SERVICE MANUAL

22" CLASS LCD TV

LT-22EM72

HDTV HIGH-DEFINITION TELEVISION   DOLBY DIGITAL   HDMI HIGH-DEFINITION MULTIMEDIA INTERFACE   energy ENERGY STAR
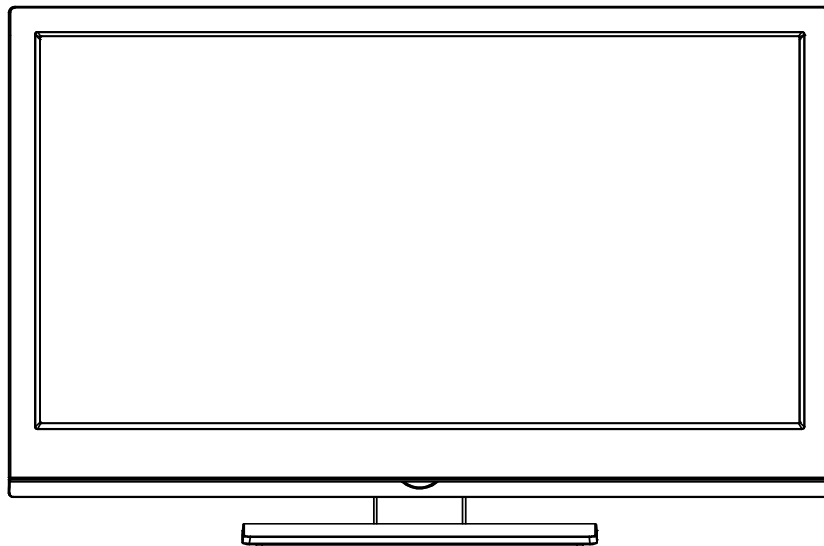
All the specifications and features are subject to change without notice.

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 0.15μF 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.
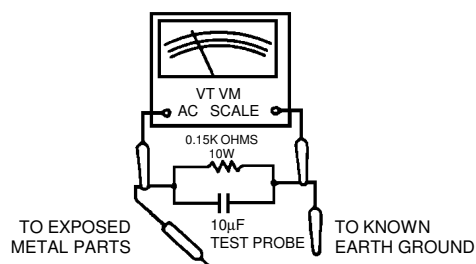
ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF PCB:

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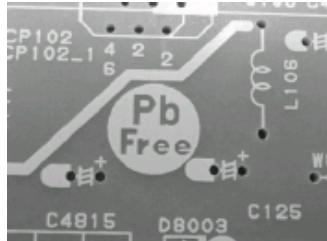
Caution:

- Pb free solder has a higher melting point than standard solder;
  Typically the melting point is $86^{o}F$~$104^{o}F(30^{o}C$~$40^{o}C)$ higher.
  Please use a soldering iron with temperature control and adjust it to $650^{o}F \pm 20^{o}F$ ($350^{o}C \pm 10^{o}C$).
  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 $1100^{o}F$/ $600^{o}C$).
- 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. In power on mode, set the VOLUME to minimum.
2. Press and hold the VOLUME DOWN button on the front panel.
3. Simultaneously press and hold the MENU button on the remote control for more than 2 seconds.
4. The Hotel mode setting menu will appear.
5. Using the UP/DOWN button on the remote control, select the desired mode. Then press the ENTER button.
6. Using the LEFT/RIGHT button on the remote control, set the mode to desired setting.
7. Using the UP/DOWN button on the remote control, select the ENTER. Then press the ENTER button of remote control.
8. The Hotel mode has now been set up.

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

1. In power on mode, set the VOLUME to minimum.
2. Press and hold the VOLUME DOWN button on the front panel.
3. Simultaneously press and hold the MENU button on the remote control for more than 2 seconds.
4. The Hotel mode setting menu will appear.
5. Using the UP/DOWN button on the remote control, select the RESET. Then press the ENTER button on the remote control.
6. The setting items has now been returned to initial value.

Setting item	Setting value	Initial value	FUNCTION
Maximum volume	0~50	50	Setting of the maximum volume value.
Panel button	RESPOND/ NO RESPOND	RESPOND	Effective/invalid setting of main key operation. (*Note 1)
Menu button			Effective/invalid setting of Menu key operation of set and remote control. (*Note 1)
Input mode start	NORMAL/ TV/AV/ COMPONENT/ HDMI/PC	NORMAL	Setting of input source at power supply On. (*Note 2)
Reset	——	——	Various settings of the Hotel mode function return initial State.

Note 1) Even if setting it to "No Respond", the service mode function are effective.
Note 2) If setting it to "NORMAL", it start up in same input source when you turn off the power before.

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GENERAL SPECIFICATIONS

G-1	**TV System**	LCD	LCD Size / Visual Size		21.53 inch / 546.9mmV
			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%
		Color System			NTSC
		Speaker			2 Speaker
			Position		Bottom
			Size		1.0 x 2.7 inch
			Impedance		8 ohm
		Sound Output	Max		2.0W + 2.0W
			10%(Typical)		---
G-2	**Tuning System**	Broadcasting System	Analog		US System M
			Digital		ATSC(8VSB)/QAM
		Tuner and Receive CH	System		1Tuner
			Destination		US (W/CABLE)
		CH Coverage			2~69, 4A, A-5~A-1, A~I, J~W, W+1~W+94
		Intermediate Frequency	Digital		44.00MHz
			Analog	Picture(FP)	45.75MHz
				Sound(FS)	41.25MHz
				FP-FS	4.50MHz
		Preset CH			No
		Stereo/Dual TV Sound			US-Stereo
		Tuner Sound Muting			Yes
G-3	**Signal**	Video Signal	Input Level		1 V p-p/75 ohm
			Output Level		--
			S/N Ratio (Weighted)		--
			Horizontal Resolution at DVD Mode		--
					--
		RGB Signal	Output Level		--
		Audio Signal	Input Level		-8.0dBm/50k ohm
			Output Level	at DVD	--
				at TV	--
			Digital Output Level		0.5 V p-p/75 ohm
			S/N Ratio at DVD (Weighted)		--
			Harmonic Distortion		--
			Frequency Response :	at DVD	--
				at Video CD	--
				at SVCD	--
				at CD	--
G-4	**Power**	Power Source	AC		120V, 60Hz
			DC		--
		Power Consumption		at AC	31W at 120V 60Hz
				at DC	--
			Stand by (at AC)		0.3W at 120V 60Hz
			Energy Star		Yes
			NR Canada		No
			Per Year		-- kWh/Year
		Protector	Power Fuse		Yes
			Safety Circuit		Yes
			IC Protector(Micro Fuse)		Yes
G-5	**Regulation**		Safety		UL(UL60065_7th)/cUL(CSA E60065_03)
			Radiation		FCC/IC
			Laser		--
G-6	**Temperature**		Operation		+5°C ~ +40°C
			Storage		-20°C ~ +60°C
			Space Around Unit		10cm (4inch)
G-7	**Operating Humidity**				Less than 80% RH

GENERAL SPECIFICATIONS

G-8	Clock and Timer	Clock		No		
		Sleep Timer	Max Time	120 Min		
		On Timer	Program	Yes 1Program		
		Off Timer	Program	No		
		Game Timer		No		
		Timer Back-up (at Power Off Mode) more than		--	Min	Sec
G-9	Remote Control	Unit		RC-TZ		
		Glow in Dark Remocon		No		
		Remocon Format		JVC		
		Format		JVC		
		Custom Code		03h、0Fh		
		Power Source	Voltage(D.C)	3V		
			UM size x pcs	UM-4 x 2 pcs		
		Total Keys		32 Keys		
		Keys	Power	Yes		
			1	Yes		
			2	Yes		
			3	Yes		
			4	Yes		
			5	Yes		
			6	Yes		
			7	Yes		
			8	Yes		
			9	Yes		
			0	Yes		
			-	Yes		
			Recall (Quick View)	Yes		
			Sleep	Yes		
			Muting(Mute)	Yes		
			CH+ / Up	Yes		
			CH- / Down	Yes		
			VOL+ / Right	Yes		
			VOL- / Left	Yes		
			Menu	Yes		
			Reset	No		
			Exit	Yes		
			Enter	Yes		
			Input Select	Yes		
			CCD (Closed Caption)	Yes		
			Display	Yes		
			Zoom (Picture Size)	Yes		
			FAV +	No		
			FAV -	No		
			Audio	Yes		
			PLAY	Yes		
			STOP	Yes		
			SKIP-	Yes		
			SKIP+	Yes		
			PAUSE	Yes		

GENERAL SPECIFICATIONS

G-10	Features	Auto Shut Off		Yes
		Auto Search		No
		Power On Memory		Yes
		Hotel Mode		Yes
		Comb Filter		Yes
				3 -D
		Game Position		No
		Auto Setup		Yes
			Language	No
			TV Location	No
			E-POP Demo	Yes
			Signal Type	Yes
			Automatic Search	Yes
		Auto Setup(in Setup Menu)		Yes
		Picture Setting(TV)		Yes
			Picture Preference	Yes
			Brightness , Contrast , Color	Yes
			Tint	Yes
			Sharpness	Yes
			Color Temperature	Yes
			DNR	Yes
			Backlight	Yes
		Picture Setting(PC)		Yes
			HOR Position , VER Position	Yes
			Phase, Clock	Yes
			Red, Green, Blue	No
			Auto Adjust	Yes
		Audio	MTS	Yes
			Equalizer Mode	Yes
			Tone Control (Bass/Treble/Balance)	Yes
			Equalizer Setting	Yes
			Stable Sound	No
			Surround	Yes
			Auto Volume(Automatic Volume Control)	Yes
			BBE	No
			SRS WOW (SRS 3D/Focus/Tru Bass)	No
			HDMI Audio	Yes
			Speakers(Variable Audio Out)	No
		Tuning	CH Program	Yes
			Air/Cable	Yes
			ADD/DELETE	Yes
		Label	CH Label	Yes
			Video Label	Yes
		Favorite CH		No
		V-Chip		Yes
			Type	USA Type
		RRT Setup		Yes
		Lock	Hotel Lock	No
			Channel Lock	No
			Video Lock	No
			Panel Lock	No

GENERAL SPECIFICATIONS

Menu Language			English
DBC (Dynamic Backlight Control)			Yes
Dynamic Gamma			No
Signal Meter (DTV Signal)			Yes
Closed Caption			Yes
CC Advanced			Yes
V-Chip Clear			Yes
V-Chip Protect Temporary Unlock			No
Picture Size			Yes
Film Mode			Yes
Auto Aspect			No
PFC(Power Factor circuit)			No
Freeze frame			No
PIP/POP			No
Direct Input Selection			Yes
PC Plug and Play			No
Energy Star LOGO (OSD)			No
PC Standby			Yes
Power On/Off Sound			Yes
Power On LED On/Off			Yes
USB			Yes (Some USB devices may not be usable.)
	Time Shift		Yes (Digital Only)
	Playback File	DivX	No
		MPEG-4 Visual	No
		H.264/MPEG-4 AVC	No
		WMV	No
		Real Media	No
		MP3	No
		WMA	No
		MPEG-4 AAC	No
		WAV	No
		FLAC	No
		JPEG	No
	iPod		No
	iPhone		No
	iPad		No
	HDD		No
	Software Update		Yes
Digital Out		Dolby Digital	Yes
		MPEG	No
		PCM	Yes
		DTS	No
PC Monitor Input			Yes
		VGA (640x480)	Yes (60,72,75Hz)
		VGA (720x400)	Yes (70Hz)
		WVGA (848x480)	No
		SVGA (800x600)	Yes (56,60,72,75Hz)
		XGA (1024x768)	Yes (60,70,75Hz)
		WXGA (1280x768)	Yes (60Hz)
		WXGA (1280x720)	No
		WXGA (1360x768)	Yes (60Hz)
		SXGA (1280x1024)	Yes (60Hz)
		WXGA+ (1440x900)	Yes (60Hz)
		FHD (1920x1080)	Yes (60Hz)

GENERAL SPECIFICATIONS

		HDMI Input		Yes
			VGA (640×480)	Yes (60Hz)
			720×480i (4:3)	Yes (60Hz)
			720×480i (16:9)	Yes (60Hz)
			720×480p (4:3)	Yes (60Hz)
			720×480p (16:9)	Yes (60Hz)
			720×576i (4:3)	No
			720×576i (16:9)	No
			720×576p (4:3)	No
			720×576p (16:9)	No
			1280×720p	Yes (60Hz)
			1920×1080i	Yes (60Hz)
			1920×1080p	Yes (60Hz)
			CEC (ORION Standard)	No
			Deep Color	No
			xvYCC	No
		DVI to HDMI Input	VGA (640x480)	Yes (60,72,75Hz)
			VGA (720x400)	Yes (70Hz)
			WVGA (848x480)	No
			SVGA (800x600)	Yes (56,60,72,75Hz)
			XGA (1024x768)	Yes (60,70,75Hz)
			WXGA (1280x768)	Yes (60Hz)
			WXGA (1280x720)	Yes (60Hz)
			WXGA (1360x768)	Yes (60Hz)
			SXGA (1280x1024)	Yes (60Hz)
			WXGA+ (1440x900)	Yes (60Hz)
			FHD (1920x1080)	Yes (60Hz)
		Component Input		Yes
			720×480i (4:3)	Yes (60Hz)
			720×480i (16:9)	Yes (60Hz)
			720×480p (4:3)	Yes (60Hz)
			720×480p (16:9)	Yes (60Hz)
			720×576i (4:3)	No
			720×576i (16:9)	No
			720×576p (4:3)	No
			720×576p (16:9)	No
			1280×720p	Yes (60Hz)
			1920×1080i	Yes (60Hz)
			1920×1080p	No
		Wall Mount	Size W x H(mm)	Yes (100 x 100)
			Screw Size	M4 x 10
		Stand	Tilt	No
			Swievel	No
G-11	Accessories	Owner's Manual	Language	English / French
			w/Guarantee Card	Yes
		Remote Control Unit		Yes
		Rod Antenna		No
			Poles	--
			Terminal	--
		Loop Antenna		No
			Terminal	--
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Guarantee Card		No
		Warning Sheet		No
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Important Safeguard		No
		Dew/AHC Caution Sheet		No
		Quick Set-up Sheet		No
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
			OEM Brand	No

GENERAL SPECIFICATIONS

		AC Adapter			No
		AC Cord (for AC Adapter)			No
		AC Cord			Yes
		Cable Tie			No
		AV Cord (2Pin-1Pin)			No
		Registration Card (NDL Card)			No
		300 to 75ohm Antenna Adapter			No
		Sheet Information (FCC)			No
		Sheet Information (DTV)			No
		Sheet Information (CEA)			No
		Sheet Information (Return)			No
		Sheet Information (Picture Quality)			No
		Sheet Information (Sheet Set Up)			No
		Sheet Information (HDMI)			No
		Cleaning Cloth			No
		Stand Screw			Yes (2pcs)
		Stand			Yes
G-12	Interface	Switch	Side	Power	Yes
				Channel Up/Menu Up	Yes
				Channel Down/Menu Down	Yes
				Volume Up/Menu >	Yes
				Volume Down/Menu <	Yes
				Menu	Yes
				Play	No
				Eject	No
				Skip+, Search+	No
				Skip-, Search-	No
				Still/Pause	No
				Stop	No
				Main Power SW	No
				Input Select/Enter	Yes
			Rear	Main Power SW	No
		Indicator		Power/Stand-By	Yes (Blue / Red)
				PC Stand-By	Yes (Red Blinking)
				Power Wake Up	No
				On Timer	No
		Terminals	Side	Video Input 1	RCA x 1
				Audio Input 1	RCA x 2(L/MONO, R)
				S - Input 1	No
				Video Input 2	No
				Audio Input 2	No
				S - Input 2	No
				Video Output	No
				Audio Output	No
				Component Input 1	RCA x 3
				Analog Audio	Video1 Audio Input Alternative
				Component Input 2	No
				Analog Audio	No
				HDMI Input 1	Yes
				Analog Audio	PC Audio Input Alternative
				HDMI Input 2	No
				Analog Audio	No
				VHF/UHF Antenna Input	F Type
				USB (Time Shift/Software Update)	Yes
				Other Terminal	Headphone
				AC Inlet	Yes
		Terminals	Rear	PC Monitor Input	Yes
				Analog Audio	Mini Pin Jack(φ3.5), STEREO
				Digital Audio Output	Coaxial
				Sub Woofer Out	No
				DC Jack (Center +)	No
				Video Input 3	No
				Audio Input 3	No
				S - Input 3	No
				USB (Software Update)	No
				USB (JPEG/MP3/Software Update)	No

GENERAL SPECIFICATIONS

G-13	**Set Size**		Approx. W x D x H (mm)	516.4 x 168 x 376.5
			w/o Handle, Stand Approx. W x D x H (mm)	516.4 x 50.0 x 341.6
G-14	**Weight**		Net (Approx.)	3.4kg (7.5lbs)
			Net w/o Handle, Stand (Approx.)	3.2kg (7.1lbs)
			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)	---
			Description of Origin	---
		Gift Box	Material	Single/Full Color
			W/Color Photo Label	No
			W/Handle	No
			Dimensions W x D x H(mm)	602 x 129 x 452
			Description of Origin	Yes
		Drop Test		1 Corner / 3 Edges / 6 Surfaces
			Height (cm)	80
		Container Stuffing (40' container)		1725 Sets/40' container
		w/Pallet		No
		w/Wrapping		No
G-16	**Material**	Cabinet	Front	ABS 94HB
			Rear	PS 94V0 NON-DECABROM
			Stand	PS 94HB
			Jack Panel	--
		PCB	Non-Halogen Demand	No
			Eyelet Demand	Yes
G-17	**Environment**		Environmental standard requirement	Green procurement of JVC
			Pb-free	Phase3(Phase3A)
			Measures for Whisker	Yes

DISASSEMBLY INSTRUCTIONS

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

CAUTION
Be careful not to remove the FFC cable forcibly, because the FFC 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.

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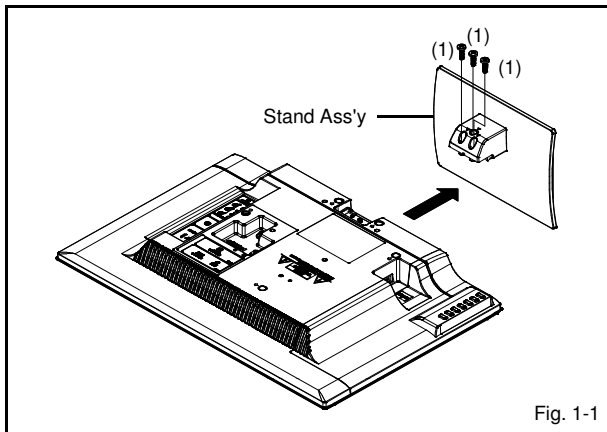
1-2: BACK CABINET ASS'Y (Refer to Fig. 1-2)

1. Remove the 6 screws (1)
2. Remove the Back Cabinet Ass'y in the direction of arrow.

Fig. 1-2
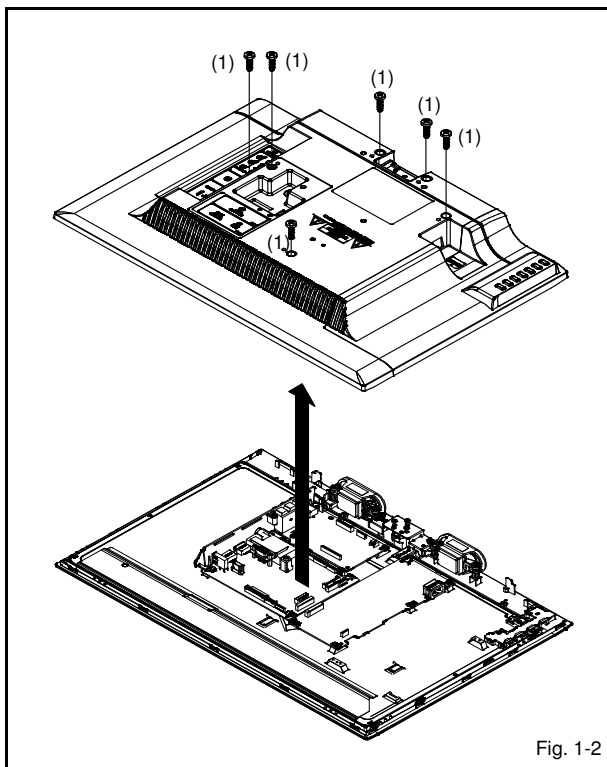
1-3: MAIN PCB / SIDE JACK PCB (Refer to Fig. 1-3)

1. Remove the 4 screws (1)
2. Remove the Plate Jack in the direction of arrow (A).
3. Remove the Shield Jack in the direction of arrow (B).
4. Disconnect the following connectors: **(CP301, CP302, CP2201, CP2804, CP3003, CP4202 and CP8101)**.
5. Remove the 5 screws (2)
6. Remove the Main PCB and Side Jack PCB in the direction of arrow (C).

Fig. 1-3
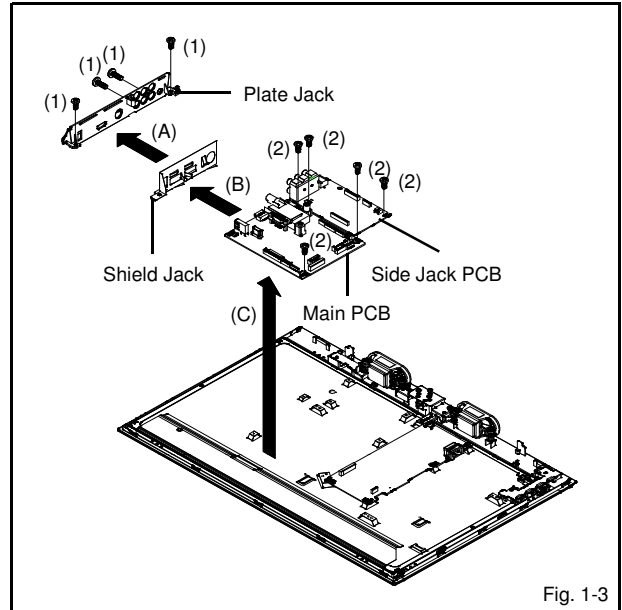
1-4: POWER PCB / OPERATION PCB (Refer to Fig. 1-4)

1. Disconnect the following connectors: **(CP7001)**
2. Remove the 3 screws (1)
3. Remove the Power PCB in the direction of arrow (A).
4. Remove the screw (2)
5. Remove the Operation PCB in the direction of arrow (B).

Fig. 1-4
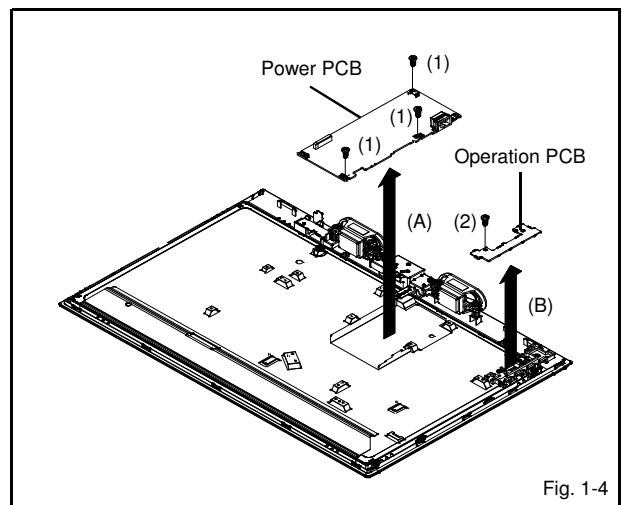
DISASSEMBLY INSTRUCTIONS

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

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

Fig. 1-5
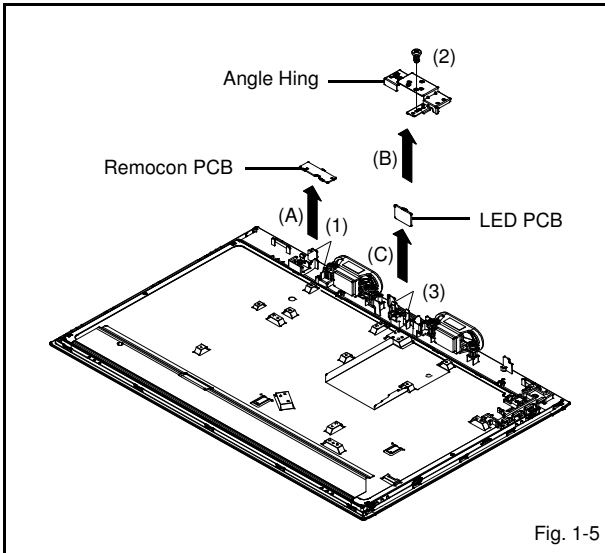
DISASSEMBLY INSTRUCTIONS

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.

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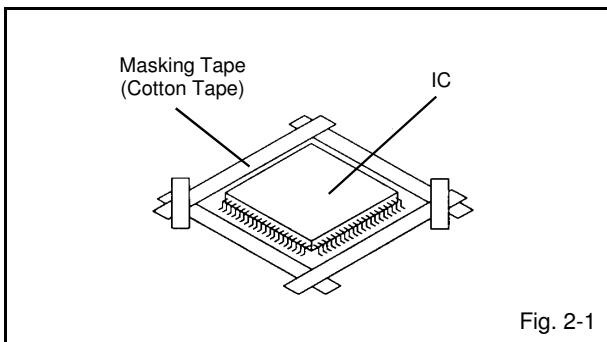
2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 2-2.)**

   NOTE

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

Fig. 2-2
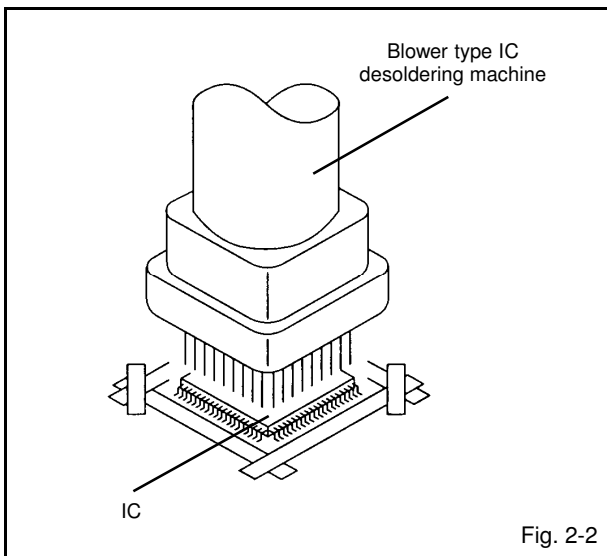
3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 2-3.)**

   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.

