

TOSHIBA

SERVICE MANUAL

LCD Color Television

32HLV66

Rev.1

For Technical Bulletins, Technical Tips, or other information regarding the service of this model, visit the Toshiba America Consumer Products National Service Division website at:

www7.toshiba.com

This model is classified as a **green product** (*1), as indicated by the underlined serial number. This Service Manual describes replacement parts for the green product. When repairing this green product, use the part(s) described in this manual and **lead-free solder** (*2). For (*1) and (*2), refer to **GREEN PRODUCT PROCUREMENT** and **LEAD-FREE SOLDER**.

IMPORTANT NOTICE

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GREEN PRODUCT PROCUREMENT

The EC is actively promoting the WEEE & RoHS Directives that define standards for recycling and reuse of Waste Electrical and Electronic Equipment and for the Restriction of the use of certain Hazardous Substances. From July 1, 2006, the RoHS Directive will prohibit any marketing of new products containing the restricted substances.

Increasing attention is given to issues related to the global environmental. Toshiba Corporation recognizes environmental protection as a key management tasks, and is doing its utmost to enhance and improve the quality and scope of its environmental activities. In line with this, Toshiba proactively promotes Green Procurement, and seeks to purchase and use products, parts and materials that have low environmental impacts.

Green procurement of parts is not only confined to manufacture. The same green parts used in manufacture must also be used as replacement parts.

LEAD-FREE SOLDER

WARNING: This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. **Lead-free solder must be used in the servicing and repair of this product.**

The melting temperature of lead-free solder is higher than that of leaded solder by 86°F to 104°F (30°C to 40°C). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or PCB being soldered. Great care should be made to ensure high-quality soldering when servicing this product especially when soldering large components, through-hole pins, and on PCBs as the level of heat required to melt lead-free solder is high.

SAFETY INSTRUCTION

WARNING: Before servicing this chassis, read the "Safety Precaution" and "Product Safety Notice" instructions below.

Safety Precaution

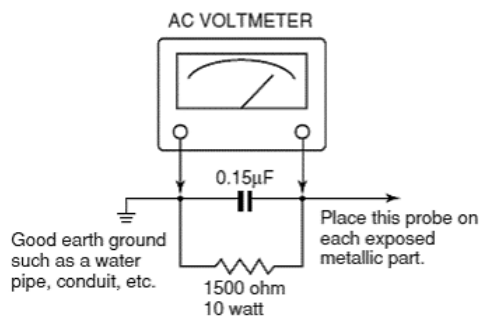
WARNING: Servicing should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always disconnect the power plug before any disassembling of the product. It may result in electrical shock.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as nonmetallic control knobs, insulating covers, shields, isolation resistor-capacitor network, etc.
4. Always keep tools, product components, etc. away from children as these items may cause injury.
5. Depending on the model, use an isolation transformer or wear suitable gloves when servicing with the power on. Disconnect the power plug to avoid electrical shock when replacing parts. In some cases, alternating current is also impressed in the chassis, so electrical shock is possible if the chassis is contacted with the power on.
6. Always use the replacement parts specified for the particular model when making repairs. The parts used in products require special safety characteristics such as inflammability; voltage resistance, etc. therefore, use only replacement parts

that have these same characteristics. Use only the specified parts when the ⚠ mark is indicated in the circuit diagram or parts list.

7. Part mounting and wire routing should be the same as that used originally. For safety purposes, insulating materials such as isolation tubes or tape are sometimes used and printed circuit boards are sometimes mounted floating. Also make sure that wiring is routed and clamped to avoid parts that generate heat or use high voltage. Always follow the manufactures wiring routes / dressings.
8. Always ensure that all internal wirings are in accordance before re-assembling the external casing after a repair is completed. Do not allow internal wiring to be pinched by cabinets, panels, etc. Any error in reassembly or wiring can result in electrical leakage, flame, etc., and may be hazardous.
9. NEVER remodel the product in any way. Remodeling can result in improper operation, malfunction, electrical leakage, or flame, which may be hazardous.
10. Always perform an AC leakage current check on the exposed metallic parts of the cabinet such as antennas, terminals, screw heads, metal overlays, control shafts, etc. to be sure that the set is safe to operate without any danger of electrical shock before returning the set to the customer.
11. To check leakage current: (After completing the work, measure the leakage current to prevent an electrical shock.)
 - Plug the AC line cord directly into a 120V AC outlet. Do not use an isolation transformer for this check.
 - Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner.

Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 μ F, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 μ F capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamps AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



Product Safety Notice

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often overlooked in a visual inspection. The protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements. Electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety as specified in the parts list may create electrical shock, fire, or other hazards.

SAFETY INSTRUCTION

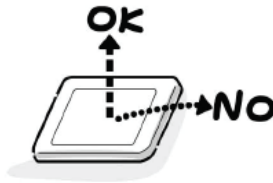
WARNING: The metal edges of the LCD module are sharp, **handle it with care.**

The LCD module can easily be damaged during disassembly or reassembly; therefore, always observe the following precautions when handling the module.

1. In the event that the screen is damaged or the liquid crystal (fluid) leaks, do not breathe in, drink, or touch this fluid. Such actions could cause toxicity or skin irritation. If this fluid should enter the mouth, rinse the mouth thoroughly with water. If the

fluid should contact the skin or clothing, wipe off with alcohol, etc., and rinse thoroughly with water. If the fluid should enter the eyes, immediately rinse the eyes thoroughly with running water.

2. When attaching the LCD module to the LCD cover, position it appropriately and fasten at the position where the display can be viewed most conveniently.



3. Carefully align the holes at all four corners of the LCD module with the corresponding holes in the LCD cover and fasten with screws. Do not strongly push on the module because any impact can adversely affect the performance. Also use caution when handling the polarized screen because it can easily be damaged.



4. If the panel surface becomes soiled, wipe with cotton or a soft cloth. If this does not remove the soiling, breathe on the surface and then wipe again. If the panel surface is extremely soiled, wipe the panel surface with CRT cleaner sprayed onto the cloth. Do not spray the cleaner on the panel. Pay attention not to scratch the panel surface.



5. Leaving water or other fluids on the panel for an extended period of time can result in discoloration or stripes. Immediately remove any type of fluid from the screen.



6. Glass is used in the panel construction. Damage can occur if dropped or struck with hard objects.



7. CMOS-LSI circuitry is used in the LCD module, so avoid damage due to static electricity. When handling the module, use a wrist ground or anchor ground.



8. Do not expose the LCD module to direct sunlight or strong ultraviolet rays for extended periods.



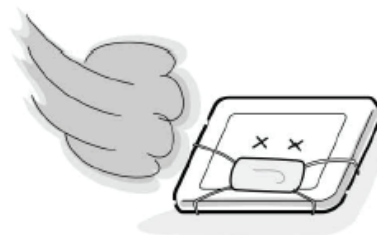
9. Do not store the LCD module below the temperature conditions described in the specifications. Doing so could result in freezing of the liquid crystal, loss of resilience, or other damage.



10. Do not disassemble the LCD module. Such actions could result in improper operation.



11. When transporting the LCD module, do not use packing containing epoxy resin (amine) or silicon resin (alcohol or oxim). The gas generated by these materials can cause loss of polarity.



