TOSHIBA

FILE NO. 020-200505

SERVICE MANUAL

LCD Color Television

32HL85

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TABLE OF CONTENTS

⚠ SERVICE SAFETY PRECAUTIONS

- The caution items shown here describe major safety issues and should always be observed.
- The meanings of the various indications are as follows.

⚠ **WARNING**	Indicates a hypothetical situation in which service personnel and nearby third parties, or even end users due to a product defect after the service operation is completed, could possibly be in danger of injury or even death in the event of operational error.
⚠ **CAUTION**	Indicates a hypothetical situation in which service personnel and nearby third parties, or even end users after the service operation is completed, could possibly be in danger of injury, or where there could be physical damage in the event of operational error.

* Physical damage means major damage to a home, furnishings and other possessions.

Examples of marks

 **SHOCK HAZARD**	The △ indicates caution (including danger and warning). The actual meaning of this caution is indicated inside the △ or nearby illustrations or text. The example shown to the left indicates the danger of "electrical shock".
 **PROHIBIT DISASSEMBLING**	The ⃠ indicates a forbidden action. The actual meaning of this caution is indicated inside the ⃠ or nearby illustrations or text. The example shown to the left indicates that disassembly is forbidden.
 **UNPULUG**	The ● indicates a forced action (an action that must be performed). The actual meaning of this forced action is indicated by ● or nearby illustrations or text. The example shown to the left indicates that the power plug must be disconnected.

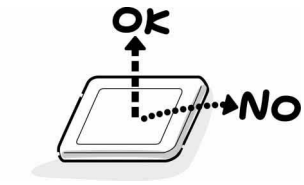
	⚠ WARNING
KEEP CHILDREN AWAY	• Always advise users to keep children away. There is danger of injury to children from tools, disassembled products, etc.
UNPULUG	• Always disconnect the power plug before starting work whenever power is not required. Failure to disconnect the power plug before starting work can result in electrical shock.
SHOCK HAZARD	• Depending on the model, use an insulation transformer or wear gloves when servicing with the power on, and 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.
USE SPECIFIED PARTS	• Always use the replacement parts specified for the particular model when making repairs. The parts used in products have the necessary 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 included in a circuit diagram or parts list.
CAUTION FOR WIRING	• Parts mounting and routing of the wiring should be the same as that used originally. For safety purposes, insulating materials such as tubing or tape is 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 and which use high voltage. Always follow the original scheme.
CAUTION FOR ASSEMBLING / WIRING	• After a repair has been completed, reassemble all disassembled parts, and route and reconnect the wiring, in accordance with the original scheme. 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.
CHECK INSULATION RESISTANCE	• After completing the work, disconnect the power plug from the outlet, remove the antenna, turn on the power switch. Then, use a 500V insulation resistance meter to check the insulation resistance of the antenna terminal, other metallic parts and between the prongs of the power plug to make sure that the insulation resistance is 1M Ω or more. The set will require inspection and repair if the insulation resistance is below this value.
PROHIBIT REMODELING	• Never remodel the product in any way. Remodeling can result in improper operation, malfunction, or electrical leakage and flame, which may be hazardous

HANDLING THE LCD MODULE

Safety Precautions
In the event that the screen is damaged or the liquid crystal (fluid) leaks, do not breathe in or drink this fluid. Also, never 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.

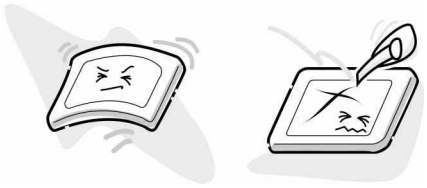
Precautions for Handling the LCD Module
The LCD module can easily be damaged during disassembly or reassembly; therefore, always observe the following precautions when handling the module.

1. 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.



2. 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.

CAUTION	The metal edges of the LCD module are sharp, so use caution to avoid injury.

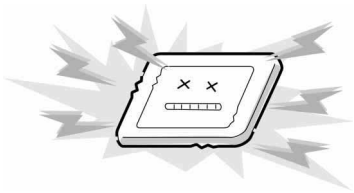


3. If the panel surface becomes soiled, wipe with cotton or a soft cloth. If this does not remove the soiling, breathe on the surface and then wipe again.
   If the panel surface is extremely solied, use a CRT cleaner as a cleaner. Wipe off the panel surface by drop the cleaner on the cloth. Do not drop the cleaner on the panel. Pay attention not to scratch the panel surface.

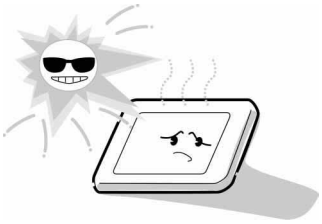
4. Leaving water or other fluids on the panel screen for an extended period of time can result in discoloration or stripes. Immediately remove any type of fluid from the screen.

5. Glass is used in the panel, so do not drop or strike with hard objects. Such actions can damage the panel.

6. 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.

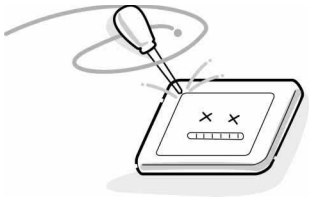


7. Do not expose the LCD module to direct sunlight or strong ultraviolet rays for an extended period of time.

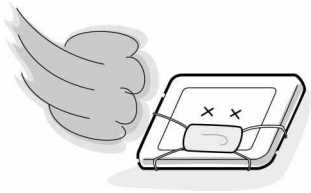


8. Do not store the LCD module below the temperature conditions described in the specifications. Failure to do so could result in freezing of the liquid crystal due to cold air or loss of resilience or other damage.

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



10. 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.



SERVICE MODE

1. ENTERING SERVICE MODE

1) Press MUTE button twice on Remote Control.

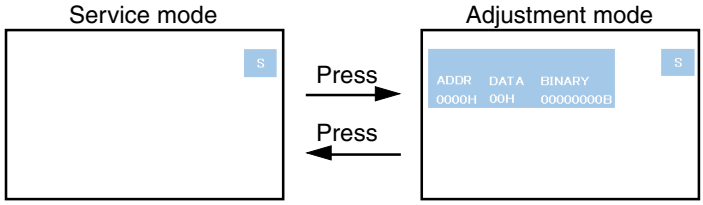
2) Press MUTE button again and keep pressing.

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

(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on Remote Control.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

Test signal selection :	TV/VIDEO button (on Remote)
Selection of the adjustment items :	Channel ▲ / ▼(on TV or Remote)
Change of the data value :	Volume ◀ / ▶ (on TV) or ▲ / ▼ (on Remote)
Adjustment menu mode ON/OFF :	MENU button (on Remote)
Initialization of the memory :	CALL + Channel button on TV (▲)
Reset the count of operating protect circuit to “00” :	CALL + Channel button on TV (▼)
“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“CNTX” selection :	4 button
“COLC” selection :	5 button ------Color thickness correction
“UVTT” selection :	6 button
Automatic A/D Adjustment(PC, Component) :	7 button
Self diagnostic display ON/OFF :	9 button

note: Displayed differently as shown below, depending on the setting of the receiving color system.
COLP (PAL)
COLC (NTSC)
COLS (SECAM)

CAUTION : Never try to perform initialization unless you have changed the memory IC.

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ◀ / ▶ , ▲ / ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ **INITIALIZATION OF MEMORY DATA**

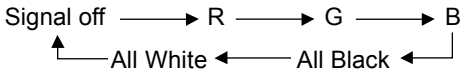
After replacing EEPROM IC, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the CALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of EEPROM IC has been completed.
3. Check the picture carefully. If necessary, adjust any adjustment item above. Perform “Auto tune” on the owner’s manual.

CAUTION: Never attempt to initialize the data unless EEPROM IC has been replaced.

7. TEST SIGNAL SELECTION

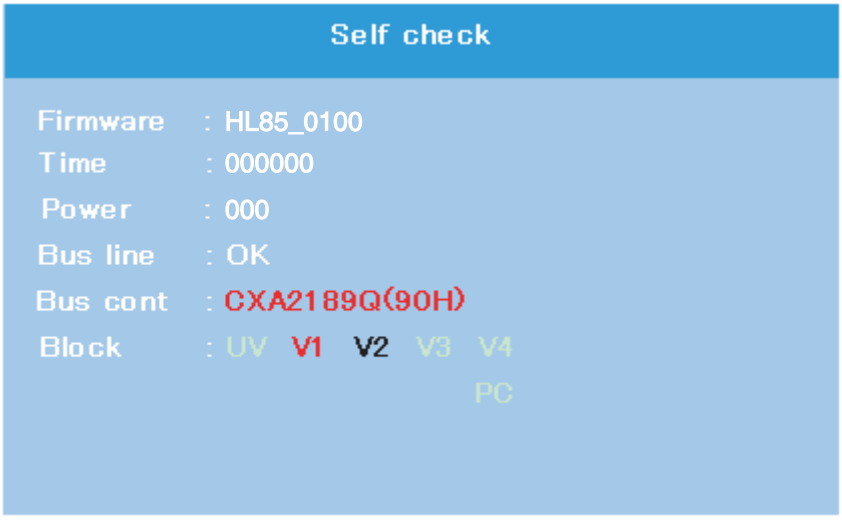
1) Every pressing of TV/VIDEO button on the Remote Control changes the built-in test patterns on screen as described below in SERVICE MODE.



Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	

8. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC’s is executed properly.
2) During diagnosis, the following displays are shown.



① Firmware :
Version information of microprocessor
In case of file name : HL85 and Version : 0100 indicates[HL85_0100].

② Time : Total hour of turn the TV on. (Unit : H)

③ Power : Operation number of protecting circuit ----"000" is normal.
When indication is other than "000", overcurrent apt to flow, and circuit parts may possibly be damaged.

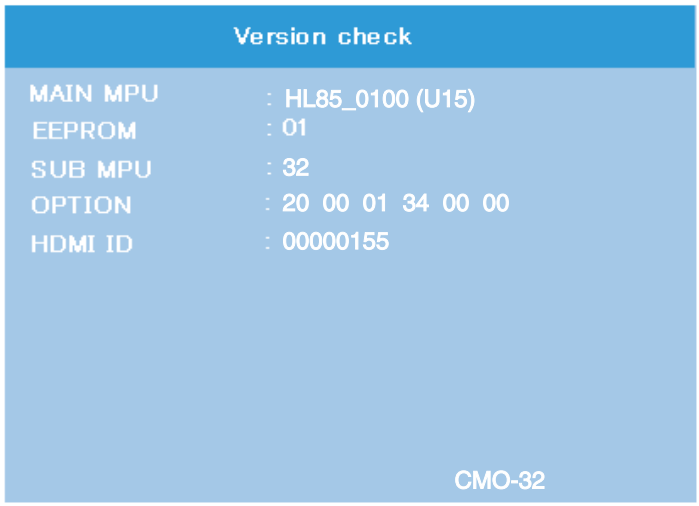
④ Bus line : --"OK" is normal
"SCL-GND"(Red indication) : SCL-GND short circuit
"SDA-GND"(Red indication) : SDA-GND short circuit
"SCL-SDA"(Red indication) : SCL-SDA short circuit

⑤ Bus cont : --- "OK" is normal.
NG is abnormal(Red indication).
When type name of semiconductor indicates.

⑥ Block
UV : TV reception mode
V1 : VIDEO 1 input mode
V2 : VIDEO 2 input mode
V3 : ColorStream HD IN
V4 : HDMI A/V IN

9. VERSION CHECK MODE

1) Press “9” button twice on Remote Control during display of adjustment menu in the service mode. The version of main MPU will begin to check.
2) During Version Check, the following displays are shown.



① MAIN MPU :
Version information of microprocessor
In case of file name : HL85, Version 0100 for Code Program Version
and (U15) for OSD Version indicates [HL85_0100(U15)]

② EEPROM :
Version information of EEPROM : Display 1 byte data.

③ SUB MPU :
Version information of SUB MPU : Display 1 byte data.

④ OPTION :
Option information : Display six numbers of 1 byte data.

⑤ HDMI ID :
HDMI ID information : Display 4 byte data.

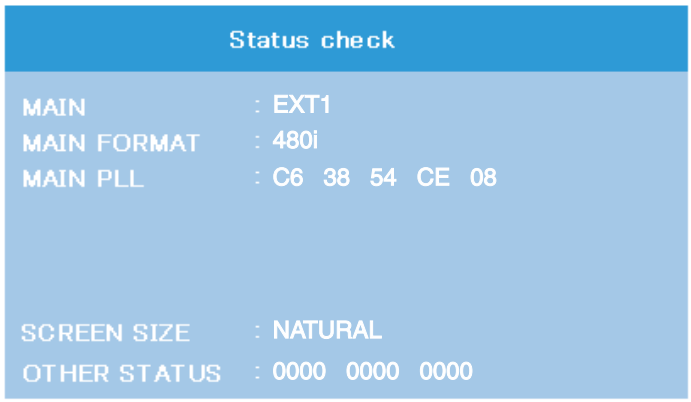
⑥ LCD Panel Vender information display
The following Panel Vender and screen size are displayed.

Panel Vender	Screen Size(Inch)
CMO	-27
SHP	-32

Example : CMO-27 indicates that vender is CMO and Screen Size is 27 inch.