Fig. 2-3
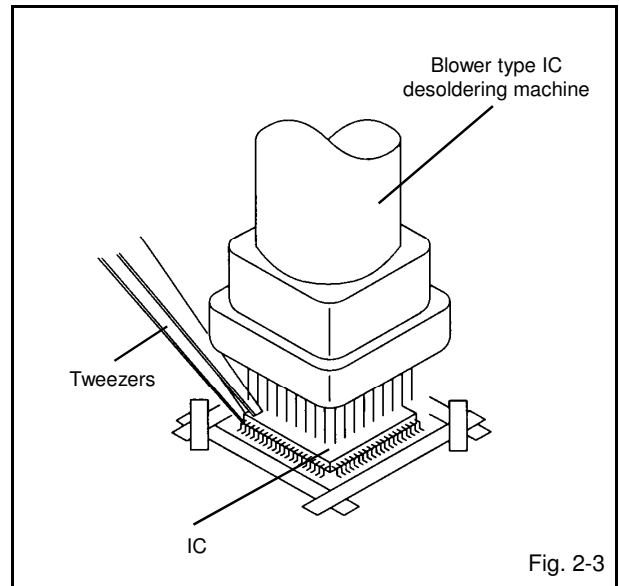
4. Peel off the Masking Tape.

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

   NOTE

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

Fig. 2-4
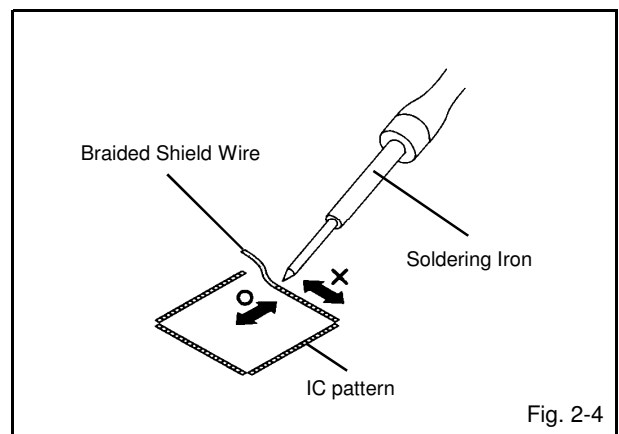
DISASSEMBLY INSTRUCTIONS

INSTALLATION

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

Soldering Iron

Solder temporarily   Solder temporarily

Fig. 2-5
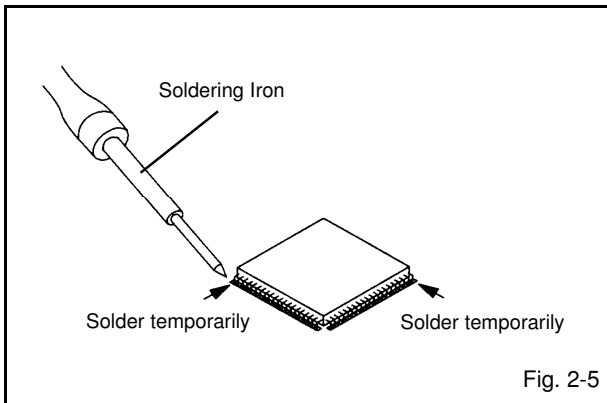
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 2-6.)**

Solder

Soldering Iron

IC

Supply soldering from upper position to lower position

Fig. 2-6
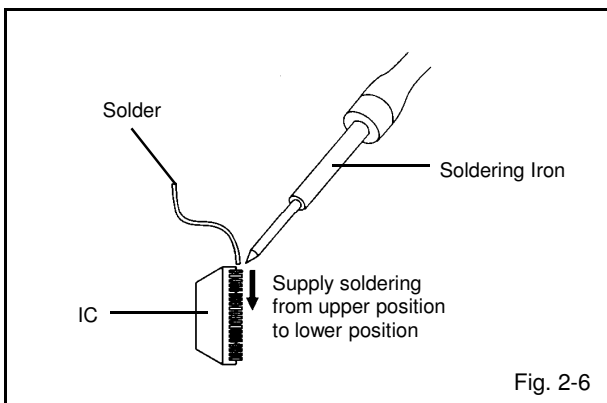
3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 2-7.)**

   NOTE

   Do not absorb the solder to excess.

Soldering Iron

IC

Braided Shield Wire

Fig. 2-7
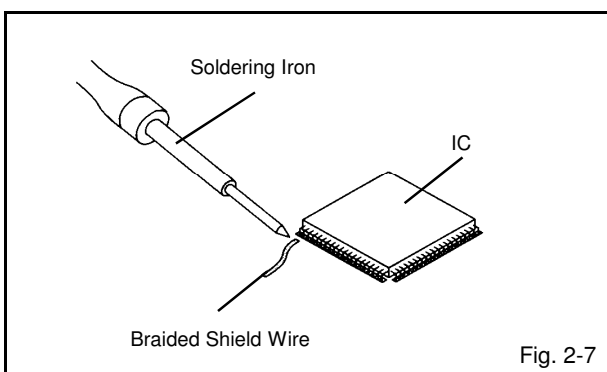
4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thintip Soldering Iron. **(Refer to Fig. 2-8.)**

Thin-tip Soldering Iron   IC

Fig. 2-8
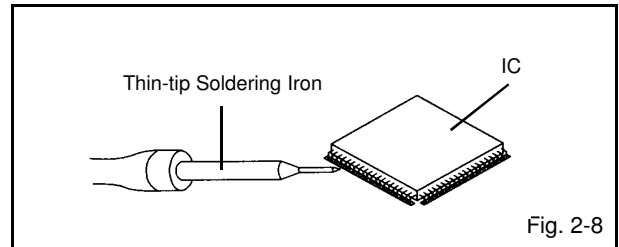
5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   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.

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

Set Condition	Set Key	Remocon Key	Standard Time	Operations
POWER ON	VOL. DOWN (Minimum)	0	2 sec.	Releasing of V-CHIP PASSWORD.
POWER ON	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.
POWER ON	VOL. DOWN (Minimum)	8	2 sec.	Check of the SUM DATA, POWER ON total hours and MICON VERSION on the screen. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
POWER ON	VOL. DOWN (Minimum)	9	2 sec.	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
POWER ON	VOL. DOWN (Minimum)	MENU	2 sec.	Releasing of HOTEL MODE FUNCTION Refer to the "HOTEL MODE FUNCTION".

WHEN REPLACING EEPROM (MEMORY) IC

CONFIRMATION OF CHECK SUM, POWER ON TOTAL HOURS AND MICON VERSION

Initial total of MEMORY IC, POWER ON total hours and MICON VERSIONcan 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".
Please refer to "CONFIRMATION OF INITIAL DATA" when SUM DATA is not corresponding.

1. Turn on the POWER, and set to the ALL mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(8)** on the remote control for more than 2 seconds.
4. After the confirmation of each check sum, turn off the power.

NOTE: The each item value might be different according to each set.

	CHECK SUM : 625A ———————— Initial setting data check sum.
	LCD PWR ON : 0000 ———————— POWER ON total hours.
HDMI data check sum. ——	HDMI SUM : 3900 = (16 x 16 x 16 x thousands digit value)
Main Micon check Version. ——	DTV : CAAFI19081 + (16 x 16 x hundreds digit value)
EEPROM check Version. ——	EEPROM : K3FS52WM00 + (16 x tens digit value)
Parameter check Picture Quality. ——	QUALITY : @@@@.@@ (@@@@@@ @@:@@:@@) + (ones digit value)
Parameter check Picture Size. ——	SCALING : @@@@.@@ (@@@@@@ @@:@@:@@)

FIG. 1

CONFIRMATION OF INITIAL DATA

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 INITIAL SETTING TABLE (Attached "INITIAL DATA").

1. Turn on the POWER, and set to the ALL 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.
   ADDRESS and DATA should appear as FIG 2.

NOTE: No need to set data other position than 0200~0F79.

```
         ADDRESS     DATA

    INIT :   0001      0087

    DTV  :  CAAFI19081
    EEPROM : K3FS52WM00
```
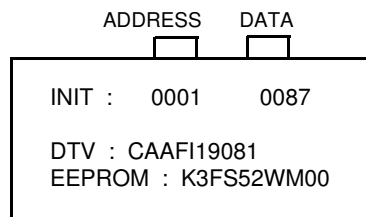
FIG. 2

4. ADDRESS is now selected and should "blink". Using the UP/DOWN buton on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press LEFT/RIGHT button to select DATA. When DATA is selected, it will "blink".
6. Again, step through the DATA using UP/DOWN button until required DATA value has been selected.
7. Pressing LEFT/RIGHT button will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 6 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.
11. Set the VOLUME to minimum.
12. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
13. 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 damages to the IC and Transistor).

Prepare the following measurement tools for electrical adjustments.

1. Pattern Generator

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. 1-1**.

Fig. 1-1
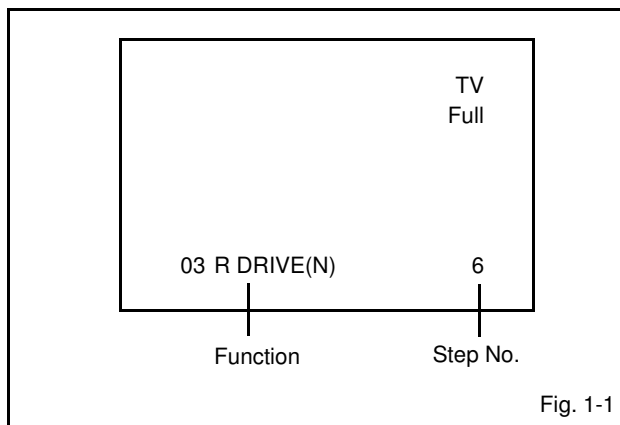
3. Use the UP/DOWN button or Channel button **(0-9)** on the remote control to select the options shown in **Fig. 1-2**.
4. Press the MENU button on the remote control to end the adjustments.
5. To display the adjustment screen for TV, AV, COMPONENT, HDMI and PC mode, press the INPUT SELECT button on the remote control.
6. Receive the DIGITAL broadcasting.
7. To display the adjustment screen for DTV mode, select the digital channel.
8. 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
03	R DRIVE (N)	35	TINT
04	R CUTOFF (N)	36	SHARP H1 MAX
05	G DRIVE (N)	37	SHARP H1 MIN
06	G CUTOFF (N)	38	SHARP H2 MAX
07	B DRIVE (N)	39	SHARP H2 MIN
08	B CUTOFF (N)	40	SHARP H3 MAX
09	R DRIVE (C)	41	SHARP H3 MIN
10	R CUTOFF (C)	42	SHARP H4 MAX
11	G DRIVE (C)	43	SHARP H4 MIN
12	G CUTOFF (C)	44	SHARP H5 MAX
13	B DRIVE (C)	45	SHARP H5 MIN
14	B CUTOFF (C)	46	SHARP V1 MAX
15	R DRIVE (W)	47	SHARP V1 MIN
16	R CUTOFF (W)	48	SHARP V2 MAX
17	G DRIVE (W)	49	SHARP V2 MIN
18	G CUTOFF (W)	50	CONTRAST CENTER
19	B DRIVE (W)	51	CONTRAST MAX
20	B CUTOFF (W)	52	CONTRAST MIN
29	BAK LIGHT CENT	53	COLOR CENTER
30	BAK LIGHT MAX	54	COLOR MAX
31	BAK LIGHT MIN	55	COLOR MIN
32	BRIGHTNESS CENT	58	CONTRAST 40
33	BRIGHTNESS MAX		
34	BRIGHTNESS MIN		

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: WHITE BALANCE

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Press the INPUT SELECT button on the remote control to set to the AV 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 **(03)** on the remote control to select "R DRIVE (N)".
6. Press the UP/DOWN button on the remote control to select the "R CUTOFF (N)", "B DRIVE (N)", "B CUTOFF (N)", "R DRIVE (C)", "R CUTOFF (C)", "B DRIVE (C)", "B CUTOFF (C)", "R DRIVE (W)", "R CUTOFF (W)", "B DRIVE (W)" or "B CUTOFF (W)".
7. Adjust the LEFT/RIGHT button on the remote control to whiten the R DRIVE (N), R CUTOFF (N), B DRIVE (N), B CUTOFF (N), R DRIVE (C), R CUTOFF (C), B DRIVE (C), B CUTOFF (C), R DRIVE (W), R CUTOFF (W), B DRIVE (W) and B CUTOFF (W) at each step tone sections equally.
8. Perform the above adjustments 6 and 7 until the white color is achieved.

ELECTRICAL ADJUSTMENTS

2-2: BRIGHTNESS CENT

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(32)** on the remote control to select "BRIGHTNESS CENT".
5. Press the UP/DOWN button on the remote control until the contrast step No. becomes "126".
6. Check if the picture is normal.
7. Receive the color bar pattern. (VIDEO Input)
8. Using the remote control, set the brightness and contrast to normal position.
9. Press the INPUT SELECT button on the remote control to set to the AV mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(32)** on the remote control to select "BRIGHTNESS CENT".
11. Press the UP/DOWN button on the remote control until the contrast step No. becomes "126".
12. Check if the picture is normal.
13. Receive the color bar pattern. (COMPONENT Input)
14. Using the remote control, set the brightness and contrast to normal position.
15. Press the INPUT SELECT button on the remote control to set to the COMPONENT mode.
Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(32)** on the remote control to select "BRIGHTNESS CENT".
17. Press the UP/DOWN button on the remote control until the contrast step No. becomes "126".
18. Check if the picture is normal.
19. Receive the color bar pattern. (HDMI Input)
20. Using the remote control, set the brightness and contrast to normal position.
21. Press the INPUT SELECT button on the remote control to set to the HDMI mode.
22. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(32)** on the remote control to select "BRIGHTNESS CENT".
23. Press the UP/DOWN button on the remote control until the contrast step No. becomes "126".
24. Check if the picture is normal.

2-3: CONTRAST MAX

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "CONTRAST MAX".
5. Press the UP/DOWN button on the remote control until the contrast step No. becomes "149".
6. Check if the picture is normal.
7. Receive the color bar pattern. (VIDEO Input)
8. Using the remote control, set the brightness and contrast to normal position.
9. Press the INPUT SELECT button on the remote control to set to the AV mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "CONTRAST MAX".
11. Press the UP/DOWN button on the remote control until the contrast step No. becomes "142".
12. Check if the picture is normal.
13. Receive the color bar pattern. (COMPONENT Input)
14. Using the remote control, set the brightness and contrast to normal position.
15. Press the INPUT SELECT button on the remote control to set to the COMPONENT mode.
16. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "CONTRAST MAX".
17. Press the UP/DOWN button on the remote control until the contrast step No. becomes "146".
18. Check if the picture is normal.
19. Receive the color bar pattern. (HDMI Input)
20. Using the remote control, set the brightness and contrast to normal position.
21. Press the INPUT SELECT button on the remote control to set to the HDMI mode.
22. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "CONTRAST MAX".
23. Press the UP/DOWN button on the remote control until the contrast step No. becomes "149".
24. Check if the picture is normal.

ELECTRICAL ADJUSTMENTS

2-4: CONTRAST 40

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(58)** on the remote control to select "CONTRAST 40".
5. Press the UP/DOWN button on the remote control until the contrast step No. becomes "142"
6. Check if the picture is normal.
7. Receive the color bar pattern. (VIDEO Input)
8. Using the remote control, set the brightness and contrast to normal position.
9. Press the INPUT SELECT button on the remote control to set to the AV mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(58)** on the remote control to select "CONTRAST 40".
11. Press the UP/DOWN button on the remote control until the contrast step No. becomes "135".
12. Check if the picture is normal.
13. Receive the color bar pattern. (COMPONENT Input)
14. Using the remote control, set the brightness and contrast to normal position.
15. Press the INPUT SELECT button on the remote control to set to the COMPONENT mode.
16. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(58)** on the remote control to select "CONTRAST 40".
17. Press the UP/DOWN button on the remote control until the contrast step No. becomes "139".
18. Check if the picture is normal.
19. Receive the color bar pattern. (HDMI Input)
20. Using the remote control, set the brightness and contrast to normal position.
21. Press the INPUT SELECT button on the remote control to set to the HDMI mode.
22. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(58)** on the remote control to select "CONTRAST 40".
23. Press the UP/DOWN button on the remote control until the contrast step No. becomes "142".
24. Check if the picture is normal.

2-5: CONTRAST CENTER

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(50)** on the remote control to select "CONTRAST CENTER".
5. Press the UP/DOWN button on the remote control until the contrast step No. becomes "115".
6. Check if the picture is normal.
7. Receive the color bar pattern. (VIDEO Input)
8. Using the remote control, set the brightness and contrast to normal position.
9. Press the INPUT SELECT button on the remote control to set to the AV mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(50)** on the remote control to select "CONTRAST CENTER".
11. Press the UP/DOWN button on the remote control until the contrast step No. becomes "109".
12. Check if the picture is normal.
13. Receive the color bar pattern. (COMPONENT Input)
14. Using the remote control, set the brightness and contrast to normal position.
15. Press the INPUT SELECT button on the remote control to set to the COMPONENT mode.
16. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(50)** on the remote control to select "CONTRAST CENTER".
17. Press the UP/DOWN button on the remote control until the contrast step No. becomes "112".
18. Check if the picture is normal.
19. Receive the color bar pattern. (HDMI Input)
20. Using the remote control, set the brightness and contrast to normal position.
21. Press the INPUT SELECT button on the remote control to set to the HDMI mode.
22. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(50)** on the remote control to select "CONTRAST CENTER".
23. Press the UP/DOWN button on the remote control until the contrast step No. becomes "115".
24. Check if the picture is normal.

ELECTRICAL ADJUSTMENTS

3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)

LED PANEL

CD2003

CD7201

POWER PCB

MAIN PCB

CP2804

CP2803

CP7001

CD3002

CP501 CP3003

CP2803

CP3601

J4302 CP4203

CP2801

CP2802

J5801

CP6204 CP4202

J4201

CD2201

CD4202

SIDE JACK PCB

CP2201

J8101

CP8102

J502

J8102

AC IN
CD501

J8104

CP8101 CP301 CP302

LED PCB

SPEAKER

OPERATION PCB

CD4301

REMOCON PCB

CD7602

CP7601 OS7601
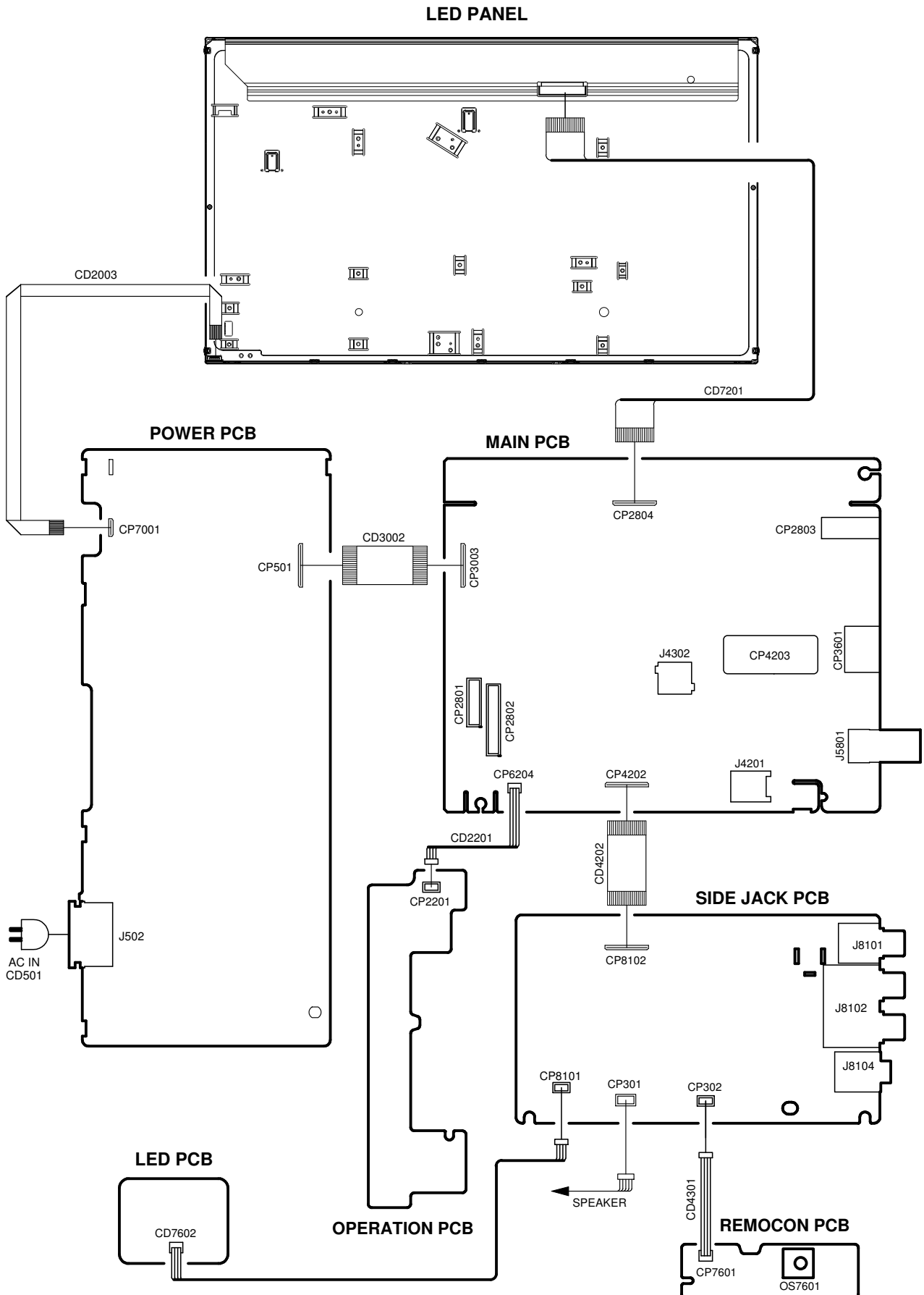
TROUBLESHOOTING GUIDE

(LCD SECTION)

POWER DOES NOT TURN ON

Is F501 broken? — Yes → Change F501.

No

Is there voltage at pin 6 of IC501 21V? — No → Check IC501 and peripheral circuit.

Yes

Change POWER PCB.

TROUBLESHOOTING GUIDE

THE PICTURE APPEARS, BUT THE AUDIO DOES NOT APPEARS. (AT RF MODE)

Is SP301 WIRE CONNECTOR connected?
— No → Connect SP301 WIRE CONNECTOR.

Yes ↓

Is there signal at pins 1 and 4 of CP301?
— Yes → Change SP301.

No ↓

Is there signal at pins 2 and 4 of IC301?
— Yes → Check IC301 and peripheral circuit.

No ↓

Is there signal at pins A6 and B6 of IC2801?
— Yes → Check Q303 and peripheral circuit.

No ↓

CVBS/COMPONENT/HDMI（DVI）/PC MODE → ・Check INPUT JACK CONNECTOR and peripheral circuit.
・Change IC2801
（Change Digital PCB）

RF MODE ↓

Is there signal at pin 26 of IC5803? And Is there signal at pin 14,15, 24 and 25
— Yes → Change IC2801 （Change Digital PCB）.

No ↓

Change IC5803.

