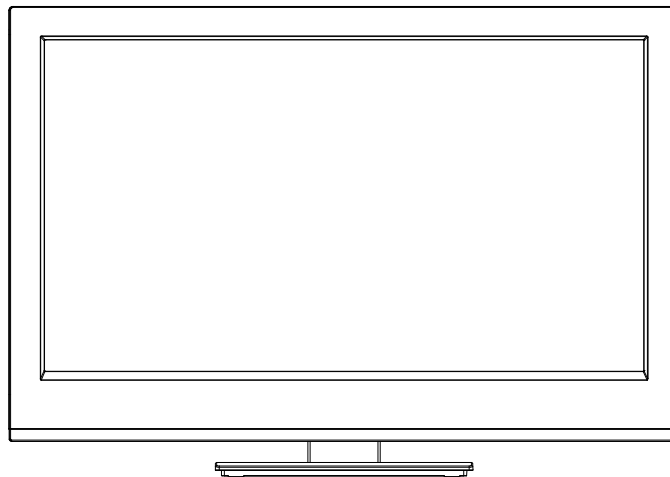


JVC

LT-22HG45E

SERVICE MANUAL

22" LED TV



ORIGINAL
MFR'S VERSION A

IMPORTANT SERVICE SAFETY INFORMATION

Operating the receiver outside of its cabinet or with its back removed involves a shock hazard. Work on these models should only be performed by those who are thoroughly familiar with precautions necessary when working on high voltage equipment.

Exercise care when servicing this chassis with power applied. Many B plus and high voltage RF terminals are exposed which, if carelessly contacted, can cause serious shock or result in damage to the chassis. Maintain interconnecting ground lead connections between chassis, escutcheon, picture tube dag and tuner cluster when operating the chassis.

These receivers have a "polarized" AC line cord. The AC plug is designed to fit into standard AC outlets in one direction only. The wide blade connects to the "ground side" and the narrow blade connects to the "hot side" of the AC line. This assures that the TV receiver is properly grounded to the house wiring. If an extension cord must be used, make sure it is of the "polarized" type.

Since the chassis of this receiver is connected to one side of the AC supply during operation, service should not be attempted by anyone not familiar with the precautions necessary when working on these types of equipment.

When it is necessary to make measurements or tests with AC power applied to the receiver chassis, an Isolation Transformer must be used as a safety precaution and to prevent possible damage to transistors. The Isolation Transformer should be connected between the TV line cord plug and the AC power outlet.

When removing springs or spring mounted parts from the tuner, tuner cluster or chassis, shatterproof goggles must be worn. Keep others without shatterproof goggles away.

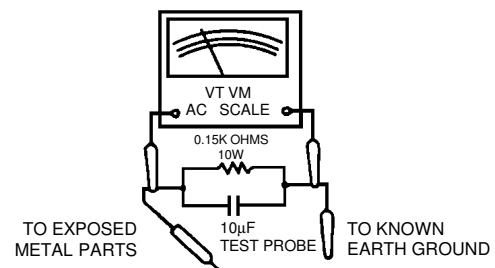
Before returning the receiver to the user, perform the following safety checks:

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Replace all protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, a check for the presence of leakage current should be made at each exposed metal part having a return path to the chassis (antenna, cabinet metal, screw heads, knobs and/or shafts, escutcheon, etc.) in the following manner.

Plug the AC line cord directly into a 120V AC receptacle. (Do not use an Isolation Transformer during these checks.) All checks must be repeated with the AC line cord plug connection reversed. (If necessary, a nonpolarized adapter plug must be used only for the purpose of completing these checks.)

If available, measure current using an accurate leakage current tester. Any reading of 0.35mA or more is excessive and indicates a potential shock hazard which must be corrected before returning the receiver to the owner.

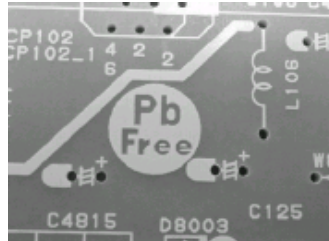
If a reliable leakage current tester is not available, this alternate method of measurement should be used. Using two clip leads, connect a 1500 ohm, 10 watt resistor paralleled by a 0.15 μ F capacitor in series with a known earth ground, such as a water pipe or conduit and the metal part to be checked. Use a VTVM or VOM with 1000 ohms per volt, or higher, sensitivity to measure this AC voltage drop across the resistor. Any reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the receiver to the owner.



ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.
(Please refer to figures.)



Caution:

- Pb free solder has a higher melting point than standard solder;
Typically the melting point is 86°F~104°F(30°C~40°C) higher.
Please use a soldering iron with temperature control and adjust it to 650°F ± 20°F (350°C ± 10°C).
In case of using high temperature soldering iron, please be careful not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100°F/ 600°C).
- All products with the printed circuit board with PbF printing must be serviced with lead free solder.
When soldering or unsoldering, completely remove all of the solder from the pins or solder area,
and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

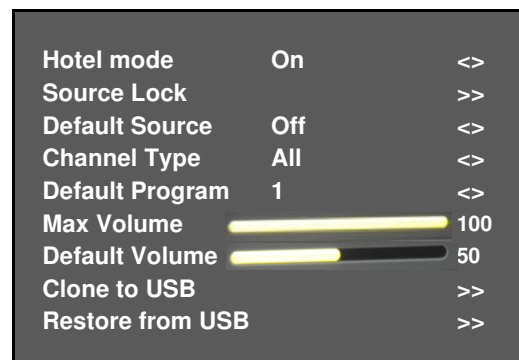
Recommendations

Recommended lead free solder composition is Sn-3.0Ag-0.5Cu.

HOTEL MODE FUNCTION

To set the Hotel mode, please follow the steps below.

1. Press the MENU ---> 1147 button on the remote control.
2. Press the DOWN button on the remote control,
3. Select the "Setup" menu , then press ENTER button.
4. Select the "Hotel Mode" menu, Select "ON".
5. The Hotel mode setting menu will appear.
6. Using the UP/DOWN button on the remote control, select the desired mode. Then press the ENTER button.
7. Using the LEFT/RIGHT button on the remote control, set the mode to desired setting.
8. The Hotel mode has now been set up.



To reset the Hotel mode, please follow the steps below.

1. Press the MENU ---> 1147 button on the remote control.
2. Press the DOWN button on the remote control,
3. Select the "Setup" menu , then press ENTER button.
4. Select the "Hotel Mode" menu.
5. The setting items has now been returned to initial value.

Setting item	Setting value	Initial value	FUNCTION
Source Lock	ANTENNA/CABLE/AV COMPONENT/SCART/ PC/HDMI/USB	——	Setting Input skip, combine with "Default Source".
Default Source	ANTENNA/CABLE/AV COMPONENT/SCART/ PC/HDMI/USB	OFF	Setting Input Source, combine with "Source Lock" If select "Source Lock" for this function disappear.
Channel Type	ANTENNA/CABLE/AV COMPONENT/SCART/ PC/HDMI/USB	1	Setting of the CH if select "Default Source" to TV input.
Default Program	1~21	21	Setting of the CH if select "Default Source" to TV input.
Max volume	0~100	100	Setting of the maximum volume value.
Default Volume	0~50	50	Setting volume at Power on.
Clone to USB	——	——	Setting of the Hotel Mode return factory setting.
Restore from USB	——	——	Setting of the Password.

GENERAL SPECIFICATIONS

G-1	TV System	LCD	LCD Size / Visual Size	21.53 inch / 546.8mmV	
			LCD Type	Color TFT LCD	
			Number of Pixels	1920(H) x 1080(V)	
			Double Scan	No	
		View Range	Left/Right	85/85 degree	
			Up/Down	80/80 degree	
			Bright Dot	n≤3	
			Zero Bright Dot Ratio	70% above	
			Color System	PAL / SECAM	
			Speaker	2 Speaker	
G-2	Tuning System	Broadcasting System	Analog	PAL(B/G, D/K, I), SECAM(B/G, D/K)	
			Digital	DVB-T	
		Tuner and Receive CH	System	1Tuner (Analog+Digital)	
			Destination	UK, I.R., CCIR Hyper+France CATV	
		CH Coverage	Analog	45.75~858MHz	
			Digital	E2~E69	
		Intermediate Frequency	Analog	BG / II / DK	
				Picture(FP)	38.9 / 38.9 / 38.9MHz
			Sound(FS)	33.4 / 32.9 / 32.4MHz	
			FP-FS	5.5 / 6.0 / 6.5MHz	
G-3	Power	Power Source	AC	220-240V AC 50Hz	
			DC	---	
		Power Consumption		at AC	31 W at AC 230 V 50 Hz
				at DC	--
		Stand by (at AC)	w/ EPG Timer	--	
			w/o EPG Timer	0.49 W at AC 230 V 50 Hz	
		Protector	Per Year	-- kWh/Year	
			Power Fuse	Yes	
		G-4	Regulation	Safety	CE(EN60065:2002+AMD.11:2008)
				Radiation	CE
X-Radiation	---				
G-5	Temperature	Operation	+5°C ~ +40°C		
		Storage	-20°C ~ +60°C		
		Space Around Unit	100mm (4inch)		
G-6	Operating Humidity	Less than 80% RH			
G-7	OSD Language	English, Spanish, German, French, Italian, Swedish Dutch, Russian, Portuguese, Turkish, Greek, Finnish Hungarian, Polish, Danish, Norwegian, Czech, Slovak			
G-8	Clock and Timer	Sleep Timer	Max Time	120 Min	
			Step	10 / 20 / 30 / 40 / 50 / 60 / 90 / 120 Min	
		On/Off Timer	Program(On Timer / Off Timer)	1 Program / 1 Program	
		Timer Back-up (at Power Off Mode)	more than	-- Min Sec	
	EPG Timer Events	--			

GENERAL SPECIFICATIONS

G-9	Remote Control	Unit	RC-TR
		Glow in Dark Remocon	Yes
		Remocon Format	ORION
		Format	NEC
		Custom Code	71-8E h
		Power Source	3V
		Voltage(D.C)	
		UM size x pcs	UM-4 x 2 pcs
		Total Keys	41 Keys
		Keys	
		Power (Stand By)	Yes
		Information	Yes
		Audio I / II	Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0	Yes
		Input Select	Yes
		Guide(EPG)	Yes
		Menu	Yes
		Return	Yes
		Enter / CH List	Yes
		↑	Yes
		↓	Yes
		←	Yes
		→	Yes
		Mute	Yes
		Picture Size	Yes
		Volume Up	Yes
		Volume Down	Yes
		TV	Yes
		MEDIA	Yes
		Freeze	No
		Quick View	No
		Play	No
		Stop	No
		Pause	No
		Play Mode	Yes
		Rec	No
		T-Rec	No
		T*TEXT Keys	
		Subtitle	Yes
		CH Up / Page Up	Yes
		CH Down / Page Down	Yes
		Freeze / Hold	Yes
		Quick View / Sub Page	Yes
		Search- / Teletext	Yes
		Play / Reveal	Yes
		Search+ / F.T.B	Yes
		Red/Skip-	Yes
		Green/Pause	Yes
		Yellow/Stop	Yes
		Cyan/Skip+	Yes

GENERAL SPECIFICATIONS

G-10	Features	Power On Memory	Yes
		Auto Shut Off	Yes
		Just Clock Function	No
		Game Position	No
		DNR	Yes
			3D
		Comb Filter	Yes
			3D
		Auto Set Up (Fast installation)	
		Language	Yes
		Country	Yes
		TV Location	Yes
		Auto Power Off	Yes
		E-POP Demo	No
		Tuner Mode	Yes
		Auto Tuning (Analog/DVB-T, DVB-C)	Yes
		CH sort	Yes
		ATS	Yes
		Auto clock (Digital tuner)	Yes
		Plug in start	Yes
		Picture Setting(TV)	
		Picture Mode	Yes
		Brightness , Contrast , Color	Yes
		Tint	Yes
		Sharpness	Yes
		DNR	Yes
		Color Temperature	Yes
		Backlight Control	Yes
		MPEG NR	Yes
		DBC (Dynamic Backlight Control)	No
		Film Mode	No
		Picture Setting(PC)	
		Picture Mode	Yes
		Brightness , Contrast , Color	Yes
		HOR POSITION , VER POSITION	Yes
		PHASE , CLOCK	Yes
		AUTO ADJUST	Yes
		RED , GREEN , BLUE	No
		DNR	No
		Color Temperature	Yes
		Backlight	Yes
		WXGA INPUT	No
		WVGA INPUT	No
		Audio	
		Sound Mode	No
		Tone Control (Bass/Treble/Balance)	Yes
		Surround	Yes
		Equalizer	Yes
		Speaker	No
		Stable Sound	Yes
		BBE	No
		SRS WOW (SRS 3D/Focus/Tru Bass)	No
		Variable Audio Out	No
		Tuning	
		Auto Tuning (Analog/Digital)	Yes
		Manual Tuning (Analog/Digital)	Yes
		Update Scan (Analog/Digital)	No
		TV Connection	Yes
		CH Skip (Analog/Digital)	Yes
		CH Sort (Analog/Digital)	Yes
		CH Edit (Analog/Digital)	Yes
		Clean CH List (Analog/Digital)	Yes
		Fine Tuning (Analog)	Yes
		Lock	
		System Lock	Yes
		Channel Lock	Yes
		Parental Lock (Digital)	Yes
		Hotel Lock	Yes
		Screen Saver	
		Inversion	No
		Full White	No
		Screen Saver	Yes
		Static Image	No

GENERAL SPECIFICATIONS

T'Text			Yes	
Text type			Fastext / Toptext	
Text Language			English, German, Swedish, Finnish, Hungarian, Italian, French, Portuguese, Spanish, Czech, Slovak, Polish, Estonian, Lettish, Lithuanian, Slovenian, Rumanian, Russian, Ukrainian, Turkish, Greek, Hebrew, Farisi Arabic, Danish, Flemish, Icelandic, Byelorussian	
Text and Picture			No	
PVR			Timeshift Timer Recording EPG Recording	No No No
USB Media Player	Photo		JPEG (.jpg/.jpeg), BMP (.bmp), PNG (.png)	
	Music		WMA (.wma), WAVE (.wav), AAC-LC (.m4a) HE-AAC (.m4a), MPEG1 (.mp2), MPEG4 (.m4a)	
	Video	Container	AVI (.avi), MKV (.mkv), MP4 (.mp4/,m4v), PS (.mpg/.mpeg), TS (.ts/.tp/.trp), VOB (.vob)	
		Video Codec	Xvid, MPEG1, MPEG2, MPEG4 SP/ASP, H.264 MJPEG	
		Audio Codec	MPEG1, MPEG2, MPEG4, AAC, AAC-LC HE-AAC, PCM/ADPCM, AC3	
		DivX DMF Support	No	
	Text		Text (.txt)	
Internet	Hbb TV		No	
	BBC iPLAYER		No	
Wide Mode (AUTO/4:3/16:9/Zoom1/Zoom2/1:1)			Yes	
CH Label			Yes	
Reset TV Setting			Yes	
HD Zoom			Yes	
Picture Scroll (Vertical Position)			No	
PFC(Power Factor circuit)			No	
Freeze frame			Yes	
Plug and Play			No	
Power Management			Yes	
Hearing Impaired			Yes	
Audio Description			Yes	
Power On LED			No	
HDMI Mode			Yes	
PC Mode			Yes	
Blue Back			Yes	
Scart Spec	Scart1	AV in	Yes	
		AV out	Yes (A.Tuner/D.Tuner)	
		S-Video in	Yes	
		RGB in	Yes	
	Scart2	AV in	No	
		AV out	No	
		S-Video in	No	
		RGB in	No	
Digital Text (VBI teletext)			Yes	
MHEG-5			No	
MHP			No	
EPG (BBC type 8Days Digital tuner only)			Yes	
OAD (Over Air Download)			Yes	
CI+			No	
Common Interface (Digital tuner only)			Yes	
Rec Screen Status			No	
Ch sorting based on Ch List (Digital/Germany only)			Yes	
Rename Carrier (Digital)			No	
Edit Event Timer			No	
Software Update via CI Slot			No	
Preference Language (Audio/Subtitle/Digital Service)(Digital)			Yes	
DVB Subtitle (Digital)			Yes	
Clock			Yes	
DST			No	
Signal Status			Yes	

