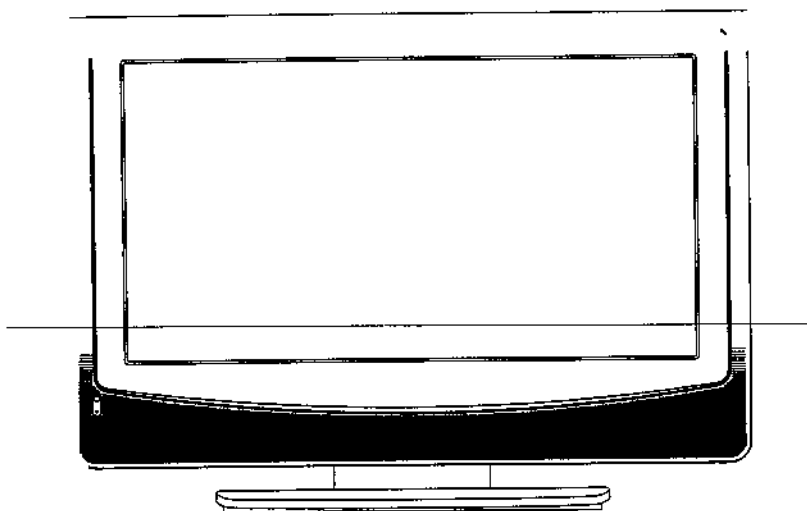


SERVICE MANUAL

ORION

TV-2322 SI

23" LCD COLOR TELEVISION



**ORIGINAL
CHASSIS CODE A**

Best. Nr. SM2322

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. BE CAREFUL WITH THE LCD PANEL

Avoid a shock to the panel while servicing. Take enough care to deal with it.

5. 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.

6. 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 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~A3-5
DISASSEMBLY INSTRUCTIONS	
1. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC	B-1, B-2
SERVICE MODE LIST	C-1
CONFIRMATION OF HOURS USED	C-1
WHEN REPLACING EEPROM (MEMORY) IC	C-2
ELECTRICAL ADJUSTMENTS	D-1~D-3
BLOCK DIAGRAM	
TV	E-1, E-2
STEREO/SOUND AMP	E-3, E-4
SCALER/DECODER/LVDS/MEMORY/BUS	E-5, E-6
PRINTED CIRCUIT BOARDS	
LCD	F-1, F-2
AV/REMOCON/OPERATION/FILTER/SAFETY1	F-3, F-4
AV/REMOCON/OPERATION	F-5, F-6
SCHEMATIC DIAGRAMS	
AV SWITCH/SIDE JACK	G-1, G-2
TUNER/21PIN	G-3, G-4
STEREO/SOUND AMP	G-5, G-6
POWER	G-7, G-8
OPERATION/REMOCON/FILTER/SAFETY1	G-9, G-10
SCALER1	G-11, G-12
SCALER2	G-13, G-14
SCALER3	G-15, G-16
LVDS	G-17, G-18
DDR SDRAM	G-19, G-20
MEMORY	G-21, G-22
IN/OUT	G-23, G-24
DECODER1	G-25, G-26
DECODER2	G-27, G-28
REGULATOR	G-29, G-30
WAVEFORMS	H-1, H-2
MECHANICAL EXPLODED VIEW	I1-1, I1-2
MECHANICAL REPLACEMENT PARTS LIST	J1-1
ELECTRICAL REPLACEMENT PARTS LIST	J2-1, ~J2-3

GENERAL SPECIFICATIONS

G-1	TV System	LCD	LCD Size / Visual Size	23.07 inch / 586.0mmV
			LCD Type	Color TFT LCD
			Number of Pixels	1280(H) x 720(V)
			View Range	85/85 degree
				Left/Right Up/Down 85/85 degree
	Color System			PAL
	Speaker		Position	2 Speaker
			Size	Front
			Impedance	1.8 x 3.9 inch
	Sound Output	MAX		16 ohm
		10%(Typical)		5W + 5W

		NTSC3.58+4.43 /PAL60Hz		Yes
G-2	Tuning System	Broadcasting System		CCIR System BG
		Tuner and Receive CH	System	1 Tuner
			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)	38.9MHz
			Sound(FS)	33.4MHz
			FP-FS	5.5MHz
			Auto Tuning Method	
	Preset CH		80	
	Stereo/Dual TV Sound		Nicam/A2 Dual	
	Tuner Sound Muting		Yes	
G-3	Power	Power Source	AC	230V AC 50Hz
			DC	---
		Power Consumption		at AC 100 W at AC 230 V 50 Hz
			Stand by (at AC) Per Year	at DC -- 5 W at 230V 50Hz -- kWh/Year
	Protector	Power Fuse		Yes
G-4	Regulation	Safety		CE(EN60065:98)
		Radiation		CE
		X-Radiation		---
G-5	Temperature	Operation		+5oC ~ +40oC
		Storage		-20oC ~ +60oC
G-6	Operating Humidity			Less than 80% RH

GENERAL SPECIFICATIONS

G-7	On Screen Display	Menu (TV)	Menu Type	Yes	
			Icon	Yes	
			Picture	Yes	
			Brightness	Yes	
			Contrast	Yes	
			Color	Yes	
			Tint (NTSC Only)	Yes	
			Sharpness	Yes	
			DNR ON/OFF	Yes	
			Audio	Yes	
			NICAM AUTO/OFF	Yes	
			Bass	Yes	
			Treble	Yes	
			Balance	Yes	
			Surround ON/OFF		No
			Setup	Yes	
			Auto Tuning	Yes	
			Manual Tuning	Yes	
			CH Allocation	Yes	
			BACKLIGHT	Yes	
			Language	Yes	
			Picture Scroll (CINEMA Mode Only)	Yes	
			AUTO 4:3 DEFAULT	Yes	
			AV2 Output	Yes	
			AV2 Input	Yes	
			AV Colour	Yes	
			Option	Yes	
			On Timer	Yes	
			Off Timer	Yes	
			Menu (PC)	Yes	
			Picture	Yes	
			BRIGHTNESS	Yes	
			CONTRAST	Yes	
			HOR POSITION	Yes	
			VER POSITION	Yes	
			PHASE	Yes	
			CLOCK	Yes	
			AUTO ADJUST	Yes	
			RED	Yes	
			GREEN	Yes	
			BLUE	Yes	
			Audio	Yes	
			Bass	Yes	
			Treble	Yes	
			Balance	Yes	
Surround ON/OFF		No			
Control Level	Yes				
Volume	Yes				
Brightness	Yes				
Contrast	Yes				
Color	Yes				
Tint (NTSC Only)	Yes				
Sharpness	Yes				
Tuning	Yes				
Bass	Yes				
Treble	Yes				
Balance	Yes				
H Position	Yes				
V Position	Yes				
PHASE	Yes				
CLOCK	Yes				
Red	Yes				
Green	Yes				
Blue	Yes				
Backlight	Yes				
Nicam ST	Yes				
Tone 1/2	Yes				
Pin Code		No			
FREEZE	Yes				
CH/AV/PC	Yes				
Hotel Lock		No			
Wide Mode (AUTO/4:3/FULL SCREEN/16:9/CINEMA/14:9)	Yes				
Sleep Timer	Yes				
Sound Mute	Yes				
G-8	OSD Language		English	French	Spanish
			German	Italian	

GENERAL SPECIFICATIONS

G-9	Clock and Timer	Sleep Timer	Max Time	120 Min	
			Step	10 Min	
		On/Off Timer	Program(On Timer / Off Timer)	1 Program	
		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)	3V	
			UM size x pcs	UM-4 x 2 pcs	
		Total Keys		33	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	
			Volume Up / Right	Yes	
			Volume Down / Left	Yes	
			Sleep	Yes	
			Info (CH Call)	Yes	
			Menu	Yes	
			Enter	Yes	
			Mute	Yes	
			Freeze frame	Yes	
			TEXT / MIX / TV	Yes	
			Reveal / Skip	Yes	
			Display Cancel	Yes	
			HOLD / Status	Yes	
			Red	Yes	
			Green	Yes	
			Yellow	Yes	
	Cyan	Yes			
	Normal		No		
	F/T/B(Expand) / Normal	Yes			
	Quick View		No		
	Sub Page / Quick View	Yes			
	Up/CH Up		No		
	Up/CH Up / Page Up	Yes			
	Down / CH Down		No		
	Down / CH Down / Page Down	Yes			
	Reset		No		
	Audio 1/2		No		
	Reset / Audio 1/2	Yes			
	Picture Size	Yes			

GENERAL SPECIFICATIONS

G-11	Features	Auto Shut Off	Yes			
		BBE	No			
		Auto Search	Yes			
		CH Allocation	Yes			
		Channel Lock	No			
		Just Clock Function	No			
		Game Position	No			
		CH Label	No			
		T'Text	Yes			
			Text type	Toptext		
			Text Language	English, French, Swedish, Hungarian Finnish, Turkish, German, Dutch Portuguese, Spanish, Italian, Greek		
			Wide (AUTO/4:3/FULL SCREEN/16:9/CINEMA/14:9)	Yes		
			Picture Scroll	Yes		
			DNR	Yes 3D		
			Comb Filter	Yes 5 Lines		
			Surround	No		
			Backlight	Yes		
			Stable Sound	No		
			Choke Coil	Yes		
			Auto Set Up	No		
			Power ON Memory	No		
			Hotel Lock	No		
			PC Monitor Input	Yes		
			Freeze frame	Yes		
		G-12	Accessories	Owner's Manual	Language w/Guarantee Card	
				Remote Control Unit	German Yes	
				Rod Antenna	Yes No	
					Poles Terminal	- -
				Loop Antenna (W/ Antenna Change Plug)	Terminal	- No
				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		
Quick Set-up Sheet				No		
Battery				Yes		
	UM size x pcs			UM-4 x 2 pcs		
	OEM Brand			No		
	AC Adapter			No		
	AC Cord (for AC Adapter)			No		
	AC Cord			Yes		
	AV Cord (2Pin-1Pin)			No		
	Registration Card			No		
	300 ohm to 75 ohm Antenna Adapter	No				

GENERAL SPECIFICATIONS

G-13	Interface	Switch	Power (Tact)	Yes	
			System Select	No	
			Main Power SW	No	
			Sub Power	No	
			Channel Up/Menu Up	Yes	
			Channel Down/Menu Down	Yes	
			Volume Up/Menu >	Yes	
			Volume Down/Menu <	Yes	
			Input Select/Enter	Yes	
			Menu	Yes	
			Main Power SW	No	
			Indicator	Power	No
				Stand-by	Yes (RED)
		On Timer		No	
		Terminals	Rear	Video Input 1	No
				Audio Input 1	No
				S- Input 1	No
				Video Output	No
				Audio Output	No
				Color Stream 2	No
				Other Terminal	No
				Euro Scart (21Pin)	2Scart
				PC Monitor Input (D-Sub)	Yes
Audio Input	RCA x 2(Stereo)				
Diversity	No				
Ext Speaker	No				
DC Jack 12V(Center +)	No				
VHF/UHF Antenna Input	DIN Type				
AC Inlet	Yes				
Side	Video Input 3			RCA x 1	
	Audio Input 3			RCA x 2(Stereo)	
	Other Terminal	Headphone			
	Approx. W x D x H (mm)		610 x 276 x 484		
	w/o Stand,Handle Approx. W x D x H (mm)		810 x 100.5 x 438.5		
G-14	Set Size				
G-15	Weight	Net Approx.	9.5kg (20.9 lbs)		
		Net w/o Stand,Handle Approx.	8.5kg (18.7 lbs)		
		Gross Approx.	12.5kg (27.5 lbs)		
G-16	Carton	Master Carton			
		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)	720 x 383 x 590		
		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		394 Sets/40' container			
G-17	Material	Cabinet	PS 94HB		
		Cabinet Front	PS 94HB		
		Cabinet Rear	PS 94HB		
		PCB	Non-Halogen		
G-18	Environment	Pb Free	Lead-free Solder		
			Other		
		Cd Free	No		

DISASSEMBLY INSTRUCTIONS

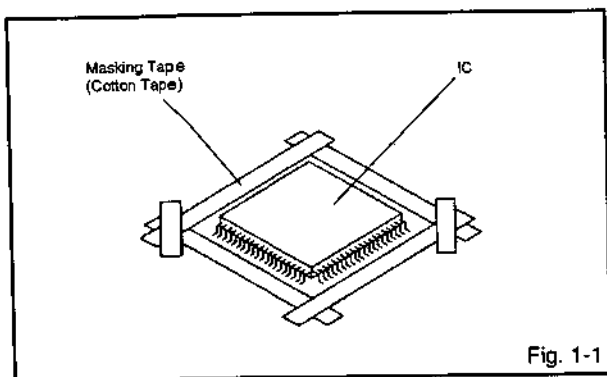
1. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

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

NOTE

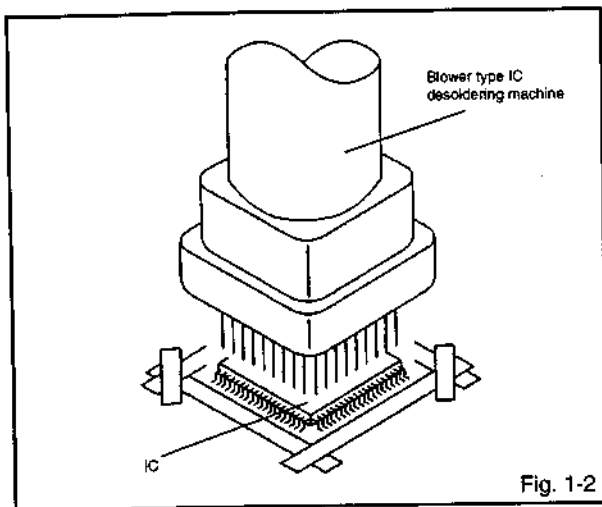
Masking is carried out on all the parts located within 10 mm distance from IC leads.



2. Heat the IC leads using a blower type IC desoldering machine. (Refer to Fig. 1-2.)

NOTE

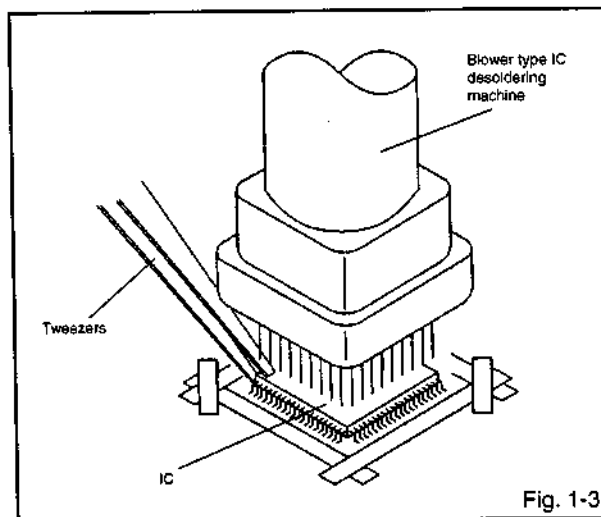
Do not rotate or move the IC back and forth, until IC can move back and forth easily after desoldering the leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 1-3.)

NOTE

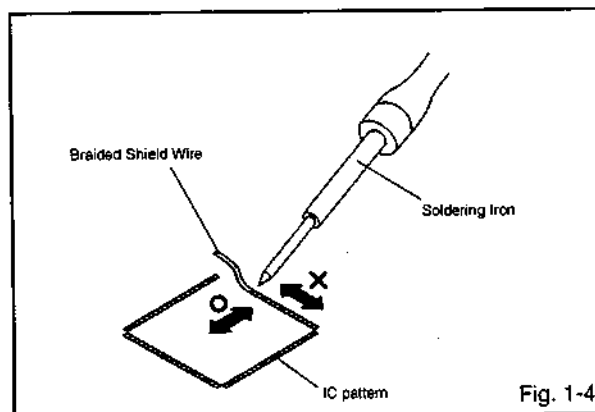
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. (Refer to Fig. 1-4.)