E-2

TROUBLESHOOTING GUIDE

```
┌─────────────────────────┐
│ THE PICTURE DOES NOT    │
│ APPEAR                   │
└─────────────────────────┘
            │
            ▼
      ╱─────────────╲         No      ╱──────────────────╲      No    ┌──────────────────────────┐
     ╱ Does backlight ╲───────────▶  ╱ Is there voltage at ╲─────────▶│ Check IC501, T501, D514  │
     ╲  shine?         ╱             ╲ pin 2 of IC7001 12V? ╱          │ and peripheral circuit.  │
      ╲─────────────╱                 ╲──────────────────╱            └──────────────────────────┘
            │ Yes                              │ Yes
            ▼                                  │
      ╱─────────────╲         No               │          ┌──────────────────────────┐
     ╱ Is there voltage╲──────────────────────┼─────────▶│ Check Q3008 and          │
     ╲ at pins Vcc of   ╱                      │          │ peripheral circuit.      │
      ╲ CP2804 5V?     ╱                       │          └──────────────────────────┘
       ╲─────────────╱                         │
            │ Yes                              │
            ▼                                  ▼
      ╱──────────────────╲      Yes    ┌──────────────────────────┐
     ╱ Is there signal at   ╲─────────▶│ Change V7201(PANEL).     │
     ╲ pins 2, 3, 4, 5, 6, 8,╱         └──────────────────────────┘
      ╲ 9, 10, 11, 12, 16,  ╱
       ╲17, 18, 20, 21, 22, ╱
        ╲23, 25, 26 and 27  ╱
         ╲ of CP2804?      ╱
          ╲──────────────╱
            │ No
            ▼
┌─────────────────────────┐
│ Change MAIN PCB.        │
└─────────────────────────┘
```

TROUBLESHOOTING GUIDE

```
┌─────────────────────────┐
│ THE COLOR DOES NOT      │
│ APPEAR                   │
└─────────────────────────┘
             │
             ▼
        ╱─────────╲          No        ┌──────────────────────┐
       ╱ Is setting ╲──────────────────▶│ Adjust the color.    │
       ╲ of color    ╱                  └──────────────────────┘
        ╲ normal?   ╱
         ╲────────╱
             │ Yes
             ▼
        ╱─────────╲          No        ┌──────────────────────┐
       ╱ Is the    ╲──────────────────▶│ Receive the color    │
       ╲ color signal╱                 │ signal.              │
        ╲ received? ╱                   └──────────────────────┘
         ╲────────╱
             │ Yes
             ▼
        ╱─────────╲          No        ┌──────────────────────────┐
       ╱ Is there   ╲──────────────────▶│ Check IC2801 and         │
       ╲ color signal at╱               │ peripheral circuit.      │
        ╲ IC2801?   ╱                    └──────────────────────────┘
         ╲────────╱
             │ Yes
             ▼
┌─────────────────────────┐
│ Change DIGITAL PCB.     │
└─────────────────────────┘
```

IC DESCRIPTION

R8A66983BG-UO(IC2801)

No	Ball NO.	PIN NAME	I/O	DESCRIPTION
1	J15	RESET_N	I	Reset in
2	H15	XIN25	I	Main Clock in (25MHz)
3	H16	XOUT25	O	Main Clock out (25MHz)
4	R10	USB_P	I/O	USB_P
5	T10	USB_M	I/O	USB_M
6	P10	RREFEXT	I	External resitor
7	C1	Unused	O	
8	N10	SPDIF OUT	O	Spdif out
9	T11	SFCK	O	Serial Flash Clock
10	P11	SFTX	O	Serial Flash Write Data
11	R11	SFRX	I	Serial Flash Read Data
12	N12	POWER_LED_CTL	O	Blue LED Control (Active High)
13	P12	SFCS_N	O	Serial Flash Chip Select
14	R12	TU_I2C_SCL	O	Tuner Control I2C Bus Clock
15	T12	TU_I2C_SDA	I/O	Tuner Control I2C Bus Data
16	G14	E2P_I2C_SCL	O	E2PROM Control I2C Bus Clock
17	F14	E2P_I2C_SDA	I/O	E2PROM Control I2C Bus Data
18	A16	IF_AGC	O	IF AGC Control
19	D1	AV_SW0	O	Audio Mode Switching Control (AV_SW0, DVD-H) (Low, Low) Tuner/Video/Component (Low, High) DVD (High, Low) PC/DVI (High, High) Unused
20	E2	DVD-H	O	DVD Mode Switching Control (Active High) ※Only DVD Model
21	F3	LIGHT_CTL	O	Backlight Control (PWM)
22	F2	SYSTEM_POWER_H	O	System Power Control (Active High)
23	G16	DEBUG_RXD	O	For Debug/White Balance Adjust
24	G15	DEBUG_TXD	O	For Debug/White Balance Adjust
25	G2	M32TRST_N	O	M32R Debug Pin
26	E1	Unused	O	
27	G3	Unused	O	
28	F1	SP MUTE	O	Speaker Sound AMP Mute (Active High)
29	G1	STANDBY_LED_CTL	O	Red LED Control (Active Low)
30	F15	ASEBRKAK_N	O	SH3 Debug Pin
31	F16	ASEMD0	I	SH3 Debug Pin
32	E16	TRST_N	I	SH3 Debug Pin
33	E15	TCK	I	SH3 Debug Pin
34	E14	TMS	I	SH3 Debug Pin
35	D16	TDI	I	SH3 Debug Pin
36	D15	TDO	O	SH3 Debug Pin
37	T9	VBUS_CTL	O	For USB current limitation
38	R9	VBUS_ST	I	For USB current limitation
39	F13	HDMI_HPD1	O	HDMI1 Hot Plug Control (Active High)
40	K16	DISC_IN_DET	I	Disc In Detect ※Only DVD Model
41	K14	DVD_TXD	O	DVD Unit Control UART Tx ※Only DVD Model
42	J16	DVD_RXD	I	DVD Unit Control UART Rx ※Only DVD Model
43	G13	AUDIO_PWM	O	AUDIO PWM Control
44	B16	POWER_ON	O	Power Module On/Off
45	B15	PANEL_POWER_H	O	LCD Panel Power Control (Active High)
46	C14	REMOCON_IN	I	IR in for Remote Control

47	D14	VCOM_PWM	O	VCOM PWM Control For T-Con less Panel
48	J14	MODE0	I	Connect to VSS
49	M13	Unused	O	
50	N13	Unused	O	
51	N14	Unused	O	
52	D13	DVD/BD_POWER_H	O	DVD Power Control (Active High)
53	A15	EXT_MUTE	I/O	Audio out Terminal Sound Mute (Active High)
54	B13	KEY_B	I	Local Key Detect B
55	A13	LIGHT_POWER_H	O	Backlight Power Control (Active High)
56	C13	KEY_A	I	Local Key Detect A
57				
58				
59				
60				

SEMICONDUCTOR BASE CONNECTIONS

DIODE

1N4006-A5
1SS133T-77
MTZJ13B T-77
SARS01

1F5
HZS12NB2
ZRM11C

1S40-E
HZS33NB2

FCH10A10

RB056L-40TE25
RSX301L-30TE25

ANODE
CATHODE
 ANODE

BA36-PUR1DCB549T1/470

ANODE
CATHODE
 ANODE

MBRF1045CT

DA2J10100L

MA111-(TX)

EZJZ0V80010

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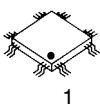
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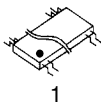
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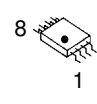
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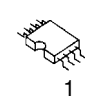
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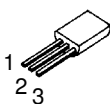
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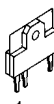
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6
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RP131K331D-TR
RP131K501D-TR

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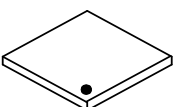
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R8A66983BG-U0
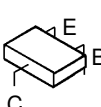
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B
C
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KRC103SRTK
KTA1504S_Y_RTK
RT1N141C-T112-1
RT1N241C-T112-1
RT1P241C-T112-1

G
D S
KHB9D0N50F2-U/P
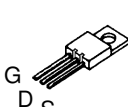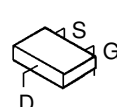
S
G
D
INK0012AU1
MCH3479-TL-H
SSM3K104TU(T5L,T)

D S
D
G
D
TPC6110(TE85L,F,M)

PRINTED CIRCUIT BOARDS

MAIN (TOP SIDE)

MAIN (BOTTOM SIDE)

POWER (CHIP MOUNTED PARTS)
SOLDER SIDE

R7002
R7003 R7003
R7013 R7003
R7015
R7014
Q7001
R7005
IC7001
C7004 C7003
C7005
C7008
C7006 R7017
D7001 C7009
C7013
R7009
R7010
R7011
R7012
Q503
Q502
Q504
R532
R529
R522

CEK681A

R513
R524
R525
R523
R519
C523 C521
R515

R549
C509
C503
C501
C507 W852
R506
R516
C505
R514

R527
R526 R528

PRINTED CIRCUIT BOARDS
POWER (INSERTED PARTS)
SOLDER SIDE

SH502
SH507
R503
W814
C506
FIRE OF RISK
. MARKED AS REPLACE -
C534
W847
J502
L501
W810
F501
C508
TH501
W812
C507
D518 D507
D510
D505
C502_1
R505 D508
D506
SH503
R512
D527
C514 R510
W823 D528
R507
R501
R502
Q501
C542 R511 C513
D513
W803 R534
W010 C516
D512
D511
IC505
T501
IC502
D523
R518
W009
R554
C522
C520 L504
D514 C504
W008
D516
L503
D517_1
C512
W806
L7002
C511 W802
CP7001 W005
W813 C7010 R7018 W002
C524 W004 W003
D7003 CEK681A C527
SH505
CP501

PRINTED CIRCUIT BOARDS

SIDE JACK (INSERTED PARTS)
SOLDER SIDE

W022
W024
W021
W020
W019
W822
W828
W806
C304
C307
IC301
HS301
CP8102
W025
W017
C310_1
CP301
C309_1
A30C5
G
C319_1
W012
C311_1
W008
W011
W001
W846
W009
W010
W016
W015
W013
W004
W007
W023
W003
W006
W005
W002
W001
CD302
CEK636A
J8101
J8104
J8102

OPERATION/REMOCON (INSERTED PARTS)
SOLDER SIDE

SW2204
SW2202
SW2205
SW2207
SW2201
SW2206
SW2203
CEK679A
D7601
S7601
C7602
CP7601
CEK678A
CP2201

SIDE JACK (CHIP MOUNTED PARTS)
SOLDER SIDE

W865
R8107
R8103
C8103_1
C8108_1
C8101_1
R8121
R8101
B307
B308
R8128
R8112
R8123
R8109
R8126
R8113
B310 R8118 R8119
C336
C333
R314
R327
C327 C325
R309 C326
R328 R308 R332
R315 C328 R320
W866
R326 C330 R319
Q303
B301
R331 C331
W664 R311
W824 R329
R330
R310
R307
R306
R305
R304
C302
W827
R302
C306
C305
Q8103
R8134
D8107
R301
C301
C303
R312
CEK636A

OPERATION/REMOCON (CHIP MOUNTED PARTS)
SOLDER SIDE

R2203
CEK678A
R2205
R2202
R2201
R7601
C7601
R7604
R2204
R7603
C7603
C7604
CEK679A
W827

FLASH SCHEMATIC DIAGRAM
(MAIN PCB)

G-1   G-2

DDR2 SCHEMATIC DIAGRAM
(MAIN PCB)

DDR2_SDRAM IC
IC2802
H5PS5162FFR-S5C

SCALER IC
IC2801
R8A66983BG-U0

	DDR DATA Interface
DQ0 G8 1.7 → SDDQ0	N4 SDDQ0 1.7
DQ1 G2 1.7 → SDDQ1	R3 SDDQ1 1.7
DQ2 H7 1.7 → SDDQ2	T4 SDDQ2 1.7
DQ3 H3 1.7 → SDDQ3	P3 SDDQ3 1.7
DQ4 H1 1.7 → SDDQ4	T2 SDDQ4 1.7
DQ5 H9 1.7 → SDDQ5	R4 SDDQ5 1.7
DQ6 F1 1.7 → SDDQ6	T3 SDDQ6 1.7
DQ7 F9 1.7 → SDDQ7	P4 SDDQ7 1.7
DQ8 C8 1.7 → SDDQ8	P8 SDDQ8 1.7
DQ9 C2 1.7 → SDDQ9	T5 SDDQ9 1.7
DQ10 D7 1.7 → SDDQ14	N7 SDDQ10 1.7
DQ11 D3 1.7 → SDDQ13	P6 SDDQ11 1.7
DQ12 D1 1.7 → SDDQ11	R6 SDDQ12 1.7
DQ13 D9 1.7 → SDDQ12	P7 SDDQ13 1.7
DQ14 B1 1.7 → SDDQ10	N8 SDDQ14 1.7
DQ15 B9 1.7 → SDDQ15	R8 SDDQ15 1.7

VDD pins: R1 VDD 1.8, M9 VDD 1.8, J9 VDD 1.8, E1 VDD 1.8, A1 VDD 1.8

VDDQ pins: G9 VDDQ 1.8, G7 VDDQ 1.8, G3 VDDQ 1.8, G1 VDDQ 1.8, E9 VDDQ 1.8, C9 VDDQ 1.8, C7 VDDQ 1.8, C3 VDDQ 1.8, C1 VDDQ 1.8, A9 VDDQ 1.8, J1 VDDL 1.8

Capacitors (top): C2906, C2816, C2818, C2820, C2812, C2827, C2830, C2832 — 10V 0.1 B 1005

Capacitors: C2819, C2821, C2825, C2826, C2828 — 10V 0.1 B 1005

C2815 10V 0.1 B 1005 — 0.9 — J2 VREF

C2829 10V 0.1 B 1005

	DDR Control
LDM F3 1.8 → DADQM0	R5 SDDM0 1.8
UDM B3 1.8 → DADQM1	T6 SDDM1 1.8
LDQS F7 1.8 → DADQS0	P5 SDDQS0 1.8
LDQSB E8 1.8 → DADQS0_N	N5 SDDQS0_N 1.8
UDQS B7 1.8 → DADQS1	R7 SDDQS1 1.8
UDQS A8 1.8 → DADQS1_N	T7 SDDQS1_N 1.8
CK J8 1.8 → DACLK → R2842 6.8 1/16W 1005 → SDCLK	R2 SDCLK 1.8
CK K8 1.8 → DACLK_N → R2843 6.8 1/16W 1005 → SDCLK_N	R1 SDCLK_N 1.8

R2831 100 1/16W 1005 +1%

NC pins: R8 NC5, R7 NC4, R3 NC3, E2 NC2, A2 NC1

		SDBA2	P1 SDBA2 1.8
		SDBA1	K4 SDBA1 1.8
		SDBA0	N2 SDBA0 1.8
		SDODT	K2 SDODT 1.8
		SDCKE	L3 SDCKE 1.8
		SDRAS	J3 SDRAS 1.8
		SDCAS	H3 SDCAS 1.8
		SDWE	L4 SDWE 1.8

Address:
A0 M8 1.8 DRAM_A0, A1 M3 1.8 DRAM_A1, A2 M7 1.8 DRAM_A2, A3 N2 1.8 DRAM_A3, A4 N8 1.8 DRAM_A4, A5 N3 1.8 DRAM_A5, A6 N7 1.8 DRAM_A6, A7 P2 1.8 DRAM_A7, A8 P8 1.8 DRAM_A8, A9 P3 1.8 DRAM_A9, A10 M2 1.8 DRAM_A10, A11 P7 1.8 DRAM_A11, A12 R2 1.8 DRAM_A12

RAS K7 1.8 DRAM_RAS, CAS L7 1.8 DRAM_CAS, ODT K9 1.8 DRAM_ODT, BA2(NC) L1 1.8 DRAM_BA2, BA1 L3 1.8 DRAM_BA1, BA0 L2 1.8 DRAM_BA0, WE K3 1.8 DRAM_WE, CKE K2 1.8 DRAM_CKE

VSS pins: A3 VSS 0, E3 VSS 0, J3 VSS 0, N1 VSS 0, P9 VSS 0, A7 VSSQ 0, B2 VSSQ 0, B8 VSSQ 0, D2 VSSQ 0, D8 VSSQ 0, E7 VSSQ 0, F2 VSSQ 0, F8 VSSQ 0, H2 VSSQ 0, H8 VSSQ 0, J7 VSSDL 0

CS L8

SDVREF0 M5 → C2831 10V 0.1 B 1005 → R2845 100 1/16W 1005 → R2846 100 1/16W +1% 1005 → C2837 10V 0.1 B 1005

(PD2)SDVREF1 N3

DD_CL H4 0.9 → R2809 150 1/16W +1% 1005

DDR Address

Signal	R#	Value	→ Signal	Pin	Signal	Value
DRAM_A4	R2895	15 1/16W 1005	SDA4	J1	SDA0	1.8
DRAM_CAS	R2907	15 1/16W 1005	SDCAS	L1	SDA1	1.8
DRAM_A11	R2897	15 1/16W 1005	SDA11	K1	SDA2	1.8
DRAM_A0	R2909	15 1/16W 1005	SDA0	M3	SDA3	1.8
DRAM_A10	R2899	15 1/16W 1005	SDA10	H1	SDA4	1.8
DRAM_A1	R2910	15 1/16W 1005	SDA1	M1	SDA5	1.8
DRAM_BA1	R2900	15 1/16W 1005	SDBA1	K3	SDA6	1.8
DRAM_A9	R2911	15 1/16W 1005	SDA9	N1	SDA7	1.8
DRAM_WE	R2901	15 1/16W 1005	SDWE	H2	SDA8	1.8
DRAM_BA0	R2912	15 1/16W 1005	SDBA0	L2	SDA9	1.8
DRAM_BA2	R2906	15 1/16W 1005	SDBA2	J4	SDA10	1.8
DRAM_A3	R2921	15 1/16W 1005	SDA3	J2	SDA11	1.8
DRAM_A5	R2902	15 1/16W 1005	SDA5	M2	SDA12	1.8
DRAM_A12	R2913	15 1/16W 1005	SDA12			
DRAM_CKE	R2903	15 1/16W 1005	SDCKE			
DRAM_A7	R2914	15 1/16W 1005	SDA7			
DRAM_RAS	R2904	15 1/16W 1005	SDRAS			
DRAM_A6	R2918	15 1/16W 1005	SDA6			
DRAM_A2	R2905	15 1/16W 1005	SDA2			
DRAM_ODT	R2919	15 1/16W 1005	SDODT			
DRAM_A8	R2841	15 1/16W 1005	SDA8			

FROM/TO SCALER POWER

VCCQ18
GND

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.

PCBF40
CMK202

G-3

G-4

HDMI SCHEMATIC DIAGRAM
(MAIN PCB)

HDMI-1
CP3601
C-HDM-2-KK223000

Pin	Signal
19	HOT PLUG
18	+5V_POWER
17	DDC_GND
16	DDC_SDA
15	DDC_SCL
14	RESERVED
13	CEC
12	TMDS_CLK-
11	TMDS_CLK_SH
10	TMDS_CLK+
9	TMDS_DATA0-
8	TMDS_DATA0_SH
7	TMDS_DATA0+
6	TMDS_DATA1-
5	TMDS_DATA1_SH
4	TMDS_DATA1+
3	TMDS_DATA2-
2	TMDS_DATA2_SH
1	TMDS_DATA2+

W910 1005
W911 1005

R3615 47K 1/16W 1005
R3617 47K 1/16W 1005

C3601 10V 0.1 B 1005

R3609 1K 1/16W 1005
R3614 4.7K 1/16W 1005

R3601 10 1/16W 1005

R3610 22K 1/16W 1005

5.0
HPD_SW Q3602 RT1N141C

3.3
HPD_SW Q3604 RT1N141C

HDMI_HPD

L3601 EXC28CG900U

L3602 EXC28CG900U

LEVEL SHIFT
Q3609 INK0012AU1
2.6 3.3
3.5

LEVEL SHIF
Q3608 INK0012AU1
2.6 3
3.3

3.3
SW Q3601 INK0012AU1
0

HDMI_SDA

HDMI_SCL

HDMI_HPD

HDMI_PWR

1 CLK-
1 CLK+
1 D0-
1 D0+
1 D1-
1 D1+
1 D2-
1 D2+

HDMI_CLK-
HDMI_CLK+
HDMI_D0-
HDMI_D0+
HDMI_D1-
HDMI_D1+
HDMI_D2-
HDMI_D2+

SCALER IC
IC2801   R8A66983BG-U0

HDMI_CLK- — A4 RXCM
HDMI_CLK+ — B4 RXCP
HDMI_D0- — A3 RXOM
HDMI_D0+ — B3 RX0P
HDMI_D1- — A2 RX1M
HDMI_D1+ — B2 RX1P
HDMI_D2- — A1 RX2M
HDMI_D2+ — B1 RX2P

HDMI_PORT

HDMI_PLL

PLL_XFC_A B5
PLL_XFC_P A5

EXT_RES C4

C15 DDC_SDA
C16 DDC_SCL

F13 GPY05(HDMI_HPD1)

M12 PWR

W916 1005
W915 1005
W917 1005

R3827 3.3K 1/16W 1005
R3828 3.3K 1/16W 1005
R3833 100K 1/16W 1005

R3629 100K 1/16W 1005

C3610 50V 0.0047 B

R3645 2.2K 1/16W +1% 1005
C3611 10V 2.2 B 1608
R3644 3K 1/16W +1% 1005
C3612 50V 0.0022 B 1005

R3646 560 1/16W +1% 1005

C3613 16V 0.01 B 1005

FROM/TO SCALER POWER

AVDD33V

FROM/TO REGULATOR

B3601 ACMS160808A221_2A
A3.3V

D5.0V_HDMI

C3608 6.3V 10 B 2125

GND

PCBF40
CMK202

G-5   G-6

LVDS SCHEMATIC DIAGRAM
(MAIN PCB)

SCALER IC
IC2801
R8A66983BG-U0

FROM/TO REGULATOR

VDD_PANEL
GND

LVDS_CH0(ODD)

LV0OUT0M(LLV1M) N16   1.8   NR2806   LV0OUT0M
LV0OUT0P(LLV1P) N15   1.8   2D02WGJ0000TCE   LV0OUT0P

LV0OUT1M(LLV2M) P16   1.8   NR2807   LV0OUT1M
LV0OUT1P(LLV2P) P15   1.8   2D02WGJ0000TCE   LV0OUT1P

LV0OUT2M(LLV3M_CLK) R16   1.8   NR2808   LV0OUT2M
LV0OUT2P(LLV3P_CLK) R15   1.8   2D02WGJ0000TCE   LV0OUT2P

LV0CKOM(LLV4M) T16   1.8   NR2812   LV0CKOM
LV0CKOP(LLV4P) T15   1.8   2D02WGJ0000TCE   LV0CKOP

LV0OUT3M(LLV5M) R14   1.8   NR2816   LV0OUT3M
LV0OUT3P(LLV5P) T14   1.8   2D02WGJ0000TCE   LV0OUT3P

LV0OUT4M(LLV6M) R13   1.8   NC
LV0OUT4P(LLV6P) T13   1.8   NC

LVDS_CH1(EVEN)

LV1OUT0M(H SYNC_PORTB) L16   1.8   NC
LV1OUT0P(H SYNC_PORTE) L15   1.8   NC

LV1OUT1M(H SYNC_PORTF) L14   1.8   NC
LV1OUT1P(H SYNC_PORTD) L13   1.8   NC

D14   GPY14(TCOM_PWM)

LV1OUT2M(H SYNC_PORTA) M16   1.8   NC
LV1OUT2P(H SYNC_PORTC) M15   1.8   NC

LV1CKOM(V SYNC_PORTA) M14   1.8   NC
LV1CKOP M13   1.8   NC

LV1OUT3M N14   1.8   NC
LV1OUT3P N13   1.8   NC

R2847   1.3   K15   REFR
5.6K   1/16W
+-1%   1005

LV1OUT4M(LLV0M) P14   1.8   NC
LV1OUT4P(LLV0P) P13   1.8   NC

B2805
HCB1608KF-181T20

C2914
16V 10 B 2125

R2852   4.7K   1/16W 1005

R2853   4.7K   1/16W 1005

C2854
25V 0.1 B 1608

FROM/TO PANEL

LVDS
CP2804
A2006WR-2*15P

Pin	Signal
30	VCC
29	VCC
28	VCC/ ODSEL
27	ERX3-/ GND
26	ERX1-/ GND
25	ECLK-/ GND
24	GND
23	ERX0+/ GND
22	ERX2+/
21	ORX0-
20	ORX1-
19	GND
18	ORX2+
17	OCLK+
16	ORX3+
15	VCC
14	VCC
13	SELLVDS
12	ERX3+/ GND
11	ERX1+/ GND
10	ECLK+/ GND
9	ERX0-/ GND
8	ERX2-/
7	GND
6	ORX0+
5	ORX1+
4	ORX2-
3	OCLK-
2	ORX3-
1	GND

LV1OUT3M
LV1OUT0P
LV0OUT0M
LV0OUT1M
LV0OUT2P
LV0CKOP
LV0OUT3P
LV1OUT3P
LV1CKOP
LV0OUT0P
LV0OUT1P
LV0OUT2M
LV0CKOM
LV0OUT3M

NC
NC
NC
NC
NC

W824
W822
W831
W833
W837
W838

19WLED
CD2801
EH2U0501

V7201
M185B3-PA1-LED BR5

LCD PANEL

PCBF40
CMK202

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 。

G-7   G-8

MICON SCHEMATIC DIAGRAM
(MAIN PCB)

SCALER IC
IC2801
R8A66983BG-U0

FROM/TO JACK
- SYS_POWER-H
- KEY_B
- DISC_IN_DET
- DVD_RXD
- DVD_TXD
- EXT_MUTE-H
- REMOCON_IN
- POWER_ON_LED
- STANBY_LED

FROM/TO SCALER VIDEO/AUDIO
- RED_LED

FROM/TO SCLAER POWER
- 1.2V_EN

FROM/TO FLASH
- BLUE_LED

FROM/TO TUNER
- SYS_POWER-H

FROM/TO REGULATOR
- KEY_A
- KEY_B
- POWER_ON
- AT+3.3V
- SYS_POWER-H
- D5.0V
- D3.3V
- GND

R2850
4.7K 1/16W 1005

QBLCB(SYSTEM_POWER_H)F2   3.3   SYS_POWER-H

REMOCON_IN

GPY13(RC_IN) C14   3.3   R2917   4.7K 1/16W 1005

MADIN4(KEY_A) C13   3.3   R2915   4.7K 1/16W 1005   KEY_A

MADIN2(KEY_B) B13   3.3   R2916   4.7K 1/16W 1005   KEY_B

R2898
4.7K 1/16W 1005

GPY08(SCIRX) J16   3.3   DVD_RXD

R2908
4.7K 1/16W 1005

GPY07(SCITX) K14   3.3   DVD_TXD

MADIN0(DVD/BD_POWER_H)D13   NC

EXT_MUTE-H

MADIN1(EXT_MUTE) A15   3.3   R2875   4.7K 1/16W
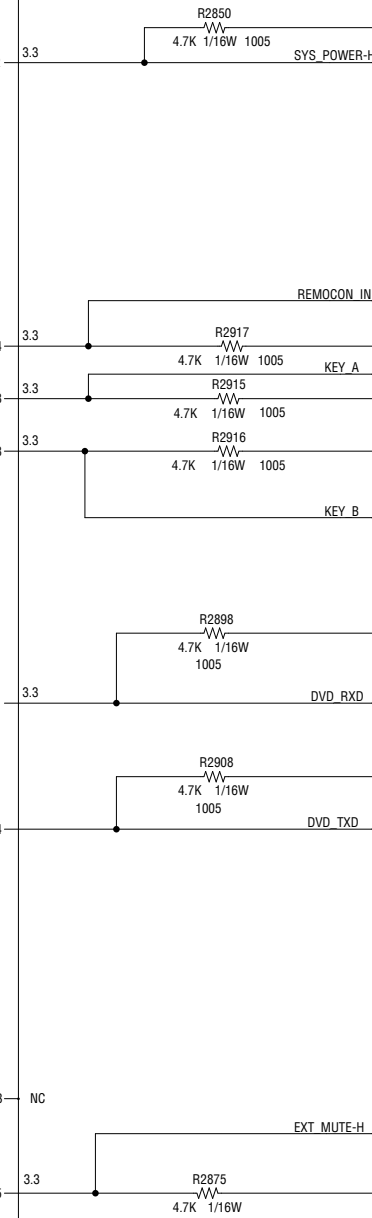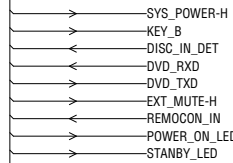
FROM/TO OPERATION/REMOCON