GENERAL SPECIFICATIONS

Digital Out	Dolby Digital	Dolby Digital
	Dolby Digital Plus	Dolby Digital
	MPEG	PCM
	HE AAC	PCM
Decode(Down Mix)	Dolby Digital	Yes
	Dolby Digital Plus	Yes
	MPEG	Yes
	HE AAC	Yes
PC Monitor Input		Yes
	VGA (640x480)	Yes (60Hz)
	VGA (720x400)	No (Possible to Display)
	WVGA (848x480)	No
	SVGA (800x600)	Yes (60Hz)
	XGA (1024x768)	Yes (60Hz)
	WXGA (1280x768)	Yes (60Hz)
	WXGA (1280x720)	Yes (60Hz)
	WXGA (1360x768)	Yes (60Hz)
	SXGA (1280x1024)	Yes (60Hz)
	WXGA+ (1440x900)	Yes (60Hz)
	WSXGA+ (1680x1050)	No (Possible to Display)
	FULL HD (1920x1080)	Yes (60Hz)
HDMI Input		Yes
	VGA (640x480)	Yes (60Hz)
	VGA (720x400)	No (Possible to Display)
	WVGA (848x480)	No
	SVGA (800x600)	Yes (60Hz)
	XGA (1024x768)	Yes (60Hz)
	WXGA (1280x768)	Yes (60Hz)
	WXGA (1280x720)	Yes (60Hz)
	WXGA (1360x768)	Yes (60Hz)
	SXGA (1280x1024)	Yes (60Hz)
	WXGA+ (1440x900)	Yes (60Hz)
	WSXGA+ (1680x1050)	No (Possible to Display)
	FULL HD (1920x1080)	Yes (60Hz)
	720x480i (4:3)	Yes (60Hz)
	720x480i (16:9)	Yes (60Hz)
	720x480p (4:3)	Yes (60Hz)
	720x480p (16:9)	Yes (60Hz)
	720x576i (4:3)	Yes (50Hz)
	720x576i (16:9)	Yes (50Hz)
	720x576p (4:3)	Yes (50Hz)
	720x576p (16:9)	Yes (50Hz)
	1280x720p	Yes (50/60Hz)
	1920x1080i	Yes (50/60Hz)
	1920x1080p	Yes (24/50/60Hz)
	CEC(ORION Standard)	No
	Deep Color	No
	xvYCC	No
Component Input		Yes
	720x480i (4:3)	Yes (60Hz)
	720x480i (16:9)	Yes (60Hz)
	720x480p (4:3)	Yes (60Hz)
	720x480p (16:9)	Yes (60Hz)
	720x576i (4:3)	Yes (50Hz)
	720x576i (16:9)	Yes (50Hz)
	720x576p (4:3)	Yes (50Hz)
	720x576p (16:9)	Yes (50Hz)
	1280x720p	Yes (50/60Hz)
	1920x1080i	Yes (50/60Hz)
	1920x1080p	No (Possible to Display)
Wall Mount	Size W x H(mm)	Yes (75 x 75)
	Screw Size	M4 x 10
Stand	Tilt	No
	Swivel	No

GENERAL SPECIFICATIONS

G-11	Accessories	Owner's Manual	Language	English/Czech/Slovak/Hungarian/Polish
			w/Guarantee Card	Yes
		Remote Control Unit		Yes
		Rod Antenna		No
			Poles	-
			Terminal	-
		Loop Antenna (W/ Antenna Change Plug)		No
			Terminal	-
		DVB-T Antenna		No
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Guarantee Card		No
		Warning Sheet		No
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Important Safeguard		No
		Quick Set-up Sheet		Yes
		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
		HDMI-DVI Cable		No
		3 in 1Mini Pin Cable (Y(CVBS)/Pb/Pr)		Yes
		Registration Card		No
		300 ohm to 75 ohm Antenna Adapter		No
		Stand Screw		Yes (2pcs)
		Stand		Yes
		Frame Stand		No
G-12	Interface	Switch	Power	Yes
			System Select	No
			Main Power SW	No
			Channel Up / Menu Up	Yes
			Channel Down / Menu Down	Yes
			Volume Up / Menu >	Yes
			Volume Down / Menu <	Yes
			Menu	Yes
			Play	No
			Stop	No
			Eject	No
			Input Select/Enter	Yes
		Indicator	Power/Stand-by	Yes (Blue / Red)
			On Timer	No

GENERAL SPECIFICATIONS

	Terminals	Side	Video Input 1	Mini Pin Jack(φ3.5)
			Audio Input 1	RCA x 2(L, R)
			S- Input 1	No
			Video Input 2	No
			Audio Input 2	No
			S- Input 2	No
			Video Output	No
			Audio Output	No
			Digital Audio Out (Coaxial)	Yes
			Euro Scart (21Pin)	No
			Component In	Mini Pin Jack(φ3.5) (CVBS Mini Pin Jack Alternative)
			Audio Input (Component In use)	Composite Audio Input Alternative
			HDMI Input 1	Yes
			Audio Input (HDMI/DVI In use)	PC Monitor Audio Input Alternative
			USB (Media)	Yes
		Rear	Sub Woofer Output	No
			Diversity	No
			Ext Speaker	No
			DC Jack 12V(Center +)	No
			VHF/UHF Antenna Input	No
			Headphone	Yes
			CI Card Slot	Yes
			AC Inlet	Yes
			PC Monitor Input (D-Sub)	No
			Audio Input	No
			Euro Scart (21Pin)	Yes
			Digital Audio Out (Coaxial)	No
			VHF/UHF Antenna Input	DIN Type
			PC Monitor Input (D-Sub)	Yes
			Audio Input	Mini Pin Jack(φ3.5), STEREO
G-13	Set Size	Approx. W x D x H (mm)		533.2 x 143.0 x 381.2
		w/o Stand,Handle Approx. W x D x H (mm)		533.2 x 48.5 x 353.2
G-14	Weight	Net Approx.		3.5kg (7.7 lbs)
		Net w/o Stand,Handle Approx.		3.3kg (7.3 lbs)
		Gross Approx.		4.5kg (9.9lbs)
		Gross w/Master Carton (Approx.)		--- kg (--- lbs)
G-15	Carton	Master Carton		No
			Content	---- Sets
			Material	-- /--
			Dimensions W x D x H(mm)	-- x -- x --
			Description of Origin	No
		Gift Box		Yes
			Material	Single/White
			Dimensions W x D x H(mm)	620 x 129 x 452
			Design	As per Buyer's
			Description of Origin	No
		Drop Test		Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces
			Height (cm)	80
		Container Stuffing		1650 Sets/45' Trailer
		w/Pallet		Yes
		w/Wrapping		Yes
G-16	Material	Cabinet	Cabinet Front	PC+ABS 94V0 NON-HALOGEN
			Cabinet Rear	PS 94V0 NON-DECABROM
			Stand	PC+ABS 94V0 NON-HALOGEN
		PCB	Non-Halogen	No
			Eyelet	Yes
G-17	Environment	Environmental standard requirement		Green procurement of JVC
		Pb- Free		Phase3(PHASE3A)
		Measures for Whisker		Yes
		WEEE		Yes

DISASSEMBLY INSTRUCTIONS

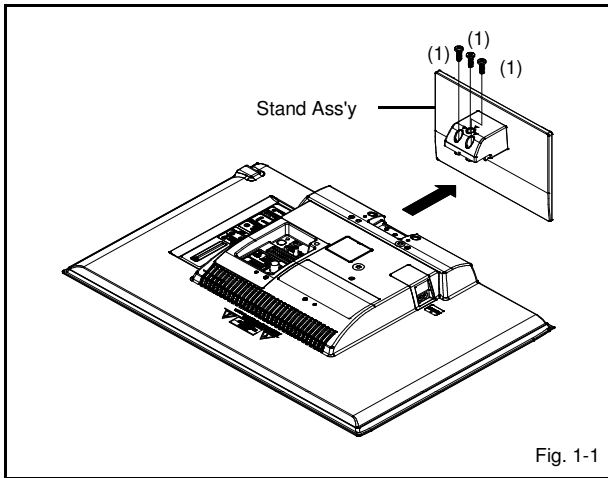
1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

CAUTION

Be careful not to remove the LVDS cable forcibly, because the LVDS cable may be damaged.

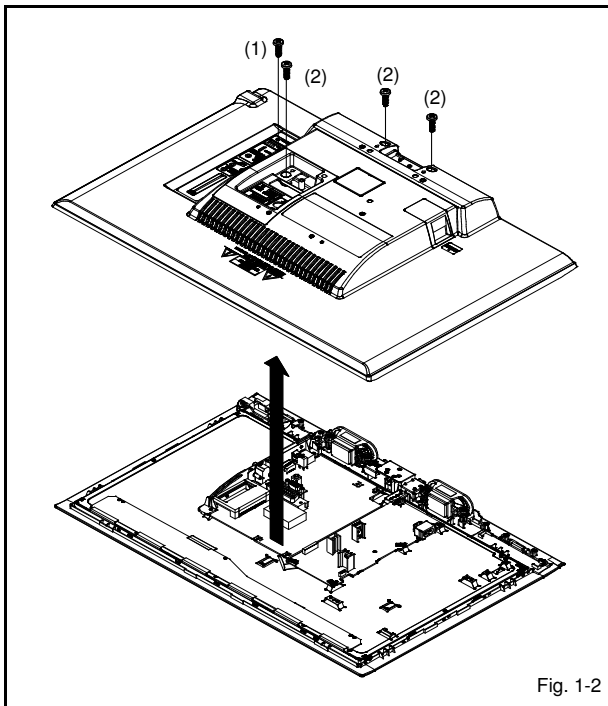
1-1: STAND ASS'Y (Refer to Fig. 1-1)

1. Remove the 3 screws (1).
2. Remove the Stand Ass'y in the direction of arrow.



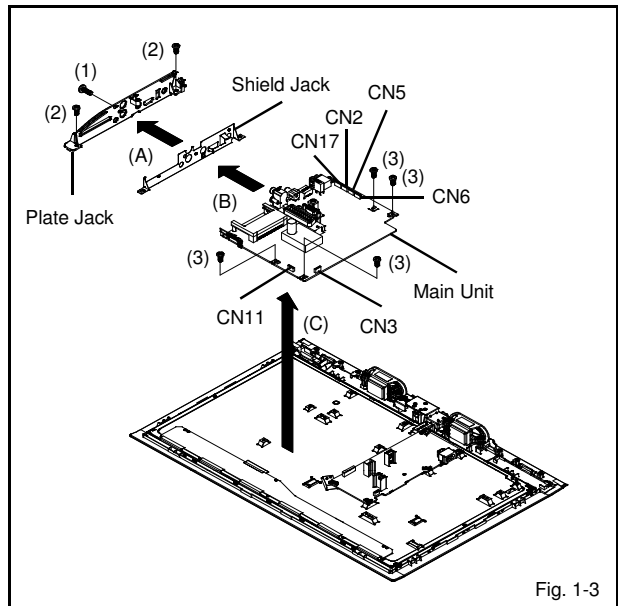
1-2: BACK CABI ASS'Y (Refer to Fig. 1-2)

1. Remove the screw (1).
2. Remove the 3 screws (2).
3. Remove the Back Cabi Ass'y in the direction of arrow.



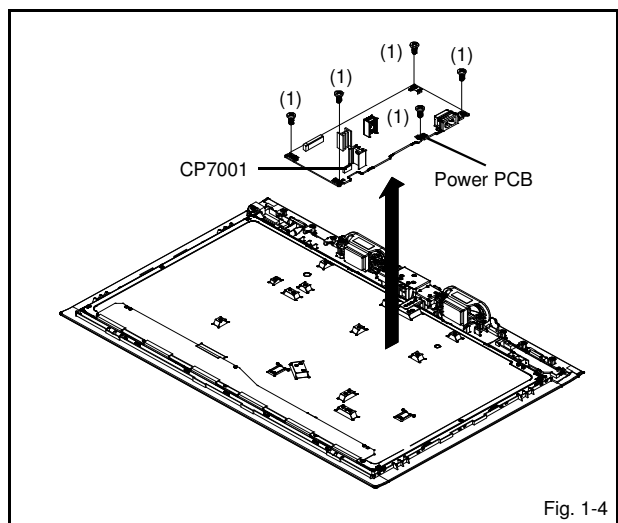
1-3: MAIN PCB (Refer to Fig. 1-3)

1. Disconnect the following connectors: (CN2, CN3, CN5, CN6, CN11 and CN17).
2. Remove the screw (1).
3. Remove the 2 screws (2).
4. Remove the Plate Jack in the direction of arrow (A).
5. Remove the Shield Jack in the direction of arrow (B).
6. Remove the 4 screws (3).
7. Remove the Main Unit in the direction of arrow (C).



1-4: POWER PCB (Refer to Fig. 1-4)

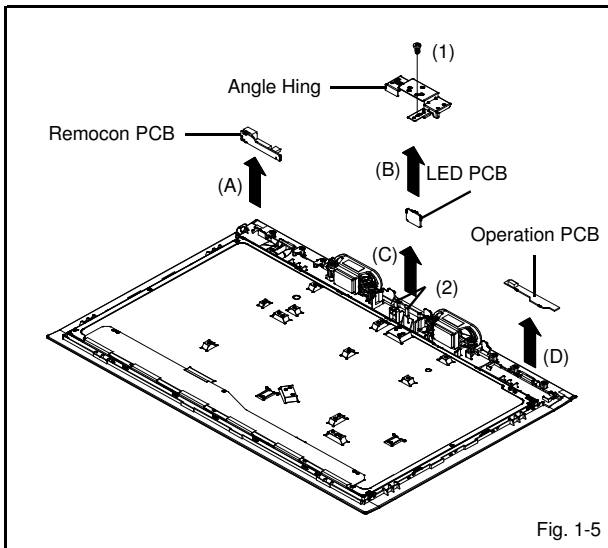
1. Disconnect the following connector: (CP7001).
2. Remove the 6 screws (1).
3. Remove the Power PCB in the direction of arrow.



DISASSEMBLY INSTRUCTIONS

1-5: REMOCON PCB / LED PCB / OPERATION PCB (Refer to Fig. 1-5)

1. Remove the Remocon PCB in the direction of arrow (A).
2. Remove the screw (1).
3. Remove the Angle Hinge in the direction of arrow (B).
4. Unlock the 2 supports (1).
5. Remove the LED PCB in the direction of arrow (C).
6. Remove the Operation PCB in the direction of arrow (D).



DISASSEMBLY INSTRUCTIONS

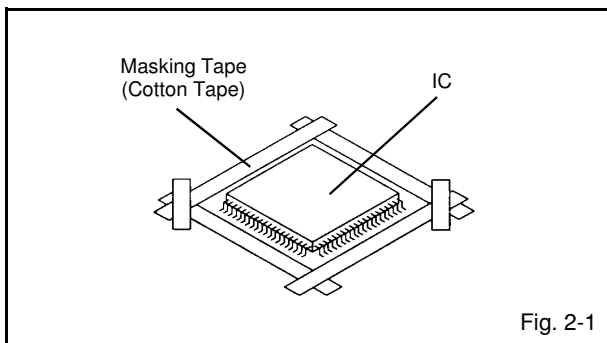
2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

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

NOTE

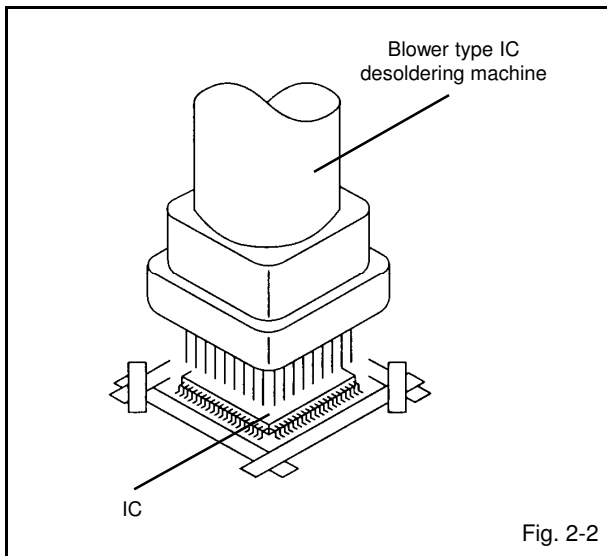
Masking is carried out on all the parts located within 10 mm distance from IC leads.