NOTE

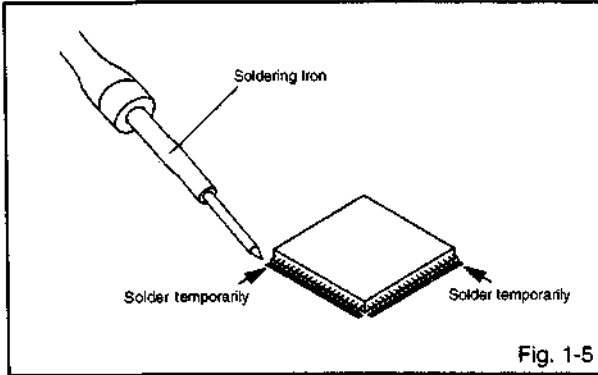
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



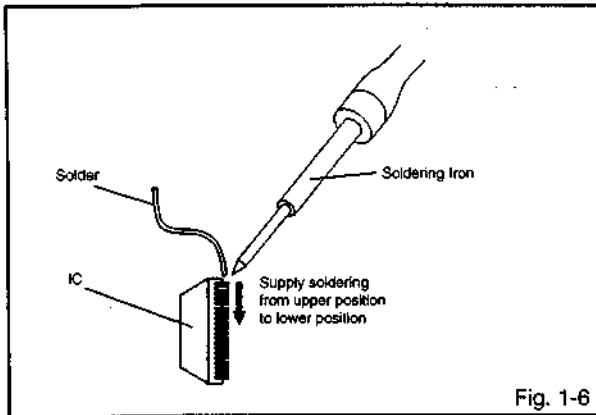
DISASSEMBLY INSTRUCTIONS

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. 1-5.)



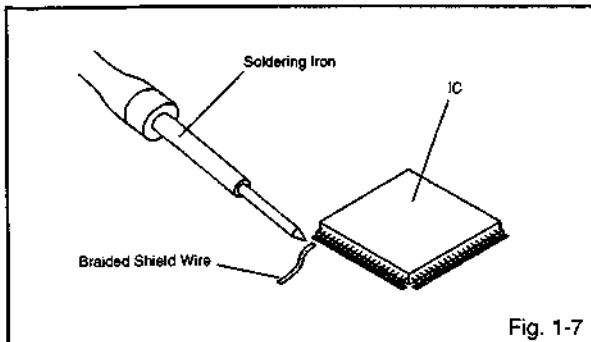
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 1-6.)



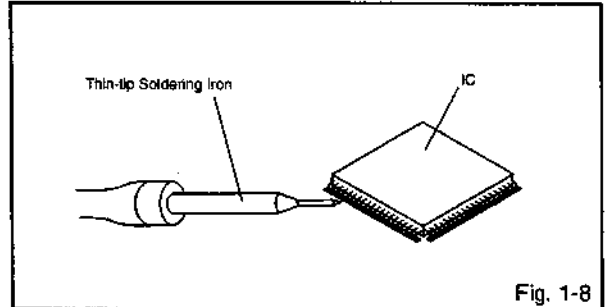
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 1-7.)

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. 1-8.)



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, always be sure to replace the IC in this case.

SERVICE MODE LIST

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

To enter the SERVICE MODE function, press and hold both buttons simultaneously on the main unit and on the remote control for more than the standard time in the appropriate condition. (See below chart.)

Set Condition	Set Key	Remocon Key	Standard Time	Operations
TV mode	VOL. DOWN (Minimum)	0	2 sec.	Reset the user setting items (PICTURE, VOLUME, LANGUAGE and NICAM AUTO/OFF) to the initial state for delivery.
TV mode	VOL. DOWN (Minimum)	1	2 sec.	Initialization of factory TV data. NOTE: If you set factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
TV mode	VOL. DOWN (Minimum)	6	2 sec.	POWER ON total hours are displayed on the screen. Refer to the "PREVENTIVE CHECKS AND SERVICE INTERVALS" (CONFIRMATION OF HOURS USED). Can check the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
ALL mode	VOL. DOWN (Minimum)	9	2 sec.	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. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button (6) on the remote control for more than 2 seconds.
4. After the confirmation of using hours, turn off the power.

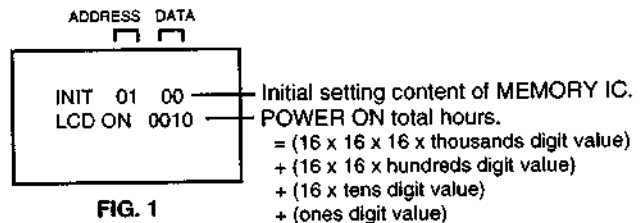


FIG. 1

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.

NOTE: No need to set data after position INI 2F due to the adjustment value.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	--	00	88	D0	B0	30	01	42	92	EE	F4	30	00	00	00	14
10	00	00	00	00	0A	00	FF	FF	FF	FF	00	00	00	00	00	00
20	00	00	38	29	24	70	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

Table 1

1. Turn on the POWER, and set to the TV mode.
2. Enter DATA SET mode by setting VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button (6) on the remote control for more than 2 seconds. ADDRESS and DATA should appear as FIG 1.

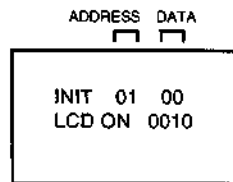


FIG. 1

4. ADDRESS is now selected and should "blink". Using the RIGHT/LEFT button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press ENTER to select DATA. When DATA is selected, it will "blink".
6. Again, step through the DATA using RIGHT/LEFT button until required DATA value has been selected.
7. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 7 until all data has been checked.
9. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input. **After the data input, set to the initializing of shipping.**
10. Turn on the POWER, and set to the TV mode.
11. Press both VOL. DOWN button on the set and Channel button (1) on the remote control for more than 2 seconds.
12. 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. ADJUSTMENT PROCEDURE

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.
- 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 with a heat sink, apply 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 damage to the IC and Transistor).

Prepare the following measurement tools for electrical adjustments.

1. Pattern Generator

2. BASIC ADJUSTMENTS

On-Screen Display Adjustment

1. Set the VOLUME to minimum.
2. Press the VOL. DOWN button on the set and the channel button (9) on the remote control for more than 2 seconds to display adjustment mode on the screen as shown in Fig. 2-1.

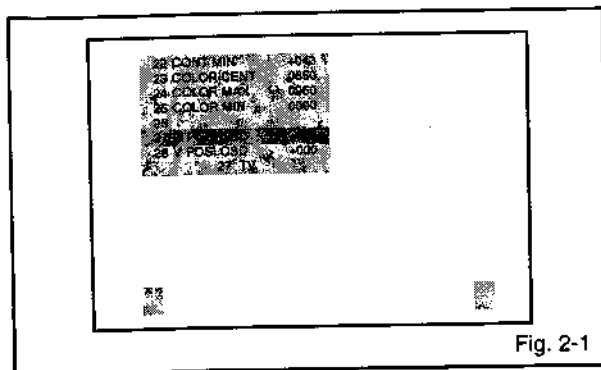


Fig. 2-1

3. Use the Channel UP/DOWN button or Channel button (0-9) on the remote control to select the options shown in Fig. 2-2.
4. Press the MENU button on the remote control to end the adjustments.
5. To display the adjustment screen for AV mode, press the AV button on the remote control to set to the AV mode. Press the VOL.DOWN button on the set and the channel (9) on the remote control for more than 2 seconds.

NO.	FUNCTION	NO.	FUNCTION
01	R DRIVE	22	CONT MIN
02	R CUT OFF	23	COLOR CENT
03	G DRIVE	24	COLOR MAX
04	G CUT OFF	25	COLOR MIN
05	B DRIVE	26	---
06	B CUT OFF	27	H POSI OSD
07	---	28	V POSI OSD
08	H POSI 50	29	H POSI TEXT
09	H POSI 60	30	V POSI TEXT
10	V POSI 50	31	NT COLOR CENT
11	V POSI 60	32	NT COLOR MAX
12	BAK LIGHT CENT	33	NT COLOR MIN
13	BAK LIGHT MAX	34	RGB BRI CENT
14	BAK LIGHT MIN	35	RGB BRI MAX
15	BRIGHT CENT	36	RGB BRI MIN
16	BRIGHT MAX	37	RGB CONT CENT
17	BRIGHT MIN	38	RGB CONT MAX
18	TINT	39	RGB CONT MIN
19	---	40	RGB V POSI
20	CONT CENT	41	RGB H POSI
21	CONT MAX	42	---

Fig. 2-2

2-1: CONTRAST CENT

1. Receive the PAL color bar pattern.(RF Input)
2. Activate the adjustment mode display of Fig. 1-1 and press the channel button (20) on the remote control to select "CONT CENT".
3. Check if the step No. CONT CENT is "94".
4. Receive a broadcast and check if the picture is normal.
5. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 1-3.

2-2: WHITE BALANCE

1. Place the set in Aging Test for more than 5 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Press the AV button on the remote control to set to the PC mode.
4. Using the remote control, set the brightness and contrast to normal position.
5. Activate the adjustment mode display of Fig. 1-1 and press the channel button (02) on the remote control to select "R CUT OFF".
6. Press the CH. UP/DOWN button on the remote control to select the "R CUT OFF" or "B CUT OFF".
7. Adjust the VOL. UP/DOWN button on the remote control to whiten the R CUT OFF and B CUT OFF at each step tone sections equally.
Perform the above adjustments 5 and 6 until the white color is looked like a white.

ELECTRICAL ADJUSTMENTS

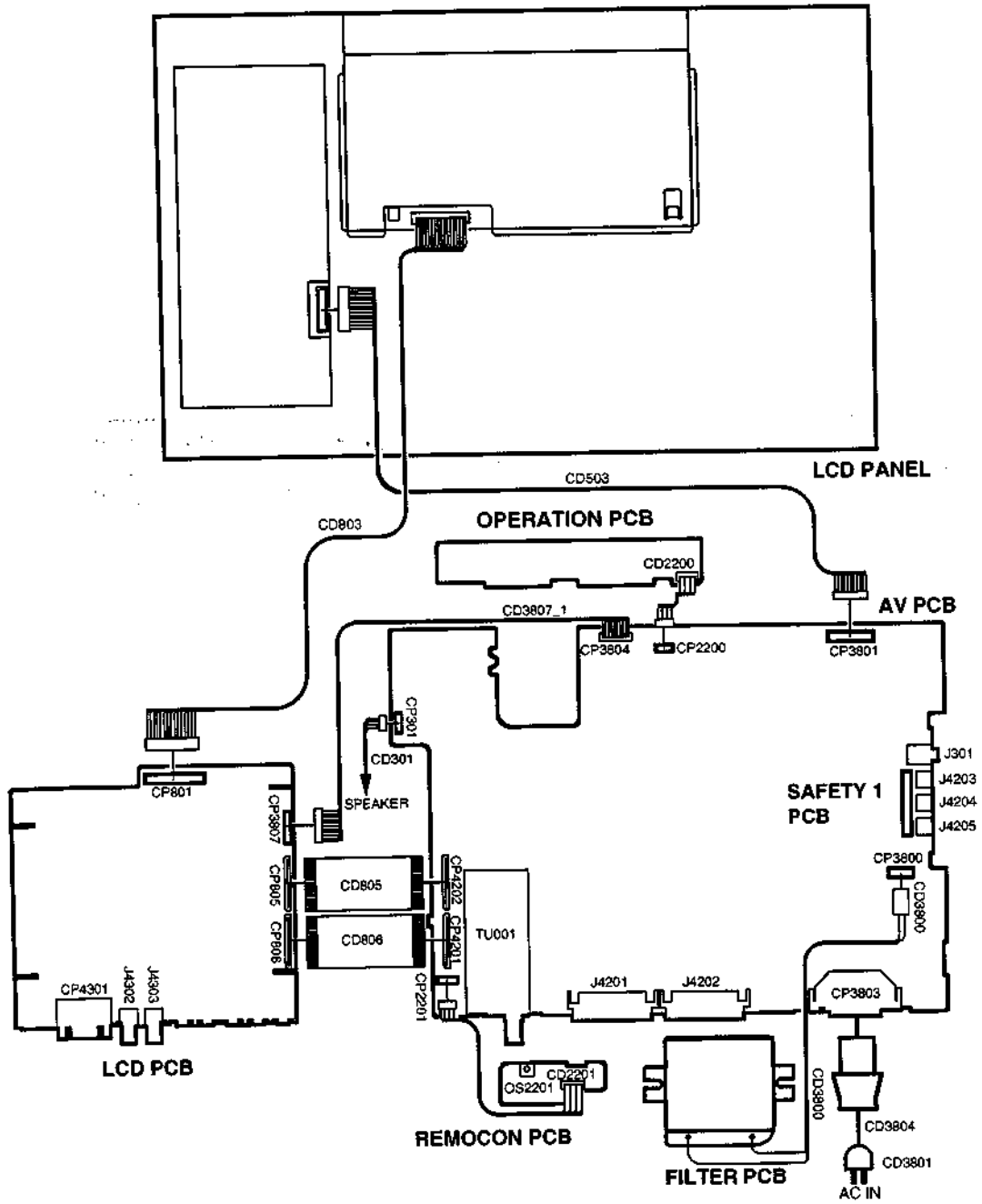
2-3: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of each the adjustment items are set correctly referring below.(RF/AV/PC)

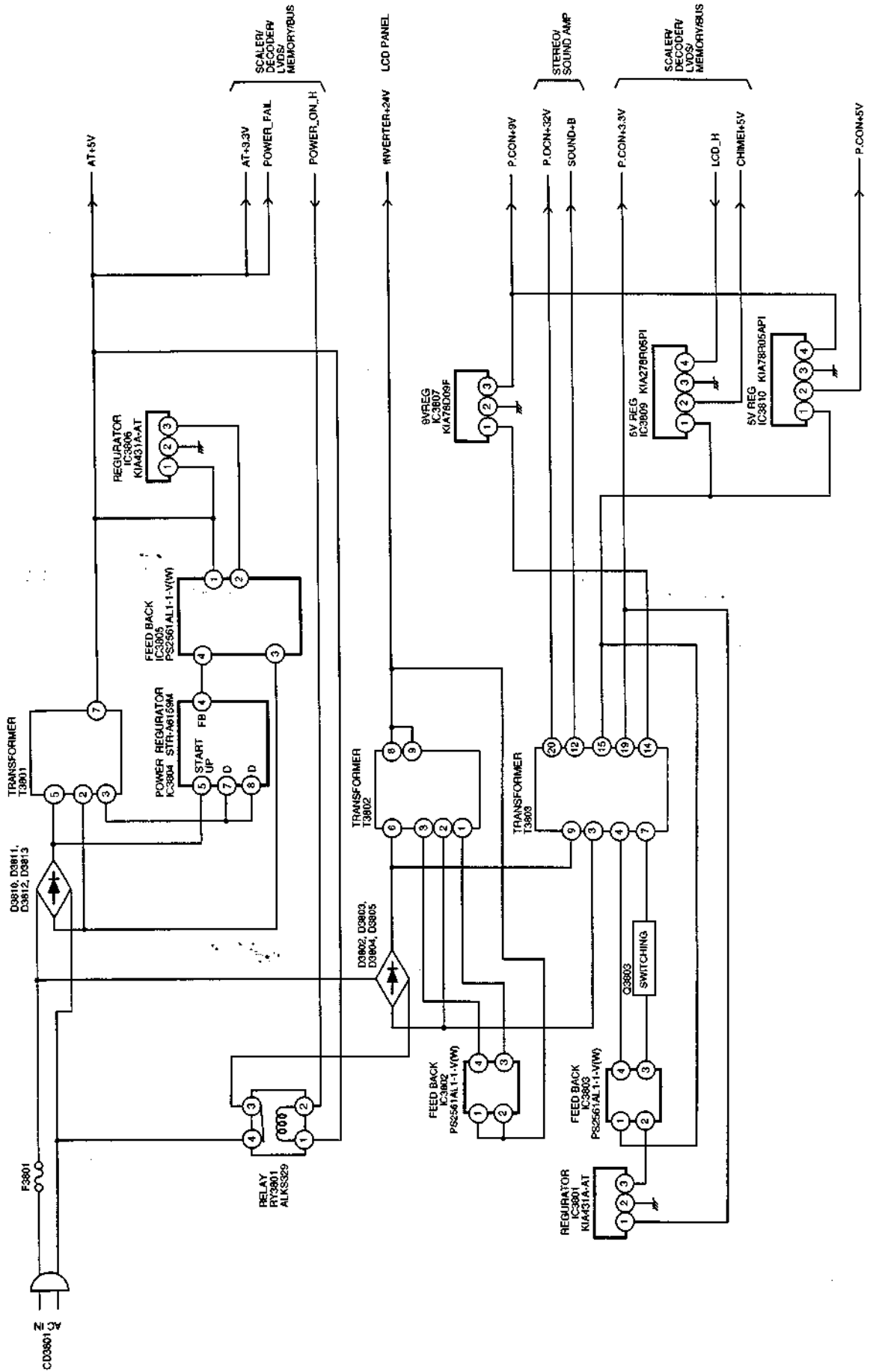
NO.	FUNCTION	RF	AV	PC
01	R DRIVE	564	564	604
02	R CUT OFF	36	36	0
03	G DRIVE	564	564	576
04	G CUT OFF	36	36	0
05	B DRIVE	500	500	508
06	B CUT OFF	0	0	0
08	H POSI 50Hz	4	4	4
09	H POSI 60Hz	2	2	2
10	V POSI 50Hz	2	2	2
11	V POSI 60Hz	3	3	3
12	BAK LIGHT CENT	105	105	105
13	BAK LIGHT MAX	215	215	215
14	BAK LIGHT MIN	1	1	1
15	BRIGHT CENT	9	9	145
16	BRIGHT MAX	35	35	215
17	BRIGHT MIN	-41	-41	20
18	TINT	0	0	0
19	---			
20	CONT CENT	94	94	40
21	CONT MAX	118	118	80
22	CONT MIN	43	43	0
23	COLOR CENT	650	650	0
24	COLOR MAX	950	950	0
25	COLOR MIN	0	0	0
26	---			
27	H POSI OSD	0	0	0
28	V POSI OSD	0	0	0
29	H POSI TEXT	80	80	80
30	V POSI TEXT	5	5	5
31	NT COLOR CENT	700	700	0
32	NT COLOR MAX	950	950	0
33	NT COLOR MIN	0	0	0
34	RGB BRI CENT	145	145	145
35	RGB BRI MAX	180	180	180
36	RGB BRI MIN	50	50	50
37	RGB CONT CENT	35	35	35
38	RGB CONT MAX	70	70	70
39	RGB CONT MIN	0	0	0
40	RGB V POSI	0	0	0
41	RGB H POSI	-3	-3	-3