CD6204 (CP2201)
REMOCON
CH233504

3	KEY A
2	KEY B
1	GND

W845   KEY_A
W843   KEY_B

C6202_1, 16V, 0.1, B
C6201_1, 16V, 0.1, B

R2810   3.3   K16   GPY06(DISC_IN_DET)
4.7K 1/16W 1005

DISC_IN_DET

STANBY_LED

POWER_ON_LED

POWER_ON LED_SW
Q6204
RT1P241C
POWER_ON_LED   5.0   5.0   D5.0V
0

0

POWER_ON LED_SW   3.3   W853   BLUE_LED
Q6205
RT1N141C   0

STAND_BY LED_SW
Q6203
RT1P241C   0   3.3
STANBY_LED   AT+3.3V
3.3

W844   RED_LED

1.2V_EN   R2849   3.3   E13   GPY10(FET_VDDSTB)
100 1/16W 1005

POWER_ON   3.3   B16   GPY11(POWER ON)

R2848
10K 1/16W 1005

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CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

PCBF40
CMK202

G-9   G-10
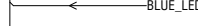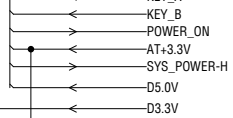
SCALER POWER SCHEMATIC DIAGRAM
(MAIN PCB)

FROM/TO REGULATOR

SCALER IC
IC2801   R8A66983BG-U0

VDD12_CPU
AVDD12_CPU
VCCQ18_DDR
A3.3V
D3.3V
VCC33STB_CPU
GND

B2803
ACMS201209A600_RDC025

G5 VDD12A		VSS12A F6
G6 VDD12A		VSS12B F7
H6 VDD12A		VSS12B G7
J7 VDD12B		VSS12D H7
J11 VDD12G		VSS12D H8
K7 VDD12B		VSS12E H9
K11 VDD12G	Core 1.2V	VSS12F H10
L8 VDD12C		VSS12I H11
L9 VDD12D		VSS12C J6
M9 VDD12E		VSS12G J8
N9 VDD12E		VSS12E J9
P9 VDD12E		VSS12F J10
		VSS12G K8
		VSS12G K9
		VSS12G K10
		VSS12H T8

C2921 C2836 C2838 C2839 C2841 C2843 C2845 C2849 C2857 C2863 C2873
22 2125 22 2125 0.1 1005 0.1 1005 0.1 1005 0.1 1005 0.1 1005 0.1 1005 0.1 1005
6.3V 6.3V 10V 10V 10V 10V 10V 10V 10V 10V 10V

J13 AVDD12PLLA   PLL 1.2V   AVSS12PLLA H13
K6 AVDD12PLLB(VDD12B)
M11 AVDD12PLLC(VDD12F)

B2811
ACMS160808A221_2A

M10 AVDD12USB   USB 1.2V   AVSS12USB L10

C2923 C2864
6.3V 10 B 1608   10V 1 B 1005

FROM/TO SCALER VIEDO/AUDIO

AVDD33V

FROM/TO HDMI

AVDD33V

B2812
ACMS160808A221_2A

E8 AVDD12VADC
F8 AVDD12VADC   Video ADC 1.2V
F9 AVDD12VADC

AVSS12VADC G8
AVSS12VADC G9
AVSS12VADC G10

C2918 C2865
6.3V 22 B   10V 0.1 B 1005

B2813
ACMS160808A221_2A

G11 VDDCLK   Clock 1.2V   VSSCLK F10

C2922 C2866
6.3V 22 B 2125   10V 0.1 B 1005

FROM/TO DDR2

VCCQ18

B2807
ACMS160808A221_2A

H5 VCCQ18A		VSSQ18A K5
J5 VCCQ18A		VSSQ18A L5
M4 VCCQ18B	DDR2 1.8V	VSSQ18C L6
M6 VCCQ18D		VSSQ18C L7
M7 VCCQ18E		VSSQ18B P2
M8 VCCQ18E		
N6 VCCQ18D		
T1 VCCQ18C		

C2840 C2842 C2844 C2846 C2850 C2858 C2867
22 2125 0.1 1005 0.1 1005 0.1 1005 0.1 1005 0.1 1005 0.1 1005
6.3V 10V 10V 10V 10V 10V 10V

B2808
ACMS160808A221_2A

E10 AVDD33VADC   VideoADC 3.3V   AVSS33VADC E9

C2 AVDD33HDMI   HDMI 3.3V   AVSS33HDMI D2
C3 AVDD33HDMI   AVSS33HDMI D3

E11 AVDD33VPLL   VideoPLL 3.3V   AVSS33VPLL D12

C2917 C2924 C2847 C2855 C2859 C2868
6.3V 22 B 2125 0.1 1005 0.1 1005 0.1 1005 0.1 1005
10V 10V 10V 10V 10V

B2809
ACMS160808A221_2A

N11 AVDD33USB(VCCQ33C)   USB 3.3V

D6 AVDD33ADAC   AudioDAC   AVSS33ADAC D5

E6 AVDD33AADC   AudioADC   AVSS33AADC E7

C2861 C2869
10V 0.1 B 1005   10V 0.1 B 1005

B2810
ACMS160808A221_2A

F5 VCCQ33A		VSSQ33A F4
G4 VCCQ33A	IO 3.3V	VSSQ33B K12
J12 VCCQ33B		VSSQ33B L11
K13 VCCQ33B		
L12 VCCQ33B		

C2848 C2856 C2862 C2870
22 2125 0.1 1005 0.1 1005 0.1 1005
6.3V 10V 10V 10V

B2806
ACMS160808A221_2A

F12 VCC33STB   Standby 3.3V   VSS33STB H12
G12 VCC33STB

C2871
10V 0.1 B 1005

1.2   E12 VDD12STB   Core 1.2V
                         Cut power during
                         deep standby mode   VSS12STB F11

(PD1)VDDFUSE1 E3
(PD1)VDDFUSE2 E4
(PD1)FUSEMON1 D4
(PD1)FUSEMON2 E5

1.2V SW
Q2808
SSM3K104TU
1.2   1.2

FROM/TO MICON

1.2V_EN
GPY10

R2840
33K 1/16W
1005

R2844
100 1/16W
1005

3.3

C2872
10V 0.1 B 1005

EXT_CS H14

C2874 C2925
10V 10 2125   10V 0.1 B 1005

PCBF40
CMK202

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G-11   G-12

TUNER SCHEMATIC DIAGRAM
(MAIN PCB)

FROM/TO REGULATOR

AT+6V

GND

FROM/TO MICON

SYS_POWER-H

SCALER IC
IC2801
R8A66983BG-U0

IC

1.8V_REG IC
IC5802 RP131K181D-TR
CE GND VOUT VOUT

3.0V_REG IC
IC5801 RP131K331D-TR
CE GND VOUT VOUT

WW FR SI-TUNER IC
IC5803
MXL301RF

X5801
100DT02425
24MHz+-20ppm

PCBF40
CMK202

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SCALER VIDEO/AUDIO SCHEMATIC DIAGRAM
(MAIN PCB)

SCALER IC
IC2801
R8A66983BG-U0

FROM/TO JACK

SP_MUTE/ADTAO0
LRCK0
BCK0
AUDIO_PWM/ST_L
DVD_Y
DVD_G
DVD_L
DVD_R
PC_V
PC_H
VGA-G
VGA-B
VGA-R
PC/DVI_L
PC/DVI_R
AV1_CVBS
AV3_Y
AV3_PR
AV3_PB
AV1_L
AV1_R
SPDIF
LOUT
ROUT
AV2_CVBS
AV2_R
AV2_L

FROM/TO MICON

RED_LED
DISC_IN_DET

FROM/TO SCLAER POWER

AVDD33V

FROM/TO REGULATOR

AT+3.3V
D3.3V
MUTE_A
D5.0V
GND

SW
Q2801
RT1N241C

SW
ADDB ADDA
0   0
0   1   DVI_A_IN_L/R
1   0   DVD_L/R
1   1   AV1_A_IN_L/R

AUDIO SW IC
IC2806
TC74VHC4052AFTELKM

R2802
10K 1/16W
1005

R2811
10K 1/16W
1005

B2802
EBMS160808A221 0.6A

NR2809
CRA108223JV

NR2810
CRA108223JV

NR2811
CRA108223JV

NR2813
CRA108223JV

C2813
10V 1 B 1608

C2824
10V 1 B 1608

C2814
10V 1 B 1608

C2817
10V 1 B 1608

C2833
16V 0.01 B 1005
C2834
10V 0.1 B 1005
C2911
6.3V 22 B 2125
C2910
6.3V 22 B 2125

AV1_CVBS
C2875
10V 0.1 B 1005
1.0   B9 VIN2A
NC   D9 VIN4A
NC   A10 VIN6A(DVD_Y)
NC   C8 VIN2B(DVD_C)

C2878
16V 0.01 B 1005
1.0   C10 SSIN1

AV3_Y
C2879
10V 0.1 B 1005
1.0   C9 VIN3A

AV3_PB
C2880
10V 0.1 B 1005
0.6   D8 VIN3B

AV3_PR
C2881
10V 0.1 B 1005
1.0   B11 VIN3C

VGA-R
C2882
10V 0.1 B 1005
1.2   C11 VIN2C
0

VGA-G
C2883
10V 0.1 B 1005
1.2   A9 VIN1A
0

VGA-B
C2884
10V 0.1 B 1005
1.2   C7 VIN1B
0

PC_V   2.0   B14 VSIN
PC_H   2.0   A14 HSIN

AVDD33V
C2887
10V 0.22 B 1005
3.3   C12 LPF
W933
1005   R2856
1.8   D11 REXT
10K 1/16W 1005
C2885
10V 0.1 B 1005
B10 VRP
C2888
10V 2.2 B 1608
C2901
10V 0.1 B 1005
C2886
10V 0.1 B 1005
A11 VRM
C2899
10V 1 B 1608
D10 LDOOUT

GPY09(AUDIO_PWM/STANDBY_L)   G13   3.3

ASEL_L
W904   C2894
10V 10 B 2125
11   1.8   A8 AINL3

ASEL_R
W906   C2897
10V 10 B 2125
12   1.8   B8 AINR3

ACLK(XTI)   C1   NC

M32TRST_N   G2   JG2807

M32TCK(BICKI)   E1   JG2808   BCKO

M32TMS(LRCKI)   G3   JG2809   LRCKO

M32TDO(STANDBY_LED_CTL)   G1   JG2812   RED_LED

C2888
10V 10 B 2125
D7 VCOML

C2891
10V 10 B 2125
C6 VCOMR

D1 RFAGC(AV_SW0)
E2 SANT(AV_SW1)   M32TDI(SP_MUTE/SDI)   F1   JG2810   W953 SP_MUTE/ADTAO0

R2857
1K 1/16W 1005

R2865
4.7K 1/16W 1005   AT+3.3V

SPDIF   SPDIFO   N10   3.3   SPDIF

LOUT
ROUT

DA1_LOUT B7   NC
DA1_ROUT A7   NC

DA0_LOUT B6   3.0   R2858
1.2K 1/16W 1005

DA0_ROUT A6   3.0   R2859
1.2K 1/16W 1005

DA_VCOM C5   1.6   C2902
10V 10 B 2125

Audio DAC

C2905
10V 2.2 B 2125   R2866
1.5K 1/16W

C2906
10V 2.2 B 2125   R2867
1.5K 1/16W

C2903
50V 0.001 B 1005
C2904
50V 0.001 B 1005

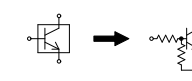AUDIO_PWM/ST_L   3.3

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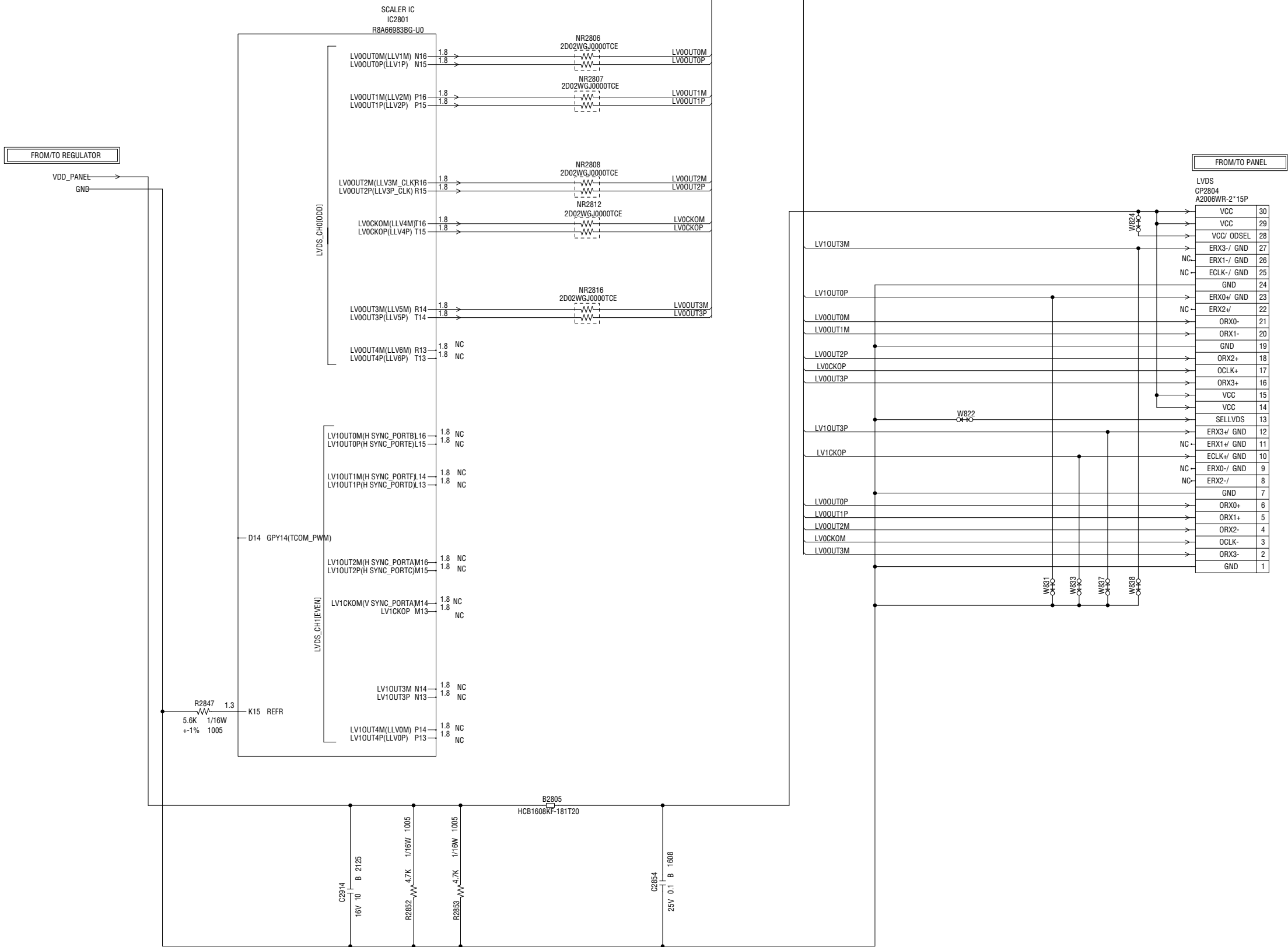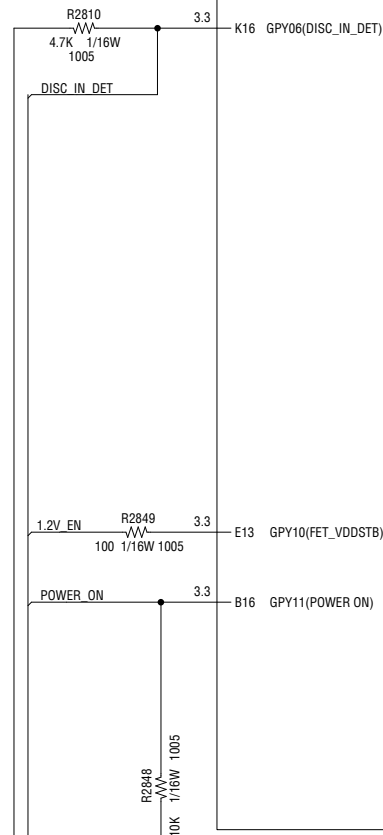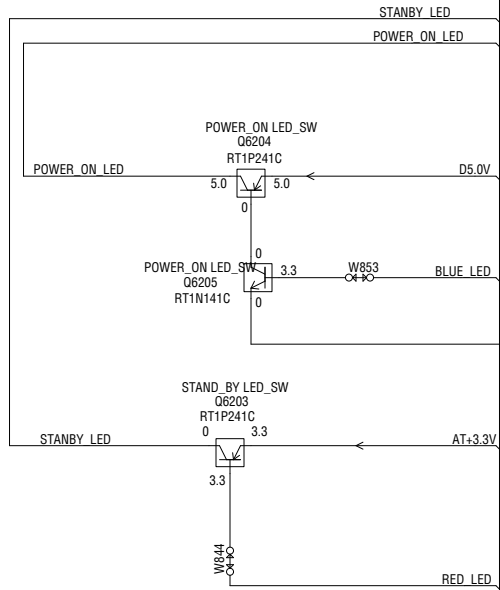OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

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CAUTION: DIGITAL TRANSISTOR

PCBF40
CMK202

JACK SCHEMATIC DIAGRAM
(MAIN PCB)

J4201
AV-4B-75H

ORANGE

D AUDIO DRIVER
Q4202
2SC3052

W818
1608

C4220
10V 0.1 B
1005

R4214
68 1/16W
1005

2.8   5.0

3.2

B4205
ACMS160808A121_2A

D5.0V
SPDIF_OUT

C4219
50V 100P CH
1005

R4213
100K 1/16W
1005

R4215
220 1/16W
1005

R4216
1.5K 1/16W
1005

R4217
3.3K 1/16W
1005

C4221
10V 1 B
1005

R4218
2.2K 1/16W
1005

C4222
10V 0.1 B
1005

SPDIF

W870
1005

SPDIF_OUT

PC/DVI_L   13

R4316
7.5K 1/10W
1608

HDMI AUIDO IN
J4302
CKX-035-349ABZ1

NC 5
NC 4   L
         2
PC/DVI_R   14

R4317
7.5K 1/10W
1608

         3   R
NC 6
NC 7
         1

R4319   6.8K 1/16W 1005

R4318   6.8K 1/16W 1005

60mm
CD4202

H03279-A

FROM/TO JACK2

FOR LED MODEL
CP4202 (CP8102)
00_6232_028_006_800+

1	COMPONENT_Y	AV3_Y
2	GND	
3	COMPONENT_PB	AV3_PB
4	GND	
5	COMPONENT_PR	AV3_PR
6	GND	
7	CVBS	AV1_CVBS
8	GND	
9	CVBS/YUV_A_L	AV1_L
10	GND	
11	CVBS/YUV_A_R	AV1_R
12	SYS_POWER-H	SYS_POWER-H
13	LOUT	LOUT
14	P_FAIL	POWER_FAIL
15	ROUT	ROUT
16	SP_MUTE	SP_MUTE/ADTA00
17	MUTE	NC
18	SOUND GND	SOUND_GND
19	SOUND+B	SOUND+B
20	SOUND+B	SOUND+B
21	SOUND GND	
22	AT+3.3V	AT+3.3V
23	REMOCON_IN	REMOCON_IN
24	D5.0V	D5.0V
25	AUDIO_PWM	AUDIO_PWM/ST_L
26	AT+5V	AT+5V
27	POWER_ON_LED	POWER_ON_LED
28	STANDBY_LED	STANBY_LED

W825
1005

W928
1005

W874
1005

VGA-R   R4201
VGA-G   100 1/10W 1608   R4202
VGA-B   R4203   100 1/10W 1608
         100 1/10W 1608

LEVEL SHIFT
Q4203
INK0012AU1

PC_H   3.3 S D 5.0

3.3

LEVEL SHIFT
Q4204
INK0012AU1

PC_V   3.3 S D 5.0

3.3

D3.3V

R4208   4.7K 1/16W 1005

R4211   4.7K 1/16W 1005

R4252   10K 1/16W 1005

R4254   10K 1/16W 1005

R4204 75 1/10W 2125
R4205 75 1/10W 2125
R4206 75 1/10W 2125

W931
1005

W932
1005

PC IN
CP4203
WD-00021-R

VGA-R	1
VGA-G	2
VGA-B	3
NC(DEB_RX)	4
DGND	5
AGND	6
AGND	7
AGND	8
DSUB_5V	9
DGND	10
NC(DEB_TX)	11
DDCD	12
VGAHS	13
VGAVS	14
DDCC	15

NC

JG4202
JG4203

FROM/TO MICON

→ SYS_POWER-H
→ KEY_B
→ DISC_IN_DET
→ DVD_RXD
→ DVD_TXD
→ EXT_MUTE-H
→ REMOCON_IN
→ POWER_ON_LED
→ STANBY_LED

FROM/TO FLASH

→ I2C_CLK
→ I2C_DATA
→ DEB_TX
→ DEB_RX

FROM/TO SCALER VIDEO/AUDIO

→ SP_MUTE/ADTA00
→ LRCKO
→ BCKO
→ SPDIF
→ PC/DVI_R
→ PC/DVI_L
→ PC_V
→ PC_H
→ VGA-R
→ VGA-G
→ VGA-B
→ DVD_Y
→ DVD_C
→ DVD_R
→ AV1_CVBS
→ AV1_L
→ AV1_R
→ AV3_Y
→ AV3_PB
→ AV3_PR
→ LOUT
→ ROUT
→ AUDIO_PWM/ST_L
→ AV2_CVBS
→ AV2_R
→ AV2_L

FROM/TO REGULATOR

→ POWER_FAIL
→ AT+3.3V
→ AT+5V
→ DVD_SPDIF
→ A3.3V
→ D3.3V
→ D5.0V
→ AT+6V
→ SOUND+B
→ P.CON+11V
→ SOUND_GND
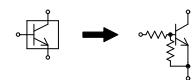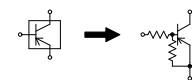→ GND

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PCBF40
CMK202

G-17

G-18

REGULATOR SCHEMATIC DIAGRAM
(MAIN PCB)

CD3002
PANEL_POWER-H
2H0F0702

FROM/TO POWER

LOW INCH MODEL
CP3003 (CP501)
00_6216_016_000_808+

16	AT+5.8V
15	AT+5.8V
14	AT+5.8V
13	GND
12	GND
11	GND
10	AT 12V/GND
9	AT 12V
8	SOUND+B
7	SOUND+B
6	SOUND GND
5	SOUND GND
4	POWER_ON_H
3	POWER_FAIL
2	LIGHT_CTL
1	INVETER_H

W867 D3003 RB056L-40 D3007 RB056L-40 AT+5V
AT+6V
C3090 10V 0.1 B
W863
W879 1608

PANEL_POWER-H 3.3
VDD_PANEL
R3012 4.7K 1/16W 1005
LCD+B_SW Q3003 RT1N141C
0.6
C3023 10V 0.22 B
R3017 8.2K 1/16W 1005
LCD+B_SW Q3008 TPC6110
LVDS

POWER_ON R3002 10K 1/16W 1005 W813 1005
VCC3.3V DC/DC
C3027 25V 0.1 B 1005
L3001 6.8uH LQH6PPN
R3010 75K 1/16W +-1% 1005
R3028 100 1/4W 3216
B3015 D3.3V ACMS160808A181_RDC08

DC/DC 3.3V IC IC3001 RT8293BHGSP
Ref=0.9V
C3018 50V 0.001 B1005
C3031 50V 0.0022 B 1005
C3035 6.3V 22 B
B3020 A3.3V ACMS160808A181_RDC08

AT+6V B3011 ACMS160808A181_RDC08
C3019 0.01 B
C3021 2125
C3025 10V 10 B 2125
R3005 22K 1/16W 1005
R3021 24K 1/16W +-1% 1005
C3036 6.3V 22 B

FROM/TO FLASH
- D3.3V
- PANEL_POWER-H
- D5.0V
- BLON
- LIGHT_CTL
- AT+3.3V
- A3.3V
- GND

FROM/TO DDR2
- GND

FROM/TO HDMI
- A3.3V

FROM/TO LVDS
- VDD_PANEL
- GND

FROM/TO MICON
- KEY_A
- KEY_B
- D5.0V
- SYS_POWER-H
- AT+3.3V
- D3.3V
- POWER_ON

FROM/TO SCALER POWER
- AVDD12_CPU
- VCCQ18_DDR
- VDD12_CPU
- D3.3V
- A3.3V
- VCC33STB_CPU
- GND

FROM/TO TUNER
- AT+6V
- GND

FROM/TO SCALER VIDEO/AUDIO
- D3.3V
- AT+3.3V
- D5.0V
- GND

FROM/TO JACK
- POWER_FAIL
- AT+3.3V
- AT+5V
- DVD_SPDIF
- D3.3V
- D5.0V
- AT+6V
- SOUND+B
- P.CON+11V
- SOUND_GND
- GND

SOUND_GND
SYS POWER-H
R3029 10K 1/16W 1005
LIGHT_CTL
BLON
POWER_FAIL

C3012 10V 0.1 B 10% 1005

Core 1.2V
VDD12_CPU

POWER_FAIL Q3004 RT1P241C
3 POWER_FAIL Q3007 INK0012AU1
D3010 DA2J10100L
C3091
R3006 1/16W 1005
R3018 470K 1/16W 1005

POWER FAIL

C3030 25V 0.1 B 1005
L3002 3.3uH LQH6PPN
R3026 12K 1/16W 1005
DC/DC 1.25V IC IC3006 RT8293BHGSP Ref=0.9V
C3032 50V 0.0022 B 1005

AT+5V R3032 10K 1/16W 1005 R3072 15K 1/16W
C3041 10V 1 B 1005
MUTE_A

R3004 10K 1/16W 1005
D3.3V

B3010 ACMS160808A181_RDC08
C3024 16V 0.01 B 1005
C3028 10V 10 B 2125
C3029 10V 10 B 2125
R3002 8.2K 1/16W 1005
R3027 24K 1/16W +-1% 1005
C3039 6.3V 22 B
C3045 6.3V 22 B

3.3V_REG IC IC3005 RP131K301D-TR
3.3 5.3 5.3
CE VDD0 VDD0
GND VOUT VOUT
3.3 3.3
D3011 DA2J10100L
B3012 AT+3.3V ACMS160808A181_RDC08
VCC33STB_CPU