10. STATUS CHECK MODE

1) Press “9” button thrice on Remote Control during display of adjustment menu in the service mode. The status of this model will begin to check.
2) During Status Check, the following displays are shown.



① MAIN :
Main source information :
Display RF position number (0 - 99) on the main screen, or Input Source (EXT1/2/3/HDMI etc.)

② MAIN FORMAT :
Display Video and PC format information

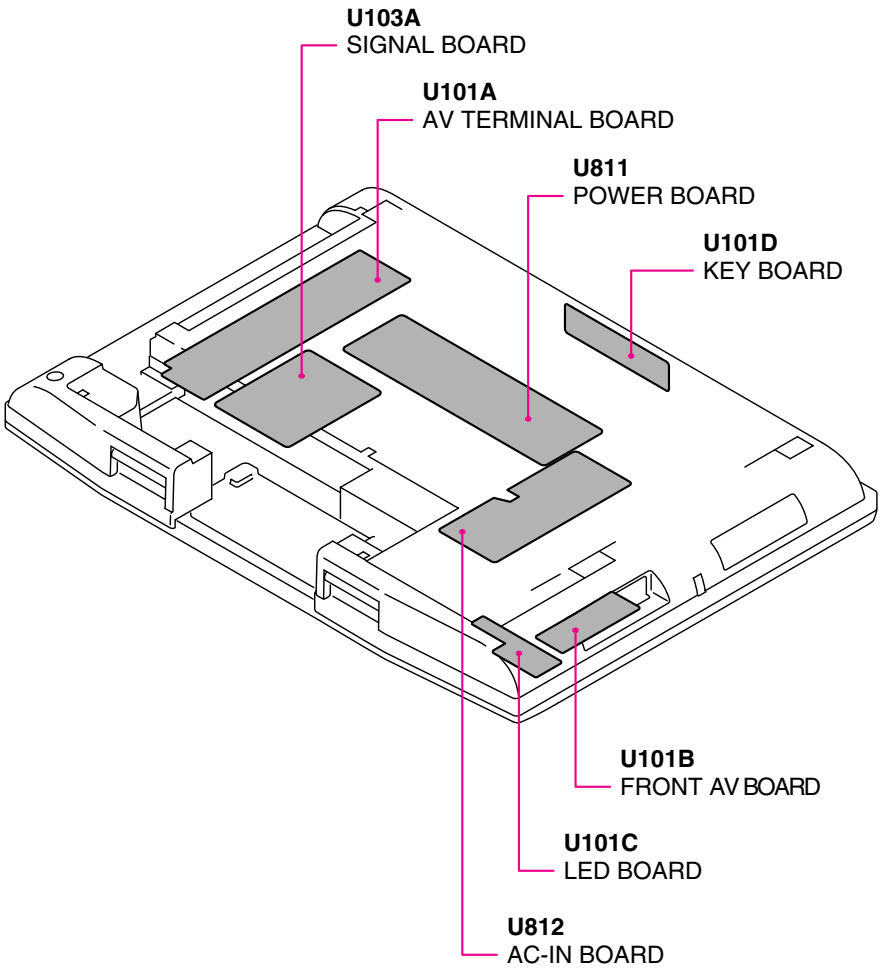
③ MAIN PLL :
Main PLL information : Display 1 byte data at five.

④ SCREEN SIZE :
Display the screen size as follows.

Theater Wide 1
Theater Wide 2
Theater Wide 3
FULL
NATURAL

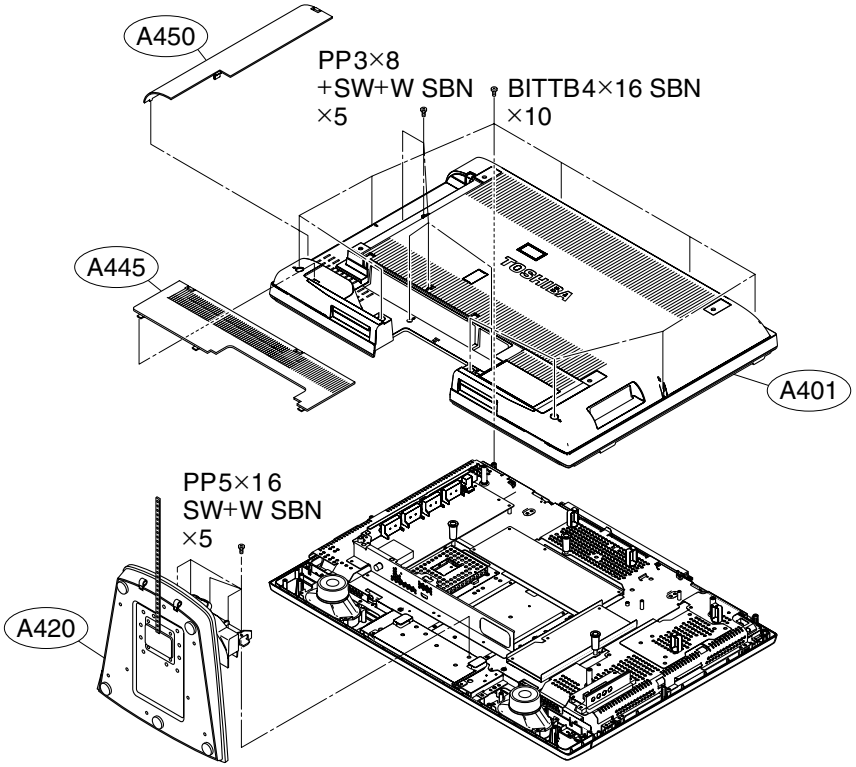
⑤ OTHER STATUS :
Other status information : Display three numbers of 2 byte data.

LAYOUT OF MAJOR BOARDS

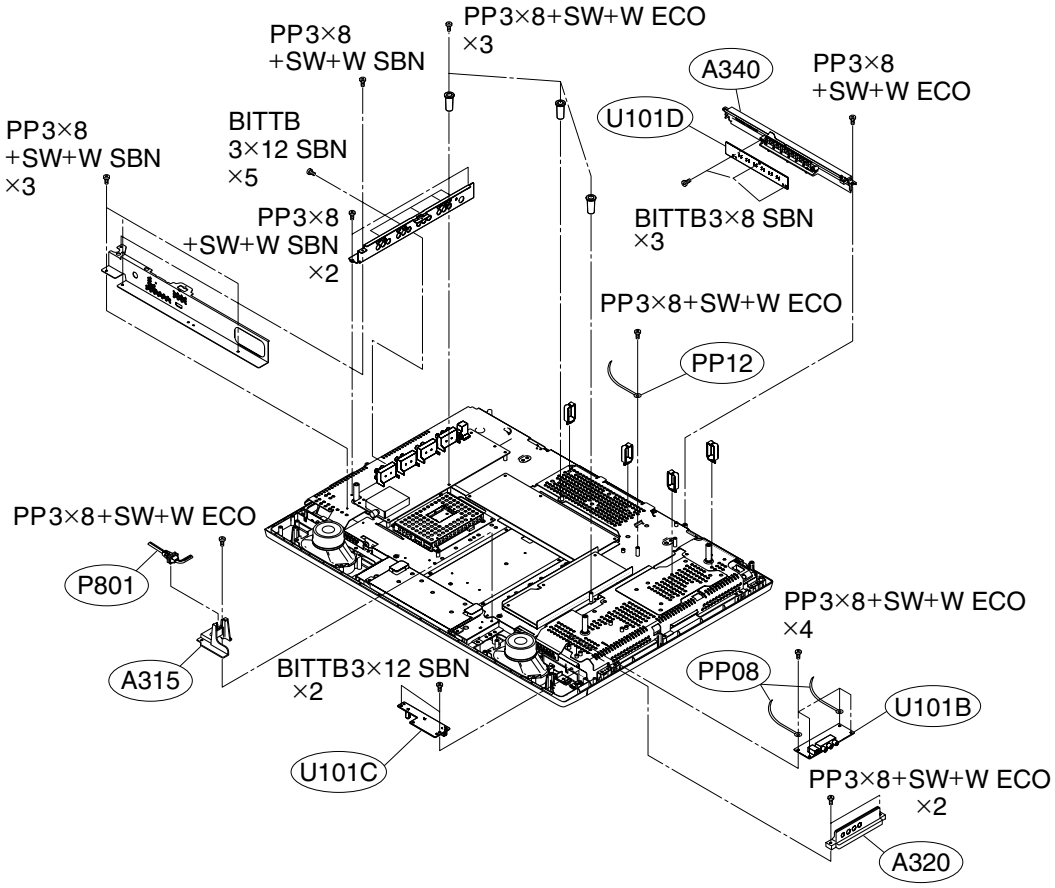


MECHANICAL DISASSEMBLY

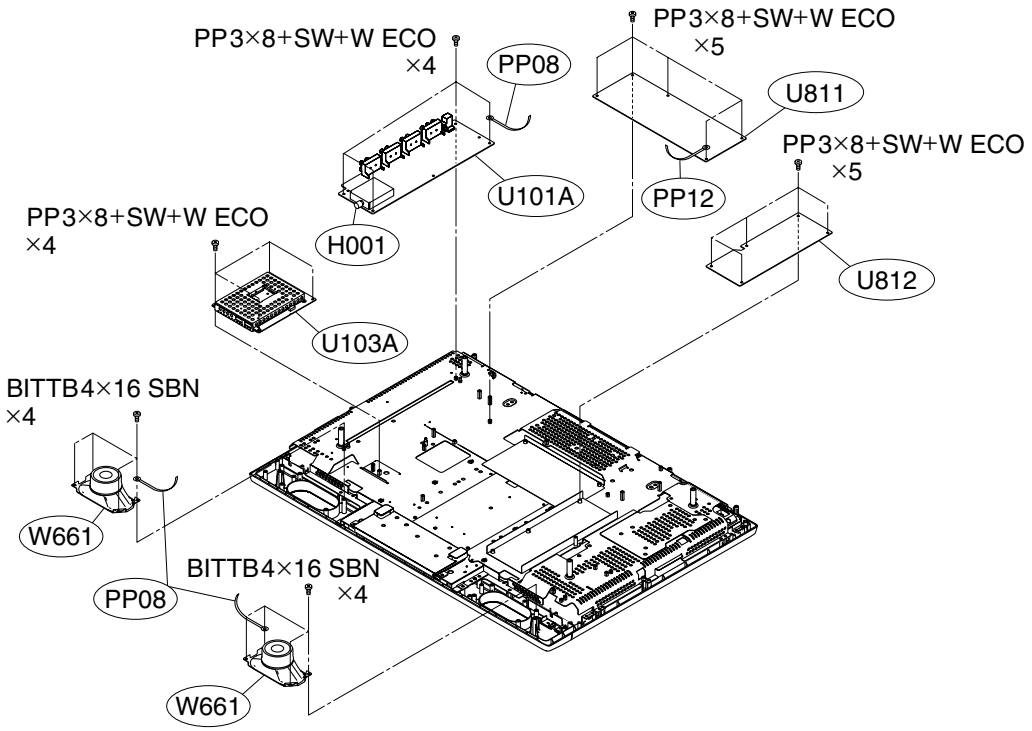
1. Remove the stand (foot) and back cover.



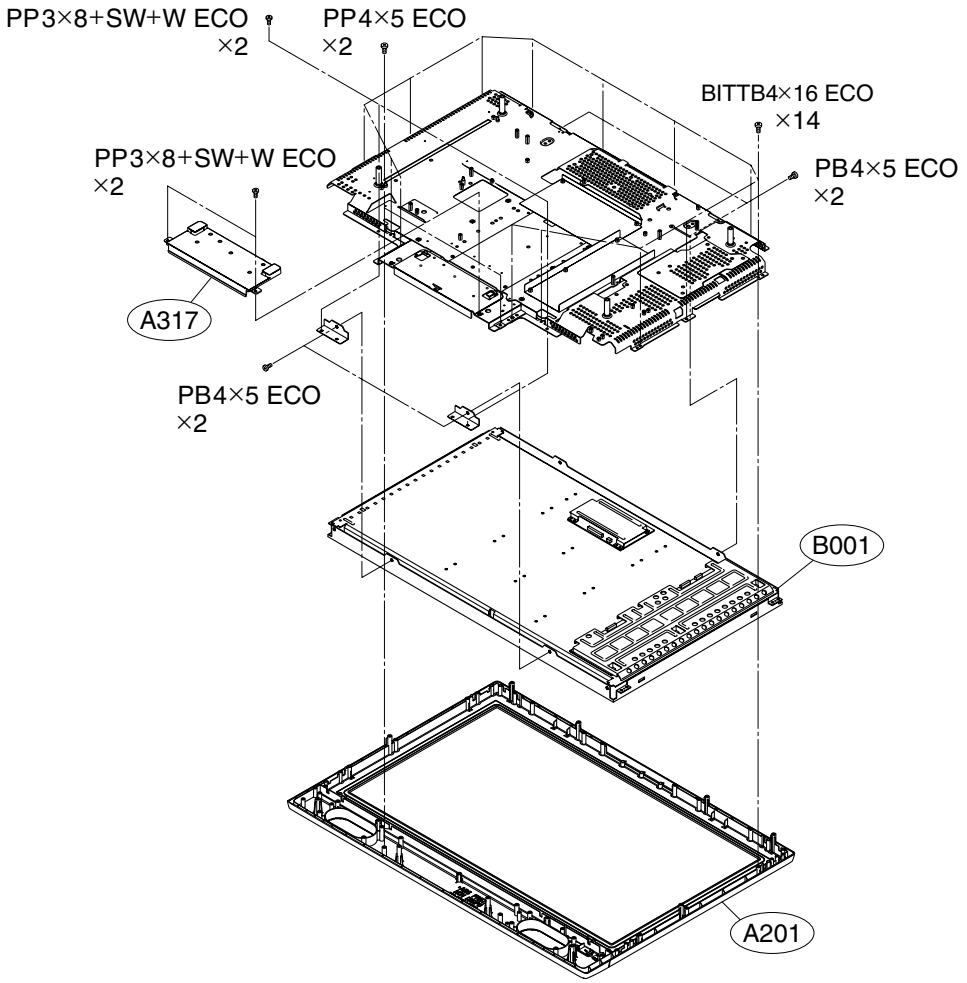
2. Remove the boards (FRONT AV, LED, KEY) and piece key ass'y.