ELECTRICAL ADJUSTMENTS

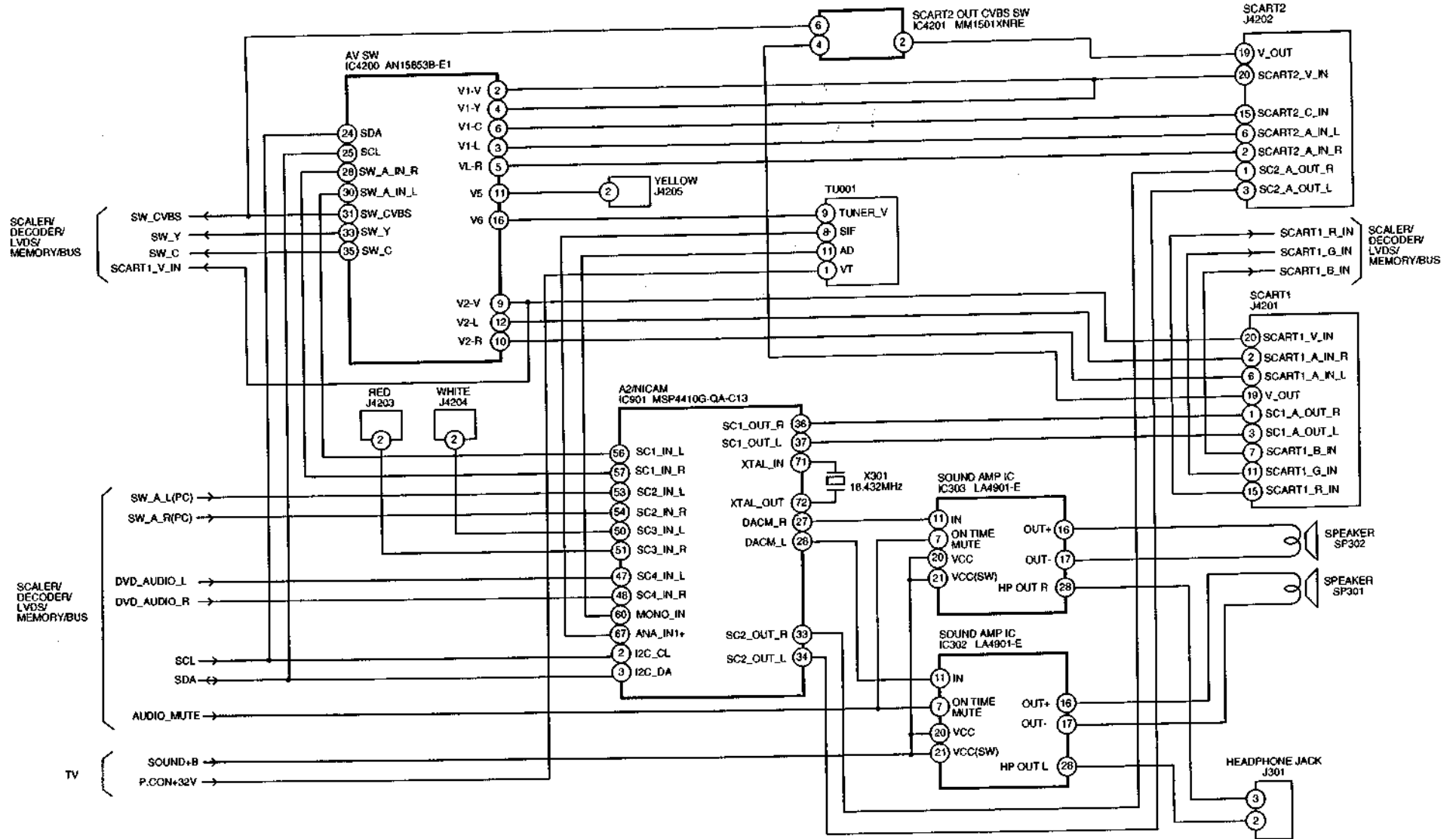
3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



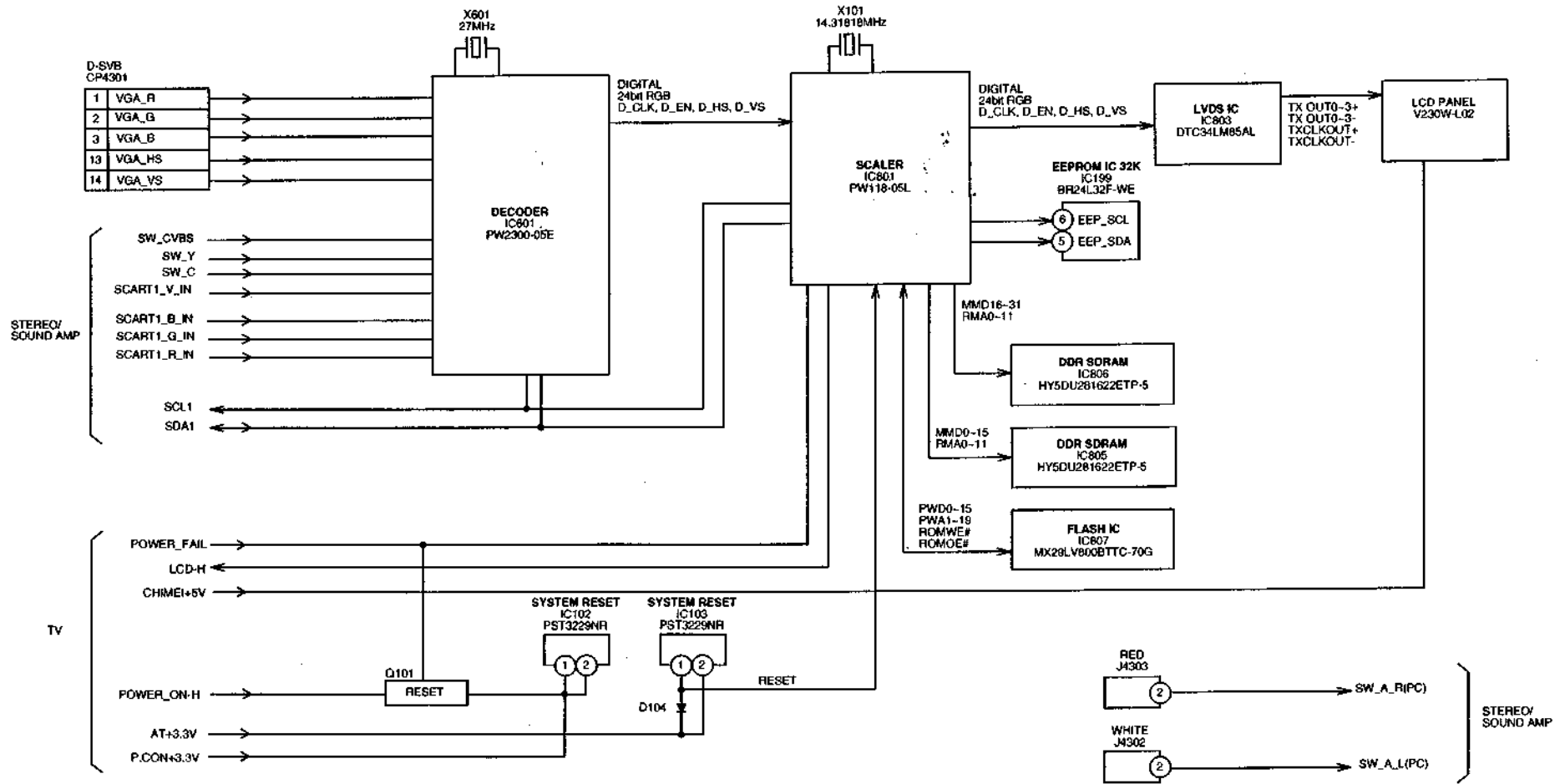
TV BLOCK DIAGRAM



STEREO/SOUND AMP BLOCK DIAG

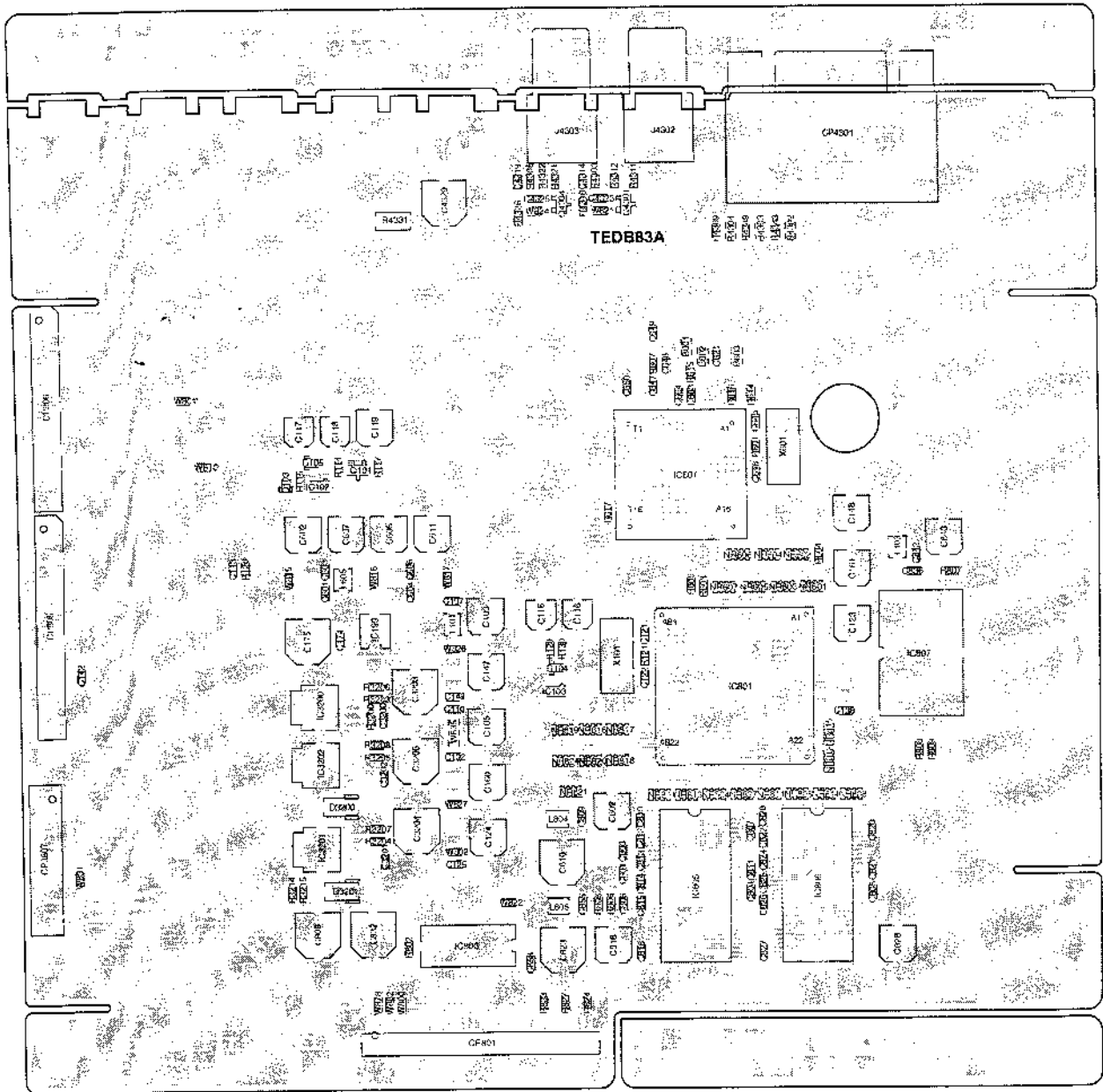


SCALER/DECODER/LVDS/MEMORY/BUS BLOCK DIAGRAM



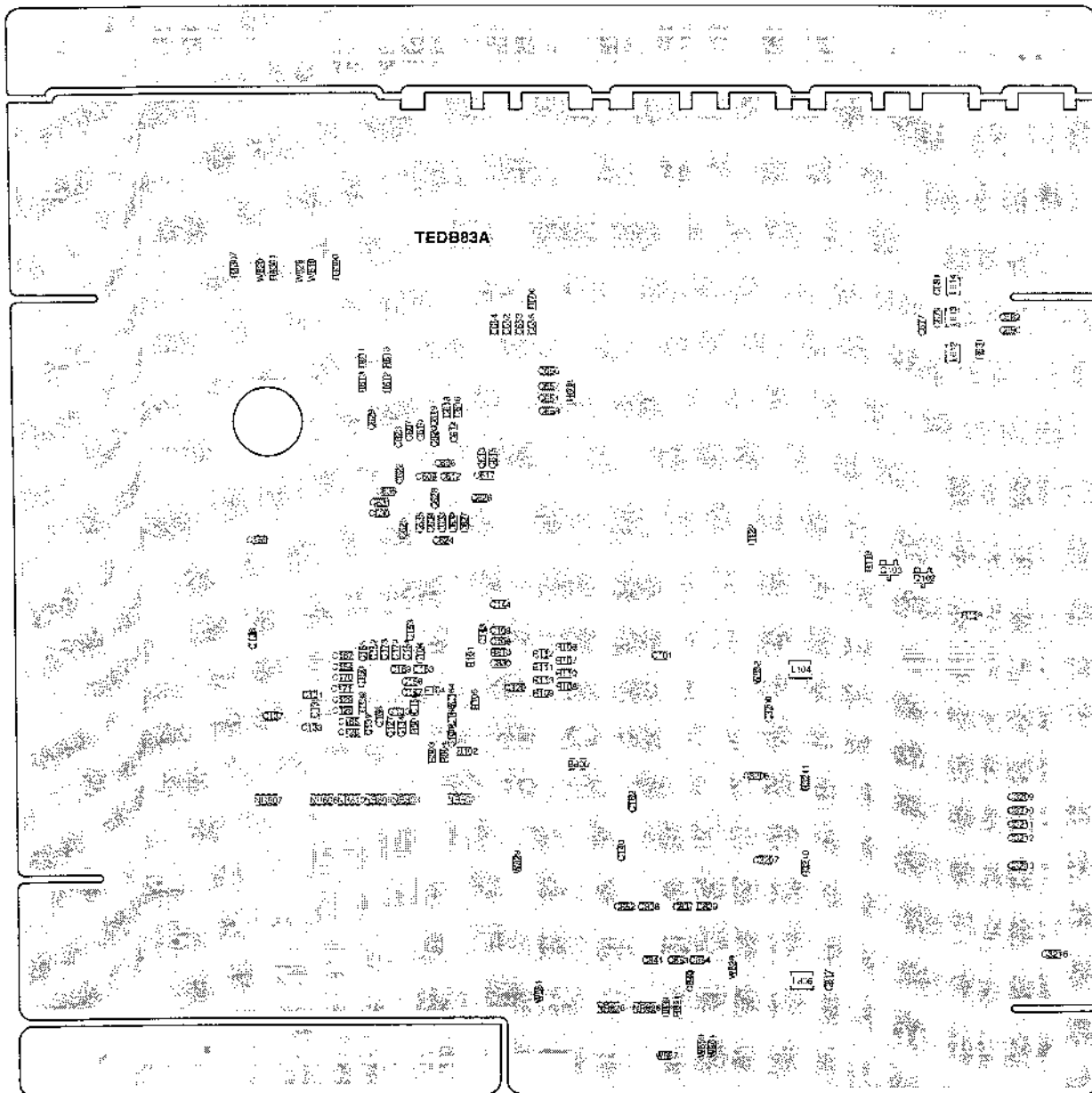
PRINTED CIRCUIT BOARDS

LCD (TOP SIDE)