C3065 16V 4.7 B 2125
C3004 6.3V 4.7 1608

W882 1608
1.2V REG IC IC3009 RP131H121D-T1-F
NC NC OUT
GND
ON/OFF IN
C3006 10V 10 B 2125
C3040 10V 10 B 2125

R3013 10K 1/16W 1005
C3094 10V 1 1608
C3095 10V 1 B 1608

AVDD12_CPU
MUTE_A

SH3003 YQ-12 SH3004 YQ-12 SH3001 YQ-12

DDR1.8V
AT+5V
D3.3V
AT+6V
SYS POWER-H

D3002 RB056L-40
R3008 10K 1/16W 1005
W883 1005
R3016 10K 1/16W 1005
VCCQ18_DDR

5V_REG IC IC3004 RP131K501D-TR
3.3 6
CE VDD0 VDD0
GND VOUT VOUT
3.3
C3003 10V 10 B 2125

DDR 1.8V REG IC IC3003 RT9025-18GSP
5.0 3.0 1.8
CNTL V_IN EN POK
NC V_OUT FB GND
1.8 0.8
C3009 10V 10 B 2125
C3008 10V 1 B 1005
C3011 10V 1 1608

R3018 5.6K 1/16W +-1% 1005
R3019 3.3K 1/16W +-1% 1005
R3020 1K 1/16W 1005
C3014 10V 10 B 2125
C3093 10 B

C3004 10V 10 B 2125
D5.0V
GND

PCBF40
CMK202

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

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

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

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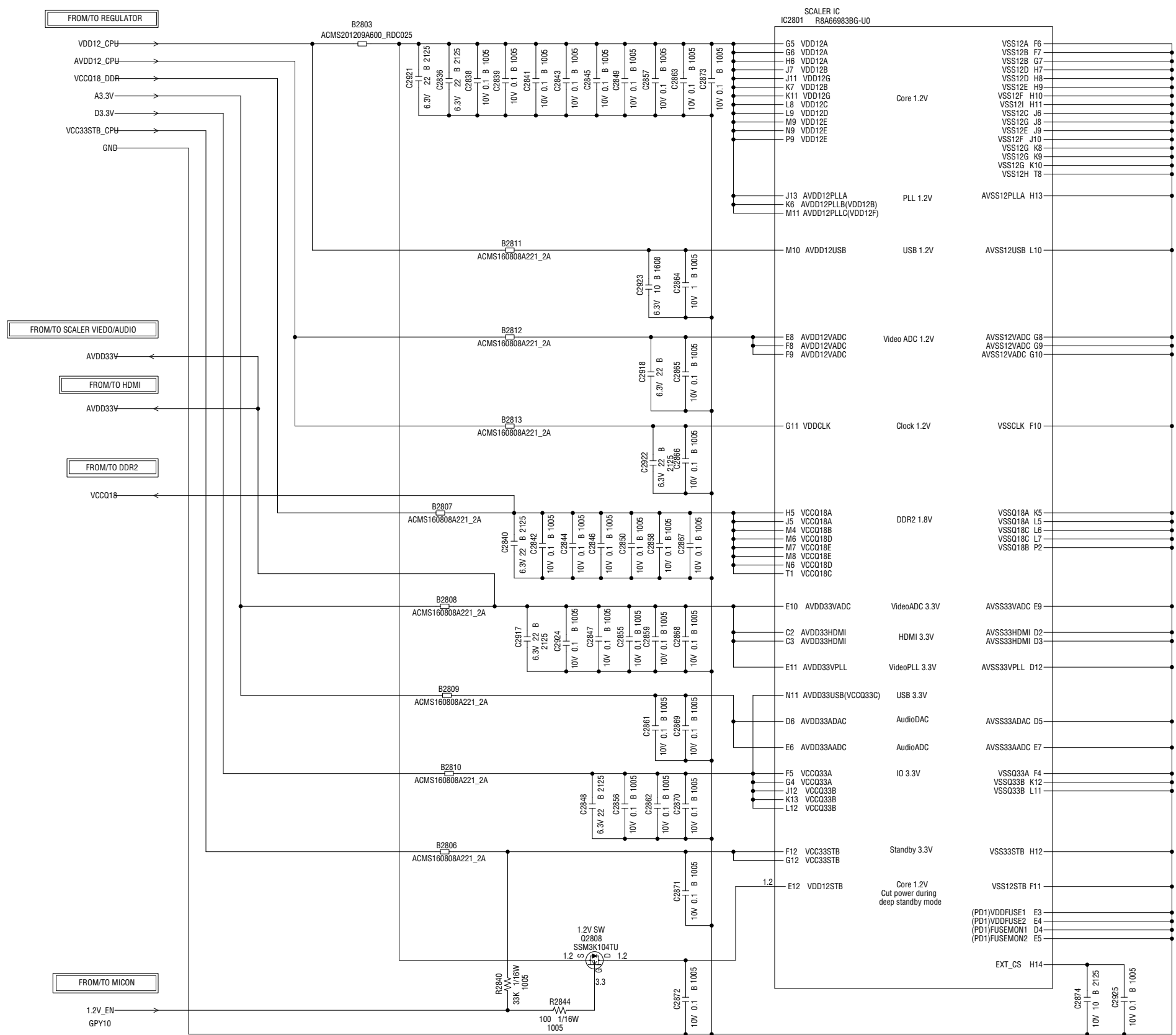
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR
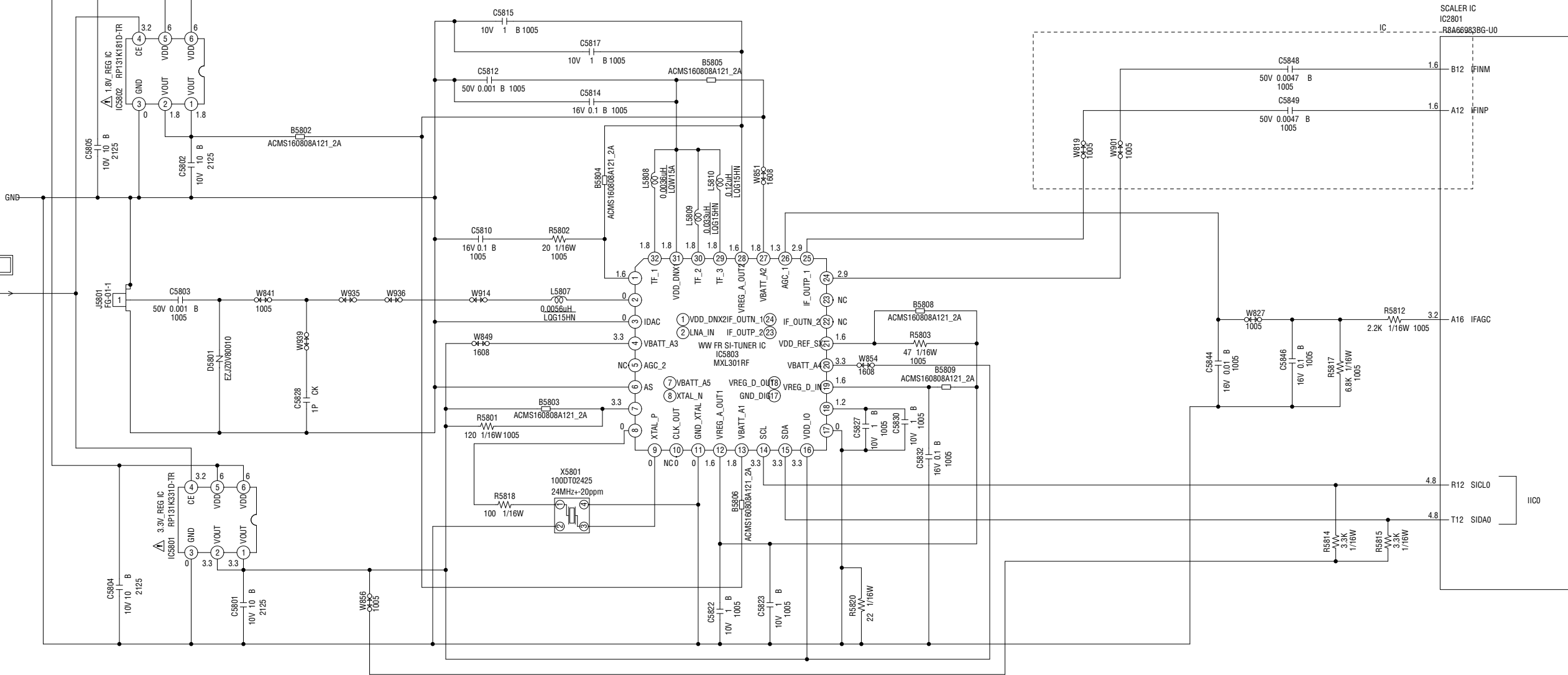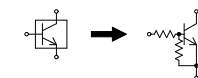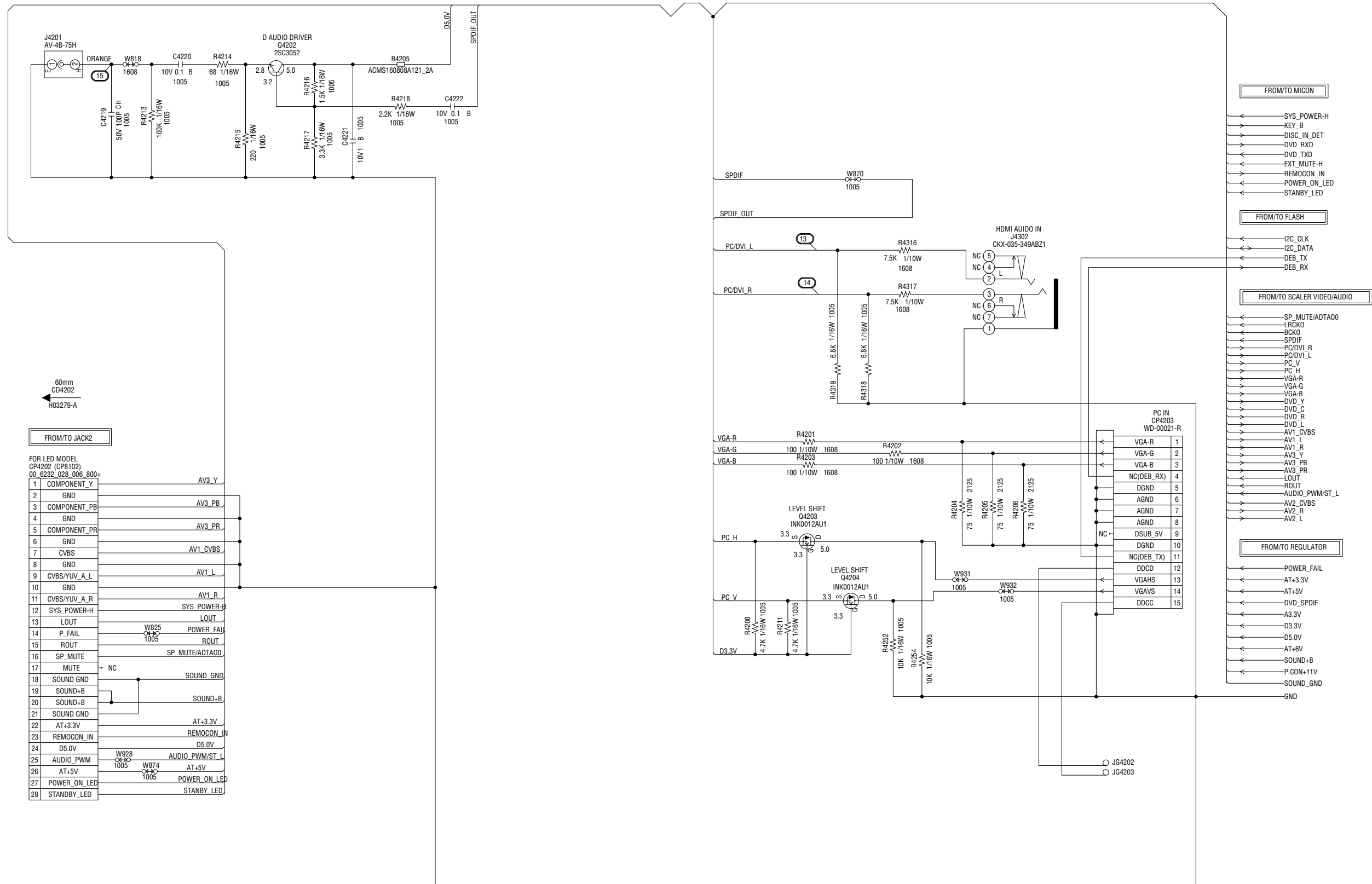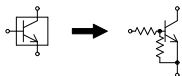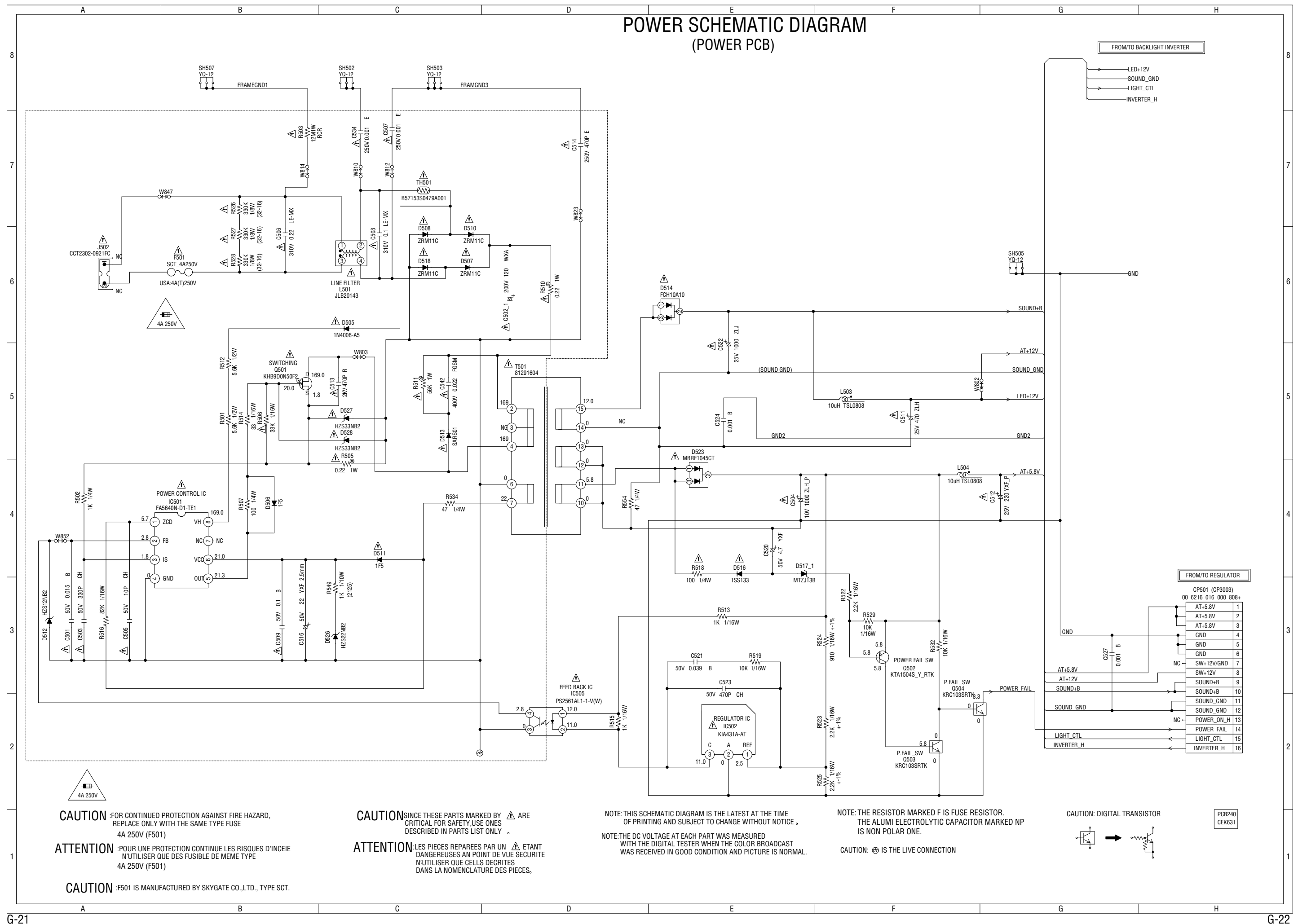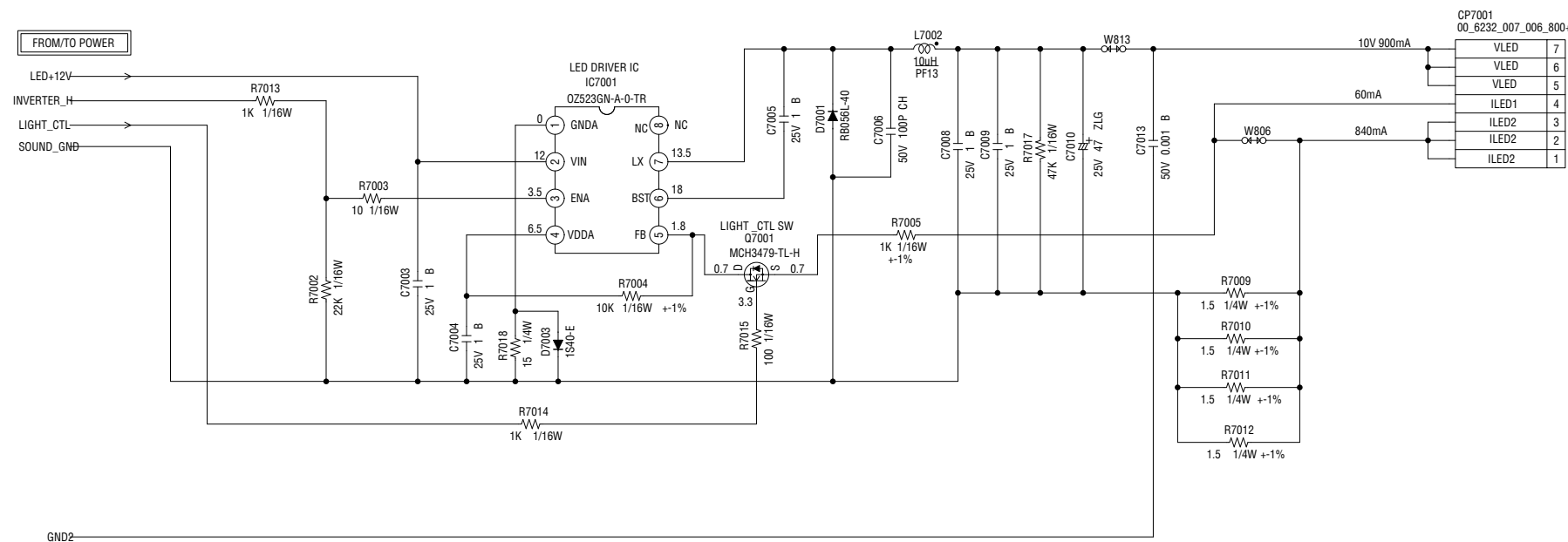
G-19
G-20

POWER SCHEMATIC DIAGRAM
(POWER PCB)

FROM/TO BACKLIGHT INVERTER

- LED+12V
- SOUND_GND
- LIGHT_CTL
- INVERTER_H

SH507 YQ-12 — FRAMEGND1
SH502 YQ-12
SH503 YQ-12 — FRAMGND3

R503 12M1W RCR
C534 250V 0.001
C507 250V 0.001
C514 250V 470P E

W814
W810
W812

W847
W803

R526 330K 1/8W (32-16)
R527 330K 1/8W (32-16)
R528 330K 1/8W (32-16)
C506 310V 0.22 LE-MX

TH501 B57153S0479A001

D508 ZRM11C
D510 ZRM11C
D518 ZRM11C
D507 ZRM11C

J502 CCT2302-0921FC
NC
NC

F501 SCT_4A250V
USA:4A(T)250V

C508 310V 0.1 LE-MX
LINE FILTER L501 JLB20143

R510 0.22 1W
C502_1 200V 120 WXA
200V

4A 250V

D505 1N4006-A5

SH505 YQ-12
GND

D514 FCH10A10
SOUND+B

C502 25V 1000 ZLJ
AT+12V
SOUND_GND

R512 5.6K 1/2W
SWITCHING Q501 KHB9D0N50F2
20.0
169.0
1.8
C513 2KV 470P R
W803
C542 400V 0.022
R511 56K 1W
FGSM

L503 10uH TSL0808
LED+12V
W802

C524 0.001 B
GND2
C511 25V 470 ZLH
GND2

D527 HZS33NB2
D528 HZS33NB2
R505 0.22 1W

D513 SAR501

T501 81291604

R501 5.6K 1/2W
R514 33 1/16W
R506 33K 1/16W

D523 MBRF1045CT

L504 10uH TSL0808
AT+5.8V
C512 25V 220 YXF_P

R502 1K 1/4W
POWER CONTROL IC IC501 FA5640N-D1-TE1
R507 100 1/4W
D506 1F5

D511 1F5

R554 47 1/4W
C504 10V 1000 ZLH_P

W852
ZCD 5.7 ①
VH ⑧ 169.0
FB 2.8 ②
NC ⑦ NC
IS 1.8 ③
VCC ⑤ 21.0
GND 0 ④
OUT ⑤ 21.3

R518 100 1/4W
D516 1SS133
D517_1 MTZJ13B

R522 2.2K 1/16W
R529 10K 1/16W

C520 50V 4.7 YXF

R534 47 1/4W

HZS12NB2
C501 50V 0.015
C503 50V 330P
R516 82K 1/16W
50V 10P CH

C505 50V 0.1 B
C509 50V 22 YXF 2.5mm
R549 1K 1/10W (2125)
C516
D526 HZS2NB2

R513 1K 1/16W

POWER FAIL SW Q502 KTA1504S_Y_RTK

R532 10K 1/16W

GND
C527 0.001 B

FROM/TO REGULATOR
CP501 (CP3003)
00_6216_016_000_808+

AT+5.8V	1
AT+5.8V	2
AT+5.8V	3
GND	4
GND	5
GND	6
SW+12V/GND	7
SW+12V	8
SOUND+B	9
SOUND+B	10
SOUND_GND	11
SOUND_GND	12
POWER_ON_H	13
POWER_FAIL	14
LIGHT_CTL	15
INVERTER_H	16

FEED BACK IC IC505 PS2561AL1-1-V(W)

C521 50V 0.039 B
R519 10K 1/16W
C523 50V 470P CH

R524 910 1/16W +-1%
R523 2.2K 1/16W +-1%
R525 2.2K 1/16W +-1%

REGULATOR IC IC502 KIA431A-AT
C ③ 11.0
A ② 0
REF 2.5

P.FAIL_SW Q504 KRC103SRTK
P.FAIL_SW Q503 KRC103SRTK

POWER_FAIL

AT+5.8V
AT+12V
SOUND+B
SOUND_GND
NC
LIGHT_CTL
INVERTER_H

R515 1K 1/16W
2.8
12.0
11.0

4A 250V

CAUTION :FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE
4A 250V (F501)

ATTENTION :POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE
N'UTILISER QUE DES FUSIBLE DE MEME TYPE
4A 250V (F501)

CAUTION :F501 IS MANUFACTURED BY SKYGATE CO.,LTD., TYPE SCT.