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

NOTE

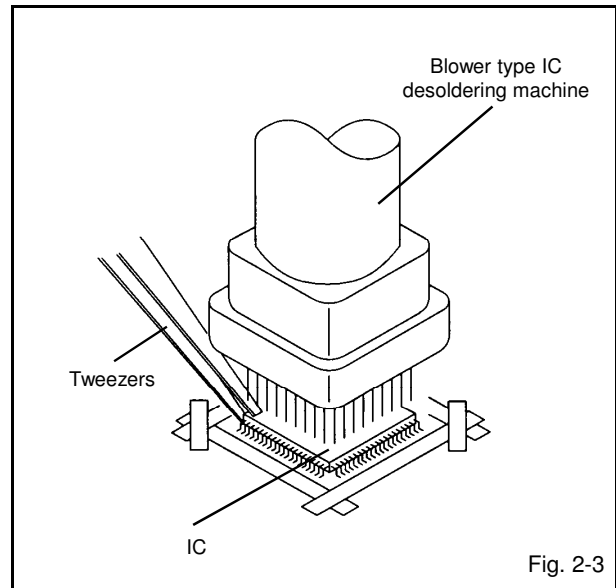
Do not rotate or move the IC back and forth, until IC can move back and forth easily after desoldering the leads completely.



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. 2-3.)

NOTE

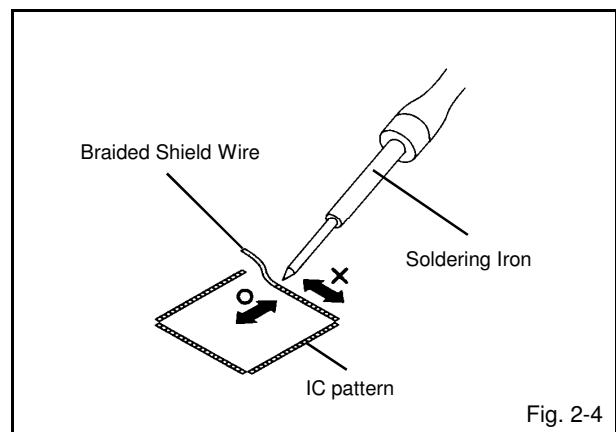
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



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

NOTE

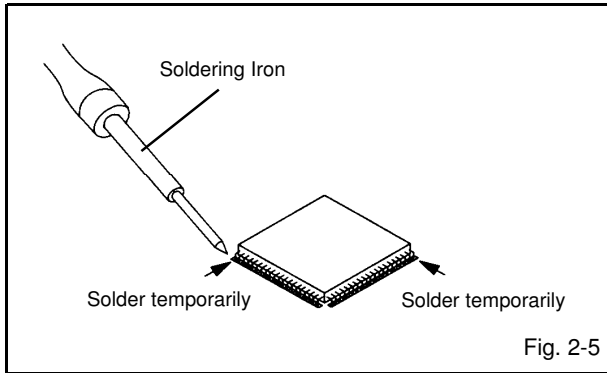
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



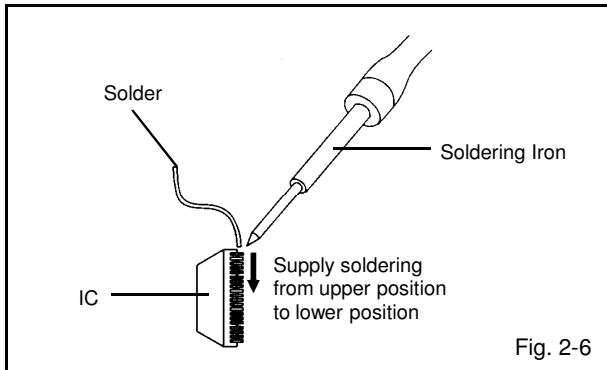
DISASSEMBLY INSTRUCTIONS

INSTALLATION

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



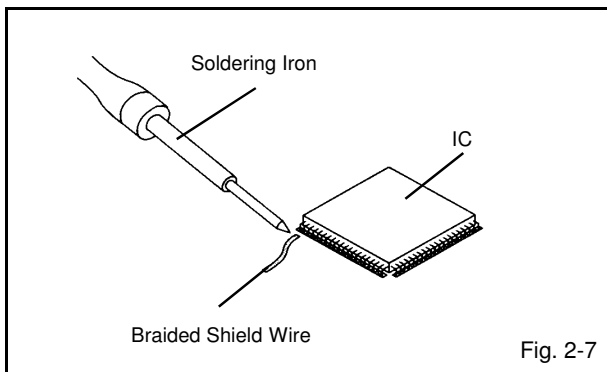
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 2-6.)



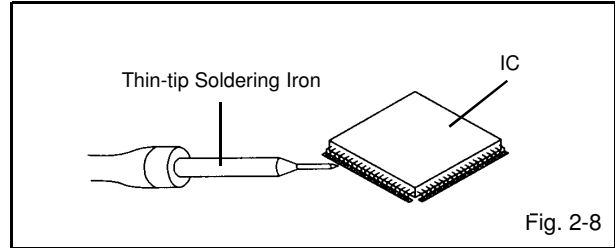
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 2-7.)

NOTE

Do not absorb the solder to excess.



4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thintip 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, 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.

CAUTION

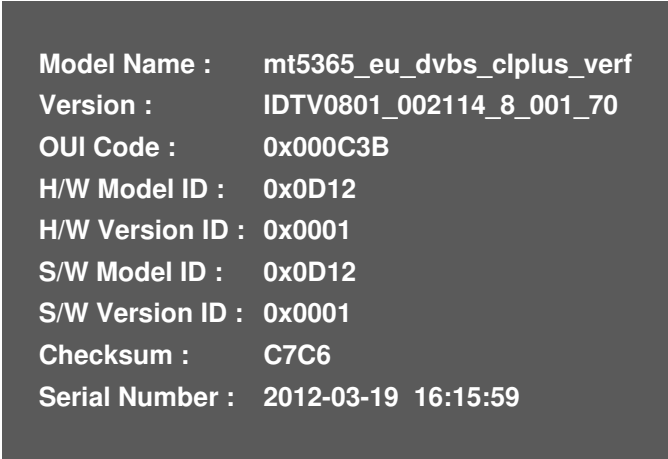
Do not feel after other MENU.

1. Check of the SUM DATA and MICON VERSION on the screen.

1-1: Press the MENU ---> 1147 button on the remote control to select "Setup".

1-2: Press the DOWN button on the remote control to select "Version Info".

1-3: On the screen as shown in **Fig. 1-1**.



The screenshot shows a dark gray background with white text. The text is organized into a list of system parameters and their values. The parameters are: Model Name, Version, OUI Code, H/W Model ID, H/W Version ID, S/W Model ID, S/W Version ID, Checksum, and Serial Number. The values are: mt5365_eu_dvbs_clplus_verf, IDTV0801_002114_8_001_70, 0x000C3B, 0x0D12, 0x0001, 0x0D12, 0x0001, C7C6, and 2012-03-19 16:15:59 respectively.

Model Name :	mt5365_eu_dvbs_clplus_verf
Version :	IDTV0801_002114_8_001_70
OUI Code :	0x000C3B
H/W Model ID :	0x0D12
H/W Version ID :	0x0001
S/W Model ID :	0x0D12
S/W Version ID :	0x0001
Checksum :	C7C6
Serial Number :	2012-03-19 16:15:59

Fig. 1-1

ELECTRICAL ADJUSTMENTS

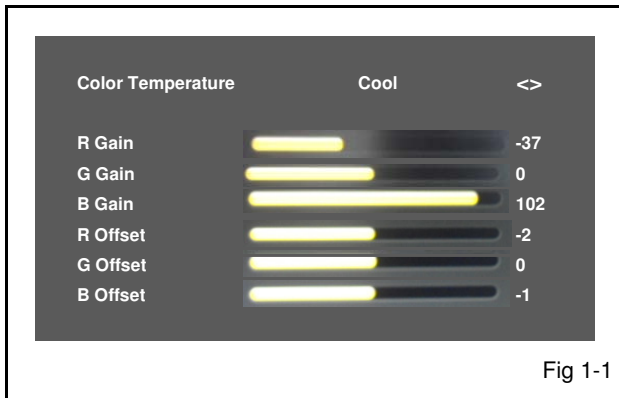
1. ADJUSTMENT PROCEDURE

Prepare the following measurement tools for electrical adjustments.

1. Pattern Generator

On-Screen Display Adjustment

1. Press the MENU---> 1147 button on the remote control.
2. Press the DOWN button on the remote control.
3. Select the "Video" menu, then press ENTER button on the remote control.
4. Select the "Color Temperature" menu , then press ENTER button on the remote control.
5. On the screen as shown in **Fig. 1-1**.



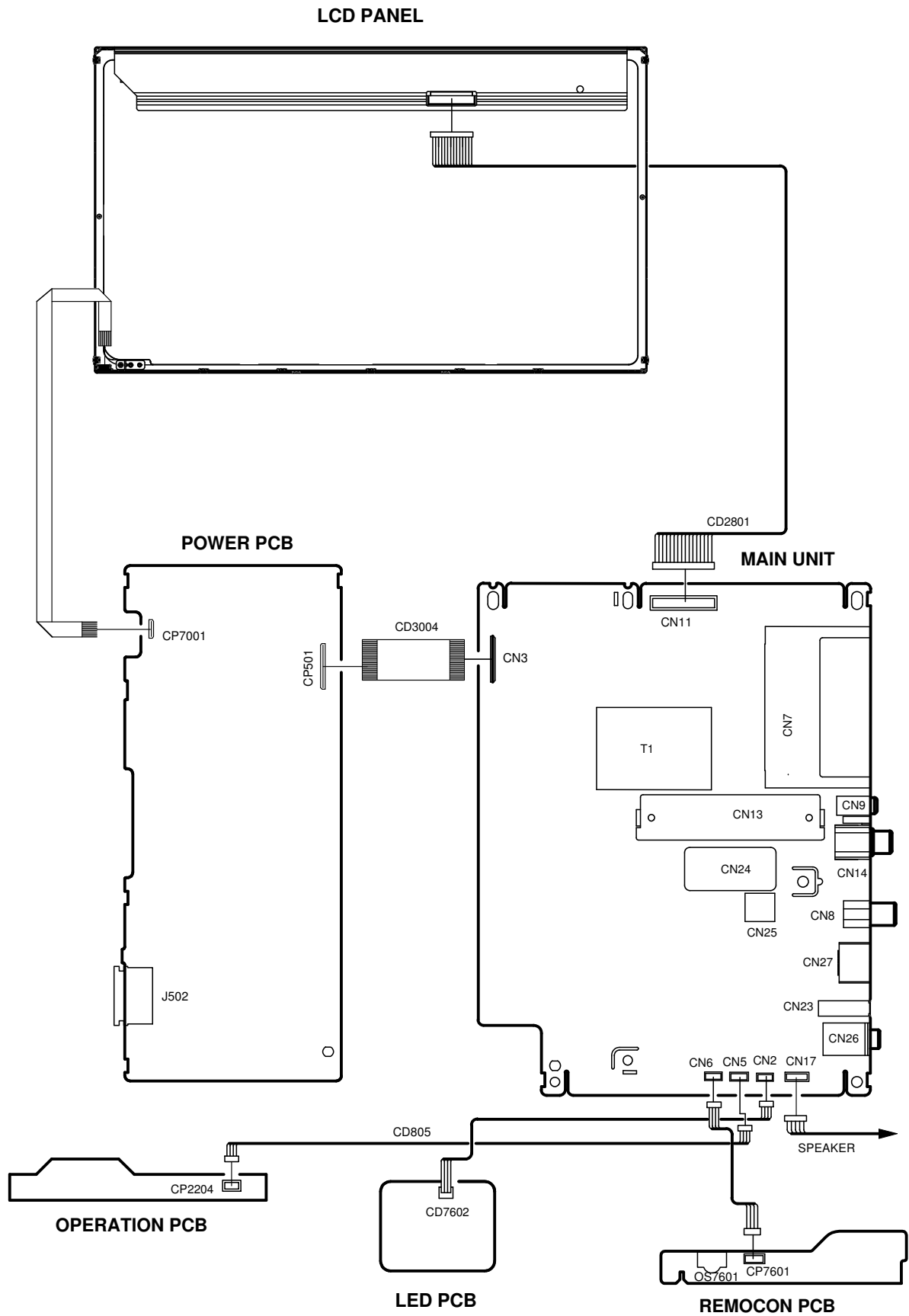
2. BASIC ADJUSTMENTS

2-1: WHITE BALANCE

1. Place the set in Aging Test for more than 15 minutes.
2. Please select input About mode to adjust W/B.
3. Receive the gray scale pattern from the Pattern Generator.
4. Press the INPUT SELECT button on the remote control to set to the AV mode.
5. Using the remote control, set the brightness and contrast to normal position.
6. Press the MENU---> 1147 button on the remote control.
7. Press the DOWN button on the remote control.
8. Select the "Video" menu, then press ENTER button on the remote control.
9. Select the "Color Temperature" menu , then press ENTER button on the remote control.
10. Press the UP/DOWN button on the remote control to select the "R Gain", "G Gain", "B Gain", "R Offset", "G Offset", "B Offset".
11. Adjust the LEFT/RIGHT button on the remote control to whiten the R Gain, G Gain, B Gain, R Offset, G Offset, B Offset at each step tone sections equally..
12. Perform the above adjustments 10 and 11 until the white color is achieved.