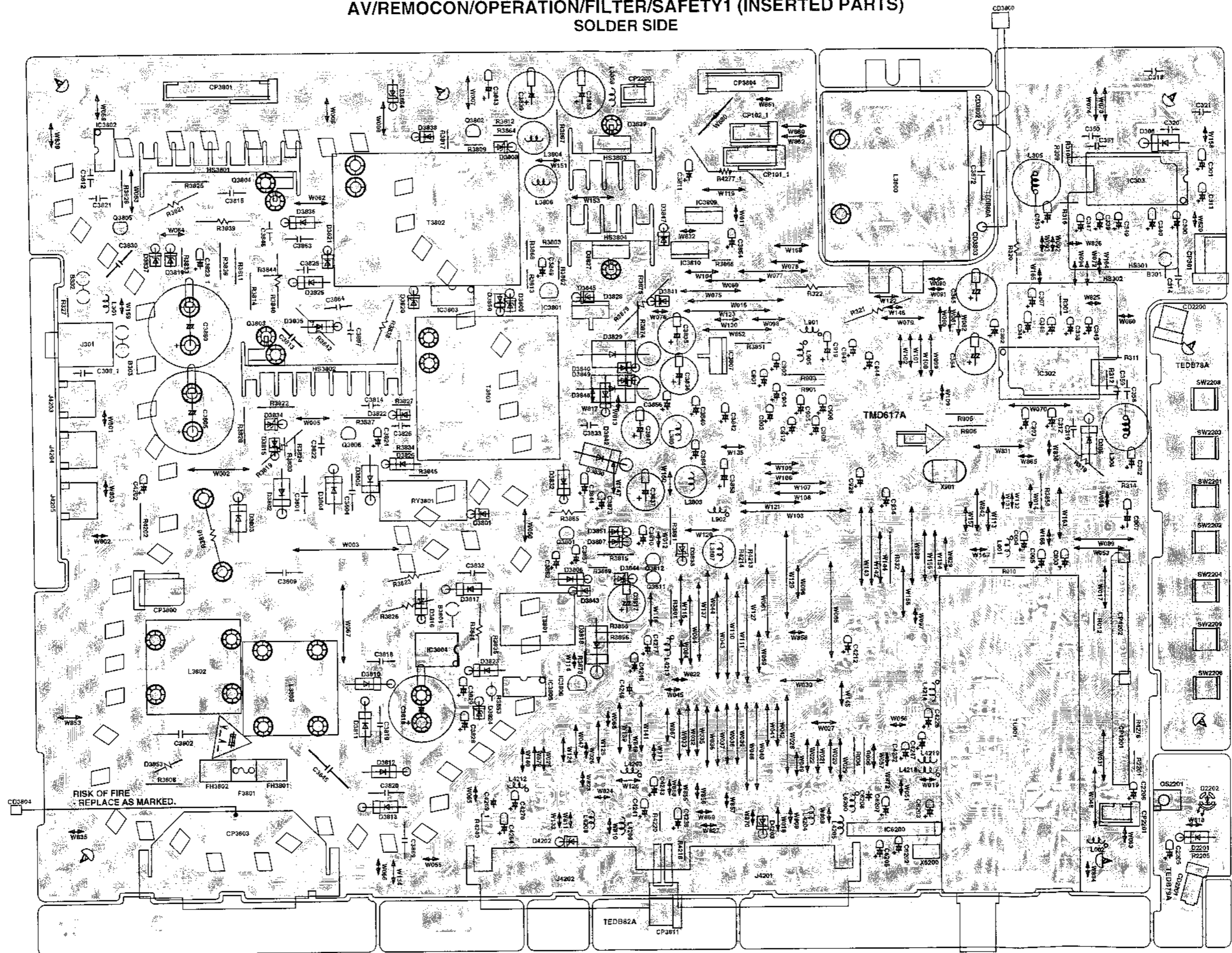


PRINTED CIRCUIT BOARDS

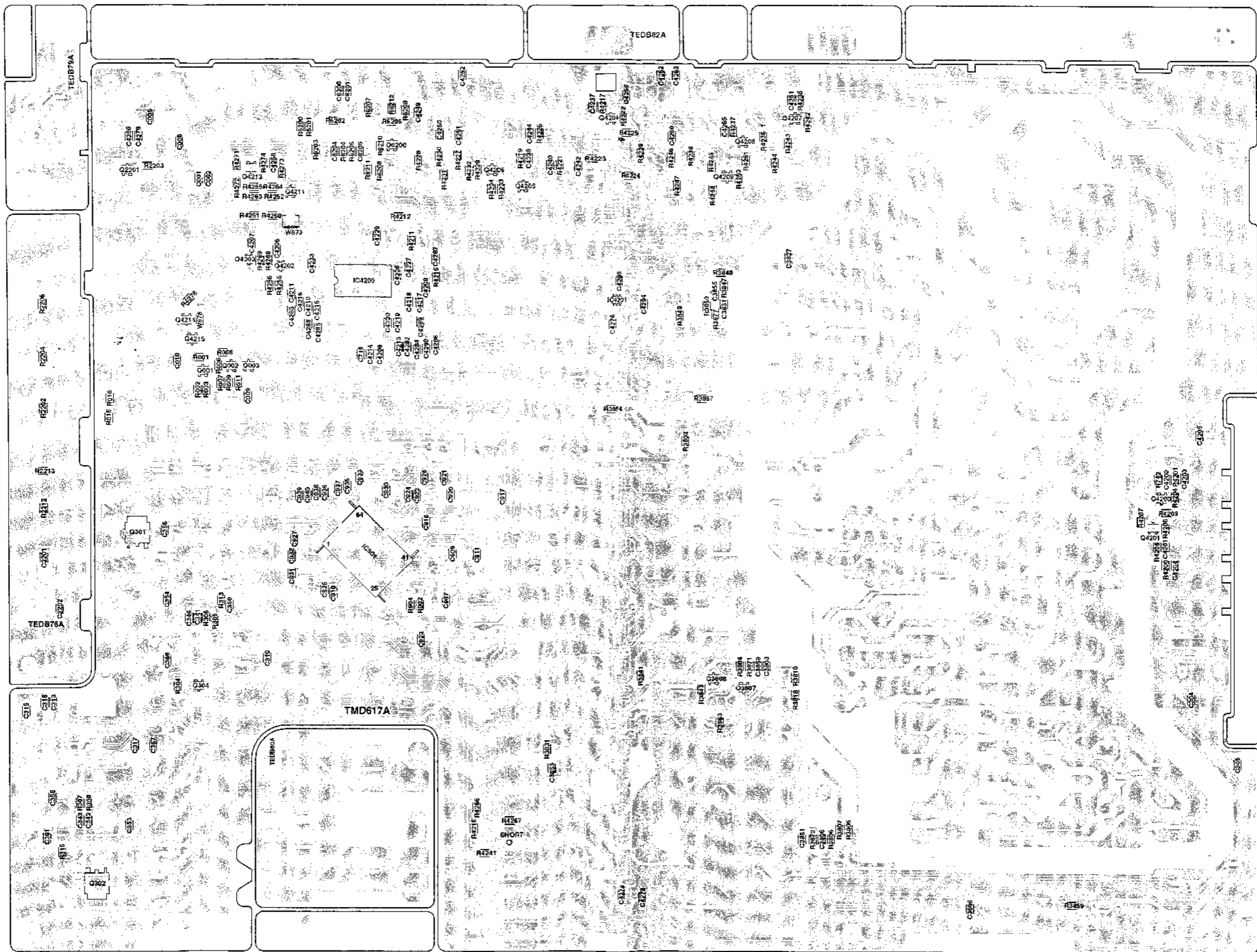
LCD (BOTTOM SIDE)



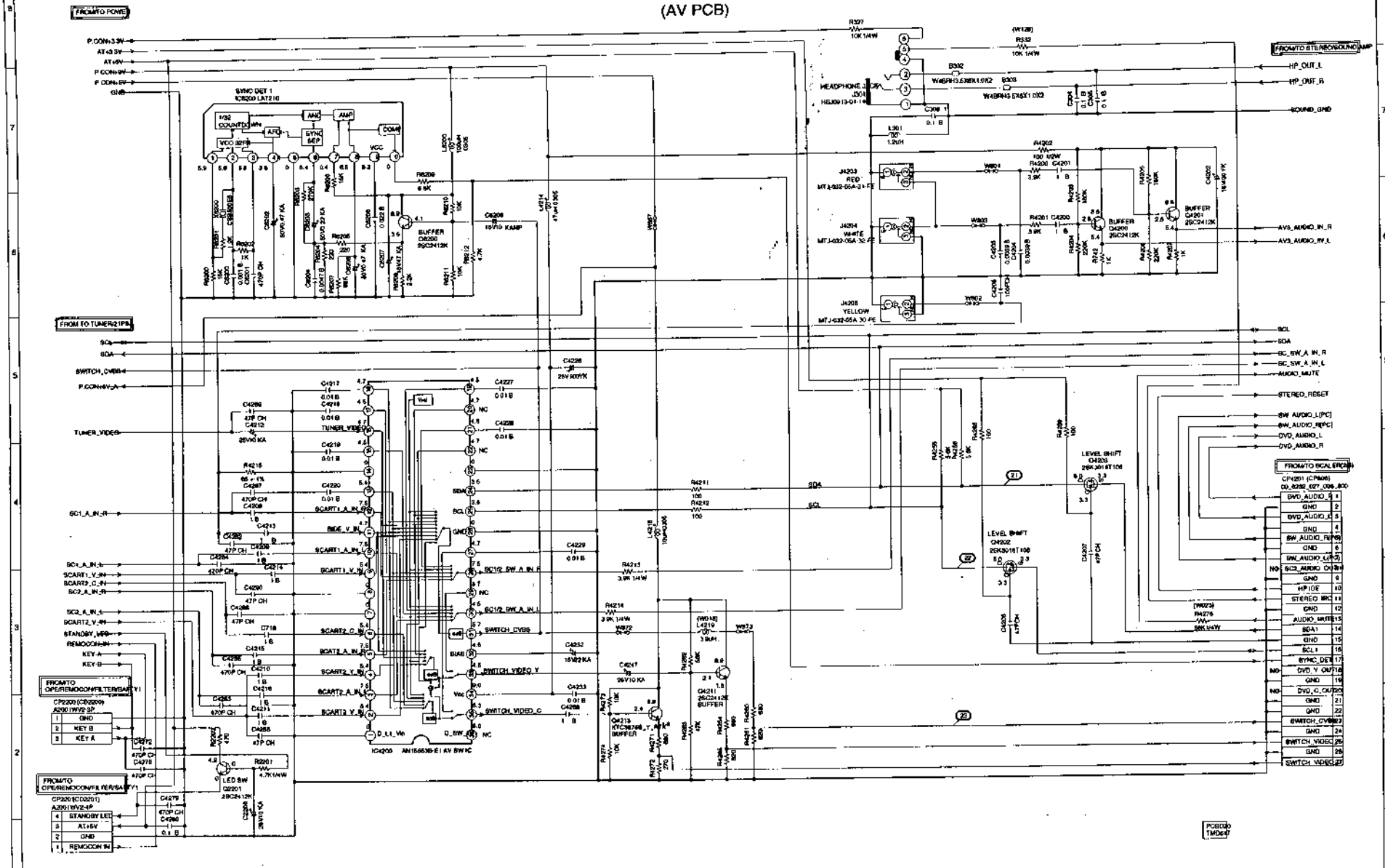
**PRINTED CIRCUIT BOARDS
AV/REMOCON/OPERATION/FILTER/SAFETY1 (INSERTED PARTS)
SOLDER SIDE**



PRINTED CIRCUIT BOARDS
 AV/REMOCON/OPERATION (CHIP MOUNTED PARTS)
 SOLDER SIDE

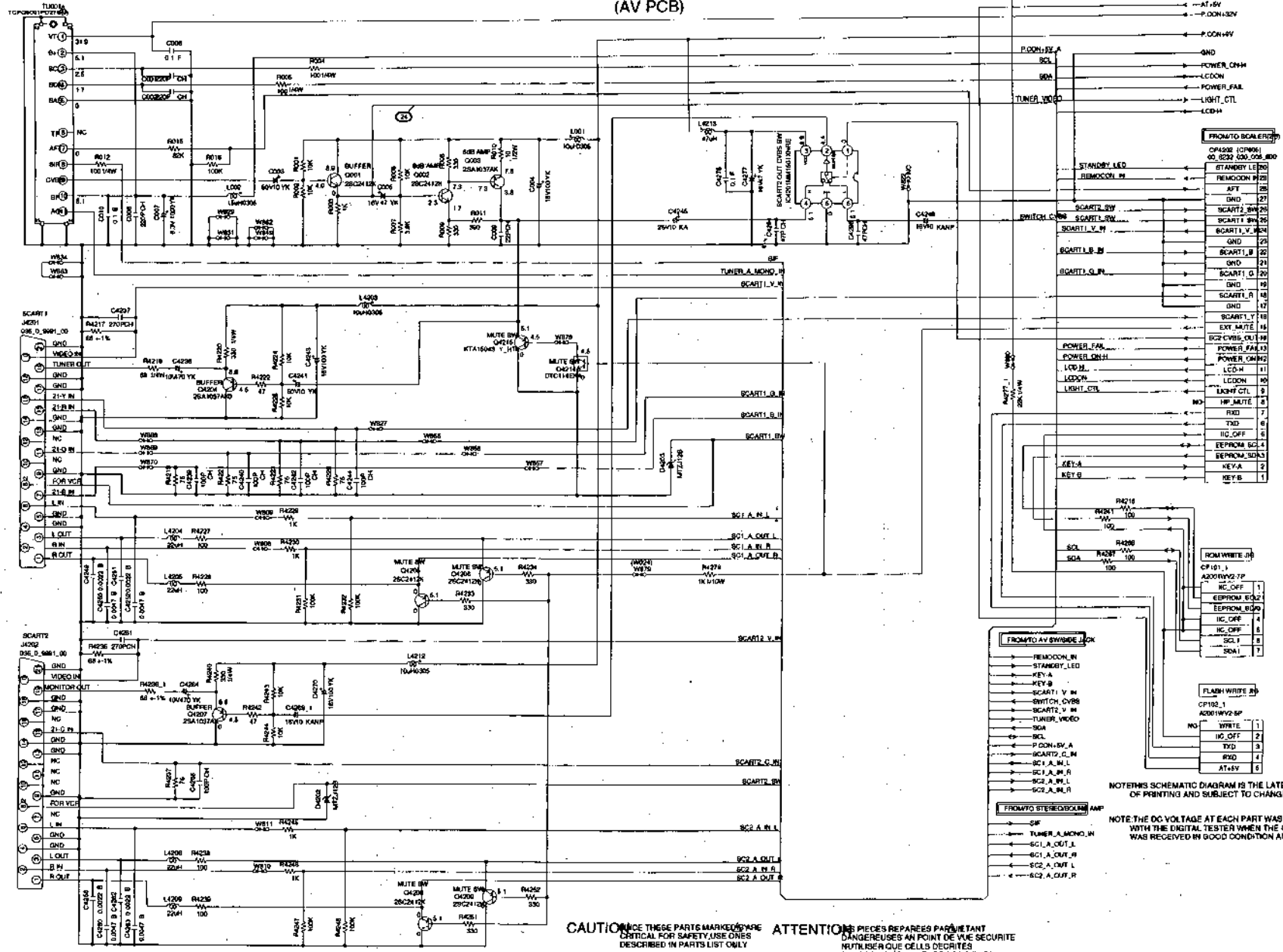


AV SWITCH/SIDE JACK SCHEMATIC DIAGRAM (AV PCB)



TUNER/21PIN SCHEMATIC DIAGRAM

(AV PCB)