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

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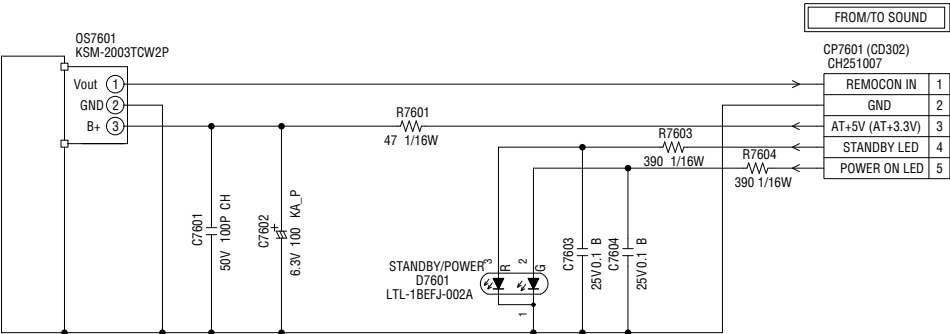N'UTILISER QUE CELLS DECRITES
DANS LA NOMENCLATURE DES PIECES。

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

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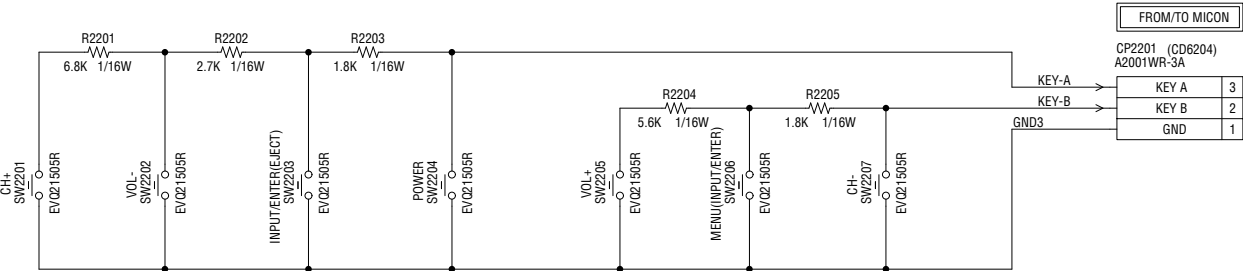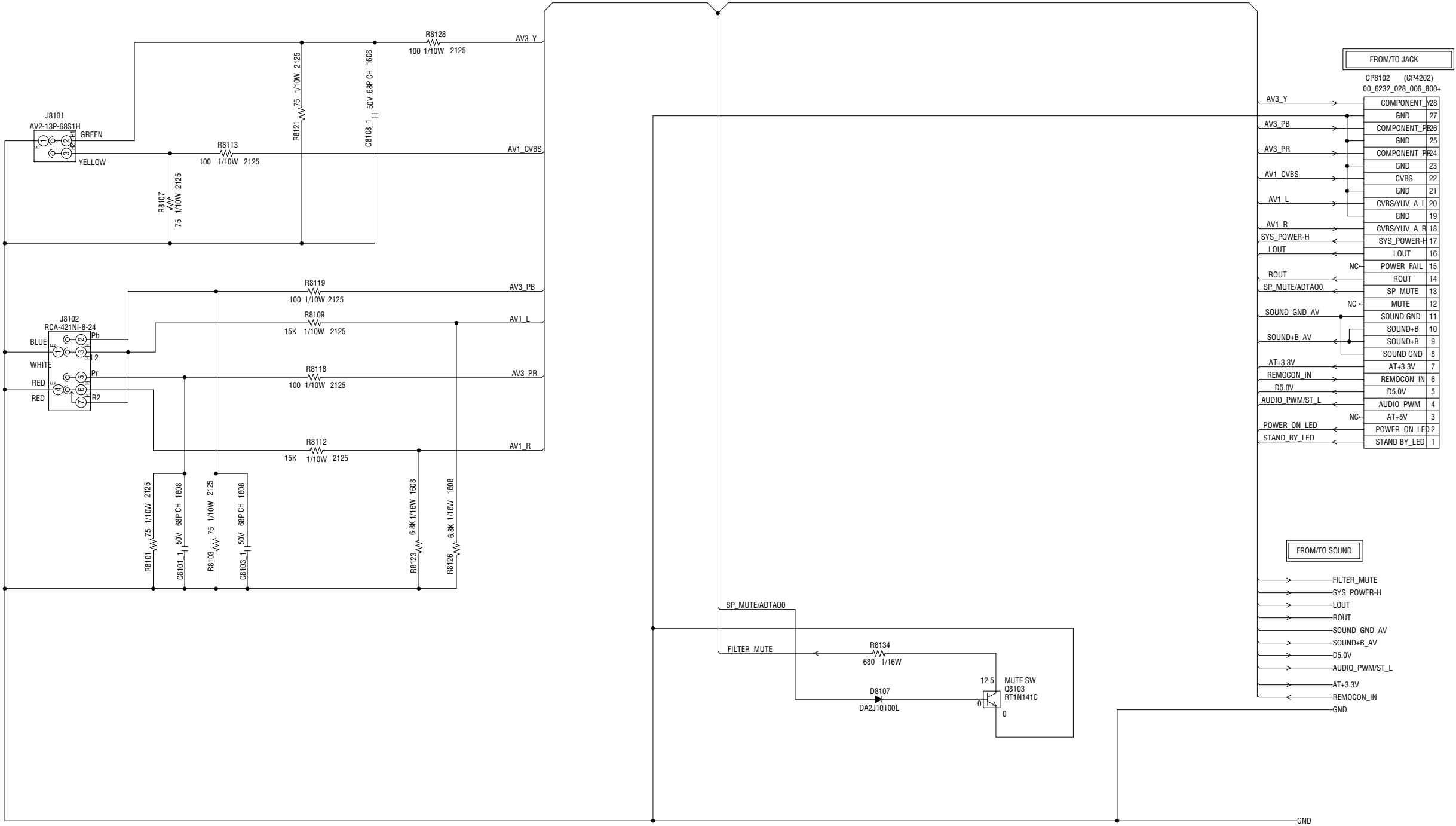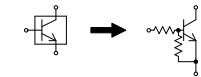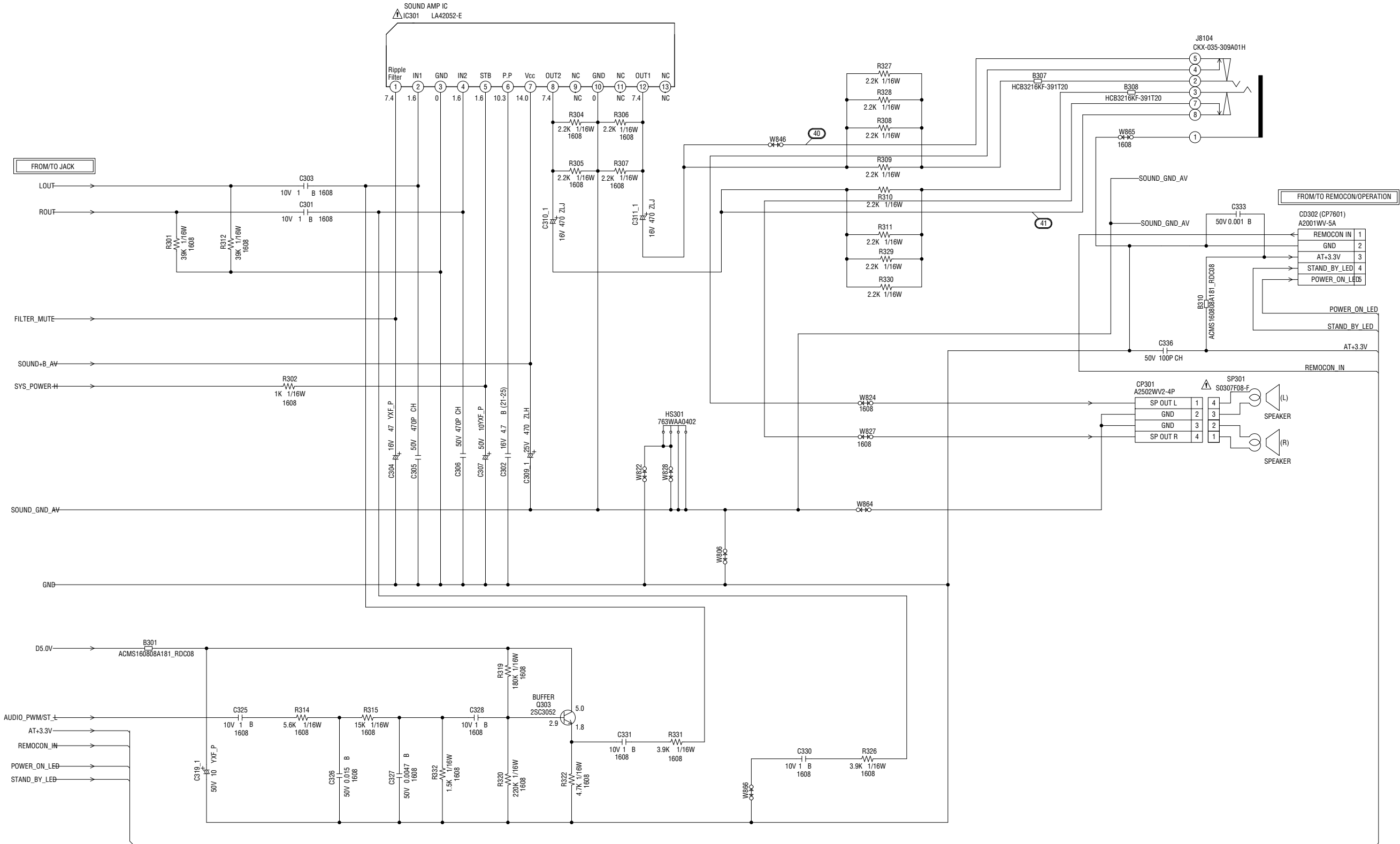WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

CAUTION: ⏚ IS THE LIVE CONNECTION

CAUTION: DIGITAL TRANSISTOR

PCB240 CEK631

BACKLIGHT INVERTER SCHEMATIC DIAGRAM
(POWER PCB)

FROM/TO POWER

LED+12V

INVERTER_H

LIGHT_CTL

SOUND_GND

GND2

R7013
1K 1/16W

R7003
10 1/16W

R7002
22K 1/16W

C7003
25V 1 B

C7004
25V 1 B

R7018
15 1/4W

D7003
1S4O-E

R7014
1K 1/16W

R7015
100 1/16W

LED DRIVER IC
IC7001
OZ523GN-A-0-TR

0   ① GNDA   NC ⑧ NC
12   ② VIN   LX ⑦ 13.5
3.5 ③ ENA   BST ⑥ 18
6.5 ④ VDDA   FB ⑤ 1.8

R7004
10K 1/16W +-1%

LIGHT_CTL SW
Q7001
MCH3479-TL-H
0.7 D   G S 0.7
3.3

C7005
25V 1 B

D7001
RB065L-40

C7006
50V 100P CH

C7008
25V 1 B

C7009
25V 1 B

R7017
47K 1/16W

C7010
25V 47 ZLG

C7013
50V 0.001 B

L7002
10uH
PF13

R7005
1K 1/16W
+-1%

W813

W806

R7009
1.5 1/4W +-1%

R7010
1.5 1/4W +-1%

R7011
1.5 1/4W +-1%

R7012
1.5 1/4W +-1%

10V 900mA

60mA

840mA

CP7001
00_6232_007_006_800+

VLED	7
VLED	6
VLED	5
ILED1	4
ILED2	3
ILED2	2
ILED2	1

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.

PCB240
CEK631

G-23

G-24

REMOCON/OPERATION SCHEMATIC DIAGRAM

(REMOCON PCB)

OS7601
KSM-2003TCW2P

Vout ①
GND ②
B+ ③

R7601
47 1/16W

R7603
390 1/16W

R7604
390 1/16W

C7601
50V 100P CH

C7602
6.3V 100 KA_P

STANDBY/POWER
D7601
LTL-1BEFJ-002A

C7603
25V0.1 B

C7604
25V0.1 B

FROM/TO SOUND

CP7601 (CD302)
CH251007

REMOCON IN	1
GND	2
AT+5V (AT+3.3V)	3
STANDBY LED	4
POWER ON LED	5

PCBDA0
CEK679

(OPERATION PCB)

R2201
6.8K 1/16W

R2202
2.7K 1/16W

R2203
1.8K 1/16W

R2204
5.6K 1/16W

R2205
1.8K 1/16W

CH+
SW2201
EV02150SR

VOL-
SW2202
EV02150SR

INPUT/ENTER(REJECT)
SW2203
EV02150SR

POWER
SW2204
EV02150SR

VOL+
SW2205
EV02150SR

MENU(INPUT/ENTER)
SW2206
EV02150SR

CH-
SW2207
EV02150SR

KEY-A
KEY-B
GND3

FROM/TO MICON

CP2201 (CD6204)
A2001WR-3A

KEY A	3
KEY B	2
GND	1

PCB270
CEK678

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WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
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JACK2 SCHEMATIC DIAGRAM
(JACK PCB)

R8128
100 1/10W 2125
AV3_Y

J8101
AV2-13P-68S1H
GREEN
YELLOW

R8121 75 1/10W 2125
C8108_1 50V 68P CH 1608

R8113
100 1/10W 2125
AV1_CVBS

R8107
75 1/10W 2125

R8119
100 1/10W 2125
AV3_PB

R8109
15K 1/10W 2125
AV1_L

J8102
RCA-421NI-8-24
BLUE
WHITE
RED
RED
Pb
L2
Pr
R2

R8118
100 1/10W 2125
AV3_PR

R8112
15K 1/10W 2125
AV1_R

R8101 75 1/10W 2125
C8101_1 50V 68PCH 1608
R8103 75 1/10W 2125
C8103_1 50V 68PCH 1608
R8123 6.8K 1/16W 1608
R8126 6.8K 1/16W 1608

FROM/TO JACK

CP8102 (CP4202)
00_6232_028_006_800+

AV3_Y	COMPONENT_Y	28
	GND	27
AV3_PB	COMPONENT_PB	26
	GND	25
AV3_PR	COMPONENT_PR	24
	GND	23
AV1_CVBS	CVBS	22
	GND	21
AV1_L	CVBS/YUV_A_L	20
	GND	19
AV1_R	CVBS/YUV_A_R	18
SYS_POWER-H	SYS_POWER-H	17
LOUT	LOUT	16
NC	POWER_FAIL	15
ROUT	ROUT	14
SP_MUTE/ADTA00	SP_MUTE	13
NC	MUTE	12
SOUND_GND_AV	SOUND GND	11
	SOUND+B	10
SOUND+B_AV	SOUND+B	9
	SOUND GND	8
AT+3.3V	AT+3.3V	7
REMOCON_IN	REMOCON_IN	6
D5.0V	D5.0V	5
AUDIO_PWM	AUDIO_PWM	4
NC	AT+5V	3
POWER_ON_LED	POWER_ON_LED	2
STAND_BY_LED	STAND BY_LED	1

FROM/TO SOUND

FILTER_MUTE
SYS_POWER-H
LOUT
ROUT
SOUND_GND_AV
SOUND+B_AV
D5.0V
AUDIO_PWM/ST_L
AT+3.3V
REMOCON_IN
GND

SP_MUTE/ADTA00

FILTER_MUTE
R8134
680 1/16W

12.5
MUTE SW
Q8103
RT1N141C
0

D8107
DA2J10100L
0

GND

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WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
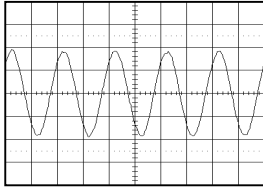WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR

PCBD90
CEK636

G-27
G-28

SOUND SCHEMATIC DIAGRAM
(JACK PCB)

SOUND AMP IC
IC301 LA42052-E

Ripple Filter	IN1	GND	IN2	STB	P.P	Vcc	OUT2	NC	GND	NC	OUT1	NC
1	2	3	4	5	6	7	8	9	10	11	12	13
7.4	1.6	0	1.6	1.6	10.3	14.0	7.4	NC	0	NC	7.4	NC

FROM/TO JACK

LOUT
ROUT

C303 10V 1 B 1608
C301 10V 1 B 1608

R301 39K 1/16W 1608
R312 39K 1/16W 1608

FILTER_MUTE

STAND_BY

SOUND+B_AV

SYS_POWER-H
R302 1K 1/16W 1608

SOUND_GND_AV

GND

D5.0V
B301 ACMS160808A181_RDC08

AUDIO_PWM/ST_L
AT+3.3V
REMOCON_IN
POWER_ON_LED
STAND_BY_LED

C325 10V 1 B 1608
R314 5.6K 1/16W 1608
R315 15K 1/16W 1608
C328 10V 1 B 1608

BUFFER Q303 2SC3052
R319 180K 1/16W 1608
5.0
2.9 1.8

C319_1 50V 10 YXF_P
C326 50V 0.015 1608
C327 50V 0.0047 1608
R332 1.5K 1/16W 1608
R320 220K 1/16W 1608
R322 4.7K 1/16W 1608
C331 10V 1 B 1608
R331 3.9K 1/16W 1608
C330 10V 1 B 1608
R326 3.9K 1/16W 1608

W866

R304 2.2K 1/16W 1608
R306 2.2K 1/16W 1608
R305 2.2K 1/16W 1608
R307 2.2K 1/16W 1608

C310_1 16V 470 ZLJ
C311_1 16V 470 ZLJ

C304 16V 47 YXF_P
C305 50V 470P CH
C306 50V 470P CH
C307 50V 10YXF_P
C302 16V 4.7 B (21-25)
C309_1 25V 470 ZLH

HS301 763WAA0402
W822
W828

W806

R327 2.2K 1/16W
R328 2.2K 1/16W
R308 2.2K 1/16W
R309 2.2K 1/16W
R310 2.2K 1/16W
R311 2.2K 1/16W
R329 2.2K 1/16W
R330 2.2K 1/16W

W846 40
41

W824 1608
W827 1608
W864

SOUND_GND_AV
SOUND_GND_AV

J8104 CKX-035-309A01H
5 4 2 3 7 8 1

B307 HCB3216KF-391T20
B308 HCB3216KF-391T20

W865 1608

C333 50V 0.001 B

FROM/TO REMOCON/OPERATION

CD302 (CP7601) A2001WV-5A

REMOCON IN	1
GND	2
AT+3.3V	3
STAND_BY_LED	4
POWER_ON_LED	5

B310 ACMS160808A181_RDC08

POWER_ON_LED
STAND_BY_LED
AT+3.3V
REMOCON_IN

C336 50V 100P CH

CP301 A2502WV2-4P

SP OUT L	1	4
GND	2	3
GND	3	2
SP OUT R	4	1

SP301 S0307F08-F
SPEAKER (L)
SPEAKER (R)

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PCBD90 CEK636

INTERCONNECTION DIAGRAM

CP7001
1	ILED2
2	ILED2
3	ILED2
4	ILED1
5	VLED
6	VLED
7	VLED

CP501
AT+5.8V	1
AT+5.8V	2
AT+5.8V	3
GND	4
GND	5
GND	6
SW+12V/GND	7
SW+12V	8
SOUND+B	9
SOUND+B	10
SOUND_GND	11
SOUND_GND	12
POWER_ON_H	13
POWER_FAIL	14
LIGHT_CTL	15
INVERTER_H	16

CD3002
1	16
2	15
3	14
4	13
5	12
6	11
7	10
8	9
9	8
10	7
11	6
12	5
13	4
14	3
15	2
16	1

CP3003
16	AT+5.8V
15	AT+5.8V
14	AT+5.8V
13	GND
12	GND
11	GND
10	AT 12V/GND
9	AT 12V
8	SOUND+B
7	SOUND+B
6	SOUND GND
5	SOUND GND
4	POWER_ON_H
3	POWER_FAIL
2	LIGHT_CTL
1	INVETER_H

J4201

HDMI AUIDO IN
J4302

POWER PCB
PCB240
CEK681

120V AC 60Hz
CD501
J502

CP2803
1	+5V
2	USBN
3	USBP
4	GND

CP2801
7	AT+3.3V
6	TX
5	RX
4	IIC_OFF	NC
3	SDA
2	SCL
1	GND

CP3601
19	HOT PLUG
18	+5V_POWER
17	DDC_GND
16	DDC_SDA
15	DDC_SCL
14	RESERVED	NC
13	CEC	NC
12	TMDS_CLK-
11	TMDS_CLK_SH
10	TMDS_CLK+
9	TMDS_DATA0-
8	TMDS_DATA0_SH
7	TMDS_DATA0+
6	TMDS_DATA1-
5	TMDS_DATA1_SH
4	TMDS_DATA1+
3	TMDS_DATA2-
2	TMDS_DATA2_SH
1	TMDS_DATA2+

LVDS CP2804
VCC	30
VCC	29
VCC/ ODSEL	28
ERX3-/ GND	27
ERX1-/ GND	26
ECLK-/ GND	25
GND	24
ERX0+/ GND	23
ERX2+/	22
ORX0-	21
ORX1-	20
GND	19
ORX2+	18
OCLK+	17
ORX3+	16
VCC	15
VCC	14
SELLVDS	13
ERX3+/ GND	12
ERX1+/ GND	11
ECLK+/ GND	10
ERX0-/ GND	9
ERX2-/	8
GND	7
ORX0+	6
ORX1+	5
ORX2-	4
OCLK-	3
ORX3-	2
GND	1

19WLED
CD2801

V7201

LCD PANEL

COMMAND TRANSMITTER
TM101

OS7601
Vout	1
GND	2
B+	3

STANDBY/POWER
D7601

REMOCON PCB
PCBDA0
CEK679

CP7601
REMOCON IN	1
GND	2
AT+5V (AT+3.3V)	3
STANDBY LED	4
POWER ON LED	5

CD302
1	REMOCON IN
2	AT+3.3V
3	STAND_BY_LED
4	
5	POWER_ON_LED

J8102
J8101

CP8102
COMPONENT_Y	28
GND	27
COMPONENT_PB	26
GND	25
COMPONENT_PR	24
GND	23
CVBS	22
GND	21
CVBS/YUV_A_L	20
GND	19
CVBS/YUV_A_R	18
SYS_POWER-H	17
LOUT	16
POWER_FAIL	15	NC
ROUT	14
MUTE	13	NC
SOUND GND	12
SOUND+B	11
SOUND+B	10
SOUND GND	9
AT+3.3v	8
REMOCON_IN	7
D5.0V	6
AUDIO_PWM	5
AT+5V	4	NC
SP_MUTE	3
POWER_ON_LED	2
STAND_BY_LED	1

CD4202
1	28
2	27
3	26
4	25
5	24
6	23
7	22
8	21
9	20
10	19
11	18
12	17
13	16
14	15
15	14
16	13
17	12
18	11
19	10
20	9
21	8
22	7
23	6
24	5
25	4
26	3
27	2
28	1

CP4202
1	COMPONENT_Y
2	GND
3	COMPONENT_PB
4	GND
5	COMPONENT_PR
6	GND
7	CVBS
8	GND
9	CVBS/YUV_A_L
10	GND
11	CVBS/YUV_A_R
12	SYS_POWER-H
13	A3.3V / LOUT
14	EXT_MUTE P_FAIL
15	ROUT
16	AMP_RESET MUTE
17	SOUND GND
18	SOUND+B
19	SOUND+B
20	SOUND GND
21	AT+3.3V
22	REMOCON_IN
23	D5.0V
24	ST_L / AUDIO_PWM
25	AT+6V / AT+5V
26	ADATA00/ SP_MUTE
27	POWER_ON_LED
28	STANDBY_LED

MICON_UPDATE/PC_TOOL CP2802
1	TCK/MST
2	TRST_N
3	TDO/MSQ
4	ASEBRKAK_N
5	TMS/MSN
6	TDI/MSD
7	RESET_N
8	NC(FLASH_WP)	NC
9	ASEMD0
10	GND
11	VDD33

PC IN CP4203
1	VGA-R
2	VGA-G
3	VGA-B
4	NC(DEB_RX)
5	DGND
6	AGND
7	AGND
8	AGND
9	DSUB_5V	NC
10	DGND
11	NC(DEB_TX)
12	DDCD
13	VGAHS
14	VGAVS
15	DDCC

J8104

SPEAKER
SP301

CP301
1	4	SP OUT L
2	3	GND
3	2	GND
4	1	SP OUT R

SPEAKER

LED PCB
PCBD90
CEK636

CP2201
GND	1
KEY B	2
KEY A	3

CD6204
1	GND
2	KEY B
3	KEY A

MAIN PCB
PCBF40
CMK202

OPERATION PCB
PCB270
CEK678

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

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

NOTE: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.

WAVEFORMS

FLASH

20ns
200mV

1

SCALER VIDEO/AUDIO

2ms
100mV

12
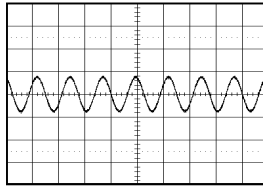
SCALER VIDEO/AUDIO

10us
0.5V

3
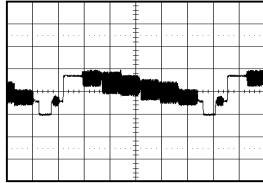
JACK

2ms
100mV

13
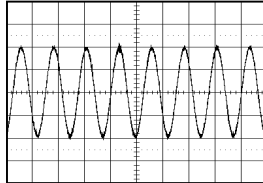
10us
200mV

8
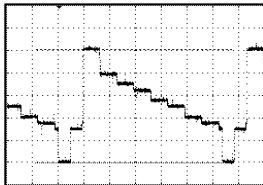
2ms
100mV

14
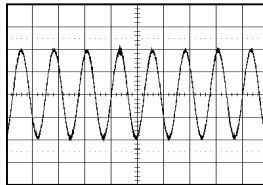
10us
100mV

9
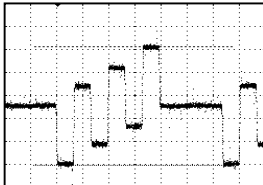
0.2us
200mV

15
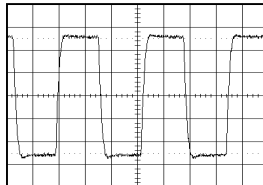
10us
100mV

10
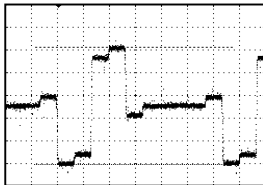
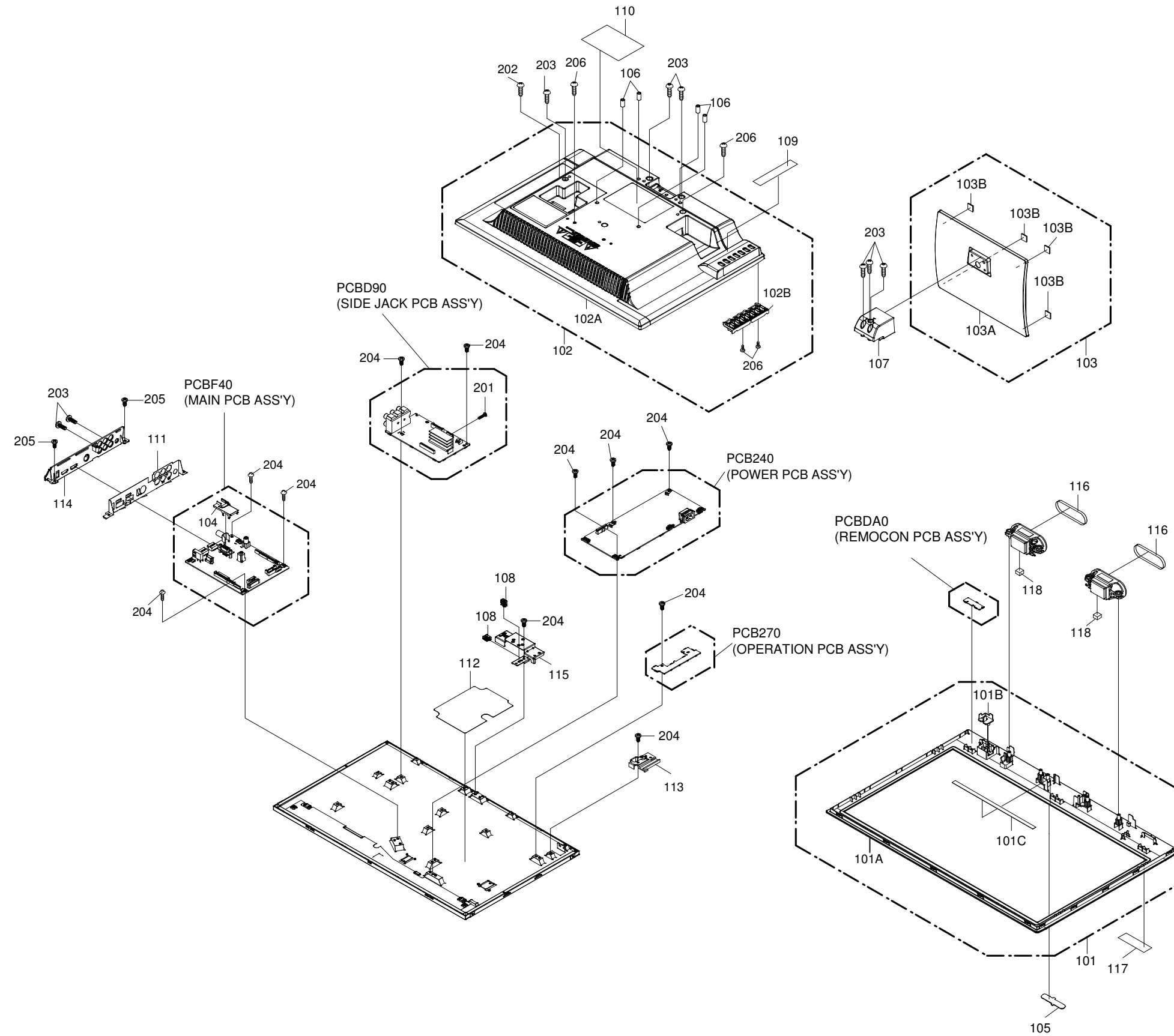**SOUND**