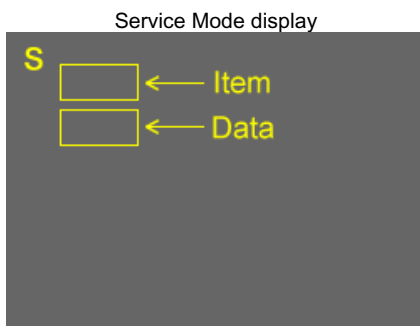
Entering Service Mode



1. Set VOLUME to minimum and press MUTE button twice on the remote control.



2. Press MUTE button again and hold button down.



3. While holding the MUTE button, press MENU button on TV set.

Selecting the Adjusting Item

Every pressing of CH ▲ or ▼ button in the service mode changes the adjustment items.

Adjusting the Data

Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

Exiting Service Mode

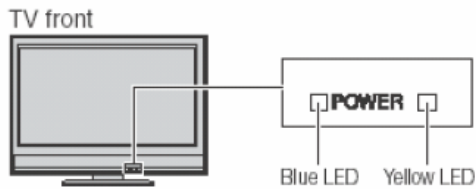
Press the POWER button once to turn off the TV.

LED STATUS INDICATIONS

9-7. LED indications

The yellow blue and red/green LED lights on the TV (at the bottom center of the TV) indicate the TV's status, as described below:

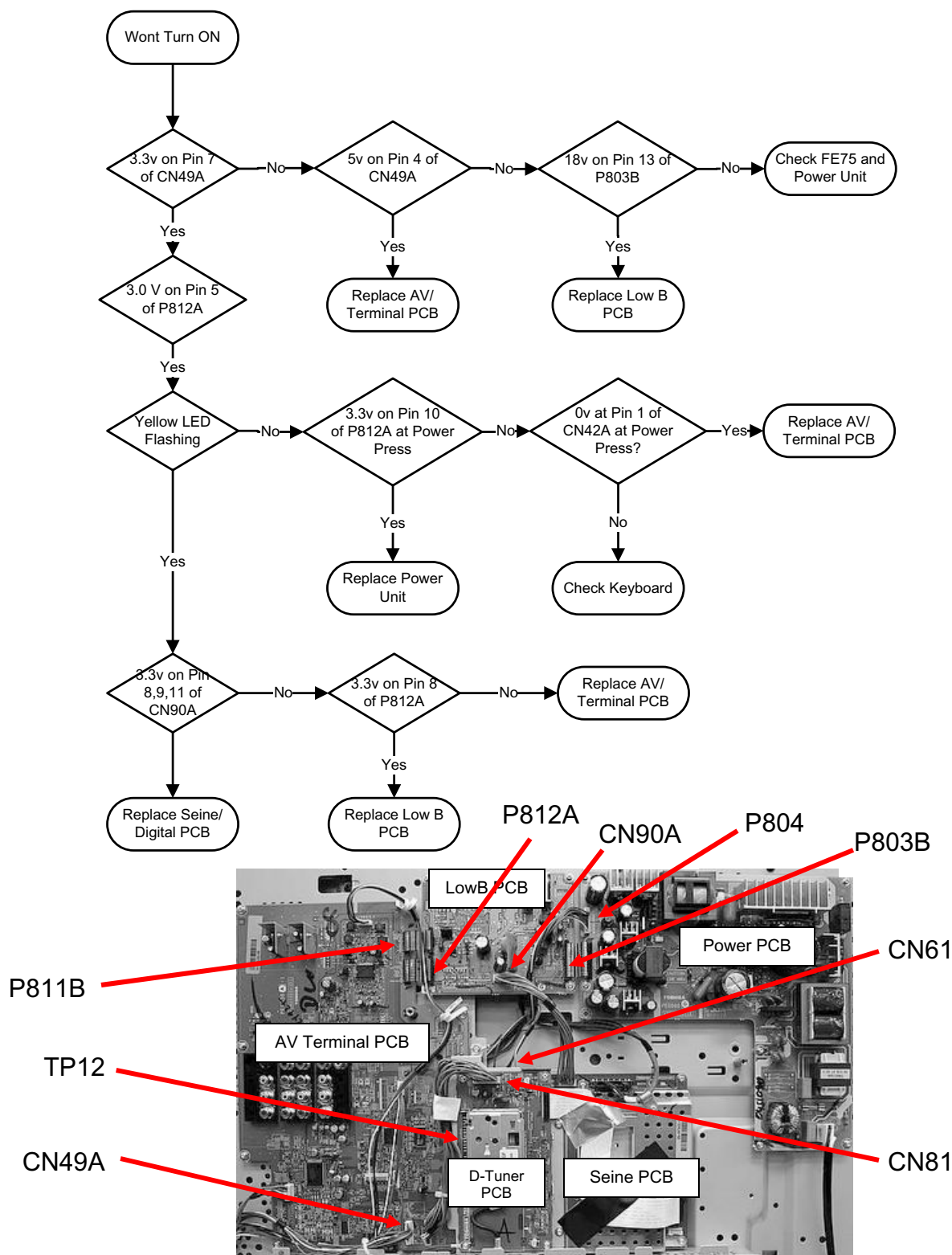
Note: If the TV loses A/C power (e.g., a power outage occurs or the power cord is unplugged), when power is restored, the yellow LED will blink while the TV is booting until the remote control is usable. This is normal and is not a sign of malfunction.



	LED Indication	Condition	Solution
1	Blue is ON (solid).	The TV is operating properly.	--
2	Yellow is ON (solid).	In Power-Saving mode (standby with Power-On Mode Power-Saving).	--
3	Yellow blinks three times.	The TV is in rebooting.	•Check the Digital board.(Refer to chapter 3 Digital board)
4	Blue blinks slowly.	Abnormal operation of BUS line.	•Check the faulty device through the self diagnostics function under SERVICE mode. •Does BUS line (SCL, SDA) work normally? If the BUS line is under abnormal conditions, replace the faulty device with a new one.
5	Blue blinks quickly.	Power Protect Detection.	•Check the cause that the protecting circuit of the power supply .

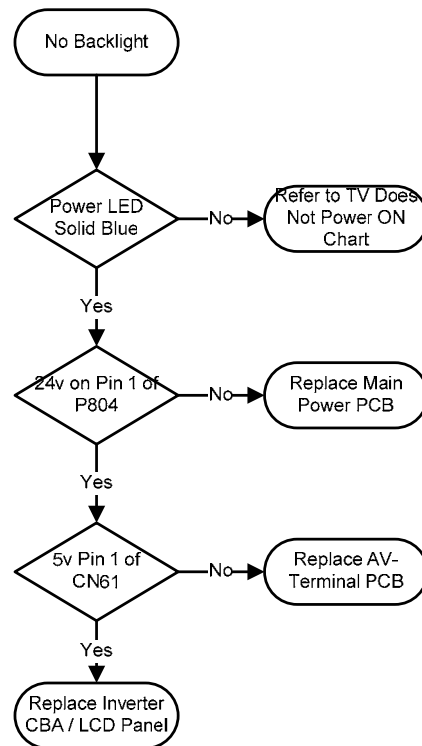
Troubleshooting Flowchart 2006 LCD “TV Does Not Power On”

V1.0



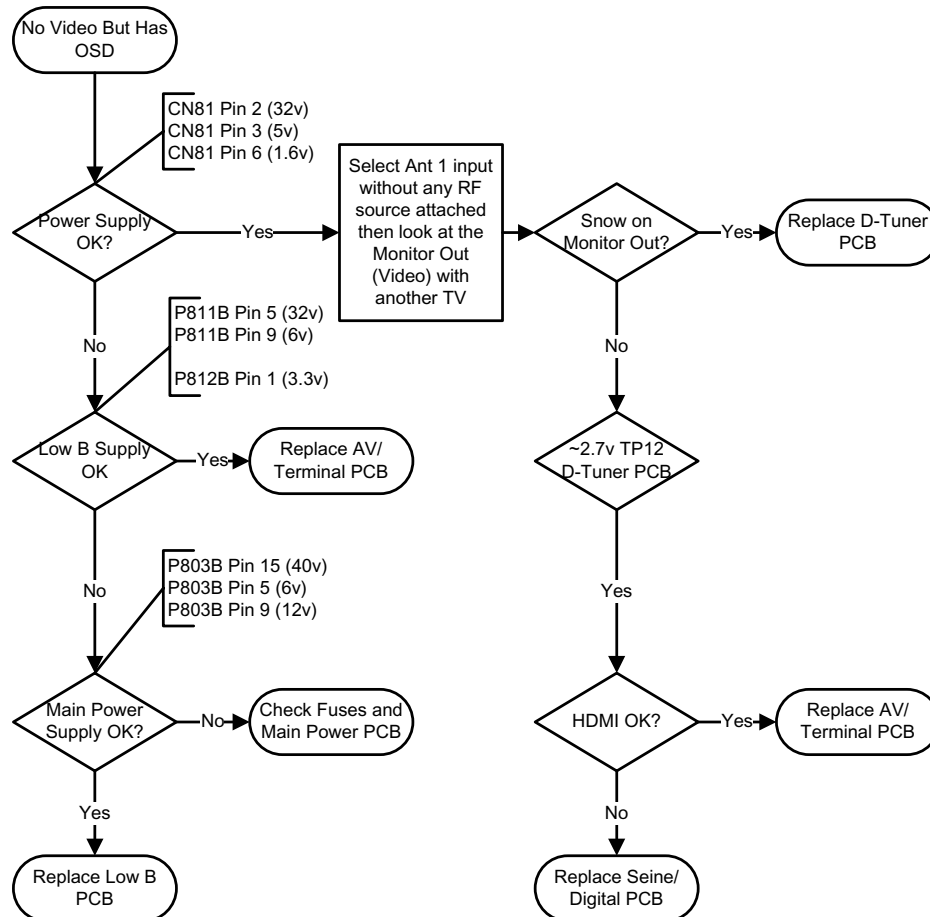
Troubleshooting Flowchart 2006 LCD “Backlight Won’t Turn ON”

V1.0



Troubleshooting Flowchart 2006 LCD “Loss of Video (Blank Screen) Has OSD”

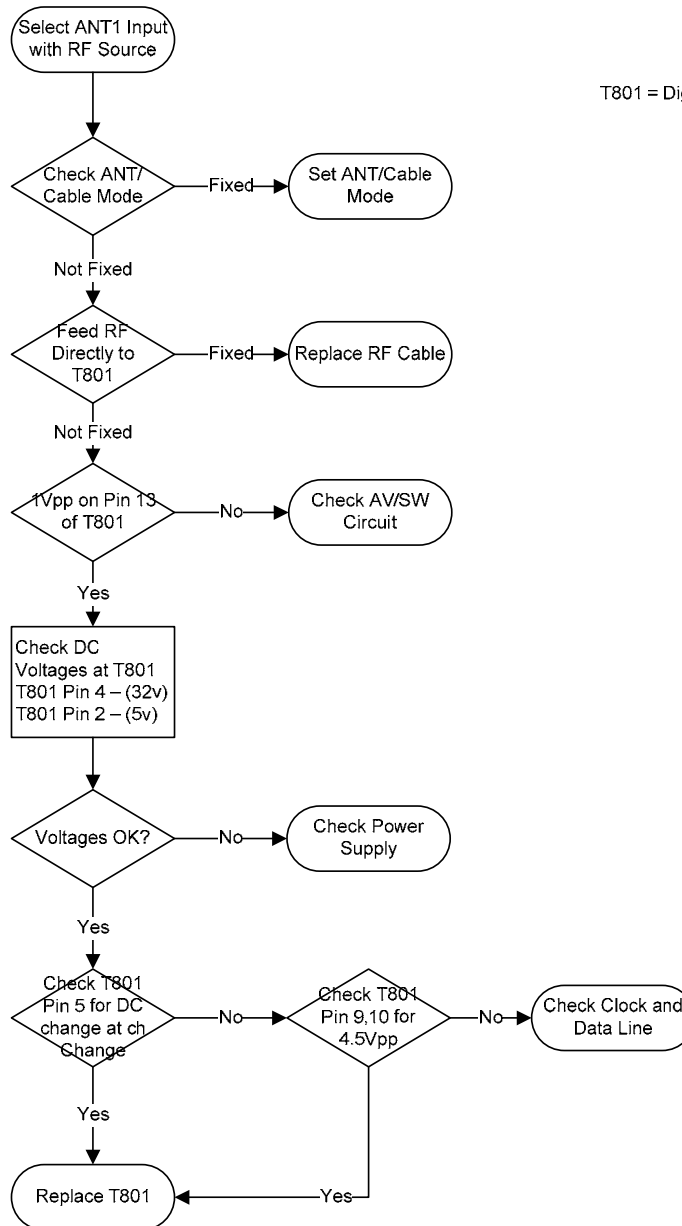
V1.0



Troubleshooting Flowchart 2006 LCD “No Picture on Analog Tuner”

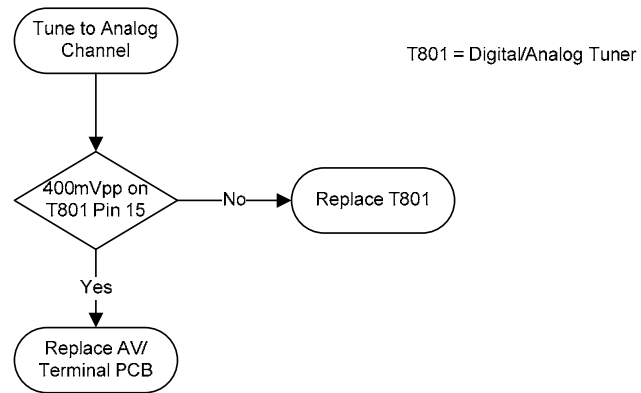
V1.0

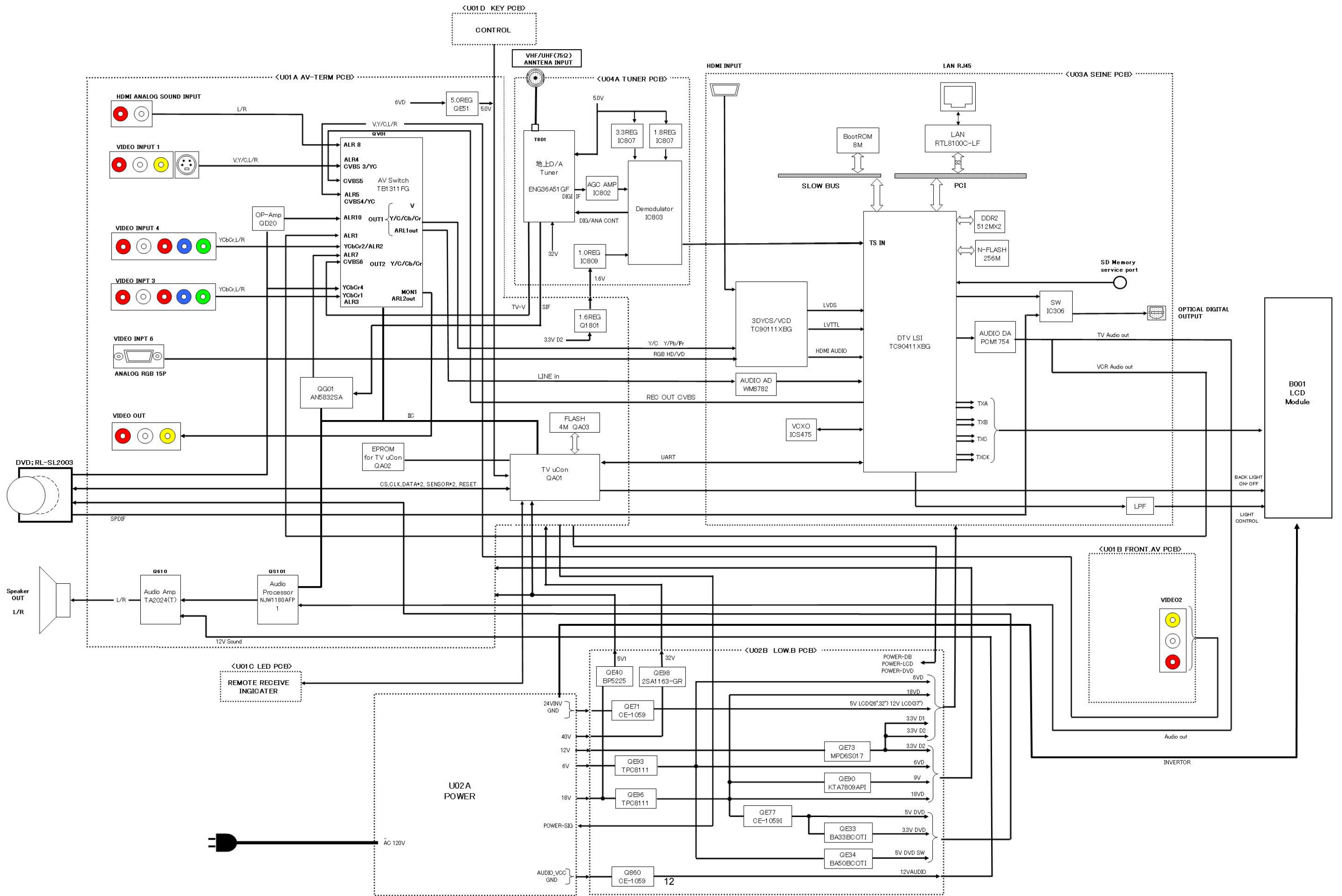
T801 = Digital/Analog Tuner



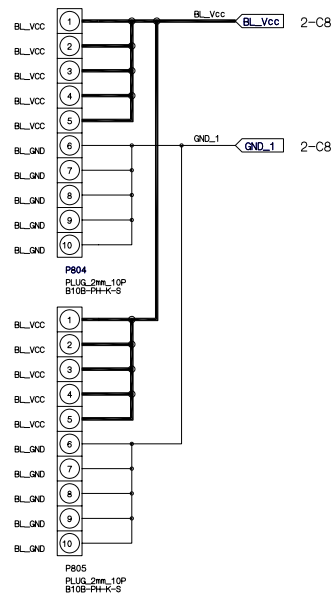
Troubleshooting Flowchart 2006 LCD “No Sound on Analog Tuner”

V1.0

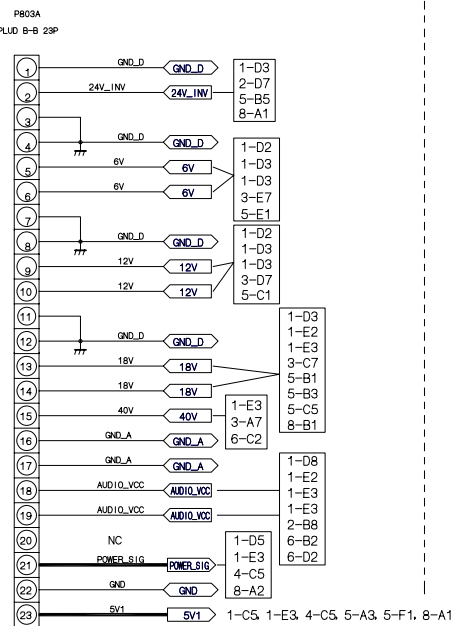




U02A POWER

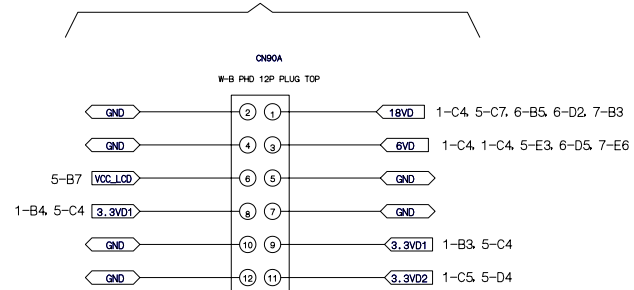


to LowB

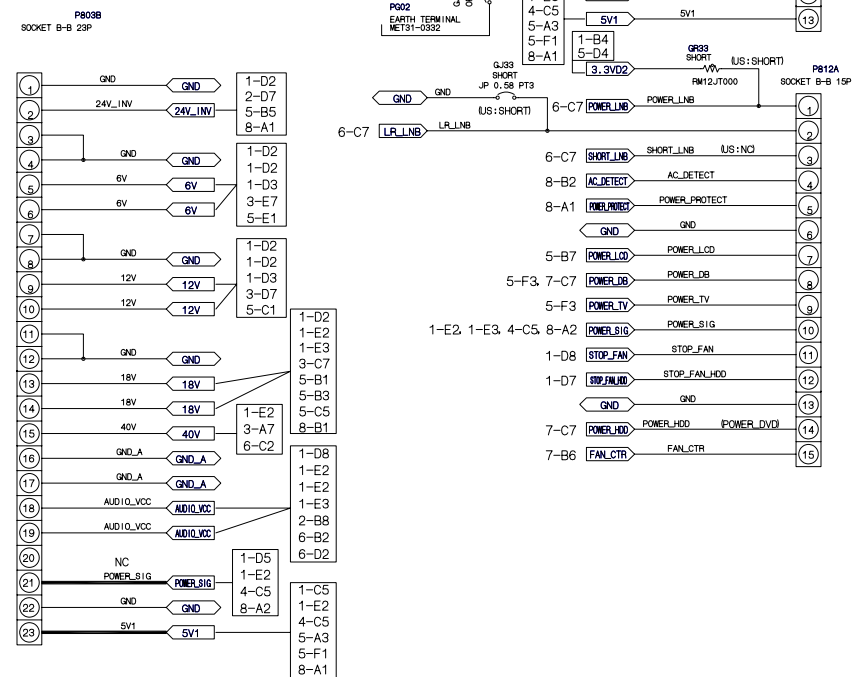


U02B LOW B

TO U01 SEINE [950] POWER CONNECTOR (PE0079)
CN90A → CN90



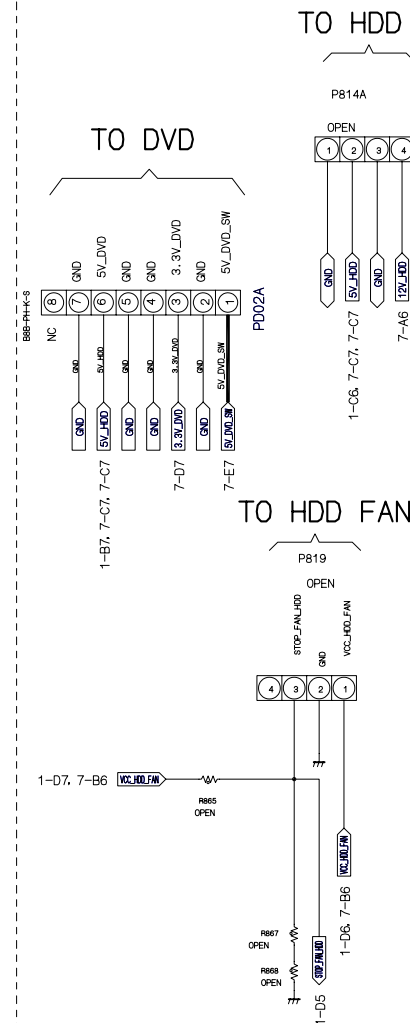
from POWER



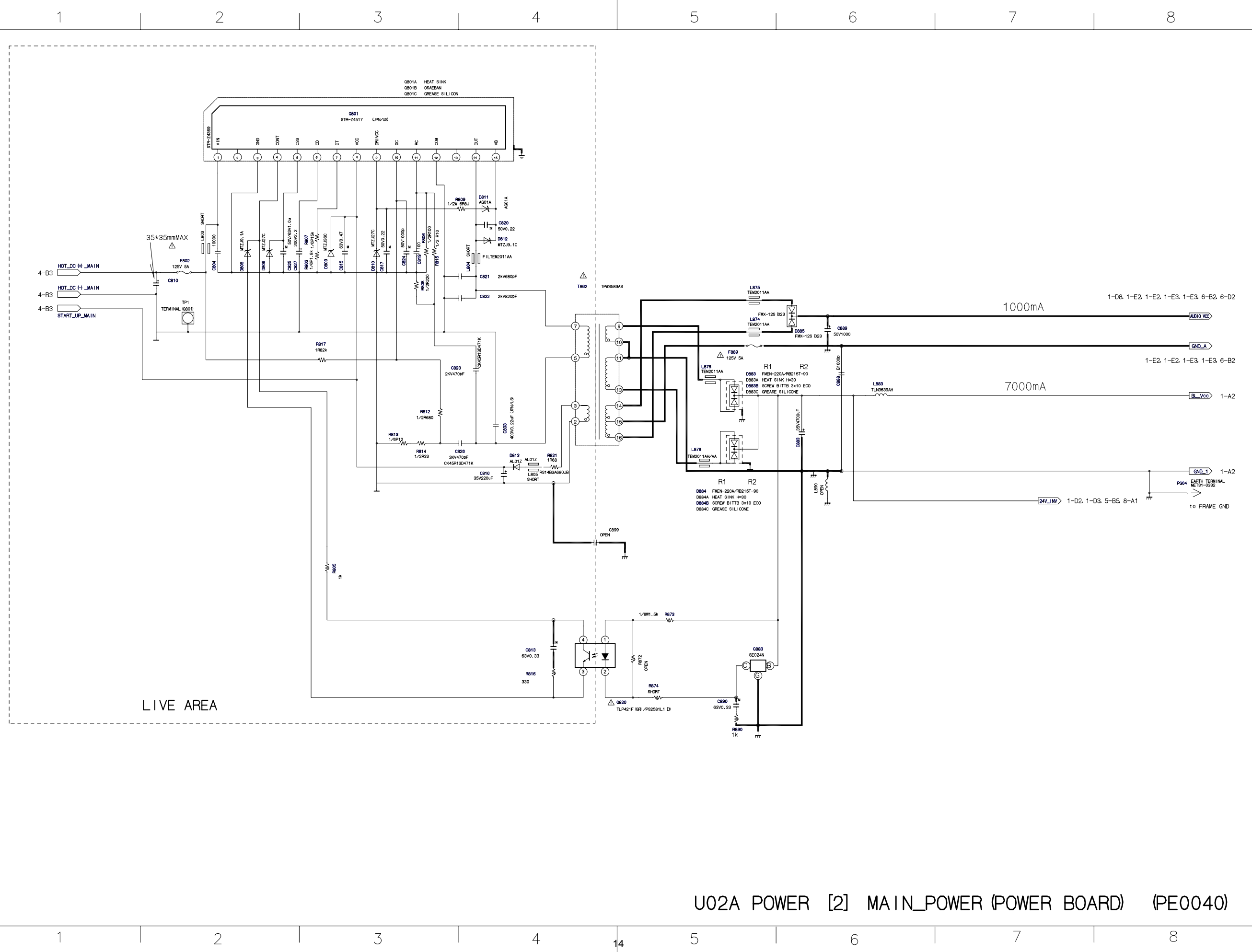
OTHER PARTS

- * U021 PWB PQ2082ZB
- * N801 SOLDER CREAM
- * N802 SOLDER LINE
- * N803 SOLDER BAR
- * N804 FLUX
- * N805 SOLDER THREAD 1.0
- * N806 ADHESIVE
- * N807 SOLVENT IPA
- * P890 WIRE CLIP

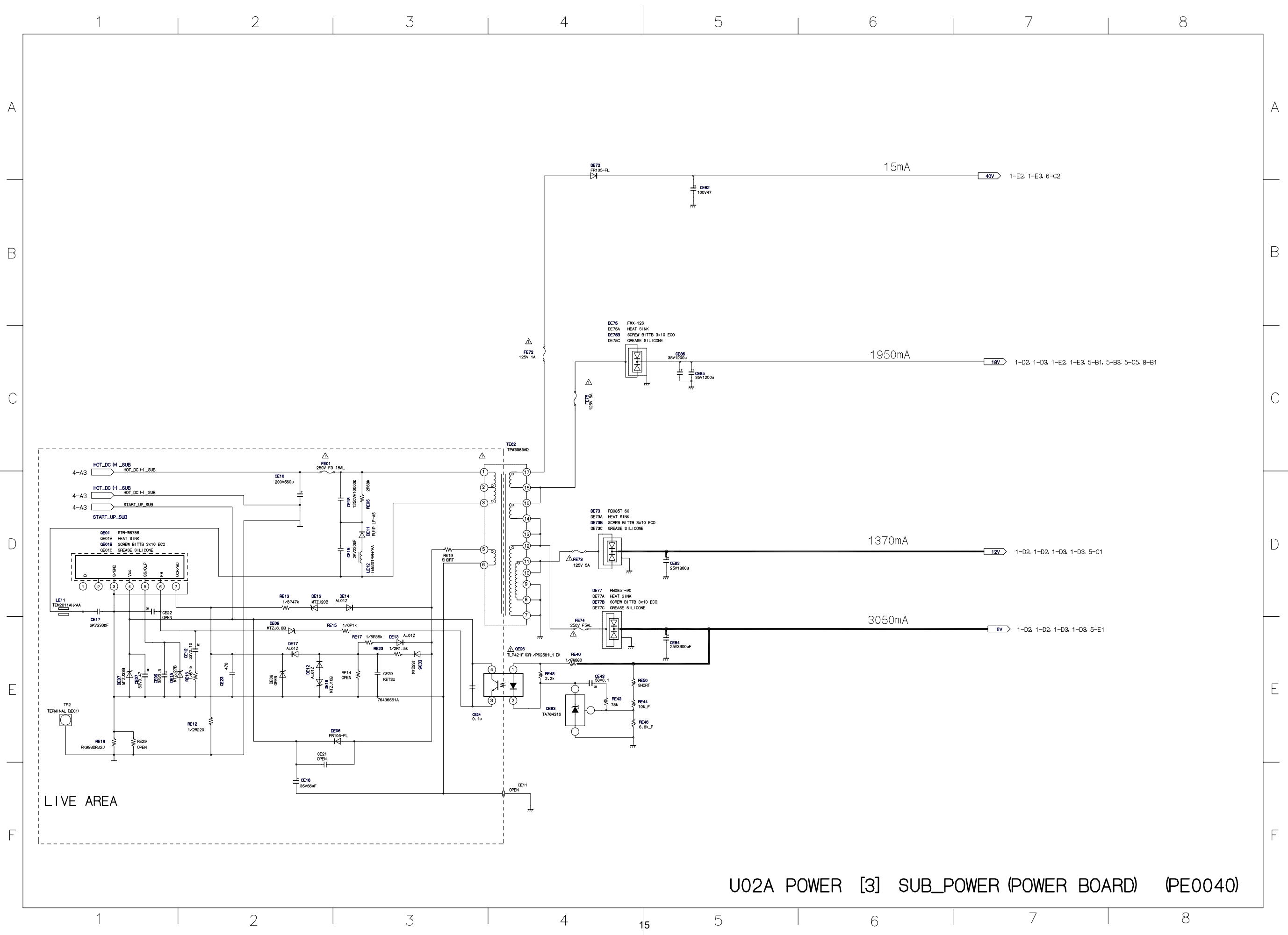
HDD and DVD model



U02A/B POWER/LOWB [1] CONNECTOR (POWER BOARD) (PE0040)



U02A POWER [2] MAIN_POWER (POWER BOARD) (PE0040)



Replacement Parts List

	Location	Part No.	Description
	A201	75002671	CESE/COVER/LID FRONT BEZEL ASSY
	A320	75002342	PIECE, FRONT AV ASSY
	A340	75001920	PIECE BUTTON 7 KEY
	A401	75002670	CESE/COVER/LID BACK COVER ASSY
	A420	75001972	STAND ASSY
	A541	75002672	PANEL DVD PANEL ASSY
	A545	75002660	CESE/COVER/LID CASE DVD BOTTOM
	B001	75001844	DISPLAY, G5AU032V5
	BD01	75002659	DVD PLAYER/RECORDER, RL-SL2003 (T1)
	C801	76503507	PLASTIC FILM, AC275V 0.22UF K
	C802	76503507	PLASTIC FILM, AC275V 0.22UF K
	C803	76168103	PLASTIC FILM, 400V 0.22UF J
	C804	76214103	CERAMIC DISC, 500V B 0.01UF K
	C805	76092281	CERAMIC DISC, AC250V E 4700PF
	C806	76092281	CERAMIC DISC, AC250V E 4700PF
	C810	76125038	ELECTROLYTIC, 200V 1200UF M
	C811	76092557	CERAMIC DISC, AC250V E 2200PF M
	C812	76092557	CERAMIC DISC, AC250V E 2200PF M
	C813	76567334	PLASTIC FILM, 50V 0.33UF J
	C815	76567474	PLASTIC FILM, 50V 0.47UF J
	C816	76073183	ELECTROLYTIC, 35V 220UF M
	C817	76567224	PLASTIC FILM, 50V 0.22UF J
	C819	76214101	CERAMIC DISC, 500V B 100PF K
	C820	76567224	PLASTIC FILM, 50V 0.22UF J
	C821	76092343	CERAMIC DISC, 2KV 680PF K
	C822	76092344	CERAMIC DISC, 2KV 820PF K
	C823	76092341	CERAMIC DISC, 2KV R 470PF K
	C824	76591102	PLASTIC FILM, 50V 1000PF J
	C825	76567105	PLASTIC FILM, 50V 1 UF J
	C826	76092341	CERAMIC DISC, 2KV R 470PF K
	C827	76678229	ELECTROLYTIC, 200V 2.2UF M
	C851	76092538	CERAMIC CHIP, 10V F 1UF Z
	C852	76109102	CERAMIC CHIP, 50V B 1000PF K
	C883	76125039	ELECTROLYTIC, 35V 4700UF M
	C888	76109102	CERAMIC CHIP, 50V B 1000PF K
	C889	76073094	ELECTROLYTIC, 50V 1000UF M
	C890	76567334	PLASTIC FILM, 50V 0.33UF J
	CE04	76092281	CERAMIC DISC, AC250V E 4700PF
	CE05	76092281	CERAMIC DISC, AC250V E 4700PF
	CE07	76567474	PLASTIC FILM, 50V 0.47UF J
	CE09	76668339	ELECTROLYTIC, 35V 3.3UF M
	CE10	76073233	ELECTROLYTIC, 200V 560UF M
	CE12	76567104	PLASTIC FILM, 50V 0.1UF J
	CE13	76092555	CERAMIC DISC, AC250V E 1000PF M
	CE14	76092555	CERAMIC DISC, AC250V E 1000PF M
	CE15	76092337	CERAMIC DISC, 2KV 220PF K
	CE16	76073181	ELECTROLYTIC, 35V 56UF M
	CE17	76092339	CERAMIC DISC, 2KV 330PF K
	CE18	76503253	PLASTIC FILM, 1250VH 0.01UF H
	CE23	76214471	CERAMIC DISC, 500V B 470PF K
	CE24	76285104	CERAMIC CHIP, 50V B 0.1UF K
	CE36	76092616	CERAMIC CHIP, 16V B 0.33UF K
	CE37	76666100	ELECTROLYTIC, 16V 10UF M 3A
	CE38	76073150	ELECTROLYTIC, 16V 56UF M 3A

Replacement Parts List

	Location	Part No.	Description
	CE40	76073180	ELECTROLYTIC, 35V 33UF M
	CE41	76073139	ELECTROLYTIC, 10V 470UF M 3A
	CE42	76073137	ELECTROLYTIC, 10V 100UF M
	CE43	76567104	PLASTIC FILM, 50V 0.1UF J
	CE44	76092726	CERAMIC CHIP, 10V B 2.2UF K
	CE52	76092179	CERAMIC CHIP, 25V B 0.22UF K
	CE53	76092179	CERAMIC CHIP, 25V B 0.22UF K
	CE55	76073181	ELECTROLYTIC, 35V 56UF M
	CE58	76073181	ELECTROLYTIC, 35V 56UF M
	CE61	76073150	ELECTROLYTIC, 16V 56UF M 3A
	CE62	76666100	ELECTROLYTIC, 16V 10UF M 3A
	CE63	76092616	CERAMIC CHIP, 16V B 0.33UF K
	CE71	76073128	ELECTROLYTIC, 6.3V 1000UF M
	CE75	76073128	ELECTROLYTIC, 6.3V 1000UF M
	CE82	76676470	ELECTROLYTIC, 100V 47UF M
	CE83	76073175	ELECTROLYTIC, 25V 1800UF M
	CE84	76073178	ELECTROLYTIC, 25V 3300UF M
	CE85	76073190	ELECTROLYTIC, 35V 1200UF M
	CE86	76073190	ELECTROLYTIC, 35V 1200UF M
	CE87	76669100	ELECTROLYTIC, 50V 10UF M
	CE90	76567334	PLASTIC FILM, 50V 0.33UF J
	CE91	76567104	PLASTIC FILM, 50V 0.1UF J
	CE92	76794101	ELECTROLYTIC, 16V 100UF M
	CE94	76092179	CERAMIC CHIP, 25V B 0.22UF K
	CE95	76092179	CERAMIC CHIP, 25V B 0.22UF K
	CE96	76073189	ELECTROLYTIC, 35V 1000UF M
	CN90A	23757002	CONNECTOR, 12P TOPTYPE, B12B-PHDSS(LF)
	D801	23362200	DIODE, D5SB60, 7009F07
	D805	23357850	DIODE, ZENER, MTZJ9.1A
	D806	23357893	DIODE, ZENER, MTZJ27C
	D809	23357905	DIODE, ZENER, MTZJ36C
	D810	23357893	DIODE, ZENER, MTZJ27C
	D811	23357511	DIODE, AG01A
	D812	23357852	DIODE, ZENER, MTZJ9.1C
	D813	23357512	DIODE, AL01Z
	D852	23357697	DIODE, 1SS133
	D860	23357871	DIODE, ZENER, MTZJ15B
	D883	75001877	DIODE, FMEN-220A
	D884	75001877	DIODE, FMEN-220A
	D885	23357408	DIODE, FMX-12S(023-108)
	D899	76019489	VARISTOR, V1=470V 2750A/2
	DE01	23362204	DIODE, D3SB60, 7109F08
	DE02	23357511	DIODE, AG01A
	DE03	23357511	DIODE, AG01A
	DE05	23357104	DIODE, 1SS244
	DE06	23357366	DIODE, FR105-B5
	DE07	23357900	DIODE, ZENER, MTZJ33B
	DE09	23357842	DIODE, ZENER, MTZJ6.8B
	DE11	23357709	DIODE, RU1P
	DE12	23357512	DIODE, AL01Z
	DE13	23357512	DIODE, AL01Z
	DE14	23357512	DIODE, AL01Z
	DE15	23357892	DIODE, ZENER, MTZJ27B
	DE16	23357880	DIODE, ZENER, MTZJ20B

Replacement Parts List

	Location	Part No.	Description
	DE17	23357512	DIODE, AL01Z
	DE19	23357854	DIODE, ZENER, MTZJ10B
	DE51	23357842	DIODE, ZENER, MTZJ6.8B
	DE52	23357703	DIODE, 1SS355
	DE53	23357842	DIODE, ZENER, MTZJ6.8B
	DE54	23357703	DIODE, 1SS355
	DE55	23357748	DIODE, ZENER, MA8062-M
	DE56	23357800	DIODE, ZENER, MA8300-H
	DE58	23357844	DIODE, ZENER, MTZJ7.5A
	DE71	23357831	DIODE, ZENER, MTZJ4.7B
	DE72	23357366	DIODE, FR105-B5
	DE73	23362197	DIODE, SCHOTTKY, RB085T-60
	DE75	23357408	DIODE, FMX-12S(023-108)
	DE77	23362205	DIODE, SCHOTTKY, RB085T-90
	DE90	23357866	DIODE, ZENER, MTZJ12C
	DE92	23357862	DIODE, ZENER, MTZJ11B
	DE93	23357862	DIODE, ZENER, MTZJ11B
	DE94	23357862	DIODE, ZENER, MTZJ11B
	F801	23144319	FUSE, CARTRIDGE 5.2X20, 125V 8A
	F801A	23165433	FUSE HOLDER, 5.2
	F801B	23165433	FUSE HOLDER, 5.2
	F802	23144227	FUSE, CARTRIDGE 5.2X20, 125V 5A
	F889	23144715	FUSE, CARTRIDGE 5.2X20, 125V 5A
	FE01	23144380	FUSE, RADIAL LEAD SUB-MINIATUR, 250V 3.15A
	FE51	23144710	FUSE, CARTRIDGE 5.2X20, 125V 2A
	FE72	23144708	FUSE, AXIAL, 125V 1A
	FE73	23144715	FUSE, CARTRIDGE 5.2X20, 125V 5A
	FE74	23144382	FUSE, RADIAL LEAD SUB-MIN, MEF5A
	FE75	23144715	FUSE, CARTRIDGE 5.2X20, 125V 5A
	GR12	76000576	CHIP JUMPER, 3216TYPE
	GR33	76000576	CHIP JUMPER, 3216TYPE
	GR52	76000445	CHIP JUMPER, 1608TYPE
	GR59	76000445	CHIP JUMPER, 1608TYPE
	GR85	76000576	CHIP JUMPER, 3216TYPE
	GR86	76000576	CHIP JUMPER, 3216TYPE
	K902	75002658	REMOCON HAND UNIT, CT-90259
	L801	23217834	TRANSFORMER, CHOKE, TPW2078AS
	L802	23217792	TRANSFORMER, CHOKE, TPW2072AS
	L804	23103304	FERRITE CHOKE, TEM2011AA
	L806	23248386	COIL, CHOKE, TLN3481AA
	L807	23248386	COIL, CHOKE, TLN3481AA
	L874	23103304	FERRITE CHOKE, TEM2011AA
	L875	23103304	FERRITE CHOKE, TEM2011AA
	L876	23103304	FERRITE CHOKE, TEM2011AA
	L878	23103304	FERRITE CHOKE, TEM2011AA
	L883	23248489	COIL, CHOKE, TLN3639AH
	LE11	23103304	FERRITE CHOKE, TEM2011AA
	LE12	23103330	FERRITE CHOKE, 3.5X5X2, TEM2014AH
	LE53	23289049	COIL, PEAKING, TRF4330AU
	LE72	23248417	COIL, CHOKE, TLN3481AH
	LE73	23248417	COIL, CHOKE, TLN3481AH
	LE74	23248417	COIL, CHOKE, TLN3481AH
	LE76	23248417	COIL, CHOKE, TLN3481AH
	P800	23713702	PLUG, 2P 11.88MM W VT

Replacement Parts List

	Location	Part No.	Description
	P801	23372264	POWER CORD, U/C 125V10A HSV 5 CMC-02P 11111
	P803B	23713819	SOCKET, TWG-P23X-A1
	P804	23713942	CONNECTOR, 10P, B10B-PH-K-S(LF)
	P811A	23713816	SOCKET, 127301113K2
	P812A	23713817	SOCKET, 127301115K2
	PD02A	23713940	CONNECTOR, B8B-PH-K-S(LF)
	PG02	23165495	EARTH TERMINAL, MET31-0332
	PG03	23165495	EARTH TERMINAL, MET31-0332
	PG04	23165495	EARTH TERMINAL, MET31-0332
	Q801	75001933	IC, STR-Z4517
	Q826	23000823	IC, PHOTO COUPLER, TLP421F(GR)
	Q851	23205463	TRANSISTOR, 2SC2712-Y(Te85L,F)
	Q852	23205463	TRANSISTOR, 2SC2712-Y(Te85L,F)
	Q853	23205443	TRANSISTOR, 2SA1162-Y(F)
	Q854	23205463	TRANSISTOR, 2SC2712-Y(Te85L,F)
	Q855	23205463	TRANSISTOR, 2SC2712-Y(Te85L,F)
	Q856	23205327	TRANSISTOR, RN1406(F)
	Q860	75001881	IC, CE-1059
	Q883	23135091	IC, SE024N
	QE01	23135089	IC, STRW6756
	QE26	23000823	IC, PHOTO COUPLER, TLP421F(GR)
	QE33	23009966	IC, BA33BC0T
	QE34	23009967	IC, BA50BC0T
	QE40	75001936	IC, BP5225
	QE53	23205330	TRANSISTOR, RN1403(F)
	QE54	23205567	TRANSISTOR, RN2403(Te85L,F)
	QE64	23085415	IC, BD4746G
	QE71	75001881	IC, CE-1059
	QE73	75001935	IC, MPD6S017
	QE74	23205330	TRANSISTOR, RN1403(F)
	QE77	75001881	IC, CE-1059
	QE80	23205446	TRANSISTOR, 2SC2412K, Q T146
	QE81	23205330	TRANSISTOR, RN1403(F)
	QE82	23205463	TRANSISTOR, 2SC2712-Y(Te85L,F)
	QE83	23085587	IC, TA76431S
	QE90	23085423	IC, KIA7809API-U/P
	QE92	23205330	TRANSISTOR, RN1403(F)
	QE93	75001876	TRANSISTOR, TPC8111(Te12L,Q)
	QE95	23205330	TRANSISTOR, RN1403(F)
	QE96	75001876	TRANSISTOR, TPC8111(Te12L,Q)
	QE97	23205569	TRANSISTOR, 2SC2713-GR(Te85L,F)
	QE98	23205568	TRANSISTOR, 2SA1163-GR(Te85L,F)
	R801	76004716	METAL GLAZE, 1/2W 2.2M OHM J
	R803	76366182	CARBON FILM, 1/6W 1.8K OHM J
	R805	76011102	CHIP, 1/20W 1K OHM J
	R806	76552101	OXIDE METAL FILM, 1/2W 100 OHM J
	R807	76366153	CARBON FILM, 1/6W 15K OHM J
	R808	76552221	OXIDE METAL FILM, 1/2W 220 OHM J
	R809	76321689	OXIDE METAL FILM, 1/2W 6.8 OHM J
	R812	76552681	OXIDE METAL FILM, 1/2W 680 OHM J
	R813	76366120	CARBON FILM, 1/6W 12 OHM J
	R814	76552330	OXIDE METAL FILM, 1/2W 33 OHM J
	R815	76552100	OXIDE METAL FILM, 1/2W 10 OHM J
	R816	76011331	CHIP, 1/20W 330 OHM J

Replacement Parts List

	Location	Part No.	Description
	R817	76382823	OXIDE METAL FILM, 1W 82K OHM J
	R821	76553680	OXIDE METAL FILM, 1W 68 OHM J
	R827	76554103	OXIDE METAL FILM, 2W 10K OHM J
	R850	76011101	CHIP, 1/20W 100 OHM J
	R851	76011471	CHIP, 1/20W 470 OHM J
	R852	76011471	CHIP, 1/20W 470 OHM J
	R853	76011103	CHIP, 1/20W 10K OHM J
	R854	76011471	CHIP, 1/20W 470 OHM J
	R855	76011471	CHIP, 1/20W 470 OHM J
	R856	76011471	CHIP, 1/20W 470 OHM J
	R857	76011471	CHIP, 1/20W 470 OHM J
	R858	76011471	CHIP, 1/20W 470 OHM J
	R859	76011102	CHIP, 1/20W 1K OHM J
	R860	76000445	CHIP JUMPER, 1608TYPE
	R862	76011121	CHIP, 1/20W 120 OHM J
	R863	76011223	CHIP, 1/20W 22K OHM J
	R864	76011333	CHIP, 1/20W 33K OHM J
	R869	76011472	CHIP, 1/20W 4.7K OHM J
	R873	76871152	CHIP, 1/8W 1.5K OHM J
	R874	76000445	CHIP JUMPER, 1608TYPE
	R890	76011102	CHIP, 1/20W 1K OHM J
	R894	76011473	CHIP, 1/20W 47K OHM J
	R895	76000445	CHIP JUMPER, 1608TYPE
	R899	76004718	METAL GLAZE, 1/2W 8.2M OHM J
	RE03	76553683	OXIDE METAL FILM, 1W 68K OHM J
	RE05	76554683	OXIDE METAL FILM, 2W 68K OHM J
	RE12	76552221	OXIDE METAL FILM, 1/2W 220 OHM J
	RE13	76366473	CARBON FILM, 1/6W 47K OHM J
	RE15	76366102	CARBON FILM, 1/6W 1K OHM J
	RE16	76366102	CARBON FILM, 1/6W 1K OHM J
	RE17	76366363	CARBON FILM, 1/6W 36K OHM J
	RE18	76019463	METAL PLATE, 2W 0.22 OHM J
	RE23	76552152	OXIDE METAL FILM, 1/2W 1.5K OHM J
	RE40	76871681	CHIP, 1/8W 680 OHM J
	RE43	76011753	CHIP, 1/20W 75K OHM J
	RE44	76000593	CHIP, 1/16W 10K OHM F
	RE46	76000605	CHIP, 1/16W 6.8K OHM F
	RE48	76011222	CHIP, 1/20W 2.2K OHM J
	RE50	76000445	CHIP JUMPER, 1608TYPE
	RE51	76011683	CHIP, 1/20W 68K OHM J
	RE52	76011123	CHIP, 1/20W 12K OHM J
	RE53	76871222	CHIP, 1/8W 2.2K OHM J
	RE54	76871222	CHIP, 1/8W 2.2K OHM J
	RE56	76190012	CHIP, 1/16W 1.5K OHM F
	RE57	76190012	CHIP, 1/16W 1.5K OHM F
	RE58	76190013	CHIP, 1/16W 22K OHM F
	RE59	76011334	CHIP, 1/20W 330K OHM J
	RE60	76011184	CHIP, 1/20W 180K OHM J
	RE61	76000605	CHIP, 1/16W 6.8K OHM F
	RE63	76000445	CHIP JUMPER, 1608TYPE
	RE64	76366151	CARBON FILM, 1/6W 150 OHM J
	RE64A	23965241	TAPE, CC #12 10MM L30M
	RE67	76011473	CHIP, 1/20W 47K OHM J
	RE68	76011473	CHIP, 1/20W 47K OHM J

Replacement Parts List

	Location	Part No.	Description
	RE71	76011152	CHIP, 1/20W 1.5K OHM J
	RE72	76011393	CHIP, 1/20W 39K OHM J
	RE73	76011472	CHIP, 1/20W 4.7K OHM J
	RE74	76011102	CHIP, 1/20W 1K OHM J
	RE75	76011391	CHIP, 1/20W 390 OHM J
	RE80	76011102	CHIP, 1/20W 1K OHM J
	RE82	76011473	CHIP, 1/20W 47K OHM J
	RE83	76011473	CHIP, 1/20W 47K OHM J
	RE91	76011103	CHIP, 1/20W 10K OHM J
	RE92	76011103	CHIP, 1/20W 10K OHM J
	RE93	76011223	CHIP, 1/20W 22K OHM J
	RE94	76011473	CHIP, 1/20W 47K OHM J
	RE95	76553122	OXIDE METAL FILM, 1W 1.2K OHM J
	RE96	76011222	CHIP, 1/20W 2.2K OHM J
	RE97	76011562	CHIP, 1/20W 5.6K OHM J
	RE98	76011104	CHIP, 1/20W 100K OHM J
	SR81	23146591	RELAY, G5PA-1 5V 0.25W
	T801	23211920	COIL, LINE FILTER, TRF3258AD
	T862	23217838	TRANSFORMER, CONVERTER, TPW3583AS
	TE62	23217840	TRANSFORMER, CONVERTER, TPW3585AD
	U01	75004719	SEINE, B910PE0079G1
	U01A	75002650	PWU, AV B910PE0036B1
	U01B	75002651	PWU, F-AV, B910PE0036B2
	U01C	75002652	PWU, LED, B910PE0036B3
	U01D	75002653	PWU, KEY, B910PE0036B4
	U01E	75002654	PWU, DVD-KEY, B910PE0036B5
	U02A	75002655	PWU, POWER, B910PE0040L1
	U02B	75002656	PWU, LOW-B, B910PE0040L2
	U04A	75002902	D-TUNER, B911PE0044B1
	W661	23351292	SPEAKER, SPK1410AM, 60X120 8-OHM 10W

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