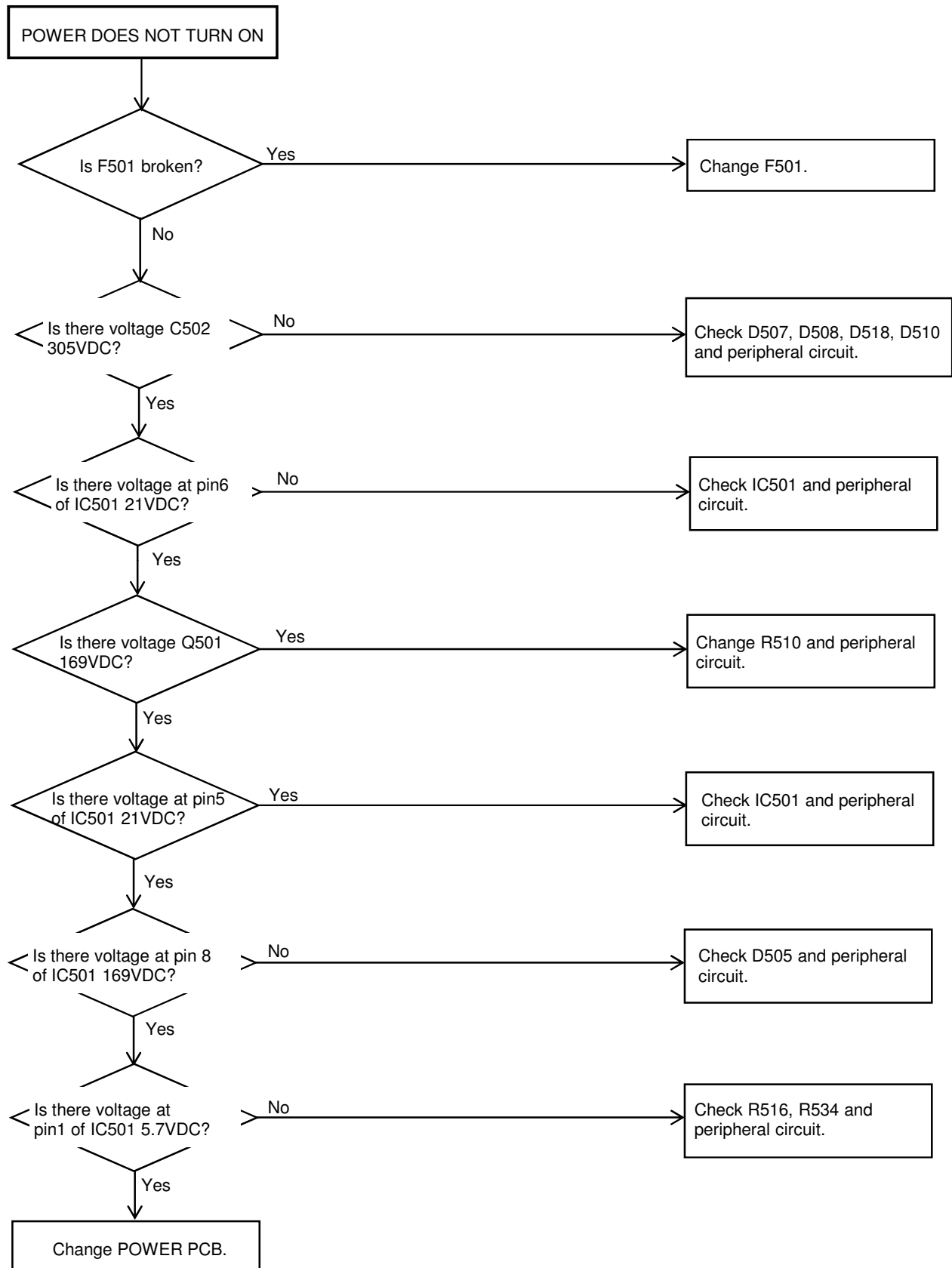
ELECTRICAL ADJUSTMENTS

3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)

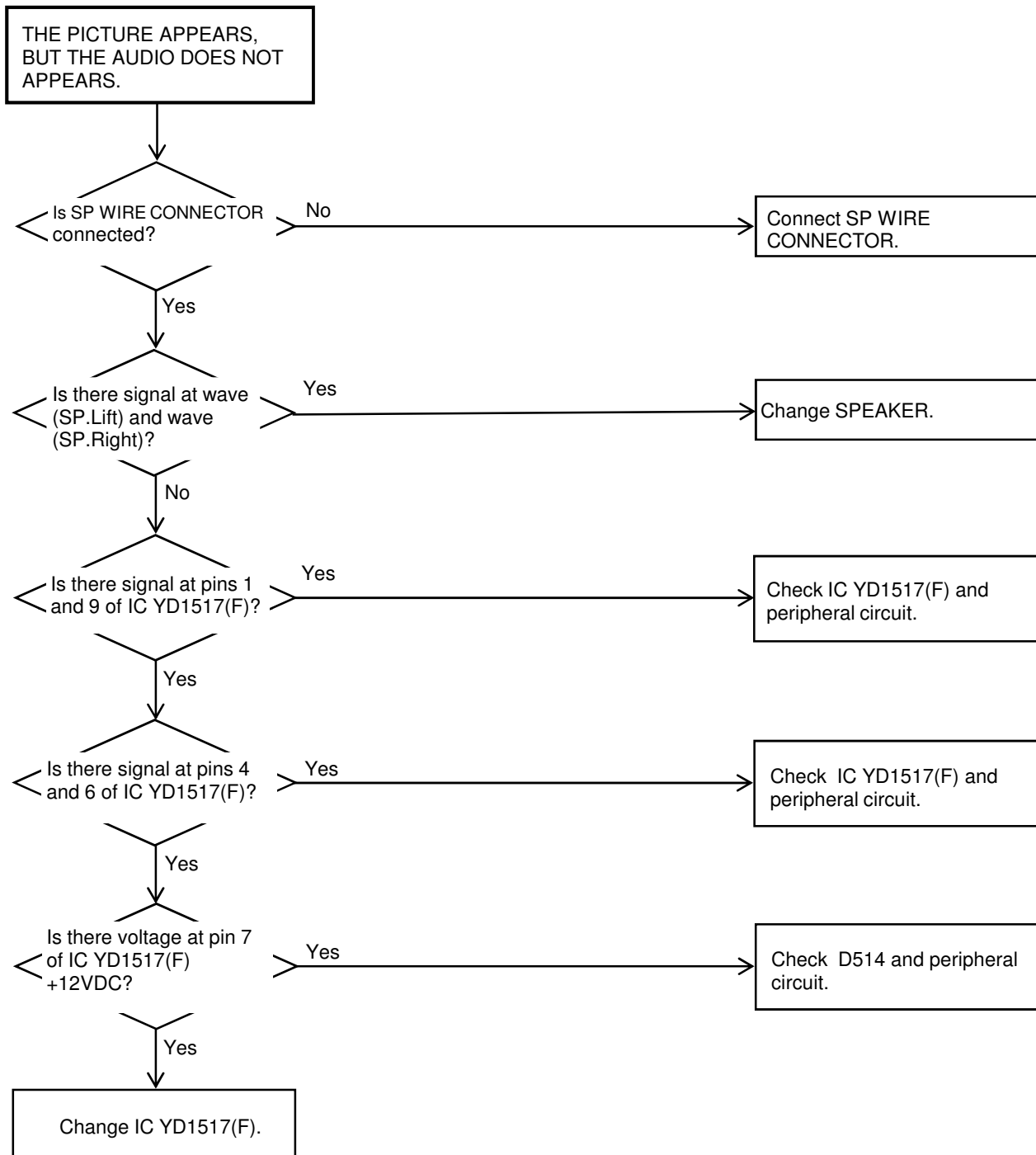


TROUBLESHOOTING GUIDE

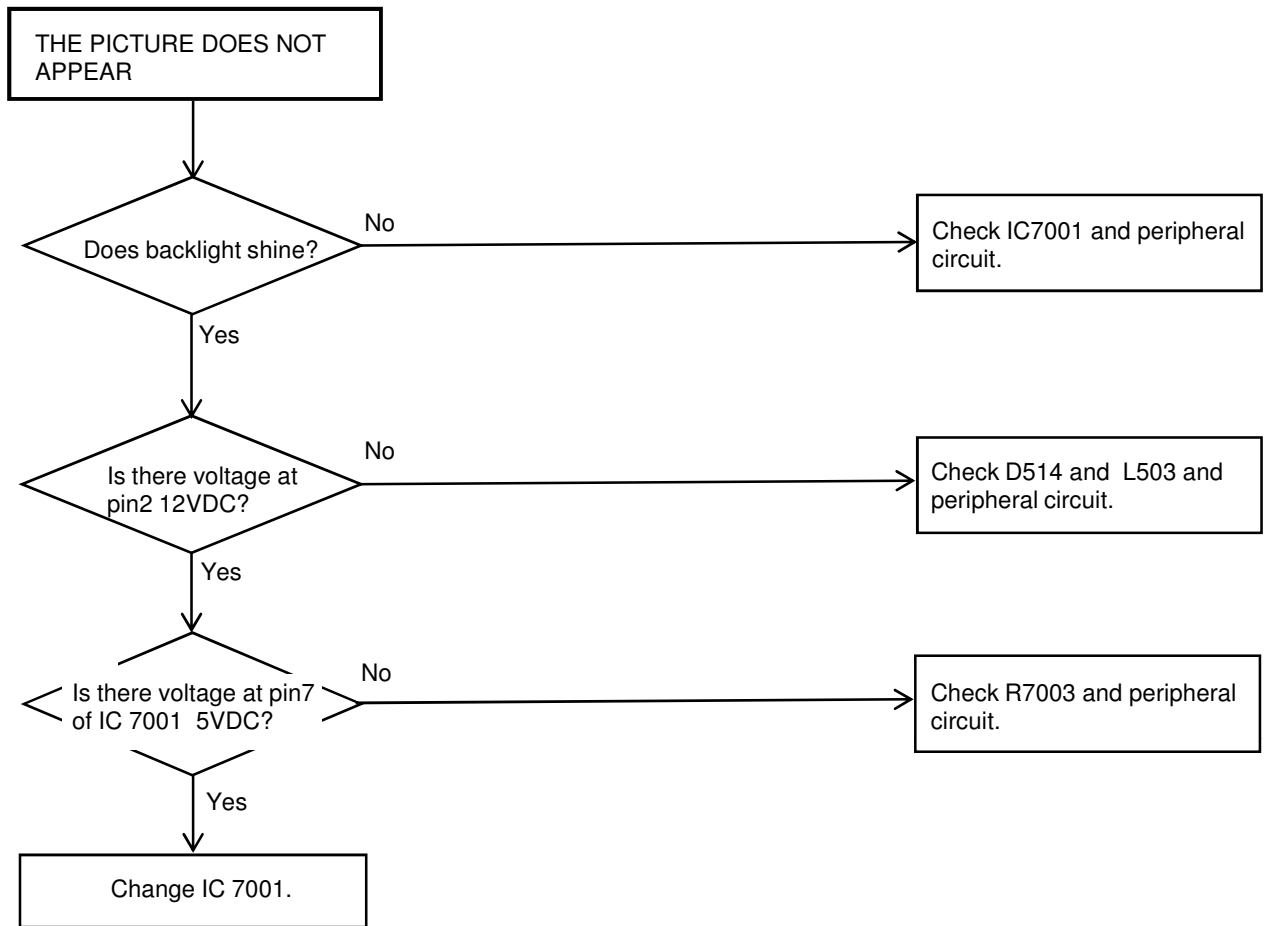
(LCD SECTION)



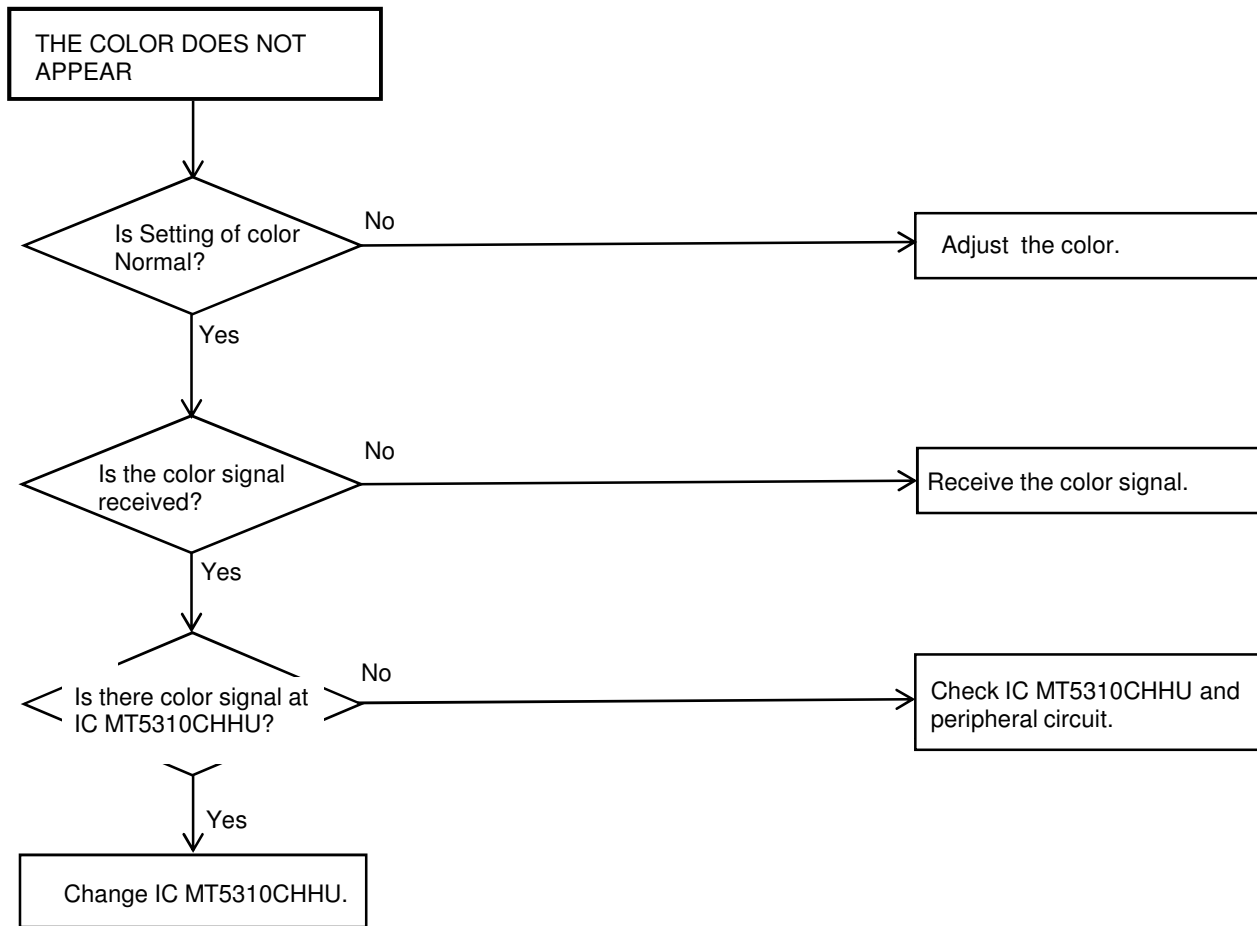
TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE



SEMICONDUCTOR BASE CONNECTIONS

DIODE



1N4006-A5
1SS133T-77
FCF10A20
SARS01



1F5
FCHS10A08
HZS12NB2
ZRM11C



HZS33NB2



RB056L-40TE25



S14K385E2S5M4



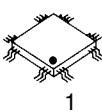
BA36-PUR1DCB549T1/470



UDZSNP11B TE-17



MA111-(TX)



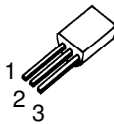
ATTINY48-MU



NR887D



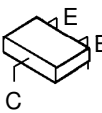
FA5640N-D1-TE1



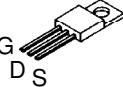
KIA431A-AT



PS2561AL1-1-V(W)