1ms
200mV
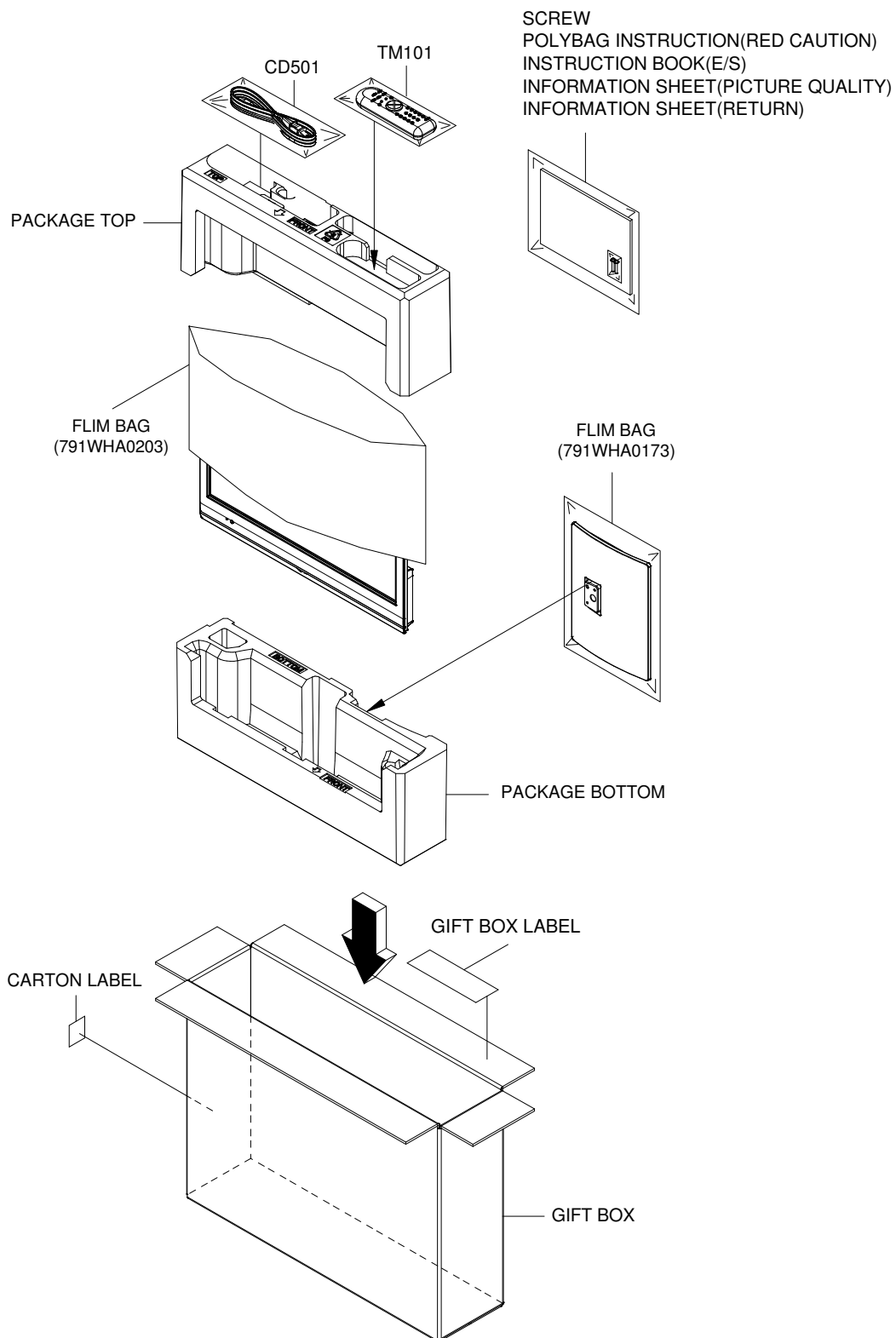
40
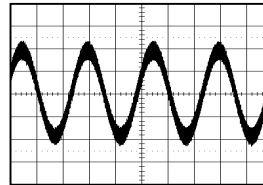
2ms
100mV

11
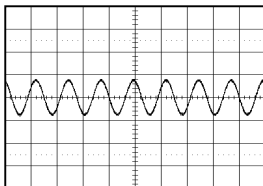
SOUND

1ms
200mV

41
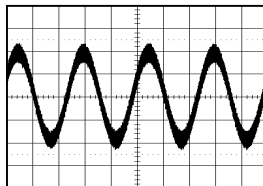
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

MECHANICAL EXPLODED VIEW

MECHANICAL EXPLODED VIEW
(PACKING DIAGRAM)

SCREW
POLYBAG INSTRUCTION(RED CAUTION)
INSTRUCTION BOOK(E/S)
INFORMATION SHEET(PICTURE QUALITY)
INFORMATION SHEET(RETURN)

CD501

TM101

PACKAGE TOP

FLIM BAG
(791WHA0203)

FLIM BAG
(791WHA0173)

PACKAGE BOTTOM

GIFT BOX LABEL

CARTON LABEL

GIFT BOX

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
101	7A708A772A	FRONT CABI ASS'Y	
101A	708WPDA589	CABINET FRONT	
101B	713WPAA312	GLASS LED	
101C	713WPAA314	GUIDE REMOCON	
101D	800WQ0A195	FELT SHEET	TMKA618
101E	800WQ0A252	FELT SHEET	
101F	800WQ0A261	FELT SHEET	
101G	800WQ00194	FELT SHEET	
102	7A702B517A	BACK CABI ASS'Y	
102A	702WPA1618	CABINET BACK	
102B	721000A014	SHEET BUTTON	
102C	723000F362	SHEET JACK 1	
102D	723000E906	SHEET JACK 2	
102E	735WPAB233	BUTTON FRAME	
102F	800WQ0A312	FELT SHEET	
102G	800WQ0A346	FELT SHEET	
103	7A704A306A	STAND ASS'Y	
103A	704WPBA222	STAND	
103B	800SRA0002	CUSHION LEG	VEB1349-A
104	752WSAA202	SHIELD TUNER	
105	769WSA0022	VESA SHAFT	
106	704WPBA223	STAND FRAME	
107	709WPA0051	HOLDER WIRE	
108	722538A203	SHEET RATING	
109	723000F405	ENERGY GUIDE LABEL	
110	723000E524	SHEET INFORMATION	
111	723000E371	ENERGY STAR LABEL	
112	752WSAA205	SHIELD JACK	
113	759WNAA025	SHEET PC	
114	761WPAA330	PLATE JACK	
115	761WPAA364	HOLDER PCB	
116	761WSA0804	ANGLE HINGE	
117	800WFAA073	CUSHION SPEAKER	
118	800WR00123	SHEET SILICONE	
201	8109I30A0U	SCREW TAP TITE(B) WH7	3x10
202	8107K2660S	SCREW TAP TITE(S) LAMI HEAD	2.6x6
203	810722660U	SCREW TAP TITE(S) BIND	2.6x6
204	810722680S	SCREW TAP TITE(S) BIND	M2.6x8
205	810722680U	SCREW,TAP TITE(S) BIND	M2.6x8
206	8109230A0S	SCREW TAP TITE(B) BIND	3x10
---	723000F470	CARTON LABEL	
---	791WHA0173	FILM BAG	
---	791WHA0189	FILM BAG	
---	792WHAA237	PACKAGE PAD	
---	792WHAA520	PACKAGE TOP	
---	792WHAA521	PACKAGE BOTTOM	
---	793WCDE775	GIFT BOX	

ACCESSORY REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
⚠ CD501	120Q118902	CORD SET AC	P201-2980-1
TM101	076E0TZ011	TRANSMITTER	CRB07S00
---	8905000013	SCREW	
---	J3FS5221A	INSTRUCTION BOOK(E/F)	
---	JA5K0001	POLYBAG INSTRUCTION	

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
		RESISTORS			**RESISTORS**
R301	R803R9393J	RC 39K OHM 1/16W	R2842	R808R96R8J	RC 6.8 OHM 1/16W
R302	R803R9102J	RC 1K OHM 1/16W	R2843	R808R96R8J	RC 6.8 OHM 1/16W
R304	R803R9222J	RC 2.2K OHM 1/16W	R2844	R808R9101J	RC 100 OHM 1/16W
R305	R803R9222J	RC 2.2K OHM 1/16W	R2845	R808R9101F	RC 100 OHM 1/16W
R306	R803R9222J	RC 2.2K OHM 1/16W	R2846	R808R9101F	RC 100 OHM 1/16W
R307	R803R9222J	RC 2.2K OHM 1/16W	R2847	R808R9562F	RC 5.6K OHM 1/16W
R308	R803R9222J	RC 2.2K OHM 1/16W	R2848	R808R9103J	RC 10K OHM 1/16W
R309	R803R9222J	RC 2.2K OHM 1/16W	R2849	R808R9101J	RC 100 OHM 1/16W
R310	R803R9222J	RC 2.2K OHM 1/16W	R2850	R808R9472J	RC 4.7K OHM 1/16W
R311	R803R9222J	RC 2.2K OHM 1/16W	R2852	R808R9472J	RC 4.7K OHM 1/16W
R312	R803R9393J	RC 39K OHM 1/16W	R2853	R808R9472J	RC 4.7K OHM 1/16W
R314	R803R9562J	RC 5.6K OHM 1/16W	R2856	R808R9103J	RC 10K OHM 1/16W
R315	R803R9153J	RC 15K OHM 1/16W	R2857	R808R9102J	RC 1K OHM 1/16W
R319	R803R9184J	RC 180K OHM 1/16W	R2858	R808R9472J	RC 4.7K OHM 1/16W
R320	R803R9224J	RC 220K OHM 1/16W	R2859	R808R9472J	RC 4.7K OHM 1/16W
R322	R803R9472J	RC 4.7K OHM 1/16W	R2865	R808R9472J	RC 4.7K OHM 1/16W
R326	R803R9392J	RC 3.9K OHM 1/16W	R2866	R808R9102J	RC 1K OHM 1/16W
R327	R803R9222J	RC 2.2K OHM 1/16W	R2867	R808R9102J	RC 1K OHM 1/16W
R328	R803R9222J	RC 2.2K OHM 1/16W	R2875	R808R9472J	RC 4.7K OHM 1/16W
R329	R803R9222J	RC 2.2K OHM 1/16W	R2882	R808R9472J	RC 4.7K OHM 1/16W
R330	R803R9222J	RC 2.2K OHM 1/16W	R2883	R808R9472J	RC 4.7K OHM 1/16W
R331	R803R9392J	RC 3.9K OHM 1/16W	R2894	R808R9220J	RC 22 OHM 1/16W
R332	R803R9152J	RC 1.5K OHM 1/16W	R2895	R808R9150J	RC 15 OHM 1/16W
R501	R002T2562J	RC 5.6K OHM 1/2W	R2896	R808R9220J	RC 22 OHM 1/16W
R502	R002T4102J	RC 1K OHM 1/4W	R2897	R808R9150J	RC 15 OHM 1/16W
⚠ R503	RC31X1126J	RC 12M OHM 1W	R2898	R808R9472J	RC 4.7K OHM 1/16W
⚠ R505	R3K781R22J	R,METAL OXIDE 0.22 OHM 1W	R2899	R808R9150J	RC 15 OHM 1/16W
⚠ R506	R803R9333J	RC 33K OHM 1/16W	R2900	R808R9150J	RC 15 OHM 1/16W
R507	R002T4101J	RC 100 OHM 1/4W	R2901	R808R9150J	RC 15 OHM 1/16W
⚠ R510	R63881R22J	R,FUSE 0.22 OHM 1W	R2902	R808R9150J	RC 15 OHM 1/16W
⚠ R511	R3K781563J	R,METAL OXIDE 56K OHM 1W	R2903	R808R9150J	RC 15 OHM 1/16W
R512	R002T2562J	RC 5.6K OHM 1/2W	R2904	R808R9150J	RC 15 OHM 1/16W
R513	R803R9102J	RC 1K OHM 1/16W	R2905	R808R9150J	RC 15 OHM 1/16W
R514	R803R9330J	RC 33 OHM 1/16W	R2906	R808R9150J	RC 15 OHM 1/16W
R515	R803R9102J	RC 1K OHM 1/16W	R2907	R808R9150J	RC 15 OHM 1/16W
R516	R803R9104J	RC 100K OHM 1/16W	R2908	R808R9472J	RC 4.7K OHM 1/16W
⚠ R518	R002T4101J	RC 100 OHM 1/4W	R2909	R808R9150J	RC 15 OHM 1/16W
R519	R803R9103J	RC 10K OHM 1/16W	R2910	R808R9150J	RC 15 OHM 1/16W
R522	R803R9222J	RC 2.2K OHM 1/16W	R2911	R808R9150J	RC 15 OHM 1/16W
R523	R803R9222F	RC 2.2K OHM 1/16W	R2912	R808R9150J	RC 15 OHM 1/16W
R524	R803R9911F	RC 910 OHM 1/16W	R2913	R808R9150J	RC 15 OHM 1/16W
R525	R803R9222F	RC 2.2K OHM 1/16W	R2914	R808R9150J	RC 15 OHM 1/16W
⚠ R526	R8X2R8334J	RC 330K OHM 1/8W	R2915	R808R9472J	RC 4.7K OHM 1/16W
⚠ R527	R8X2R8334J	RC 330K OHM 1/8W	R2916	R808R9472J	RC 4.7K OHM 1/16W
⚠ R528	R8X2R8334J	RC 330K OHM 1/8W	R2917	R808R9472J	RC 4.7K OHM 1/16W
R529	R803R9103J	RC 10K OHM 1/16W	R2918	R808R9150J	RC 15 OHM 1/16W
R532	R803R9103J	RC 10K OHM 1/16W	R2919	R808R9150J	RC 15 OHM 1/16W
R534	R002T4470J	RC 47 OHM 1/4W	R2920	R808R9103J	RC 10K OHM 1/16W
R535	R002T4100J	RC 10 OHM 1/4W	R2921	R808R9150J	RC 15 OHM 1/16W
R554	R002T4470J	RC 47 OHM 1/4W	R3002	R808R9103J	RC 10K OHM 1/16W
R2201	R803R9682J	RC 6.8K OHM 1/16W	R3004	R808R9103J	RC 10K OHM 1/16W
R2202	R803R9272J	RC 2.7K OHM 1/16W	R3005	R808R9223J	RC 22K OHM 1/16W
R2203	R803R9182J	RC 1.8K OHM 1/16W	R3006	R808R9474J	RC 470K OHM 1/16W
R2204	R803R9103J	RC 10K OHM 1/16W	R3008	R808R9103J	RC 10K OHM 1/16W
R2205	R803R9182J	RC 1.8K OHM 1/16W	R3010	R808R9753F	RC 75K OHM 1/16W
R2802	R808R9103J	RC 10K OHM 1/16W	R3012	R808R9472J	RC 4.7K OHM 1/16W
R2803	R808R9103J	RC 10K OHM 1/16W	R3013	R808R9103J	RC 10K OHM 1/16W
R2804	R808R9103J	RC 10K OHM 1/16W	R3016	R808R9103J	RC 10K OHM 1/16W
R2805	R808R9103J	RC 10K OHM 1/16W	R3017	R808R9822J	RC 8.2K OHM 1/16W
R2806	R808R9103J	RC 10K OHM 1/16W	R3018	R808R9562F	RC 5.6K OHM 1/16W
R2808	R808R9221J	RC 220 OHM 1/16W	R3019	R808R9332F	RC 3.3K OHM 1/16W
R2809	R808R9151F	RC 150 OHM 1/16W	R3020	R808R9102F	RC 1K OHM 1/16W
R2810	R808R9472J	RC 4.7K OHM 1/16W	R3021	R808R9243F	RC 24K OHM 1/16W
R2811	R808R9103J	RC 10K OHM 1/16W	R3022	R808R9822J	RC 8.2K OHM 1/16W
R2812	R808R9472J	RC 4.7K OHM 1/16W	R3026	R808R9123F	RC 12K OHM 1/16W
R2813	R808R9102J	RC 1K OHM 1/16W	R3027	R808R9243F	RC 24K OHM 1/16W
R2815	R808R9220J	RC 22 OHM 1/16W	R3028	R83KR4101J	RC 100 OHM 1/4W
R2817	R808R9220J	RC 22 OHM 1/16W	R3029	R808R9103J	RC 10K OHM 1/16W
R2818	R808R9220J	RC 22 OHM 1/16W	R3032	R808R9103J	RC 10K OHM 1/16W
R2819	R808R9220J	RC 22 OHM 1/16W	R3072	R808R9153J	RC 15K OHM 1/16W
R2827	R808R9562F	RC 5.6K OHM 1/16W	R3601	R808R9100J	RC 10 OHM 1/16W
R2828	R808R9472J	RC 4.7K OHM 1/16W	R3609	R808R9102J	RC 1K OHM 1/16W
R2831	R808R9101F	RC 100 OHM 1/16W	R3610	R808R9223J	RC 22K OHM 1/16W
R2838	R808R9472J	RC 4.7K OHM 1/16W	R3614	R808R9472J	RC 4.7K OHM 1/16W
R2839	R808R9472J	RC 4.7K OHM 1/16W	R3615	R808R9473J	RC 47K OHM 1/16W
R2840	R808R9333J	RC 33K OHM 1/16W	R3617	R808R9473J	RC 47K OHM 1/16W
R2841	R808R9150J	RC 15 OHM 1/16W	R3627	R808R9332J	RC 3.3K OHM 1/16W

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
		RESISTORS			**CAPACITORS**
R3628	R808R9332J	RC 3.3K OHM 1/16W	C315	CS0PCH4H2J	CC 220 PF 50V CH
R3629	R808R9104J	RC 100K OHM 1/16W	C316	CS0PCH4H2J	CC 220 PF 50V CH
R3633	R808R9104J	RC 100K OHM 1/16W	C319	E8E2U5100D	CE 10 UF 50V
R3644	R808R9302F	RC 3K OHM 1/16W	C325	CS0PB0N16K	CC 1 UF 10V B
R3645	R808R9222F	RC 2.2K OHM 1/16W	C326	CS0PB04E4K	CC 0.015 UF 50V B
R3646	R808R9561F	RC 560 OHM 1/16W	C327	CS0PB04Q3K	CC 0.0047UF 50V B
R4201	R803R7101J	RC 100 OHM 1/10W	C328	CS0PB0N16K	CC 1 UF 10V B
R4202	R803R7101J	RC 100 OHM 1/10W	C330	CS0PB0N16K	CC 1 UF 10V B
R4203	R803R7101J	RC 100 OHM 1/10W	C331	CS0PB0N16K	CC 1 UF 10V B
R4204	R801R7750J	RC 75 OHM 1/10W	C333	CS0PB0413K	CC 0.001 UF 50V B
R4205	R801R7750J	RC 75 OHM 1/10W	C336	CS0PCH412J	CC 100 PF 50V CH
R4206	R801R7750J	RC 75 OHM 1/10W	⚠ C501	CS0PB04E4K	CC 0.015 UF 50V B
R4208	R808R9472J	RC 4.7K OHM 1/16W	⚠ C502	E5EWFC121D	CE 120 UF 200V
R4211	R808R9472J	RC 4.7K OHM 1/16W	⚠ C503	CS0PCH4L2J	CC 330 PF 50V CH
R4213	R808R9104J	RC 100K OHM 1/16W	⚠ C504	E8E101102M	CE 1000 UF 10V
R4214	R808R9680J	RC 68 OHM 1/16W	⚠ C505	CS0PCH411D	CC 10 PF 50V CH
R4215	R808R9221J	RC 220 OHM 1/16W	⚠ C506	P4K12D224K	CMPP 0.22 UF 310V
R4216	R808R9152J	RC 1.5K OHM 1/16W	⚠ C507	CE39E0M13M	CC 0.001 UF 250V E
R4217	R808R9332J	RC 3.3K OHM 1/16W	⚠ C508	P4K12D104K	CMPP 0.1 UF 310V
R4218	R808R9222J	RC 2.2K OHM 1/16W	⚠ C509	CS0PB0415K	CC 0.1 UF 50V B
R4252	R808R9103J	RC 10K OHM 1/16W	C510	CS0PB0413K	CC 0.001 UF 50V B
R4254	R808R9103J	RC 10K OHM 1/16W	⚠ C511	E8E1T3471M	CE 470 UF 25V
R4316	R803R7752J	RC 7.5K OHM 1/10W	⚠ C512	E8E2T3221D	CE 220 UF 25V
R4317	R803R7752J	RC 7.5K OHM 1/10W	⚠ C513	C03L0R7Q2K	CC 470 PF 2KV R
R4318	R808R9682J	RC 6.8K OHM 1/16W	⚠ C514	CE39E0MQ2K	CC 470 PF 250V E
R4319	R808R9682J	RC 6.8K OHM 1/16W	C516	E8E2U5220D	CE 22 UF 50V
R5801	R808R9121J	RC 120 OHM 1/16W	C520	E8E2U54R7D	CE 4.7 UF 50V
R5802	R808R9200J	RC 20 OHM 1/16W	C521	CS0PB04N4K	CC 0.039 UF 50V B
R5803	R808R9470J	RC 47 OHM 1/16W	⚠ C522	E9E8F3102D	CE 1000 UF 25V
R5812	R808R9222J	RC 2.2K OHM 1/16W	C523	CS0PCH4Q2J	CC 470 PF 50V CH
R5814	R808R9332J	RC 3.3K OHM 1/16W	C527	CRGTB0413K	CC 0.001 UF 50V B
R5815	R808R9332J	RC 3.3K OHM 1/16W	⚠ C534	CE39E0M13M	CC 0.001 UF 250V E
R5817	R808R9682J	RC 6.8K OHM 1/16W	⚠ C542	P4NBE4223J	CMPP 0.022 UF 400
R5818	R808R9101J	RC 100 OHM 1/16W	C2801	CS0UB0N15K	CC 0.1 UF 10V B
R5820	R808R9220J	RC 22 OHM 1/16W	C2805	CS0UB0214K	CC 0.01 UF 16V B
R6207	R808R9103J	RC 10K OHM 1/16W	C2807	CS0UCH4K1J	CC 27 PF 50V CH
R6208	R808R9472J	RC 4.7K OHM 1/16W	C2808	CS0UCH4K1J	CC 27 PF 50V CH
R7002	R803R9223J	RC 22K OHM 1/16W	C2809	CS0UB0413K	CC 0.001 UF 50V B
R7003	R803R9100J	RC 10 OHM 1/16W	C2812	CS0UB0N15K	CC 0.1 UF 10V B
R7004	R803R9103F	RC 10K OHM 1/16W	C2813	CS0PB0N16K	CC 1 UF 10V B
R7005	R803R9102F	RC 1K OHM 1/16W	C2814	CS0PB0N16K	CC 1 UF 10V B
R7009	R861R41R5F	RC 1.5 OHM 1/4W	C2815	CS0UB0N15K	CC 0.1 UF 10V B
R7010	R861R41R5F	RC 1.5 OHM 1/4W	C2816	CS0UB0N15K	CC 0.1 UF 10V B
R7011	R861R41R5F	RC 1.5 OHM 1/4W	C2817	CS0PB0N16K	CC 1 UF 10V B
R7012	R861R41R5F	RC 1.5 OHM 1/4W	C2818	CS0UB0N15K	CC 0.1 UF 10V B
R7013	R803R9102J	RC 1K OHM 1/16W	C2819	CS0UB0N15K	CC 0.1 UF 10V B
R7014	R803R9102J	RC 1K OHM 1/16W	C2820	CS0UB0N15K	CC 0.1 UF 10V B
R7015	R803R9101J	RC 100 OHM 1/16W	C2821	CS0UB0N15K	CC 0.1 UF 10V B
R7017	R803R9473J	RC 47K OHM 1/16W	C2824	CS0PB0N16K	CC 1 UF 10V B
R7018	R002T4150J	RC 15 OHM 1/4W	C2825	CS0UB0N15K	CC 0.1 UF 10V B
R7601	R803R9470J	RC 47 OHM 1/16W	C2826	CS0UB0N15K	CC 0.1 UF 10V B
R7606	R803R9561J	RC 560 OHM 1/16W	C2827	CS0UB0N15K	CC 0.1 UF 10V B
R7607	R803R9271J	RC 270 OHM 1/16W	C2828	CS0UB0N15K	CC 0.1 UF 10V B
R8101	R801R7750J	RC 75 OHM 1/10W	C2829	CS0UB0N15K	CC 0.1 UF 10V B
R8103	R801R7750J	RC 75 OHM 1/10W	C2830	CS0UB0N15K	CC 0.1 UF 10V B
R8107	R801R7750J	RC 75 OHM 1/10W	C2831	CS0UB0N15K	CC 0.1 UF 10V B
R8109	R801R7153J	RC 15K OHM 1/10W	C2832	CS0UB0N15K	CC 0.1 UF 10V B
R8112	R801R7153J	RC 15K OHM 1/10W	C2833	CS0UB0214K	CC 0.01 UF 16V B
R8113	R801R7101J	RC 100 OHM 1/10W	C2834	CS0UB0N15K	CC 0.1 UF 10V B
R8118	R801R7101J	RC 100 OHM 1/10W	C2836	CS0RB0PH7M	CC 22 UF 6.3V B
R8119	R801R7101J	RC 100 OHM 1/10W	C2837	CS0UB0N15K	CC 0.1 UF 10V B
R8121	R801R7750J	RC 75 OHM 1/10W	C2838	CS0UB0N15K	CC 0.1 UF 10V B
R8123	R803R9682J	RC 6.8K OHM 1/16W	C2839	CS0UB0N15K	CC 0.1 UF 10V B
R8126	R803R9682J	RC 6.8K OHM 1/16W	C2840	CS0RB0PH7M	CC 22 UF 6.3V B
R8128	R801R7101J	RC 100 OHM 1/10W	C2841	CS0UB0N15K	CC 0.1 UF 10V B
R8134	R803R9681J	RC 680 OHM 1/16W	C2842	CS0UB0N15K	CC 0.1 UF 10V B
		CAPACITORS	C2843	CS0UB0N15K	CC 0.1 UF 10V B
C301	CS0PB0N16K	CC 1 UF 10V B	C2844	CS0UB0N15K	CC 0.1 UF 10V B
C302	CS0RB02Q6K	CC 4.7 UF 16V B	C2845	CS0UB0N15K	CC 0.1 UF 10V B
C303	CS0PB0N16K	CC 1 UF 10V B	C2846	CS0UB0N15K	CC 0.1 UF 10V B
C304	E8E2U2470D	CE 47 UF 16V	C2847	CS0UB0N15K	CC 0.1 UF 10V B
C305	CS0PCH4Q2J	CC 470 PF 50V CH	C2848	CS0RB0PH7M	CC 22 UF 6.3V B
C306	CS0PCH4Q2J	CC 470 PF 50V CH	C2849	CS0UB0N15K	CC 0.1 UF 10V B
C307	E8E2U5100D	CE 10 UF 50V	C2850	CS0UB0N15K	CC 0.1 UF 10V B
C309	E8E1T3471M	CE 470 UF 25V	C2854	CS0PB0315K	CC 0.1 UF 25V B
C310	E9E8T2471M	CE 470 UF 16V	C2855	CS0UB0N15K	CC 0.1 UF 10V B
C311	E9E8T2471M	CE 470 UF 16V	C2856	CS0UB0N15K	CC 0.1 UF 10V B