- FROM TV POWER**
- AT+3.3V
 - AT+5V
 - P-DON+3.2V
 - P-DON+5V
 - GND
 - POWER_ON#
 - LCDON
 - POWER_FAIL
 - LIGHT_CTL
 - LCDH#

- FROM TV BGA**
- STANDBY_LED
 - REMCON_IN
 - REMCON_P120
 - REMCON_P20
 - REMCON_P21
 - REMCON_P22
 - REMCON_P23
 - REMCON_P24
 - REMCON_P25
 - REMCON_P26
 - REMCON_P27
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 - REMCON_P29
 - REMCON_P30
 - REMCON_P31
 - REMCON_P32
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 - REMCON_P96
 - REMCON_P97
 - REMCON_P98
 - REMCON_P99
 - REMCON_P100

- FROM TV WRITE IN**
- IC_OFF 1
 - IC_OFF 2
 - IC_OFF 3
 - IC_OFF 4
 - IC_OFF 5
 - IC_OFF 6
 - IC_OFF 7
 - IC_OFF 8
 - IC_OFF 9
 - IC_OFF 10
 - IC_OFF 11
 - IC_OFF 12
 - IC_OFF 13
 - IC_OFF 14
 - IC_OFF 15
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 - IC_OFF 96
 - IC_OFF 97
 - IC_OFF 98
 - IC_OFF 99
 - IC_OFF 100

- FROM TV STEREO/VIDEO AMP**
- SP
 - TUNER_A_MONO_IN
 - SC1_A_OUT_L
 - SC1_A_OUT_R
 - SC2_A_OUT_L
 - SC2_A_OUT_R

- FROM TV WRITE IN**
- IC_OFF 1
 - IC_OFF 2
 - IC_OFF 3
 - IC_OFF 4
 - IC_OFF 5
 - IC_OFF 6
 - IC_OFF 7
 - IC_OFF 8
 - IC_OFF 9
 - IC_OFF 10
 - IC_OFF 11
 - IC_OFF 12
 - IC_OFF 13
 - IC_OFF 14
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 - IC_OFF 99
 - IC_OFF 100

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

ATTENTION PIÈCES REPARÉES PAR LE MONTANT DANGEREUSES AN POINT DE VUE SECURITE NUTILISER QUE CELLES DECRIRES DANS LA NOMENCLATURE DES PIÈCES

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

PCB004 (THIS)

POWER SCHEMATIC DIAGRAM

(AV PCB)

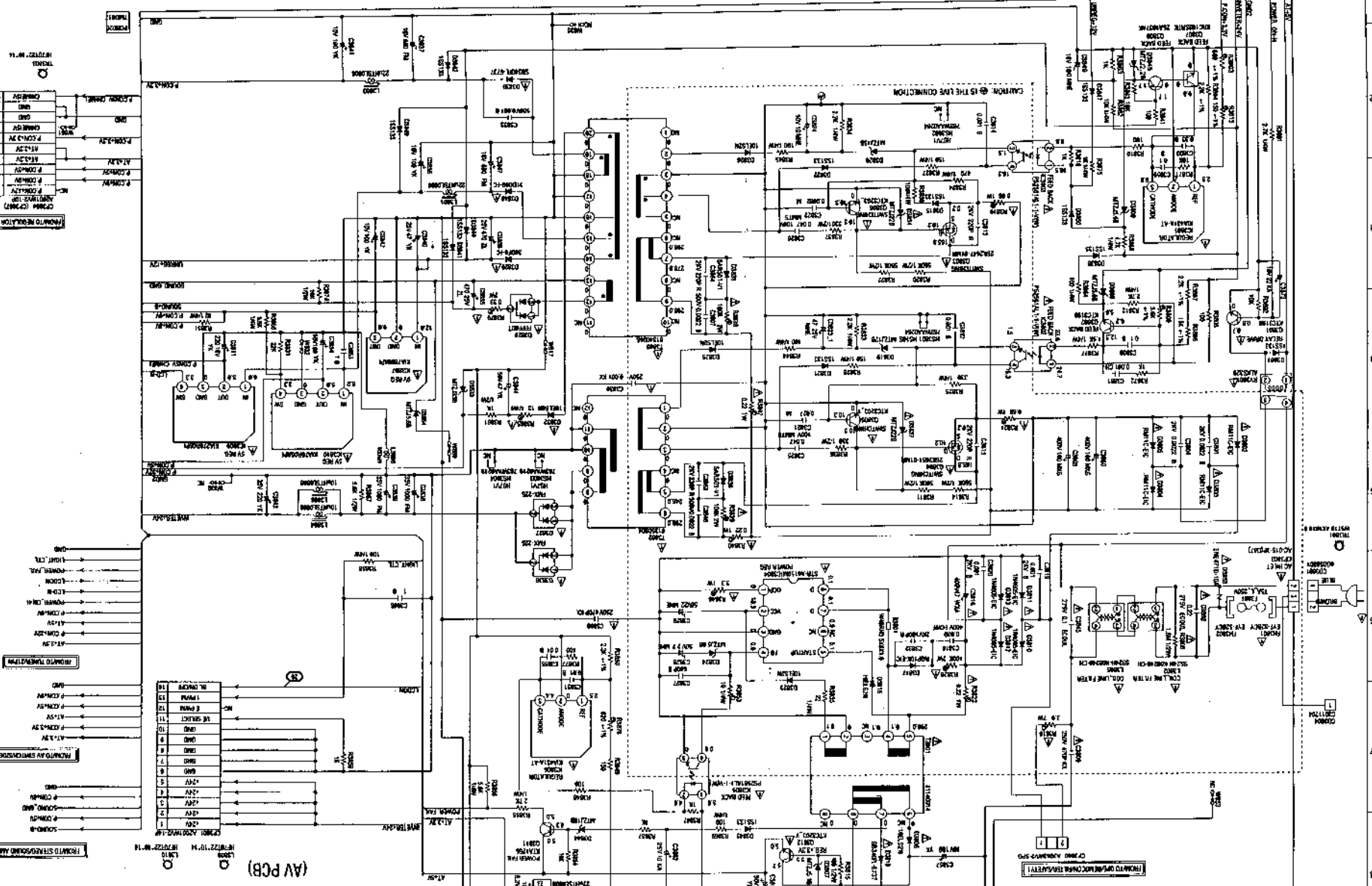


TABLE 1
REGULATED VOLTAGE

REGULATED VOLTAGE	REGULATOR
5V	REG-5V
12V	REG-12V
5V	REG-5V

TABLE 2
REGULATED VOLTAGE

REGULATED VOLTAGE	REGULATOR
5V	REG-5V
12V	REG-12V
5V	REG-5V

TABLE 3
REGULATED VOLTAGE

REGULATED VOLTAGE	REGULATOR
5V	REG-5V
12V	REG-12V
5V	REG-5V

CAUTION THESE PARTS MARKED BY Δ ARE CRITICAL FOR SAFETY. USE THE PARTS LIST ONLY.
REPAIRS SHOULD BE MADE ONLY BY QUALIFIED PERSONNEL.
CHECK THE PARTS LIST FOR THE LATEST REVISIONS.
REPAIRS SHOULD BE MADE ONLY BY QUALIFIED PERSONNEL.
CHECK THE PARTS LIST FOR THE LATEST REVISIONS.

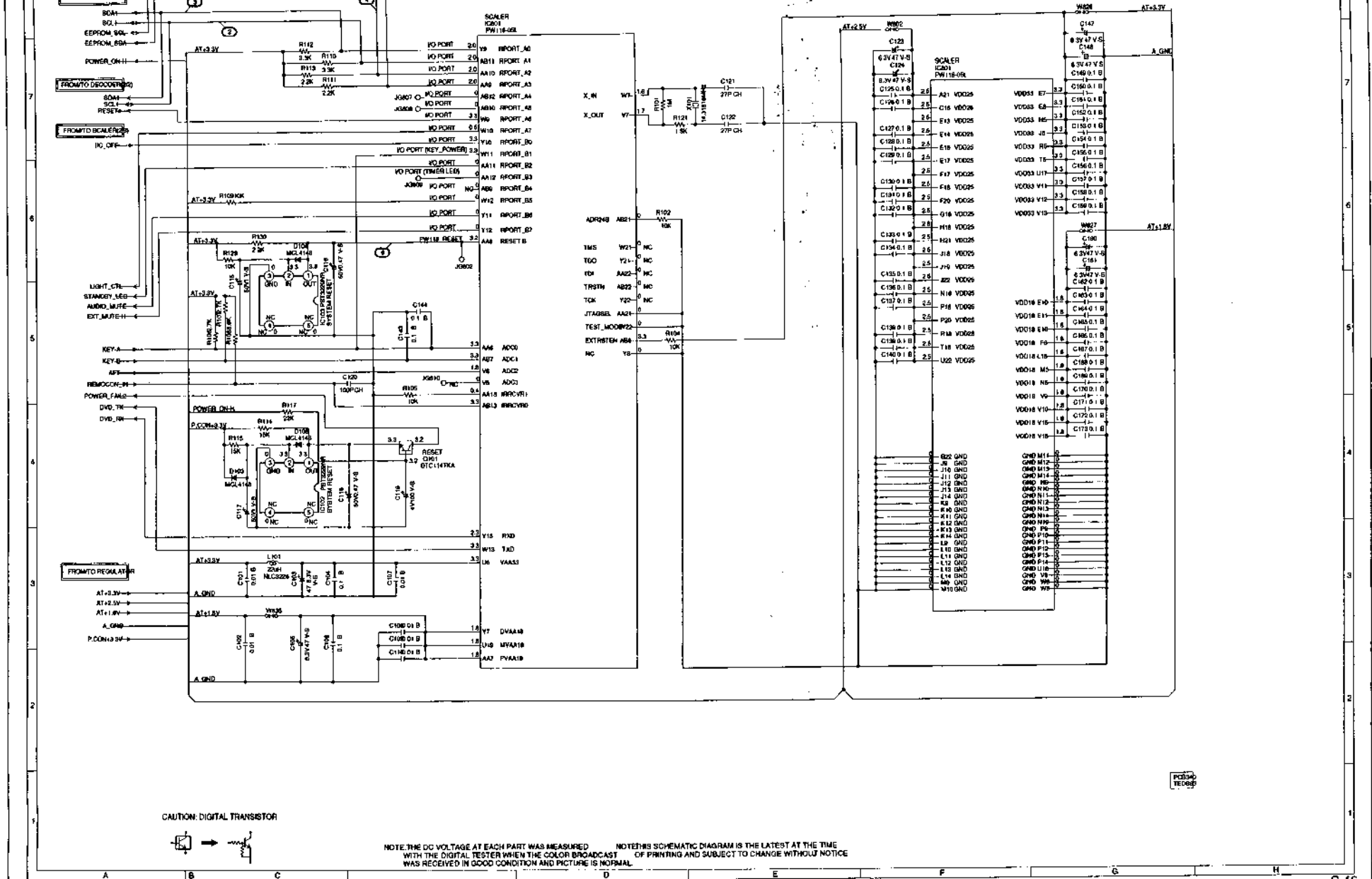
CAUTION: DIGITAL TRANSMISSION

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

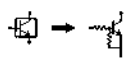
NOTE: DC VOLTAGE AT EACH POINT WAS MEASURED WITH THE DIGITAL TESTER WHEN THE DISPLAY SHOWS 0.00V. REPEATED TESTS IN GOOD CONNECTION AND PICTURE IS NORMAL.

ATTENTION LES PIÈCES MARQUÉES PAR UN Δ SONT CRITIQUES POUR LA SÉCURITÉ. UTILISER SEULEMENT LES PIÈCES DÉCRITES DANS LA NOMÉCLATURE DES PIÈCES.

SCALER3 SCHEMATIC DIAGRAM (LCD PCB)



CAUTION: DIGITAL TRANSISTOR



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL. THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

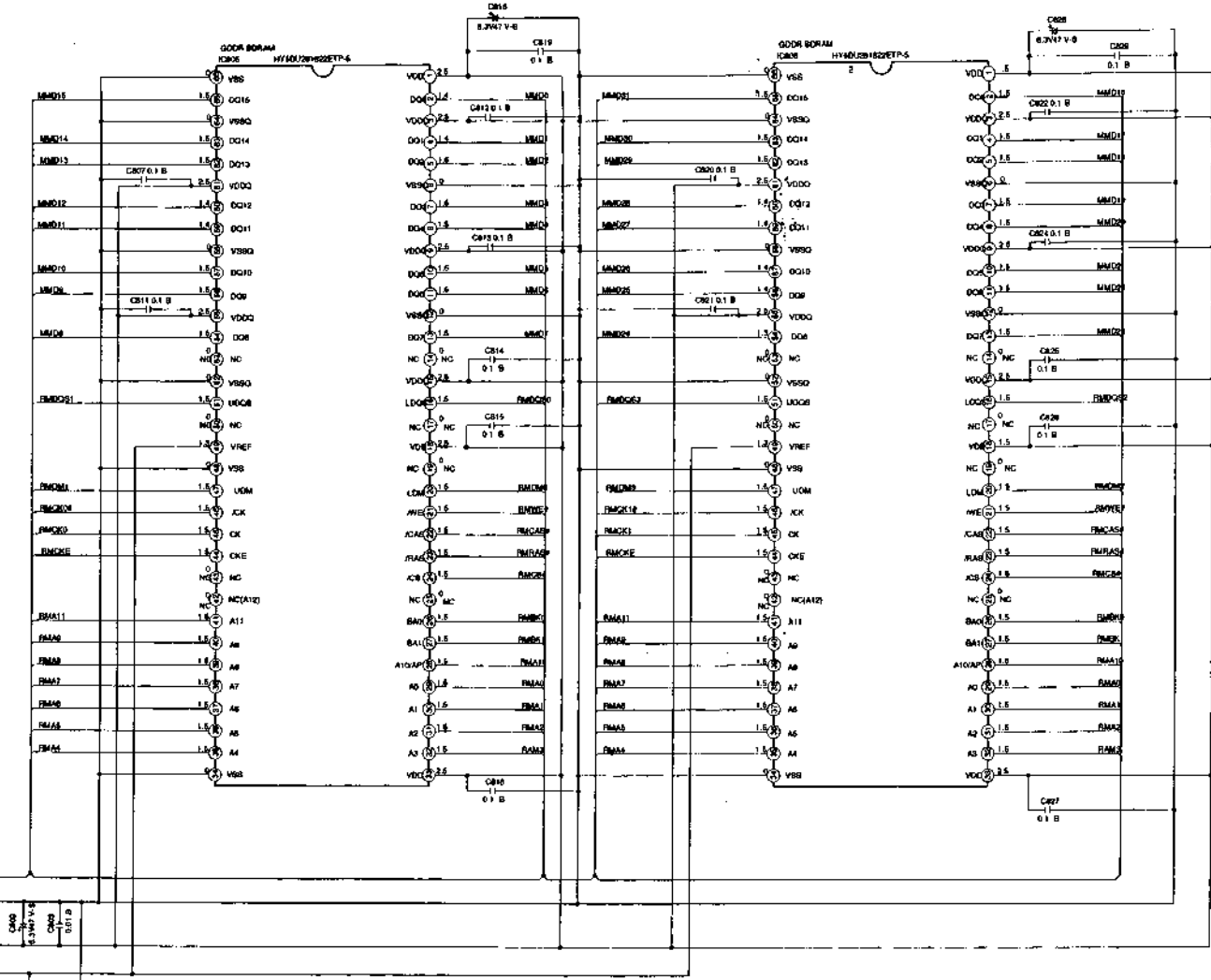
PC334
TEC8P

DDR SDRAM SCHEMATIC DIAGRAM (LCD PCB)

FROM I/O SCALER [3]