3. Remove the boards (POWER, AC-IN, SIGNAL, AV TERMINAL) and speaker.

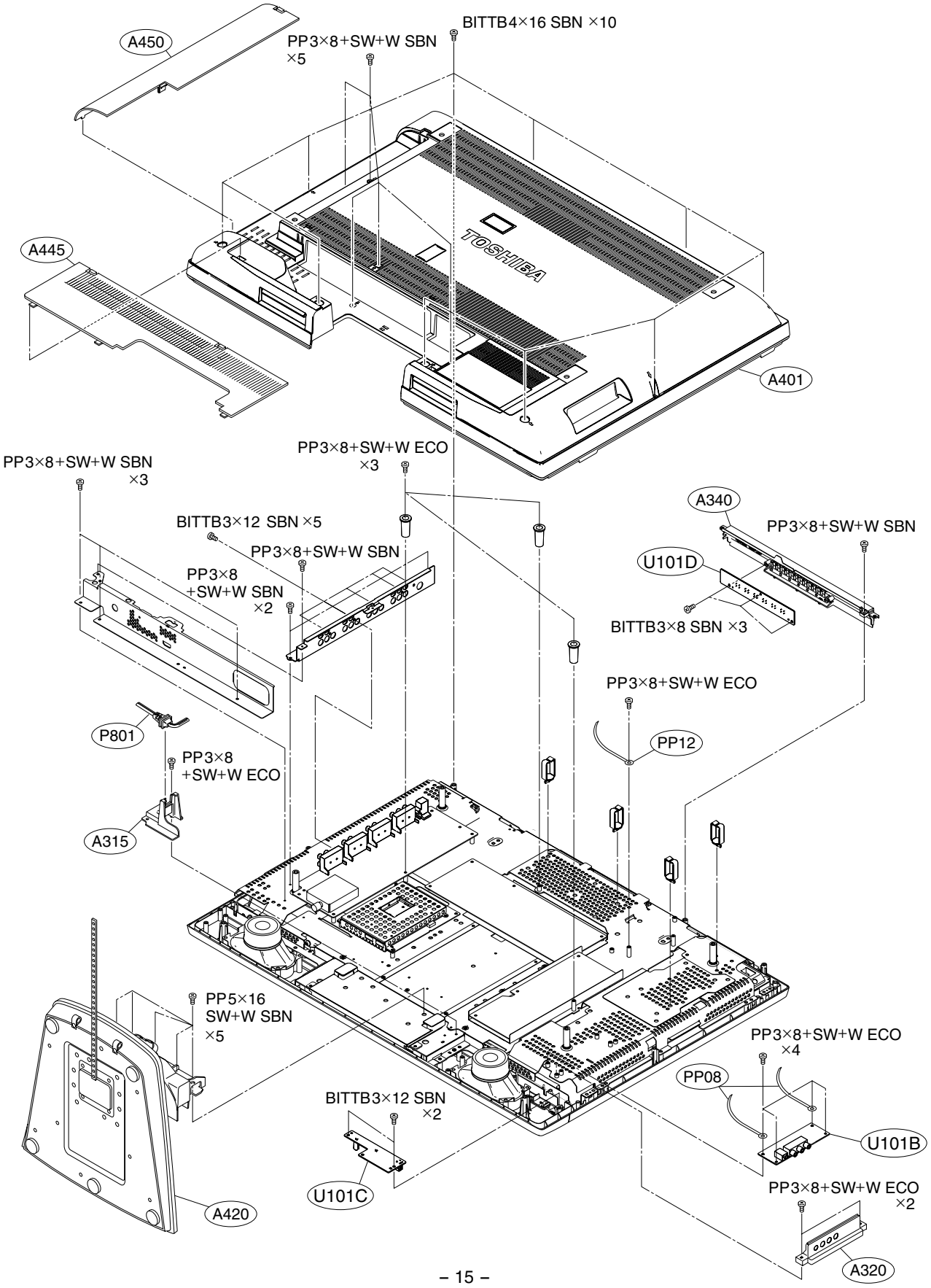


4. Remove the display.

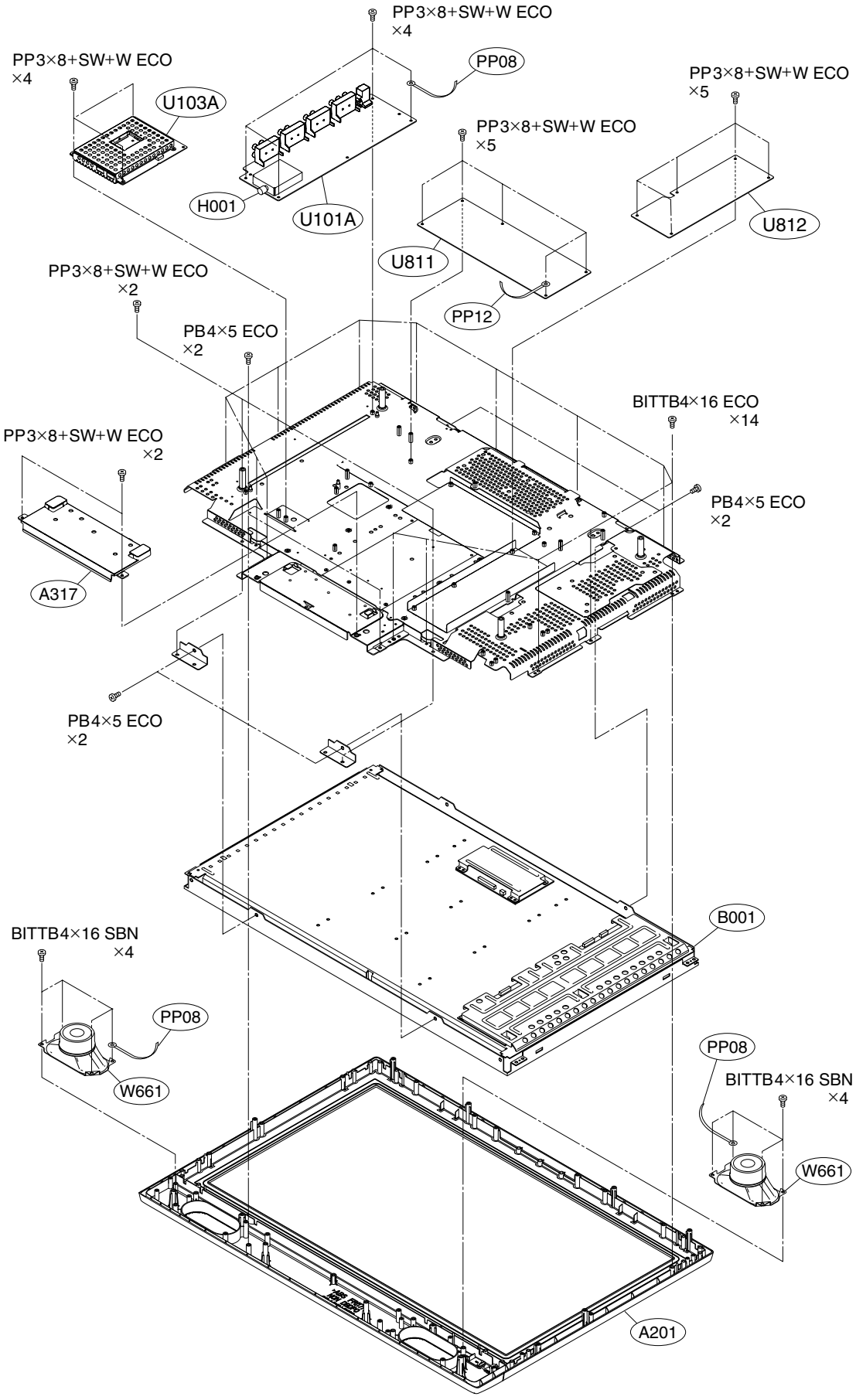


EXPLODED VIEWS

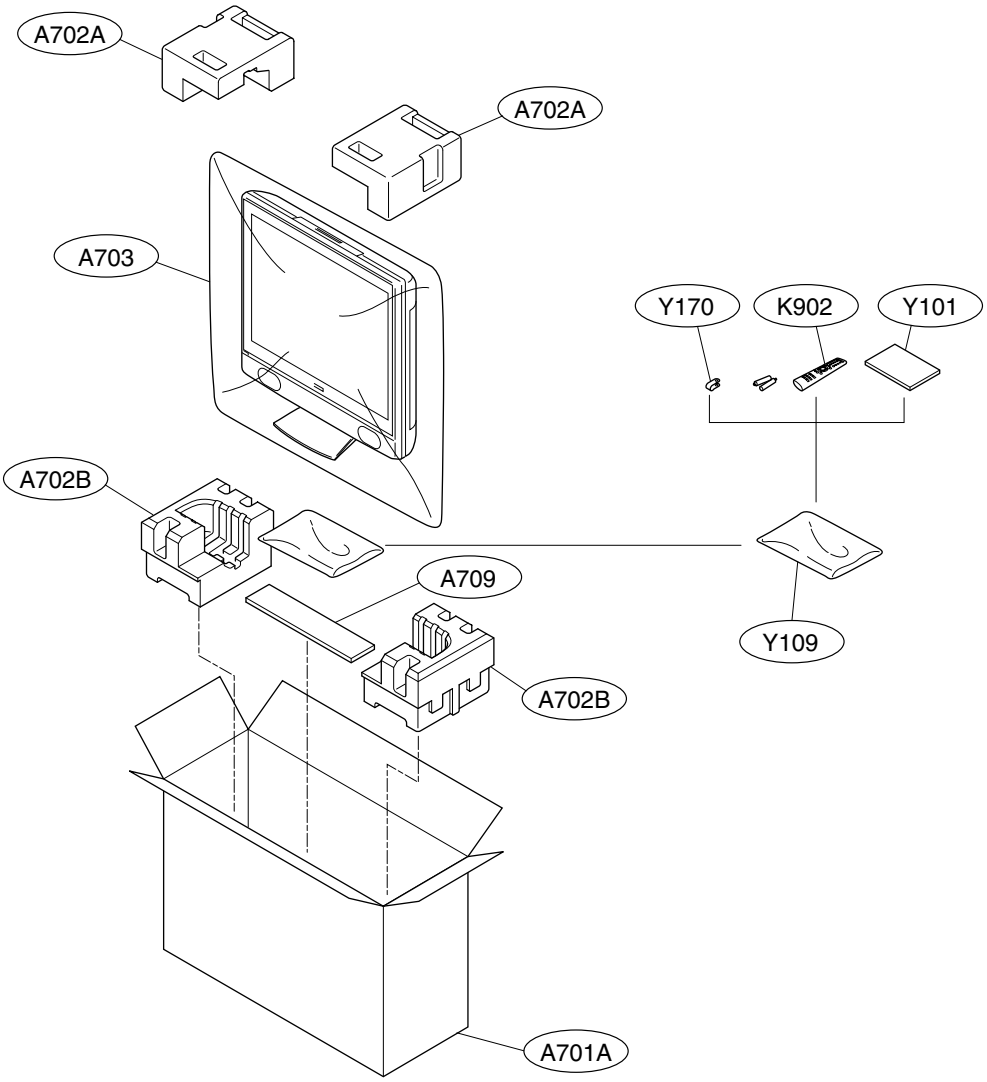
1. Chassis Block



2. Main Block


PP3×8+SW+W ECO
×4
PP3×8+SW+W ECO
×4
U103A
PP08
H001
U101A
PP3×8+SW+W ECO
×5
PP3×8+SW+W ECO
×5
U812
U811
PP12
PP3×8+SW+W ECO
×2
PB4×5 ECO
×2
BITTB4×16 ECO
×14
PP3×8+SW+W ECO
×2
PB4×5 ECO
×2
A317
PB4×5 ECO
×2
B001
BITTB4×16 SBN
×4
PP08
W661
PP08
BITTB4×16 SBN
×4
W661
A201

PACKING DISASSEMBLY



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SERVICE SAFETY PRECAUTIONS" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the SERVICE SAFETY PRECAUTIONS. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with * mark is no longer available after the end of the production.*

