEOUS</b>					
B501	024HT03553	CORE,BEADS	B504	024HT03564	CORE,BEADS
BT001	1412004013	BATTERY,MANGAN	BT002	1412004013	BATTERY,MANGAN
CD051	1206459803	CARD AC BUSH	CD801	1278210014	BRAIDED WIRE
CD802	WDL6042038	FLAT CABLE AWM2488	CD803	WBL6034038	FLAT CABLE AWM2488
CF201	1012T5R033	FILTER,CERAMIC TRAP	CF202	1022038R9F	FILTER,SAW
CF203	1012T03101	FILTER,CERAMIC TRAP	CF301	1022133R41	FILTER,SAW
CP001	069W01001A	CONNECTOR PCB SIDE	CP101	069X160379	CONNECTOR PCB SIDE
CP101	069X160379	CONNECTOR PCB SIDE	CP501	069S450089	CONNECTOR PCB SIDE
CP501	069S450089	CONNECTOR PCB SIDE	CP801	069S320010	CONNECTOR PCB SIDE
CP801	069S320010	CONNECTOR PCB SIDE	CD1001	06CH149002	CARD CONNECTOR
CP1001	069S140419	CONNECTOR PCB SIDE	CP1001	069S140419	CONNECTOR PCB SIDE
CP802A	067U006049	WIRE HOLDER	CP802B	067U006049	WIRE HOLDER
CP803A	067U004029	WIRE HOLDER	CP803B	067U004029	WIRE HOLDER
CP803C	067U004029	WIRE HOLDER			
CUS012	800WFAA008	CUSHION C			
EL001	124116281A	EYE LET	EL002	124120301A	EYE LET
▲ F501	080NT04004	FUSE	FB401	043221012F	TRANSFORMER,FLYBACK
FH501	06710T0006	HOLDER,FUSE	FH502	06710T0006	HOLDER,FUSE
ICP501	0845T07003	IC PROTECTOR	ICP502	0845T03003	IC PROTECTOR
OSY01	0773071001	REMOTE RECEIVER	RY101	0560V20115	RELAY
SP351	070C546004	SPEAKER	SP352	070C546004	SPEAKER
TH501	D8E080A100	DEGAUSS ELEMENT	TU001	0145517008	TUNER,VHF-UHF
▲ V801	098N210448	CRT W/DY	X601	100CT4R408	CRYSTAL
X101	100CT4R013	CRYSTAL	X901	100CT01803	CRYSTAL

RESISTOR RC..... CARBON RESISTOR

CAPACITORS  
 CE..... CERAMIC CAPACITOR  
 CE..... ALUMI ELECTROLYTIC CAPACITOR  
 CP..... POLYESTER CAPACITOR  
 CP..... POLYPROPYLENE CAPACITOR  
 CPL..... PLASTIC CAPACITOR  
 CML..... METAL POLYESTER CAPACITOR  
 CMP..... METAL POLYPROPYLENE CAPACITOR