

TOSHIBA

FILE NO. 020-200506

SERVICE MANUAL

Projection Television

52HM85
62HM85

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SAFETY INSTRUCTIONS

SAFETY PRECAUTION

WARNING: Service 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. When replacing a chassis in the cabinet, always be certain that all the prospective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.

PRODUCT SAFETY NOTICE

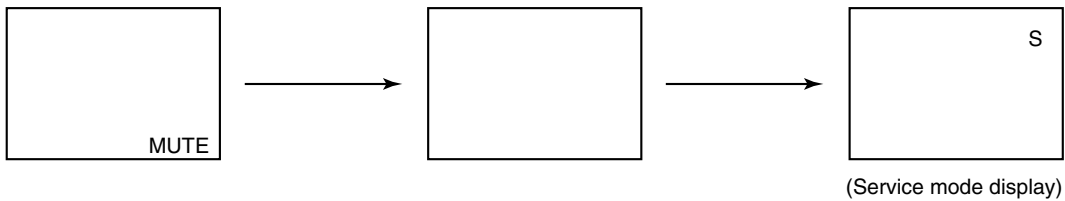
Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, 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 characteristics as specified in the parts list may create shock, fire, or other hazards.

SERVICE MODE

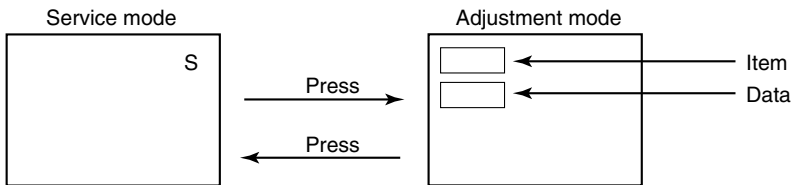
1. ENTERING SERVICE MODE

- 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.



2. DISPLAYING THE ADJUSTMENT MENU

- 1) Press MENU button on TV.



3. SELECTING THE ADJUSTING ITEMS

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

Refer to table-1 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 7)

4. ADJUSTING THE DATA

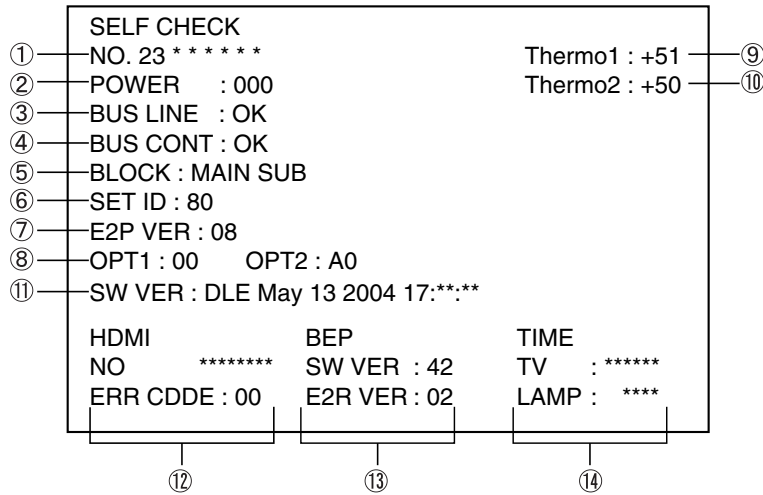
- 1) Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

5. EXIT FROM SERVICE MODE

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

6. 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.

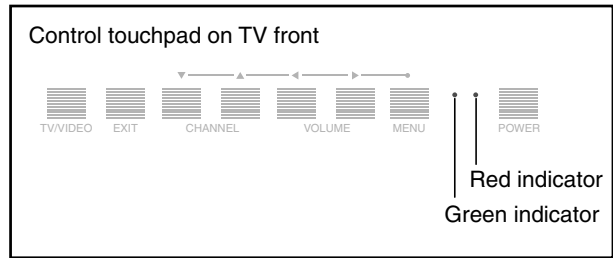


- ① Part number of microprocessor (IC601)
- ② Operation number of protection circuit (The number of times of the power supply OFF by fan stop) . . . "000" is normal.
- ③ BUS line check — "OK" Normal
 "SC-L-GND" or "NG" SCL-GND short circuit
 "SC-D-GND" or "NG" SDA-GND short circuit
 "SC-L-SDA" or "NG" SCL-SDA short circuit
- ④ BUS line ACK (acknowledge) check
 "OK" Normal
- ⑤ Sync. signal check — Green display Normal
 Red display NG
 MAIN Main sync
 SUB Sub sync (when turn on the PIP)
- ⑥ ID code for TV Set
- ⑦ Version of "EEP"
- ⑧ Data for "OPT"
- ⑨ Temperature of DMD
- ⑩ Temperature of the color wheel neighborhood
- ⑪ Software version history
- ⑫ HDMI Software
 NO *****Serial No.
 ERR CODEError Code
- ⑬ BEP Software Version
 SW VER : ** Version
 E2P VER : ** EEP ROM Version
- ⑭ Use time
 TVTV set on time (hour)
 LAMPLAMP set on time (hour)
 (It may shift from TV set on time.)

7. LED indications

The green and red LED lights on the TV control touchpad (on the lower right corner of the TV screen) indicate the TV's current status, as follows:

- Green ON Solid (not blinking) = Control touchpad being pressed.
- Red ON Solid (not blinking) = Power ON.
- Green and/or Red blinking (see table below for condition and solution).



| | LED Indication | Condition | Solution |
|----|--|---|---|
| 1 | Red and Green turn off. | Power supply OFF. (AC) | |
| 2 | Red and Green turn off. | Power supply OFF. (Standby) (North America) | |
| 3 | Red light solid and Green off. | Power supply ON. | |
| 4 | Red and Green lights solid. | Touched the touchpad | |
| 5 | Green blinks at 1-second intervals; Red off. | Lamp LPS mode | |
| 6 | Green blinks at 0.3-second intervals; Red lights solid. | The lamp is not working properly. | The TV automatically will try to restart itself eight times. |
| 7 | Green lights solid and Red blinks at 0.5-second intervals. | The lamp unit door is not seated properly. (U) | Turn the POWER OFF and unplug the power cord. Review "Lamp Unit Replacement" on pages 8-10 to ensure that the lamp unit door is installed securely. |
| 8 | Green and Red blink at 1-second intervals. | The lamp is not working properly after the eight automatic restart (see item #7). (U) | Turn the POWER OFF and then ON again. If the problem persists, replace the lamp unit (see pages 8-10). |
| 9 | Red blinks at 0.5-second intervals; Green off. | FAN (Light engine unit) has stopped. | <ul style="list-style-type: none"> • Is the output voltage of the supply voltage regulator for the FAN in the power circuit normal? • Has dust accumulated in the FAN? → If the output voltage is not abnormal, replace the faulty FAN with a new one. |
| 10 | Red blinks at 1-second intervals; Green off. | BUS line is damaged | <ul style="list-style-type: none"> • 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. |
| 11 | Red blinks three times; Green off. | The color wheel has stopped. | <ul style="list-style-type: none"> • Is the output voltage of the power supply circuit normal? → If the output voltage is normal, replace the engine with a new one. |
| 12 | Red and Green blink three times. | Temperature rises abnormally. | <ul style="list-style-type: none"> • Is the ventilating hole in the set (exhaust slot on the rear) blocked or covered? • Is FAN rotating normally? • Has dust accumulated in the ventilating hole? → If no abnormally conditions are found, replace the engine with a new one. |

(U) is restoration by the user.

SETTING & ADJUSTING DATA

【 SERVICE MODE 】

ADJUSTING ITEMS AND DATA IN THE SERVICE MODE:

| Item | Name of adjustment | Preset | Data | Item | Name of adjustment | Preset | Data |
|------|-------------------------------|--------|------|-------|--------------------------|--------|------|
| RCUT | R CUT OFF | 60H | ← | OPT1 | TV SET OPTION 1 | A0H | ← |
| GCUT | G CUTOFF | 60H | ← | TVOP | TV OPTION | 40H | ← |
| BCUT | B CUT OFF | 64H | ← | PLLW0 | PLL WAIT TIME | 14H | ← |
| RDRV | R DRIVE | 48H | ← | PLLW1 | PLL WAIT TIME | 03H | ← |
| GDRV | G DRIVE | 53H | ← | PLLW2 | PLL WAIT TIME | 0FH | ← |
| BDRV | B DRIVE | 5FH | ← | PLLW3 | PLL WAIT TIME | 05H | ← |
| BRTC | BRIGHT CENTER | 76H | ← | PLLW4 | PLL WAIT TIME | 14H | ← |
| SCNT | SUB CONTRAST FOR TV | 20H | ← | PLLW5 | PLL WAIT TIME | 04H | ← |
| COLC | COLOR CENTER | D0H | ← | V01 | VOLUME (DATA) | 23H | ← |
| UVTT | BASE BAND TINT | 40H | ← | V25 | VOLUME (DATA) | 4AH | ← |
| CNTX | SUB CONTRAST MAX | 7FH | ← | V50 | VOLUME (DATA) | 63H | ← |
| HPOS | H-POSITION (PAL/DFS) | 00H | ← | V75 | VOLUME (DATA) | 6FH | ← |
| VPOS | V-POSITION DC SHIFT (PAL/DFS) | 00H | ← | V100 | VOLUME (DATA) | 73H | ← |
| CWDH | COLOR WHEEL DELAY (HIGH) | 00H | ← | MODH | MODUS DATA HIGH | 20H | ← |
| CWDL | COLOR WHEEL DELAY (LOW) | FAH | ← | MODL | MODUS DATA LOW | 91H | ← |
| DMDB | DMD BIAS | 03H | ← | PRES | FMAM PRESCALE | 24H | ← |
| OPT0 | TV SET OPTION 0 | 00H | ← | SCTH | VOLUME SCART OPTION HIGH | 73H | ← |
| | | | | SCTL | VOLUME SCART OPTION LOW | 01H | ← |

Table-1

Note:

The image system data of RCUT-CNTX is different by each image format.

The NTSC value is indicated in the table.

LAMP UNIT REPLACEMENT

Cautions when replacing LAMP UNIT (E998Z; PJ-D95-LMP)

The light source for this TV is a mercury lamp with internal atmospheric pressure that increases during use. The lamp has a limited service life that varies depending on user settings. If you use the lamp beyond its service life:

- you may notice a reduction in the colors and/or brightness of the picture; and
- the strength of the quartz glass in the lamp will be reduced and the lamp may rupture (often making a loud noise when this happens). If the lamp ruptures, the TV will not operate until the lamp unit is replaced.

Note: The lamp unit is designed so broken lamp glass remains securely inside the lamp unit.



CAUTION: Always handle the lamp unit with care.

The lamp unit in this TV was designed for safe replacement by consumers; however, if the lamp unit is subjected to intentional abuse (such as excessive mechanical abuse or handling by children or pets), the unit may break, exposing edges or pinch points.

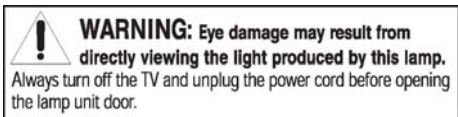
When to replace the lamp unit

You should replace the lamp unit:

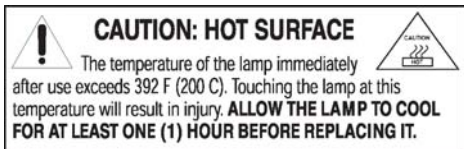
- if the picture darkens and/or colors fade;
- if the lamp does not light; or
- If you hear a loud noise and the picture goes black, which may indicate a lamp rupture (LED indication #8). See LED indications on page 6.

Note: Be sure wear the gloves before replacing the lamp unit.

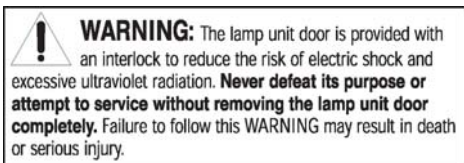
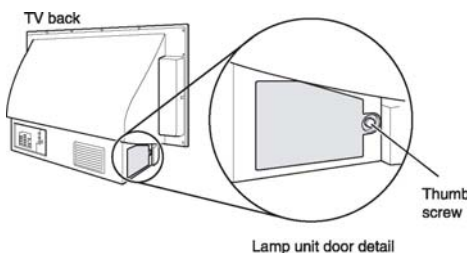
1. Turn off the TV and unplug the power cord.



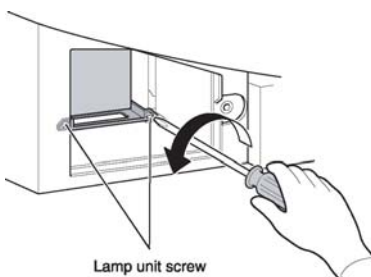
2. STOP! Allow the lamp to cool for at least one (1) hour before replacing it.



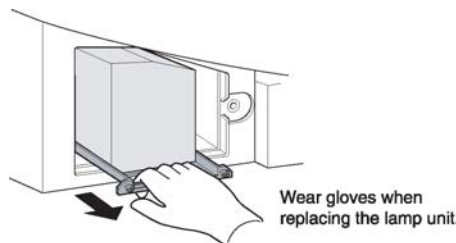
3. On the back of the TV, loosen the thumb screw (by hand) on the lamp unit door, and then remove the lamp unit door.



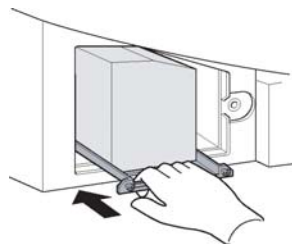
4. Using a manual screwdriver, loosen two screws on the lamp unit.



5. Grasp the lamp unit handle and gently pull the lamp unit straight out of the TV. Set the old lamp unit aside.



6. Carefully insert the new lamp unit straight into the TV until it is fully seated.

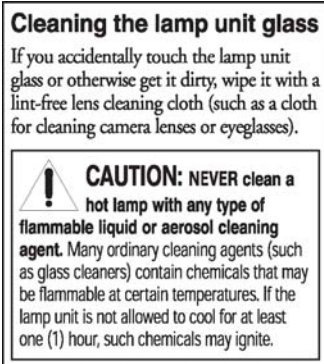
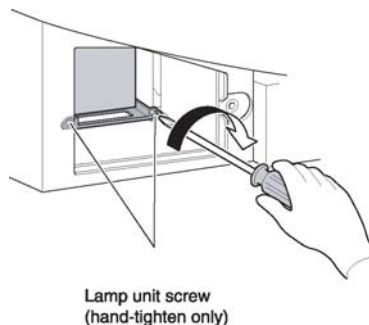


Note :

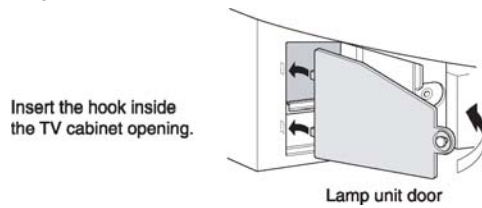
- Never subject the lamp unit to excessive shock.
- Never touch the lamp unit glass or otherwise get it dirty.
- Doing so may affect the image quality and reduce the service life of the lamp. See “Cleaning the lamp unit glass” below.

7. Using a manual screwdriver, tighten two lamp unit screws.

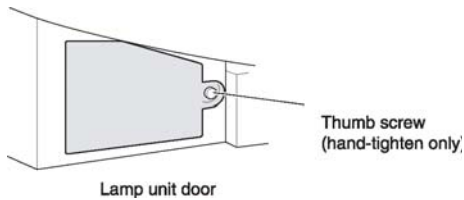
Note:Hand-tighten only. Do not use an electric screwdriver.




8. Reattach the lamp unit door, making sure to insert the hook on the left side of the lamp unit door inside the opening in the TV cabinet.



9. Replace the thumb screw and hand-tighten.



 **NOTE:** Make sure the lamp unit and screw are installed securely; otherwise, the TV may not turn on and the lamp life may be shortened.

10. Plug in the power cord and turn on the TV. After the initial warmup period (which may take up to 45 seconds for full picture brightness), the TV should operate normally. If any of the following conditions exist, turn off the TV, unplug the power cord, and repeat steps 1-9 to ensure that the lamp unit and lamp unit door are installed correctly:
- No picture
 - Dark picture
 - TV will not turn on

LIGHT ENGINE REPLACEMENT

Cautions when replacing LIGHT ENGINE

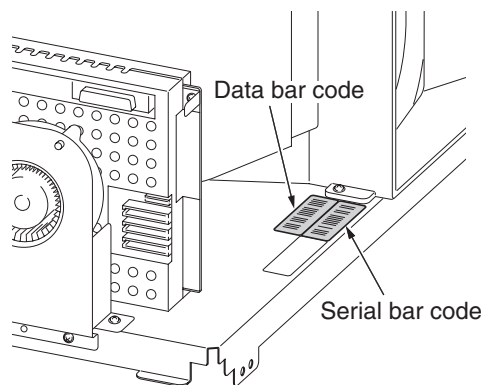
LIGHT ENGINE UNIT:

A271 : LV-672 TB 0B ; 52HM85, LV-672 TB 0D ; 62HM85
(Including with E998Z, SK01 to SK04, SK06, SK08
and SK09.)

- LIGHT ENGINE is a heart of the TV and emits high heat. Make sure to replace it after turning off the TV and wait for sufficient cool down. (More than one hour is recommended.)
- Do not impact during replacement; otherwise, some parts may be damaged.
- Do not touch optical lens. Adhesion of dirt may deteriorate its performance.
- Do not loosen any screw other than those to be removed for adjustment or replacement.
- LIGHT ENGINE emits ultraviolet rays when the TV is ON. Make sure to be careful.

1. Replacement of Light Engine Unit

- 1-1. When Light Engine Unit is replaced with a new one, adjustment is required. Adjusted values are described in bar code, and the values of bar code must be converted to the adjusted values for the setup. There are 2 types of bar code.



Serial bar code

Ex. 52A000A111111

Inch size Serial numbers

Data bar code (CW: color wheel)

Ex. A000000B1111

CWdelay number: 4digits

DMD bias value

Substrate serial numbers

- 1-2. Adjustment is made from service mode. The adjusting items consist of CWDL, CWDH and DMDB.

CWDL **CWDH**

When CW delay number of the data bar code is 0450:

0450 indicates ⇒ 450 ⇒ 45.0

Double 45.0 to form hexadecimal number (HEX).

45.0 x 2=90 ⇒ 5A (hexadecimal)

The adjusted value becomes "5A" for CWDL and "00" for CWDH.

If hexadecimal number forms 3 or 4 digits, the latter 2 digits indicate CWDL while the first 2 digits indicate CWDH.

(For 3 digits, CWDH=0*)

Note:

For converting decimal number to hexadecimal number, see the conversion table on the next page.

DMDB

Read DMD bias value described in alphabet from the data bar code. In service mode, DMDB value is converted and fixed by the following table.

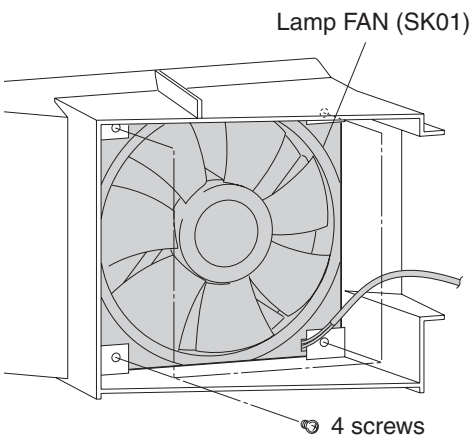
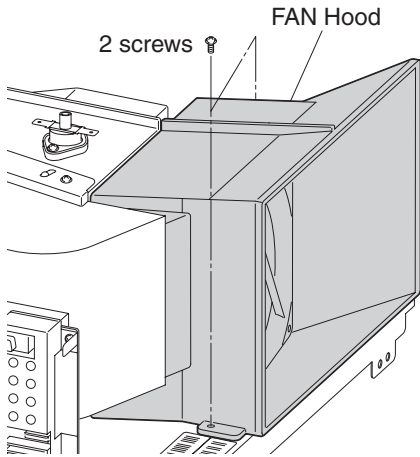
| DMD value in bar code | Adjusted value (Hex) |
|-----------------------|----------------------|
| B | 00 |
| C | 01 |
| D | 02 |
| E | 03 |
| F | 04 |

Refer to Service Mode for adjusting the service mode.

PARTS REPLACEMENT IN LIGHT ENGINE

1. Replacement of Lamp FAN (SK01)

- 1-1. Replace the FAN for cooling Lamp (SK01), remove 2 screws on the FAN hood, and then remove 4 screws on the FAN for cooling Lamp.

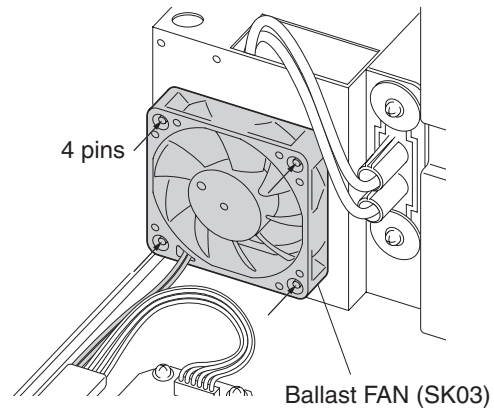


2. Replacement of Ballast FAN (SK03)

- 2-1. Replace the FAN for cooling Ballast Power Unit (SK03), remove the 4 pins by pressing into the unit, and then remove the FAN for cooling Ballast Power Unit.

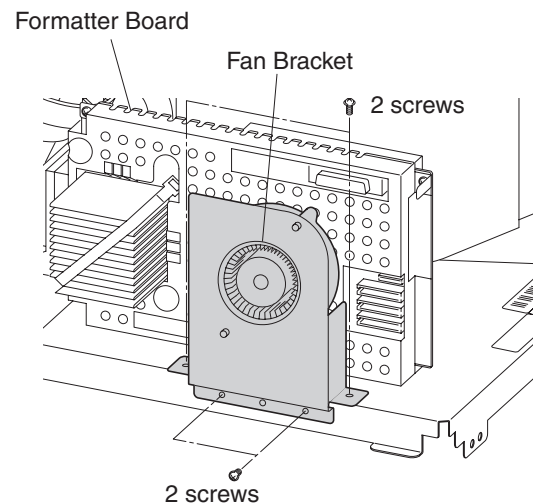
NOTE:

Reinstalling the FAN for cooling Ballast Power Unit, attach the 4 pins by using removed them after replacing the FAN.

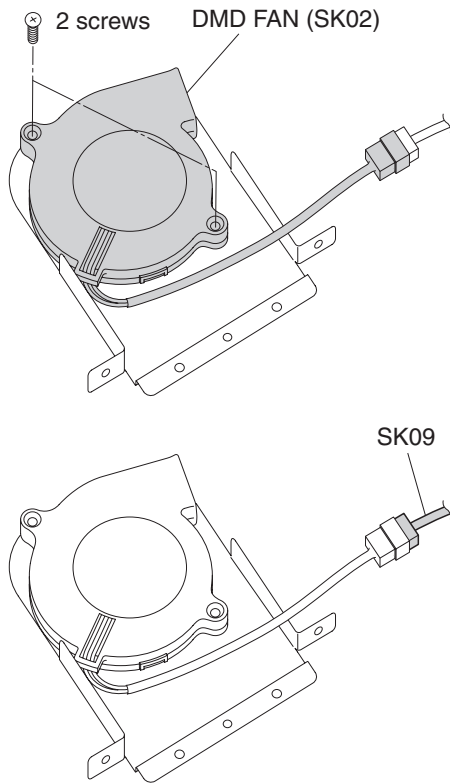


3. Replacement of DMD FAN (SK02) and FAN Transfer Cable (SK09)

- 3-1. Replace the FAN for cooling Formatter Board, detach the bracket with FAN by removing the 4 screws on the bracket.

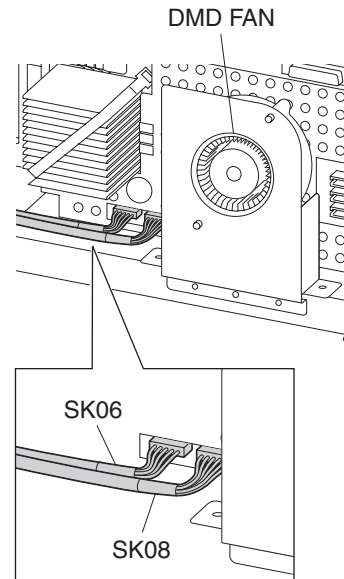


- 3-2. Remove the 2 screws from the bracket, and then remove the FAN for cooling Formatter Board (SK02).
- 3-3. Disconnect and replace the FAN transfer cable between Ballast and Formatter Boards (SK09).



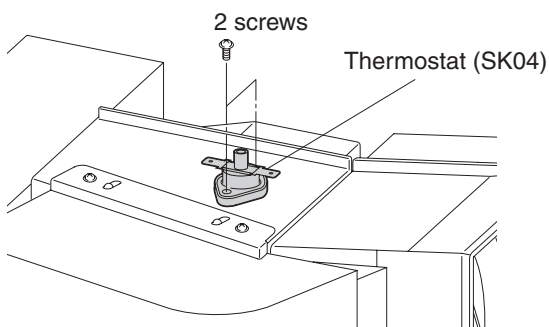
5. Replacement of Ballast to Formatter Board Cables (SK06 and SK08)

- 5-1. Disconnect and replace the cable between Ballast and Formatter Boards (SK06).
- 5-2. Disconnect and replace the cable between Smooth Picture and Formatter Boards (SK08).



4. Replacement of Thermostat (Lamp Sensor) (SK04)

- 4-1. Replace the Thermostat (Lamp Sensor) (SK04), remove 2 screws on the Thermostat.



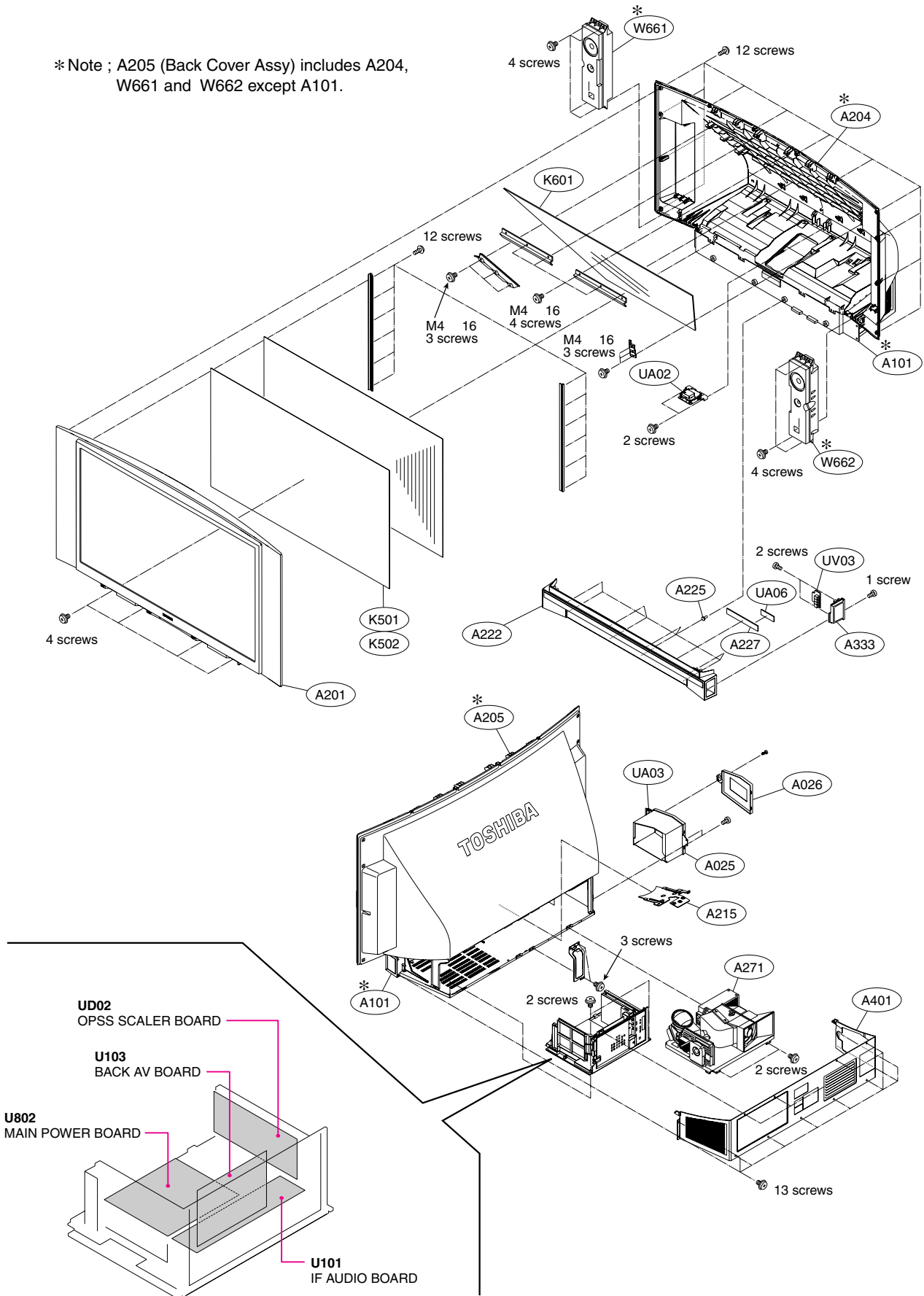
8. LIGHT ENGINE UNIT

| Location No. | Parts No. | Description |
|--------------|-----------|--|
| △ A271 #1 | 23405474 | OPTICAL ENGINE, LV-672 TB 0B (Incl. E998Z, SK01-SK04, SK06,SK08,SK09) |
| △ #2 | 23405474 | OPTICAL ENGINE, LV-672 TB 0D (Incl. E998Z, SK01-SK04, SK06,SK08,SK09) |
| E998Z | 23311153 | EXCHANGE LAMP, PJ-D95-LMP |
| SK01 | 23587525 | SERVICE KIT, LAMP FAN |
| SK02 | 23587526 | SERVICE KIT, DMD FAN |
| SK03 | 23587527 | SERVICE KIT, BALLAST FAN |
| SK04 | 23587528 | SERVICE KIT, THERMOSTAT |
| SK06 | 23587536 | SERVICE KIT, B TO F CABLE |
| SK08 | 23587538 | SERVICE KIT, S TO F CABLE |
| SK09 | 23587539 | SERVICE KIT, FAN TRANSFER CABLE |

Note; #1: 52HM85 #2: 62HM85

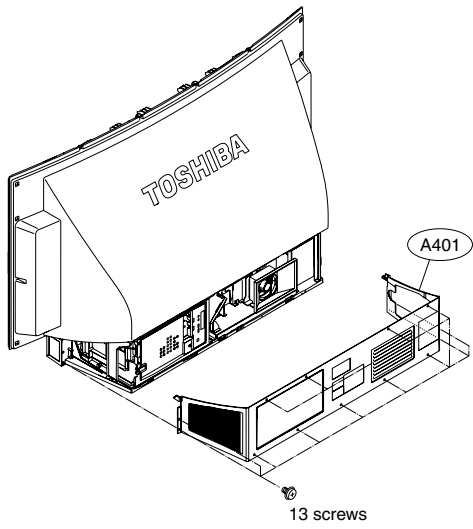
EXPLODED VIEW

* Note ; A205 (Back Cover Assy) includes A204, W661 and W662 except A101.

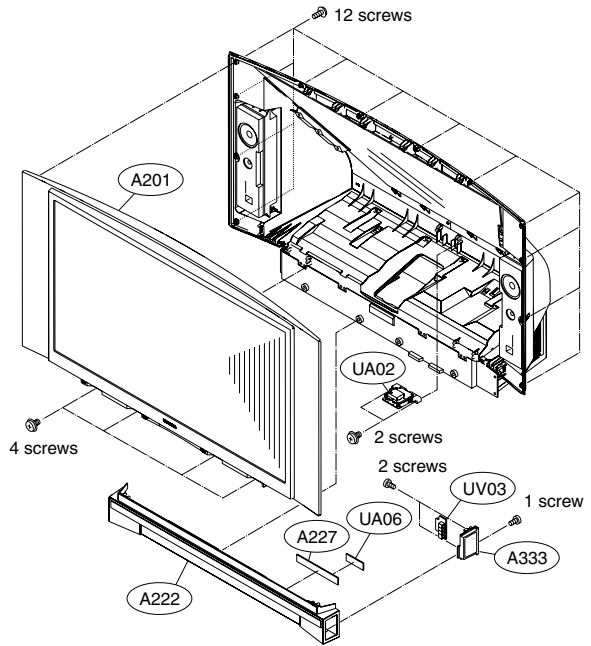


MECHANICAL DISASSEMBLY

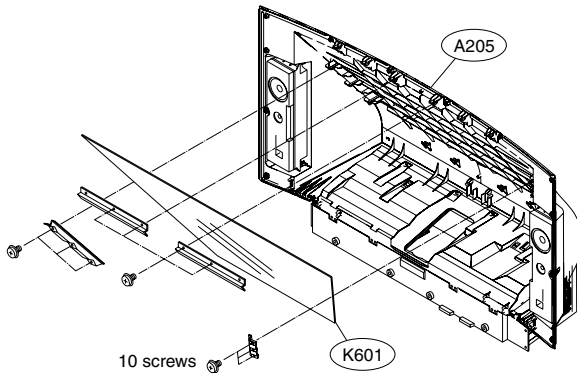
1 Rear Cover Removal



2 Touchpad & Bezel Ass'y Removal

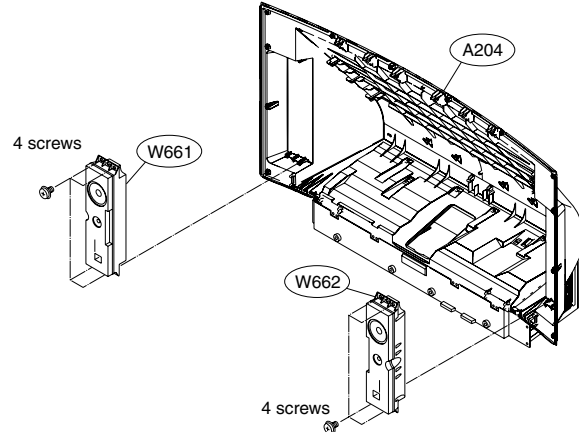


3 Mirror Removal

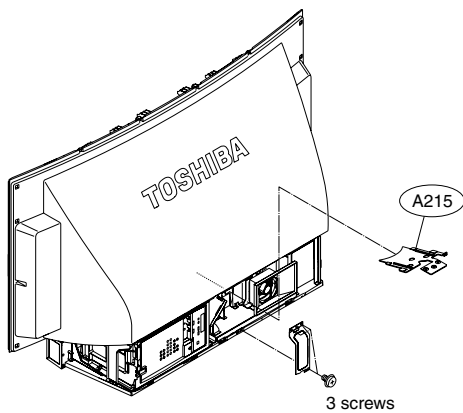


Note ; A205 includes A204, W661 and W662.

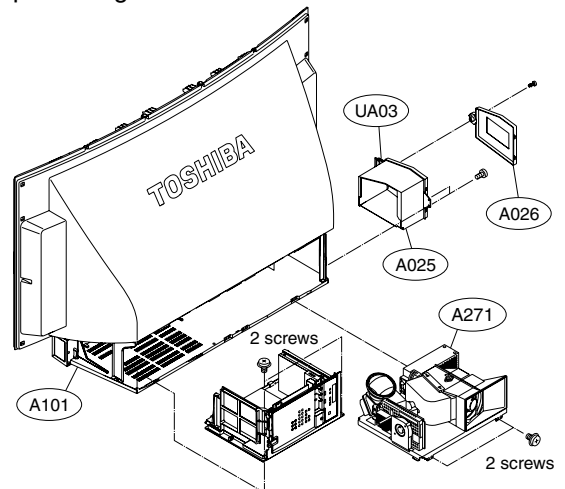
4 Speaker Removal



5 Bracket Removal



6 Optical Engine Removal



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" 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 PRODUCT SAFETY NOTICE. 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 : 52HM85/62HM85

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 $\pm 5\%$, 50V and all resistors, $\pm 5\%$, 1/6W unless otherwise noted.)

| Location No. | Parts No. | Description |
|-------------------|-----------|-----------------------------------|
| #1 : [52HM85] | | |
| #2 : [62HM85] | | |
| CAPACITORS | | |
| C101 | 76797339 | ELECTROLYTIC, 50V 3.3UF M |
| C102 | 76665221 | ELECTROLYTIC, 10V 220UF M 3A |
| C105 | 76100102 | CERAMIC CHIP, 50V F 1000PF Z |
| C106 | 76669479 | ELECTROLYTIC, 50V 4.7UF M |
| C107 | 76666221 | ELECTROLYTIC, 16V 220UF M |
| C108 | 76665221 | ELECTROLYTIC, 10V 220UF M 3A |
| C109 | 76100104 | CERAMIC CHIP, 25V F 0.1UF Z |
| C110 | 76794101 | ELECTROLYTIC, 16V 100UF M |
| C601 | 76109122 | CERAMIC CHIP, 50V B 1200PF K |
| C602 | 76109122 | CERAMIC CHIP, 50V B 1200PF K |
| C603 | 76073084 | ELECTROLYTIC, 50V 4.7UF M 3A |
| C604 | 76073084 | ELECTROLYTIC, 50V 4.7UF M 3A |
| C605 | 76073086 | ELECTROLYTIC, 50V 10UF M 3A |
| C606 | 76073086 | ELECTROLYTIC, 50V 10UF M 3A |
| C607 | 76073053 | ELECTROLYTIC, 25V 100UF M 3A |
| C608 | 76073086 | ELECTROLYTIC, 50V 10UF M 3A |
| C612 | 76073054 | ELECTROLYTIC, 25V 220UF M 3A |
| C621 | 76109822 | CERAMIC CHIP, 50V B 8200PF K |
| C622 | 76109822 | CERAMIC CHIP, 50V B 8200PF K |
| C661 | 76073084 | ELECTROLYTIC, 50V 4.7UF M 3A |
| C662 | 76073086 | ELECTROLYTIC, 50V 10UF M 3A |
| C663 | 76073086 | ELECTROLYTIC, 50V 10UF M 3A |
| C665 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| C666 | 76073084 | ELECTROLYTIC, 50V 4.7UF M 3A |
| C667 | 76794100 | ELECTROLYTIC, 16V 10UF M |
| C668 | 76105560 | CERAMIC CHIP, 50V CH 56PF J |
| C669 | 76105560 | CERAMIC CHIP, 50V CH 56PF J |
| C680 | 76073073 | ELECTROLYTIC, 35V 2200UF M 3A |
| C681 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| C682 | 76073082 | ELECTROLYTIC, 50V 2.2UF M 3A |
| C683 | 76073053 | ELECTROLYTIC, 25V 100UF M 3A |
| C684 | 76795470 | ELECTROLYTIC, 25V 47UF M |
| △ C801 | 76503004 | PLASTIC FILM, AC275V 0.47UF M |
| △ C803 | 76503002 | PLASTIC FILM, AC275V 0.22UF M |
| C805 | 76092281 | CERAMIC DISC, AC250V E 4700PF |
| C809 | 76086067 | CHEMICON 200V 102M LGQ2D102MESHTL |
| C810 | 76086067 | CHEMICON 200V 102M LGQ2D102MESHTL |
| △ C811 | 76092557 | CERAMIC DISC, AC250V E 2200PF M |
| △ C812 | 76092557 | CERAMIC DISC, AC250V E 2200PF M |
| △ C814 | 76092553 | CERAMIC DISC, AC250V B 470PF K |
| △ C816 | 76092555 | CERAMIC DISC, AC250V E 1000PF M |
| C840 | 76679220 | ELECTROLYTIC, 250V 22UF M 3A |

| Location No. | Parts No. | Description |
|--------------|-----------|-------------------------------|
| C841 | 76073043 | ELECTROLYTIC, 16V 2200UF M 3A |
| C842 | 76503041 | PLASTIC FILM, 63V 0.1UF J |
| C843 | 76092333 | CERAMIC DISC, 2KV 100PF K |
| C845 | 76073082 | ELECTROLYTIC, 50V 2.2UF M 3A |
| C848 | 76073039 | ELECTROLYTIC, 16V 220UF M 3A |
| C861 | 76092342 | CERAMIC DISC, 2KV R 560PF K |
| C862 | 76503045 | PLASTIC FILM, 63V 0.22UF J |
| C863 | 76212221 | CERAMIC DISC, 50V B 220PF K |
| C864 | 76590681 | PLASTIC FILM, 50V 680PF J |
| C865 | 76073063 | ELECTROLYTIC, 35V 4.7UF M 3A |
| C866 | 76820223 | PLASTIC FILM, 63V 0.22UF J |
| C868 | 76073068 | ELECTROLYTIC, 35V 100UF M 3A |
| C883 | 76567104 | PLASTIC FILM, 50V 0.1UF J |
| C884 | 76214331 | CERAMIC DISC, 500V B 330PF K |
| C885 | 76073191 | ELECTROLYTIC, 35V 1500UF M 3A |
| C886 | 76214331 | CERAMIC DISC, 500V B 330PF K |
| C887 | 76676470 | ELECTROLYTIC, 100V 47UF M 3A |
| C888 | 76214331 | CERAMIC DISC, 500V B 330PF K |
| C889 | 76073171 | ELECTROLYTIC, 25V 820UF M 3A |
| C890 | 76214331 | CERAMIC DISC, 500V B 330PF K |
| C891 | 76073161 | ELECTROLYTIC, 16V 3900UF M 3A |
| C892 | 76214331 | CERAMIC DISC, 500V B 330PF K |
| C893 | 76073173 | ELECTROLYTIC, 10V 3900UF M 3A |
| C894 | 76214331 | CERAMIC DISC, 500V B 330PF K |
| C895 | 76073075 | ELECTROLYTIC, 35V 4700UF M 3A |
| C898 | 76503041 | PLASTIC FILM, 63V 0.1UF J |
| C8200 | 76073067 | ELECTROLYTIC, 35V 47UF M 3A |
| C8201 | 76503047 | PLASTIC FILM, 63V 0.33UF J |
| C8202 | 76073169 | ELECTROLYTIC, 25V 470UF M 3A |
| C8210 | 76073172 | ELECTROLYTIC, 25V 1000UF M 3A |
| C8211 | 76503041 | PLASTIC FILM, 63V 0.1UF J |
| C8212 | 76214221 | CERAMIC DISC, 500V B 220PF K |
| C8213 | 76503041 | PLASTIC FILM, 63V 0.1UF J |
| C8214 | 76617006 | ELECTROLYTIC, 25V 820UF M |
| C8215 | 76073138 | ELECTROLYTIC, 10V 220UF M 3A |
| C8220 | 76073068 | ELECTROLYTIC, 35V 100UF M 3A |
| C8221 | 76073169 | ELECTROLYTIC, 25V 470UF M 3A |
| C8224 | 76073087 | ELECTROLYTIC, 50V 22UF M 3A |
| C8225 | 76073141 | ELECTROLYTIC, 10V 1000UF M 3A |
| C8240 | 76073038 | ELECTROLYTIC, 16V 100UF M 3A |
| C8241 | 76503047 | PLASTIC FILM, 63V 0.33UF J |
| C8242 | 76073141 | ELECTROLYTIC, 10V 1000UF M 3A |
| C8250 | 76073141 | ELECTROLYTIC, 10V 1000UF M 3A |
| C8251 | 76567334 | PLASTIC FILM, 50V 0.33UF J |
| C8252 | 76073141 | ELECTROLYTIC, 10V 1000UF M 3A |
| C8253 | 76669339 | ELECTROLYTIC, 50V 3.3UF M |

| Location No. | Parts No. | Description |
|--------------|-----------|------------------------------------|
| C8905 | 76073002 | ELECTROLYTIC, 6.3V 220UF M 3A |
| C8911 | 76503047 | PLASTIC FILM, 63V 0.33UF J |
| C8912 | 76503047 | PLASTIC FILM, 63V 0.33UF J |
| C8921 | 76073141 | ELECTROLYTIC, 10V 1000UF M 3A |
| C8930 | 76073067 | ELECTROLYTIC, 35V 47UF M 3A |
| C8931 | 76503047 | PLASTIC FILM, 63V 0.33UF J |
| C8932 | 76073152 | ELECTROLYTIC, 16V 330UF M 3A |
| C8933 | 76073069 | ELECTROLYTIC, 35V 220UF M 3A |
| C8940 | 76073067 | ELECTROLYTIC, 35V 47UF M 3A |
| C8941 | 76503047 | PLASTIC FILM, 63V 0.33UF J |
| C8942 | 76073152 | ELECTROLYTIC, 16V 330UF M 3A |
| C8943 | 76073069 | ELECTROLYTIC, 35V 220UF M 3A |
| CA81 | 76109333 | CERAMIC CHIP, 25V B 0.033UF K |
| CA82 | 76109123 | CERAMIC CHIP, 50V B 0.012UF K |
| CA83 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CA84 | 76109333 | CERAMIC CHIP, 25V B 0.033UF K |
| CA85 | 76109273 | CERAMIC CHIP, 25V B 0.027UF K |
| CA86 | 76109123 | CERAMIC CHIP, 50V B 0.012UF K |
| CA87 | 76109123 | CERAMIC CHIP, 50V B 0.012UF K |
| CA88 | 76109333 | CERAMIC CHIP, 25V B 0.033UF K |
| CA91 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CA92 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CA93 | 76619040 | ELECTROLYTIC CHIP, 16V 10UF M 3A |
| CA94 | 76619040 | ELECTROLYTIC CHIP, 16V 10UF M 3A |
| CA95 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CA96 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CA914 | 76619040 | ELECTROLYTIC CHIP, 16V 10UF M 3A |
| CA915 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CA916 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CB01 | 76794470 | ELECTROLYTIC, 16V 47UF M |
| CB81 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CB82 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CB83 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CB99 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CS01 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS02 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS03 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS04 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS05 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS06 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS07 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS08 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS09 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS10 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS11 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS12 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS13 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS14 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS15 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS16 | 76092795 | CERAMIC CHIP, 6.3V B 2.2UF K |
| CS25 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CS26 | 76794470 | ELECTROLYTIC, 16V 47UF M |
| CS27 | 76794220 | ELECTROLYTIC, 16V 22UF M |
| CS28 | 76794100 | ELECTROLYTIC, 16V 10UF M |
| CS29 | 76794100 | ELECTROLYTIC, 16V 10UF M |
| CS30 | 76794100 | ELECTROLYTIC, 16V 10UF M |
| CV01 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV02 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV03 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV04 | 76100104 | CERAMIC CHIP, 25V F 0.1UF Z |
| CV05 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV06 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV10 | 76100104 | CERAMIC CHIP, 25V F 0.1UF Z |
| CV11 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV13 | 76100104 | CERAMIC CHIP, 25V F 0.1UF Z @U103 |
| | 76794100 | ELECTROLYTIC, 16V 10UF M @UV03 |
| CV14 | 76092621 | CERAMIC CHIP, 10V B 1UF K @U103 |
| | 76232103 | CERAMIC DISC, 50V F 0.01UF Z @UV03 |
| CV15 | 76100104 | CERAMIC CHIP, 25V F 0.1UF Z @U103 |
| | 76232103 | CERAMIC DISC, 50V F 0.01UF Z @UV03 |
| CV27 | 76762471 | ELECTROLYTIC, 10V 470UF M |
| CV29 | 76763101 | ELECTROLYTIC, 16V 100UF M |
| CV30 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CV38 | 76109102 | CERAMIC CHIP, 50V B 1000PF K |
| CV39 | 76109102 | CERAMIC CHIP, 50V B 1000PF K |
| CV47 | 76092621 | CERAMIC CHIP, 10V B 1UF K |

| Location No. | Parts No. | Description |
|--------------|-----------|------------------------------------|
| CV70 | 76794101 | ELECTROLYTIC, 16V 100UF M |
| CV71 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV72 | 76794220 | ELECTROLYTIC, 16V 22UF M |
| CV245 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV246 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV247 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV249 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV250 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV251 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV253 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV254 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CV255 | 76092621 | CERAMIC CHIP, 10V B 1UF K |
| CY101 | 76092441 | CERAMIC CHIP, 16V F 1UF Z |
| CY102 | 76665221 | ELECTROLYTIC, 10V 220UF M 3A @U101 |
| | 76794101 | ELECTROLYTIC, 16V 100UF M @U103 |
| CY103 | 76100104 | CERAMIC CHIP, 25V F 0.1UF Z |
| CY104 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CY105 | 76100102 | CERAMIC CHIP, 50V F 1000PF Z @U101 |
| | 76109103 | CERAMIC CHIP, 50V B 0.01UF K @U103 |
| CY106 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CY107 | 76794100 | ELECTROLYTIC, 16V 10UF M |
| CY108 | 76100104 | CERAMIC CHIP, 25V F 0.1UF Z |
| CY109 | 76105101 | CERAMIC CHIP, 50V CH 100PF J |
| CY111 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CY112 | 76105181 | CERAMIC CHIP, 50V CH 180PF J |
| CY113 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CY114 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CY115 | 76105390 | CERAMIC CHIP, 50V CH 39PF J |
| CY116 | 76105470 | CERAMIC CHIP, 50V CH 47PF J |
| CY117 | 76105180 | CERAMIC CHIP, 50V CH 18PF J |
| CY160 | 76815393 | CERAMIC CHIP, 50V B 0.039UF K |
| CY501 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CY502 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CY504 | 76109222 | CERAMIC CHIP, 50V B 2200PF K |
| CY505 | 76105120 | CERAMIC CHIP, 50V CH 12PF J |
| CY506 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CY508 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CY512 | 76092463 | CERAMIC CHIP, 16V B 0.22UF K |
| CY513 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CY514 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CY515 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CY516 | 76109103 | CERAMIC CHIP, 50V B 0.01UF K |
| CY517 | 76092731 | CERAMIC CHIP, 16V B 1UF K |
| CY524 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CY525 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CY526 | 76092730 | CERAMIC CHIP, 16V B 0.1UF K |
| CY538 | 76761102 | ELECTROLYTIC, 6.3V 1000UF M |
| CY539 | 76794471 | ELECTROLYTIC, 16V 470UF M |
| CY540 | 76794471 | ELECTROLYTIC, 16V 470UF M |
| CY541 | 76761102 | ELECTROLYTIC, 6.3V 1000UF M |
| CY582 | 76105101 | CERAMIC CHIP, 50V CH 100PF J |

RESISTORS

| | | |
|------|----------|------------------------|
| R010 | 76011102 | CHIP, 1/20W 1K OHM J |
| R150 | 76011332 | CHIP, 1/20W 3.3K OHM J |
| R151 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| R152 | 76011103 | CHIP, 1/20W 10K OHM J |
| R173 | 76011103 | CHIP, 1/20W 10K OHM J |
| R174 | 76011273 | CHIP, 1/20W 27K OHM J |
| R264 | 76011750 | CHIP, 1/20W 75 OHM J |
| R265 | 76011750 | CHIP, 1/20W 75 OHM J |
| R266 | 76011750 | CHIP, 1/20W 75 OHM J |
| R286 | 76011750 | CHIP, 1/20W 75 OHM J |
| R287 | 76011750 | CHIP, 1/20W 75 OHM J |
| R288 | 76011750 | CHIP, 1/20W 75 OHM J |
| R347 | 76011101 | CHIP, 1/20W 100 OHM J |
| R348 | 76011101 | CHIP, 1/20W 100 OHM J |
| R601 | 76011822 | CHIP, 1/20W 8.2K OHM J |
| R602 | 76011822 | CHIP, 1/20W 8.2K OHM J |
| R603 | 76011122 | CHIP, 1/20W 1.2K OHM J |
| R604 | 76011122 | CHIP, 1/20W 1.2K OHM J |
| R609 | 76011563 | CHIP, 1/20W 56K OHM J |
| R610 | 76011223 | CHIP, 1/20W 22K OHM J |
| R611 | 76011103 | CHIP, 1/20W 10K OHM J |
| R612 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| R613 | 76011223 | CHIP, 1/20W 22K OHM J |

| Location No. | Parts No. | Description |
|--------------|-----------|---------------------------------------|
| R614 | 76011103 | CHIP, 1/20W 10K OHM J |
| R615 | 76011104 | CHIP, 1/20W 100K OHM J |
| R616 | 76011822 | CHIP, 1/20W 8.2K OHM J |
| R621 | 76011391 | CHIP, 1/20W 390 OHM J |
| R622 | 76011391 | CHIP, 1/20W 390 OHM J |
| R626 | 76011223 | CHIP, 1/20W 22K OHM J |
| R627 | 76011223 | CHIP, 1/20W 22K OHM J |
| R661 | 76011102 | CHIP, 1/20W 1K OHM J |
| R662 | 76011333 | CHIP, 1/20W 33K OHM J |
| R663 | 76011822 | CHIP, 1/20W 8.2K OHM J |
| R665 | 76011223 | CHIP, 1/20W 22K OHM J |
| R666 | 76011473 | CHIP, 1/20W 47K OHM J |
| R667 | 76011223 | CHIP, 1/20W 22K OHM J |
| R668 | 76011473 | CHIP, 1/20W 47K OHM J |
| R671 | 76011102 | CHIP, 1/20W 1K OHM J |
| R672 | 76011333 | CHIP, 1/20W 33K OHM J |
| R673 | 76011822 | CHIP, 1/20W 8.2K OHM J |
| R674 | 76011472 | CHIP, 1/20W 4.7K OHM J |
| R676 | 76011104 | CHIP, 1/20W 100K OHM J |
| R677 | 76011104 | CHIP, 1/20W 100K OHM J |
| R681 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| R682 | 76011473 | CHIP, 1/20W 47K OHM J |
| R683 | 76011223 | CHIP, 1/20W 22K OHM J |
| R684 | 76011223 | CHIP, 1/20W 22K OHM J |
| R687 | 76011103 | CHIP, 1/20W 10K OHM J |
| R688 | 76011224 | CHIP, 1/20W 220K OHM J |
| R693 | 76000445 | CHIP JUMPER, 1608TYPE |
| R697 | 76553561 | OXIDE METAL FILM, 1W 560 OHM J |
| R698 | 76011103 | CHIP, 1/20W 10K OHM J |
| R699 | 76011103 | CHIP, 1/20W 10K OHM J |
| R810 | 76568479 | CERAMIC COVERED, 7W 4.7 OHM J |
| R811 | 76120001 | CEMENT RES 141C 2.1W 1R8 K |
| R840 | 76552562 | OXIDE METAL FILM, 1/2W 5.6K OHM J |
| R841 | 76366102 | CARBON FILM, 1/6W 1K OHM J |
| R842 | 76376563 | CARBON FILM, 1/2W 56K OHM J |
| R843 | 76376563 | CARBON FILM, 1/2W 56K OHM J |
| R844 | 76366103 | CARBON FILM, 1/6W 10K OHM J |
| R845 | 76366102 | CARBON FILM, 1/6W 1K OHM J |
| R846 | 76366471 | CARBON FILM, 1/6W 470 OHM J |
| R847 | 76366473 | CARBON FILM, 1/6W 47K OHM J |
| R848 | 76366102 | CARBON FILM, 1/6W 1K OHM J |
| R849 | 76552470 | OXIDE METAL FILM, 1/2W 47 OHM J |
| R850 | 76366103 | CARBON FILM, 1/6W 10K OHM J |
| R860 | 76382101 | OXIDE METAL FILM, 1W 100 OHM J |
| R861 | 76383333 | OXIDE METAL FILM, 2W 33K OHM J |
| R862 | 76019463 | METAL PLATE, 2W 0.22 OHM J |
| R863 | 76019461 | METAL PLATE, 2W 0.15 OHM J |
| R864 | 76321828 | METAL FILM, 1/2W 0.82 OHM J |
| R865 | 76381221 | OXIDE METAL FILM, 1/2W 220 OHM J |
| R866 | 76366681 | CARBON FILM, 1/6W 680 OHM J |
| R867 | 76366152 | CARBON FILM, 1/6W 1.5K OHM J |
| R868 | 76555473 | OXIDE METAL FILM, 3W 47K OHM J |
| R869 | 76366152 | CARBON FILM, 1/6W 1.5K OHM J |
| R870 | 76366154 | CARBON FILM, 1/6W 150K OHM J |
| R881 | 76366222 | CARBON FILM, 1/6W 2.2K OHM J |
| R882 | 76366471 | CARBON FILM, 1/6W 470 OHM J |
| R885 | 76366102 | CARBON FILM, 1/6W 1K OHM J |
| R886 | 76000525 | METAL FILM, 1/4W 4.7K OHM F |
| R887 | 76367683 | CARBON FILM, 1/6W 68K OHM G |
| R888 | 76000525 | METAL FILM, 1/4W 4.7K OHM F |
| R889 | 76383222 | OXIDE METAL FILM, 2W 2.2K OHM J |
| R891 | 76555331 | OXIDE METAL FILM, 3W 330 OHM J |
| R892 | 76555331 | OXIDE METAL FILM, 3W 330 OHM J |
| △ R899 | 76005014 | METAL FILM, 1W 8.2M OHM J |
| R8200 | 76367390 | CARBON FILM, 1/6W 390 OHM G |
| R8210 | 76000147 | METAL FILM, 1/4W 470 OHM F |
| R8211 | 76000219 | METAL FILM, 1/4W 10 OHM F |
| R8220 | 76367390 | CARBON FILM, 1/6W 390 OHM G |
| R8240 | 76000635 | METAL FILM, 1/4W 12K OHM F |
| R8241 | 76000529 | RESISTOR, METAL FILM, 1/4W 6.8K OHM F |
| R8242 | 76367471 | CARBON FILM, 1/6W 470 OHM G |
| R8250 | 76000145 | METAL FILM, 1/4W 330 OHM F |
| R8251 | 76000145 | METAL FILM, 1/4W 330 OHM F |
| R8252 | 76367392 | CARBON FILM, 1/6W 3.9K OHM G |
| R8902 | 76366333 | CARBON FILM, 1/6W 33K OHM J |
| R8903 | 76366333 | CARBON FILM, 1/6W 33K OHM J |

| Location No. | Parts No. | Description |
|--------------|-----------|------------------------------|
| R8904 | 76366472 | CARBON FILM, 1/6W 4.7K OHM J |
| R8905 | 76366681 | CARBON FILM, 1/6W 680 OHM J |
| R8908 | 76366104 | CARBON FILM, 1/6W 100K OHM J |
| R8910 | 76366472 | CARBON FILM, 1/6W 4.7K OHM J |
| R8911 | 76366103 | CARBON FILM, 1/6W 10K OHM J |
| R8912 | 76366223 | CARBON FILM, 1/6W 22K OHM J |
| R8913 | 76366334 | CARBON FILM, 1/6W 330K OHM J |
| R8914 | 76366223 | CARBON FILM, 1/6W 22K OHM J |
| R8915 | 76366102 | CARBON FILM, 1/6W 1K OHM J |
| R8922 | 76366122 | CARBON FILM, 1/6W 1.2K OHM J |
| R8931 | 76367123 | CARBON FILM, 1/6W 12K OHM G |
| R8932 | 76367182 | CARBON FILM, 1/6W 1.8K OHM G |
| R8934 | 76367472 | CARBON FILM, 1/6W 4.7K OHM G |
| R8941 | 76367123 | CARBON FILM, 1/6W 12K OHM G |
| R8942 | 76367182 | CARBON FILM, 1/6W 1.8K OHM G |
| R8944 | 76367472 | CARBON FILM, 1/6W 4.7K OHM G |
| R8950 | 76366103 | CARBON FILM, 1/6W 10K OHM J |
| R8951 | 76366103 | CARBON FILM, 1/6W 10K OHM J |
| RA44 | 76011105 | CHIP, 1/20W 1M OHM J |
| RA48 | 76011105 | CHIP, 1/20W 1M OHM J |
| RA51 | 76011105 | CHIP, 1/20W 1M OHM J |
| RA53 | 76011105 | CHIP, 1/20W 1M OHM J |
| RA55 | 76011105 | CHIP, 1/20W 1M OHM J |
| RA57 | 76011105 | CHIP, 1/20W 1M OHM J |
| RA61 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RA62 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RA63 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RA64 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RA65 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RA66 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RA67 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RA68 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RA71 | 76011822 | CHIP, 1/20W 8.2K OHM J |
| RA72 | 76011153 | CHIP, 1/20W 15K OHM J |
| RA73 | 76011273 | CHIP, 1/20W 27K OHM J |
| RA75 | 76011822 | CHIP, 1/20W 8.2K OHM J |
| RA76 | 76011153 | CHIP, 1/20W 15K OHM J |
| RA77 | 76011114 | CHIP, 1/20W 110K OHM J |
| RA81 | 76011104 | CHIP, 1/20W 100K OHM J |
| RA82 | 76011104 | CHIP, 1/20W 100K OHM J |
| RA83 | 76011104 | CHIP, 1/20W 100K OHM J |
| RA84 | 76011104 | CHIP, 1/20W 100K OHM J |
| RA85 | 76011104 | CHIP, 1/20W 100K OHM J |
| RA86 | 76011104 | CHIP, 1/20W 100K OHM J |
| RA87 | 76011104 | CHIP, 1/20W 100K OHM J |
| RA88 | 76011104 | CHIP, 1/20W 100K OHM J |
| RA91 | 76011623 | CHIP, 1/20W 62K OHM J |
| RA94 | 76000445 | CHIP JUMPER, 1608TYPE |
| RA95 | 76011623 | CHIP, 1/20W 62K OHM J |
| RA98 | 76000445 | CHIP JUMPER, 1608TYPE |
| RB15 | 76366471 | CARBON FILM, 1/6W 470 OHM J |
| RB19 | 76366470 | CARBON FILM, 1/6W 47 OHM J |
| RB81 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RB82 | 76011471 | CHIP, 1/20W 470 OHM J |
| RB83 | 76011102 | CHIP, 1/20W 1K OHM J |
| RB84 | 76011473 | CHIP, 1/20W 47K OHM J |
| RB87 | 76011394 | CHIP, 1/20W 390K OHM J |
| RB88 | 76011394 | CHIP, 1/20W 390K OHM J |
| RB89 | 76011103 | CHIP, 1/20W 10K OHM J |
| RB90 | 76011302 | CHIP, 1/20W 3K OHM J |
| RB92 | 76011473 | CHIP, 1/20W 47K OHM J |
| RB93 | 76011102 | CHIP, 1/20W 1K OHM J |
| RS01 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS02 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS03 | 76011101 | CHIP, 1/20W 100 OHM J |
| RS04 | 76011101 | CHIP, 1/20W 100 OHM J |
| RS05 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS06 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS07 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS08 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS09 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS10 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS11 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS12 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS13 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS14 | 76011562 | CHIP, 1/20W 5.6K OHM J |

| Location No. | Parts No. | Description |
|--------------|-----------|-----------------------------------|
| RS15 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS16 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RS21 | 76011101 | CHIP, 1/20W 100 OHM J |
| RS22 | 76011101 | CHIP, 1/20W 100 OHM J |
| RS23 | 76011101 | CHIP, 1/20W 100 OHM J |
| RS24 | 76011101 | CHIP, 1/20W 100 OHM J |
| RS27 | 76011101 | CHIP, 1/20W 100 OHM J |
| RS28 | 76011101 | CHIP, 1/20W 100 OHM J |
| RS29 | 76011682 | CHIP, 1/20W 6.8K OHM J |
| RS30 | 76011182 | CHIP, 1/20W 1.8K OHM J |
| RS31 | 76011100 | CHIP, 1/20W 10 OHM J |
| RS32 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RS33 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RS34 | 76011472 | CHIP, 1/20W 4.7K OHM J |
| RS35 | 76011102 | CHIP, 1/20W 1K OHM J |
| RS36 | 76011102 | CHIP, 1/20W 1K OHM J |
| RS37 | 76011223 | CHIP, 1/20W 22K OHM J |
| RS38 | 76011223 | CHIP, 1/20W 22K OHM J |
| RV001 | 76011102 | CHIP, 1/20W 1K OHM J |
| RV01 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV002 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV003 | 76011102 | CHIP, 1/20W 1K OHM J |
| RV03 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV004 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV005 | 76011102 | CHIP, 1/20W 1K OHM J |
| RV006 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV06 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV007 | 76011102 | CHIP, 1/20W 1K OHM J |
| RV07 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RV008 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV08 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV009 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV09 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV10 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV11 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV12 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV14 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RV15 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV17 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV19 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV20 | 76366750 | CARBON FILM, 1/6W 75 OHM J |
| RV21 | 76011562 | CHIP, 1/20W 5.6K OHM J @U103 |
| | 76366750 | CARBON FILM, 1/6W 75 OHM J @UV03 |
| RV22 | 76011101 | CHIP, 1/20W 100 OHM J @U103 |
| | 76366750 | CARBON FILM, 1/6W 75 OHM J @UV03 |
| RV23 | 76011222 | CHIP, 1/20W 2.2K OHM J @U103 |
| | 76366101 | CARBON FILM, 1/6W 100 OHM J @UV03 |
| RV24 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RV32 | 76011104 | CHIP, 1/20W 100K OHM J |
| RV33 | 76011104 | CHIP, 1/20W 100K OHM J |
| RV34 | 76011104 | CHIP, 1/20W 100K OHM J |
| RV35 | 76011750 | CHIP, 1/20W 75 OHM J |
| RV36 | 76011750 | CHIP, 1/20W 75 OHM J |
| RV37 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV38 | 76011562 | CHIP, 1/20W 5.6K OHM J |
| RV40 | 76011750 | CHIP, 1/20W 75 OHM J |
| RV41 | 76011750 | CHIP, 1/20W 75 OHM J |
| RV42 | 76011750 | CHIP, 1/20W 75 OHM J |
| RV43 | 76011750 | CHIP, 1/20W 75 OHM J |
| RV61 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV85 | 76366471 | CARBON FILM, 1/6W 470 OHM J |
| RV86 | 76366471 | CARBON FILM, 1/6W 470 OHM J |
| RV89 | 76011680 | CHIP, 1/20W 68 OHM J |
| RV147 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV148 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV323 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV324 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV325 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV330 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV331 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV332 | 76011101 | CHIP, 1/20W 100 OHM J |
| RV333 | 76011181 | CHIP, 1/20W 180 OHM J |
| RV334 | 76011103 | CHIP, 1/20W 10K OHM J |
| RV335 | 76011123 | CHIP, 1/20W 12K OHM J |
| RV346 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY101 | 76011101 | CHIP, 1/20W 100 OHM J |

| Location No. | Parts No. | Description |
|--------------|-----------|------------------------|
| RY102 | 76011221 | CHIP, 1/20W 220 OHM J |
| RY103 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY104 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY105 | 76011821 | CHIP, 1/20W 820 OHM J |
| RY106 | 76000445 | CHIP JUMPER, 1608TYPE |
| RY107 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RY109 | 76011332 | CHIP, 1/20W 3.3K OHM J |
| RY110 | 76011152 | CHIP, 1/20W 1.5K OHM J |
| RY160 | 76011471 | CHIP, 1/20W 470 OHM J |
| RY161 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY501 | 76011303 | CHIP, 1/20W 30K OHM J |
| RY502 | 76011103 | CHIP, 1/20W 10K OHM J |
| RY504 | 76011103 | CHIP, 1/20W 10K OHM J |
| RY505 | 76011123 | CHIP, 1/20W 12K OHM J |
| RY507 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY508 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RY509 | 76011472 | CHIP, 1/20W 4.7K OHM J |
| RY510 | 76011152 | CHIP, 1/20W 1.5K OHM J |
| RY511 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RY512 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RY513 | 76011152 | CHIP, 1/20W 1.5K OHM J |
| RY516 | 76011472 | CHIP, 1/20W 4.7K OHM J |
| RY517 | 76011472 | CHIP, 1/20W 4.7K OHM J |
| RY518 | 76011472 | CHIP, 1/20W 4.7K OHM J |
| RY519 | 76000445 | CHIP JUMPER, 1608TYPE |
| RY520 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY521 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY523 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY524 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY525 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RY526 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RY527 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RY528 | 76011222 | CHIP, 1/20W 2.2K OHM J |
| RY529 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY530 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY531 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY532 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY533 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY534 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY535 | 76011330 | CHIP, 1/20W 33 OHM J |
| RY536 | 76011330 | CHIP, 1/20W 33 OHM J |
| RY541 | 76011392 | CHIP, 1/20W 3.9K OHM J |
| RY542 | 76011392 | CHIP, 1/20W 3.9K OHM J |
| RY543 | 76011152 | CHIP, 1/20W 1.5K OHM J |
| RY545 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY548 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY550 | 76011182 | CHIP, 1/20W 1.8K OHM J |
| RY551 | 76011182 | CHIP, 1/20W 1.8K OHM J |
| RY552 | 76011152 | CHIP, 1/20W 1.5K OHM J |
| RY560 | 76011332 | CHIP, 1/20W 3.3K OHM J |
| RY561 | 76011471 | CHIP, 1/20W 470 OHM J |
| RY573 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY575 | 76011103 | CHIP, 1/20W 10K OHM J |
| RY576 | 76011123 | CHIP, 1/20W 12K OHM J |
| RY578 | 76011332 | CHIP, 1/20W 3.3K OHM J |
| RY579 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY580 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY582 | 76011332 | CHIP, 1/20W 3.3K OHM J |
| RY583 | 76011102 | CHIP, 1/20W 1K OHM J |
| RY584 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY585 | 76011103 | CHIP, 1/20W 10K OHM J |
| RY586 | 76011330 | CHIP, 1/20W 33 OHM J |
| RY587 | 76011330 | CHIP, 1/20W 33 OHM J |
| RY588 | 76011330 | CHIP, 1/20W 33 OHM J |
| RY589 | 76000445 | CHIP JUMPER, 1608TYPE |
| RY590 | 76011103 | CHIP, 1/20W 10K OHM J |
| RY591 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY592 | 76011101 | CHIP, 1/20W 100 OHM J |
| RY593 | 76011330 | CHIP, 1/20W 33 OHM J |
| RY594 | 76011330 | CHIP, 1/20W 33 OHM J |
| RY595 | 76011330 | CHIP, 1/20W 33 OHM J |
| RY596 | 76000445 | CHIP JUMPER, 1608TYPE |
| G101 | 76011151 | CHIP, 1/20W 150 OHM J |
| G102 | 76011151 | CHIP, 1/20W 150 OHM J |
| GA89 | 76000445 | CHIP JUMPER, 1608TYPE |
| GA90 | 76000445 | CHIP JUMPER, 1608TYPE |

| Location No. | Parts No. | Description |
|---------------------------------|-----------|-----------------------------------|
| GJ105 | 76000445 | CHIP JUMPER, 1608TYPE |
| GR103 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR003 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR004 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR005 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR006 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR007 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR008 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR009 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR010 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR011 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR012 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR013 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR014 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR015 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR016 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR017 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR018 | 76000445 | CHIP JUMPER, 1608TYPE |
| JR019 | 76000445 | CHIP JUMPER, 1608TYPE |
| COILS & TRANSFORMERS | | |
| L101 | 23289027 | COIL, PEAKING, TRF4680AT |
| L103 | 23289026 | COIL, PEAKING, TRF4470AT |
| L840 | 23289981 | COIL, PEAKING, TRF4330AZ |
| L841 | 23103304 | FERRITE CHOKE, TEM2011AA |
| L861 | 23103304 | FERRITE CHOKE, TEM2011AA |
| L862 | 23103307 | FERRITE CHOKE, TEM2014AA |
| L881 | 23103304 | FERRITE CHOKE, TEM2011AA |
| L882 | 23103304 | FERRITE CHOKE, TEM2011AA |
| L883 | 23103304 | FERRITE CHOKE, TEM2011AA |
| L884 | 23103304 | FERRITE CHOKE, TEM2011AA |
| L885 | 23103304 | FERRITE CHOKE, TEM2011AA |
| L886 | 23103304 | FERRITE CHOKE, TEM2011AA |
| L888 | 23248446 | COIL, CHOKE, TLN3462AH |
| L890 | 23248432 | COIL, CHOKE, TLN3499AH |
| L891 | 23248432 | COIL, CHOKE, TLN3499AH |
| L892 | 23248432 | COIL, CHOKE, TLN3499AH |
| L893 | 23248417 | COIL, CHOKE, TLN3481AH |
| L895 | 23248432 | COIL, CHOKE, TLN3499AH |
| L896 | 23289981 | COIL, PEAKING, TRF4330AZ |
| L8210 | 23289981 | COIL, PEAKING, TRF4330AZ |
| L8211 | 23248456 | COIL, CHOKE, TLN3540AH |
| L8213 | 23248417 | COIL, CHOKE, TLN3481AH |
| L8930 | 23248432 | COIL, CHOKE, TLN3499AH |
| L8931 | 23248432 | COIL, CHOKE, TLN3499AH |
| L8940 | 23248432 | COIL, CHOKE, TLN3499AH |
| L8941 | 23248432 | COIL, CHOKE, TLN3499AH |
| LV13 | 23246662 | COIL, CHIP, TRF4100CN |
| LV20 | 23221156 | COIL, PEAKING, TRF4560AJ |
| LY012 | 23246662 | COIL, CHIP, TRF4100CN |
| LY100 | 23246656 | COIL, CHIP, TRF4330CG |
| LY101 | 23248398 | COIL, CHOKE, TLN3278D @U101 |
| | 23103827 | INDUCTOR, BEAD, TEM2120M @U103 |
| LY102 | 23221144 | COIL, PEAKING, TRF4229AJ @U101 |
| | 23103827 | INDUCTOR, BEAD, TEM2120M @U103 |
| LY103 | 23221144 | COIL, PEAKING, TRF4229AJ @U101 |
| | 23103230 | INDUCTOR, BEAD, TEM2134AD @U103 |
| LY104 | 23246653 | COIL, CHIP, TRF4150CG |
| LY105 | 23246655 | COIL, CHIP, TRF4270CG |
| LY112 | 23103230 | INDUCTOR, BEAD, TEM2134AD |
| LY501 | 23246662 | COIL, CHIP, TRF4100CN |
| LY503 | 23246662 | COIL, CHIP, TRF4100CN |
| △ T801 | 23211827 | COIL, LINE FILTER, TRF3239AH |
| △ T802 | 23211836 | COIL, LINE FILTER, TRF3197AH |
| △ T840 | 23217790 | TRANSFORMER, CONVERTER TPW3425BH |
| △ T862 | 23217682 | TRANSFORMER, CONVERTER, TPW3553AS |
| M802A | 23103839 | FERRITE CORE, TFE1012 |
| M811A | 23103778 | FERRITE CORE, TFE1008 |
| M905A | 23103778 | FERRITE CORE, TFE1008 |
| MB91A | 23103840 | FERRITE CORE, TFE1013 |
| P800A | 23103840 | FERRITE CORE, TFE1013 |
| ZB22B | 23103840 | FERRITE CORE, TFE1013 |
| SEMICONDUCTORS | | |
| Q151 | 23205346 | TRANSISTOR, KTA2014Y/P |
| Q152 | 23205347 | TRANSISTOR, KTC4075Y/P |

| Location No. | Parts No. | Description |
|--------------|-----------|---|
| Q172 | 23205347 | TRANSISTOR, KTC4075Y/P |
| Q601 | 23009603 | IC, AN7580 |
| Q612 | 23205346 | TRANSISTOR, KTA2014Y/P |
| Q613 | 23205347 | TRANSISTOR, KTC4075Y/P |
| Q614 | 23205426 | TRANSISTOR, KRC106S/P |
| Q661 | 23205424 | TRANSISTOR, KTC2875B/P |
| Q662 | 23205424 | TRANSISTOR, KTC2875B/P |
| Q663 | 23085575 | IC, OP AMP, BA4558 |
| Q664 | 23205428 | TRANSISTOR, KRA104S/P |
| Q681 | 23205424 | TRANSISTOR, KTC2875B/P |
| Q682 | 23205424 | TRANSISTOR, KTC2875B/P |
| Q801 | 23135069 | IC, STRF6268S |
| Q840 | 23085559 | IC, MIP280 |
| △ Q841 | 23000823 | IC, PHOTO COUPLER, TLP421F(GR) |
| △ Q842 | 23000823 | IC, PHOTO COUPLER, TLP421F(GR) |
| Q845 | 23205499 | TRANSISTOR, KTC3198 Y/P |
| Q846 | 23205499 | TRANSISTOR, KTC3198 Y/P |
| Q847 | 23205499 | TRANSISTOR, KTC3198 Y/P |
| △ Q862 | 23000823 | IC, PHOTO COUPLER, TLP421F(GR) |
| Q881 | 23085389 | IC, NJM431L |
| Q8200 | 23085050 | IC, SI-3120J(LF1101) |
| Q8210 | 23085397 | IC, SI-8033SS |
| Q8220 | 23135077 | IC, SI-3090CA |
| Q8240 | 23085821 | IC, ADJ REG. VO=1.5V-16.0V BA7810T-V5 |
| Q8250 | 23085377 | IC, PQ5EV3J0000H |
| Q8251 | 23085600 | IC, PST9129 |
| Q8901 | 23205499 | TRANSISTOR, KTC3198 Y/P |
| Q8902 | 23205499 | TRANSISTOR, KTC3198 Y/P |
| Q8904 | 23205497 | TRANSISTOR, KTA1266 Y/P |
| Q8911 | 23205499 | TRANSISTOR, KTC3198 Y/P |
| Q8912 | 23205499 | TRANSISTOR, KTC3198 Y/P |
| Q8930 | 23009998 | IC, BA00JC5WT-V5 |
| Q8940 | 23009998 | IC, BA00JC5WT-V5 |
| Q8950 | 23085503 | IC, OPE AMP, TA75358P |
| QA81 | 23205329 | TRANSISTOR, RN1404(F) |
| QA82 | 23205329 | TRANSISTOR, RN1404(F) |
| QA83 | 23205329 | TRANSISTOR, RN1404(F) |
| QA84 | 23205329 | TRANSISTOR, RN1404(F) |
| QA85 | 23205329 | TRANSISTOR, RN1404(F) |
| QA86 | 23205329 | TRANSISTOR, RN1404(F) |
| QA87 | 23205329 | TRANSISTOR, RN1404(F) |
| QA88 | 23205329 | TRANSISTOR, RN1404(F) |
| QA91 | 23085674 | IC, QT240-ISS-G-CA |
| QA92 | 23085674 | IC, QT240-ISS-G-CA |
| QA93 | 23085731 | IC, +4.2V 2% REG. SOT-23-5 R1121N421B-TR-FA |
| QA94 | 23085067 | IC, R1121N331B-TR-FA |
| QB81 | 23205446 | TRANSISTOR, 2SC2412K, Q T146 |
| QB83 | 23085867 | IC, DUAL COMPARATOR BA10393F-E2 |
| QB84 | 23205446 | TRANSISTOR, 2SC2412K, Q T146 |
| QS01 | 23009916 | IC, MM1631AJBE |
| QS02 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QS03 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QS04 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QS05 | 23205428 | TRANSISTOR, KRA104S/P |
| QS06 | 23205424 | TRANSISTOR, KTC2875B/P |
| QS07 | 23205424 | TRANSISTOR, KTC2875B/P |
| QV01 | 23009940 | IC, MM1630AQ |
| QV004 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QV005 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QV006 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QV007 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QV008 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QV009 | 23205305 | TRANSISTOR, 2SC4667-O(F) |
| QV48 | 23205499 | TRANSISTOR, KTC3198 Y/P |
| QV91 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY100 | 23085570 | IC, TC90A45F |
| QY101 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QY102 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QY103 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY160 | 23205347 | TRANSISTOR, KTC4075Y/P |
| QY501 | 23009929 | IC, TA1383FG(DRY,EL) |
| QY502 | 23205305 | TRANSISTOR, 2SC4667-O(F) |
| QY503 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY504 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY506 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QY507 | 23205506 | TRANSISTOR, 2SC4081 Q |

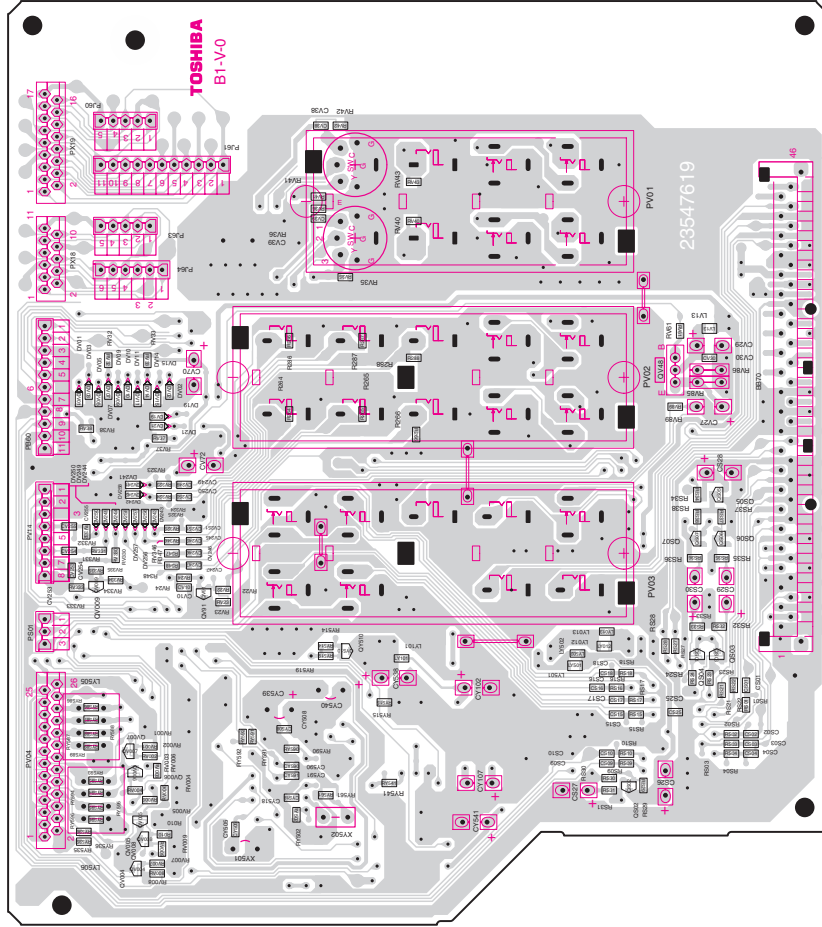
| Location No. | Parts No. | Description |
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| QY508 | 23205506 | TRANSISTOR, 2SC4081 Q |
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| QY511 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY512 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY513 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY514 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY515 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY516 | 23205507 | TRANSISTOR, 2SA1576A Q |
| QY518 | 23205506 | TRANSISTOR, 2SC4081 Q |
| QY522 | 23205506 | TRANSISTOR, 2SC4081 Q |
| D601 | 23357703 | DIODE, 1SS355 |
| D602 | 23357703 | DIODE, 1SS355 |
| D603 | 23357703 | DIODE, 1SS355 |
| D604 | 23357703 | DIODE, 1SS355 |
| D605 | 23357703 | DIODE, 1SS355 |
| D606 | 23357703 | DIODE, 1SS355 |
| D607 | 23357703 | DIODE, 1SS355 |
| D608 | 23357703 | DIODE, 1SS355 |
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| D613 | 23357703 | DIODE, 1SS355 |
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| D615 | 23357703 | DIODE, 1SS355 |
| D616 | 23357703 | DIODE, 1SS355 |
| D617 | 23357703 | DIODE, 1SS355 |
| D628 | 23357771 | DIODE, ZENER, MA8120-M |
| D801 | 23357712 | DIODE, D5SB60, 4009 F05 |
| D840 | 23362046 | DIODE, LN1WBA60 4101 |
| D841 | 23357838 | DIODE, ZENER, MTZJ5.6C |
| D842 | 23357830 | DIODE, ZENER, MTZJ4.7A |
| D843 | 23357366 | DIODE, FR105-B5 |
| D844 | 23357838 | DIODE, ZENER, MTZJ5.6C |
| D845 | 23357697 | DIODE, 1SS133 |
| D846 | 23357684 | DIODE, ZENER, RD3.0ESA B2 |
| D847 | 23357684 | DIODE, ZENER, RD3.0ESA B2 |
| D848 | 23357697 | DIODE, 1SS133 |
| D849 | 23357697 | DIODE, 1SS133 |
| D850 | 23357622 | DIODE, ZENER, RD11ESA B3 |
| D861 | 23357837 | DIODE, ZENER, MTZJ5.6B |
| D863 | 23357697 | DIODE, 1SS133 |
| D864 | 23357366 | DIODE, FR105-B5 |
| D865 | 23357697 | DIODE, 1SS133 |
| D866 | 23357709 | DIODE, RU1P |
| D867 | 23357900 | DIODE, ZENER, MTZJ33B |
| D883 | 23357702 | DIODE, FML-G12S |
| D884 | 23357366 | DIODE, FR105-B5 |
| D885 | 23357860 | DIODE, RL2Z |
| D886 | 23357408 | DIODE, FMX-12S(023-108) |
| D887 | 23357911 | DIODE, FMB-26L |
| D888 | 23362113 | DIODE, FML-G22S |
| D894 | 23357841 | DIODE, ZENER, MTZJ6.8A |
| D895 | 23357841 | DIODE, ZENER, MTZJ6.8A |
| D896 | 23357841 | DIODE, ZENER, MTZJ6.8A |
| D897 | 23357841 | DIODE, ZENER, MTZJ6.8A |
| D898 | 23357841 | DIODE, ZENER, MTZJ6.8A |
| △ D899 | 76019485 | VARIATOR, TNR10V431K |
| D8200 | 23357697 | DIODE, 1SS133 |
| D8210 | 23357519 | DIODE, RK44, |
| D8211 | 23357831 | DIODE, ZENER, MTZJ4.7B |
| D8902 | 23357697 | DIODE, 1SS133 |
| D8903 | 23357697 | DIODE, 1SS133 |
| D8904 | 23357838 | DIODE, ZENER, MTZJ5.6C |
| D8905 | 23357838 | DIODE, ZENER, MTZJ5.6C |
| D8911 | 23357838 | DIODE, ZENER, MTZJ5.6C |
| D8912 | 23357838 | DIODE, ZENER, MTZJ5.6C |
| D8913 | 23357838 | DIODE, ZENER, MTZJ5.6C |
| D8914 | 23357697 | DIODE, 1SS133 |
| D8915 | 23357697 | DIODE, 1SS133 |
| D8922 | 23357639 | DIODE, ZENER, RD5.6ESA B1 |
| D8930 | 23357697 | DIODE, 1SS133 |
| D8931 | 23357697 | DIODE, 1SS133 |
| D8940 | 23357697 | DIODE, 1SS133 |
| D8941 | 23357697 | DIODE, 1SS133 |
| D8950 | 23357637 | DIODE, ZENER, RD5.6ESA B3 |
| D8951 | 23357637 | DIODE, ZENER, RD5.6ESA B3 |

| Location No. | Parts No. | Description |
|----------------------|-----------|---|
| DA91 | 23357406 | DIODE, ZENER, UDZS5.6B |
| DA92 | 23357406 | DIODE, ZENER, UDZS5.6B |
| DB03 | 23358615 | DIODE, LED INFRARED, SIR-56SB3F |
| DB81 | 23358584 | DIODE, LED, SML-811UTT86 |
| DB82 | 23358585 | LED, LAMP, SML-810MTT86 |
| DV07 | 23357751 | DIODE, ZENER, MA8068-M |
| DV14 | 23357751 | DIODE, ZENER, MA8068-M |
| KB01 | 23000852 | REMOCON RECEIVER, PIC-37043TE2 |
| MISCELLANEOUS | | |
| A305 | 23717197 | SCREW, THUMB SCREW |
| A306 | 23717198 | SCREW, THUMB SCREW RETAINER |
| A516 | 23717192 | SCREW, SCREW, AV BOARD |
| B112 | 23059129 | PIECE COVER |
| B209 | 23738088 | SCREW, BTBW3X12ECO |
| B214 | 23965241 | TAPE, CC #12 10MM L30M |
| B215 | 23965241 | TAPE, CC #12 10MM L30M |
| B231 | 23738088 | SCREW, BTBW3X12ECO |
| B235 | 23845856 | CLAMP, WIRE, POF COAT) L=70MM |
| BB10 | 23713014 | PLUG, B-B 16P 1.5 |
| BB11 | 23713013 | SOCKET, B-B 16P 1.5 |
| BB20 | 23713014 | PLUG, B-B 16P 1.5 |
| BB21 | 23713013 | SOCKET, B-B 16P 1.5 |
| BB70 | 23713810 | PLUG, TAC-A46P-B1 |
| BB71 | 23903245 | SOCKET, B-B 46P, TAC-A46X-B1 |
| △ F801 | 23144319 | FUSE, CARTRIDGE, 125V 8A, 5.2X20 |
| F801A | 23165433 | FUSE HOLDER, 5.2 SOC |
| △ F840 | 23144704 | FUSE, AXIAL 125V 200MA |
| △ F860 | 23144714 | FUSE, AXIAL 125V 4.0A |
| △ F880 | 23144714 | FUSE, AXIAL 125V 4.0A |
| △ F881 | 23144706 | FUSE, AXIAL 125V 500MA |
| △ F882 | 23144714 | FUSE, AXIAL 125V 4.0A |
| △ F883 | 23144715 | FUSE, AXIAL 125V 5.0A |
| △ F884 | 23144715 | FUSE, AXIAL 125V 5.0A |
| △ F899 | 23144326 | FUSE, CARTRIDGE, 250V 2A, 5.2X20 |
| F899A | 23165433 | FUSE HOLDER, 5.2 SOC |
| △ F8210 | 23144709 | FUSE, AXIAL 125V 1.5A |
| H002 | 23148378 | IF MODULE, US BUFFER 6M TRAP, MVUS51A |
| H003 | 23124099 | ANTENNA SWITCH, RSU135X1, 2I30 BUNPAI US |
| H003A | 23747055 | NUT, F-CONNECTOR 2H BS |
| J601A | 23171400 | WIRE, PVC, SOLDER-PLATED 300V 7/16 BRN UL CSA |
| JR001 | 23103239 | INDUCTOR, BEAD, TEM2143AD |
| JR002 | 23103239 | INDUCTOR, BEAD, TEM2143AD |
| MA01 | 23389271 | CABLE, FFC P1.25-15-98 |
| MV01 | 23368931 | CABLE, MDR 26P 300MM 3M 79162-26M-030-011F |
| MV04 | 23389270 | CABLE, FFC P1.25-26-140 |
| MX18 | 23389272 | CABLE, FFC P1.25-11-365 |
| MX19 | 23389273 | CABLE, FFC P1.25-17-410 |
| P105 | 23713755 | PLUG, 4P 2.5MM G, B4B-EH-F1-TV4 |
| △ P800 | 23713702 | PLUG, 2P 11.88MM W VT |
| △ P801 | 23372117 | POWER CORD, U/C 125V10A HSV 5 CMC-02P 5 |
| P805 | 23164965 | CONNECTOR, PLUG 4P, W-P3504-#02 |
| P811A | 23713713 | PLUG, 2P 3.96MM VH |
| P891 | 23713759 | PLUG, 8P 2.5MM G, B8B-EH-F1-TV4 |
| P892 | 23713764 | PLUG, 13P |
| P901 | 23713754 | PLUG, 3P 2.5MM G, B3B-EH-F1-TV4 |
| P902A | 23164563 | CONNECTOR, PLUG 3P |
| P903 | 23713755 | PLUG, 4P 2.5MM G, B4B-EH-F1-TV4 |
| P906 | 23713761 | PLUG, NP 2.5MM G, B10B-EH-F1A |
| P907 | 23713763 | PLUG, NP 2.5MM G, B12B-EH-F1A |
| PA01 | 23713240 | CONNECTOR, 15FE-BT-VK-N JST |
| PB22 | 23713755 | PLUG, 4P 2.5MM G, B4B-EH-F1-TV4 |
| PJ60 | 23713756 | PLUG, 5P 2.5MM G, B5B-EH-F1-TV4 |
| PJ61 | 23713762 | PLUG, NP 2.5MM G, B11B-EH-F1A |
| PJ63 | 23713756 | PLUG, 5P 2.5MM G, B5B-EH-F1-TV4 |
| PJ64 | 23713757 | PLUG, 6P 2.5MM G, B6B-EH-F1-TV4 |
| PV01 | 23023311 | JACK, PIN 2S6P, LAP5030-0111GC |
| PV02 | 23023205 | JACK, PIN 10P SMK KARI2 @U103 |
| | 23023184 | JACK, 1S3P, LAP5100-1502F @UV03 |
| PV03 | 23023211 | JACK, PIN 7P SMK KARI04 |
| PV04 | 23713282 | CONNECTOR, 26FE-ST-VK-N |
| PV13 | 23713760 | PLUG, NP 2.5MM G, B9B-EH-F1A |
| PV14 | 23713781 | PLUG, 8P 2.5MM W, S8B-EH |
| PX18 | 23713270 | CONNECTOR, 11FE-ST-VK-N |
| PX19 | 23713110 | CONNECTOR, FE-ST-VK-N 17P JST |
| Q825B | 23738088 | SCREW, BTBW3X12ECO |

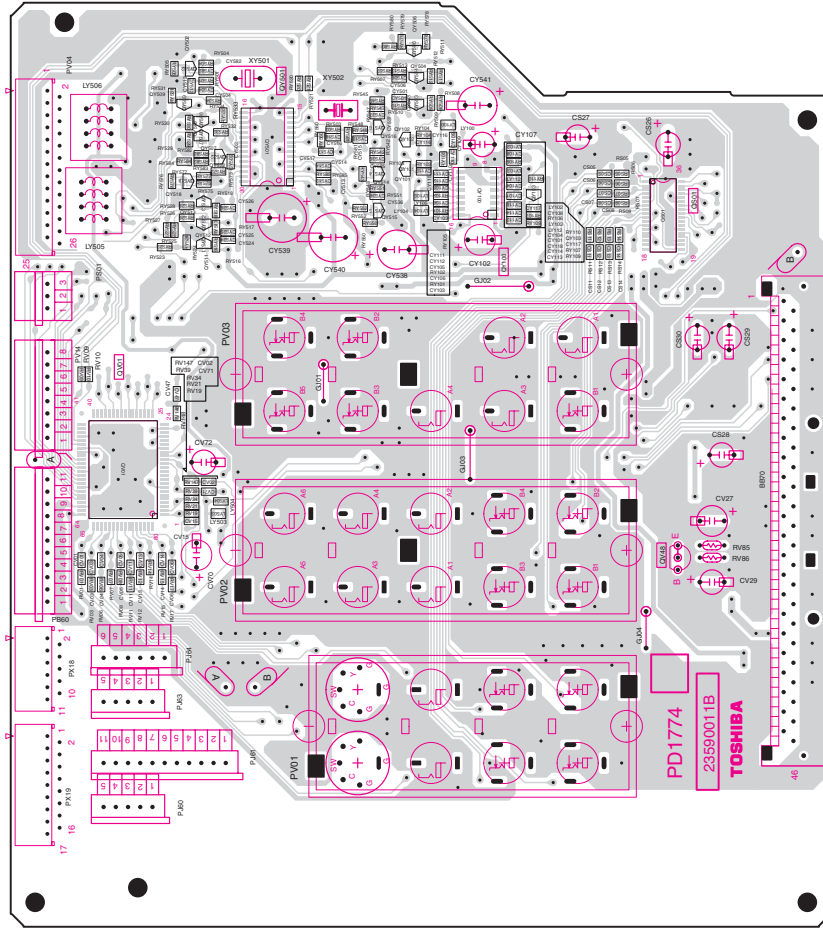
| Location No. | Parts No. | Description |
|----------------------------|-----------|--|
| Q893B | 23717241 | SCREW, BITTB3X8ECO |
| Q894B | 23717241 | SCREW, BITTB3X8ECO |
| △ S810 | 23344522 | SWITCH, SPVF11 |
| △ SR81 | 23146588 | RELAY, DLS5D1-O(M) 0.15W |
| △ SR82 | 23146584 | RELAY, DC12V, TV5, DG-3 |
| W661 | 23351244 | SPEAKER, SPBOX(L) 8-OHM 20W SPK-1455AM |
| W662 | 23351245 | SPEAKER, SPBOX(R) 8-OHM 20W SPK-1456AM |
| XY501 | 23153607 | CRYSTAL, 3.58MHZ |
| XY502 | 23153721 | CERAMIC RESONATOR, 503KHZ |
| PC BOARD ASSEMBLIES | | |
| * U101 | 23764145 | PC BOARD ASSY, IF AUDIO ACIN PU PD1775D |
| * U103 | 23764144 | PC BOARD ASSY, BACK AV PU PD1774C |
| * U802 | 23764201 | PC BOARD ASSY, MAIN POWER PU PD2128A-1 |
| * UA02 | 23764202 | PC BOARD ASSY, REMOTE SENS PU PD2128A-3 |
| * UA03 | 23764203 | PC BOARD ASSY, DOOR SW PU PD2128A-4 |
| * UA06 | 23764199 | PC BOARD ASSY, FRONT KEY, PD2072H |
| * UD02 #1 | 23148438 | PC BOARD ASSY SCALER, B910PD2208A1 |
| * #2 | 23148439 | PC BOARD ASSY SCALER, B910PD2208B1 |
| * UV02 | 23148418 | SCAN CONVERTER MODULE, MHDM01A |
| * UV03 | 23764204 | PC BOARD ASSY, FRONT AV PU PD2128A-2 |
| TUNER | | |
| △ H001 | 23321482 | TUNER, US181CH IIC PH 5V PANA ELA52LX5 |
| △ HY01 | 23321480 | TUNER, TIF US IIC PH 181CH 5V ENG36A18GF |
| ACCESSORIES | | |
| A701 #1 | 23067697 | CARTON |
| #2 | 23067698 | CARTON |
| A703 #1 | 23946771 | PACKING, TOP PACKING |
| #2 | 23946772 | PACKING, TOP PACKING |
| A708 #1 | 23946768 | PACKING, BOTTOM PACKING |
| #2 | 23946769 | PACKING, BOTTOM PACKING |
| A709 #1 | 23067694 | CARTON, BASE TRAY |
| #2 | 23067695 | CARTON, BASE TRAY |
| A710 #1 | 23946774 | PACKING, SUPPORT POST |
| #2 | 23946775 | PACKING, SUPPORT POST |
| A721 | 23943628 | PLYETHLENE COVERING 46GM88T |
| △ K912 | 23306617 | REMOCON HAND UNIT IR, CTVUSA CT-90159 |
| △ Y101E | 23566609 | OWNERS MANUAL, ENGLISH |
| △ Y101F | 23566610 | OWNERS MANUAL, FRENCH |
| Y102 | 23589650 | SHEET, IMPORTANT NOTES |
| CABINET PARTS | | |
| △ A025 | 23532769 | COVER, LAMP TUNNEL PURCHASE ASY |
| △ A026 | 23428292 | DOOR, DOOR LAMP PURCHASE ASSY |
| △ A101 | 23533280 | COVER, BASE PURCHASE ASSEY |
| △ A201 #1 | 23533355 | COVER, BEZEL PURCHASE ASSY |
| #2 | 23533345 | COVER, BEZEL PURCHASE ASM |
| A204 #1 | 23532684 | COVER, BACK COVER |
| #2 | 23532763 | COVER, BACK COVER |
| △ A205 #1 | 23532782 | COVER, BACKCOVER PURCHASE ASSY |
| #2 | 23532784 | COVER, BACKCOVER PURCHASE ASSY |
| A215 | 23940083 | PIECE, PIECE ENCLOSURE,DLE |
| A220 | 23451976 | PUSH CATCH, CLICK |
| △ A222 #1 | 23532770 | COVER, PEDESTAL PURCHASE ASSY |
| #2 | 23532885 | COVER, PEDESTAL ASSY |
| A225 | 23940084 | PIECE, STRIKER |
| A227 #1 | 23433349 | DECORATIVE, CTRL PANEL TRIM |
| #2 | 23433348 | DECORATIVE, CTRL PANEL TRIM |
| A231 #2 | 23940100 | PIECE, PIECE SIDE RIGHT |
| A232 #2 | 23940099 | PIECE, PIECE SIDE LEFT |
| △ A271 #1 | 23405474 | OPTICAL ENGINE, LV-672 TB 0B |
| #2 | 23405476 | OPTICAL ENGINE, LV-672 TB 0D |
| A278 | 23084267 | BRACKET, SPEED CLIP |
| A333 | 23940463 | PIECE, AV MOUNT PURCHASE ASY |
| △ A401 | 23533281 | COVER, REAR COVER PURCHASE |
| A421 | 23532738 | COVER, REAR COVER,DLE |
| A422 | 23084729 | VENT, REAR DLE |
| E998Z | 23311153 | EXCHANGE LAMP, PJ-D95-LMP |
| K501 #1 | 23311133 | SCREEN, 52K5M LENTICULAR SHEET |
| #2 | 23311137 | SCREEN, 62K5M LENTICULAR SHEET |
| K502 #1 | 23311072 | SCREEN, 52K4M FRESNEL SHEET |
| #2 | 23311081 | SCREEN, 62K4MF FRESNEL SHEET |
| K601 #1 | 23405453 | MIRROR, 52G4M3 |
| #2 | 23405455 | MIRROR, 62G4M3 |

| Location No. | Parts No. | Description |
|--------------|-----------|---------------------------------|
| SK01 | 23587525 | SERVICE KIT, LAMP FAN |
| SK02 | 23587526 | SERVICE KIT, DMD FAN |
| SK03 | 23587527 | SERVICE KIT, BALLAST FAN |
| SK04 | 23587528 | SERVICE KIT, THERMOSTAT |
| SK06 | 23587536 | SERVICE KIT, B TO F CABLE |
| SK08 | 23587538 | SERVICE KIT, S TO F CABLE |
| SK09 | 23587539 | SERVICE KIT, FAN TRANSFER CABLE |

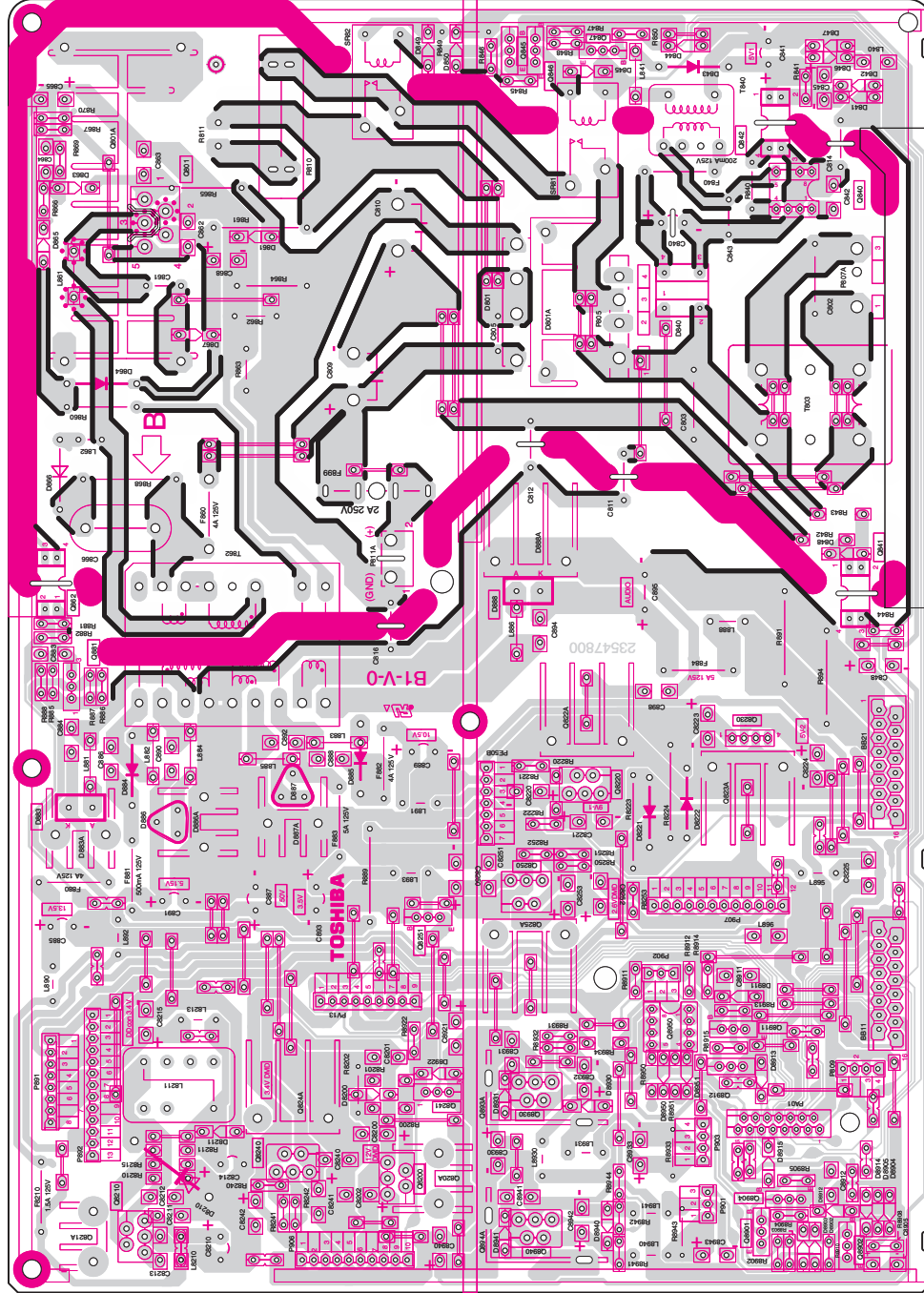
BACK AV BOARD PD1774C (U103)
BOTTOM (FOIL) SIDE



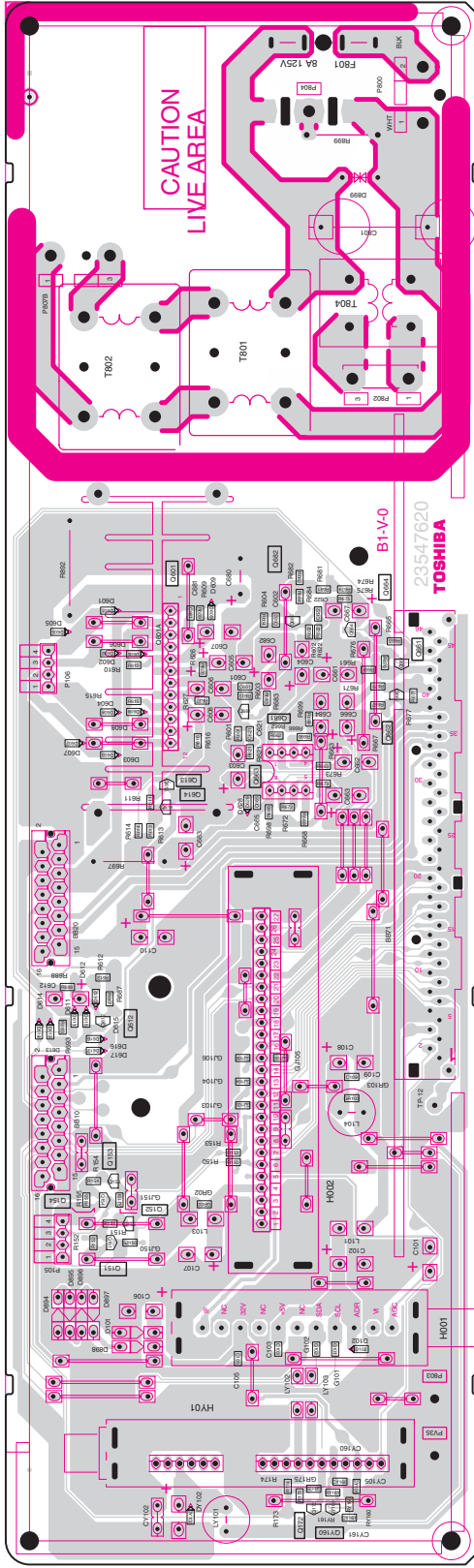
BACK AV BOARD PD1774C (U103)
 TOP (COMPONENT) SIDE



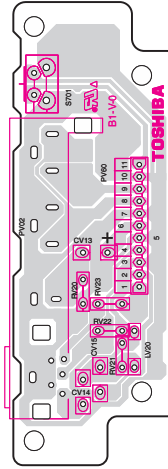
MAIN POWER BOARD PD2128A-1 (U802)
BOTTOM (FOIL) SIDE



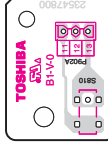
IF AUDIO BOARD PD1775D (U101)
BOTTOM (FOIL) SIDE



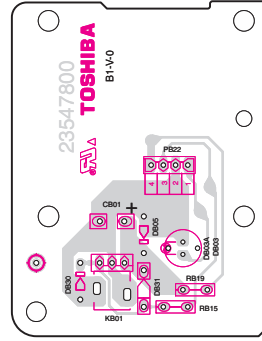
FRONT AV BOARD PD2128A-2 (UV03)
BOTTOM (FOIL) SIDE



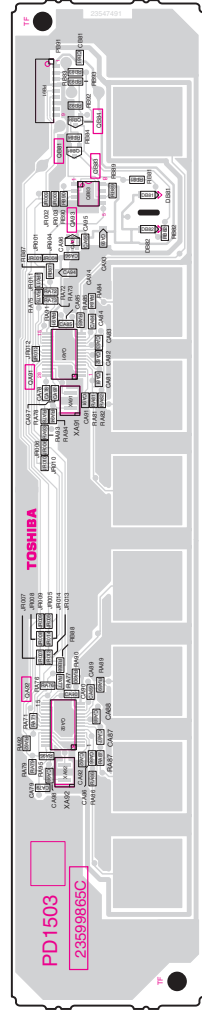
DOOR SWITCH BOARD PD2128A-4 (UA03)
BOTTOM (FOIL) SIDE



REMOTE SENSOR BOARD PD2128A-3 (UA02)
BOTTOM (FOIL) SIDE

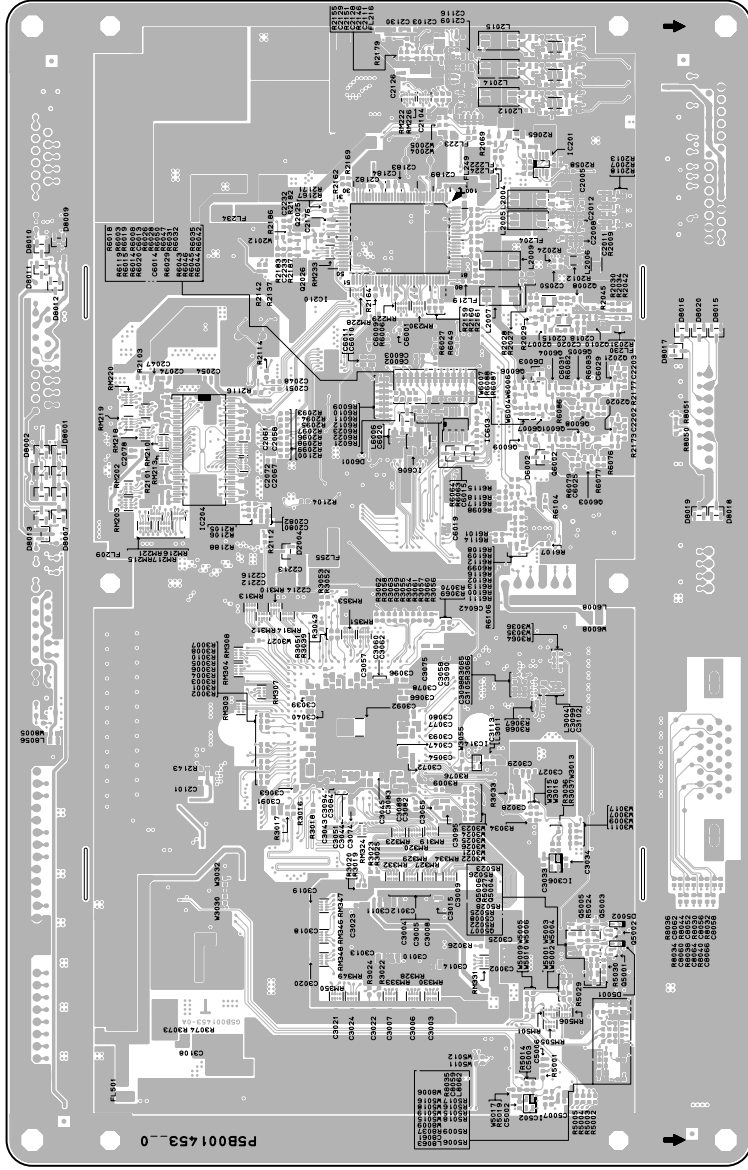


FRONT KEY BOARD PD2072H (UA06)
TOP (COMPONENT) SIDE

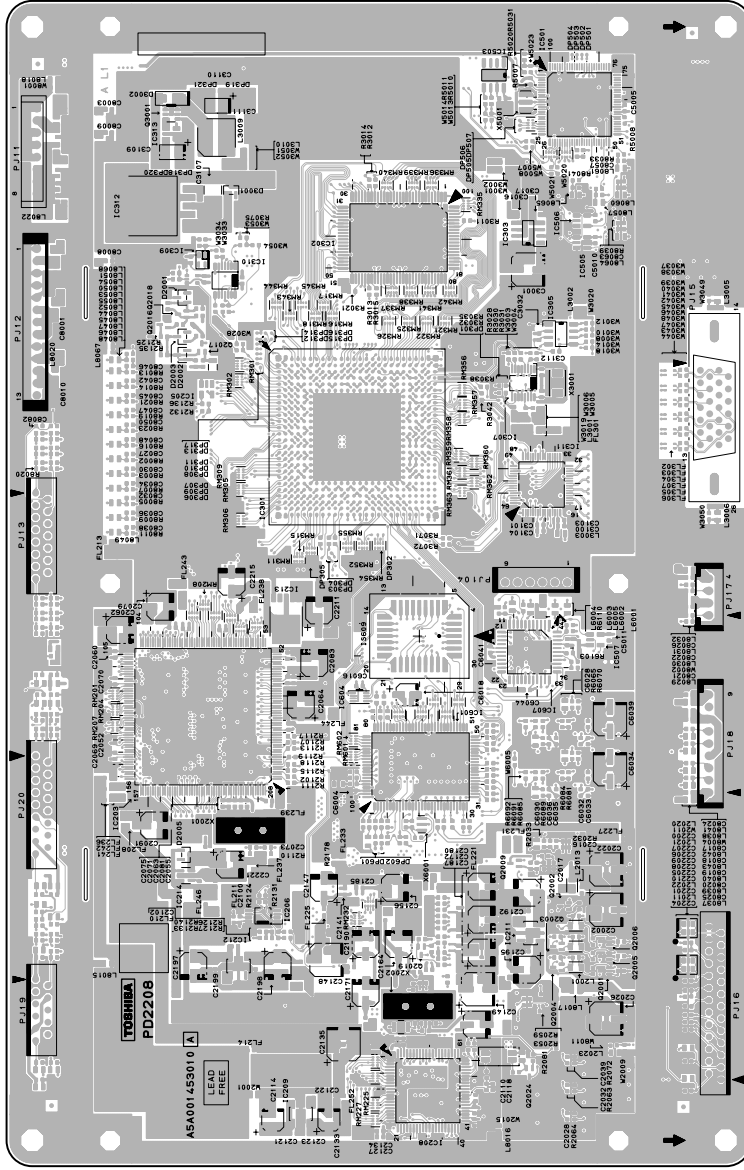


SCALER BOARD PD2208A1 (52HM85) (UD02)
SCALER BOARD PD2208B1 (62HM85) (UD02)

BOTTOM (FOIL) SIDE

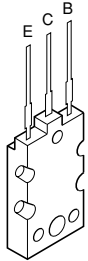


SCALER BOARD PD2208A1 (52HM85) (UD02)
 SCALER BOARD PD2208B1 (62HM85) (UD02)
 TOP (COMPONENT) SIDE

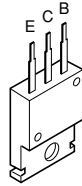


TERMINAL VIEW OF TRANSISTORS

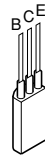
① 2SC5144
2SC5859



② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



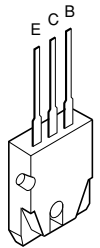
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



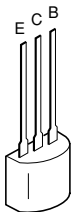
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



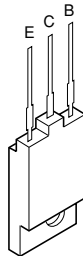
⑤ 2SA1788



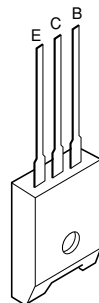
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SD2553
2SC5143



⑧ ON4409



SCHEMATIC DIAGRAM

MODEL : 52HM85/62HM85

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols " \triangle " 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 PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

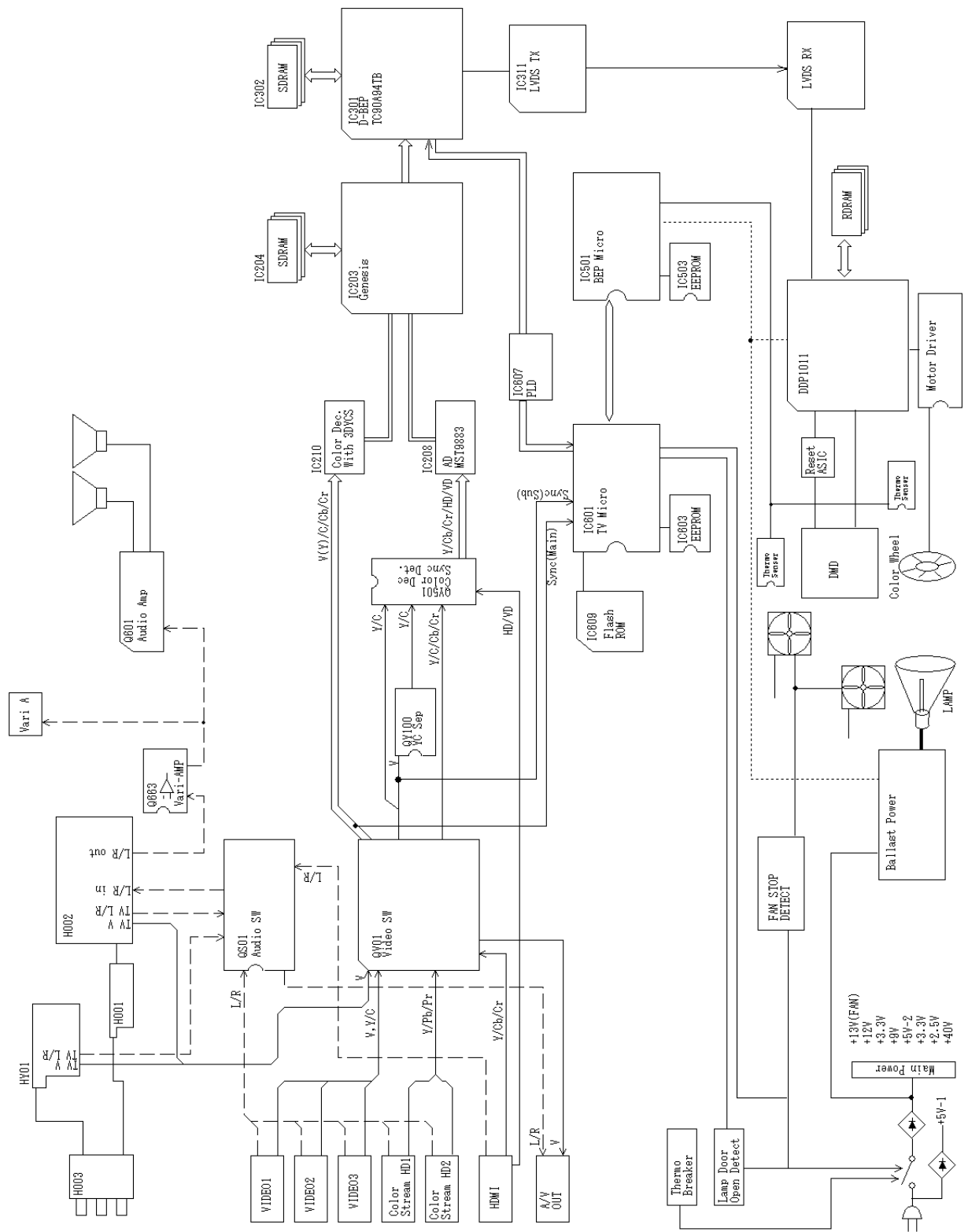
NOTE:

- 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 composition of 1/2 watt
 1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
 K = $\pm 10\%$ G = $\pm 2\%$ F = $\pm 1\%$
- CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in F, and the values more than 1 in pF.
 All capacitors are ceramic 50V, unless otherwise noted as the following marks.
 $\overset{+}{|}|$ Electrolytic capacitor $\textcircled{|}|$ Mylar capacitor
- The parts indicated with " \triangle " have special characteristics, and should be replaced with identical parts only.
- Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage at 220 volts.
- Waveforms are taken receiving color bar signal with enough sensitivity.
- Voltage reading shown are nominal values and may vary $\pm 20\%$ except H.V.

■ SCHEMA TIC DIAGRAM STRUCTURE:

| | | | |
|--|-------|-----------------------|-------|
| BACK AV Circuit | (1/5) | [SHEET - 1/5] | 1/52 |
| | (2/5) | [SHEET - 2/5] | 2/52 |
| | (3/5) | [SHEET - 3/5] | 3/52 |
| | (4/5) | [SHEET - 4/5] | 4/52 |
| | (5/5) | [SHEET - 5/5] | 5/52 |
| IF AUDIO Circuit | (1/3) | [SHEET - 1/3] | 6/12 |
| | (2/3) | [SHEET - 2/3] | 7/52 |
| | (3/3) | [SHEET - 3/3] | 8/52 |
| F-AV Circuit | | | 9/52 |
| AV_CONNECTOR Circuit..... | | | 10/52 |
| AD_LPF Circuit | | | 11/52 |
| DVCD2_LPF Circuit..... | | | 12/52 |
| DVCD1_LPF Circuit..... | | | 13/52 |
| 3chADC HD Circuit | | | 14/52 |
| 3chADC MST9883 Circuit..... | | | 15/52 |
| DVCD CSYNCIN Circuit | | | 16/52 |
| DVCD TC90A92AFG Circuit..... | | | 17/52 |
| DVCD POWER Circuit | | | 18/52 |
| GENESIS Circuit | (1/2) | [SHEET - 1/2] | 19/52 |
| | (2/2) | [SHEET - 2/2] | 20/52 |
| SDRAM Circuit | | | 21/52 |
| GENESIS_POWER Circuit | | | 22/52 |
| GENESIS_IIC Circuit..... | | | 23/52 |
| SCALER DIGITAL INPUT Circuit | | | 24/52 |
| SCALER CAPTURE INPUT Circuit | | | 25/52 |
| DDR SDRAM Circuit..... | | | 26/52 |
| SCALER PLL Circuit..... | | | 27/52 |
| OSD for North America Circuit..... | | | 28/52 |
| IIC Circuit..... | | | 29/52 |
| 94TB POWER Circuit | | | 30/52 |
| LVDS OUT Circuit..... | | | 31/52 |
| Power (3.3V_2 to 2.5V_DVCC) Circuit | | | 32/52 |
| LVDS OUT CONNECTOR Circuit | | | 33/52 |
| DC/DC CONVERTER Circuit..... | | | 34/52 |
| SUB MICON Circuit | (1/3) | [SHEET - 1/3] | 35/52 |
| | (2/3) | [SHEET - 2/3] | 36/52 |
| | (3/3) | [SHEET - 3/3] | 37/52 |
| OSD MICON 4/4 Circuit..... | | | 38/52 |
| MICON Circuit | (1/3) | [SHEET - 1/3] | 39/52 |
| | (2/3) | [SHEET - 2/3] | 40/52 |
| | (2/3) | [SHEET - 3/3] | 41/52 |
| TV MICON RESET IC & FLASH Circuit | | | 42/52 |
| SYNC_DETECT Circuit | | | 43/52 |
| PLD (US OSD SYNC Generator) Circuit | | | 44/52 |
| POWER_CONNECTOR Circuit..... | | | 45/52 |
| TV MICON CONNECTOR (1) Circuit | | | 46/52 |
| CONNECTOR (TV MICON-POWER BOARD) Circuit | | | 47/52 |
| CONNECTOR (DLF I/F) Circuit | | | 48/52 |
| SERVICE CONNECTOR Circuit..... | | | 49/52 |
| Front Key Circuit..... | | | 50/52 |
| MAIN POWER Circuit | | | 51/52 |
| AC IN Circuit..... | | | 52/52 |

CIRCUIT BLOCK DIAGRAM



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

TOSHIBA

FILE NO. 020-200506

CIRCUIT DIAGRAMS

Projection Television

52HM85
62HM85



SCHEMATIC DIAGRAM

MODEL : 52HM85/62HM85

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols " \triangle " 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 PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

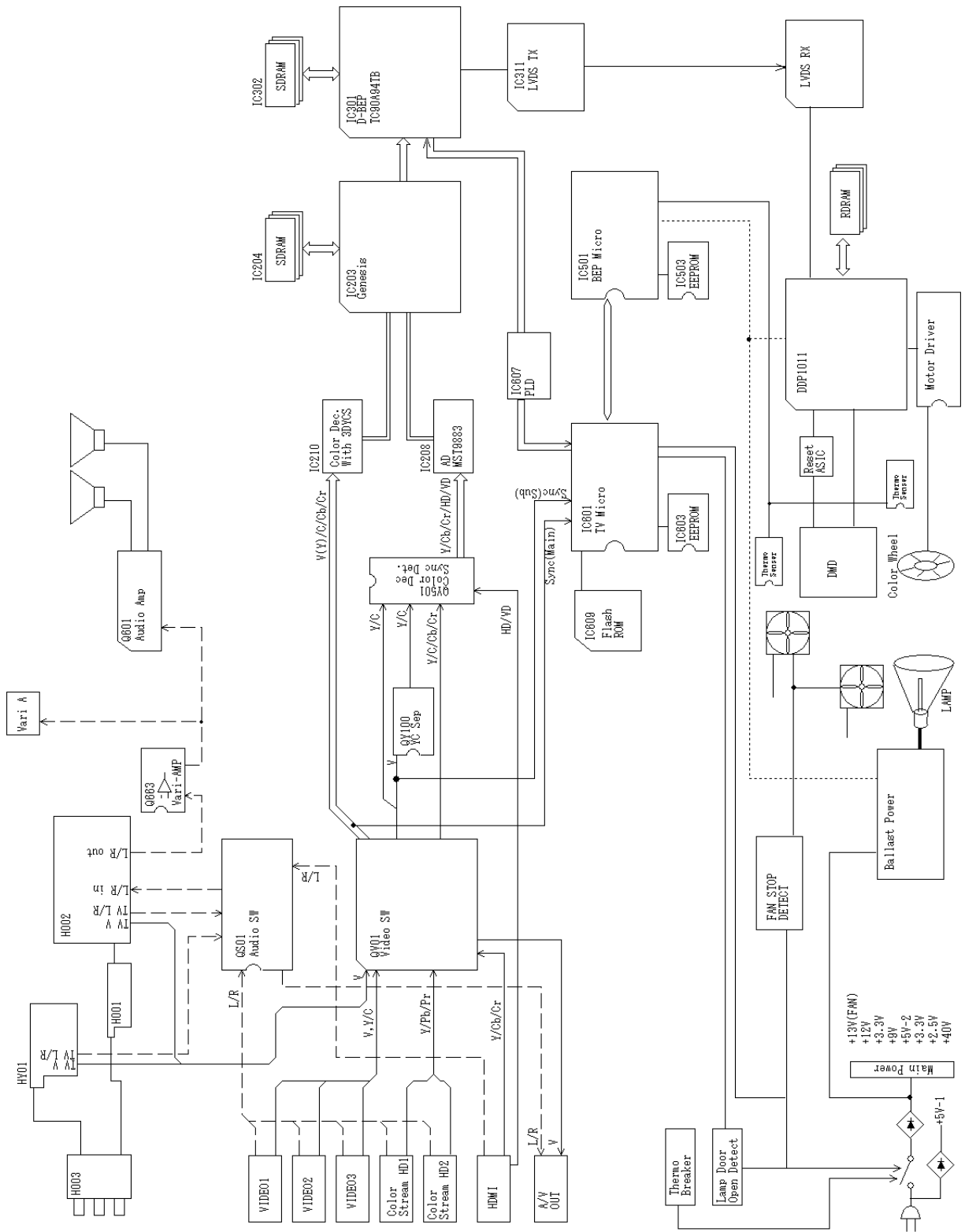
NOTE:

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 composition of 1/2 watt
1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
K = $\pm 10\%$ G = $\pm 2\%$ F = $\pm 1\%$
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in F, and the values more than 1 in pF.
All capacitors are ceramic 50V, unless otherwise noted as the following marks.
 Electrolytic capacitor  Mylar capacitor
3. The parts indicated with " \triangle " 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 at 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary $\pm 20\%$ except H.V.

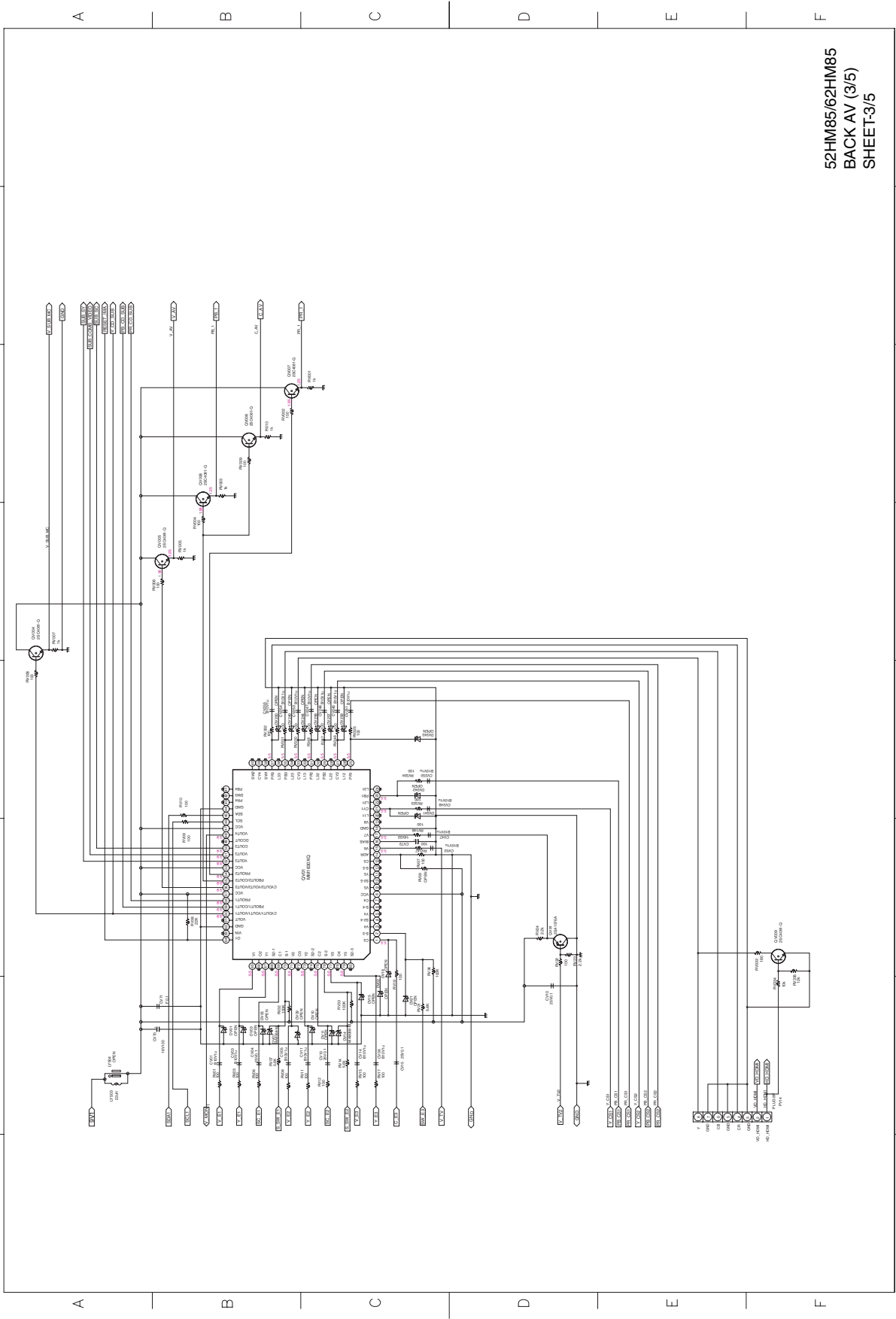
■ SCHEMA TIC DIAGRAM STRUCTURE:

| | | | |
|--|-------|-----------------------|-------|
| BACK AV Circuit | (1/5) | [SHEET - 1/5] | 1/52 |
| | (2/5) | [SHEET - 2/5] | 2/52 |
| | (3/5) | [SHEET - 3/5] | 3/52 |
| | (4/5) | [SHEET - 4/5] | 4/52 |
| | (5/5) | [SHEET - 5/5] | 5/52 |
| IF AUDIO Circuit | (1/3) | [SHEET - 1/3] | 6/12 |
| | (2/3) | [SHEET - 2/3] | 7/52 |
| | (3/3) | [SHEET - 3/3] | 8/52 |
| F-AV Circuit | | | 9/52 |
| AV_CONNECTOR Circuit..... | | | 10/52 |
| AD_LPF Circuit | | | 11/52 |
| DVCD2_LPF Circuit..... | | | 12/52 |
| DVCD1_LPF Circuit..... | | | 13/52 |
| 3chADC HD Circuit | | | 14/52 |
| 3chADC MST9883 Circuit..... | | | 15/52 |
| DVCD CSYNCIN Circuit | | | 16/52 |
| DVCD TC90A92AFG Circuit..... | | | 17/52 |
| DVCD POWER Circuit | | | 18/52 |
| GENESIS Circuit | (1/2) | [SHEET - 1/2] | 19/52 |
| | (2/2) | [SHEET - 2/2] | 20/52 |
| SDRAM Circuit | | | 21/52 |
| GENESIS_POWER Circuit | | | 22/52 |
| GENESIS_IIC Circuit..... | | | 23/52 |
| SCALER DIGITAL INPUT Circuit | | | 24/52 |
| SCALER CAPTURE INPUT Circuit | | | 25/52 |
| DDR SDRAM Circuit..... | | | 26/52 |
| SCALER PLL Circuit..... | | | 27/52 |
| OSD for North America Circuit..... | | | 28/52 |
| IIC Circuit..... | | | 29/52 |
| 94TB POWER Circuit | | | 30/52 |
| LVDS OUT Circuit..... | | | 31/52 |
| Power (3.3V_2 to 2.5V_DVCC) Circuit | | | 32/52 |
| LVDS OUT CONNECTOR Circuit | | | 33/52 |
| DC/DC CONVERTER Circuit..... | | | 34/52 |
| SUB MICON Circuit | (1/3) | [SHEET - 1/3] | 35/52 |
| | (2/3) | [SHEET - 2/3] | 36/52 |
| | (3/3) | [SHEET - 3/3] | 37/52 |
| OSD MICON 4/4 Circuit..... | | | 38/52 |
| MICON Circuit | (1/3) | [SHEET - 1/3] | 39/52 |
| | (2/3) | [SHEET - 2/3] | 40/52 |
| | (2/3) | [SHEET - 3/3] | 41/52 |
| TV MICON RESET IC & FLASH Circuit | | | 42/52 |
| SYNC_DETECT Circuit | | | 43/52 |
| PLD (US OSD SYNC Generator) Circuit | | | 44/52 |
| POWER_CONNECTOR Circuit..... | | | 45/52 |
| TV MICON CONNECTOR (1) Circuit | | | 46/52 |
| CONNECTOR (TV MICON-POWER BOARD) Circuit | | | 47/52 |
| CONNECTOR (DLF I/F) Circuit | | | 48/52 |
| SERVICE CONNECTOR Circuit..... | | | 49/52 |
| Front Key Circuit..... | | | 50/52 |
| MAIN POWER Circuit..... | | | 51/52 |
| AC IN Circuit..... | | | 52/52 |

CIRCUIT BLOCK DIAGRAM

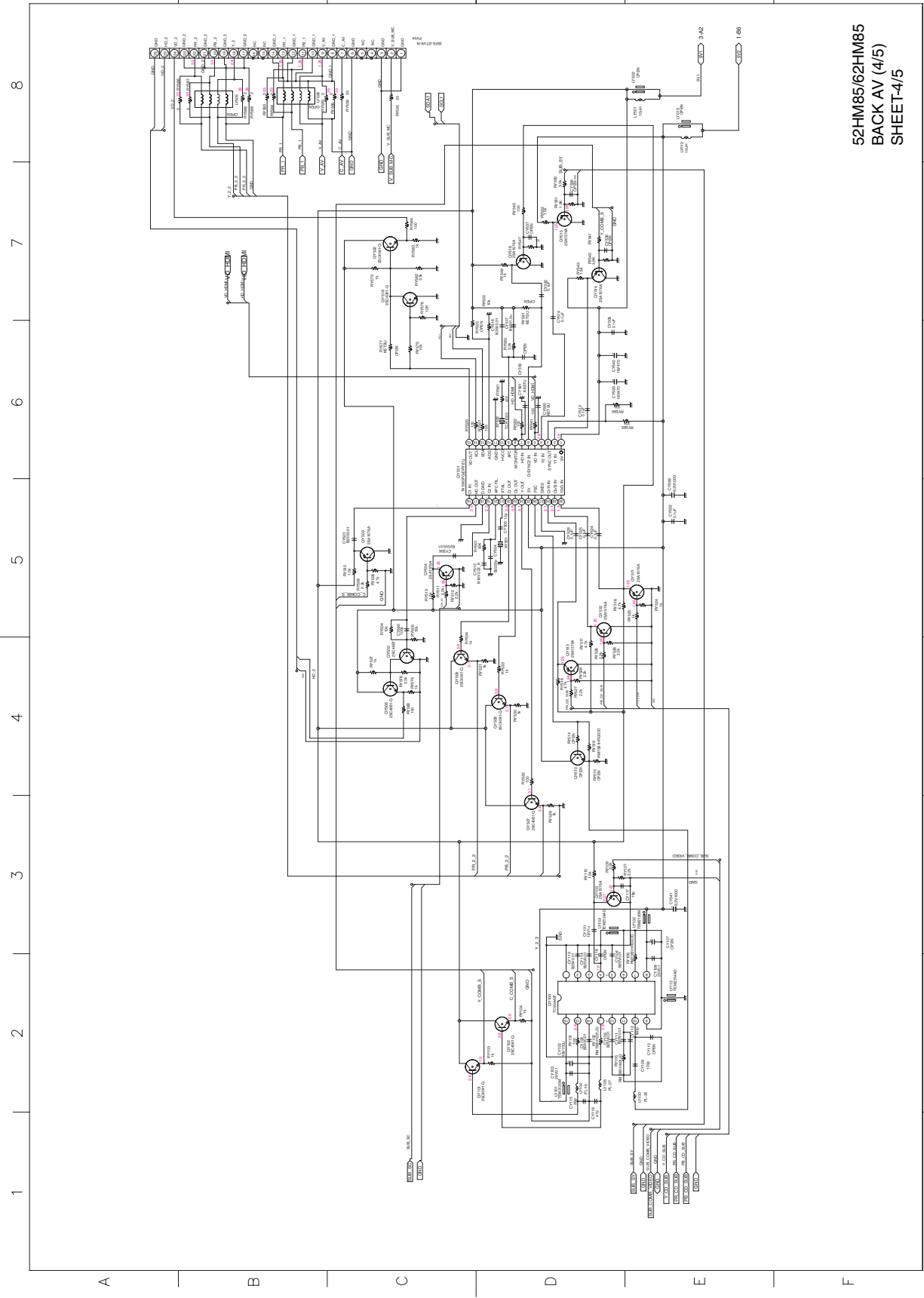


1 2 3 4 5 6 7 8



52HM85/62HM85
 BACK AV (3/5)
 SHEET-3/5

1 2 3 4 5 6 7 8



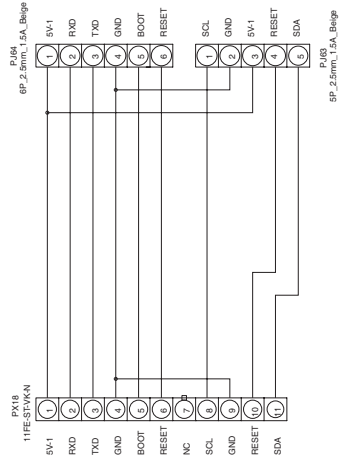
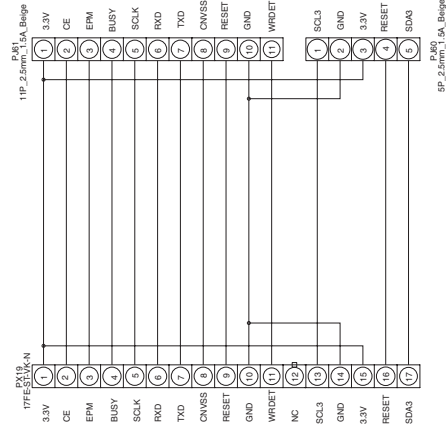
52HM85/62HM85
 BACK AV (4/5)
 SHEET-4/5

2

1

A

B



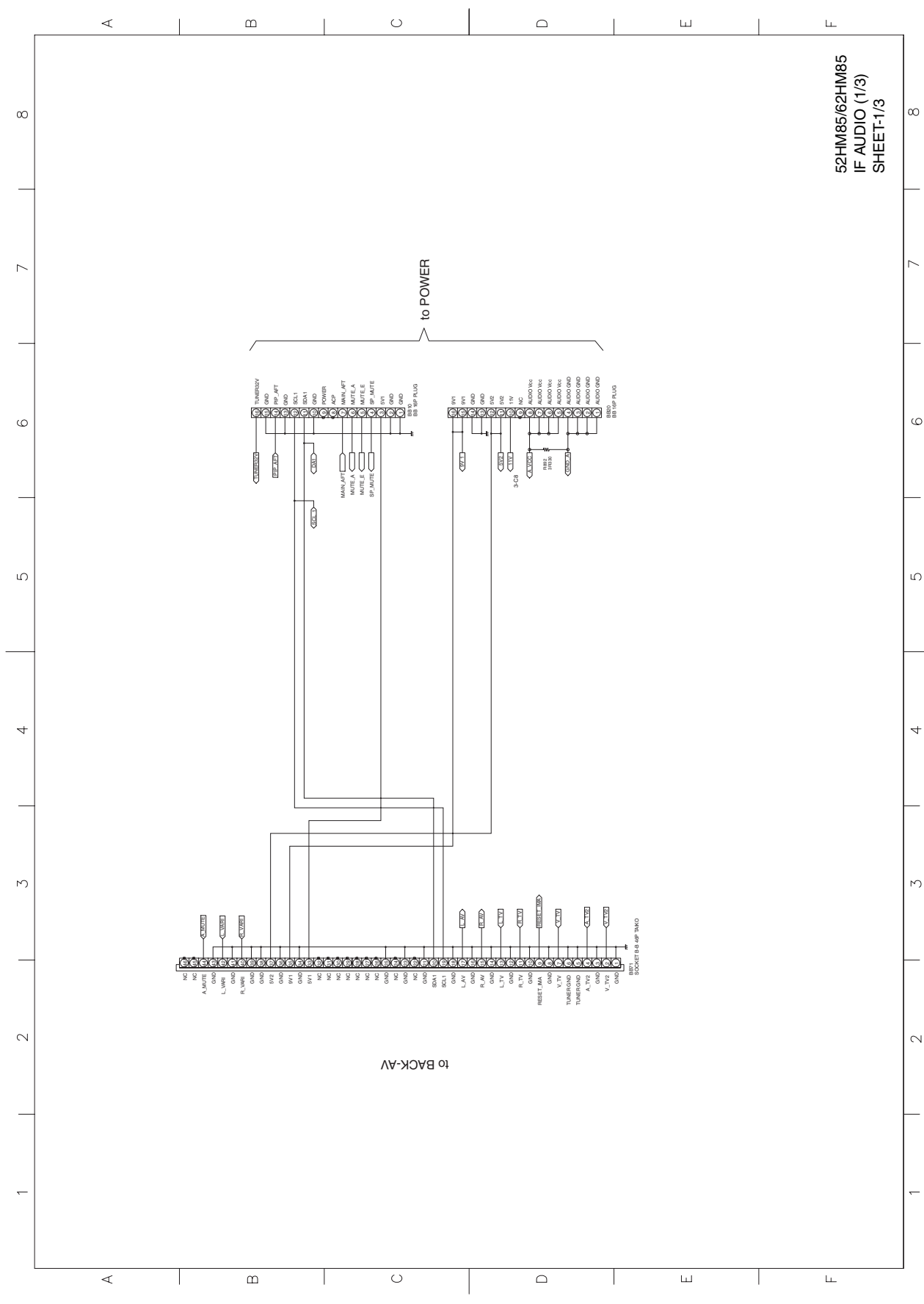
A

B

2

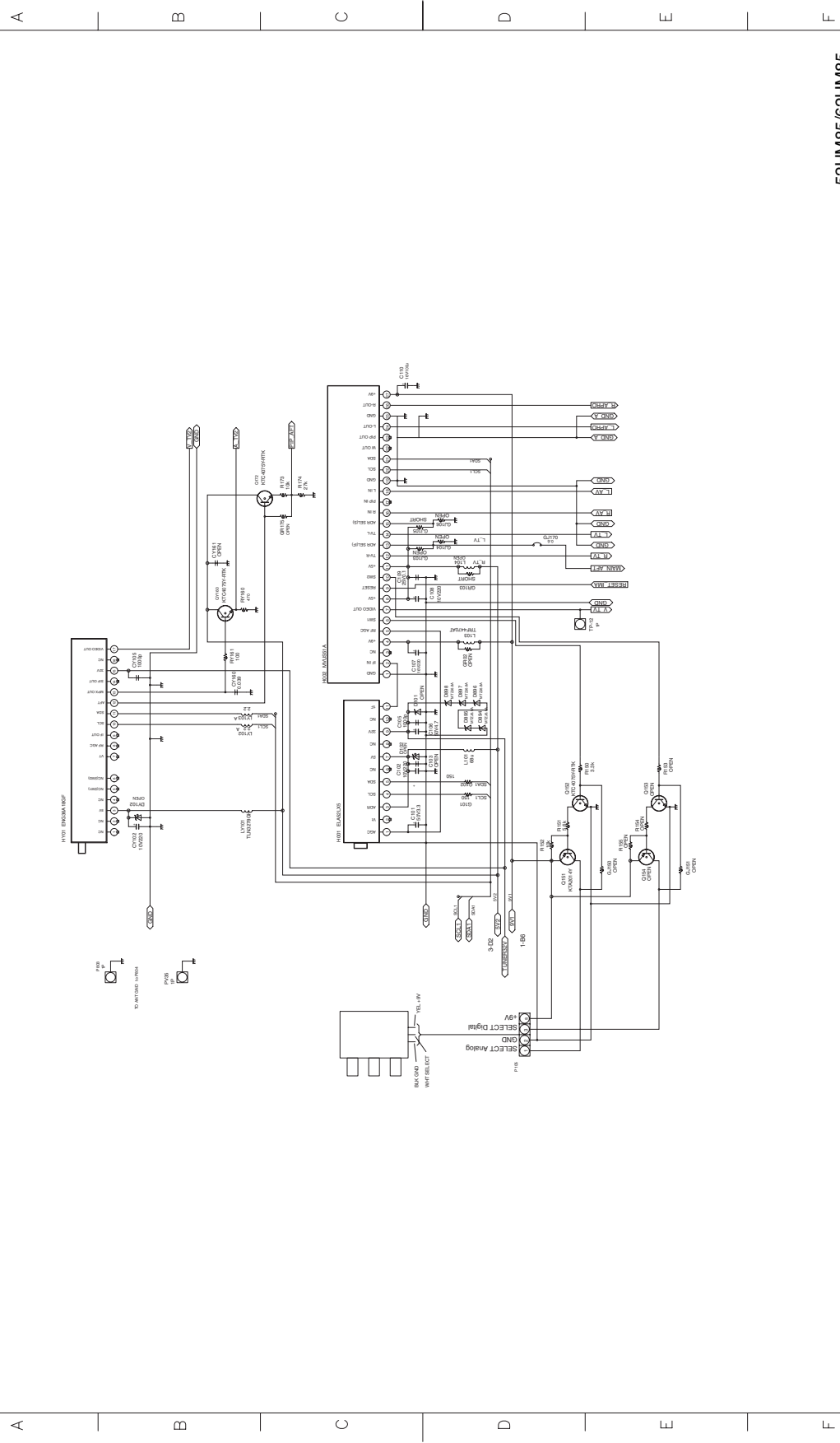
1

52HM85/62HM85
 BACK AV (5/5)
 SHEET-5/5



52HM85/62HM85
IF-AUDIO (1/3)
SHEET-1/3

1 2 3 4 5 6 7 8



52HM85/62HM85
 IF AUDIO (2/3)
 SHEET-2/3