Model : 32HL85

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
CAPACITORS		
C102	76073019	ELECTROLYTIC, 10V 470UF M 3A
C103	76109102	CERAMIC CHIP, 50V B 1000PF K
C104	76073084	ELECTROLYTIC, 50V 4.7UF M 3A
C105	76073019	ELECTROLYTIC, 10V 470UF M 3A
C108	76092730	CERAMIC CHIP, 16V B 0.1UF K
C121	76105560	CERAMIC CHIP, 50V CH 56PF J
C123	76105470	CERAMIC CHIP, 50V CH 47PF J
C124	76105220	CERAMIC CHIP, 50V CH 22PF J
C161	76109102	CERAMIC CHIP, 50V B 1000PF K
C162	76105101	CERAMIC CHIP, 50V CH 100PF J
C164	76092730	CERAMIC CHIP, 16V B 0.1UF K
C605	76109102	CERAMIC CHIP, 50V B 1000PF K
C606	76109102	CERAMIC CHIP, 50V B 1000PF K
C656	76797100	ELECTROLYTIC, 50V 10UF M
C660	76669479	ELECTROLYTIC, 50V 4.7UF M
C661	76669479	ELECTROLYTIC, 50V 4.7UF M
C662	76109681	CERAMIC CHIP, 50V B 680PF K
C663	76109681	CERAMIC CHIP, 50V B 680PF K
C670	76669100	ELECTROLYTIC, 50V 10UF M
C671	76669100	ELECTROLYTIC, 50V 10UF M
C673	76667470	ELECTROLYTIC, 25V 47UF M 3A
C674	76073081	ELECTROLYTIC, 50V 1UF M 3A
C675	76669339	ELECTROLYTIC, 50V 3.3UF M
C676	76796101	ELECTROLYTIC, 35V 100UF M
C678	76503041	PLASTIC FILM , 63V 0.1UF J
C679	76503041	PLASTIC FILM , 63V 0.1UF J
C680	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C681	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C682	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C684	76109103	CERAMIC CHIP, 50V B 0.01UF K
C685	76109103	CERAMIC CHIP, 50V B 0.01UF K
⚠ C801	76503507	PLASTIC FILM, AC275V 0.22UF K
C802	76503507	PLASTIC FILM, AC275V 0.22UF K
⚠ C803	76503250	PLASTIC FILM 7E2G224J-SC
C804	76214103	CERAMIC DISC, 500V B 0.01UF K
C805	76092281	CERAMIC DISC, AC250V E 4700PF
C806	76092281	CERAMIC DISC, AC250V E 4700PF
C810	76073233	ELECTROLYTIC, 200V 560UF M
⚠ C811	76092569	CERAMIC DISC, AC250V E 2200PF M
C812	76092569	CERAMIC DISC, AC250V E 2200PF M

Location No.	Parts No.	Description
C813	76503047	PLASTIC FILM, 63V 0.33UF J
C815	76503049	PLASTIC FILM, 63V 0.47UF J
C816	76073183	ELECTROLYTIC CE04P 35V 220UF M 3A
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	76503053	PLASTIC FILM, 63V 1UF J
C826	76092341	CERAMIC DISC, 2KV R 470PF K
C827	76678229	ELECTROLYTIC, 200V 2.2UF M 3A
C851	76092538	CERAMIC CHIP, 10V F 1UF Z
C852	76109102	CERAMIC CHIP, 50V B 1000PF K
C883	76073193	ELECTROLYTIC, 35V 2200UF M 3A
C884	76073193	ELECTROLYTIC, 35V 2200UF M 3A
C889	76073094	ELECTROLYTIC, 50V 1000UF M 3A
C890	76503047	PLASTIC FILM, 63V 0.33UF J
C6600	76797470	ELECTROLYTIC, 50V 47UF M
C6601	76085944	ELECTROLYTIC, NP, 50V 2.2UF M 11L
C6602	76085944	ELECTROLYTIC, NP, 50V 2.2UF M 11L
C6603	76797229	ELECTROLYTIC, 50V 2.2UF M
C6604	76797229	ELECTROLYTIC, 50V 2.2UF M
C6606	76797229	ELECTROLYTIC, 50V 2.2UF M
C6607	76797229	ELECTROLYTIC, 50V 2.2UF M
C6615	76797229	ELECTROLYTIC, 50V 2.2UF M
C6616	76797229	ELECTROLYTIC, 50V 2.2UF M
C6990	76206478	ELECTROLYTIC, 50V 0.47UF M 7L 3A
C8001	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C8110	76073233	ELECTROLYTIC, 200V 560UF M
CB01	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB02	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB03	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CB04	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CB05	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB38	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CC11	76109102	CERAMIC CHIP, 50V B 1000PF K
CC12	76109102	CERAMIC CHIP, 50V B 1000PF K
CE04	76092281	CERAMIC DISC, AC250V E 4700PF
CE05	76092281	CERAMIC DISC, AC250V E 4700PF

Location No.	Parts No.	Description
CE07	76503049	PLASTIC FILM, 63V 0.47UF J
CE09	76668339	ELECTROLYTIC, 35V 3.3UF M 3A
CE10	76073217	ELECTROLYTIC, 200V 560UF M
CE12	76503041	PLASTIC FILM , 63V 0.1UF J
⚠ CE13	76092561	CERA CAP B 250V 101 CD70-B2GA101KYNS
CE14	76092561	CERA CAP B 250V 101 CD70-B2GA101KYNS
CE16	76073181	ELECTROLYTIC CE04P 35V 56UF M 3A
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
CE29	76436561	CERAMIC DISC, 50V SL 560PF J
CE40	76073183	ELECTROLYTIC CE04P 35V 220UF M 3A
CE42	76539104	PLASTIC FILM, 50V 0.1UF J
CE43	76503041	PLASTIC FILM , 63V 0.1UF J
CE51	76617023	ELECTROLYTIC, 16V 330UF M
CE52	76092179	CERAMIC CHIP, 25V B 0.22UF K
CE53	76092179	CERAMIC CHIP, 25V B 0.22UF K
CE55	76073181	ELECTROLYTIC CE04P 35V 56UF M 3A
CE76	76073181	ELECTROLYTIC CE04P 35V 56UF M 3A
CE82	76676470	ELECTROLYTIC, 100V 47UF M 3A
CE85	76073186	ELECTROLYTIC CE04P 35V 470UF M 3A
CE87	76669100	ELECTROLYTIC, 50V 10UF M
CE90	76503047	PLASTIC FILM, 63V 0.33UF J
CE91	76503041	PLASTIC FILM , 63V 0.1UF J
CE92	76794101	ELECTROLYTIC, 16V 100UF M
CV10	76109102	CERAMIC CHIP, 50V B 1000PF K
CV68	76085988	ELECTROLYTIC, NP, 50V 1UF M 7L
CV72	76794471	ELECTROLYTIC, 16V 470UF M
CV74	76794101	ELECTROLYTIC, 16V 100UF M
CV76	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CV78	76797010	ELECTROLYTIC, 50V 1UF M

RESISTORS

R103	76011101	CHIP, 1/20W 100 OHM J
R104	76011103	CHIP, 1/20W 10K OHM J
R105	76011273	CHIP, 1/20W 27K OHM J
R107	76000445	CHIP JUMPER, 1608TYPE
R108	76000445	CHIP JUMPER, 1608TYPE
R110	76011682	CHIP, 1/20W 6.8K OHM J
R111	76011681	CHIP, 1/20W 680 OHM J
R113	76000445	CHIP JUMPER, 1608TYPE
R114	76000445	CHIP JUMPER, 1608TYPE
R115	76011102	CHIP, 1/20W 1K OHM J
R120	76011821	CHIP, 1/20W 820 OHM J
R122	76000445	CHIP JUMPER, 1608TYPE
R161	76011102	CHIP, 1/20W 1K OHM J
R165	76011392	CHIP, 1/20W 3.9K OHM J
R166	76011472	CHIP, 1/20W 4.7K OHM J
R167	76011101	CHIP, 1/20W 100 OHM J
R168	76011101	CHIP, 1/20W 100 OHM J
R657	76011473	CHIP, 1/20W 47K OHM J
R658	76011473	CHIP, 1/20W 47K OHM J
R659	76011103	CHIP, 1/20W 10K OHM J
R670	76011472	CHIP, 1/20W 4.7K OHM J
R671	76011472	CHIP, 1/20W 4.7K OHM J
R672	76011182	CHIP, 1/20W 1.8K OHM J
R673	76011182	CHIP, 1/20W 1.8K OHM J
R678	76871229	CHIP, 1/8W 2.2 OHM J
R679	76871229	CHIP, 1/8W 2.2 OHM J
R680	76011103	CHIP, 1/20W 10K OHM J
R681	76011103	CHIP, 1/20W 10K OHM J
R683	76011223	CHIP, 1/20W 22K OHM J
R684	76011104	CHIP, 1/20W 100K OHM J
R685	76011183	CHIP, 1/20W 18K OHM J
R686	76011102	CHIP, 1/20W 1K OHM J
R687	76871102	CHIP, 1/8W 1K OHM J
R688	76871102	CHIP, 1/8W 1K OHM J
R689	76871102	CHIP, 1/8W 1K OHM J
R695	76871102	CHIP, 1/8W 1K OHM J
R696	76871102	CHIP, 1/8W 1K OHM J
R697	76871102	CHIP, 1/8W 1K OHM J
⚠ R801	76004716	METAL GLAZE, 1/2W 2.2M OHM J
R803	76366182	CARBON FILM, 1/6W 1.8K OHM J
R805	76366102	CARBON FILM, 1/6W 1K OHM J
R806	76552470	OXIDE METAL FILM, 1/2W 47 OHM J
R807	76366153	CARBON FILM, 1/6W 15K OHM J
R808	76552101	OXIDE METAL FILM, 1/2W 100 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	76011681	CHIP, 1/20W 680 OHM J
R817	76382823	0XIDE FILM 1W 82K J
R821	76382680	OXIDE METAL FILM, 1W 68 OHM J
R827	76383103	OXIDE METAL FILM, 2W 10K OHM J
R850	76011101	CHIP, 1/20W 100 OHM J
R851	76011102	CHIP, 1/20W 1K OHM J
R852	76011471	CHIP, 1/20W 470 OHM J
R853	76011103	CHIP, 1/20W 10K OHM J
R854	76011102	CHIP, 1/20W 1K OHM J
R855	76011471	CHIP, 1/20W 470 OHM J
R856	76011102	CHIP, 1/20W 1K 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
R861	76007416	CERAMIC COVERED, 5W 82 OHM J
R862	76120002	CERAMIC COVERED G 5W 68 J
R873	76366152	CARBON FILM, 1/6W 1.5K OHM J
R890	76011102	CHIP, 1/20W 1K OHM J
⚠ R899	76004718	METAL GLAZE, 1/2W 8.2M OHM J
R6555	76011103	CHIP, 1/20W 10K OHM J
R6556	76011103	CHIP, 1/20W 10K OHM J
R6601	76011223	CHIP, 1/20W 22K OHM J
R6602	76011103	CHIP, 1/20W 10K OHM J
R6603	76011104	CHIP, 1/20W 100K OHM J
R6604	76011102	CHIP, 1/20W 1K OHM J
R6614	76011102	CHIP, 1/20W 1K OHM J
R6615	76011102	CHIP, 1/20W 1K OHM J
R6616	76011104	CHIP, 1/20W 100K OHM J
R6617	76011104	CHIP, 1/20W 100K OHM J
R6620	76011101	CHIP, 1/20W 100 OHM J
R6622	76011100	CHIP, 1/20W 10 OHM J
R6623	76011100	CHIP, 1/20W 10 OHM J
R6624	76011100	CHIP, 1/20W 10 OHM J
R6625	76011473	CHIP, 1/20W 47K OHM J
R6626	76011473	CHIP, 1/20W 47K OHM J
R6627	76011473	CHIP, 1/20W 47K OHM J
R6628	76011473	CHIP, 1/20W 47K OHM J
R6629	76011103	CHIP, 1/20W 10K OHM J
R6630	76011103	CHIP, 1/20W 10K OHM J
R6633	76011100	CHIP, 1/20W 10 OHM J
R6634	76011100	CHIP, 1/20W 10 OHM J
R6635	76011473	CHIP, 1/20W 47K OHM J
R6636	76011473	CHIP, 1/20W 47K OHM J
R6638	76011473	CHIP, 1/20W 47K OHM J
R6639	76011473	CHIP, 1/20W 47K OHM J
R6657	76011100	CHIP, 1/20W 10 OHM J
R6658	76011473	CHIP, 1/20W 47K OHM J
R6659	76011101	CHIP, 1/20W 100 OHM J
R6660	76011473	CHIP, 1/20W 47K OHM J