- MMIO0 →
- MMIO1 →
- MMIO2 →
- MMIO3 →
- MMIO4 →
- MMIO5 →
- MMIO6 →
- MMIO7 →
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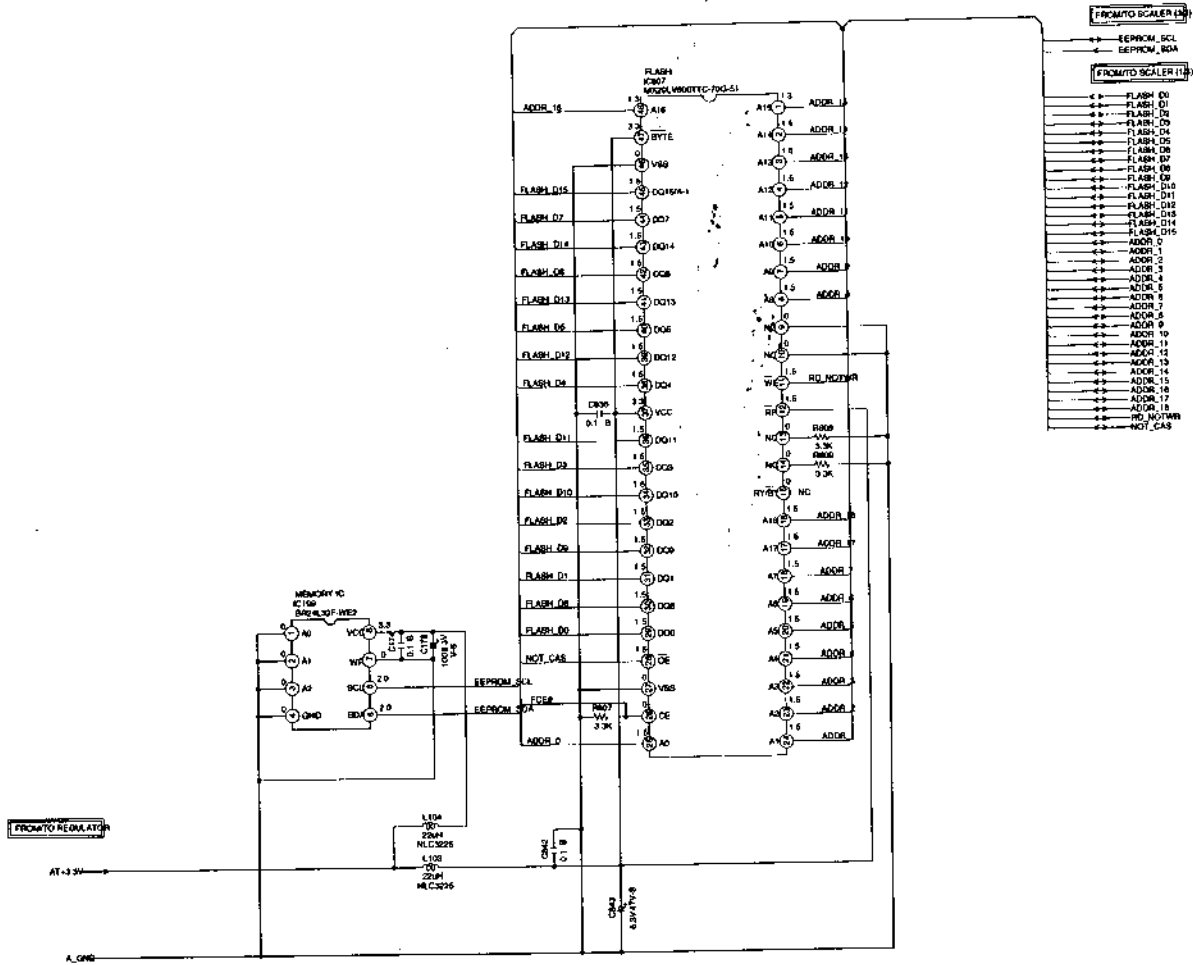
- MMIO101 →
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- MMIO198 →
- MMIO199 →
- MMIO200 →



PCB/F
TECOS

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.

MEMORY SCHEMATIC DIAGRAM (LCD PCB)



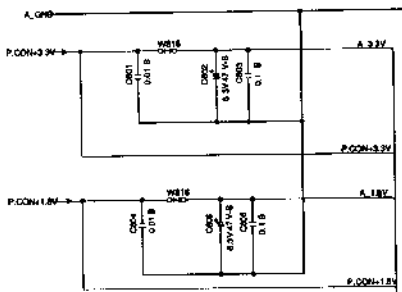
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

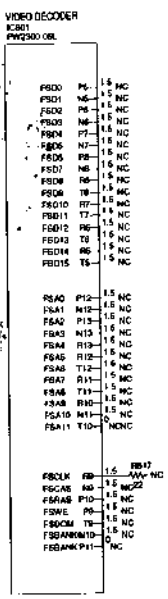
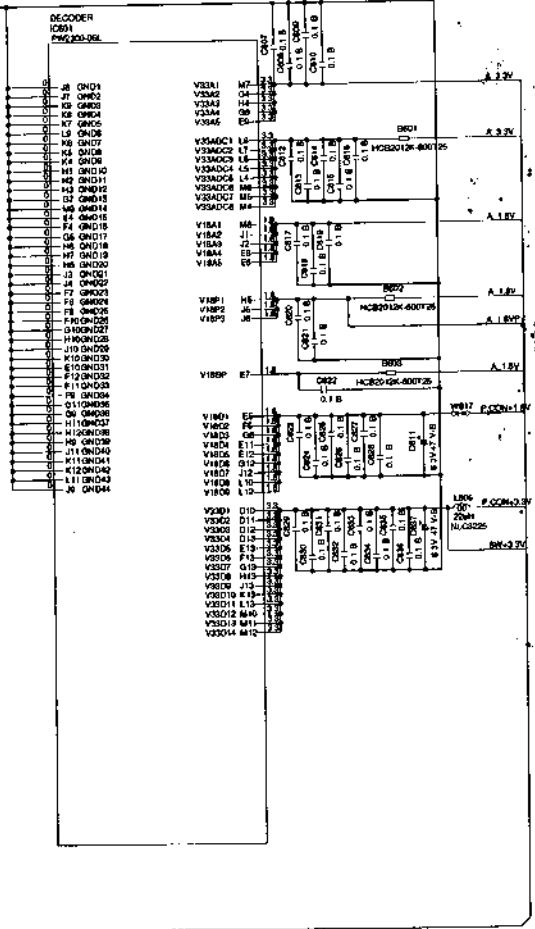
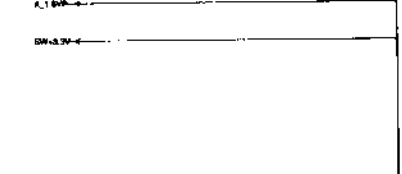
DECODER1 SCHEMATIC DIAGRAM

(LCD PCB)

FROM TO RES/LA



FROM TO DECODER

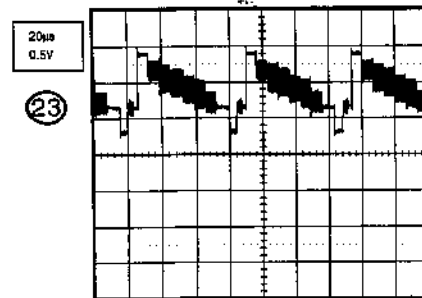
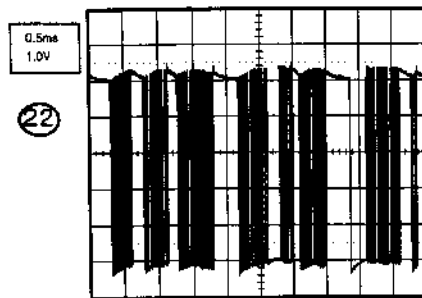
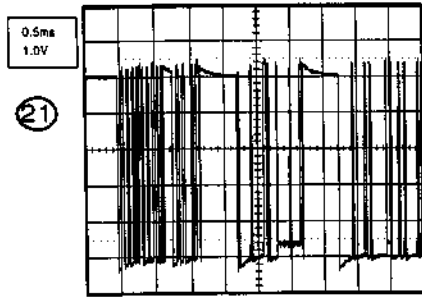


PCB/TEDS

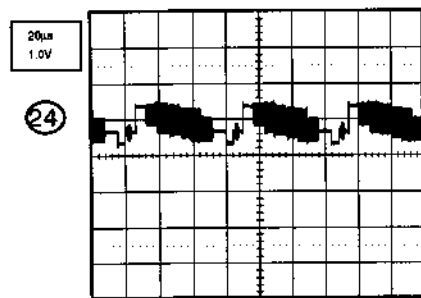
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL. NOT THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

WAVEFORMS

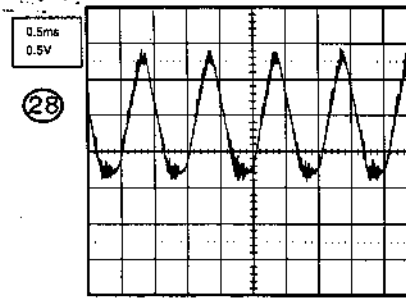
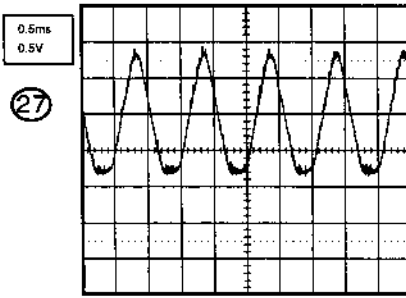
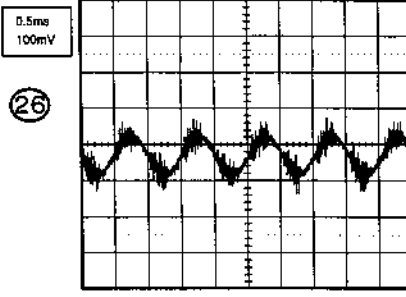
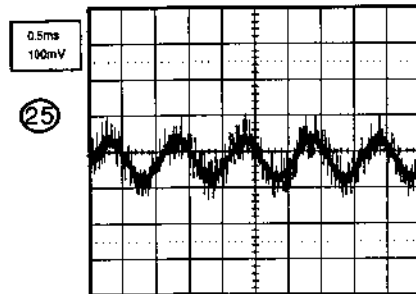
AV SWITCH/SIDE JACK



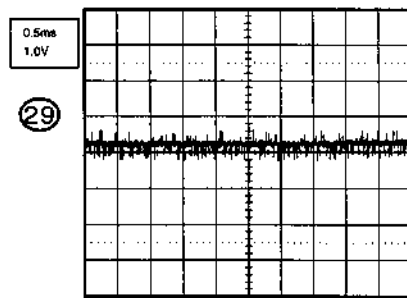
TUNER/21PIN



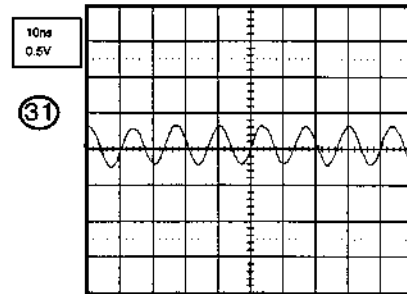
STEREO/SOUND AMP



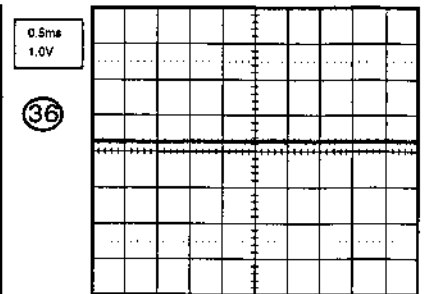
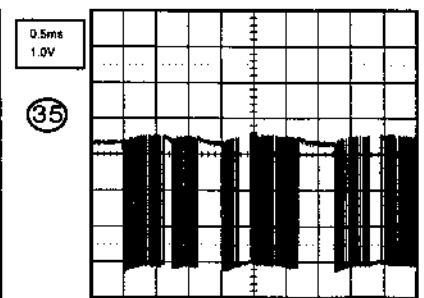
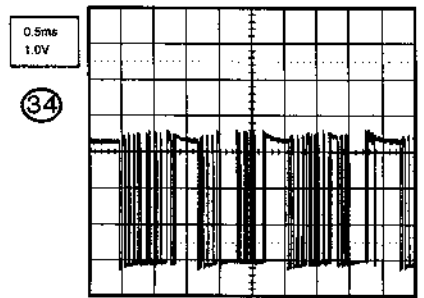
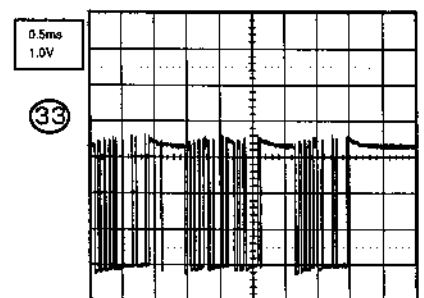
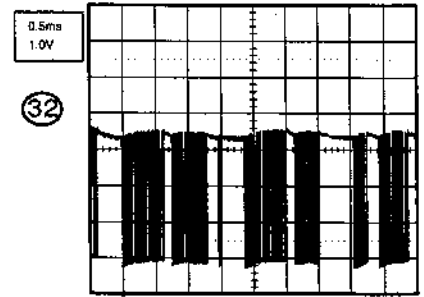
POWER



SCALER1



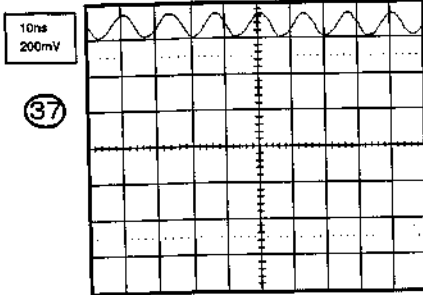
SCALER3



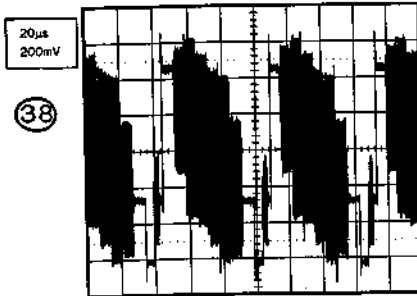
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