KRC103SRTK
KTA1504S_Y_RTK

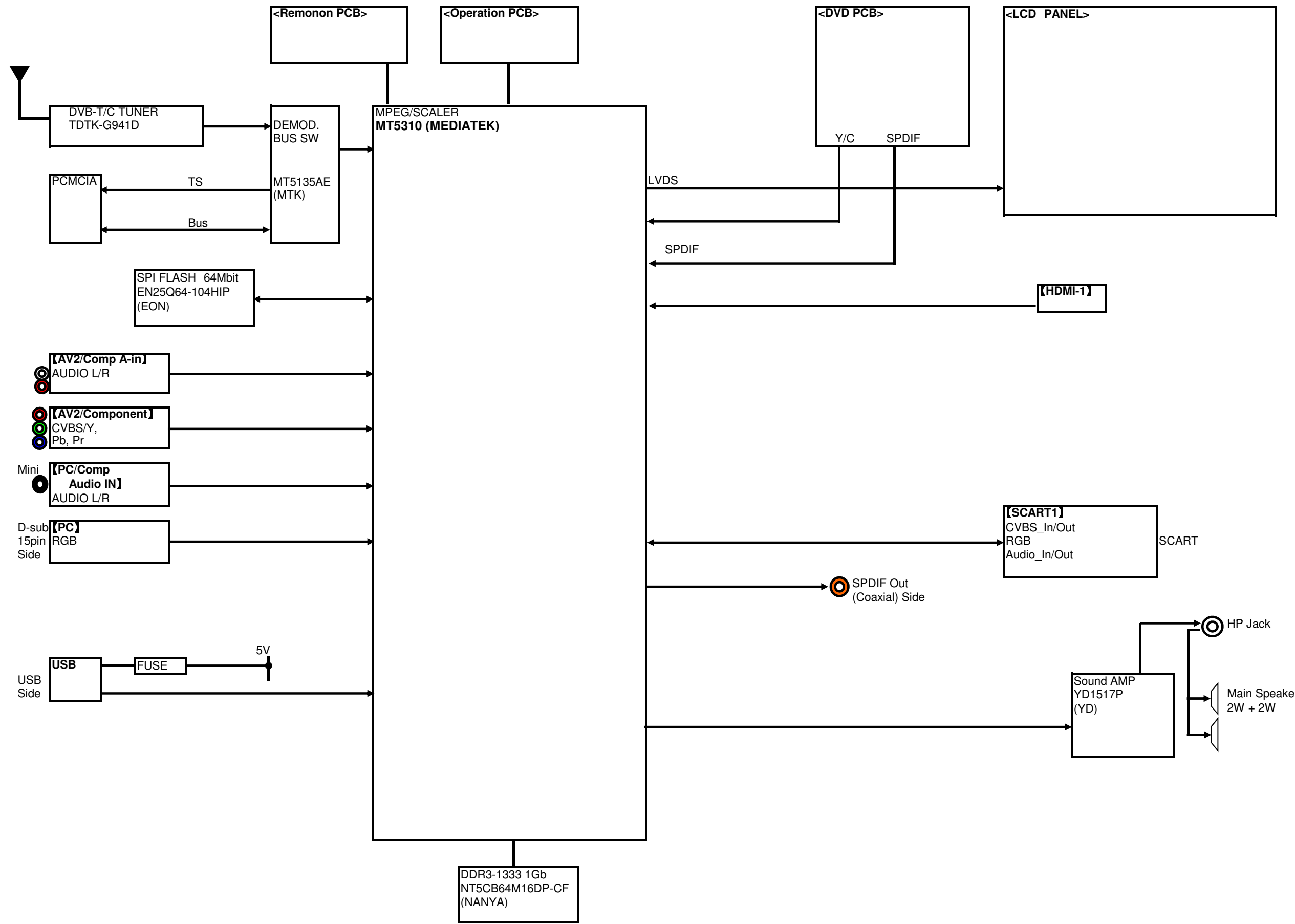


FMV09N90E

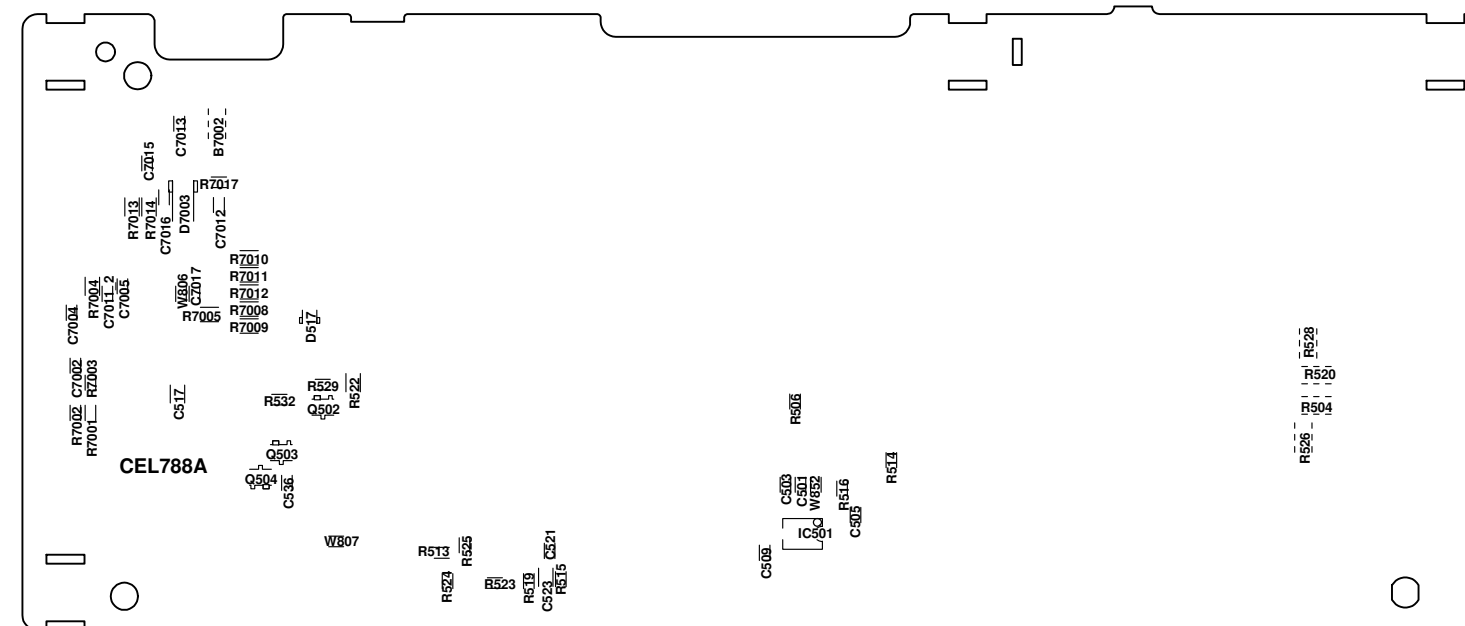
IC

TRANSISTOR

BLOCK DIAGRAM

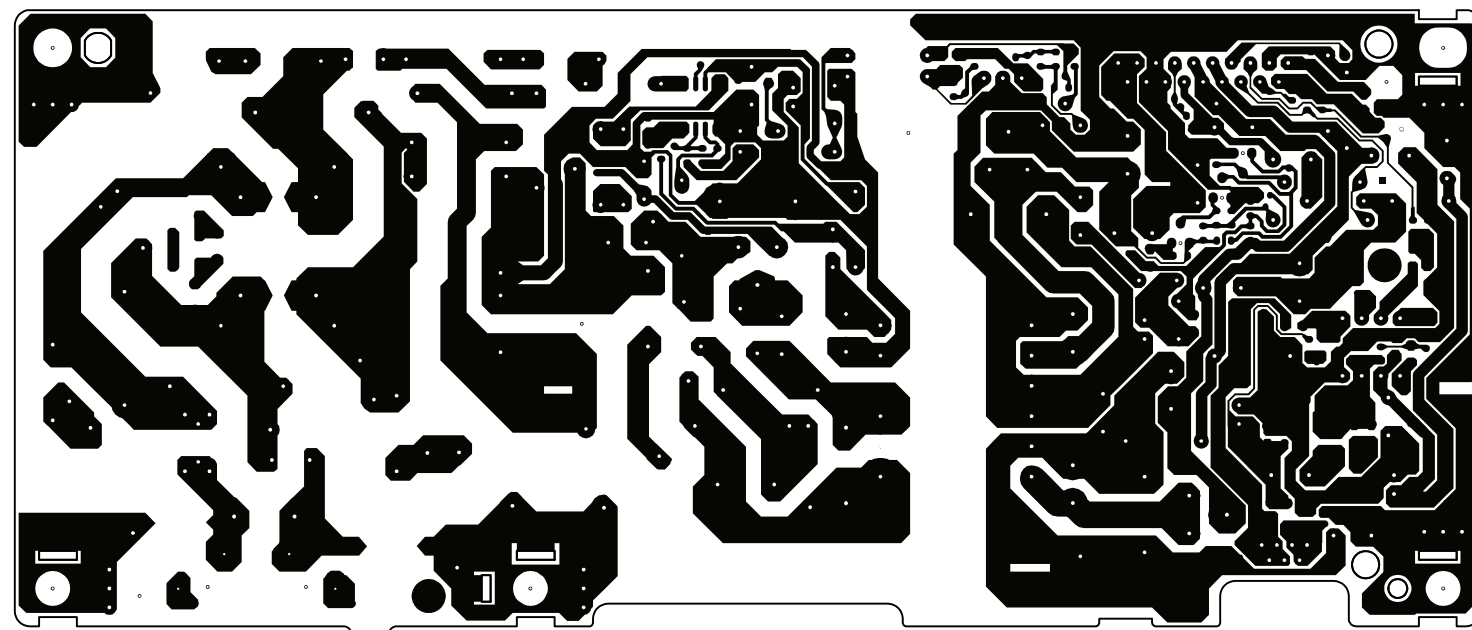


**POWER (INSERTED PARTS)
SOLDER SIDE**

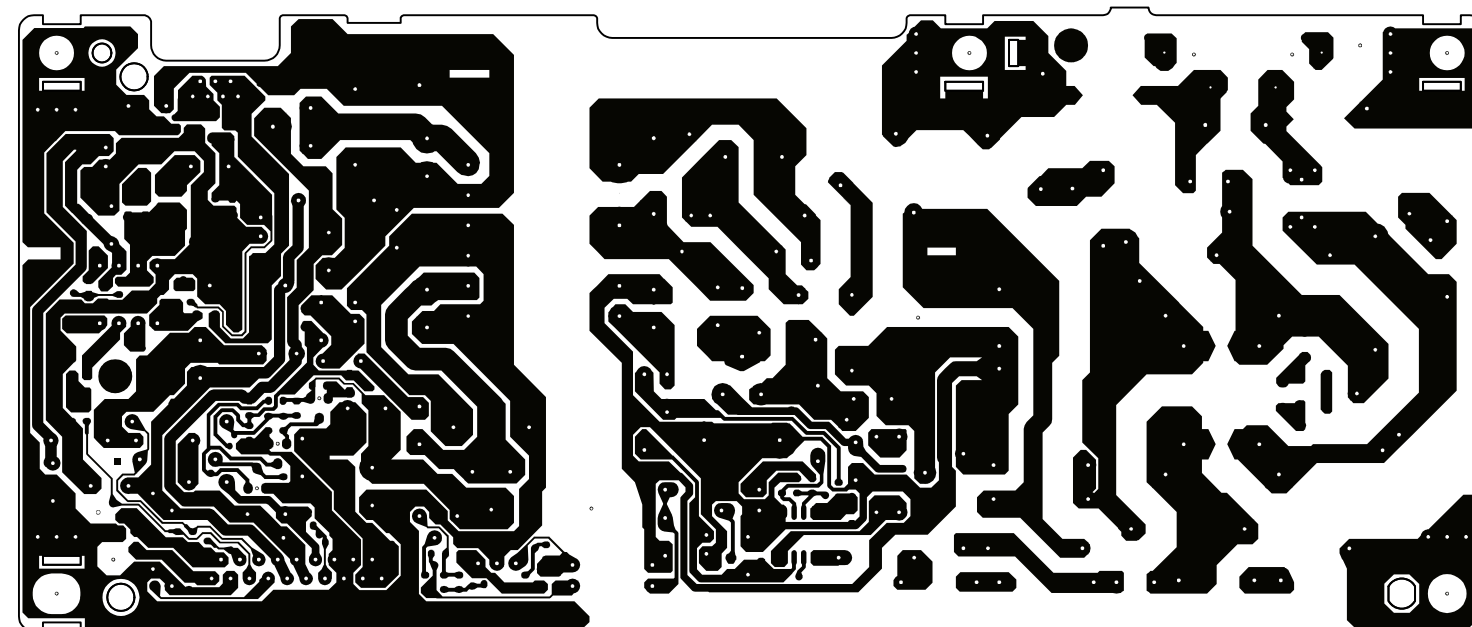


PRINTED CIRCUIT BOARDS

POWER (INSERTED PARTS)
SOLDER SIDE

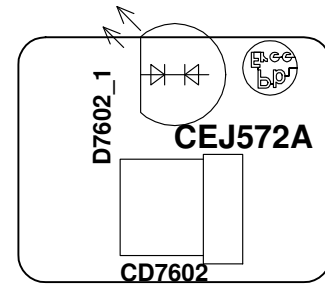


POWER (CHIP MOUNTED PARTS)
SOLDER SIDE

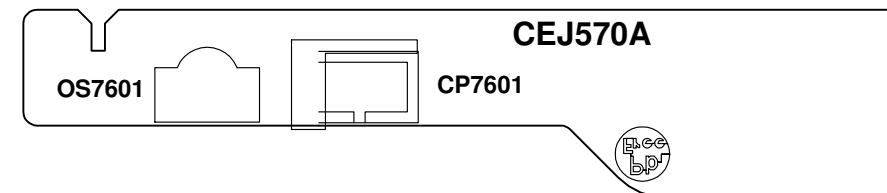


PRINTED CIRCUIT BOARDS

**LED (INSERTED PARTS)
SOLDER SIDE**



REMOCON (INSERTED PARTS) SOLDER SIDE



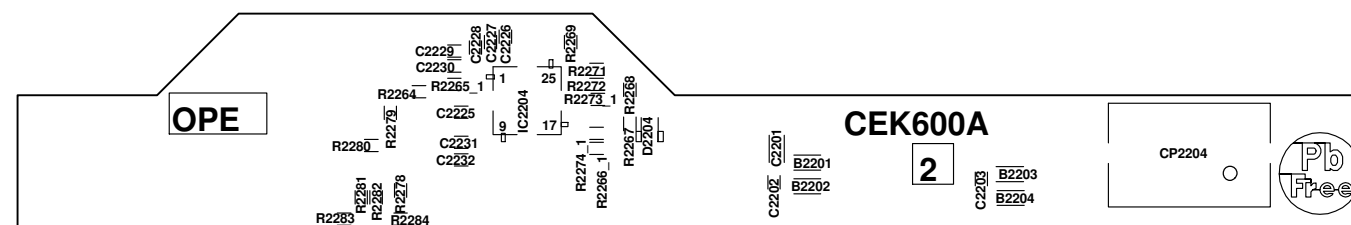
**LED (CHIP MOUNTED PARTS)
SOLDER SIDE**



REMOCON (CHIP MOUNTED PARTS) SOLDER SIDE

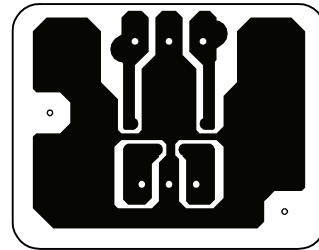


OPERATION (TOP SIDE)