Location No.	Parts No.	Description
RA71	76011683	CHIP, 1/20W 68K OHM J
RA72	76011223	CHIP, 1/20W 22K OHM J
RA73	76011103	CHIP, 1/20W 10K OHM J
RA74	76000445	CHIP JUMPER, 1608TYPE
RA77	76011103	CHIP, 1/20W 10K OHM J
RA78	76000445	CHIP JUMPER, 1608TYPE
RA79	76000445	CHIP JUMPER, 1608TYPE
RB08	76011470	CHIP, 1/20W 47 OHM J
RB09	76011470	CHIP, 1/20W 47 OHM J
RB15	76011471	CHIP, 1/20W 470 OHM J
RB24	76000445	CHIP JUMPER, 1608TYPE
RC11	76011821	CHIP, 1/20W 820 OHM J
RC12	76011821	CHIP, 1/20W 820 OHM J
RE03	76553683	OXIDE METAL FILM, 1W 68K OHM J
RE04	76553683	OXIDE METAL FILM, 1W 68K OHM J
RE05	76554683	OXIDE RES 2W 68K 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
RE19	76310829	OXIDE METAL FILM, 1/2W 8.2 OHM J
RE23	76552152	OXIDE METAL FILM, 1/2W 1.5K OHM J
RE41	76011152	CHIP, 1/20W 1.5K OHM J
RE42	76871222	CHIP, 1/8W 2.2K OHM J
RE43	76011753	CHIP, 1/20W 75K OHM J
RE44	76000593	METAL FILM CHIP 1/16W 10K F
RE46	76000448	CHIP, 1/16W 1.8K OHM F
RE48	76011222	CHIP, 1/20W 2.2K OHM J
RE51	76011393	CHIP, 1/20W 39K OHM J
RE52	76011152	CHIP, 1/20W 1.5K OHM J
RE53	76871222	CHIP, 1/8W 2.2K OHM J
RE54	76871222	CHIP, 1/8W 2.2K OHM J
RE56	76190012	METAL FILM CHIP 1/16W 1.5K F
RE57	76190012	METAL FILM CHIP 1/16W 1.5K F
RE58	76190013	CHIP RES 1/16W 22K F
RE59	76011334	CHIP, 1/20W 330K OHM J
RE60	76011473	CHIP, 1/20W 47K OHM J
RE61	76190014	METAL FILM CHIP 1/16W 18K F
RE82	76011473	CHIP, 1/20W 47K OHM J
RE83	76011473	CHIP, 1/20W 47K OHM J
RE84	76011152	CHIP, 1/20W 1.5K OHM J
RE87	76011473	CHIP, 1/20W 47K OHM J
RE88	76011103	CHIP, 1/20W 10K OHM J
RE91	76011103	CHIP, 1/20W 10K OHM J
RE93	76011223	CHIP, 1/20W 22K OHM J
RE94	76871271	CHIP, 1/8W 270 OHM J
RE95	76553122	OXIDE METAL FILM, 1W 1.2K OHM J
RE96	76011473	CHIP, 1/20W 47K OHM J
RE97	76553681	0XIDE RES 1W 68 J
RE98	76011104	CHIP, 1/20W 100K OHM J
RV07	76011750	CHIP, 1/20W 75 OHM J
RV18	76011750	CHIP, 1/20W 75 OHM J
RV19	76011750	CHIP, 1/20W 75 OHM J
RV20	76000445	CHIP JUMPER, 1608TYPE
RV21	76011750	CHIP, 1/20W 75 OHM J
RV22	76000445	CHIP JUMPER, 1608TYPE
RV23	76000445	CHIP JUMPER, 1608TYPE
RV25	76011750	CHIP, 1/20W 75 OHM J
RV26	76011750	CHIP, 1/20W 75 OHM J
RV27	76011750	CHIP, 1/20W 75 OHM J
RV28	76011750	CHIP, 1/20W 75 OHM J
RV29	76011750	CHIP, 1/20W 75 OHM J
RV30	76011750	CHIP, 1/20W 75 OHM J
RV40	76000445	CHIP JUMPER, 1608TYPE

Location No.	Parts No.	Description
RV41	76000445	CHIP JUMPER, 1608TYPE
RV42	76000445	CHIP JUMPER, 1608TYPE
RV43	76000445	CHIP JUMPER, 1608TYPE
RV44	76000445	CHIP JUMPER, 1608TYPE
RV76	76011750	CHIP, 1/20W 75 OHM J
RV79	76000445	CHIP JUMPER, 1608TYPE
RV82	76011822	CHIP, 1/20W 8.2K OHM J
RV123	76872750	CHIP, 1/16W 75 OHM J
COIL & TRANSFORMERS		
L101	23248398	COIL, CHOKE, TLN3278D
L102	23103828	INDUCTOR, BEAD, TEM2121M
L103	23103828	INDUCTOR, BEAD, TEM2121M
L122	23246654	COIL, CHIP, TRF4220CG
⚠ L801	23217782	TRANSFORMER, CHOKE 8.1MH 3.0A TPW2067AS
⚠ L802	23217783	TRANSFORMER, CHOKE 3.05MH 3.0A TPW2068AS
L805	23103302	FERRITE CHOKE, TEM2011AH
L806	23248417	COIL, CHOKE, TLN3481AH
L807	23248417	COIL, CHOKE, TLN3481AH
L874	23103302	FERRITE CHOKE, TEM2011AH
L875	23103302	FERRITE CHOKE, TEM2011AH
L876	23103302	FERRITE CHOKE, TEM2011AH
L878	23103302	FERRITE CHOKE, TEM2011AH
L883	23248466	COIL, CHOKE COIL 4.7MMH 8.0A TLN3551AH
L888	23248432	COIL, CHOKE, TLN3499AH
L921	75001248	CHIP BEADS INDUCTOR
L922	75001248	CHIP BEADS INDUCTOR
L923	75001248	CHIP BEADS INDUCTOR
L925	75001248	CHIP BEADS INDUCTOR
L926	75001248	CHIP BEADS INDUCTOR
L930	75001248	CHIP BEADS INDUCTOR
L931	75001248	CHIP BEADS INDUCTOR
L932	75001248	CHIP BEADS INDUCTOR
L933	75001248	CHIP BEADS INDUCTOR
L934	75001248	CHIP BEADS INDUCTOR
L935	75001248	CHIP BEADS INDUCTOR
L936	75001248	CHIP BEADS INDUCTOR
L943	75001248	CHIP BEADS INDUCTOR
LE11	23103302	FERRITE CHOKE, TEM2011AH
LE52	23289025	COIL, PEAKING, TRF4330AT
LE53	23248399	COIL, CHOKE, TLN3283D
LE73	23248417	COIL, CHOKE, TLN3481AH
LE74	23248417	COIL, CHOKE, TLN3481AH
⚠ T801	23211881	COIL, LINE FILTER 34X25.5H 13MH TRF3252AD
T802	23211881	COIL, LINE FILTER 34X25.5H 13MH TRF3252AD
⚠ T862	23217804	TRANSFORMER,CONVERTERTPW3562BS
⚠ TE62	23217805	TRANSFORMER,CONVERTERTPW3563BS
SEMICONDUCTORS		
Q101	23205506	TRANSISTOR, 2SC4081 Q
Q102	23205507	TRANSISTOR, 2SA1576A Q
Q161	23205506	TRANSISTOR, 2SC4081 Q
Q651	23205325	TRANSISTOR,RN2404(F)
Q652	23205302	TRANSISTOR,2SC3326-B(F)
Q653	23205302	TRANSISTOR,2SC3326-B(F)
Q662	23205325	TRANSISTOR,RN2404(F)
Q663	23205506	TRANSISTOR, 2SC4081 Q
Q664	23205506	TRANSISTOR, 2SC4081 Q
Q670	23085039	IC, TA8246AHQ
Q671	23205302	TRANSISTOR,2SC3326-B(F)
Q672	23205302	TRANSISTOR,2SC3326-B(F)
Q673	23205443	TRANSISTOR,2SA1162-Y(F)
Q801	23135087	IC, HYBRID VDS=200V STR-Z4317
⚠ Q826	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q851	23205446	TRANSISTOR, 2SC2412K, Q T146
Q852	23205446	TRANSISTOR, 2SC2412K, Q T146

Location No.	Parts No.	Description
Q853	23205443	TRANSISTOR,2SA1162-Y(F)
Q854	23205446	TRANSISTOR, 2SC2412K, Q T146
Q855	23205446	TRANSISTOR, 2SC2412K, Q T146
Q883	23135091	IC, ERROR AMP. VS=24.0V SE024N
Q6600	23318977	IC, MC14052BF
Q6603	23205329	TRANSISTOR,RN1404(F)
Q6604	23205329	TRANSISTOR,RN1404(F)
QB07	23205463	TRANSISTOR,2SC2712-Y(TE85L,F)
QE01	23135089	IC, HYBRID 650V STR-W6756
QE26	23000823	IC, PHOTO COUPLER, TLP421F(GR)
QE40	23085463	IC, SI-8050E
QE52	23205567	TRANSISTOR, CHIP R1=R2=22K SMT RN2403(TE85L,F)
QE53	23205330	TRANSISTOR,RN1403(F)
QE64	23085415	IC, BD4746G
QE71	23135085	IC, IC, HYBRID IC DCDC CONVERT CE-1050
QE74	23205330	TRANSISTOR,RN1403(F)
QE75	23205446	TRANSISTOR, 2SC2412K, Q T146
QE83	23085389	IC, NJM431L
QE90	23085423	IC, KIA7809API-U/P
QE94	23205292	TRANSISTOR,2SD2396
QE95	23205446	TRANSISTOR, 2SC2412K, Q T146
QE96	23205301	TRANSISTOR,2SA1887(FA,F)
QE97	23205569	TRANSISTOR, CHIP VCEO=120V 2SC2713-GR(TE85L,F)
QE98	23205568	TRANSISTOR, CHIP VCEO=-120V 2SA1163-GR(TE85L,F)
QV16	23085823	IC, 2IN-1OUTSW 6DBAMP CLP(PB F MM1508XNRE)
D670	23362140	DIODE,KDS160-RTK
D671	23362140	DIODE,KDS160-RTK
D674	23362140	DIODE,KDS160-RTK
D675	23362140	DIODE,KDS160-RTK
D676	23362140	DIODE,KDS160-RTK
D677	23362140	DIODE,KDS160-RTK
D678	23362140	DIODE,KDS160-RTK
D679	23362140	DIODE,KDS160-RTK
D680	23362140	DIODE,KDS160-RTK
D681	23362140	DIODE,KDS160-RTK
D801	23362200	DIODE, VRM=600V IO=6A SIP D5SB60, 7009F07
D805	23357627	DIODE, ZENER, RD9.1ESA B1
D806	23357666	DIODE, ZENER, RD27ESA B3
D809	23357654	DIODE, ZENER, RD36ESA B3
D810	23357666	DIODE, ZENER, RD27ESA B3
D811	23357511	DIODE, AG01A
D812	23357625	DIODE, ZENER, RD9.1ESA B3
D813	23357512	DIODE, AL01Z
D852	23357697	DIODE, 1SS133
D883	23362196	DIODE, SCHOTTKY VRM90V 20A RB215T-90
D884	23362196	DIODE, SCHOTTKY VRM90V 20A RB215T-90
D885	23357408	DIODE, FMX-12S(023-108)
⚠ D899	76000656	VARISTOR,TNR15G471K
DA01	23362042	DIODE, ZENER, UDZS6.8B
DA06	23362042	DIODE, ZENER, UDZS6.8B
DA07	23362042	DIODE, ZENER, UDZS6.8B
DB01	23358606	DIODE, LED RED, SLR-56VC3FPQ
DB20	23357406	DIODE, ZENER, UDZS5.6B
DB22	23357703	DIODE, 1SS355
DB23	23357703	DIODE, 1SS355
DE01	23362204	DIODE, DIODE, D3SB60 ,7109F08
DE02	23357511	DIODE, AG01A
DE03	23357511	DIODE, AG01A
DE05	23357104	DIODE, 1SS244
DE06	23357366	DIODE, FR105-B5
DE07	23362103	DIODE, ZENER, DZ33 BS B
DE09	23362074	DIODE, ZENER, DZ6.8 BS B
DE11	23357709	DIODE, RU1P
DE12	23357512	DIODE, AL01Z
DE13	23357512	DIODE, AL01Z
DE14	23357512	DIODE, AL01Z