LVDS

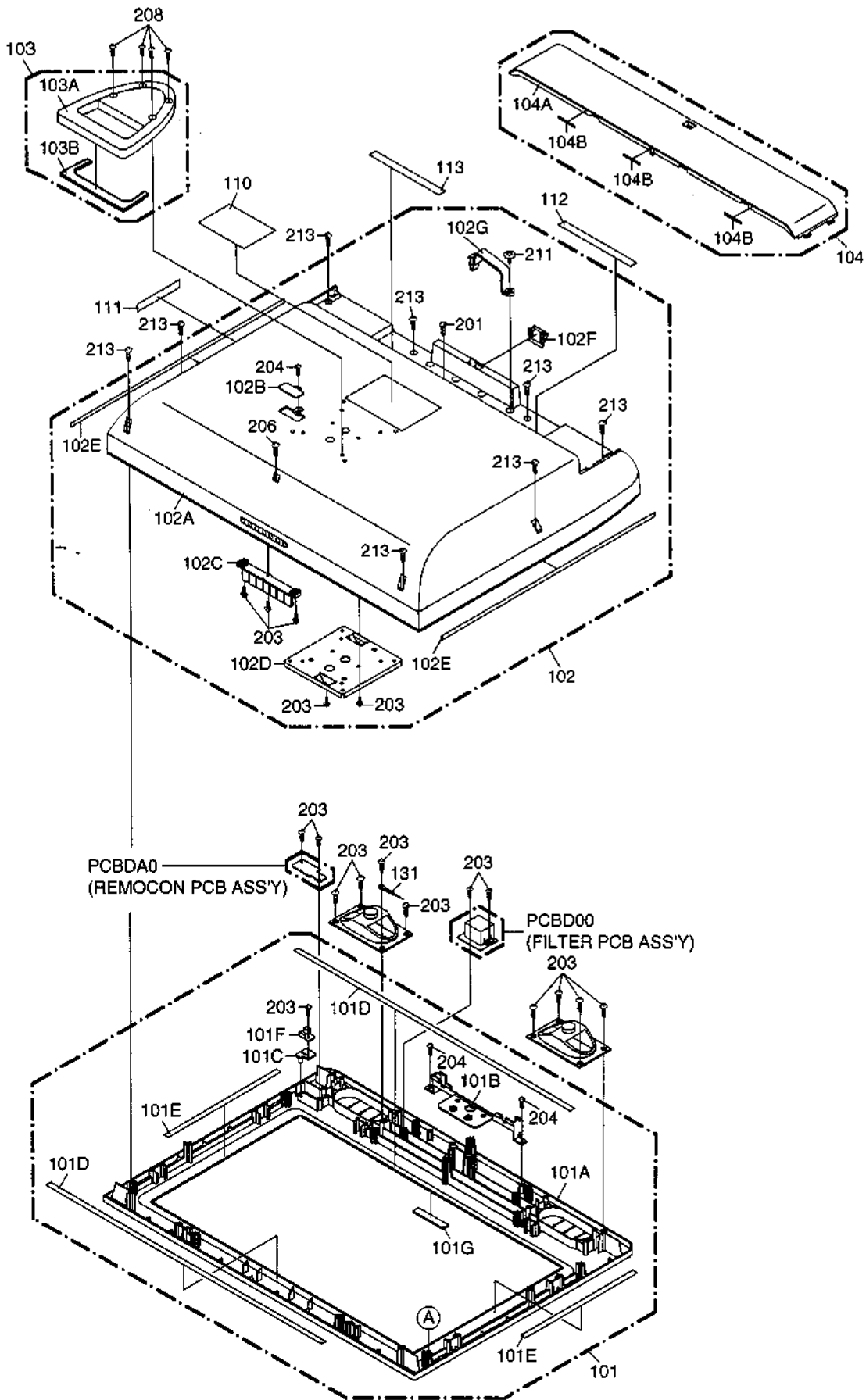


DECODER2

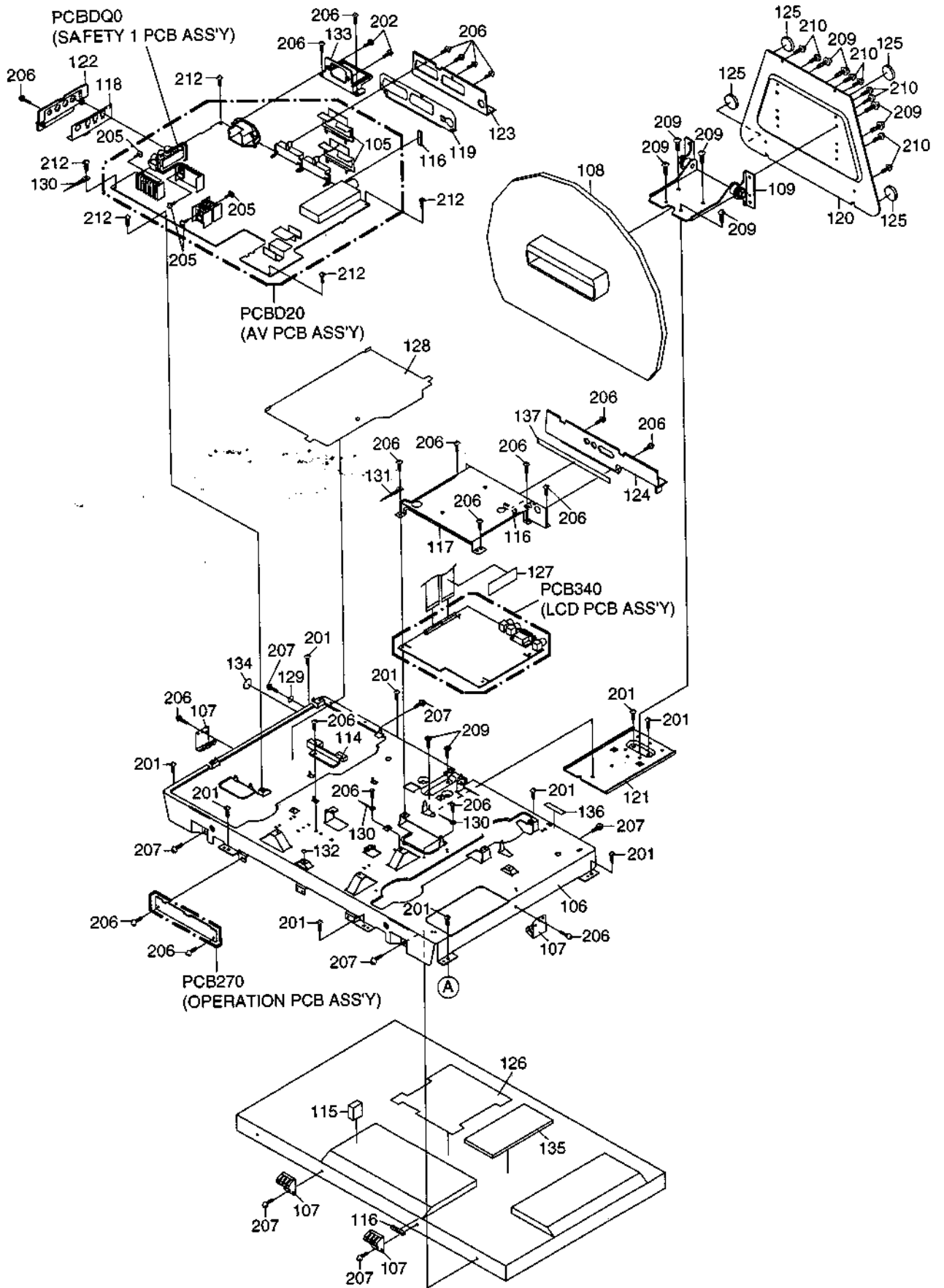


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW



MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
101	7A7010063A	FRONT CABI ASS'Y	201	8117540A6U	SCREW,TAP TITE(B0) TRUSS 4x16
101A	701WPI1306	CABINET,FRONT	202	8117140A2U	SCREW,TAPPING(B0) PAN 4x12
101B	702WPB0067	COVER,HINGE	203	8110630A0U	SCREW,TAP TITE(P) BRAZIER 3x10
101C	713WPA00347	GLASS,LED	204	811063080U	SCREW,TAP TITE(P) BRAZIER 3x8
101D	800WQ00086	FELT SHEET 9x540xT=0.3	205	8109130A0U	SCREW,TAP TITE(B) WH7 3x10
101E	800WQ0A049	FELT SHEET	206	8109230A0U	SCREW,TAP TITE(B) BIND 3x10
101F	761WPA00360	HOLDER,LED	207	810A13080U	SCREW,WASHER(A) M3x8
101G	7232020761	BADGE,BRAND	208	8102240A2U	SCREW,BIND M4x12
			209	810A140A0U	SCREW,WASHER(A) M4x10
102	7A7020027A	BACK CABI ASS'Y	210	8110K30A0U	SCREW,TAP TITE(P) LAMIHEAD 3x10
102A	702WPIJ0038	CABINET,BACK	211	8159130A0S	SCREW,TAPPING(B) WASHER12 PAN 3x10
102B	706WPB0001	COVER,CONNECTOR	212	8109D30A0U	SCREW,TAP TITE(B) WH8 3x10
102C	735WPB00302	BUTTON,FRAME(TV)	213	8110230A4U	SCREW,TAP TITE(P) BIND 3x14
102D	761WSA00233	ANGLE,HANDLE			
102E	800WQ000087	FELT SHEET 9x380xT=0.3			
102F	761WPA00359	COVER,HINGE3		791WHAA126	FILM BAG
102G	774WPA00007	HOLDER,CORD		792WHA0581	PACKAGE,TOP
				792WHA0582	PACKAGE,BOTTOM
103	7A7050002A	HANDLE ASS'Y		793WCD1591	GIFT BOX
103A	705WPB0018	HANDLE 1		A3R802A975	INSTRUCTION BOOK KIT
103B	705WPB0019	HANDLE 2		J3R80201A	INSTRUCTION BOOK
				JB5KD100	POLYBAG,INSTRUCTION(RED CAUTION)
104	7A7020003A	COVER,BACK(TV) ASS'Y			
104A	702WPB00063	COVER,BACK			
104B	800WQ000088	FELT SHEET 2x20xT0.3			
105	761WSA00212	SHIELD,21PIN			
106	761WSA00183	COVER,LCD			
107	744WUA00017	SPRING,EARTH			
108	704WPB00008	STAND			
109	706JSA00012	HINGE ASS'Y			
110	7222022688	SHEET,RATING			
111	7230007877	SHEET,JACK(SIDE)			
112	7230007869	SHEET,JACK1			
113	7230007870	SHEET,JACK2			
114	761WPA00356	HOLDER,PCB			
115	8965TS020A	CUSHION 65TS20-20 20x15x12			
116	8965TS0415	CUSHION 65TS4-2 15x50x16			
117	752WSA00425	SHIELD,LCD			
118	752WSA00427	SHIELD,JACK(SIDE)			
119	752WSA00445	SHIELD,JACK1			
120	761WSA00184	ANGLE,STAND			
121	761WSA00185	ANGLE,HINGE			
122	771WPB00045	PLATE,JACK(SIDE)			
123	771WPB00035	PLATE,JACK1			
124	771WPB00032	PLATE,JACK2			
125	800WFA00063	CUSHION,LEG			
126	735WEA00004	SHEET,CU			
127	735WEA00007	SHEET,CU			
128	7250000594	SHEET,PC			
129	82H3065E5Q	TOOTHED LOCK WASHER 3.0x6.5xT0.45			
130	899EFBA002	WIRING-CLIP			
131	8995034000	CORD CLIP UL CO.			
132	800WBOA0008	FIBER WASHER			
133	771WPB00036	PLATE,JACK(AC-INLET)			
134	7260000353	SHEET,EARTH MARK			
135	800WFOA0008	CUSHION			
136	800WQ0A0051	FELT SHEET			
137	800WQ0A0079	FELT SHEET			

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
RESISTORS			DIODES		
R319	R3X1814R7J	R,METAL OXIDE 4.7 OHM 1W	D3824	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77
R320	R3X1814R7J	R,METAL OXIDE 4.7 OHM 1W	D3825	D28TELS2N2	DIODE,RECTIFIER 10ELS2N-TA1B2
R321	R3X28B3R3J	R,METAL OXIDE 3.3 OHM 3W	D3826	D28TELS2N2	DIODE,RECTIFIER 10ELS2N-TA1B2
R322	R3X28B3R3J	R,METAL OXIDE 3.3 OHM 3W	△ D3827	D2BAMX22S0	DIODE,SCHOTTKY FMX-22S
R332	R002T4103J	RC 10K OHM 1/4W	△ D3828	D230PF6DT0	DIODE SILICON FEPF6DT
△ R3808	R002T2155J	RC 1.5M OHM 1/2W	△ D3829	D28F30DF60	DIODE,RECTIFIER 30DF6-FC
△ R3816	R5X2AE3R9J	R,CEMENT 3.9 OHM 7W	△ D3830	D2LKB340F0	DIODE,SCHOTTKY SB340FL-6737
△ R3819	R3X181R68J	R,METAL OXIDE 0.68 OHM 1W	△ D3832	D28TELS6N6	DIODE,RECTIFIER 10ELS6N-TA1B2
△ R3821	R3X181R68J	R,METAL OXIDE 0.68 OHM 1W	D3833	D97U03301B	DIODE,ZENER MTZJ33B T-77
△ R3823	R63581R22J	R,FUSE 0.22 OHM 1W	△ D3834	D97U02201B	DIODE ZENER MTZJ22B T-77
△ R3826	R3X28A104J	R,METAL OXIDE 100K OHM 2W	D3835	D2BXARS010	DIODE SILICON SARS01-V1
△ R3838	R3X28A104J	R,METAL OXIDE 100K OHM 2W	D3836	D2BXARS010	DIODE SILICON SARS01-V1
△ R3839	R3X28A104J	R,METAL OXIDE 100K OHM 2W	△ D3837	D97U02201B	DIODE,ZENER MTZJ22B T-77
△ R3840	R63581R22J	R,FUSE 0.22 OHM 1W	D3838	D1VT001330	DIODE,SILICON 1SS133T-77
△ R3842	R63581R22J	R,FUSE 0.22 OHM 1W	△ D3839	D2BAMX22S0	DIODE,SCHOTTKY FMX-22S
△ R3846	R3X181R3R3J	R,METAL OXIDE 3.3 OHM 1W	D3840	D1VT001330	DIODE,SILICON 1SS133T-77
△ R3853	R635U4100J	R,FUSE 10 OHM 1/4W	D3841	D1VT001330	DIODE,SILICON 1SS133T-77
△ R3865	R65584150J	R,FUSE 15 OHM 1/4W	D3842	D1VT001330	DIODE,SILICON 1SS133T-77
△ R3879	R6558AR33J	R,FUSE 0.33 OHM 2W	D3843	D1VT001330	DIODE,SILICON 1SS133T-77
R4277	R002T4223J	RC 22K OHM 1/4W	D3844	D97U01801B	DIODE,ZENER MTZJ18B T-77
CAPACITORS			DIODES		
C364	E5EZP3102M	CE 1000 UF 25V	D3845	D97U02R21B	DIODE,ZENER MTZJ2.2B T-77
C365	E5EZP3102M	CE 1000 UF 25V	D3847	D1VT001330	DIODE,SILICON 1SS133T-77
C3801	C0JBB07H3K	CC 0.0022UF 2KV B	△ D3848	D28F31DQ09	DIODE,SCHOTTKY 31DQ09-FC
△ C3802	P2122B224M	CMP 0.22 UF 275V ECQUL	D3849	D1VT001330	DIODE,SILICON 1SS133T-77
△ C3804	C0JBB07H3K	CC 0.0022UF 2KV B	D3850	D1VT001330	DIODE,SILICON 1SS133T-77
△ C3805	E62XHH101M	CE 5 100 UF 400V	D3851	D1VT001330	DIODE,SILICON 1SS133T-77
△ C3809	CD39B0MQ2K	CC 470 PF 250V	△ D3853	D6C047110A	DIODE,VARISTA ENE471D-10A
C3813	C03L0R7H2K	CC 220 PF 2KV R	D3854	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77
C3815	C03L0R7H2K	CC 220 PF 2KV R	D4202	D97U01201B	DIODE,ZENER MTZJ12B T-77
C3816	E02B0H470M	CE 47 UF 400V WXA	D4203	D97U01201B	DIODE,ZENER MTZJ12B T-77
C3817	E61FF0222D	CE 2200 UF 6.3V	ICS		
C3818	P411F4393J	CMPP 0.039 UF 400V ECWF	IC102	I9UF032290	IC PST3229NR
C3819	C0JBB0713K	CC 0.001 UF 2KV B	IC103	I9UF032290	IC PST3229NR
C3820	C0JBB0713K	CC 0.001 UF 2KV B	IC199	S3R802AE01	MEMORY DATA BR24L32F-WE2
△ C3830	CD39E0M13M	CC 0.001 UF 250V	IC302	I03DP901E0	IC LA4901-E
C3832	COPLAR712K	CC 100 PF 2KV R	IC303	I03DP901E0	IC LA4901-E
△ C3838	E61FF4102D	CE 1000 UF 35V	IC601	IFCM023000	IC PW2300-05L
△ C3839	E61FF4102D	CE 1000 UF 35V	IC801	IFCMDW1180	IC PW118-05L
△ C3845	P2122B104M	CMP 0.1 UF 275V ECQUL	IC803	IFKJ0LM850	IC DTC34LM85AL
△ C3860	E62XHH101M	CE 5 100 UF 400V	IC805	ICLJ0622E5	IC HY5DU281622ETP-5
C3863	C03L0R7L2K	CC 330 PF 2KV R	IC806	ICLJ0622E5	IC HY5DU281622ETP-5
C3864	C03L0R7H2K	CC 220 PF 2KV R	IC807	S3R802AF01	MEMORY DATA MX29LV800TTC-70G-51
△ C3869	CD39B0MQ2K	CC 470 PF 250V	IC901	I19FF34100	IC MSP3410G-QA-B8
C3872	P2122B104M	CMP 0.1 UF 275V ECQUL	△ IC3200	I0GF9XZ010	IC PQ070XZ01ZP
DIODES			△ IC3201	I0GF9XZ010	IC PQ070XZ01ZP
D103	DDDRL41480	DIODE,SILICON MCL4148	△ IC3202	I0GF9XZ010	IC PQ070XZ01ZP
D104	DDDRL41480	DIODE,SILICON MCL4148	△ IC3801	I1KJ9A431A	IC KIA431A-AT or
D105	DDDRL41480	DIODE,SILICON MCL4148	IC3802	ICJ9AILP0	IC TL431AILP
D305	D28T21DQ09	DIODE,SCHOTTKY 21DQ09N-TA2B1	△ IC3802	000220002W	PHOTO COUPLER PS2561AL1-1-V(W)
D306	D28T21DQ09	DIODE,SCHOTTKY 21DQ09N-TA2B1	△ IC3803	000220002W	PHOTO COUPLER PS2561AL1-1-V(W)
D2201	D28TEQS040	DIODE,SCHOTTKY 11EQS04TA1B2	△ IC3804	I0BD0159M0	IC STR-A6159M
D2202	0021E2Q140	LED LTL-1CHEE-002A	△ IC3805	000220002W	PHOTO COUPLER PS2561AL1-1-V(W)
D3200	D28R1QS040	DIODE EC31QS04-TE12L	△ IC3806	I1KJ9A431A	IC KIA431A-AT or
D3201	D28R1QS040	DIODE EC31QS04-TE12L	△ IC3807	ICJ9AILP0	IC TL431AILP
D3801	D1VT001330	DIODE,SILICON 1SS133T-77	△ IC3809	I1KA97809A	IC KIA7809API
△ D3802	D2WTRM11C0	DIODE,SILICON RM11C-EIC	△ IC3810	I1KA9R05A0	IC KIA78R05API
△ D3803	D2WTRM11C0	DIODE,SILICON RM11C-EIC	IC4200	I01F05853B	IC AN15853B-E1
△ D3804	D2WTRM11C0	DIODE,SILICON RM11C-EIC	IC4201	I0UF015010	IC MM1501XNRE
△ D3805	D2WTRM11C0	DIODE,SILICON RM11C-EIC	IC6203	I03S072100	IC LA7210
△ D3806	D28TELS2N2	DIODE,RECTIFIER 10ELS2N-TA1B2	TRANSISTORS		
D3807	D97U05R11B	DIODE,ZENER MTZJ5.1B T-77	Q001	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or
D3808	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77		TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK
D3809	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	Q002	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or
△ D3810	D2WXN40050	DIODE,SILICON 1N4005-EIC		TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK
△ D3811	D2WXN40050	DIODE,SILICON 1N4005-EIC	Q003	T6YJ1037K0	TRANSISTOR,SILICON 2SA1037AKT146R,S or
△ D3812	D2WXN40050	DIODE,SILICON 1N4005-EIC		TAAA1504SY	TRANSISTOR,SILICON KTA1504S_Y_RTK
△ D3813	D2WXN40050	DIODE,SILICON 1N4005-EIC	Q101	TNYJ05001	COMPOUND TRANSISTOR DTC114TKAT146
D3815	D1VT001330	DIODE,SILICON 1SS133T-77	Q102	TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK
D3816	D28TELS2N2	DIODE,RECTIFIER 10ELS2N-TA1B2	Q103	TAAA1504SY	TRANSISTOR,SILICON KTA1504S_Y_RTK
D3817	D2WXGP10K0	DIODE,RECTIFIER RGP10K-EIC	Q301	T93A018020	TRANSISTOR,SILICON 2SD1802S/T-TL-E
△ D3818	D2LKB340F0	DIODE,SCHOTTKY SB340FL-6737	Q302	T93A018020	TRANSISTOR,SILICON 2SD1802S/T-TL-E
D3819	D97U01201B	DIODE,ZENER MTZJ12B T-77	Q304	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or
D3820	D97U01501B	DIODE,ZENER MTZJ15B T-77		TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK
D3821	D1VT001330	DIODE,SILICON 1SS133T-77	Q2201	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or
D3822	D1VT001330	DIODE,SILICON 1SS133T-77		TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK
D3823	D28TELS2N2	DIODE,RECTIFIER 10ELS2N-TA1B2	Q3801	TCATC31980	TRANSISTOR,SILICON KTC3198-AT(Y,GR)