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
		CAPACITORS			**CAPACITORS**
C2857	CS0UB0N15K	CC 0.1 UF 10V B	C3036	CS0RB0PH7M	CC 22 UF 6.3V B
C2858	CS0UB0N15K	CC 0.1 UF 10V B	C3039	CS0RB0PH7M	CC 22 UF 6.3V B
C2859	CS0UB0N15K	CC 0.1 UF 10V B	C3040	CS0RB0N17K	CC 10 UF 10V B
C2860	CS0RB0N17K	CC 10 UF 10V B	C3041	CS0UB0N16K	CC 1 UF 10V B
C2861	CS0UB0N15K	CC 0.1 UF 10V B	C3045	CS0RB0PH7M	CC 22 UF 6.3V B
C2862	CS0UB0N15K	CC 0.1 UF 10V B	C3064	CS0PB0PQ6K	CC 4.7 UF 6.3V B
C2863	CS0UB0N15K	CC 0.1 UF 10V B	C3065	CS0RB02Q6K	CC 4.7 UF 16V B
C2864	CS0UB0N16K	CC 1 UF 10V B	C3085	CS0PB0N16K	CC 1 UF 10V B
C2865	CS0UB0N15K	CC 0.1 UF 10V B	C3086	CS0RB0N17K	CC 10 UF 10V B
C2866	CS0UB0N15K	CC 0.1 UF 10V B	C3090	CS0UB0N15K	CC 0.1 UF 10V B
C2867	CS0UB0N15K	CC 0.1 UF 10V B	C3091	CS0UB0N16K	CC 1 UF 10V B
C2868	CS0UB0N15K	CC 0.1 UF 10V B	C3093	CS0RB0N17K	CC 10 UF 10V B
C2869	CS0UB0N15K	CC 0.1 UF 10V B	C3094	CS0PB0N16K	CC 1 UF 10V B
C2870	CS0UB0N15K	CC 0.1 UF 10V B	C3601	CS0UB0N15K	CC 0.1 UF 10V B
C2871	CS0UB0N15K	CC 0.1 UF 10V B	C3608	CS0RB0P17K	CC 10 UF 6.3V B
C2872	CS0UB0N15K	CC 0.1 UF 10V B	C3610	CS0UB04Q3K	CC 0.0047UF 50V B
C2873	CS0UB0N15K	CC 0.1 UF 10V B	C3611	CS0PB0NH6K	CC 2.2 UF 10V B
C2874	CS0RB0N17K	CC 10 UF 10V B	C3612	CS0UB04H3K	CC 0.0022UF 50V B
C2875	CS0UB0N15K	CC 0.1 UF 10V B	C3613	CS0UB0214K	CC 0.01 UF 16V B
C2878	CS0UB0214K	CC 0.01 UF 16V B	C4219	CS0UCH412J	CC 100 PF 50V CH
C2879	CS0UB0N15K	CC 0.1 UF 10V B	C4220	CS0UB0N15K	CC 0.1 UF 10V B
C2880	CS0UB0N15K	CC 0.1 UF 10V B	C4221	CS0UB0N16K	CC 1 UF 10V B
C2881	CS0UB0N15K	CC 0.1 UF 10V B	C4222	CS0UB0N15K	CC 0.1 UF 10V B
C2882	CS0UB0N15K	CC 0.1 UF 10V B	C5801	CS0RB0N17K	CC 10 UF 10V B
C2883	CS0UB0N15K	CC 0.1 UF 10V B	C5802	CS0RB0N17K	CC 10 UF 10V B
C2884	CS0UB0N15K	CC 0.1 UF 10V B	C5803	CS0UB0413K	CC 0.001 UF 50V B
C2885	CS0UB0N15K	CC 0.1 UF 10V B	C5804	CS0RB0N17K	CC 10 UF 10V B
C2886	CS0UB0N15K	CC 0.1 UF 10V B	C5805	CS0RB0N17K	CC 10 UF 10V B
C2887	CS0UB0NH5K	CC 0.22 UF 10V B	C5810	CS0UB0215K	CC 0.1 UF 16V B
C2888	CS0RB0N17K	CC 10 UF 10V B	C5812	CS0UB0413K	CC 0.001 UF 50V B
C2891	CS0RB0N17K	CC 10 UF 10V B	C5814	CS0UB0215K	CC 0.1 UF 16V B
C2894	CS0RB0N17K	CC 10 UF 10V B	C5815	CS0UB0N16K	CC 1 UF 10V B
C2895	CS0UB0N15K	CC 0.1 UF 10V B	C5817	CS0UB0N16K	CC 1 UF 10V B
C2896	CS0PB0315K	CC 0.1 UF 25V B	C5822	CS0UB0N16K	CC 1 UF 10V B
C2897	CS0RB0N17K	CC 10 UF 10V B	C5823	CS0UB0N16K	CC 1 UF 10V B
C2898	CS0PB0NH6K	CC 2.2 UF 10V B	C5827	CS0UB0N16K	CC 1 UF 10V B
C2899	CS0UB0N16K	CC 1 UF 10V B	C5828	CS0PCK410C	CC 1 PF 50V CK
C2901	CS0UB0N15K	CC 0.1 UF 10V B	C5830	CS0UB0N16K	CC 1 UF 10V B
C2902	CS0RB0N17K	CC 10 UF 10V B	C5832	CS0UB0215K	CC 0.1 UF 16V B
C2903	CS0UB0413K	CC 0.001 UF 50V B	C5844	CS0UB0214K	CC 0.01 UF 16V B
C2904	CS0UB0413K	CC 0.001 UF 50V B	C5846	CS0UB0215K	CC 0.1 UF 16V B
C2905	CS0RB0NH6K	CC 2.2 UF 10V B	C5848	CS0UB04Q3K	CC 0.0047UF 50V B
C2906	CS0RB0NH6K	CC 2.2 UF 10V B	C5849	CS0UB04Q3K	CC 0.0047UF 50V B
C2907	CS0UB0N15K	CC 0.1 UF 10V B	C6201	CS0UB0215K	CC 0.1 UF 16V B
C2910	CS0RB0PH7M	CC 22 UF 6.3V B	C6202	CS0UB0215K	CC 0.1 UF 16V B
C2911	CS0RB0PH7M	CC 22 UF 6.3V B	C6210	CS0UB0P14K	CC 0.01 UF 6.3V B
C2914	CS3RB0217K	CC 10 UF 16V B	C6211	CS0UB03H4K	CC 0.022 UF 25V B
C2917	CS0RB0PH7M	CC 22 UF 6.3V B	C6213	CS0PB0N16K	CC 1 UF 10V B
C2918	CS0RB0PH7M	CC 22 UF 6.3V B	C7003	CS0PB0316K	CC 1 UF 25V B
C2921	CS0RB0PH7M	CC 22 UF 6.3V B	C7004	CS0PB0PQ6K	CC 4.7 UF 6.3V B
C2922	CS0RB0PH7M	CC 22 UF 6.3V B	C7005	CS0PB0316K	CC 1 UF 25V B
C2923	CS0PB0P17M	CC 10 UF 6.3V B	C7006	CS0PCH412J	CC 100 PF 50V CH
C2924	CS0UB0N15K	CC 0.1 UF 10V B	C7008	CS0PB0316K	CC 1 UF 25V B
C2925	CS0UB0N15K	CC 0.1 UF 10V B	C7009	CS0PB0316K	CC 1 UF 25V B
C2926	CS0UB0N15K	CC 0.1 UF 10V B	C7010	E8E2U3101D	CE 100 UF 25V
C2976	CS0UB0N15K	CC 0.1 UF 10V B	C7013	CS0PB0413K	CC 0.001 UF 50V B
C3002	CS0PB0413K	CC 0.001 UF 50V B	C7015	CS0PB0414K	CC 0.01 UF 50V B
C3003	CS0RB0N17K	CC 10 UF 10V B	C7601	CS0PCH412J	CC 100 PF 50V CH
C3004	CS0RB0N17K	CC 10 UF 10V B	C7602	E70QU0101M	CE 100 UF 6.3V
C3008	CS0UB0N16K	CC 1 UF 10V B	C8101	CS0PCH4U1J	CC 68 PF 50V CH
C3009	CS0RB0N17K	CC 10 UF 10V B	C8103	CS0PCH4U1J	CC 68 PF 50V CH
C3011	CS0PB0N16K	CC 1 UF 10V B	C8108	CS0PCH4U1J	CC 68 PF 50V CH
C3012	CS0UB0N15K	CC 0.1 UF 10V B			**DIODES**
C3014	CS0RB0N17K	CC 10 UF 10V B	△ D505	D4CTN40060	DIODE SILICON 1N4006-A5
C3018	CS0UB0413K	CC 0.001 UF 50V B	D506	D4JX001F50	DIODE SILICON 1F5
C3019	CS0UB0214K	CC 0.01 UF 16V B	△ D507	D4JXRM11C0	DIODE SILICON ZRM11C
C3021	CS0RB0N17K	CC 10 UF 10V B	△ D508	D4JXRM11C0	DIODE SILICON ZRM11C
C3023	CS0UB0NH5K	CC 0.22 UF 10V B	△ D510	D4JXRM11C0	DIODE SILICON ZRM11C
C3024	CS0UB0214K	CC 0.01 UF 16V B	△ D511	D4JX001F50	DIODE SILICON 1F5
C3025	CS0RB0N17K	CC 10 UF 10V B	D512	DJBUA12012	DIODE ZENER HZS12NB2
C3027	CS0UB0315K	CC 0.1 UF 25V B	△ D513	D4JXARS010	DIODE SILICON SARS01
C3028	CS0RB0N17K	CC 10 UF 10V B	△ D514	D28A10A100	DIODE SCHOTTKY BARRIER FCH10A10
C3029	CS0RB0N17K	CC 10 UF 10V B	△ D516	D1VT001330	DIODE,SILICON 1SS133T-77
C3030	CS0UB0315K	CC 0.1 UF 25V B	D517	D97U01301B	DIODE,ZENER MTZJ13B T-77
C3031	CS0UB04H3K	CC 0.0022UF 50V B	△ D518	D4JXRM11C0	DIODE SILICON ZRM11C
C3032	CS0UB04H3K	CC 0.0022UF 50V B	△ D523	D2AA045CT0	DIODE SCHOTTKY BARRIER MBRF1045CT
C3035	CS0RB0PH7M	CC 22 UF 6.3V B	△ D527	DJBUA33012	DIODE ZENER HZS33NB2

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
DIODES			
⚠ D528	DJBUA33012	DIODE ZENER	HZS33NB2
D3002	D27RB056L0	DIODE SCHOTTKY	RB056L-40TE25
D3003	D27RB056L0	DIODE SCHOTTKY	RB056L-40TE25
D3007	D27RB056L0	DIODE SCHOTTKY	RB056L-40TE25
D3010	DD1R0100L0	DIODE SILICON	DA2J10100L
D3011	DD1R0100L0	DIODE SILICON	DA2J10100L
D5801	D61R0V8001	DIODE VARISTA	EZJZ0V80010
D6206	DGERMA1110	DIODE SILICON	MA111-(TX)
D7001	D27RX301L0	DIODE SCHOTTKY	RSX301L-30TE25
D7003	D2LT000400	DIODE SCHOTTKY	1S40-E
D7602	0021991050	LED	BA36-PUR1DCB549T1/470
D8107	DD1R0100L0	DIODE SILICON	DA2J10100L
ICS			
⚠ IC301	I03SP20520	SOUND AMP 5W 2CH	LA42052-E
⚠ IC501	ICAJ056400	POWER IC CONTROL	FA5640N-D1-TE1
⚠ IC502	I1KJ9A431A	VARIABLE SHUNT REGULATOR TAPE	KIA431A-AT
⚠ IC505	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
IC2801	I56M069830	SCALER C8	R8A66983BG-U0
IC2802	IGXM01G630	H5PS1G63EFR-S5C-C	H5PS1G63EFR-S5C-C
IC2803	S3FS50WE03	MEMORY DATA EEPROM SOP8 32K	FT24C32A-USR-T
IC2804	-----	MEMORY DATA 32M BIT FLASH TSOP8	EN25Q32B-104HIP
IC2805	I1JN062050	500MA HIGH SIDE SW	MP6205DD-LF-Z
IC2806	I55J0052A0	DUAL 4CH ANALOG MULTIPLEXER	TC74VHC4052AFTELKM
⚠ IC3001	ILNJ082930	3A STEP-DOWN CONVERTER	RT8293BHGSP
⚠ IC3003	ILNJ990250	REGULATOR 1.8V	RT9025-18GSP
⚠ IC3004	I1ZF9K5010	REGULATOR 5.0V	RP131K501D-TR
⚠ IC3005	I1ZF9K3310	REGULATOR 3.3V	RP131K331D-TR
⚠ IC3006	ILNJ082930	3A STEP-DOWN CONVERTER	RT8293BHGSP
⚠ IC3009	I1ZF9121D0	REGULATOR 1.2V	RP131H121D-T1-F
⚠ IC5801	I1ZF9K3310	REGULATOR 3.3V	RP131K331D-TR
⚠ IC5802	I1ZF9K1810	REGULATOR 1.8V	RP131K181D-TR
IC5803	ILVN003010	WW RF SI-TUNER	MXL301RF
IC6201	IC7C0292C0	RESET IC 2.9V CMOSL" SC-88A "	R3111Q292C-TR-FE
IC7001	ILAJ0Z5230	LED DRIVER IC	OZ523GN-A-0-TR
TRANSISTORS			
Q303	T8RA030520	TRANSISTOR SILICON	2SC3052-T1
⚠ Q501	TJA0N50FS0	FET	KHB9D0N50F2-U/P
Q502	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q503	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q504	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q2801	TNRAC05003	COMPOUND TRANSISTOR	RT1N241C-T112-1
Q2808	TJ5A104TU0	FET	SSM3K104TU(T5L,T)
Q3003	TNRAB05004	COMPOUND TRANSISTOR	RT1N141C-T112-1
Q3004	TPRAC05003	COMPOUND TRANSISTOR	RT1P241C-T112-1
Q3007	TJRA12AU10	FET	INK0012AU1
⚠ Q3008	TJ5MC61100	FET	TPC6110(TE85L,F,M)
Q3601	TJRA12AU10	FET	INK0012AU1
Q3602	TNRAB05004	COMPOUND TRANSISTOR	RT1N141C-T112-1
Q3604	TNRAB05004	COMPOUND TRANSISTOR	RT1N141C-T112-1
Q3608	TJRA12AU10	FET	INK0012AU1
Q3609	TJRA12AU10	FET	INK0012AU1
Q4202	T8RA030520	TRANSISTOR SILICON	2SC3052-T1
Q4203	TJRA12AU10	FET	INK0012AU1
Q4204	TJRA12AU10	FET	INK0012AU1
Q6203	TPRAC05003	COMPOUND TRANSISTOR	RT1P241C-T112-1
Q6204	TPRAC05003	COMPOUND TRANSISTOR	RT1P241C-T112-1
Q6205	TNRAB05004	COMPOUND TRANSISTOR	RT1N141C-T112-1
Q7001	TS3M000074	COMPOUND TRANSISTOR	MCH3479-TL-H
Q8103	TNRAB05004	COMPOUND TRANSISTOR	RT1N141C-T112-1
COILS &TRANSFORMERS			
⚠ L501	029B000190	COIL,LINE FILTER	JLB20143
L503	02167E100K	COIL	10 UH
L504	02167E100K	COIL	10 UH
L2801	02DA000124	COIL CHOKE	DLP11SN900HL2L
L3001	021AMF6R8P	COIL	6.8 UH
L3002	021AMF3R3P	COIL	3.3 UH
L3601	02D1000119	COIL CHOKE	EXC28CG900U
L3602	02D1000119	COIL CHOKE	EXC28CG900U
L5807	021AML5N6E	COIL	0.0056UH
L5808	021AMK3N6C	COIL	0.0036UH
L5809	021AML33NJ	COIL	0.033 UH
L5810	021AMLR12J	COIL	0.12 UH
L7002	021D0N100M	COIL	10 UH
⚠ T501	0481291604	TRANSFORMER,SWITCHING	81291604
JACKS			
⚠ J502	064Q1A0017	JACK,AC	CCT2302-0973FC
J4201	060K401144	RCA JACK	AV-4B-75H

REF. NO.	PART NO.	DESCRIPTION	
JACKS			
J4302	060K131027	HEADPHONE JACK	CKX-035-349ABZ1
J5801	06K6910002	CONNECTOR PCB SIDE	FG-01-1
J8101	060K411064	RCA JACK	AV2-13P-68S1H
J8102	060R431044	RCA JACK	RCA-421NI-8-24
⚠ J8104	060K131029	HEADPHONE JACK	CKX-035-309A01H
SWITCHES			
SW2201	0504101T34	SWITCH,TACT	EVQ21505R
SW2202	0504101T34	SWITCH,TACT	EVQ21505R
SW2203	0504101T34	SWITCH,TACT	EVQ21505R
SW2204	0504101T34	SWITCH,TACT	EVQ21505R
SW2205	0504101T34	SWITCH,TACT	EVQ21505R
SW2206	0504101T34	SWITCH,TACT	EVQ21505R
SW2207	0504101T34	SWITCH,TACT	EVQ21505R
P.C.BOARD ASSEMBLIES			
PCB240	A3FS01W240	POWER PCB ASS'Y	CEK681A
PCB270	A3FS01W270	OPERATION PCB ASS'Y	CEK678A
PCBD90	A3FS52WD90	SIDE JACK PCB ASS'Y	CEK636A
PCBDA0	A3FS01WDA0	REMOCON PCB ASS'Y	CEK679A
PCBDT0	A3FS52WDT0	LED PCB ASS'Y	CEK680A
PCBF40	A3FS52WF40	MAIN PCB ASS'Y	CMK202A
MISCELLANEOUS			
B301	024NC51812	CORE,BEADS	ACMS160808A181_RDC08
B307	024HC13914	CORE,BEADS	HCB3216KF-391T20
B308	024HC13914	CORE,BEADS	HCB3216KF-391T20
B310	024NC51812	CORE,BEADS	ACMS160808A181_RDC08
B2801	024NC52211	CORE,BEADS	EBMS160808A221 0.6A
B2802	024NC52211	CORE,BEADS	EBMS160808A221 0.6A
B2803	024NC56004	CORE,BEADS	ACMS201209A600_RDC025
B2805	024HC51816	CORE,BEADS	HCB1608KF-181T20
B2806	024NC52212	CORE,BEADS	ACMS160808A221_2A
B2807	024NC52212	CORE,BEADS	ACMS160808A221_2A
B2808	024NC52212	CORE,BEADS	ACMS160808A221_2A
B2809	024NC52212	CORE,BEADS	ACMS160808A221_2A
B2810	024NC52212	CORE,BEADS	ACMS160808A221_2A
B2811	024NC52212	CORE,BEADS	ACMS160808A221_2A
B2812	024NC52212	CORE,BEADS	ACMS160808A221_2A
B2813	024NC52212	CORE,BEADS	ACMS160808A221_2A
B3004	024NC51212	CORE,BEADS	ACMS160808A121_2A
B3010	024NC51812	CORE,BEADS	ACMS160808A181_RDC08
B3011	024NC51812	CORE,BEADS	ACMS160808A181_RDC08
B3012	024NC51812	CORE,BEADS	ACMS160808A181_RDC08
B3015	024NC51812	CORE,BEADS	ACMS160808A181_RDC08
B3020	024NC51812	CORE,BEADS	ACMS160808A181_RDC08
B3601	024NC52212	CORE,BEADS	ACMS160808A221_2A
B4205	024NC51212	CORE,BEADS	ACMS160808A121_2A
B5802	024NC51212	CORE,BEADS	ACMS160808A121_2A
B5803	024NC51212	CORE,BEADS	ACMS160808A121_2A
B5804	024NC51212	CORE,BEADS	ACMS160808A121_2A
B5805	024NC51212	CORE,BEADS	ACMS160808A121_2A
B5806	024NC51212	CORE,BEADS	ACMS160808A121_2A
B5808	024NC51212	CORE,BEADS	ACMS160808A121_2A
B5809	024NC51212	CORE,BEADS	ACMS160808A121_2A
BT001	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB
BT002	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB
CP301	069S140419	CONNECTOR PCB SIDE	A2502WV2-4P
CP302	06GG230029	CONNECTOR PCB SIDE	A2001WV-3A
CP501	069E7G0630	CONNECTOR PCB SIDE	00_6216_016_000_808+
CD2201	06CP234005	CORD CONNECTOR	CP234005
CD3002	122H0F0702	CORD JUMPER	2H0F0702
CD4202	12C50S0601	CORD JUMPER	H03279-A
CD4301	06E8231202	CORD CONNECTOR	E8231202
CD7201	06EB2U1003	CORD CONNECTOR	EB2U1003
CD7602	06CP230801	CORD CONNECTOR	CP230801
CP2201	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P
CP2801	06GG270029	CONNECTOR PCB SIDE	A2001WV-7A
CP2802	06GG2B0029	CONNECTOR PCB SIDE	A2001WV-11A
CP2803	06GSAA1000	CONNECTOR PCB SIDE	C-001-5-4K221000
CP2804	06GG2U0049	CONNECTOR PCB SIDE	A2006WR-2*15P
CP3003	069E7G0630	CONNECTOR PCB SIDE	00_6216_016_000_808+
CP3601	06GSYJ302C	CONNECTOR PCB SIDE	C-HDM-2-KK223000
CP4202	069EVS3030	CONNECTOR PCB SIDE	00_6232_028_006_800+
CP4203	06G7S21501	CONNECTOR PCB SIDE	WD-00021-R
CP6204	06GG230029	CONNECTOR PCB SIDE	A2001WV-3A
CP7001	069EV73030	CONNECTOR PCB SIDE	00_6232_007_006_800+
CP7601	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P
CP8101	06GG230029	CONNECTOR PCB SIDE	A2001WV-3A
CP8102	069EVS3030	CONNECTOR PCB SIDE	00_6232_028_006_800+

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
		MISCELLANEOUS	
EL2401	124116281A	EYE LET	EYE LET XRY16X28BD
EL2402	124120301A	EYE LET	EYE LET XRY20X30BD
⚠ F501	0805T04001	FUSE	SCT 4A
NR2806	110P2000M2	R,NETWORK	2D02WGJ0000TCE
NR2807	110P2000M2	R,NETWORK	2D02WGJ0000TCE
NR2808	110P2000M2	R,NETWORK	2D02WGJ0000TCE
NR2809	11074223M7	R,NETWORK	CRA108223JV
NR2810	11074223M7	R,NETWORK	CRA108223JV
NR2811	11074223M7	R,NETWORK	CRA108223JV
NR2812	110P2000M2	R,NETWORK	2D02WGJ0000TCE
NR2813	11074223M7	R,NETWORK	CRA108223JV
NR2816	110P2000M2	R,NETWORK	2D02WGJ0000TCE
NR2818	110P2000M2	R,NETWORK	2D02WGJ0000TCE
NR2819	110P2000M2	R,NETWORK	2D02WGJ0000TCE
NR2820	110P2000M2	R,NETWORK	2D02WGJ0000TCE
NR2821	110P2000M2	R,NETWORK	2D02WGJ0000TCE
NR2822	110P2000M2	R,NETWORK	2D02WGJ0000TCE
OS7601	077Q038009	REMOTE RECEIVER	KSM-2003TCW2P
SH502	126D000045	TERMINAL PIN	YQ-12
SH503	126D000045	TERMINAL PIN	YQ-12
SH505	126D000045	TERMINAL PIN	YQ-12
SH507	126D000045	TERMINAL PIN	YQ-12
⚠ SP301	070Y433020	SPEAKER	S0307F08-F
SH3001	126D000045	TERMINAL PIN	YQ-12
SH3003	126D000045	TERMINAL PIN	YQ-12
SH3004	126D000045	TERMINAL PIN	YQ-12
⚠ TH501	DSVD8E4R7M	THERMISTOR	B57153S0479A001
⚠ V7201	A3FS52WFM0	LED MODULE ASS'Y	M215H3-PA1-LED OR5B
X2801	100JT02513	CRYSTAL	KAC-2010
X5801	100DT02425	CRYSTAL	DSX321G

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

HOW TO ORDER PARTS

When placing a parts order, please have the following information.

A. MODEL NUMBER and VERSION NUMBER
   Located on the back of the unit.
   EX: VR0100 (Model no.), VERSION/A (Version no.)

B. PART NO. and DESCRIPTION
   Located in your SERVICE MANUAL. (See pages M1-1~M2-5)
   EX: I235953420,   STK5342, Voltage Regulator

   | PART NO. | | DESCRIPTION |

C. QUANTITY

D. Mailing address and NAME
   EX: ABC Service Center
        111 Broadway
        NEW YORK, N.Y. 10005

        ATTN: MR. X Y Z

ORION SALES, INC.
HIGHWAY 41
ORION PLACE
PRINCETON, INDIANA 47670