Location No.	Parts No.	Description
DE15	23362099	DIODE, ZENER, DZ27 BS B
DE16	23357880	DIODE, ZENER, MTZJ20B
DE17	23357512	DIODE, AL01Z
DE19	23357854	DIODE, ZENER, MTZJ10B
DE50	23357706	DIODE, AK04
DE51	23357842	DIODE, ZENER, MTZJ6.8B
DE52	23357703	DIODE, 1SS355
DE54	23357703	DIODE, 1SS355
DE55	23357748	DIODE, ZENER, MA8062-M
DE56	23357800	DIODE, ZENER, MA8300-H
DE72	23357366	DIODE, FR105-B5
DE75	23357408	DIODE, FMX-12S(023-108)
DE90	23357866	DIODE, ZENER, MTZJ12C
DE92	23357862	DIODE, ZENER, MTZJ11B
DE93	23357862	DIODE, ZENER, MTZJ11B
DE94	23357862	DIODE, ZENER, MTZJ11B
DE96	23357840	DIODE, ZENER, MTZJ6.2B
DE97	23357869	DIODE, ZENER, MTZJ13C
DE98	23357869	DIODE, ZENER, MTZJ13C
DE99	23357703	DIODE, 1SS355
IC404	23085873	IC,ROM512KX16BITFLASHMX26LV800TTC-55G
IC710	75001217	IC, TC7SH04FU, INVERTER
KB01	23009710	IC, REMOCON RECEIVER, GP1UE281RK
MISCELLANEOUS		
⚠ B001	23301643	DISPLAY, 05SHP32 LQ315T3LZ21
B213	23717306	SCREW WITH WASHER
B310	23717219	SCREW, PP3X8+SW+W SBN
B315	23717214	SCREW, BITTB3X12SBN
D801B	23717240	SCREW
D883B	23717240	SCREW
D884B	23717240	SCREW
DE75B	23717240	SCREW
⚠ F801	23144319	FUSE, CARTRIDGE, 125V 8A, 5.2X20
F801A	23165433	FUSE HOLDER, 5.2 SOC
F801B	23165433	FUSE HOLDER, 5.2 SOC
⚠ F802	23144227	FUSE, AXIAL, 125V 5A
⚠ F889	23144715	FUSE, AXIAL 125V 5.0A
⚠ FE01	23144380	FUSE,RADIALLEADSUB-MINIATUR250V3.15A
⚠ FE72	23144708	FUSE, AXIAL 125V 1.0A
FE75	23144715	FUSE, AXIAL 125V 5.0A
⚠ FE94	23144710	FUSE, AXIAL 125V 2.0A
GE50	23103302	FERRITE CHOKE, TEM2011AH
GE51	76000445	CHIP JUMPER, 1608TYPE
GR01	76000445	CHIP JUMPER, 1608TYPE
GR02	76000445	CHIP JUMPER, 1608TYPE
GR03	76000445	CHIP JUMPER, 1608TYPE
GR04	76000445	CHIP JUMPER, 1608TYPE
GR605	76000445	CHIP JUMPER, 1608TYPE
GR661	76011223	CHIP, 1/20W 22K OHM J
GR690	76000445	CHIP JUMPER, 1608TYPE
GR691	76000445	CHIP JUMPER, 1608TYPE
MJ22	23389310	CABLE, FFC 0.5 50P L70 23LC100_MJ22
MJ60	23389310	CABLE, FFC 0.5 50P L70 23LC100_MJ22
MZ01	23368908	CABLE, LVDS30P170MM SHP T2 E30-X30
P601	23713755	PLUG, 4P 2.5MM G, B4B-EH-F1-TV4
P602A	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
P602B	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
P661	23023302	EARPHONE JACK
⚠ P800	23713702	PLUG, 2P 11.88MM W VT
⚠ P801	23372264	POWERCORD,U/C125V10AHSV5CMC-02P11111
P803A	23713944	CONNECTOR,CONNECTB12B-PH-K-S(LF)
P803B	23713944	CONNECTOR,CONNECTB12B-PH-K-S(LF)
P804	23713942	CONNECTOR,CONNECTB10B-PH-K-S(LF)
P805	23713942	CONNECTOR,CONNECTB10B-PH-K-S(LF)
⚠ P811A	23713909	CONNECTOR,CONNECTORB4P-VH(LF)

Location No.	Parts No.	Description
P811B	23713909	CONNECTOR,CONNECTORB4P-VH(LF)
⚠ P812A	23713910	CONNECTOR,CONNECTORB5P-VH(LF)
P812B	23713910	CONNECTOR,CONNECTORB5P-VH(LF)
P813A	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
P813B	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
PJ21A	23713934	CONNECTOR, 2MM 3P S WHT B3B-PH-K-S(LF)
PJ22	75000442	CONNECTOR,FPC
PJ22A	23713960	CONNECTOR, 50P FFC 9637S-50Y901
PJ41	23713943	CONNECTOR,CONNECTB11B-PH-K-S(LF)
PJ41A	23713953	CONNECTOR,CONNECTS11B-PH-K-S(LF)
PJ42	23713939	CONNECTOR,CONNECTB6B-PH-K-S(LF)
PJ42A	23713948	CONNECTOR,CONNECTS6B-PH-K-S(LF)
PJ60	75000442	CONNECTOR,FPC
PJ60A	23713960	CONNECTOR, 50P FFC 9637S-50Y901
PJ610	23713819	SOCKET, TWG-P23X-A1
PJ930	23713574	CONNECTOR, 7P TOPTYPE BM07B-SRSS-TBT(LF)
PP02	23974994	BAND, KESSOKU
PP08	23974994	BAND, KESSOKU
PP12	23974994	BAND, KESSOKU
PP22	23748085	WASHER, WASHER 10X4.2XT=0.3 32WL55C
PV11	23023424	JACK, PIN RA 1S6P SMK T-5P
PV12	23023425	JACK, PIN RA 5P SMK T-7P
PV13	23023425	JACK, PIN RA 5P SMK T-7P
PV14	23023426	JACK, PIN RA 5P SMK T-7P
PV60	23365833	JACK, PIN 3P, YKC21
QE01B	23717240	SCREW
Q670B	23717240	SCREW
QE90B	23717240	SCREW
QE94B	23717240	SCREW
SA01	23344505	SWITCH, PUSH 1C1P
SA02	23344505	SWITCH, PUSH 1C1P
SA03	23344505	SWITCH, PUSH 1C1P
SA04	23344505	SWITCH, PUSH 1C1P
SA05	23344505	SWITCH, PUSH 1C1P
SA06	23344505	SWITCH, PUSH 1C1P
SA07	23344505	SWITCH, PUSH 1C1P
⚠ SR81	23146588	RELAY, DLS5D1-O(M) 0.15W
W661	23351292	SPEAKER, SPK1410AM, 60X120 8-OHM 10W
ZA01	23103839	FERRITE CORE, TFE1012

PC BOARD ASSEMBLIES

✻ U101A	75001368	PC BOARD ASSY, PD2150A1 AV TERM
✻ U101B	75001369	PC BOARD ASSY, PD2150A2 FRONT AV
✻ U101C	75001370	PC BOARD ASSY, PD2150A3 LED
✻ U101D	75001371	PC BOARD ASSY, PD2150A4 KEY
✻ U103A	75005471	PC BOARD ASSY, PD2131G1 SIGNAL
✻ U811	75001401	PC BOARD ASSY, PD2164B1 POWER
✻ U812	75001402	PC BOARD ASSY, PD2164B2 AC-IN

TUNER

⚠ H001	23321538	TUNER, TIF US HOR61 F 181CH C6 ENG36A37GF

ACCESSORIES

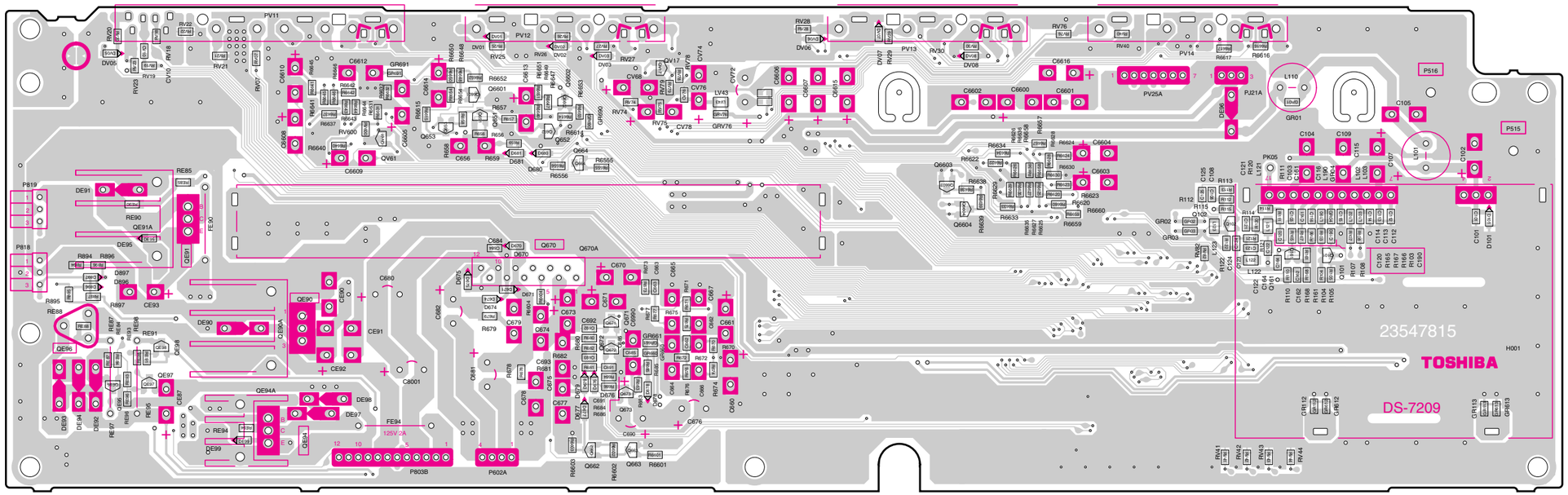
A701A	23015082	CARTON,CASE
A702A	23946849	PACKING, TOP 32HLX84
A702B	23946850	PACKING, BOTTOM 32HLX84
A703	23945143	BAG, PROTECTIVE, 35P2700
A709	23946940	PACKING, CENTER PACKING 32HLX84
⚠ K902	23306617	REMOCON HAND UNIT IR, CTVUSA CT-90159
⚠ Y101	23566688	OWNERS MANUAL, ENG/FRE/SPA
Y109	23945015	BAG, POLYETHYLENE COVER, 250X400
Y170	23845800	HOLDER, WIRE, NYLON66 D6.8

Location No.	Parts No.	Description

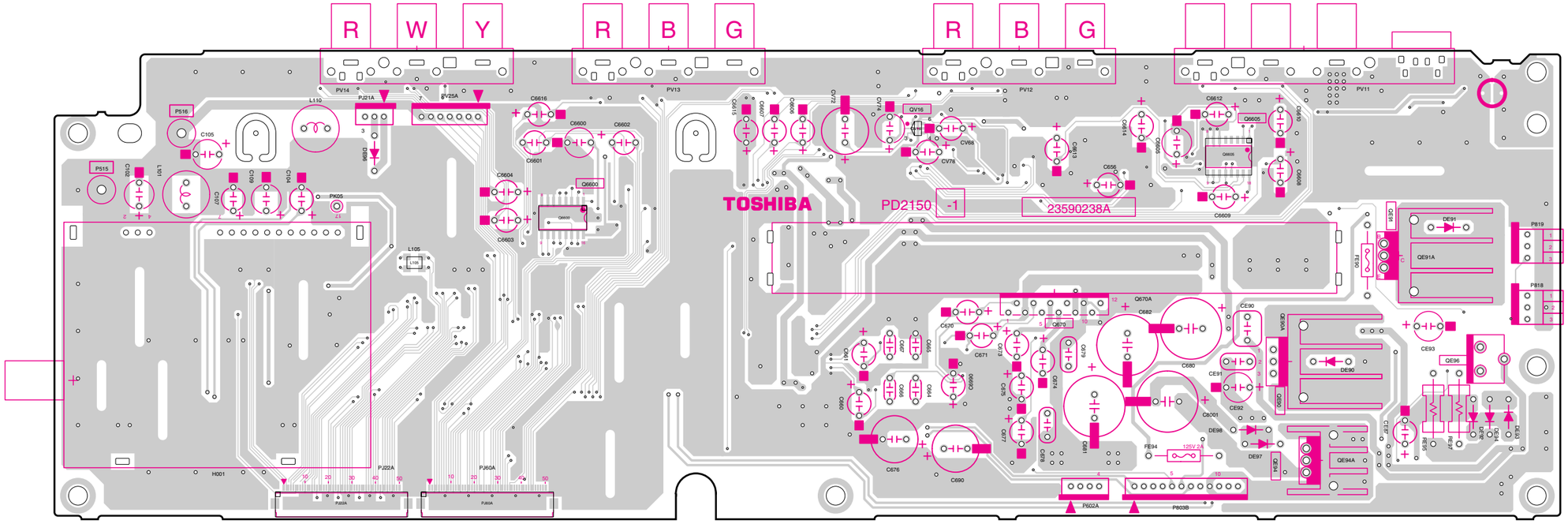
CABINET PARTS

⚠ A201	23533432	COVER, FRONT BEZEL ASSY
A231	23717226	SCREW, PB 4X5 SNI 32WL48C
A240	23717267	SCREW, BITTB4X16 SBN 32LZ100
⚠ A315	23528412	HOLDER, AC HLD BASE USA/JPN 32HLX84
⚠ A317	23533055	COVER, BRACKET SUPPORT 32WL48C
⚠ A320	23940410	PIECE, FRONT AV ASSY
⚠ A340	23940411	PIECE, PIECE KEY ASSY
A360	23717226	SCREW, PB 4X5 SNI 32WL48C
A365	23717219	SCREW, PP3X8+SW+W SBN
A370	23717267	SCREW, BITTB4X16 SBN 32LZ100
A375	23717214	SCREW, BITTB3X12SBN
⚠ A401	23533430	COVER, BACK COVER
A410	23717219	SCREW, PP3X8+SW+W SBN
A411	23717267	SCREW, BITTB4X16 SBN 32LZ100
⚠ A420	23436865	FOOT, STAND ASSY 32WL56P
A440	23738074	SCREW, PP 5X16 SW+W SBN
⚠ A445	23532988	COVER, BC STAND
⚠ A450	23532989	COVER, BACK TERMINAL BOARD