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
TRANSISTORS			COILS & TRANSFORMERS		
Q3802	TCATC31980	TRANSISTOR,SILICON KTC3198-AT(Y,GR)	△ T3801	0481140014	TRANSFORMER,SWITCHING 81140014
△ Q3803	T410K26470	FET 2SK2647-01MR	△ T3802	0481350904	TRANSFORMER,SWITCHING 81350904
△ Q3804	T41F026510	TRANSISTOR,FIELD EFF ECT 2SK2651-01MR	△ T3803	048134005S	TRANSFORMER,SWITCHING 8134005S
△ Q3805	TCAT032034	TRANSISTOR,SILICON KTC3203_Y-AT	JACKS		
△ Q3806	TCAT032034	TRANSISTOR,SILICON KTC3203_Y-AT	J301	0602131008	HEADPHONE JACK HSJ0913-01-140
Q3807	TNAAB05003	COMPOUND TRANSISTOR KRC102SRTK	J4201	063G100060	SOCKET,21PIN 035_0_9991_00
Q3808	T6YJ1037K0	TRANSISTOR,SILICON 2SA1037AKT146R,S or	J4202	063G100060	SOCKET,21PIN 035_0_9991_00
	TAAA1504SY	TRANSISTOR,SILICON KTA1504S_Y_RTK	J4203	060J421030	RCA JACK MTJ-032-05A-31-FE
Q3811	TAAATA12660	TRANSISTOR,SILICON KTA1266-AT(Y,GR)	J4204	060J421037	RCA JACK MTJ-032-05A-32-FE
△ Q3812	TCAT032034	TRANSISTOR,SILICON KTC3203_Y-AT	J4205	060J421036	RCA JACK MTJ-032-05A-30-FE
Q4200	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or	J4302	060J421037	RCA JACK MTJ-032-05A-32-FE
	TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK	J4303	060J421030	RCA JACK MTJ-032-05A-31-FE
Q4201	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or	SWITCHES		
	TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK	SW2201	0504101T34	SWITCH,TACT EVQ21505R
Q4202	T27T030180	FET 2SK3018T106	SW2202	0504101T34	SWITCH,TACT EVQ21505R
Q4203	T27T030180	FET 2SK3018T106	SW2203	0504101T34	SWITCH,TACT EVQ21505R
Q4204	T6YJ1037K0	TRANSISTOR,SILICON 2SA1037AKT146R,S or	SW2204	0504101T34	SWITCH,TACT EVQ21505R
	TAAA1504SY	TRANSISTOR,SILICON KTA1504S_Y_RTK	SW2206	0504101T34	SWITCH,TACT EVQ21505R
Q4205	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S	SW2208	0504101T34	SWITCH,TACT EVQ21505R
Q4206	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S	SW2209	0504101T34	SWITCH,TACT EVQ21505R
Q4207	T6YJ1037K0	TRANSISTOR,SILICON 2SA1037AKT146R,S or	P.C.BOARD ASSEMBLIES		
	TAAA1504SY	TRANSISTOR,SILICON KTA1504S_Y_RTK	PCB270	A3R802A270	PCB ASSY TEDB78A
Q4208	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S	PCB340	A3R802A340	PCB ASSY TEDB83A
Q4209	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S	PCBD00	A3R802AD00	PCB ASSY TEDB80A
Q4211	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or	PCBD20	A3R802AD20	PCB ASSY TMD617A
	TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK	PCBDA0	A3R802ADA0	PCB ASSY TEDB79A
Q4213	TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK	PCBDQ0	A3R802ADQ0	PCB ASSY TEDB82A
Q4214	TNYJB05001	COMPOUND TRANSISTOR DTC114EKAT146	MISCELLANEOUS		
Q4215	TAAA1504SY	TRANSISTOR,SILICON KTA1504S_Y_RTK	B301	024HT03564	CORE,BEADS W4BRH3.5X6X1.0
Q4301	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or	B302	024HT03563	CORE,BEADS W4BRH3.5X6X1.0X2
	TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK	B303	024HT03563	CORE,BEADS W4BRH3.5X6X1.0X2
Q4304	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or	B601	024HC36001	CORE,BEADS HCB2012K-600T25
	TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK	B602	024HC36001	CORE,BEADS HCB2012K-600T25
Q6200	T8YJ2412K0	TRANSISTOR,SILICON 2SC2412KT146 R,S or	B603	024HC36001	CORE,BEADS HCB2012K-600T25
	TCAA3875SY	TRANSISTOR,SILICON KTC3875S_Y_RTK	B806	024HC36001	CORE,BEADS HCB2012K-600T25
			B806	024HC36001	CORE,BEADS HCB2012K-600T25
			B3801	024HT03564	CORE,BEADS W4BRH3.5X6X1.0
			B4302	024HC36001	CORE,BEADS HCB2012K-600T25
			B4303	024HC36001	CORE,BEADS HCB2012K-600T25
			B4304	024HC36001	CORE,BEADS HCB2012K-600T25
			BT001	1412004008	BATTERY,MANGAN R03(AB)E_2P_G
			BT002	1412004008	BATTERY,MANGAN R03(AB)E_2P_G
			CD301	06C3145704	CORD,CONNECTOR C3145704
			CD503	06CU2E5601	CORD,CONNECTOR CU2E5601
			CD803	06CHRU2202	CORD,CONNECTOR CHRU2202
			CD805	122H0R0801	CORD,JUMPER 2H0R0801
			CD806	122H0R0801	CORD,JUMPER 2H0R0801
			CP101	069S270629	CONNECTOR PCB SIDE A2001WV2-7P
			CP102	069S250629	CONNECTOR PCB SIDE A2001WV2-5P
			CP301	069S140439	CONNECTOR PCB SIDE A2502WR2-4P
			CP801	069HVWT04A	CONNECTOR PCB SIDE FI-X30S-HF-NPB
			CP805	069EVU3010	CONNECTOR PCB SIDE 00_6232_030_006_800
			CP806	069EVR3010	CONNECTOR PCB SIDE 00_6232_027_006_8
			CD2200	06CU231801	CORD,CONNECTOR CU231801
			CD2201	06C3244502	CORD,CONNECTOR C3244502
			CD3800	06CUU24302	CORD,CONNECTOR CUU24302
			△ CD3801	120G058801	CORD,AC 0G058801
			CD3804	06C3011204	CORD,CONNECTOR C3011204
			CD3807	06C32A3104	CORD,CONNECTOR C32A3104
			CP2200	069S230629	CONNECTOR PCB SIDE A2001WV2-3P
			CP2201	069S240629	CONNECTOR PCB SIDE A2001WV2-4P
			CP3800	069S320419	CONNECTOR PCB SIDE A3963WV2-3PD
			CP3801	069S2E0629	CONNECTOR PCB SIDE A2001WV2-14P
			△ CP3803	064J1A0004	SOCKET,AC AC-015-3P(O87)
			CP3804	069S2A0629	CONNECTOR PCB SIDE A2001WV2-10P
			CP3807	069S2A0629	CONNECTOR PCB SIDE A2001WV2-10P
			CP3811	069J130260	CONNECTOR PCB SIDE 6035B-03Z002-T
			CP4201	069EVR3010	CONNECTOR PCB SIDE 00_6232_027_006_8
			CP4202	069EVU3010	CONNECTOR PCB SIDE 00_6232_030_006_800
			CP4301	069S15016	CONNECTOR PCB SIDE 1-788624-1
			CUSD21	800WFAA006	CUSHION A
			ELD201	124116281A	EYE LET XRY16X28BD
			ELD202	124120301A	EYE LET XRY20X30BD
			△ F3801	080NT05004	FUSE 50T050H
			FH3801	06710T0009	HOLDER,FUSE EYF-52BCY
			FH3802	06710T0009	HOLDER,FUSE EYF-52BCY
			NR601	110P4101M4	R,NETWORK 4D03WGJ0101T5E
			NR602	110P4101M4	R,NETWORK 4D03WGJ0101T5E
COILS & TRANSFORMERS					
L001	02167F100J	COIL 10 UH			
L002	02167F150J	COIL 15 UH			
L101	0216S4220J	COIL 22 UH			
L103	0216S4220J	COIL 22 UH			
L104	0216S4220J	COIL 22 UH			
L301	021LA61R2K	COIL 1.2 UH			
L302	02A6B2E0A1	CORE,FERRITE HF70T22*10*14			
L304	021404221M	COIL 21A 220 UH			
L305	021404221M	COIL 21A 220 UH			
L605	0216S4220J	COIL 22 UH			
L612	0216SD270J	COIL 27 UH			
L613	0216SD100J	COIL 10 UH			
L614	0216SD100J	COIL 10 UH			
L804	0216S4470J	COIL 47 UH			
L805	0216S4470J	COIL 47 UH			
L806	0216S4470J	COIL 47 UH			
L901	02167F100J	COIL 10 UH			
L902	02167F100J	COIL 10 UH			
L905	02167F100J	COIL 10 UH			
△ L3800	02D1000071	COIL,CHOKE ETQR42T029B			
L3801	02167E220K	COIL R7 22 UH			
△ L3802	029X000121	COIL,LINE FILTER SS24H-K08240-CH			
L3803	02167E220K	COIL R7 22 UH			
L3804	02167E100K	COIL R6-1 10 UH			
△ L3805	029X000121	COIL,LINE FILTER SS24H-K08240-CH			
L3806	02167E100K	COIL R6-1 10 UH			
L3807	02167E220K	COIL R7 22 UH			
L3808	021LA6101J	COIL 100 UH			
L3809	02A6B2E0A1	CORE,FERRITE HF70T22*10*14			
L3810	02A6B2E0A1	CORE,FERRITE HF70T22*10*14			
L4203	02167F100J	COIL 10 UH			
L4204	021LA6220J	COIL 22 UH			
L4205	021LA6220J	COIL 22 UH			
L4208	021LA6220J	COIL 22 UH			
L4209	021LA6220J	COIL 22 UH			
L4212	02167F100J	COIL 10 UH			
L4213	02167F470J	COIL 47 UH			
L4214	02167F470J	COIL 47 UH			
L4218	02167F100J	COIL 10 UH			
L4219	021LA63R9K	COIL 3.9 UH			
L6200	02167F101J	COIL 100 UH			

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
MISCELLANEOUS			
NR603	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR604	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR605	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR606	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR607	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR801	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR802	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR803	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR804	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR805	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR806	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR807	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR808	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR809	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR810	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR811	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR812	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR813	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR814	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR815	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
NR816	110N4101M3	R,NETWORK	CAY16-101-J-4R
NR817	110N4101M3	R,NETWORK	CAY16-101-J-4R
NR818	110N4101M3	R,NETWORK	CAY16-101-J-4R
NR819	110N4101M3	R,NETWORK	CAY16-101-J-4R
NR820	110N4101M3	R,NETWORK	CAY16-101-J-4R
NR821	110N4101M3	R,NETWORK	CAY16-101-J-4R
NR824	110N4101M3	R,NETWORK	CAY16-101-J-4R
NR825	110N4101M3	R,NETWORK	CAY16-101-J-4R
NR826	110N4101M3	R,NETWORK	CAY16-101-J-4R
NR827	110P4220M4	R,NETWORK	4D03WGJ0220T5E or
	110N4220M3	R,NETWORK	CAY16-220-J-4R
OS2201	0779000026	REMOTE RECEIVER	GP1UM261XK0F
▲ RY3801	0560V50118	RELAY	ALKS329
SP301	070C546009	SPEAKER	SG04H02CRA
SP302	070C546009	SPEAKER	SG04H02CRA
TM101	076N0GE060	TRANSMITTER	RC-GE060
TR801	02A6B2E0A1	CORE,FERRITE	HF70T22*10*14
TR802	02A6B2E0A1	CORE,FERRITE	HF70T22*10*14
▲ TU001	0163K17004	RF UNIT	TCPQ9091PD27E(J)
TR3801	02AHA896A1	CORE,FERRITE	W5T18.4X10X9.6
TR3803	02A6B2E0A1	CORE,FERRITE	HF70T22*10*14
▲ V2301	09EV123001	LCD	V230W1-L02
X101	100DT01407	CRYSTAL	SMD-49
X601	100DT02713	CRYSTAL	SMD-49
X901	100CT01803	CRYSTAL	HC-49/U-S
X6200	1002A0R503	CERAMIC OSCILLATOR	CSB500E5

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
 CML..... METAL PLASTIC CAPACITOR
 CMPP..... METAL POLYPROPYLENE CAPACITOR

SPEC.NO.	M3R8-02A
O/R NO.	W513549

ORION

TV-2322 SI

SERVICE MANUAL

COLOR TELEVISION RECEIVER

**REVISION 1
CHASSIS CODE B**

CHASSIS CODE	V2301
A	V230W1-L02 (09EV123001)
B	V230W1-L02 (09EV123002)

Change of LCD PANEL

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	CHASSIS CODE A		CHASSIS CODE B	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
⚠ V2301	09EV123001	LCD V230W1-L02	09EV123002	LCD V230W1-L02

ELECTRICAL ADJUSTMENTS

2-1: CONTRAST CENT

1. Receive the PAL color bar pattern. (RF Input)
2. Activate the adjustment mode display of Fig. 1-1 and press the channel button (20) on the remote control to select "CON CENT".
3. Check if the step No. CONT CENT is "84".
4. Receive a broadcast and check if the picture is normal.
5. Press the AV button on the remote control to set to the AV mode. Then perform the above adjust 1-3.

2-3: Confirmation of Fixed Value (step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.(RF/AV/PC)

NO.	FUNCTION	RF	AV	PC
01	R DRIVE	592	592	608
02	R CUT OFF	32	32	0
04	G CUT OFF	32	32	0
05	B DRIVE	512	512	496
06	B CUT OFF	12	12	0
15	BRIGHT CENT	7	7	145
18	TINT	2	2	0
20	CONT CENT	84	84	40
37	RGB CONT CENT	20	20	20

SPEC.NO.	M3R8-03A
O/R NO.	U563523