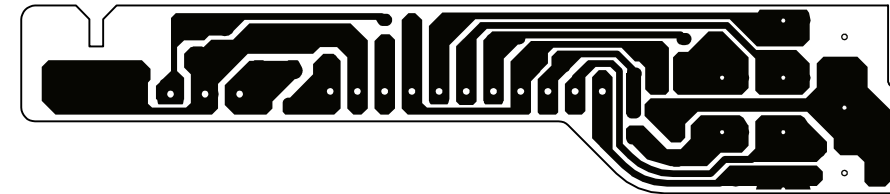


PRINTED CIRCUIT BOARDS

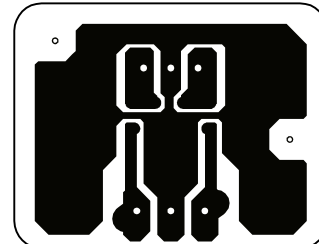
LED (INSERTED PARTS)
SOLDER SIDE



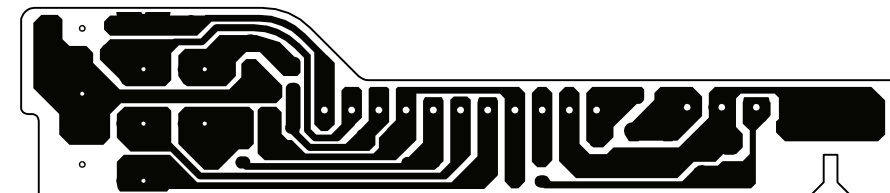
REMOCON (INSERTED PARTS)
SOLDER SIDE



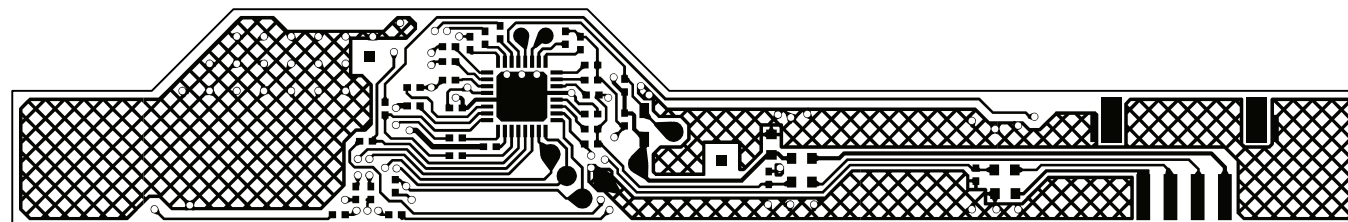
LED (CHIP MOUNTED PARTS)
SOLDER SIDE



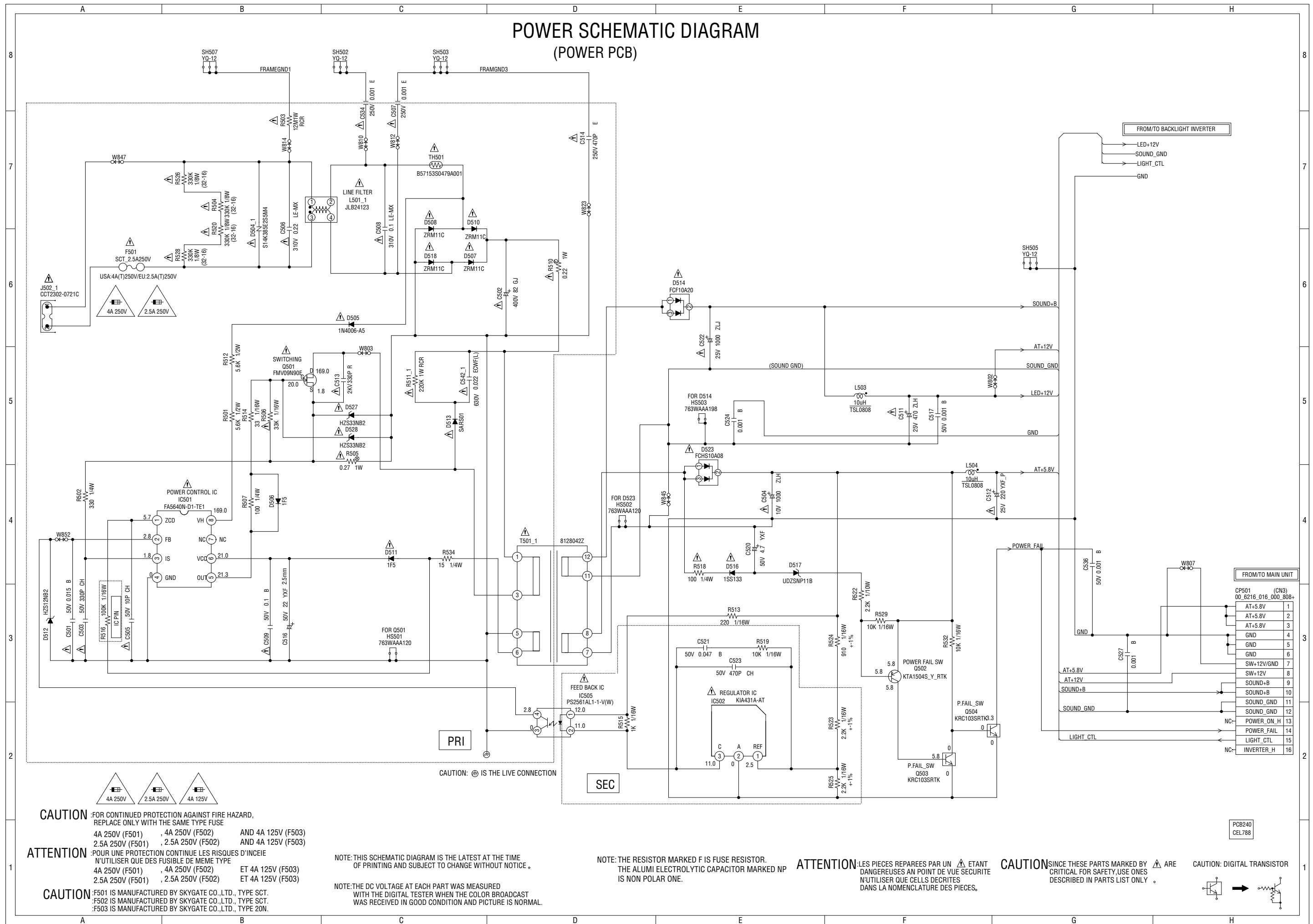
REMOCON (CHIP MOUNTED PARTS)
SOLDER SIDE



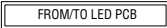
OPERATION (TOP SIDE)



POWER SCHEMATIC DIAGRAM (POWER PCB)



(POWER PCB)

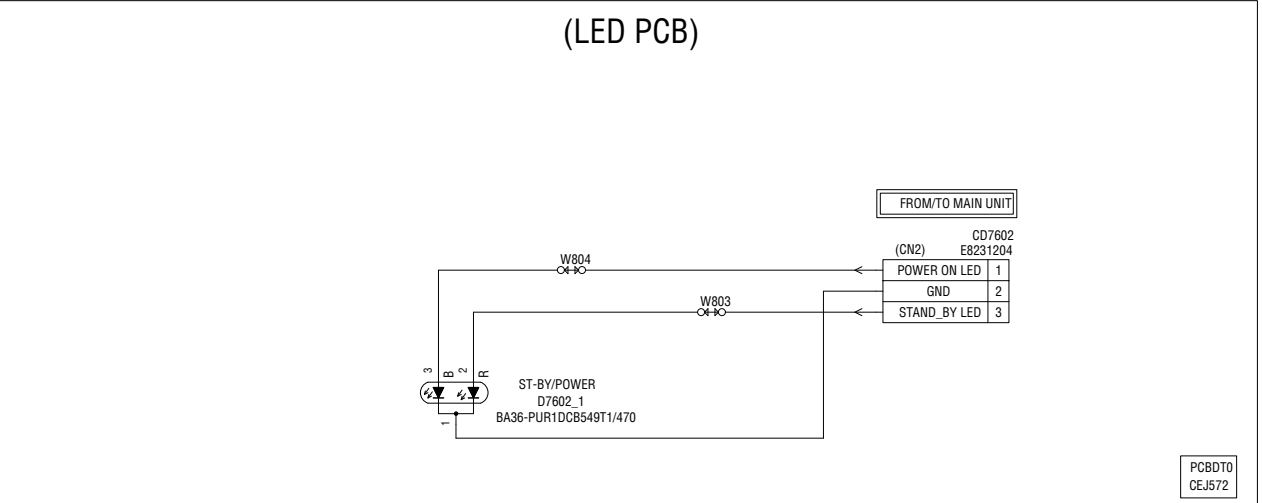
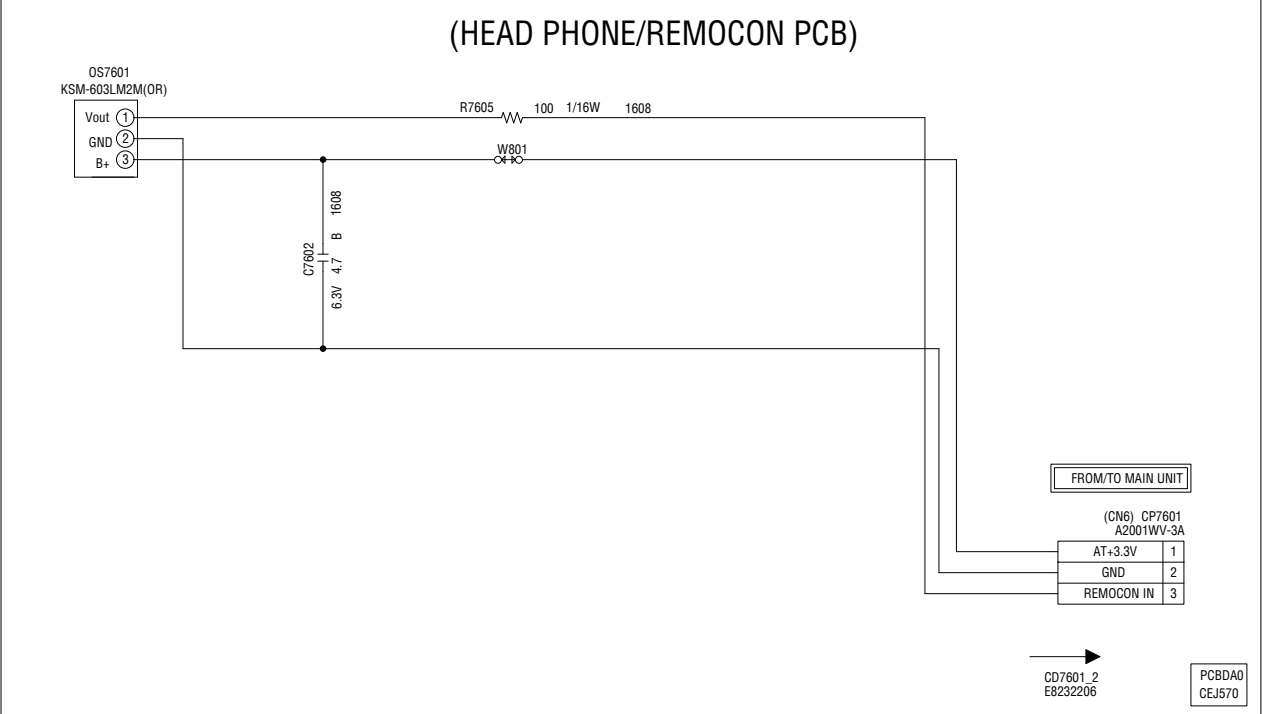


CP7001 (CD2003)	
00_6232_007_006_800+	
VLED	7
VLED	6
VLED	5
ILED1	4
ILED2	3
ILED2	2
ILED2	1

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.

PCB240
CEL788

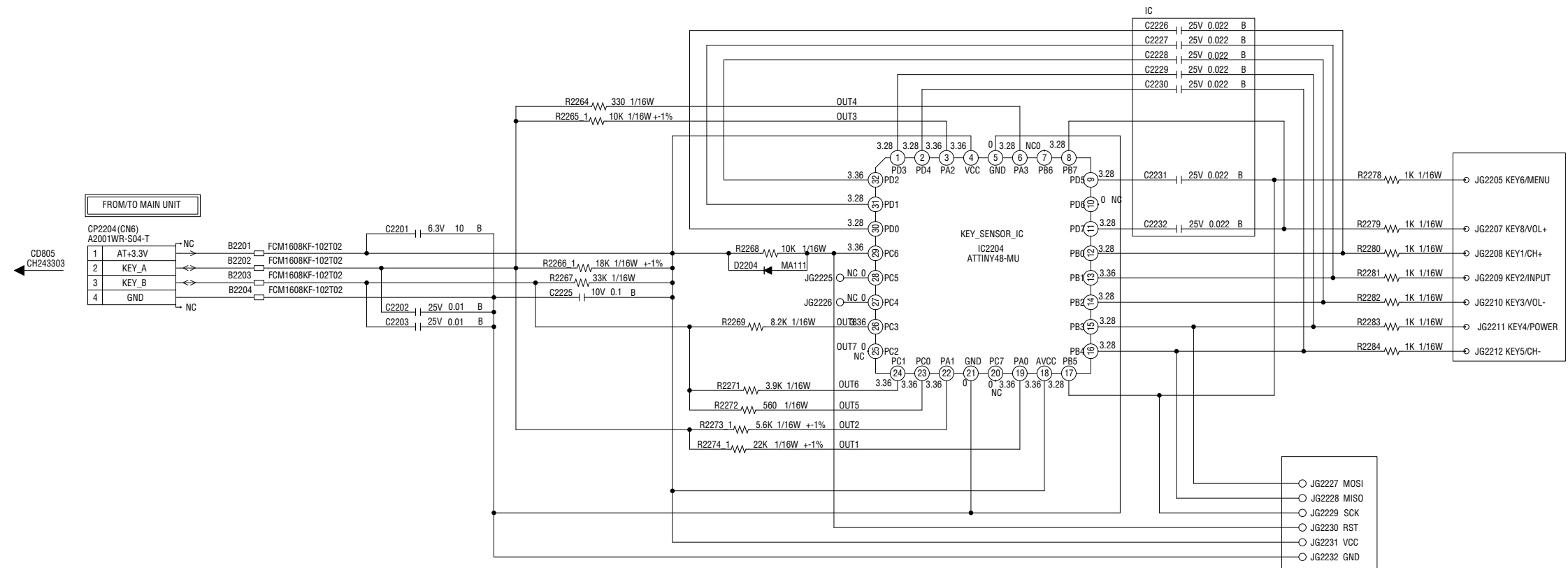
HEAD PHONE/REMOCON/LED SCHEMATIC DIAGRAM



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.

OPERATION SCHEMATIC DIAGRAM
(OPERATION PCB)

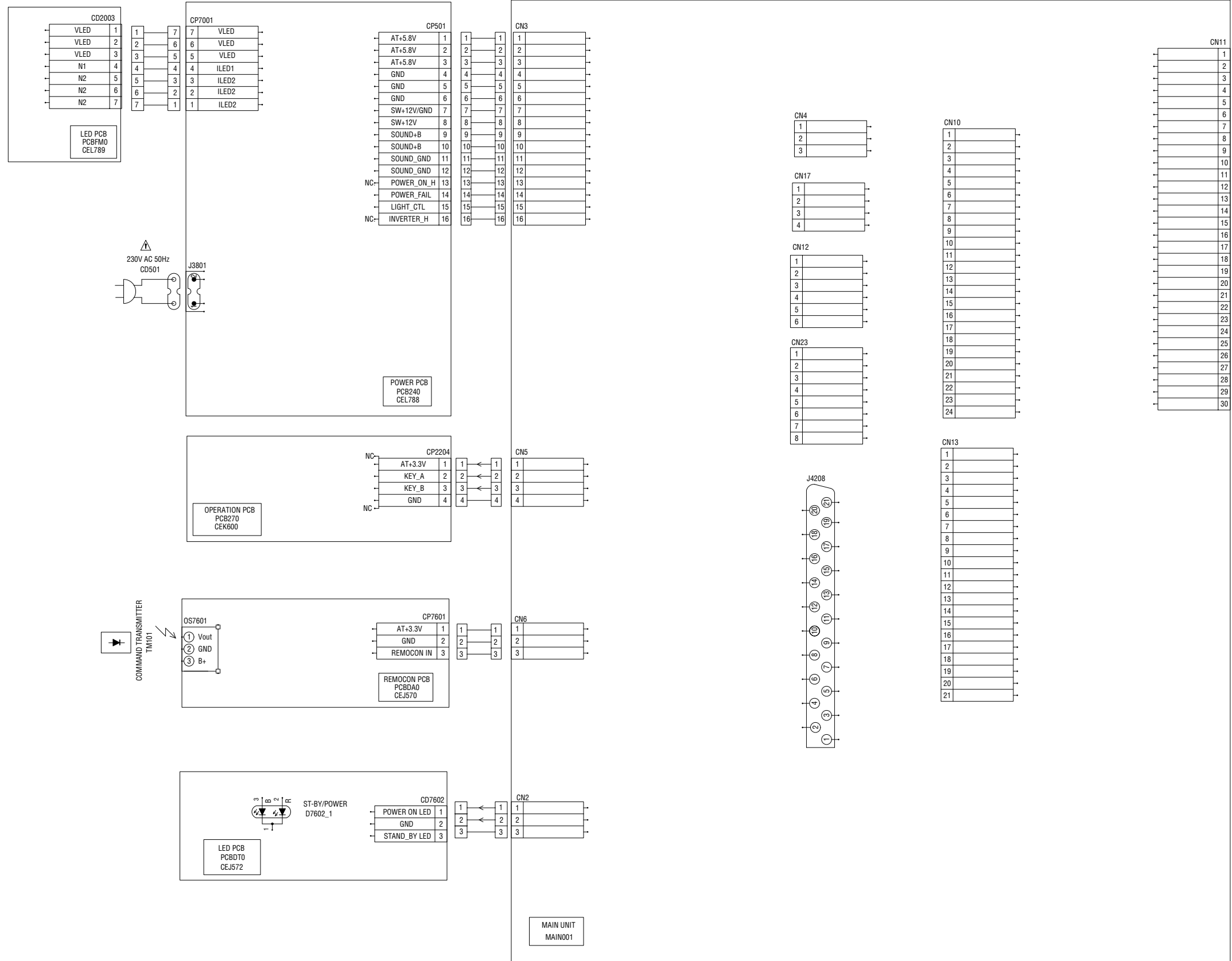


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE .

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.

PCB270
CEK600

INTERCONNECTION DIAGRAM



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

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

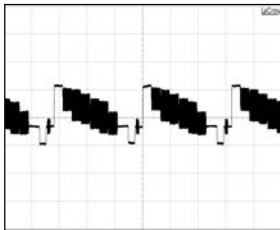
ATTENTION :LES PIECES REPARÉES PAR UN ÉTANT
DANGEREUSES AU POINT DE VUE SECURITE
N'UTILISER QUE CELLS DECRITES
DANS LA NOMENCLATURE DES PIECES.

WAVEFORMS

SCALER VIDEO/AUDIO

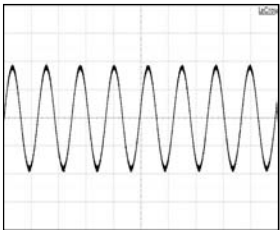
20μs/div
500mV/div

AV IN



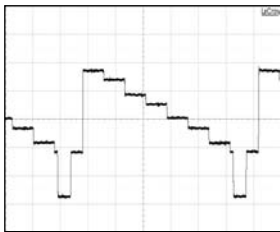
2ms/div
200mV/div

PC AUDIO L



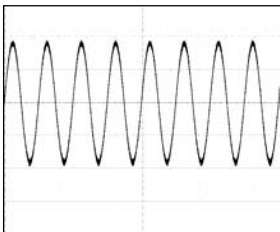
10μs/div
200mV/div

PY



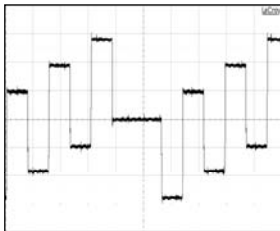
2ms/div
200mV/div

PC AUDIO R



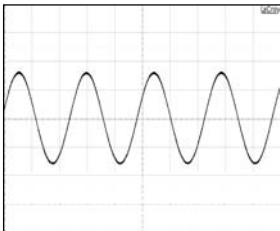
10μs/div
100mV/div

PR



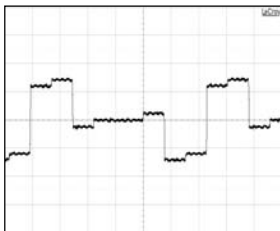
1ms/div
500mV/div

AUDIO OUT L



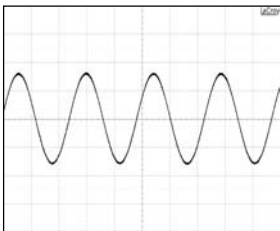
10μs/div
200mV/div

PB



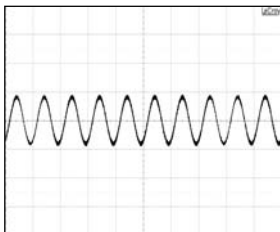
1ms/div
500mV/div

AUDIO OUT R



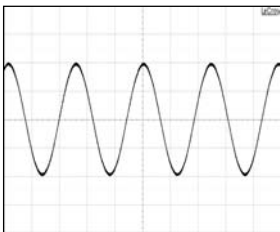
1ms/div
200mV/div

AU AUDIO IN L



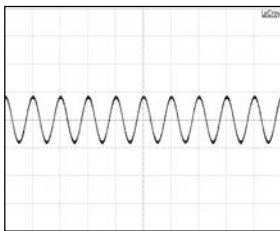
1ms/div
2V/div

SPEAKER L



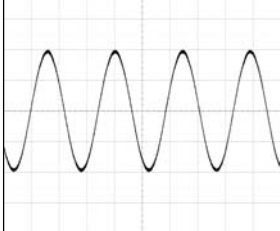
1ms/div
200mV/div

AU AUDIO IN R



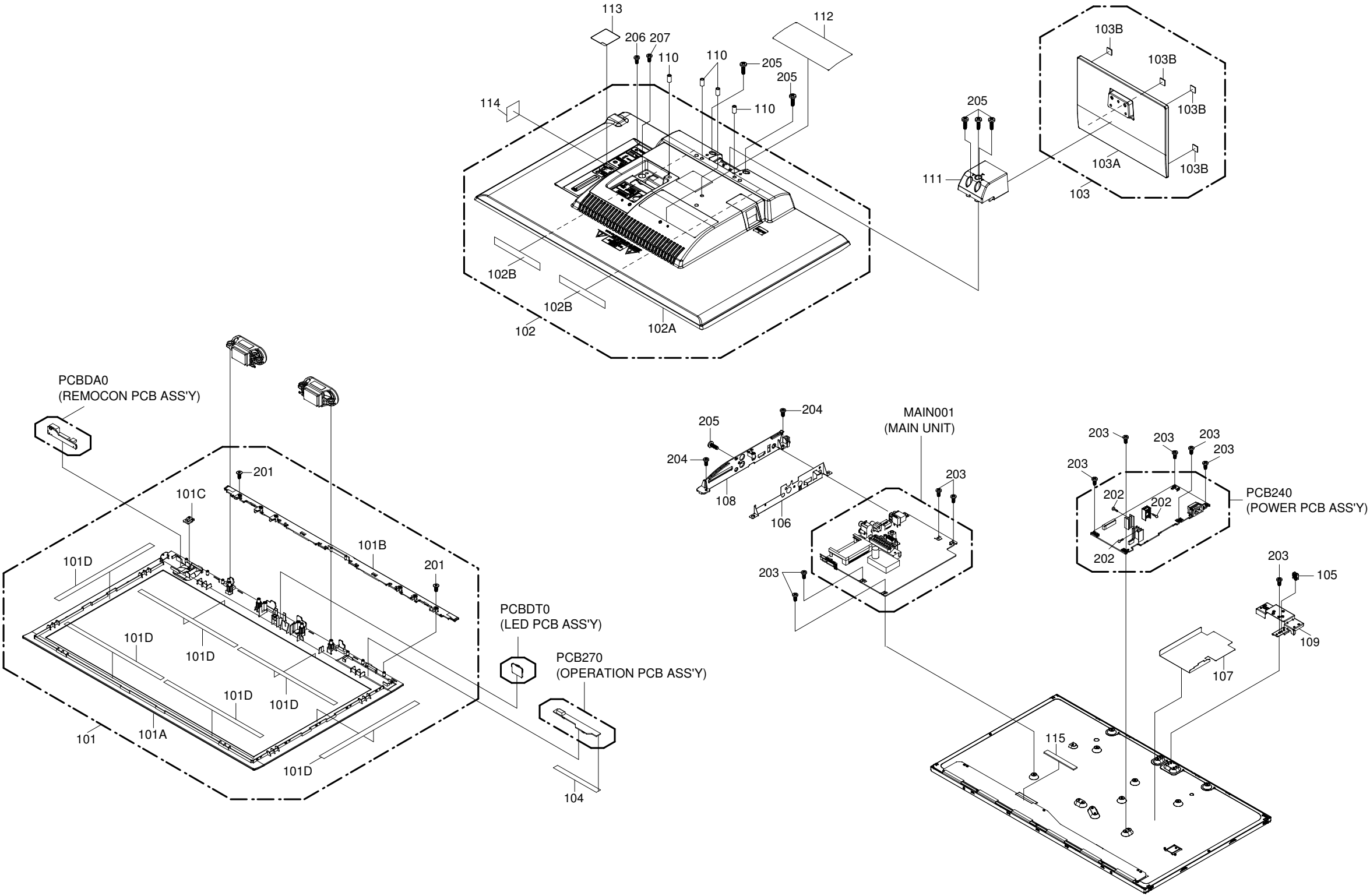
1ms/div
2V/div

SPEAKER R

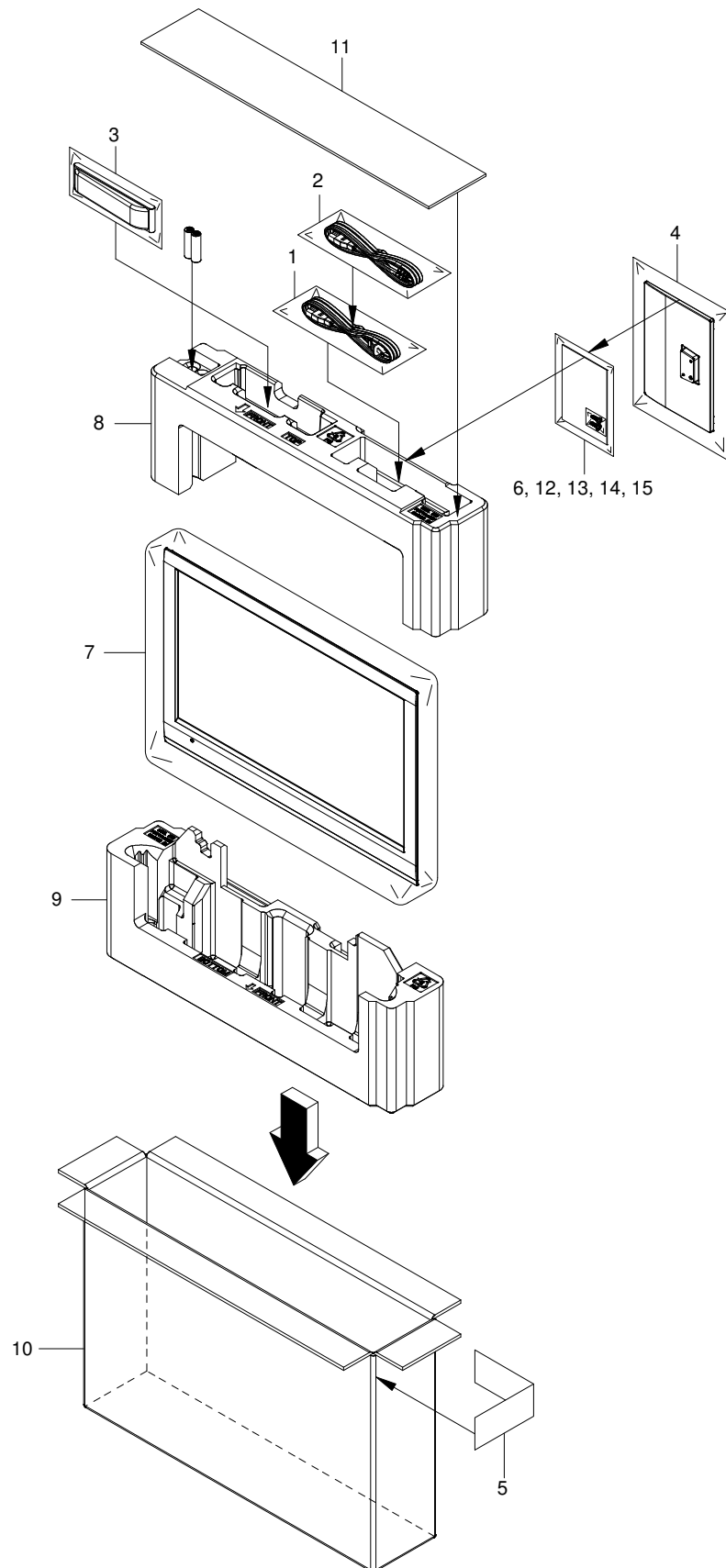


NOTE : Main Board Signal Input/Output.

MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW (PACKING DIAGRAM)



MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	QUANTITY
101	X-7A708A911A	FRONT CABI ASS'Y	1
101A	X-708WPDA718	CABINET FRONT	1
101B	X-711WPAA316	FRONT PLATE	1
101C	X-713WPD0028	GUIDE REMOCON	1
101D	X-800WQ00181	FELT SHEET	6
102A	X-702WPAC014	CABINET BACK	1
102B	X-800WQ0A312	FELT SHEET	2
103	X-7A704A375A	STAND ASS'Y	1
103A	X-704WPA0161	STAND	1
103B	X-800SRA0002	CUSHION LEG	4
		VEB1349-A	
104	X-7290000210	DOUBLE FACE TAPE	1
105	X-709WPA0051	HOLDER WIRE	1
106	X-752WUAA016	SHIELD JACK	1
107	X-759WNAA043	SHEET PC	1
108	X-761WPAA430	PLATE JACK	1
109	X-761WSAA217	ANGLE HINGE	1
110	X-769WSA0022	VESA SHAFT	4
111	X-704WPA0162	STAND FRAME	1
112	X-722538A287	SHEET RATING	1
113	X-723000F825	SHEET JACK 1	1
114	X-723000F826	SHEET JACK 2	1
115	X-800WQ0A266	FELT SHEET	1
201	X-8110K2660U	SCREW TAP TITE(P) LAMI HEAD	2
202	X-8109I30A0U	SCREW TAP TITE(B) WH7	3
203	X-810722660U	SCREW TAP TITE(S) BIND	10
204	X-810722680U	SCREW,TAP TITE(S) BIND	2
205	X-8109230A0S	SCREW TAP TITE(B) BIND	6
206	X-8107K2660S	SCREW TAP TITE(S) LAMI HEAD	1
207	X-810722680S	SCREW TAP TITE(S) BIND	1

ACCESSORY REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	QUANTITY
1	X-120A155811	CORD SET AC	1
2	X-06EYB18003	CORD,RCA PIN	1
3	X-076R0TR021	TRANSMITTER	1
4	X-791WHA0173	FILM BAG	1
5	X-723000F778	SHEET CARTON	1
6	X-723000F779	ENERGY LABEL	1
7	X-791WHAA322	FILM BAG	1
8	X-792PHAA067	PACKAGE TOP	1
9	X-792PHAA068	PACKAGE BOTTOM	1
10	X-793PCDA452	GIFT BOX	1
11	X-795PCA0001	SHEET PROTECTION	1
12	X-8905000013	SCREW	1
13	X-JB5PD000	POLYBAG INSTRUCTION(RED CAUTION)	1
14	X-J3LJ0307A	QUICK SET UP SHEET	1
15	X-J3LJ0351A	INSTRUCTION BOOK(EN/CZ/SK/HU/PL)	1

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	QUANTITY
REMOCON PCB ASS'Y			
*** PCB ***			
PCBDA0	X-A3LJ03WDA0P	REMOCON PCB ASS'Y	1
*** RESISTORS ***			
R7605	X-R803R9101J	RC 100 OHM 1/16W	1
*** CAPACITORS ***			
C7602	X-CS0PB0PQ6K	CC 4.7 UF 6.3V B	1
*** OTHERS ***			
CP7601	X-06GG230029	CONNECTOR PCB SIDE	1
OS7601	X-077Q038012	REMOTE RECEIVER	1
LED PCB ASS'Y			
*** PCB ***			
PCBDT0	X-A3LJ03WDT0P	LED PCB ASS'Y	1
*** DIODES ***			
D7602	X-0021991050	LED	1
*** OTHERS ***			
CD7602	X-06E8231204	CORD CONNECTOR	1
*** OTHERS ***			
△ V7201	X-A3LJ03WFM0P	LED MODULE ASS'Y	1
POWER PCB ASS'Y			
*** PCB ***			
PCB240	X-A3LJ03W240P	POWER PCB ASS'Y	1
*** RESISTORS ***			
R501	X-R002T2562J	RC 5.6K OHM 1/2W	1
R502	X-R002T4331J	RC 330 OHM 1/4W	1
△ R503	X-RC31X1126J	RC 12M OHM 1W	1
△ R504	X-R8X2R8334J	RC 330K OHM 1/8W	1
△ R505	X-R3K781R27J	R,METAL OXIDE 0.27 OHM 1W	1
△ R506	X-R803R9333J	RC 33K OHM 1/16W	1
R507	X-R002T4101J	RC 100 OHM 1/4W	1
△ R510	X-R63881R22J	R,FUSE 0.22 OHM 1W	1
△ R511	X-RC31X1224J	RC 220K OHM 1W	1
R512	X-R002T2562J	RC 5.6K OHM 1/2W	1
R513	X-R803R9221J	RC 220 OHM 1/16W	1
R514	X-R803R9330J	RC 33 OHM 1/16W	1
R515	X-R803R9102J	RC 1K OHM 1/16W	1
R516	X-R803R9104J	RC 100K OHM 1/16W	1
△ R518	X-R002T4101J	RC 100 OHM 1/4W	1
		CR1/2W-SS562JT/B	1
		BCS4J0331A10	1
		RCR60CT52A126J	1
		1206W8J0334T5E	1
		ERX1FJR27H	1
		HPWG J 333 T50	1
		BCS4J0101A10	1
		RF1CL15AR22J	1
		RCR60CT52A224J	1
		CR1/2W-SS562JT/B	1
		HPWGJ221T50	1
		HPWG J 330 T50	1
		HPWGJ102T50	1
		HPWGJ104T50	1
		BCS4J0101A10	1

ELECTRICAL REPLACEMENT PARTS LIST

R519	X-R803R9103J	RC	10K OHM 1/16W	HPWGJ103T50	1
△ R520	X-R8X2R8334J	RC	330K OHM 1/8W	1206W8J0334T5E	1
R522	X-R801R7222J	RC	2.2K OHM 1/10W	HMWAJ0222T50	1
R523	X-R803R9222F	RC	2.2K OHM 1/16W	HPWGF222T50	1
R524	X-R803R9911F	RC	910 OHM 1/16W	HPWGF911T50	1
R525	X-R803R9222F	RC	2.2K OHM 1/16W	HPWGF222T50	1
△ R526	X-R8X2R8334J	RC	330K OHM 1/8W	1206W8J0334T5E	1
△ R528	X-R8X2R8334J	RC	330K OHM 1/8W	1206W8J0334T5E	1
R529	X-R803R9103J	RC	10K OHM 1/16W	HPWGJ103T50	1
R532	X-R803R9103J	RC	10K OHM 1/16W	HPWGJ103T50	1
R534	X-R002T4150J	RC	15 OHM 1/4W	BCS4J0150A10	1
R7001	X-R803R9102J	RC	1K OHM 1/16W	HPWGJ102T50	1
R7002	X-R803R9223J	RC	22K OHM 1/16W	HPWG J 223 T50	1
R7003	X-R803R9100J	RC	10 OHM 1/16W	HPWGJ100T50	1
R7004	X-R801R7101J	RC	100 OHM 1/10W	HMWAJ0101T50	1
R7005	X-R803R9103F	RC	10K OHM 1/16W	HPWGF103T50	1
R7008	X-R861R43R9F	RC	3.9 OHM 1/4W	MCR10EZHFL3R9	1
R7009	X-R861R43R9F	RC	3.9 OHM 1/4W	MCR10EZHFL3R9	1
R7010	X-R861R43R9F	R	3.9 OHM 1/4W	MCR10EZHFL3R9	1
R7011	X-R861R43R9F	R	3.9 OHM 1/4W	MCR10EZHFL3R9	1
R7012	X-R861R43R9F	RC	3.9 OHM 1/4W	MCR10EZHFL3R9	1
R7013	X-R801R7470J	RC	47 OHM 1/10W	HMWAJ0470T50	1
R7014	X-R801R7470J	RC	47 OHM 1/10W	HMWAJ0470T50	1
R7017	X-R803R9473J	RC	47K OHM 1/16W	HPWG J 473 T50	1

*** CAPACITORS ***

△ C501	X-CS0PB04E4K	CC	0.015 UF 50V B	C0603X7R153K500NT	1
△ C502	X-E83FHH820D	CE	82 UF 400V	LGJ2G820MELB	1
△ C503	X-CS0PCH4L2J	CC	330 PF 50V CH	C0603C0G331J500NT	1
△ C504	X-E8E101102M	CE	1000 UF 10V	10ZLH1000MEFC10*12.5	1
△ C505	X-CS0PCH411D	CC	10 PF 50V CH	GRM1882C1H100JA01D	1
△ C506	X-P4K12D224K	CMPP	0.22 UF 310V	LE224-MX-C3.5	1
△ C507	X-CE39E0M13M	CC	0.001 UF 250V E	DE1E3KX102MB4BL01	1
△ C508	X-P4K12D104K	CMPP	0.1 UF 310V	LE104-MX-C3.5	1
△ C509	X-CS0PB0415K	CC	0.1 UF 50V B	C0603X7R104K500NT	1
△ C511	X-E8E1T3471M	CE	470 UF 25V	25ZLH470MEFCT8 10*12.5	1
△ C512	X-E8E2T3221D	CE	220 UF 25V	25YXF220MEFCTA 8*11.5	1
C513	X-C03L0R7L2K	CC	330 PF 2KV R	DEHR33D331KB3B	1
△ C514	X-CE39E0MQ2K	CC	470 PF 250V E	DE1B3KX471KB4BL01	1
C516	X-E8E2U5220D	CE	22 UF 50V	50YXF22MEFCT1 5*11	1
C517	X-CS0PB0413K	CC	0.001 UF 50V B	C0603X7R102K500NT	1
C520	X-E8E2U54R7D	CE	4.7 UF 50V	50YXF4.7MEFCT1 5*11	1
C521	X-CS0PB04Q4K	CC	0.047 UF 50V B	GRM188B11H473KA01D	1
△ C522	X-E9E8F3102D	CE	1000 UF 25V	25VZLJ1000MKC10*20	1
C523	X-CS0PCH4Q2J	CC	470 PF 50V CH	C0603CG471J500NT	1
C524	X-CRGTB0413K	CC	0.001 UF 50V B	UP025B102K-A-BZ	1
C527	X-CRGTB0413K	CC	0.001 UF 50V B	UP025B102K-A-BZ	1
△ C534	X-CE39E0M13M	CC	0.001 UF 250V E	DE1E3KX102MB4BL01	1
C536	X-CS0PB0413K	CC	0.001 UF 50V B	C0603X7R102K500NT	1
△ C542	X-P416F5223J	CMPP	0.022 UF 630V ECWF(L)	ECWF6223JLB	1
C7001	X-E9EGU2101M	CE	100 UF 16V	16ML101MEFCT5 6.3*7	1
C7002	X-CS0PB0415K	CC	0.1 UF 50V B	C0603X7R104K500NT	1
C7004	X-CS0PB04E3K	CC	0.0015UF 50V B	C0603X7R152K500NT	1
C7005	X-CS0PB0415K	CC	0.1 UF 50V B	C0603X7R104K500NT	1
C7010	X-E8EMU3101D	CE	100 UF 25V	25ZLG100MEFC6.3*11	1
C7011	X-CQGTB0415K	CC	0.1 UF 50V B	UP050B104K-A-BZ	1
C7012	X-CS0PB03Q5K	CC	0.47 UF 25V B	GRM188B31E474KA75D	1
C7013	X-CS0PB0413K	CC	0.001 UF 50V B	C0603X7R102K500NT	1
C7015	X-CS0PB04H3K	CC	0.0022UF 50V B	C0603X7R222K500NT	1
C7016	X-CS0PCH4Q2J	CC	470 PF 50V CH	C0603CG471J500NT	1
C7017	X-CS0PB0414K	CC	0.01 UF 50V B	C0603X7R103K500NT	1

ELECTRICAL REPLACEMENT PARTS LIST

*** DIODES ***

△ D504	X-D7KZ385E20	DIODE VARISTA	S14K385E2S5M4	1
△ D505	X-D4CTN40060	DIODE SILICON	1N4006-A5	1
D506	X-D4JX001F50	DIODE SILICON	1F5	1
△ D507	X-D4JXRM11C0	DIODE SILICON	ZRM11C	1
△ D508	X-D4JXRM11C0	DIODE SILICON	ZRM11C	1
△ D510	X-D4JXRM11C0	DIODE SILICON	ZRM11C	1
△ D511	X-D4JX001F50	DIODE SILICON	1F5	1
D512	X-DJBUA12012	DIODE ZENER	HZS12NB2	1
△ D513	X-D4JXARS010	DIODE SILICON	SARS01	1
△ D514	X-D28A10A200	DIODE SILICON	FCF10A20	1
△ D516	X-D1VT001330	DIODE,SILICON	1SS133T-77	1
D517	X-DE7RB1102B	DIODE ZENER	UDZSNP11B TE-17	1
△ D518	X-D4JXRM11C0	DIODE SILICON	ZRM11C	1
△ D523	X-D28A10A080	DIODE SCHOTTKY BARRIER	FCHS10A08	1
△ D527	X-DJBUA33012	DIODE ZENER	HZS33NB2	1
△ D528	X-DJBUA33012	DIODE ZENER	HZS33NB2	1
D7003	X-D27RB056L0	DIODE SCHOTTKY	RB056L-40TE25	1

*** ICS ***

△ IC501	X-ICAJ056400	POWER IC CONTROL	FA5640N-D1-TE1	1
△ IC502	X-I1KJ9A431A	VARIABLE SHUNT REGULATOR TAPE	KIA431A-AT	1
△ IC505	X-000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)	1
IC7001	X-ILYD0887D0	LED DRIVER IC	NR887D	1

*** TRANSISTORS ***

△ Q501	X-TK1009N900	FET	FMV09N90E	1
Q502	X-TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	1
Q503	X-TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK	1
Q504	X-TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK	1

*** COILS ***

B7001	X-024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	1
B7002	X-024HC13914	CORE,BEADS	HCB3216KF-391T20	1
△ L501	X-029B000187	COIL,LINE FILTER	JLB24123	1
L503	X-02167E100K	COIL 10 UH	TSL0808RA-100K2R	1
L504	X-02167E100K	COI 10 UH	TSL0808RA-100K2R	1
L7002	X-021D0N220M	COIL 22 UH	PF13-220-OS	1

*** TRANSFORMERS ***

△ T501	X-048128042Z	TRANSFORMER,SWITCHING	8128042Z	1
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*** JACKS ***

△ J502	X-064Q2A0004	JACK,AC	CCT2302-0721C	1
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*** CONNECTORS ***

CP501	X-069E7G0630	CONNECTOR PCB SIDE	00_6216_016_000_808+	1
CP7001	X-069EV73030	CONNECTOR PCB SIDE	00_6232_007_006_800+	1

*** FUSES ***

△ F501	X-0805T02501	FUSE	SCT 2.5A	1
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*** THERMISTOR ***

△ TH501	X-DSVD8E4R7M	THERMISTOR	B57153S0479A001	1
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ELECTRICAL REPLACEMENT PARTS LIST

*** OTHERS ***

EL2401	X-124116281A	EYE LET	EYE LET XRY16X28BD	9
EL2402	X-124120301A	EYE LET	EYE LET XRY20X30BD	2
SH502	X-126D000045	TERMINAL PIN	YQ-12	1
SH503	X-126D000045	TERMINAL PIN	YQ-12	1
SH505	X-126D000045	TERMINAL PIN	YQ-12	1
SH507	X-126D000045	TERMINAL PIN	YQ-12	1

OPERATION PCB ASS'Y

*** PCB ***

PCB270	X-A3LJ03W270P	OPERATION PCB ASS'Y	CEK600A	1
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*** RESISTORS ***

R2264	X-R808R9331J	RC	330 OHM 1/16W	0402WGJ0331TCE	1
R2265	X-R808R9103F	RC	10K OHM 1/16W	0402WGF0103TCE	1
R2266	X-R808R9183F	RC	18K OHM 1/16W	0402WGF1802TCE	1
R2267	X-R808R9333J	RC	33K OHM 1/16W	0402WGJ0333TCE	1
R2268	X-R808R9103J	RC	10K OHM 1/16W	0402WGJ0103TCE	1
R2269	X-R808R9822J	RC	8.2K OHM 1/16W	0402WGJ0822TCE	1
R2271	X-R808R9392J	RC	3.9K OHM 1/16W	0402WGJ0392TCE	1
R2272	X-R808R9561J	RC	560 OHM 1/16W	0402WGJ0561TCE	1
R2273	X-R808R9562F	RC	5.6K OHM 1/16W	0402WGF5601TCE	1
R2274	X-R808R9223F	RC	22K OHM 1/16W	0402WGF2202TCE	1
R2278	X-R808R9102J	RC	1K OHM 1/16W	0402WGJ0102TCE	1
R2279	X-R808R9102J	RC	1K OHM 1/16W	0402WGJ0102TCE	1
R2280	X-R808R9102J	RC	1K OHM 1/16W	0402WGJ0102TCE	1
R2281	X-R808R9102J	RC	1K OHM 1/16W	0402WGJ0102TCE	1
R2282	X-R808R9102J	RC	1K OHM 1/16W	0402WGJ0102TCE	1
R2283	X-R808R9102J	RC	1K OHM 1/16W	0402WGJ0102TCE	1
R2284	X-R808R9102J	RC	1K OHM 1/16W	0402WGJ0102TCE	1

*** CAPACITORS ***

C2201	X-CS0PB0P17M	CC	10 UF 6.3V B	GRM188B30J106ME69D+A01	1
C2202	X-CS0UB0314K	CC	0.01 UF 25V B	GRM155B11E103KA01D	1
C2203	X-CS0UB0314K	CC	0.01 UF 25V B	GRM155B11E103KA01D	1
C2225	X-CS0UB0N15K	CC	0.1 UF 10V B	C0402X5R104K100NY	1
C2226	X-CS0UB03H4K	CC	0.022 UF 25V B	C0402X7R223K250NY	1
C2227	X-CS0UB03H4K	CC	0.022 UF 25V B	C0402X7R223K250NY	1
C2228	X-CS0UB03H4K	CC	0.022 UF 25V B	C0402X7R223K250NY	1
C2229	X-CS0UB03H4K	CC	0.022 UF 25V B	C0402X7R223K250NY	1
C2230	X-CS0UB03H4K	CC	0.022 UF 25V B	C0402X7R223K250NY	1
C2231	X-CS0UB03H4K	CC	0.022 UF 25V B	C0402X7R223K250NY	1
C2232	X-CS0UB03H4K	CC	0.022 UF 25V B	C0402X7R223K250NY	1

*** DIODES ***

D2204	X-DGERMA1110	DIODE SILICON	MA111-(TX)	1
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*** ICS ***

IC2204	X-IG6N0AT480	MCU 8BIT W/4K FLASH Q-TOUCH	ATTINY48-MU	1
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ELECTRICAL REPLACEMENT PARTS LIST

*** COILS ***

B2201	X-024HC51023	CORE,BEADS	FCM1608KF-102T02	FCM1608KF-102T02	1
B2202	X-024HC51023	CORE,BEADS	FCM1608KF-102T02		1
B2203	X-024HC51023	CORE,BEADS	FCM1608KF-102T02		1
B2204	X-024HC51023	CORE,BEADS	FCM1608KF-102T02		1

*** OTHERS ***

CP2204	X-06GG240059	CONNECTOR PCB SIDE	A2001WR-S04-T		1
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AND OTHERS

*** CONNECTORS ***

CD805	X-06CH242503	CORD CONNECTOR	CH242503		1
CD805	X-06E8242501	CORD CONNECTOR	E8242501		1
CD3004	X-122H0G0501	CORD JUMPER	2H0G0501		1

*** TUNER ***

TU001	X-0164E03021	DIGITAL TUNER	TDTK-G731D(A)		1
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*** OTHERS ***

BT001	X-141U004021	BATTERY,MANGAN	AAA(R03)		1
BT002	X-141U004021	BATTERY,MANGAN	AAA(R03)		1
CD2801	X-06EH2U1011	CORD CONNECTOR	EH2U1011		1
CD7601	X-06E8232206	CORD CONNECTOR	E8232206		1
MAIN001	X-1564Y00005	MAIN UNIT	T.MT5310.91A		1
SP301	X-070Y433020	SPEAKER	S0307F08-F		1

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

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