AV TERMINAL BOARD PD2150A1 (U101A) BOTTOM (FOIL) SIDE

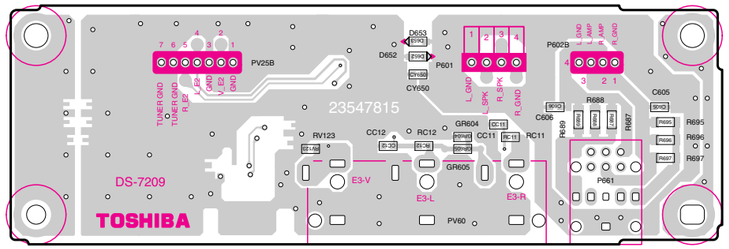


AV TERMINAL BOARD PD2150A1 (U101A) TOP (COMPONENT) SIDE



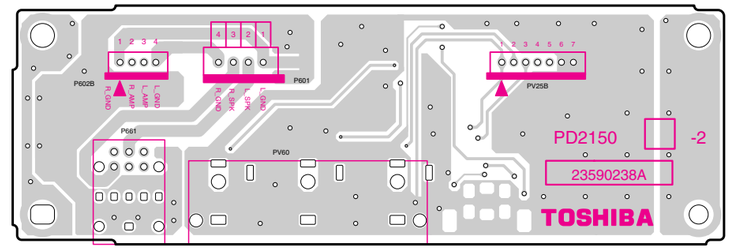
FRONT AV BOARD PD2150A2 (U101B)

BOTTOM (FOIL) SIDE



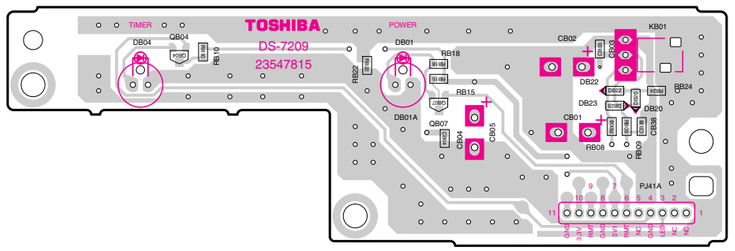
FRONT AV BOARD PD2150A2 (U101B)

TOP (COMPONENT) SIDE



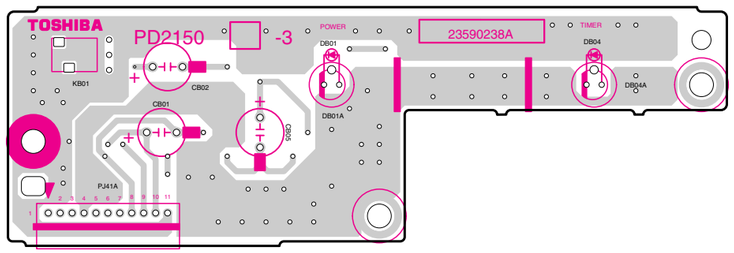
LED BOARD PD2150A3 (U101C)

BOTTOM (FOIL) SIDE



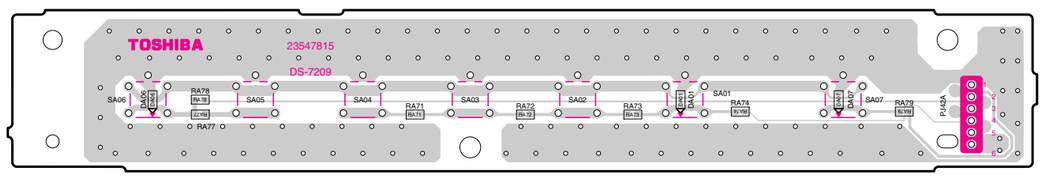
LED BOARD PD2150A3 (U101C)

TOP (COMPONENT) SIDE



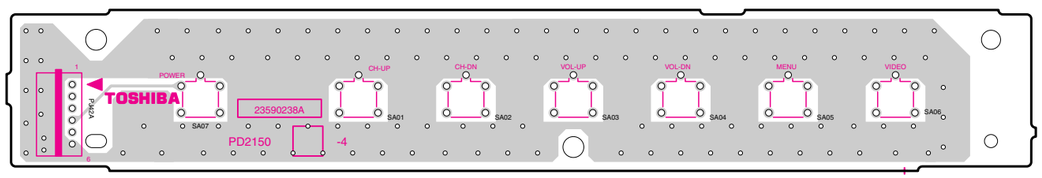
KEY BOARD PD2150A4 (U101D)

BOTTOM (FOIL) SIDE



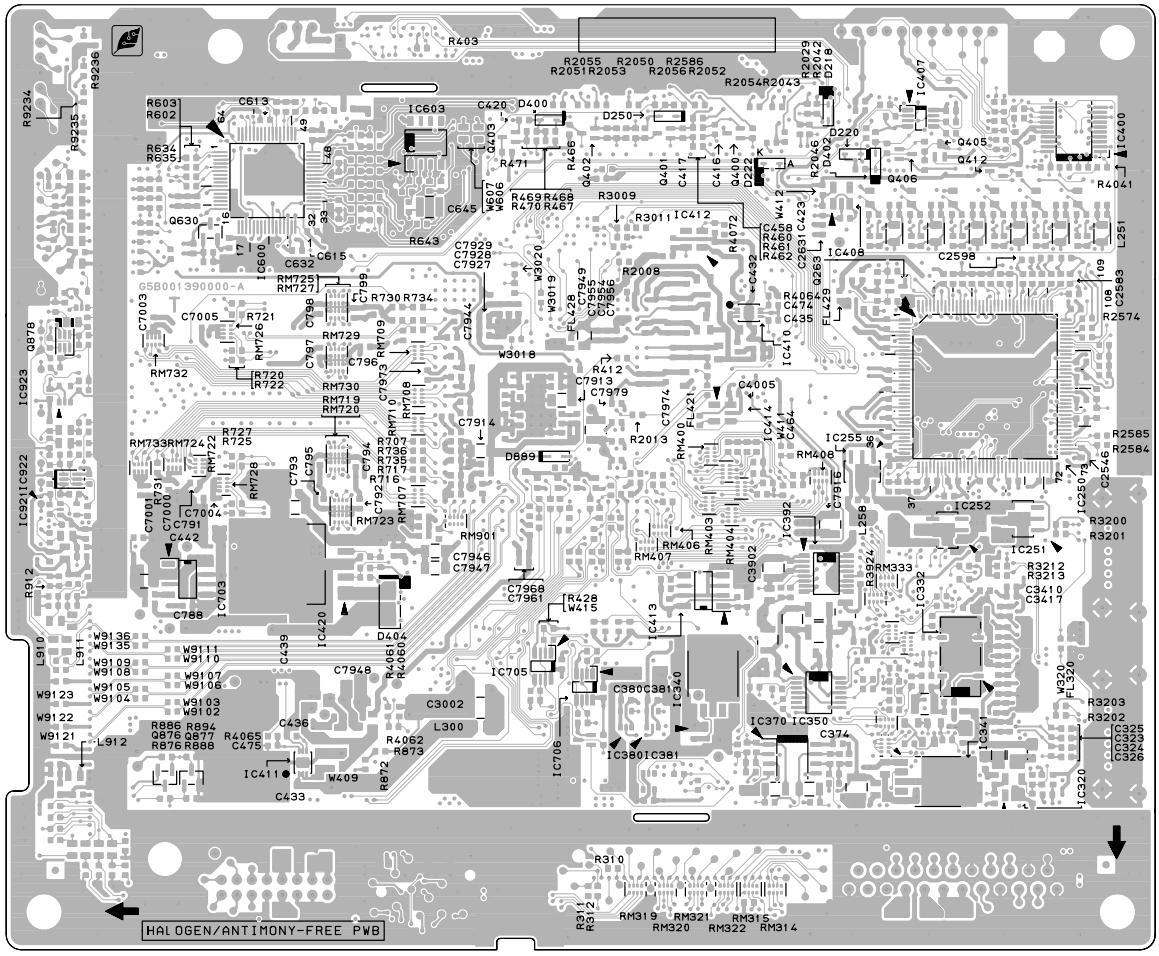
KEY BOARD PD2150A4 (U101D)

TOP (COMPONENT) SIDE



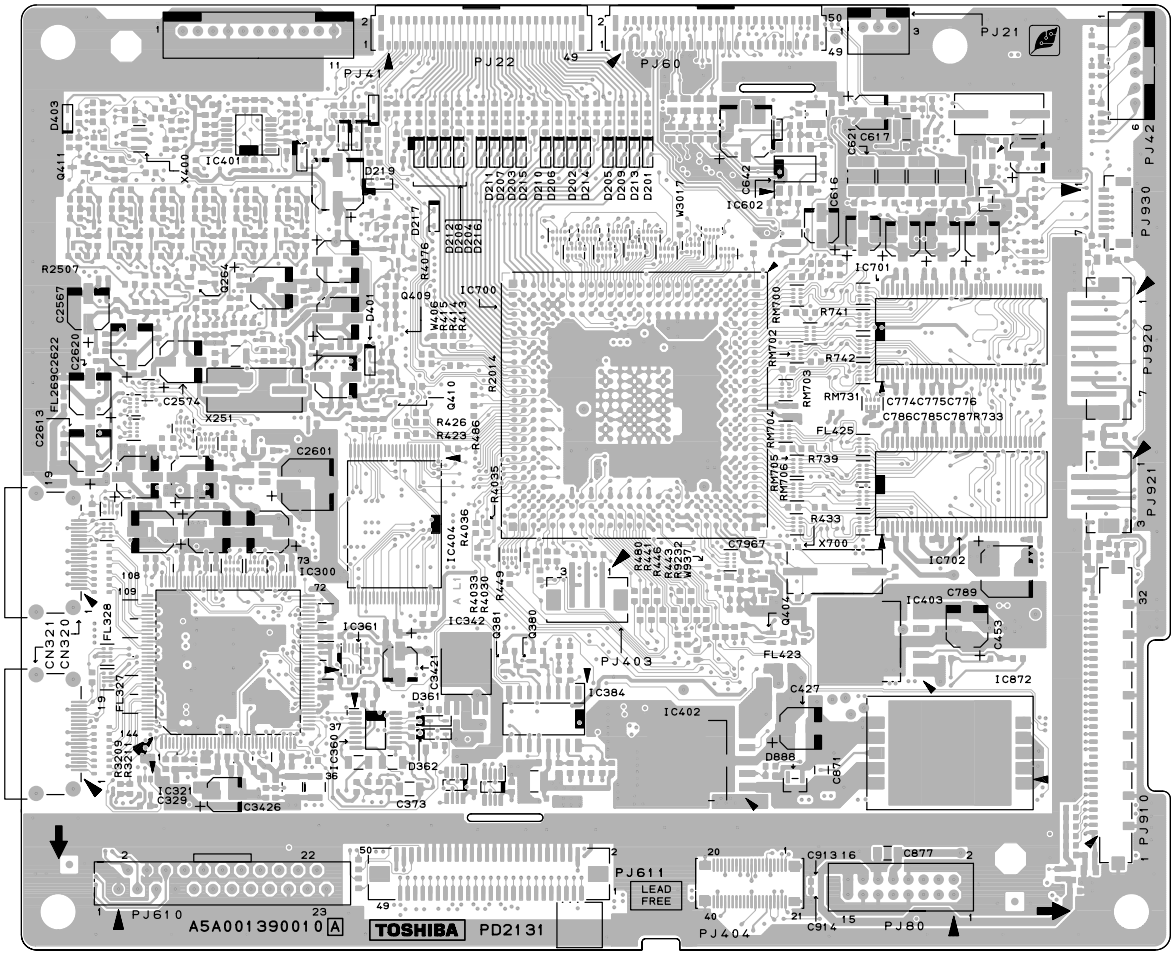
SIGNAL BOARD PD2131G1 (U103A)

BOTTOM (FOIL) SIDE



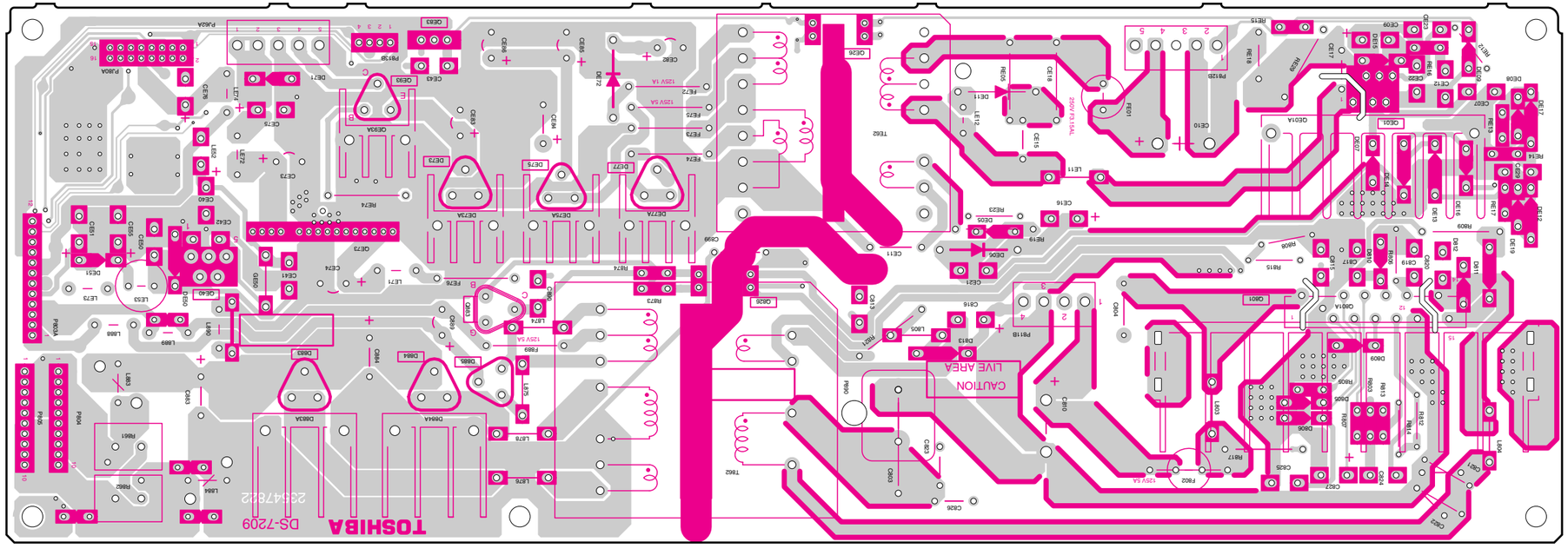
SIGNAL BOARD PD2131G1 (U103A)

TOP (COMPONENT) SIDE

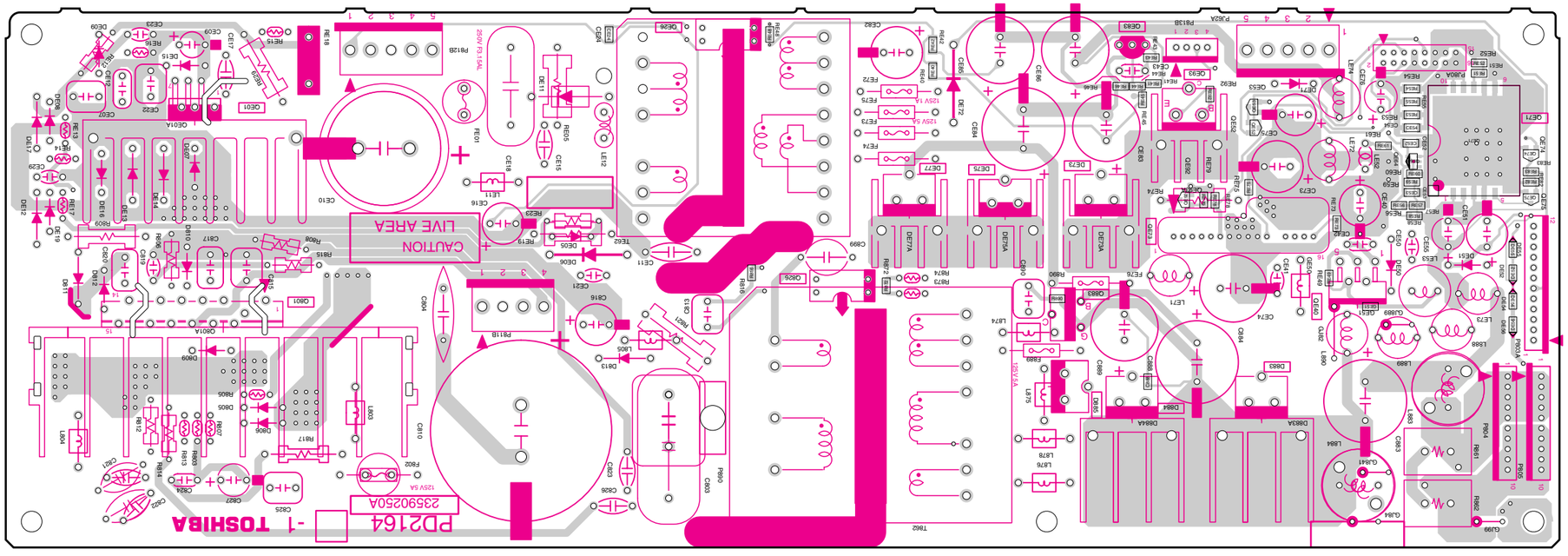


POWER BOARD PD2164B1 (U811)

BOTTOM (FOIL) SIDE

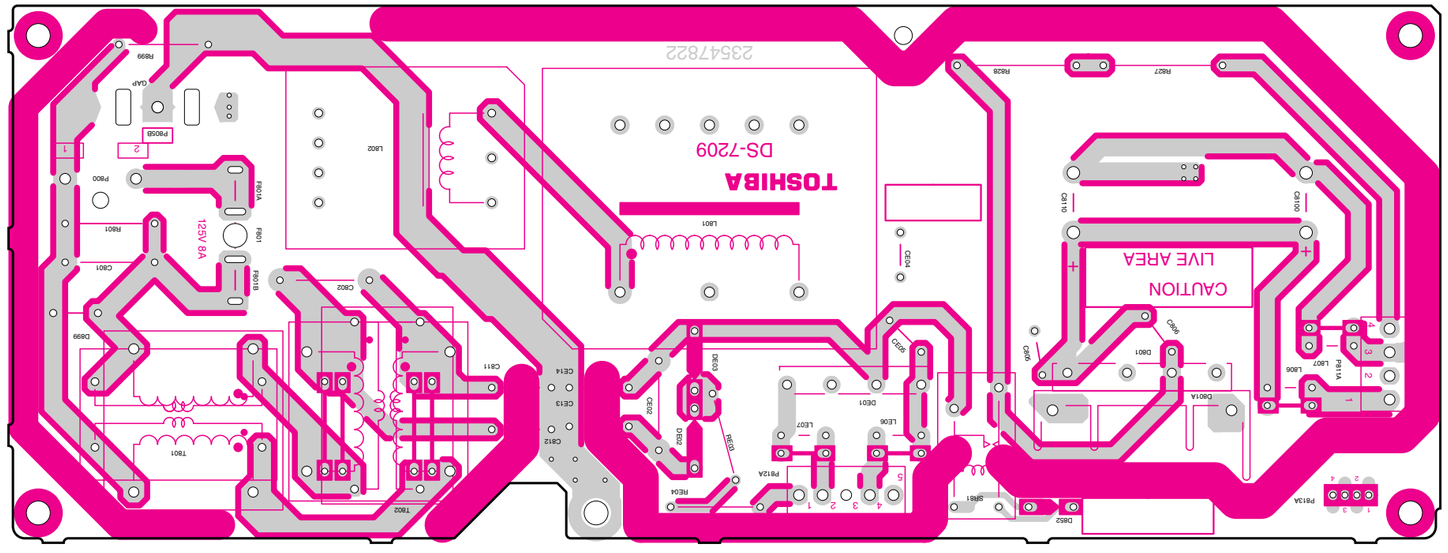


TOP (COMPONENT) SIDE



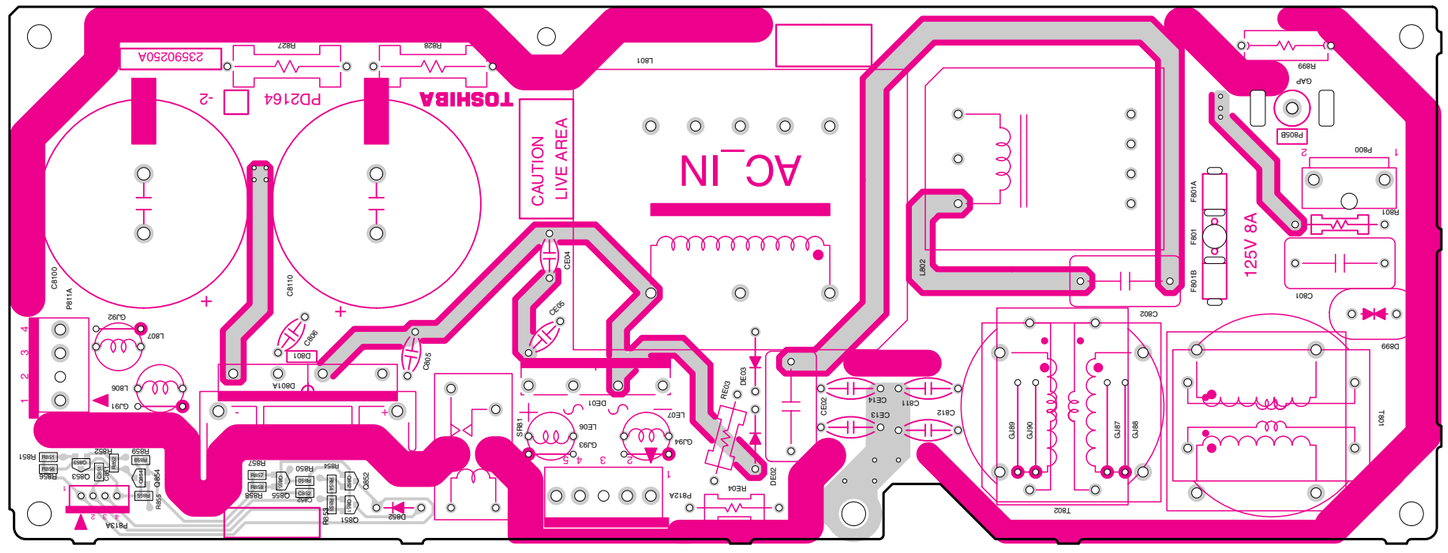
AC-IN BOARD PD2164B2 (U812)

BOTTOM (FOIL) SIDE



AC-IN BOARD PD2164B2 (U812)

TOP (COMPONENT) SIDE



SCHEMATIC DIAGRAM

MODEL : 32HL85

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE "SERVICE SAFETY PRECAUTIONS" ON PAGE 3 OF THIS MANUAL.

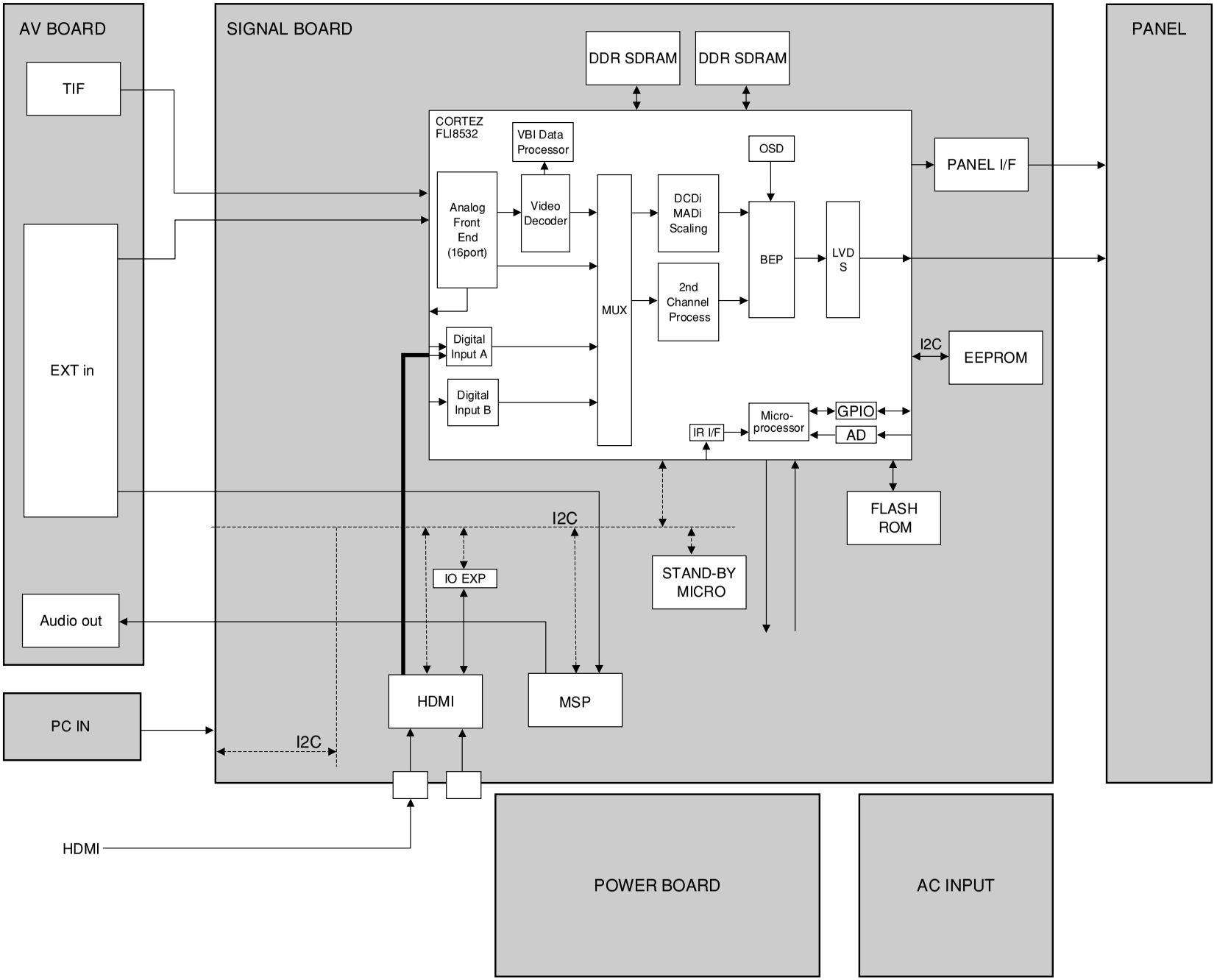
CAUTION : The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the SERVICE SAFETY PRECAUTIONS on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   —|+|— Electolytic capacitor —|M|— Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

■ **SCHEMATIC DIAGRAM STRUCTURE:**

CIRCUIT BLOCK DIAGRAM



TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN