

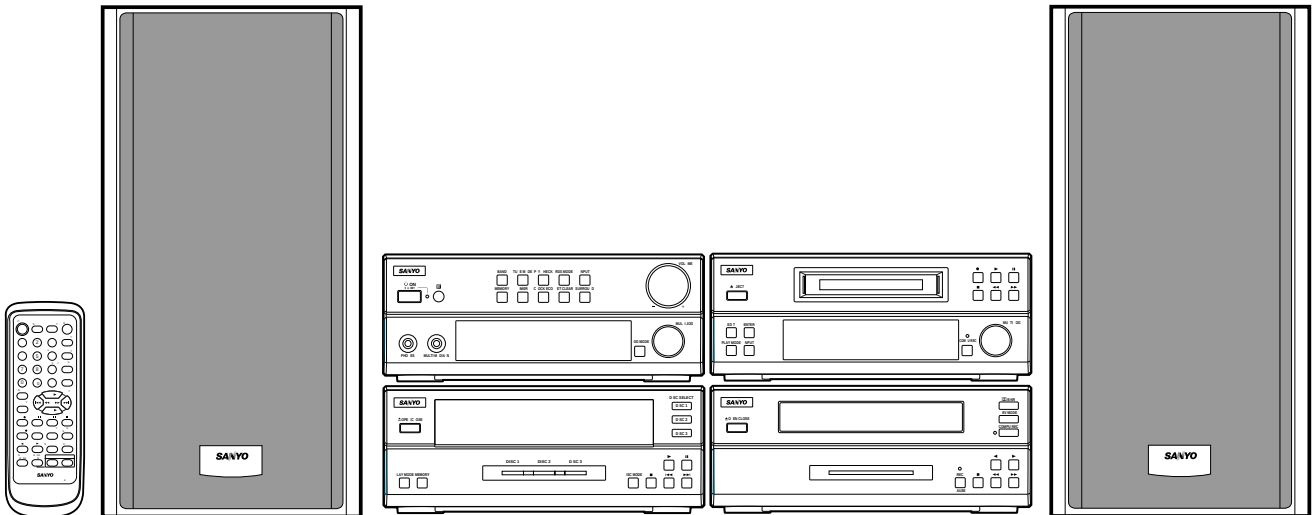
FILE NO.

## Service Manual

## Separate Mini Component System

**DC-X8CT** (UK)  
**DC-X8CM** (UK)  
**DC-088C** (XE)  
**DC-088C** (SP)  
**RD-X8** (UK-2)  
**RD-088** (XE)  
**RD-088** (SP)  
**MDG-088** (XE)

Exapmle: DC-X8CM+RD-X8



**Tape Deck** **RD-X8** (UK-2)  
 (Option for DC-X8CM/UK)  
**Tape Deck** **RD-088** (XE)  
 (Option for DC-088C/XE)  
**Tape Deck** **RD-088** (SP)  
 (Option for DC-088C/SP)  
**MD Deck** **MDG-088** (XE)  
 (Option for DC-088C/XE)

### PRODUCT CODE No.

129 607 06 (DC-X8CT/UK)  
 129 607 07 (DC-X8CM/UK)  
 129 607 01 (DC-088C/XE)  
 129 607 08 (DC-088C/SP)  
 142 802 06 (RD-X8/UK-2)  
 142 802 01 (RD-088/XE)  
 142 802 07 (RD-088/SP)  
 137 106 01 (MDG-088/XE)

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## SPECIFICATIONS

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### TUNER/AMPLIFIER SECTION(JCX-X8/JCX-088)

|                           |                                  |
|---------------------------|----------------------------------|
| Reception frequency ..... | FM : 87.5 - 108 MHz              |
|                           | AM : 522 - 1,611 kHz             |
| Output power .....        | 30W x 2 (at 6 ohm,10%distortion) |
| Inputs .....              | VIDEO (AUDIO) : 500 mV/50k ohms  |
|                           | MULTI MEDIA IN : 500 mV/50k ohms |
| Outputs .....             | SPEAKERS : 6 ohms                |
|                           | PHONES : 8 - 32 ohms             |
|                           | SUB WOOFER OUT : 10k ohms        |
| Power requirements .....  | AC 230V, 50 Hz                   |
| Power consumption .....   | 80W                              |
|                           | 1.0W (Eco On standby mode)       |
|                           | 15W (Eco Off standby mode)       |
| Dimensions .....          | 225 (W) x 89 (H) x 272 (D) mm    |
| Weight .....              | 3.6kg                            |

### MD DECK SECTION (MDG-X8/MDG-088)

|                          |                                    |
|--------------------------|------------------------------------|
| Sampling frequency ..... | 44.1 kHz                           |
| Pick-up .....            | Optical 3-beam semiconductor laser |
| Laser output .....       | 6.85 mW (Continuous wave max.)     |
| Wave length .....        | 685 nm                             |
| Wow flutter .....        | Below measurable limits            |
| Recording system .....   | Magnetic modulation over write     |
| Input .....              | OPTICAL DIGITAL IN : Optical       |
| Power supply .....       | Supplied from the Tuner/Amplifier  |
| Dimensions .....         | 225 (W) x 89 (H) x 272 (D) mm      |
| Weight .....             | 1.7kg                              |

### CD SECTION (CP-X8/CP-088, CD CHANGER)

|                          |                                    |
|--------------------------|------------------------------------|
| Type .....               | Changer, 3-disc                    |
| Channels .....           | 2-channel stereo                   |
| Sampling frequency ..... | 44.1 kHz                           |
| Pick-up .....            | Optical 3-beam semiconductor laser |
| Laser output .....       | 0.6 mW (Continuous wave max.)      |
| Wave length .....        | 790 nm                             |
| Frequency response ..... | 20 Hz to 20 kHz                    |
| Wow/flutter .....        | Below measurable limits            |
| Output .....             | OPTICAL DIGITAL OUT : Optical      |
| Power supply .....       | Supplied from the Tuner/Amplifier  |
| Dimensions .....         | 225 (W) x 89 (H) x 272 (D) mm      |
| Weight .....             | 2.1 kg                             |

### SPEAKER SYSTEM (SX-X8/SX-088)

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| Type .....                            | 3 way bass reflex                          |
|                                       | Built-in magnetic stray field compensation |
| Unit used .....                       | Woofers : 15 cm cone type                  |
|                                       | Mid range : 8 cm cone type                 |
|                                       | Tweeter : 3.5 cm balance driver            |
| Maximum power-handling capacity ..... | 60W (peak)                                 |
| Nominal impedance .....               | 6 ohms                                     |
| Dimensions .....                      | 185 (W) x 358 (H) x 255 (D) mm             |

### TAPE DECK SECTION (RD-X8/RD-088)

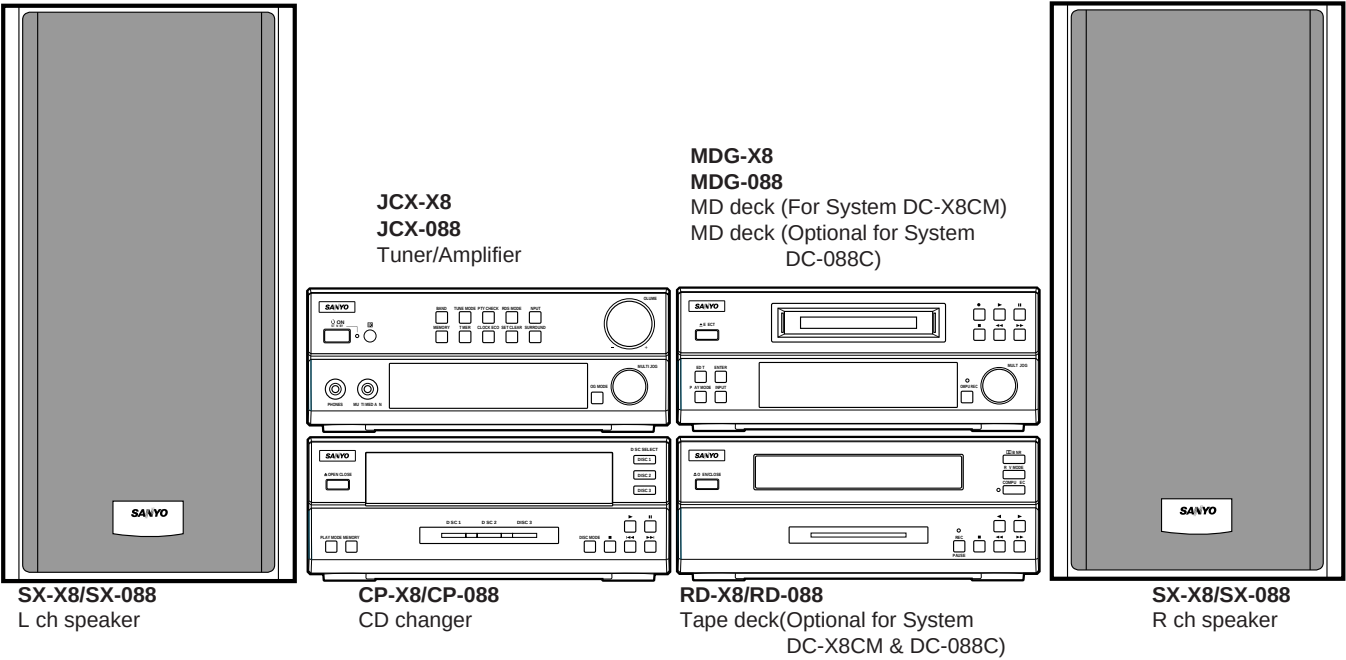
|                             |                                         |
|-----------------------------|-----------------------------------------|
| Track system .....          | 4-track, 2-channel stereo               |
| Frequency response .....    | 50 Hz to 16 kHz (CrO <sub>2</sub> tape) |
|                             | 50 Hz to 15 kHz (Normal tape)           |
| Signal-to-noise ratio ..... | 60dB (Dolby B NR ON)                    |
| Wow/flutter .....           | 0.12%(WRMS)                             |
| Fast forward/rewind time .. | Approx.110 sec. (C-60)                  |
| Power supply .....          | Supplied from the Tuner/Amplifier       |
| Dimensions .....            | 225 (W) x 89(H) x 272 (D) mm            |
| Weight .....                | 2.0 kg                                  |

Specifications subject to change without notice.

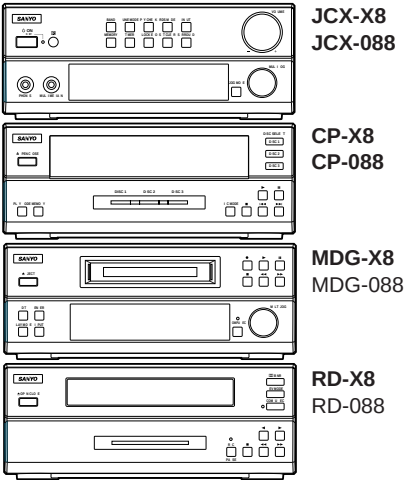
COMPONENT SYSTEM COMPOSITION

| System DC-X8CT/UK                                                                         | System DC-X8CM/UK                                                                                                           | System DC-088C/XE                                                                                                                                 | System DC-088C/SP                                                                                              |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Tuner/Amplifier: JCX-X8<br>CD changer: CP-X8<br>Tape deck: RD-X8<br>Speaker system: SX-X8 | Tuner/Amplifier: JCX-X8<br>CD changer: CP-X8<br>MD deck: MDG-X8<br>Speaker system: SX-X8<br>Tape deck: SANYO RD-X8 (Option) | Tuner/Amplifier: JCX-088<br>CD changer: CP-088<br>Speaker system: SX-088<br>Tape deck: S ANYO RD-088(Optional)<br>MD deck: SANYO MDG-088 (Option) | Tuner/Amplifier: JCX-088<br>CD changer: CP-088<br>Speaker system: SX-088<br>Tape deck: S ANYO RD-088(Optional) |

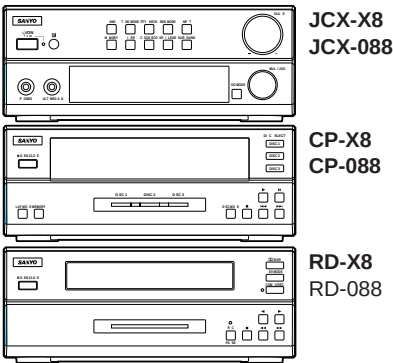
Example 1



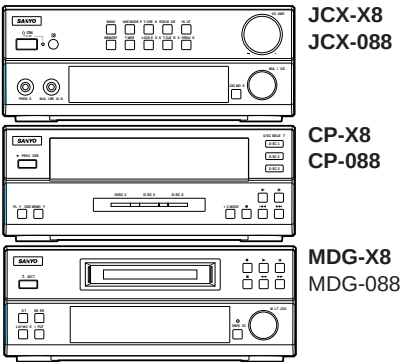
Example 2



Example 3



Example 4



**CAUTION:**  
Placing the system in a well ventilated area is strongly recommended. Do not place any object on the top of the JCX-X8/JCX-088 Tuner/Amplifier. The cabinet of the Tuner/Amplifier warms up when the system is used for a long time, but it is not a malfunction.

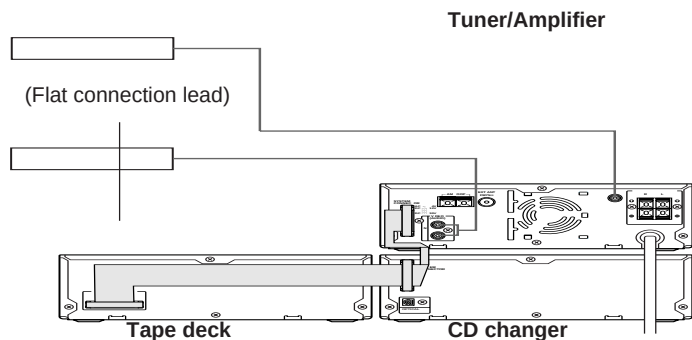
## SYSTEM CONNECTIONS

Notes:

- **Do not connect the mains lead to an AC outlet until all connections have been made.**
- The system is not completely disconnected from the mains when the  $\phi$ /ON button is set to the  $\phi$  position.
- To prevent a noise interference from the mains, the core clamp is attached to the mains lead. Do not remove it.

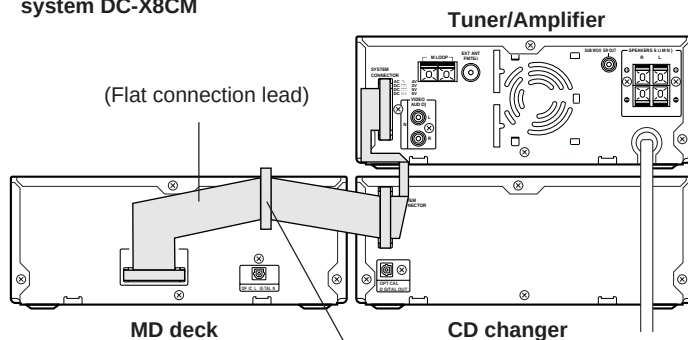
### For System DC-X8CT:

Example for the flat connection lead connection



### For System DC-X8CM:

Example for the flat connection lead connection when using only the system DC-X8CM



Do not remove the protective tape on the plug that is not used.

## System connections

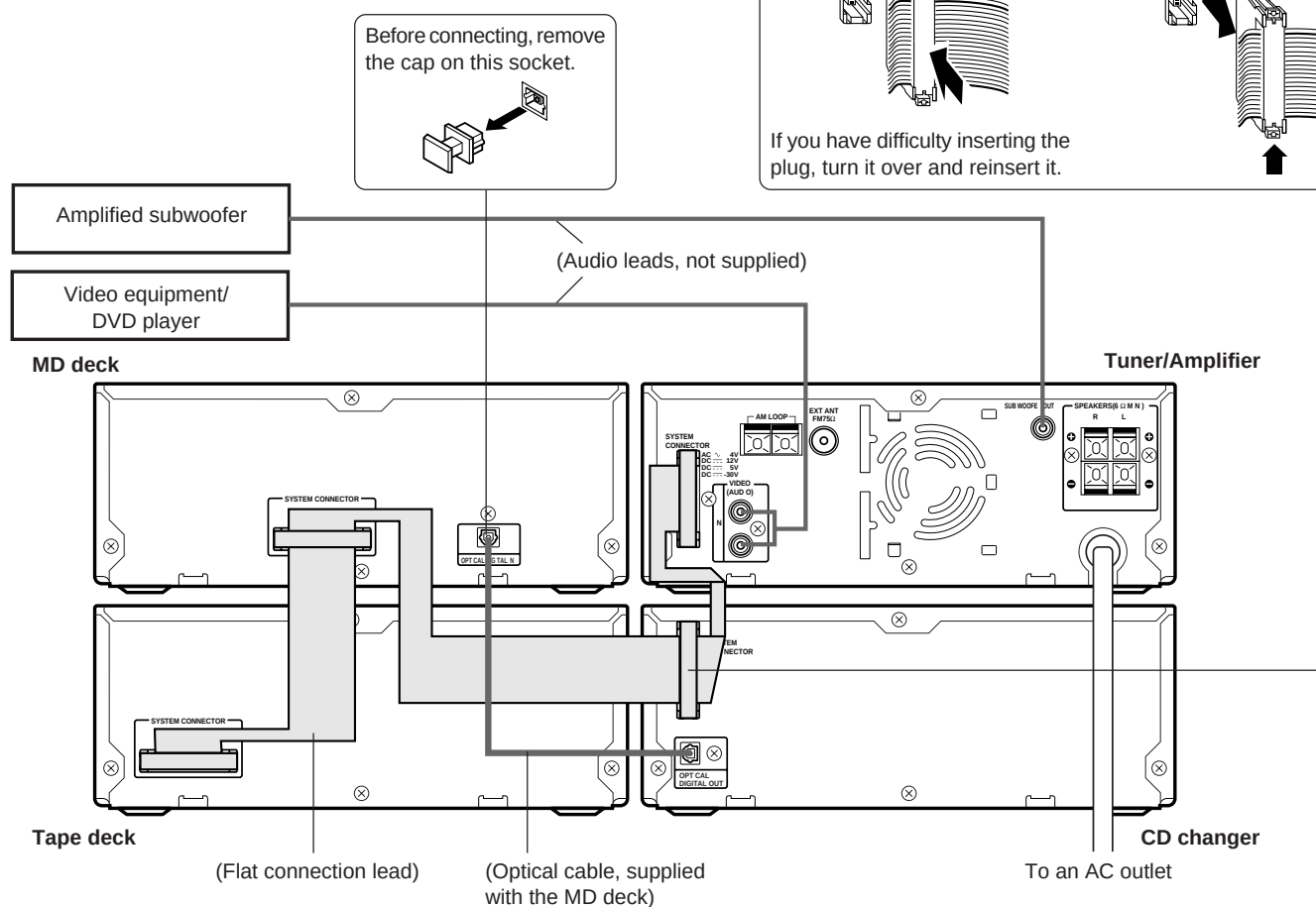
Example:

System DC-X8CM and optional Tape deck

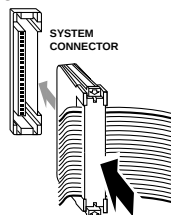
For System DC-X8CM:

Notes on the flat connection lead

When using the system DC-X8CM and optional Tape deck, remove the protective tape on the plug before connecting.

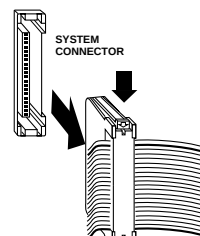


To connect, push the middle of the plug and insert it until it clicks.



If you have difficulty inserting the plug, turn it over and reinsert it.

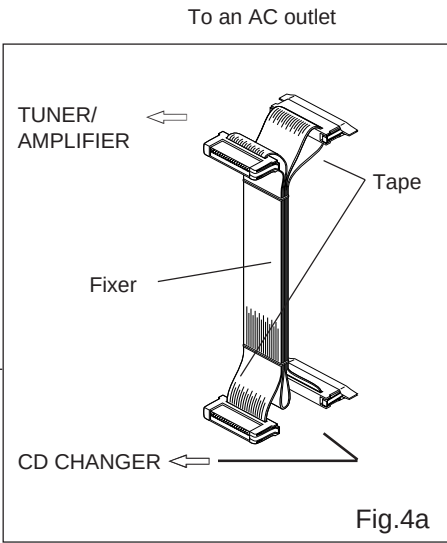
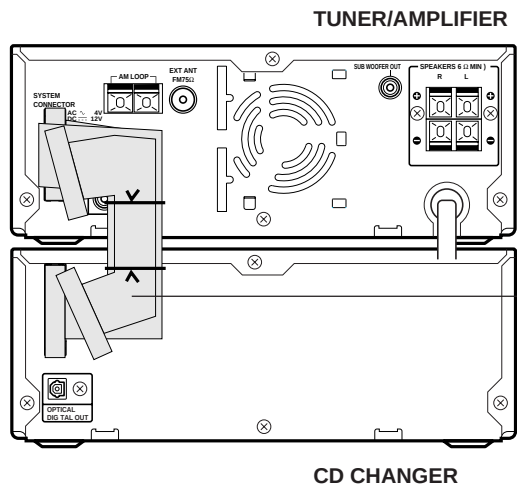
To disconnect, while pressing both latches, remove the plug.



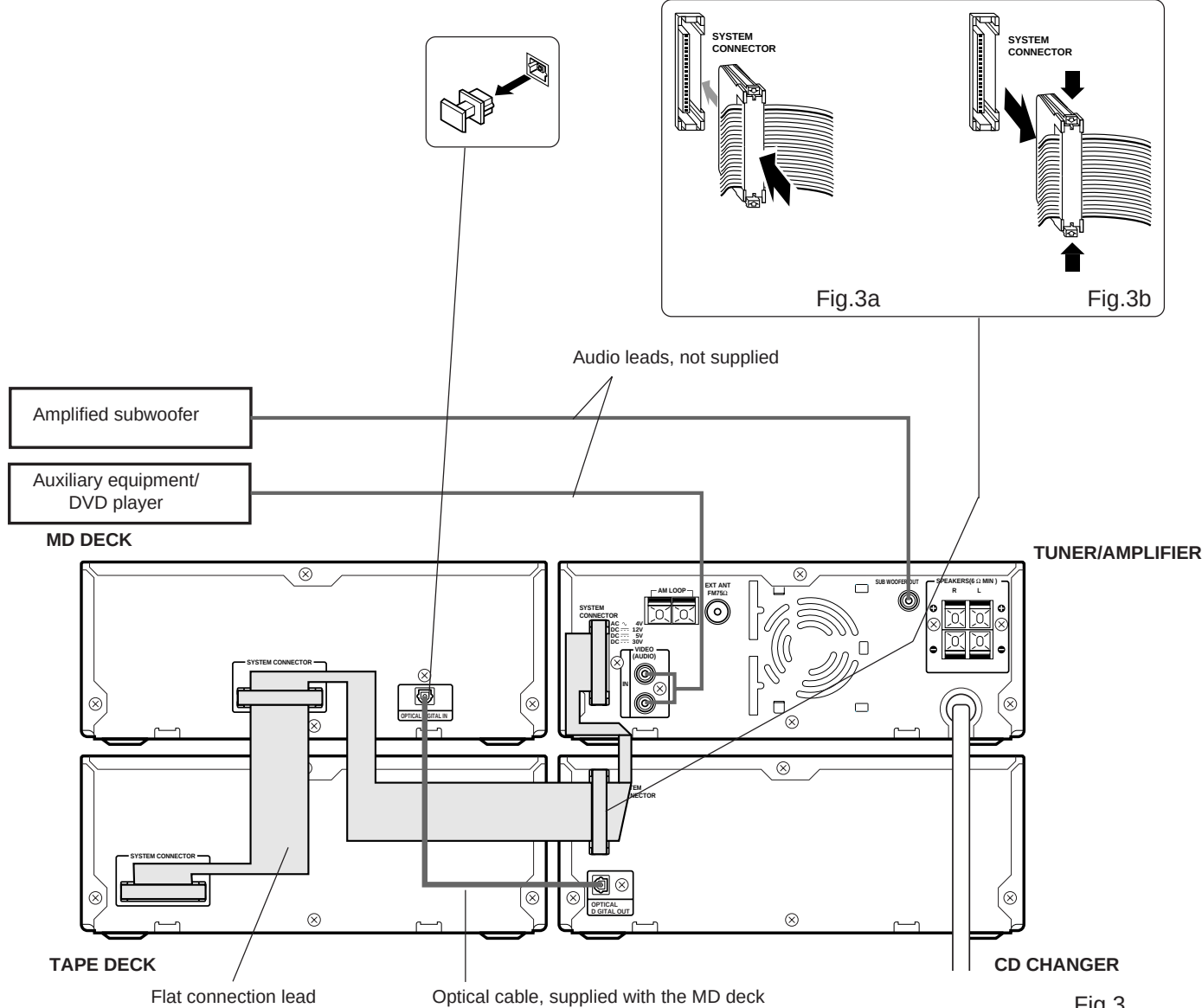
SYSTEM CONNECTIONS

Notes: Please refer to the notes for each items on the page 4.

For System DC-088C/XE



Example1: System DC-088C + Tape deck + MD deck



SYSTEM CONNECTIONS

Notes: Please refer to the notes for each items on the page 4.

For System DC-088C/SP

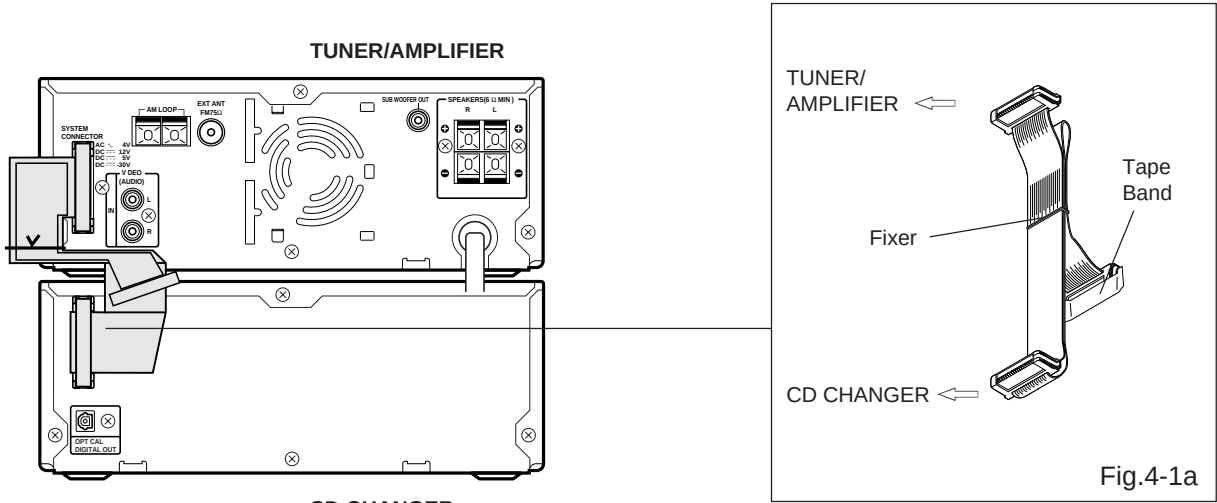
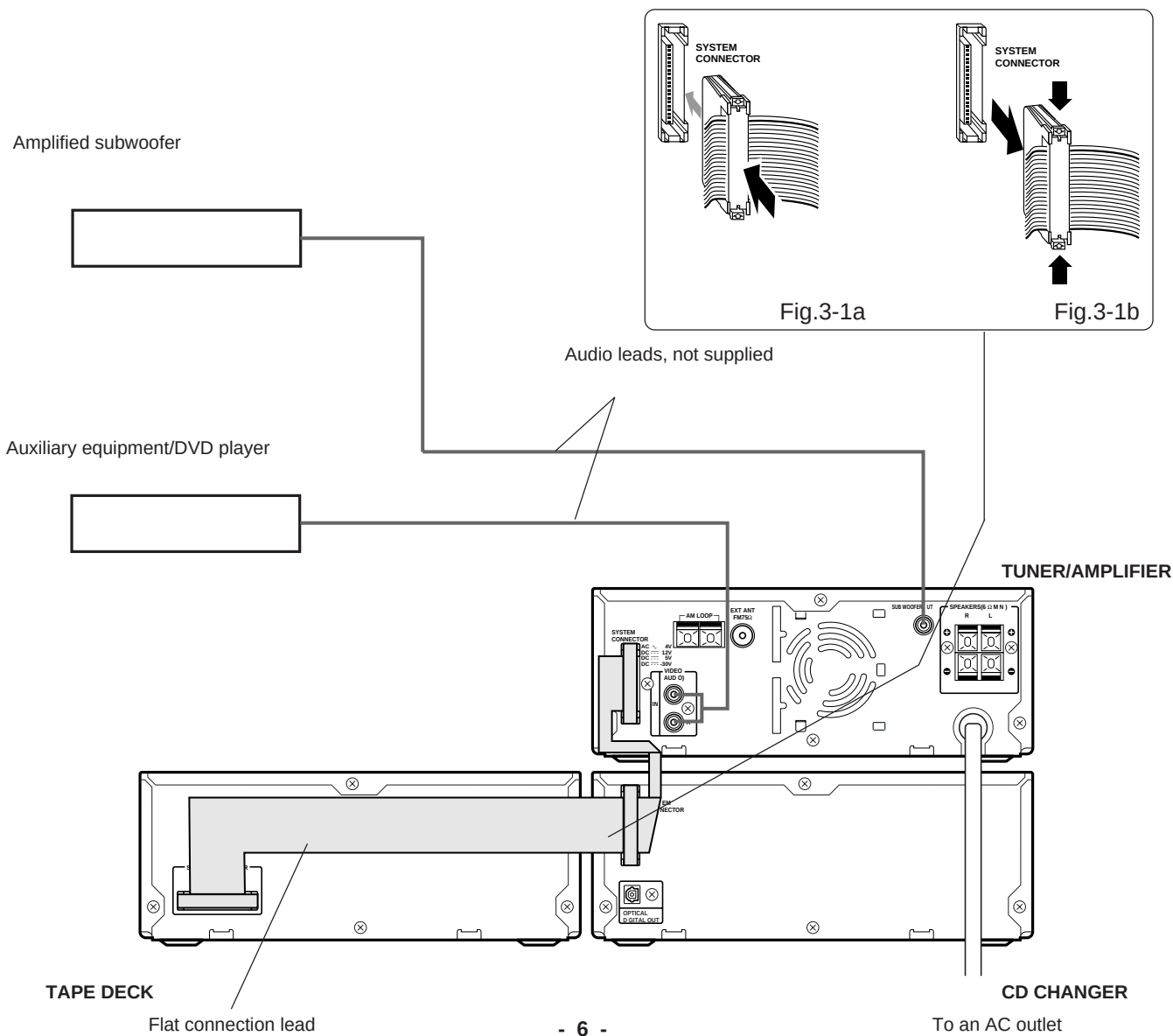


Fig.4-1

Example: System DC-088C + Tape deck



## SYSTEM CONNECTIONS

### Aerials

In areas close to a transmitter the simple indoor aerial is sufficient to receive broadcasts. Extend the aerial wire as straight as possible and, while listening to the sound from the system, secure it in a position which yields minimal distortion and noise.

### AM loop aerial

Assemble the loop aerial as shown in figure. Unwind the aerial wires, then connect them to the AM LOOP terminals. Place the loop aerial in a position which yields the best AM reception, or attach it to a wall or other surface as shown in figure.

Note:

To minimize noise, the speaker, mains and any other leads should not come close to the indoor or external aerial lead and AM loop aerial. Do not place the aerial leads close to the system.

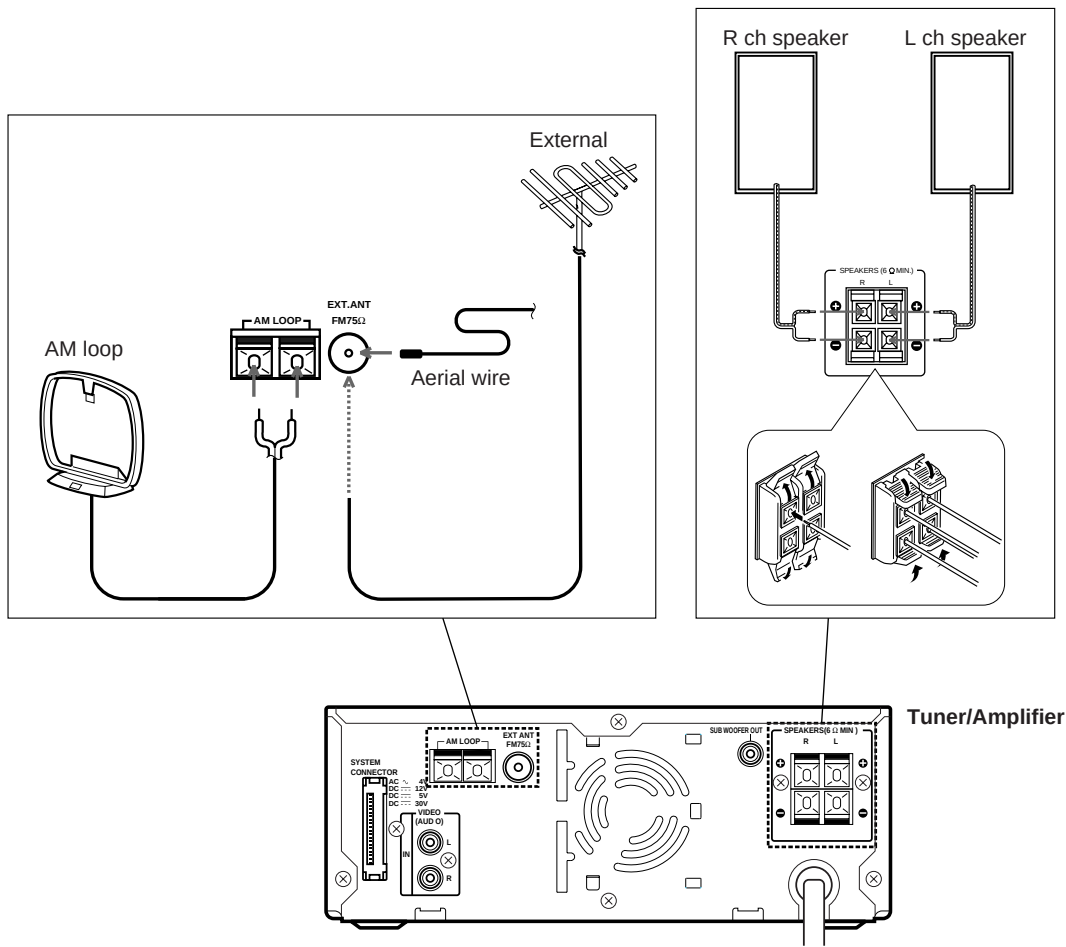
### Speakers

When connecting the speakers, make sure that (+) and (–) polarities are matched properly. Otherwise, the sound may appear to be lacking in the bass range and in stability.

Connect the speaker wire with the stripe to the red terminal (+) and the other wire to the black terminal (–).

Note:

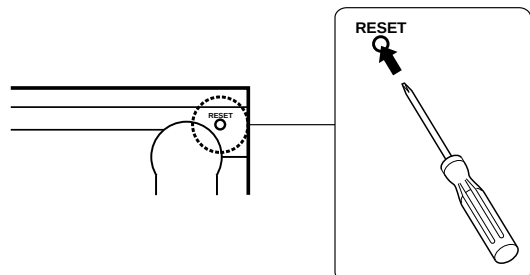
If desired, the speaker grilles can be removed.



## WHAT TO DO IF

If the operation of the system or display is not normal,

1. Disconnect the mains lead.
2. Press the RESET button (bottom of the Tuner/Amplifier) for at least 30 seconds.
3. Connect the mains lead.
4. Resume operation.



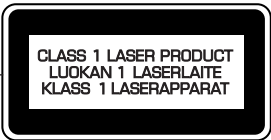
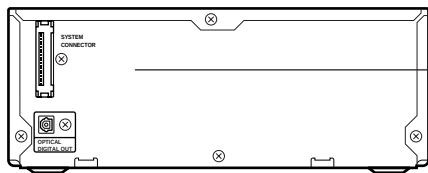
LASER BEAM SAFETY PRECAUTION

Notes:

- For Tuner/Amplifier: The rating label is located on the bottom of the unit.
- The unit is not disconnected from the mains unless it is unplugged from the AC outlet.

For DC-X8C/UK, DC-X8CT/UK & DC-X8CM/UK

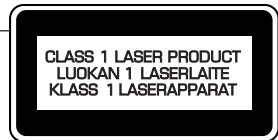
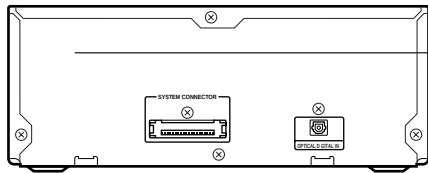
CD changer



CAUTION

THIS PRODUCT CONTAINS A LOW POWER LASER DEVICE, TO ENSURE CONTINUED SAFETY DO NOT REMOVE ANY COVERS OR ATTEMPT TO GAIN ACCESS TO THE INSIDE OF THE PRODUCT. REFER ALL SERVICING TO QUALIFIED PERSONNEL.

MD deck



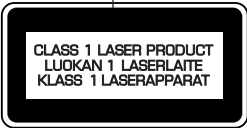
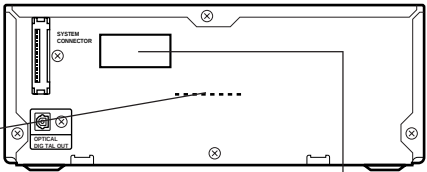
CAUTION

THIS PRODUCT CONTAINS A LOW POWER LASER DEVICE, TO ENSURE CONTINUED SAFETY DO NOT REMOVE ANY COVERS OR ATTEMPT TO GAIN ACCESS TO THE INSIDE OF THE PRODUCT. REFER ALL SERVICING TO QUALIFIED PERSONNEL.

For DC-088C/XE & DC-088C/SP

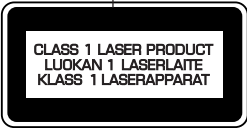
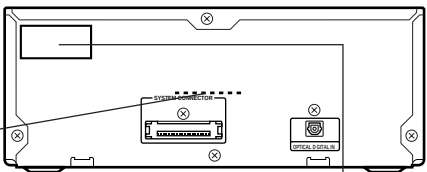
- Pick-up that emits a laser beam is used in this CD player section.  
**(CD CHANGER)**

|                                                                                                                                                     |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.                                                      |  |
| ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION, UNDGA UDSÆTTELSE FOR STRÅLING.                            |  |
| VARNING – OSYNLIG LASER STRÅLNING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.                                                |  |
| VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN. |  |
| VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.                                   |  |



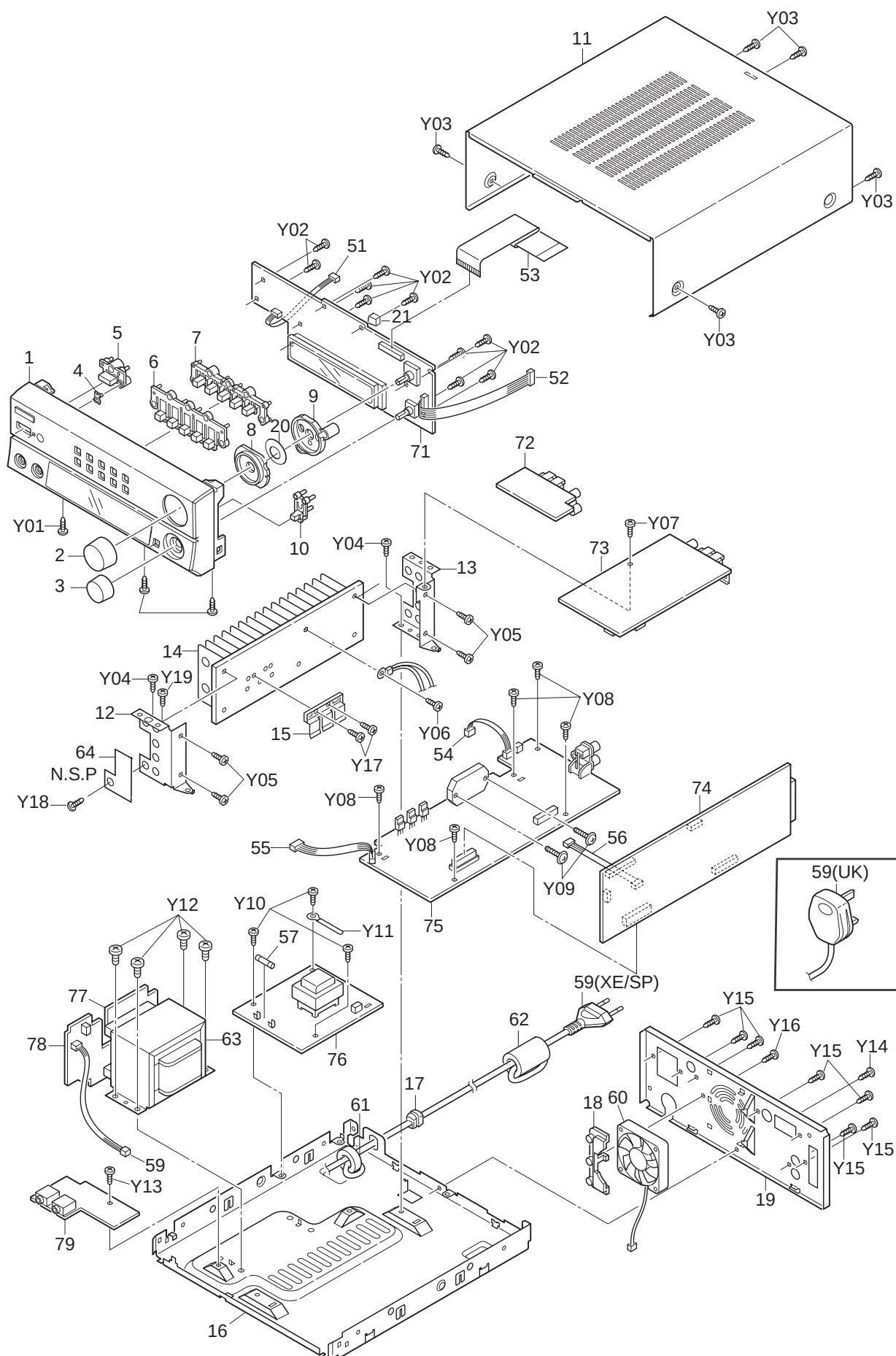
**(MD DECK) (XE only)**

|                                                                                                                                                     |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.                                                      |  |
| ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION, UNDGA UDSÆTTELSE FOR STRÅLING.                            |  |
| VARNING – OSYNLIG LASER STRÅLNING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.                                                |  |
| VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN. |  |
| VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.                                   |  |





# EXPLODED VIEW (CABINET & CHASSIS)



N.S.P : Not supplied as service parts.

## PARTS LIST

### PRODUCT SAFETY NOTICE

EACH PRECAUTION IN THIS MANUAL SHOULD BE FOLLOWED DURING SERVICING. COMPONENTS IDENTIFIED WITH THE IEC SYMBOL  $\Delta$  IN THE PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATED COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. WHEN REPLACING A COMPONENT IDENTIFIED BY  $\Delta$ , USE ONLY THE REPLACEMENT PARTS DESIGNATED, OR PARTS WITH THE SAME RATINGS OF RESISTANCE, WATTAGE OR VOLTAGE THAT ARE DESIGNATED IN THE PARTS LIST IN THIS MANUAL. LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS MUST BE MADE TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE PRODUCT TO THE CUSTOMER.

**CAUTION :** Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

Regular type resistors are less than 1/4 W Carbon type and Chip type resistors.

Regular type capacitors are less than 50 V and less than 1000  $\mu$ F type of Ceramic type, Electrolytic type and Chip type.

**N.S.P :** Not supplied as service parts.

### PACKING & ACCESSORIES

| REF.NO. | PART NO.     | DESCRIPTION                                                              |
|---------|--------------|--------------------------------------------------------------------------|
|         | 614 318 0616 | CARTON CASE,<br>OUTER CARTON(DC-X8CT/UK)                                 |
|         | 614 318 0623 | CARTON CASE,<br>OUTER CARTON(DC-X8CM/UK)                                 |
|         | 614 317 8040 | CARTON CASE,<br>OUTER CARTON(DC-088C/XE)                                 |
|         | 614 319 0974 | CARTON CASE,<br>OUTER CARTON(DC-088C/SP)                                 |
|         | 614 318 0647 | CUSHION,SPACE,ACCESSORY<br>(DC-X8CT/UK & DC-X8CM/UK)                     |
|         | 614 317 8071 | CUSHION,SPACE,ACCESSORY<br>(DC-088C/XE & DC-088C/SP)                     |
|         | 614 317 7913 | CARTON CASE,INNER SLEEVE<br>(DC-X8CT/UK & DC-X8CM/UK)                    |
|         | 614 317 7937 | CARTON CASE,INNER SLEEVE<br>(DC-088C/XE)                                 |
|         | 614 319 0936 | CARTON CASE,INNER SLEEVE<br>(DC-088C/SP)                                 |
|         | 614 316 2766 | CUSHION,FRONT                                                            |
|         | 614 316 2773 | CUSHION,BACK                                                             |
|         | 614 317 8149 | INSTRUCTION MANUAL<br>(DC-X8CT/UK & DC-X8CM/UK)                          |
|         | 614 317 9177 | INSTRUCTION MANUAL<br>(DC-088C/XE& DC-088C/SP)                           |
|         | 614 317 9184 | INSTRUCTION MANUAL GREEK<br>(DC-088C/XE)                                 |
|         | 614 245 8587 | NOTICE,AC CORD<br>(DC-X8CT/UK & DC-X8CM/UK)                              |
|         | 645 047 3050 | POLY SHEET-0650X0450*NC,SET<br>(DC-X8CT/UK & DC-X8CM/UK<br>& DC-088C/SP) |
|         | 645 047 3067 | POLY SHEET-0650X0450*NC,SET<br>(DC-088C/XE)                              |
|         | 614 316 7150 | ASSY,BOX,SPEAKER<br>(DC-X8CT/UK & DC-X8CM/UK)                            |
|         | 614 316 7730 | ASSY,BOX,SPEAKER<br>(DC-088C/XE& DC-088C/SP)                             |
|         | 614 316 7167 | ASSY,GRILLE<br>(DC-X8CT/UK & DC-X8CM/UK)                                 |
|         | 614 319 2817 | ASSY,GRILLE<br>(DC-088C/XE& DC-088C/SP)                                  |
|         | 645 005 1227 | ASSY,ANTENA,LOOP                                                         |
|         | 614 229 4635 | ANT,FM ANT                                                               |
|         | 614 308 5515 | ANT,FM ANT                                                               |
|         | 645 045 7425 | REMOCON,RB-X8RD                                                          |
|         | 645 040 9943 | BATTERY COVER,SERVICE PART                                               |
|         | 645 047 1469 | CABLE,SYSTEM 19P,SYSTEM CABLE<br>(DC-X8CT/UK)                            |
|         | 645 047 7058 | ASSY,CABLE,SYSTEM,19P<br>(DC-X8CM/UK)                                    |
|         | 645 043 9421 | CABLE,OPTICAL (DC-X8CM/UK)                                               |
|         | 645 047 6594 | ASSY,CABLE,SYSTEM,19P<br>(DC-088C/XE)                                    |
|         | 645 048 5992 | ASSY,CABLE,SYSTEM,19P<br>(DC-088C/SP)                                    |

or

### CABINET & CHASSIS

| REF.NO. | PART NO.     | DESCRIPTION                                             |
|---------|--------------|---------------------------------------------------------|
| 1       | 614 316 5378 | ASSY,CABINET,FRONT<br>(DC-X8CT/UK & DC-X8CM/UK)         |
| 1       | 614 317 9153 | ASSY,CABINET,FRONT<br>(DC-088C/XE)                      |
| 1       | 614 319 0578 | ASSY,CABINET,FRONT<br>(DC-088C/SP)                      |
| 2       | 614 316 2490 | KNOB,ROTARY,VOL,VOLUME                                  |
| 3       | 614 316 2506 | KNOB,ROTARY,JOG,JOG                                     |
| 4       | 614 302 0530 | DEC,WINDOW LED,STANDBY                                  |
| 5       | 614 316 2025 | BUTTON,STANDBY(DC-X8CT/UK,<br>DC-X8CM/UK & DC-088C/XE)  |
| 5       | 614 319 0646 | BUTTON,STANDBY<br>(DC-088C/SP)                          |
| 6       | 614 316 2049 | BUTTON,MEMORY,BAND                                      |
| 7       | 614 316 2032 | BUTTON,BAND,BAND                                        |
| 8       | 614 316 2308 | DEC,WINDOW,VOL,VOL LIGHTING                             |
| 9       | 614 316 3350 | REFLECTOR,LED,VOL LIGHTING                              |
| 10      | 614 316 2056 | BUTTON,JOG MODE(DC-X8CT/UK,<br>DC-X8CM/UK & DC-088C/XE) |
| 10      | 614 319 0653 | BUTTON,JOG MODE(DC-X8CT/UK,<br>(DC-088C/SP)             |
| 11      | 614 317 7401 | ASSY,CABINET,BENDING,<br>AFTER BENDING                  |
| 12      | 614 316 2476 | HOLDER,HEAT SINK,LEFT,HEATSINK                          |
| 13      | 614 316 2483 | HOLDER,HEAT SINK,RIGHT,HEATSINK                         |
| 14      | 614 316 5439 | ASSY,HEAT SINK,POWER IC, TR                             |
| 15      | 614 291 6568 | MOUNTING,PWB,FOR-REG                                    |
| 16      | 614 316 1264 | ASSY,CABINET,BOTTOM                                     |
| 17      | 614 129 1901 | FIXER,AC CORD                                           |
| or      | 614 284 1884 | FIXER,AC CORD                                           |
| 18      | 614 310 3837 | MOUNTING,FAN                                            |
| 19      | 614 316 2537 | PANEL,REAR                                              |
| 20      | 614 317 9160 | REFLECTOR,SHEET,VOL LIGHTING                            |
| 21      | 614 317 4721 | SHIELD,FRONT                                            |

### FIXING PARTS

| REF.NO. | PART NO.     | DESCRIPTION                                  |
|---------|--------------|----------------------------------------------|
| Y01     | 411 021 6405 | SCR S-TPG BIN 3X8,<br>FRONT-BOTTOM FIX       |
| Y02     | 411 165 3803 | SCR S-TPG BIN 2.3X10,<br>FRONT PWB FIX       |
| Y03     | 411 098 4205 | SCR S-TPG BIN 3X8,CABINET                    |
| Y04     | 411 021 6405 | SCR S-TPG BIN 3X8,<br>HOLDER HS-BOTTOM       |
| Y05     | 411 021 6405 | SCR S-TPG BIN 3X8,<br>HOLDER HS-HEATSINK     |
| Y06     | 411 021 6405 | SCR S-TPG BIN 3X8,<br>HEATSINK-POSISTOR      |
| Y07     | 411 021 6405 | SCR S-TPG BIN 3X8,TUNER PWB                  |
| Y08     | 411 021 6405 | SCR S-TPG BIN 3X8,HOLDER HS-PWB<br>+MAIN PWB |
| Y09     | 411 020 9506 | SCR S-TPG BRZ+FLG 3X16,<br>HEATSINK-POWER IC |

## PARTS LIST

| REF.NO. | PART NO.     | DESCRIPTION                             | REF.NO. | PART NO.     | DESCRIPTION    |
|---------|--------------|-----------------------------------------|---------|--------------|----------------|
| Y10     | 411 021 6405 | SCR S-TPG BIN 3X8,SUB TRANS PWB         | Q6001   | 405 146 2107 | TR KTC3875-Y   |
| Y11     | 614 130 0382 | LUG,AC CORD                             | or      | 405 146 2206 | TR KTC3875-GR  |
| Y12     | 411 001 3905 | SCR S-TPG BIN 4X6,TRANS                 | or      | 405 014 4509 | TR 2SC2412K-R  |
| Y13     | 411 021 6405 | SCR S-TPG BIN 3X8,HP- PWB               | or      | 405 011 1006 | TR 2SC1623-L6  |
| Y14     | 411 021 3701 | SCR S-TPG BIN 3X10,BOTTOM-REAR          | Q6003   | 405 146 1704 | TR KTA1504-Y   |
| Y15     | 411 021 3701 | SCR S-TPG BIN 3X10,<br>REAR-ELECT PARTS | or      | 405 146 9700 | TR KTA1504-GR  |
| Y16     | 411 021 3701 | SCR S-TPG BIN 3X10,MOUNTI FAN           | or      | 405 134 5905 | TR 2SA1037AK-R |
| Y17     | 411 021 6405 | SCR S-TPG BIN 3X8,HEATSINK-REG          | or      | 405 002 0308 | TR 2SA1037K-R  |
| Y18     | 411 021 6405 | SCR S-TPG BIN 3X8,HOLDER HS-PWB         | Q6004   | 405 005 5508 | TR 2SA812-M6   |
| Y19     | 411 021 6405 | SCR S-TPG BIN 3X8,SHIELD FRONT          | or      | 405 146 2107 | TR KTC3875-Y   |

### ELECTRICAL PARTS

| REF.NO. | PART NO.       | DESCRIPTION                                   | REF.NO. | PART NO.     | DESCRIPTION                     |
|---------|----------------|-----------------------------------------------|---------|--------------|---------------------------------|
| 51      | 614 316 7457   | ASSY,WIRE                                     | Q6005   | 405 146 2107 | TR KTC3875-Y                    |
| 52      | 614 316 7464   | ASSY,WIRE                                     | or      | 405 146 2206 | TR KTC3875-GR                   |
| 53      | 645 048 2670   | FLEXIBLE FLAT CABLE                           | or      | 405 014 4509 | TR 2SC2412K-R                   |
| 54      | 614 309 9482   | ASSY,WIRE,MAIN-SUBPT                          | Q6006   | 405 011 1006 | TR 2SC1623-L6                   |
| 55      | 614 309 4142   | ASSY,WIRE,MAIN-HP                             | or      | 405 146 2107 | TR KTC3875-Y                    |
| 56      | 614 316 7488   | ASSY,WIRE,PREAMP-HP                           | or      | 405 146 2206 | TR KTC3875-GR                   |
| 57      | △ 423 028 8108 | FUSE 250V 0.8A,PRIMARY-FUSE                   | or      | 405 014 4509 | TR 2SC2412K-R                   |
| 58      | 614 316 7471   | ASSY,WIRE,PT2-PREAMP                          | or      | 405 011 1006 | TR 2SC1623-L6                   |
| 59      | △ 645 036 9797 | CORD,POWER-1.6MK<br>(DC-X8CT/UK & DC-X8CM/UK) | Q6007   | 405 146 2107 | TR KTC3875-Y                    |
| or      | △ 645 036 9803 | CORD,POWER-1.6MK<br>(DC-X8CT/UK & DC-X8CM/UK) | or      | 405 146 2206 | TR KTC3875-GR                   |
| 59      | △ 645 016 9939 | CORD,POWER-1.74MK<br>(DC-088C/XE&DC-088C/SP)  | or      | 405 014 4509 | TR 2SC2412K-R                   |
| or      | △ 614 255 2513 | CORD,POWER<br>(DC-088C/XE&DC-088C/SP)         | or      | 405 011 1006 | TR 2SC1623-L6                   |
| 60      | 645 041 8891   | MOTOR,FAN DC 0.84W,<br>FAN - L=100MM          | or      | 405 146 1605 | TR KRC102S                      |
| 61      | 645 031 7637   | CORE,FERRITE,AC-EMC                           | or      | 405 132 3101 | TR DTC114EKA                    |
| or      | 645 013 6498   | CORE,FERRITE,AC-EMC                           | S6001   | 614 215 9828 | SWITCH,TACT,RESETSW             |
| 62      | 645 037 3060   | CORE,CLAMP,LINE-NOISE                         | S6101   | 645 033 7673 | SWITCH,ROTARY(ENCODER),VOLUME   |
| 63      | △ 645 045 0723 | TRANS,POWER,EI66X45                           | S6102   | 645 033 7680 | SWITCH,ROTARY(ENCODER),MULTIJOG |
| 64      | △ 614 318 4072 | PWB,HS,HOLDER HEATSINK                        | S6201   | 614 240 1002 | SWITCH,TACT                     |

### FRONT P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                              | REF.NO. | PART NO.     | DESCRIPTION                     |
|---------|--------------|------------------------------------------|---------|--------------|---------------------------------|
| 71      | 614 315 9049 | ASSY,PWB,FRONT (Only Initial)            | or      | 614 215 9828 | SWITCH,TACT,RESETSW             |
| BR601   | 614 305 2241 | HOLDER,FL,FL_MOUNT                       | or      | 645 033 7673 | SWITCH,ROTARY(ENCODER),VOLUME   |
| C6001   | 403 304 4802 | DL-ELECT 0.047F Z 5.5V                   | or      | 645 033 7680 | SWITCH,ROTARY(ENCODER),MULTIJOG |
| or      | 403 262 8607 | DL-ELECT 0.047F Z 5.5V                   | or      | 614 240 1002 | SWITCH,TACT                     |
| or      | 403 369 2805 | DL-ELECT 0.047F Z 5.5V                   | or      | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| CN601   | 645 012 5539 | SOCKET,FPC 20P                           | or      | 614 220 5471 | SWITCH,TACT                     |
| CN602   | 614 035 4959 | SOCKET,DIP 6P,FRONT-TU                   | or      | 614 240 1002 | SWITCH,TACT                     |
| or      | 645 012 7823 | SOCKET,DIP 6P,FRONT-TU                   | or      | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| CN603   | 614 035 4928 | SOCKET,DIP 3P,FRONT-PT2                  | or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 645 012 7793 | SOCKET,DIP 3P,FRONT-PT2                  | or      | 614 240 1002 | SWITCH,TACT                     |
| CN612   | 614 316 7464 | ASSY,WIRE                                | or      | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| CN613   | 614 316 7457 | ASSY,WIRE                                | or      | 614 220 5471 | SWITCH,TACT                     |
| D6001   | 407 097 8009 | DIODE MPG06G                             | or      | 614 240 1002 | SWITCH,TACT                     |
| D6002   | 407 012 4406 | DIODE 1SS133                             | or      | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| D6004   | 408 032 5404 | LED SLP-9118C-51H-S-T1,<br>STANDBY_LED   | or      | 614 220 5471 | SWITCH,TACT                     |
| D6005   | 408 044 9100 | LED HLMP-EL31-SVK00,<br>VOL_RING_LED     | or      | 614 240 1002 | SWITCH,TACT                     |
| D6006   | 408 044 9100 | LED HLMP-EL31-SVK00,<br>VOL_RING_LED     | or      | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| DS601   | 407 217 1101 | PHOTO DIODE SPS-442-1G,IR                | or      | 614 220 5471 | SWITCH,TACT                     |
| FL601   | 645 040 1794 | FLOURESCENT TUBE,FL                      | TA601   | 614 112 1451 | DOUBLE FACE,FL_MOUNT            |
| IC601   | 410 409 8703 | IC M38B57MCH D269FP,<br>MICRO-CONTROLLER | X6001   | 645 032 1627 | OSC,CRYSTAL 32.768KHZ,XTAL      |
| L6001   | 645 001 4550 | INDUCTOR,10U K                           | X6002   | 614 215 5561 | RESONATOR,CERAM                 |
| or      | 645 031 7835 | INDUCTOR,10U K                           | or      | 645 013 7532 | OSC,CERAMIC 4.19MHZ             |

## PARTS LIST

### SPEAKER P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                     |
|---------|--------------|---------------------------------|
| 72      | 614 315 9810 | ASSY,PWB,SPEAKER (Only Initial) |
| C0050   | 403 059 5505 | POLYESTER 0.022U J 50V          |
| C0051   | 403 059 5505 | POLYESTER 0.022U J 50V          |
| CN410   | 645 033 3095 | TERMINAL                        |
| CN411   | 645 033 3057 | JACK,RCA                        |
| CN412   | 614 020 1239 | SOCKET,4P                       |
| CN413   | 614 316 7495 | ASSY,WIRE,SP-MAIN               |
| L0050   | 645 006 9864 | INDUCTOR,80U                    |
| or      | 614 212 3171 | INDUCTOR,FERITE                 |

### TUNER P.W.BOARD ASSY

| REF.NO. | PART NO.       | DESCRIPTION                   |
|---------|----------------|-------------------------------|
| 73      | 614 316 3053   | ASSY,PWB,TUNER (Only Initial) |
| B2101   | 645 006 3602   | INDUCTOR,1.1UH                |
| C2457   | 403 259 0508   | NP-ELECT 1U M 50V             |
| CN201   | 614 255 5750   | TERMINAL                      |
| or      | 645 032 6394   | TERMINAL                      |
| CN241   | 645 040 1152   | SOCKET,5P                     |
| CN242   | 645 006 0939   | PLUG,6P                       |
| or      | 645 009 6464   | PLUG,6P                       |
| or      | 614 310 2625   | PLUG,6P                       |
| D2151   | 407 012 4406   | DIODE 1SS133                  |
| D2301   | 407 063 9108   | ZENER DIODE MTZJ6.8B          |
| D2451   | 407 012 4406   | DIODE 1SS133                  |
| D2452   | 407 153 7502   | ZENER DIODE GZS3.0B           |
| D2453   | 407 012 4406   | DIODE 1SS133                  |
| D2454   | 407 012 4406   | DIODE 1SS133                  |
| D2466   | 407 012 4406   | DIODE 1SS133                  |
| D2467   | 407 012 4406   | DIODE 1SS133                  |
| IC231   | 409 474 3201   | IC LA1844ML                   |
| IC241   | 409 439 4502   | IC LC72121M-D                 |
| IC251   | 409 447 3900   | IC LC72722                    |
| L2151   | 645 023 0127   | TUNER                         |
| L2451   | 645 001 4581   | INDUCTOR,100U K               |
| or      | 645 031 7842   | INDUCTOR,100U K               |
| L2501   | 645 001 4581   | INDUCTOR,100U K               |
| or      | 645 031 7842   | INDUCTOR,100U K               |
| L2502   | 645 001 4581   | INDUCTOR,100U K               |
| or      | 645 031 7842   | INDUCTOR,100U K               |
| L2503   | △ 645 004 0511 | INDUCTOR,270U J               |
| Q2140   | 405 143 8706   | TR KTC3199-GR                 |
| or      | 405 017 9600   | TR 2SC3330-T                  |
| or      | 405 017 9709   | TR 2SC3330-U                  |
| or      | 405 019 3705   | TR 2SC536-G-AUD-SPA           |
| or      | 405 011 8500   | TR 2SC1740S-R                 |
| or      | 405 011 8609   | TR 2SC1740S-S                 |
| or      | 405 020 7402   | TR 2SC945A-P                  |
| or      | 405 020 7204   | TR 2SC945A-K                  |
| Q2201   | 405 151 4202   | TR KTC3193-O                  |
| or      | 405 151 4103   | TR KTC3193-Y                  |
| or      | 405 016 0806   | TR 2SC2839-E                  |
| Q2310   | 405 143 8706   | TR KTC3199-GR                 |
| or      | 405 017 9600   | TR 2SC3330-T                  |
| or      | 405 017 9709   | TR 2SC3330-U                  |
| or      | 405 019 3705   | TR 2SC536-G-AUD-SPA           |
| or      | 405 011 8500   | TR 2SC1740S-R                 |
| or      | 405 011 8609   | TR 2SC1740S-S                 |
| or      | 405 020 7402   | TR 2SC945A-P                  |
| or      | 405 020 7204   | TR 2SC945A-K                  |
| Q2451   | 405 151 5209   | TR KRA107M                    |
| or      | 405 000 0904   | TR DTA114YS                   |
| or      | 405 078 2404   | TR BN1A4P                     |
| or      | 405 036 3702   | TR 2SA1564                    |
| Q2502   | 405 151 5209   | TR KRA107M                    |
| or      | 405 000 0904   | TR DTA114YS                   |
| or      | 405 078 2404   | TR BN1A4P                     |
| or      | 405 036 3702   | TR 2SA1564                    |

| REF.NO. | PART NO.       | DESCRIPTION             |
|---------|----------------|-------------------------|
| Q2701   | 405 143 8706   | TR KTC3199-GR           |
| or      | 405 017 9600   | TR 2SC3330-T            |
| or      | 405 017 9709   | TR 2SC3330-U            |
| or      | 405 019 3705   | TR 2SC536-G-AUD-SPA     |
| or      | 405 011 8500   | TR 2SC1740S-R           |
| or      | 405 011 8609   | TR 2SC1740S-S           |
| or      | 405 020 7402   | TR 2SC945A-P            |
| or      | 405 020 7204   | TR 2SC945A-K            |
| Q2801   | 405 143 8706   | TR KTC3199-GR           |
| or      | 405 017 9600   | TR 2SC3330-T            |
| or      | 405 017 9709   | TR 2SC3330-U            |
| or      | 405 019 3705   | TR 2SC536-G-AUD-SPA     |
| or      | 405 011 8500   | TR 2SC1740S-R           |
| or      | 405 011 8609   | TR 2SC1740S-S           |
| or      | 405 020 7402   | TR 2SC945A-P            |
| or      | 405 020 7204   | TR 2SC945A-K            |
| Q2901   | 405 143 8706   | TR KTC3199-GR           |
| or      | 405 017 9600   | TR 2SC3330-T            |
| or      | 405 017 9709   | TR 2SC3330-U            |
| or      | 405 011 8500   | TR 2SC1740S-R           |
| or      | 405 011 8609   | TR 2SC1740S-S           |
| R2101   | △ 401 012 4404 | CARBON 100 JA 1/4W      |
| R2301   | △ 01 017 0708  | CARBON 270 JA 1/4W      |
| R2311   | △ 401 017 0708 | CARBON 270 JA 1/4W      |
| U2101   | 645 033 5327   | TUNER,FM                |
| X2451   | 645 023 4965   | OSC,CRYSTAL 7.2MHZ      |
| X2501   | 645 035 8326   | OSC,CRYSTAL 4.332MHZ    |
| XF221   | 614 240 2917   | FILTER,CERAM            |
| or      | 645 010 0079   | CERAMIC FILTER 10.70MHZ |
| or      | 614 254 3214   | FILTER                  |
| XF222   | 614 240 2917   | FILTER,CERAM            |
| or      | 645 010 0079   | CERAMIC FILTER 10.70MHZ |
| or      | 614 254 3214   | FILTER                  |
| XF231   | 614 246 0849   | FILTER                  |
| XF233   | 645 039 9923   | TRANS,IF 10.7MHZ        |

### PRE AMPLIFIER P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                    |
|---------|--------------|--------------------------------|
| 74      | 614 315 9827 | ASSY,PWB,PREAMP (Only Initial) |
| C4517   | 403 184 9805 | MT-POLYEST 0.22U J 50V         |
| or      | 403 067 6709 | MT-COMPO 0.22U J 50V           |
| C4518   | 403 184 9805 | MT-POLYEST 0.22U J 50V         |
| or      | 403 067 6709 | MT-COMPO 0.22U J 50V           |
| C4617   | 403 184 9805 | MT-POLYEST 0.22U J 50V         |
| or      | 403 067 6709 | MT-COMPO 0.22U J 50V           |
| C4618   | 403 184 9805 | MT-POLYEST 0.22U J 50V         |
| or      | 403 067 6709 | MT-COMPO 0.22U J 50V           |
| CN420   | 614 316 7488 | ASSY,WIRE,PREAMP-HP            |
| CN450   | 645 045 9511 | SOCKET,SYSTEM 19P              |
| CN451   | 645 040 1145 | PLUG,5P                        |
| CN452   | 645 012 5249 | SOCKET,FPC 20P                 |
| CN453   | 645 005 8363 | PLUG,9P                        |
| CN454   | 645 026 8977 | SOCKET,12P                     |
| CN455   | 614 035 4935 | SOCKET,DIP 4P                  |
| CN457   | 614 310 2441 | PLUG,3P                        |
| or      | 645 005 7373 | PLUG,3P                        |
| D4290   | 407 127 3806 | ZENER DIODE MTZJ3.3B           |
| D4291   | 407 012 4406 | DIODE 1SS133                   |
| D4292   | 407 012 4406 | DIODE 1SS133                   |
| IC450   | 409 474 6103 | IC LC75342M                    |
| IC451   | 409 426 1804 | IC KIA4558S                    |
| IC452   | 409 467 0101 | IC LA2615                      |
| LG420   | 645 023 8987 | FIXER                          |
| Q4260   | 405 141 3208 | TR KTC3198-Y                   |
| or      | 405 143 8706 | TR KTC3199-GR                  |
| or      | 405 011 8609 | TR 2SC1740S-S                  |
| or      | 405 011 8500 | TR 2SC1740S-R                  |

## PARTS LIST

| REF.NO. | PART NO.     | DESCRIPTION             |
|---------|--------------|-------------------------|
| Q4261   | 405 141 3208 | TR KTC3198-Y            |
| or      | 405 143 8706 | TR KTC3199-GR           |
| or      | 405 011 8609 | TR 2SC1740S-S           |
| or      | 405 011 8500 | TR 2SC1740S-R           |
| Q4262   | 405 143 6504 | TR KTA1267-GR           |
| or      | 405 004 4601 | TR 2SA608-F-SPA         |
| or      | 405 004 5103 | TR 2SA608-G-SPA         |
| or      | 405 006 1806 | TR 2SA933S-R            |
| or      | 405 006 1905 | TR 2SA933S-S            |
| Q4290   | 405 143 6504 | TR KTA1267-GR           |
| or      | 405 004 4601 | TR 2SA608-F-SPA         |
| or      | 405 004 5103 | TR 2SA608-G-SPA         |
| or      | 405 006 1806 | TR 2SA933S-R            |
| or      | 405 006 1905 | TR 2SA933S-S            |
| Q4291   | 405 143 6504 | TR KTA1267-GR           |
| or      | 405 004 4601 | TR 2SA608-F-SPA         |
| or      | 405 004 5103 | TR 2SA608-G-SPA         |
| or      | 405 006 1806 | TR 2SA933S-R            |
| or      | 405 006 1905 | TR 2SA933S-S            |
| Q4550   | 405 073 6407 | TR 2SK772-E             |
| or      | 405 073 6506 | TR 2SK772-F             |
| Q4551   | 405 141 3208 | TR KTC3198-Y            |
| or      | 405 143 8706 | TR KTC3199-GR           |
| or      | 405 011 8609 | TR 2SC1740S-S           |
| or      | 405 011 8500 | TR 2SC1740S-R           |
| Q4650   | 405 073 6407 | TR 2SK772-E             |
| or      | 405 073 6506 | TR 2SK772-F             |
| Q4651   | 405 141 3208 | TR KTC3198-Y            |
| or      | 405 143 8706 | TR KTC3199-GR           |
| or      | 405 011 8609 | TR 2SC1740S-S           |
| or      | 405 011 8500 | TR 2SC1740S-R           |
| SH401   | 614 317 4714 | SHIELD,SYSTEM CONNECTOR |

### MAIN P.W.BOARD ASSY

| REF.NO. | PART NO.       | DESCRIPTION                  |
|---------|----------------|------------------------------|
| 75      | 614 315 9803   | ASSY,PWB,MAIN (Only Initial) |
| B0001   | 645 037 9185   | INDUCTOR,50 OHM              |
| or      | 645 006 3602   | INDUCTOR,1.1UH               |
| C4706   | 403 057 2407   | POLYESTER 0.1U J 50V         |
| C4707   | 403 057 2407   | POLYESTER 0.1U J 50V         |
| C4806   | 403 057 2407   | POLYESTER 0.1U J 50V         |
| C4807   | 403 057 2407   | POLYESTER 0.1U J 50V         |
| C4905   | 403 329 6201   | ELECT 2200U M 35V            |
| C4906   | 403 329 6201   | ELECT 2200U M 35V            |
| C4950   | 403 329 6003   | ELECT 4700U M 25V            |
| C4951   | 403 329 3309   | ELECT 2200U M 25V            |
| CN470   | 645 012 6369   | JACK,RCA-2                   |
| CN490   | 614 020 1246   | SOCKET,5P                    |
| CN491   | 614 310 2755   | PLUG,4P                      |
| or      | 645 004 2904   | PLUG,4P                      |
| CN492   | 614 310 2731   | PLUG,2P                      |
| or      | 645 004 2881   | PLUG,2P                      |
| CN493   | 645 026 8960   | PLUG,12P                     |
| CN494   | 645 005 8585   | SOCKET,9P                    |
| CN495   | 614 035 4942   | SOCKET,DIP 5P                |
| CN497   | 614 035 4928   | SOCKET,DIP 3P                |
| D4020   | 407 012 4406   | DIODE 1SS133                 |
| D4021   | 407 012 4406   | DIODE 1SS133                 |
| D4030   | 407 012 4406   | DIODE 1SS133                 |
| D4050   | 407 012 4406   | DIODE 1SS133                 |
| D4051   | 407 012 4406   | DIODE 1SS133                 |
| D4080   | 407 012 4406   | DIODE 1SS133                 |
| D4900   | △ 407 196 5800 | DIODE 1N5402BD82             |
| D4901   | △ 407 196 5800 | DIODE 1N5402BD82             |
| D4902   | △ 407 196 5800 | DIODE 1N5402BD82             |
| D4903   | △ 407 196 5800 | DIODE 1N5402BD82             |

| REF.NO. | PART NO.       | DESCRIPTION            |
|---------|----------------|------------------------|
| D4910   | 407 099 6805   | ZENER DIODE MTZJ13B    |
| D4920   | 407 099 6805   | ZENER DIODE MTZJ13B    |
| D4930   | 407 099 6805   | ZENER DIODE MTZJ13B    |
| D4940   | △ 407 097 8009 | DIODE MPG06G           |
| D4941   | △ 407 097 8009 | DIODE MPG06G           |
| D4942   | 407 099 5402   | ZENER DIODE MTZJ6.2B   |
| IC470   | △ 409 465 4804 | IC STK402-030          |
| L0001   | 645 001 4550   | INDUCTOR,10U K         |
| or      | 645 031 7835   | INDUCTOR,10U K         |
| L0002   | 645 001 4550   | INDUCTOR,10U K         |
| or      | 645 031 7835   | INDUCTOR,10U K         |
| L4700   | 645 018 0279   | COIL,AIR               |
| or      | 614 196 9763   | V.H.F COIL             |
| L4800   | 645 018 0279   | COIL,AIR               |
| or      | 614 196 9763   | V.H.F COIL             |
| LG470   | 645 023 8987   | FIXER                  |
| PO404   | 408 017 0707   | TH PTH9M04BC471TS2F333 |
| Q4000   | 405 141 3208   | TR KTC3198-Y           |
| or      | 405 143 8706   | TR KTC3199-GR          |
| or      | 405 011 8609   | TR 2SC1740S-S          |
| or      | 405 011 8500   | TR 2SC1740S-R          |
| Q4001   | 405 143 6504   | TR KTA1267-GR          |
| or      | 405 004 4601   | TR 2SA608-F-SPA        |
| or      | 405 004 5103   | TR 2SA608-G-SPA        |
| or      | 405 006 1806   | TR 2SA933S-R           |
| or      | 405 006 1905   | TR 2SA933S-S           |
| Q4002   | 405 141 3208   | TR KTC3198-Y           |
| or      | 405 143 8706   | TR KTC3199-GR          |
| or      | 405 011 8609   | TR 2SC1740S-S          |
| or      | 405 011 8500   | TR 2SC1740S-R          |
| Q4010   | 405 141 3208   | TR KTC3198-Y           |
| or      | 405 143 8706   | TR KTC3199-GR          |
| or      | 405 011 8609   | TR 2SC1740S-S          |
| or      | 405 011 8500   | TR 2SC1740S-R          |
| Q4011   | 405 141 3208   | TR KTC3198-Y           |
| or      | 405 143 8706   | TR KTC3199-GR          |
| or      | 405 011 8609   | TR 2SC1740S-S          |
| or      | 405 011 8500   | TR 2SC1740S-R          |
| Q4030   | 405 141 3208   | TR KTC3198-Y           |
| or      | 405 143 8706   | TR KTC3199-GR          |
| or      | 405 011 8609   | TR 2SC1740S-S          |
| or      | 405 011 8500   | TR 2SC1740S-R          |
| Q4035   | 405 141 3208   | TR KTC3198-Y           |
| or      | 405 143 8706   | TR KTC3199-GR          |
| or      | 405 011 8609   | TR 2SC1740S-S          |
| or      | 405 011 8500   | TR 2SC1740S-R          |
| Q4050   | 405 141 3208   | TR KTC3198-Y           |
| or      | 405 143 8706   | TR KTC3199-GR          |
| or      | 405 011 8609   | TR 2SC1740S-S          |
| or      | 405 011 8500   | TR 2SC1740S-R          |
| Q4060   | 405 143 6504   | TR KTA1267-GR          |
| or      | 405 004 4601   | TR 2SA608-F-SPA        |
| or      | 405 004 5103   | TR 2SA608-G-SPA        |
| or      | 405 006 1806   | TR 2SA933S-R           |
| or      | 405 006 1905   | TR 2SA933S-S           |
| Q4080   | 405 141 3208   | TR KTC3198-Y           |
| or      | 405 143 8706   | TR KTC3199-GR          |
| or      | 405 011 8609   | TR 2SC1740S-S          |
| or      | 405 011 8500   | TR 2SC1740S-R          |
| Q4081   | 405 141 3208   | TR KTC3198-Y           |
| or      | 405 143 8706   | TR KTC3199-GR          |
| or      | 405 011 8609   | TR 2SC1740S-S          |
| or      | 405 011 8500   | TR 2SC1740S-R          |
| Q4082   | △ 405 141 1402 | TR KTD863-GR           |
| or      | △ 405 023 5009 | TR 2SD400-E-MP         |
| or      | △ 405 023 5306 | TR 2SD400-F-MP         |
| Q4700   | 405 151 4400   | TR KTD1303             |
| or      | 405 021 0204   | TR 2SD1012-F-SPA       |

## PARTS LIST

| REF.NO. | PART NO.       | DESCRIPTION             |
|---------|----------------|-------------------------|
| or      | 405 021 0600   | TR 2SD1012-G-SPA        |
| or      | 405 033 6706   | TR 2SD1468S-R           |
| or      | 405 033 6805   | TR 2SD1468S-S           |
| Q4800   | 405 151 4400   | TR KTD1303              |
| or      | 405 021 0204   | TR 2SD1012-F-SPA        |
| or      | 405 021 0600   | TR 2SD1012-G-SPA        |
| or      | 405 033 6706   | TR 2SD1468S-R           |
| or      | 405 033 6805   | TR 2SD1468S-S           |
| Q4900   | 405 141 3208   | TR KTC3198-Y            |
| or      | 405 143 8706   | TR KTC3199-GR           |
| or      | 405 011 8609   | TR 2SC1740S-S           |
| or      | 405 011 8500   | TR 2SC1740S-R           |
| Q4910   | △ 405 158 2102 | TR KTC2026-Y            |
| or      | △ 405 138 6403 | TR KTD2058Y             |
| or      | △ 405 095 1602 | TR 2SD2061-E            |
| or      | △ 405 095 1701 | TR 2SD2061-F            |
| Q4911   | 405 141 3208   | TR KTC3198-Y            |
| or      | 405 143 8706   | TR KTC3199-GR           |
| or      | 405 011 8609   | TR 2SC1740S-S           |
| or      | 405 011 8500   | TR 2SC1740S-R           |
| Q4912   | 405 141 3208   | TR KTC3198-Y            |
| or      | 405 143 8706   | TR KTC3199-GR           |
| or      | 405 011 8609   | TR 2SC1740S-S           |
| or      | 405 011 8500   | TR 2SC1740S-R           |
| Q4920   | △ 405 158 2102 | TR KTC2026-Y            |
| or      | △ 405 138 6403 | TR KTD2058Y             |
| or      | △ 405 095 1602 | TR 2SD2061-E            |
| or      | △ 405 095 1701 | TR 2SD2061-F            |
| Q4921   | 405 141 3208   | TR KTC3198-Y            |
| or      | 405 143 8706   | TR KTC3199-GR           |
| or      | 405 011 8609   | TR 2SC1740S-S           |
| or      | 405 011 8500   | TR 2SC1740S-R           |
| Q4930   | △ 405 141 3604 | TR KTA1273-Y            |
| or      | △ 405 009 5207 | TR 2SB927-S             |
| or      | △ 405 009 5306 | TR 2SB927-T             |
| Q4931   | 405 143 6504   | TR KTA1267-GR           |
| or      | 405 004 4601   | TR 2SA608-F-SPA         |
| or      | 405 004 5103   | TR 2SA608-G-SPA         |
| or      | 405 006 1806   | TR 2SA933S-R            |
| or      | 405 006 1905   | TR 2SA933S-S            |
| Q4940   | △ 405 095 1602 | TR 2SD2061-E            |
| or      | △ 405 095 1701 | TR 2SD2061-F            |
| or      | △ 405 138 6403 | TR KTD2058Y             |
| or      | △ 405 158 2102 | TR KTC2026-Y            |
| R4000   | △ 614 242 0126 | RESISTOR 0.22 K- 3W     |
| R4706   | △ 402 082 1300 | RESISTOR 4.7 J- 1W      |
| R4707   | △ 402 082 1300 | RESISTOR 4.7 J- 1W      |
| R4710   | △ 402 082 1201 | RESISTOR 330 J- 1W      |
| R4806   | △ 402 082 1300 | RESISTOR 4.7 J- 1W      |
| R4807   | △ 402 082 1300 | RESISTOR 4.7 J- 1W      |
| R4810   | △ 402 082 1201 | RESISTOR 330 J- 1W      |
| R4902   | △ 402 081 1103 | FUSIBLE RES 100 JA 1/4W |
| R4903   | △ 402 081 1103 | FUSIBLE RES 100 JA 1/4W |
| R4910   | △ 402 082 5209 | RESISTOR 1 J- 1/2W      |
| R4920   | △ 402 082 5209 | RESISTOR 1 J- 1/2W      |
| R4930   | △ 402 081 1004 | FUSIBLE RES 10 JA 1/4W  |
| R4940   | △ 402 085 2403 | RESISTOR 10 J- 2W       |
| R4941   | △ 402 085 2403 | RESISTOR 10 J- 2W       |
| RY405   | 614 224 4531   | RELAY                   |
| or      | 645 035 6582   | RELAY                   |

## SUB POWER TRANSFORMER P.W.BOARD ASSY

| REF.NO. | PART NO.       | DESCRIPTION                                   |
|---------|----------------|-----------------------------------------------|
| 76      | 614 315 9858   | ASSY,PWB,SUB POWER TRANSFORMER (Only Initial) |
| C6900   | △ 403 349 3303 | CERAMIC 0.01U M 250V                          |
| or      | △ 403 366 7803 | CERAMIC 0.01U M 250V                          |
| CN692   | 614 310 2441   | PLUG,3P                                       |
| or      | 645 005 7373   | PLUG,3P                                       |
| D4400   | △ 407 097 8009 | DIODE MPG06G                                  |
| D4401   | △ 407 097 8009 | DIODE MPG06G                                  |
| D4402   | △ 407 097 8009 | DIODE MPG06G                                  |
| D4403   | △ 407 097 8009 | DIODE MPG06G                                  |
| D4410   | 407 099 5402   | ZENER DIODE MTZJ6.2B                          |
| D4411   | 407 012 4406   | DIODE 1SS133                                  |
| FPC01   | 645 006 4760   | HOLDER,FUSE                                   |
| or      | 645 031 7903   | HOLDER,FUSE                                   |
| FPC02   | 645 006 4760   | HOLDER,FUSE                                   |
| or      | 645 031 7903   | HOLDER,FUSE                                   |
| L6900   | △ 645 038 7364 | INDUCTOR,70U                                  |
| PT690   | △ 645 041 0277 | TRANS,POWER                                   |
| Q4410   | △ 405 141 1402 | TR KTD863-GR                                  |
| or      | △ 405 023 5009 | TR 2SD400-E-MP                                |
| or      | △ 405 023 5306 | TR 2SD400-F-MP                                |
| Q4411   | 405 141 3208   | TR KTC3198-Y                                  |
| or      | 405 143 8706   | TR KTC3199-GR                                 |
| or      | 405 011 8609   | TR 2SC1740S-S                                 |
| or      | 405 011 8500   | TR 2SC1740S-R                                 |
| RY441   | △ 645 030 5597 | RELAY                                         |
| or      | △ 645 035 6575 | RELAY                                         |
| WR690   | 614 017 8203   | TERMINAL BOARD                                |
| WR691   | 614 017 8203   | TERMINAL BOARD                                |

## POWER TRANSFORMER, PRIMARY P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                                         |
|---------|--------------|-----------------------------------------------------|
| 77      | 614 315 9834 | ASSY,PWB, POWER TRANSFORMER, PRIMARY (Only Initial) |

## POWER TRANSFORMER, SECONDARY P.W.BOARD ASSY

| REF.NO. | PART NO.       | DESCRIPTION                                           |
|---------|----------------|-------------------------------------------------------|
| 78      | 614 315 9841   | ASSY,PWB, POWER TRANSFORMER, SECONDARY (Only Initial) |
| C4305   | 404 079 6008   | ELECT 1U M 50V                                        |
| CN430   | 614 020 1246   | SOCKET,5P                                             |
| CN431   | 614 310 2441   | PLUG,3P                                               |
| or      | 645 005 7373   | PLUG,3P                                               |
| CN432   | 614 035 4928   | SOCKET,DIP 3P                                         |
| D4300   | 407 012 4406   | DIODE 1SS133                                          |
| D4301   | 407 012 4406   | DIODE 1SS133                                          |
| D4302   | 407 012 4406   | DIODE 1SS133                                          |
| D4303   | 407 012 4406   | DIODE 1SS133                                          |
| D4304   | 407 099 9905   | ZENER DIODE MTZJ33B                                   |
| D4305   | 407 099 5402   | ZENER DIODE MTZJ6.2B                                  |
| D4350   | △ 407 196 5800 | DIODE 1N5402BD82                                      |
| D4351   | △ 407 196 5800 | DIODE 1N5402BD82                                      |
| D4352   | △ 407 210 7902 | DIODE RL203-BD81                                      |
| or      | △ 407 107 6001 | DIODE RL203-BD80                                      |
| D4353   | △ 407 210 7902 | DIODE RL203-BD81                                      |
| or      | △ 407 107 6001 | DIODE RL203-BD80                                      |
| PR430   | △ 645 042 2737 | PROTECTOR,7A 125V                                     |
| or      | △ 645 025 5137 | PROTECTOR,7A 125V                                     |
| PR431   | △ 645 042 2737 | PROTECTOR,7A 125V                                     |
| or      | △ 645 025 5137 | PROTECTOR,7A 125V                                     |
| PR432   | △ 645 027 4169 | PROTECTOR,0.125A 125V                                 |
| PR433   | △ 645 042 2553 | PROTECTOR,0.63A 125V                                  |
| or      | △ 645 014 2468 | PROTECTOR,0.63A 125V                                  |

## PARTS LIST

| REF.NO. | PART NO.       | DESCRIPTION          |
|---------|----------------|----------------------|
| PR434   | △ 645 042 2553 | PROTECTOR,0.63A 125V |
| or      | △ 645 014 2468 | PROTECTOR,0.63A 125V |
| Q4300   | △ 405 141 3604 | TR KTA1273-Y         |
| or      | △ 405 009 5207 | TR 2SB927-S          |
| or      | △ 405 009 5306 | TR 2SB927-T          |

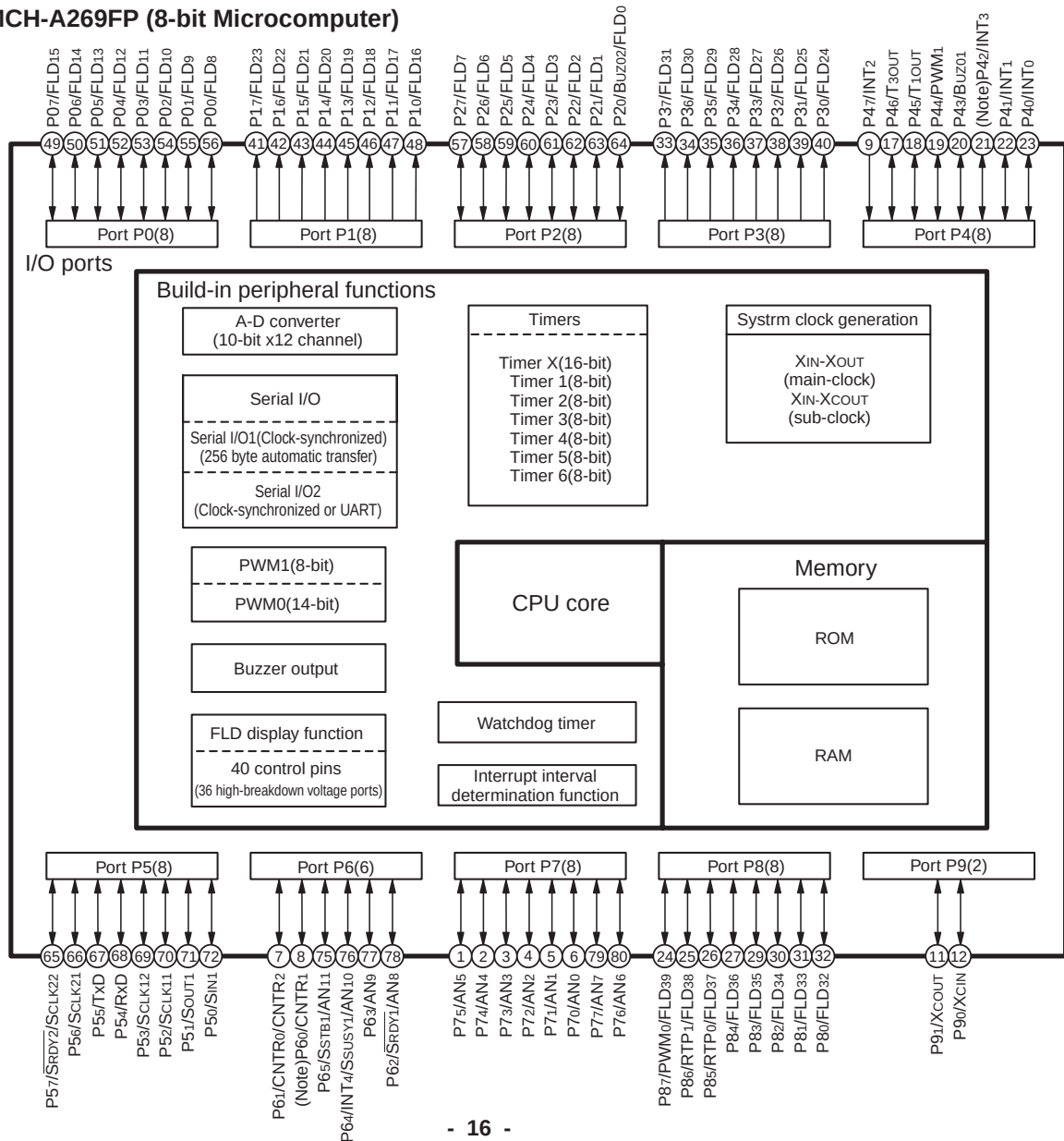
### HEADPHONE P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                       |
|---------|--------------|-----------------------------------|
| 79      | 614 316 5873 | ASSY,PWB,HEADPHONE (Only Initial) |
| CN680   | 645 011 6384 | JACK,PHONE D3.6                   |
| CN681   | 645 011 6384 | JACK,PHONE D3.6                   |
| CN682   | 614 310 2465 | PLUG,5P                           |
| or      | 645 005 9292 | PLUG,5P                           |
| CN683   | 614 310 2458 | PLUG,4P                           |
| or      | 645 005 8110 | PLUG,4P                           |
| L0151   | 645 001 5441 | INDUCTOR,2.2U K                   |
| or      | 645 045 9139 | INDUCTOR,2.2U K                   |
| L0152   | 645 006 9864 | INDUCTOR,80U                      |
| or      | 614 212 3171 | INDUCTOR,FERITE                   |
| L0153   | 645 006 9864 | INDUCTOR,80U                      |
| or      | 614 212 3171 | INDUCTOR,FERITE                   |

| REF.NO. | PART NO.     | DESCRIPTION      |
|---------|--------------|------------------|
| L6800   | 645 001 4550 | INDUCTOR,10U K   |
| or      | 645 031 7835 | INDUCTOR,10U K   |
| L6851   | 645 001 4550 | INDUCTOR,10U K   |
| or      | 645 031 7835 | INDUCTOR,10U K   |
| Q6880   | 405 151 4400 | TR KTD1303       |
| or      | 405 021 0204 | TR 2SD1012-F-SPA |
| or      | 405 021 0600 | TR 2SD1012-G-SPA |
| or      | 405 033 6706 | TR 2SD1468S-R    |
| or      | 405 033 6805 | TR 2SD1468S-S    |
| Q6881   | 405 151 4400 | TR KTD1303       |
| or      | 405 021 0204 | TR 2SD1012-F-SPA |
| or      | 405 021 0600 | TR 2SD1012-G-SPA |
| or      | 405 033 6706 | TR 2SD1468S-R    |
| or      | 405 033 6805 | TR 2SD1468S-S    |
| Q6882   | 405 143 6504 | TR KTA1267-GR    |
| or      | 405 004 4601 | TR 2SA608-F-SPA  |
| or      | 405 004 5103 | TR 2SA608-G-SPA  |
| or      | 405 006 1806 | TR 2SA933S-R     |
| or      | 405 006 1905 | TR 2SA933S-S     |

## IC BLOCK DIAGRAM & DESCRIPTION

### IC601 M38B57MCH-A269FP (8-bit Microcomputer)

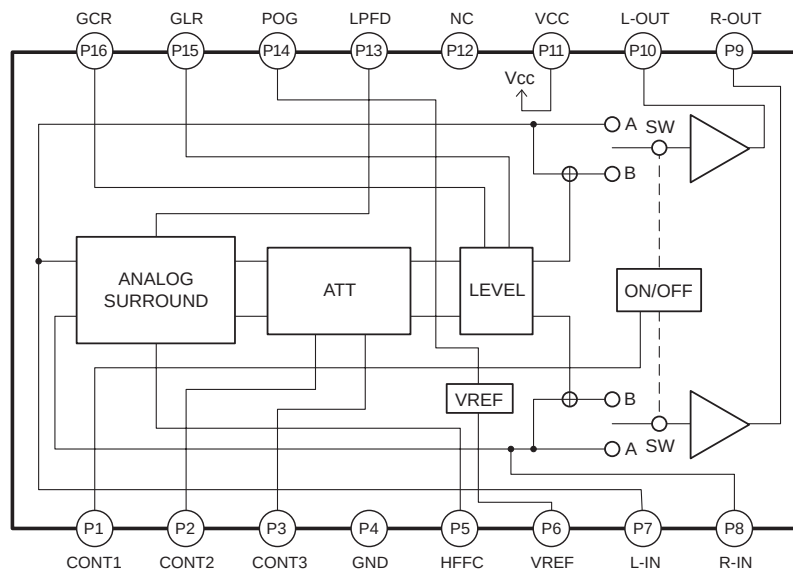


## IC BLOCK DIAGRAM & DESCRIPTION

### IC601 M38B57MCH-A269FP (8-bit Microcomputer)

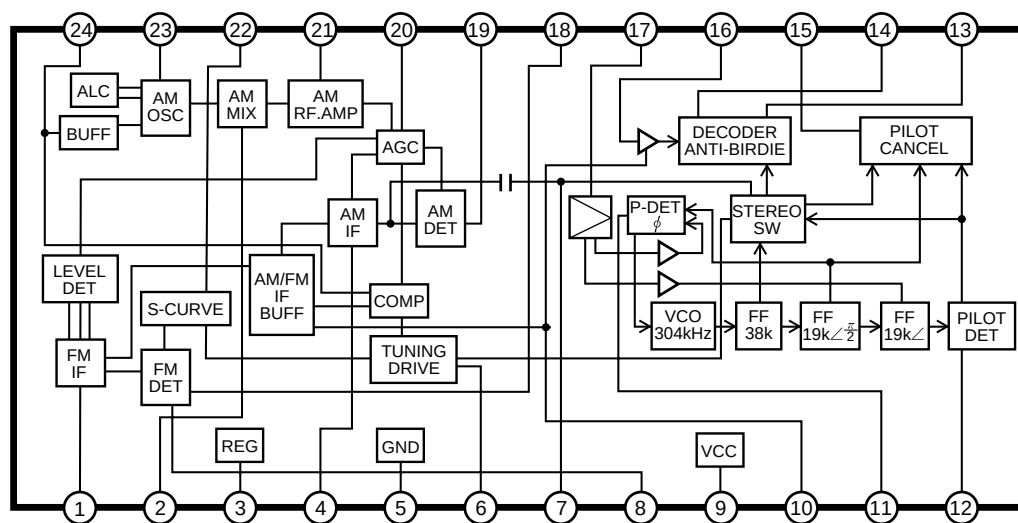
| No. | Pin Name        | I/O | Function                                                            | No. | Pin Name             | I/O | Function                            |
|-----|-----------------|-----|---------------------------------------------------------------------|-----|----------------------|-----|-------------------------------------|
| 1   | P75/AN05        | I   | Volume                                                              | 40  | P30/FLD24            | O   | FL digit output                     |
| 2   | P74/AN04        | I   | Volume                                                              | 41  | P17/FLD23            | O   | FL segment output                   |
| 3   | P73/AN03        | AD  |                                                                     | 42  | P16/FLD22            | O   | FL segment output                   |
| 4   | P72/AN02        | AD  |                                                                     | 43  | P15/FLD21            | O   | FL segment output                   |
| 5   | P71/AN01        | I   | Protect                                                             | 44  | P14/FLD20            | O   | FL segment output                   |
| 6   | P70/AN00        | O   | Function control                                                    | 45  | P13/FLD19            | O   | FL segment output                   |
| 7   | P61/CNTR0/CNTR2 | O   | Power control                                                       | 46  | P12/FLD18            | O   | FL segment output                   |
| 8   | P60/CNTR1       | O   | Clock shift control output(bc-A=Low)                                | 47  | P11/FLD17            | O   | FL segment output                   |
| 9   | P47/INT2        | I   | Power failure detection (Power Failure=L)/Micon power check(Down=L) | 48  | P10/FLD16            | O   | FL segment output                   |
| 10  | RESET           |     | System reset terminal                                               | 49  | P07/FLD15            | O   | FL segment output                   |
| 11  | P91/Xcout       |     | Sub clock oscillating terminal                                      | 50  | P06/FLD14            | O   | FL segment output                   |
| 12  | P90/Xcin        |     | Sub clock oscillating terminal                                      | 51  | P05/FLD13            | O   | FL segment output                   |
| 13  | Vss             |     | Ground potential terminal                                           | 52  | P04/FLD12            | O   | FL segment output                   |
| 14  | Xin             |     | Main clock oscillating ceramic terminal                             | 53  | P03/FLD11            | O   | FL segment output                   |
| 15  | Xout            |     | Main clock oscillating ceramic terminal                             | 54  | P02/FLD10            | O   | FL segment output                   |
| 16  | Vcc             |     | Plus power terminal                                                 | 55  | P01/FLD09            | O   | FL segment output                   |
| 17  | P46/T3out       |     | Ground control output for micon power check                         | 56  | P00/FLD08            | O   | FL segment output                   |
| 18  | P45/T1out       | O   | Mute Output(ON=H)                                                   | 57  | P27/FLD07            | O   | FL segment output (Pull Down R)     |
| 19  | P44/PWM1        | O   | Pull up control (ON=L)                                              | 58  | P26/FLD06            | O   | FL segment output (Pull Down R)     |
| 20  | P43/Buz01       | I   | Option Select in                                                    | 59  | P25/FLD05            | I   | MULTI                               |
| 21  | P42/INT3        | I   | Remote control input                                                | 60  | P24/FLD04            | I   | MULTI                               |
| 22  | P41/INT1        | I   | RDS data input                                                      | 61  | P23/FLD03            | I   | BASS                                |
| 23  | P40/INT0        | I/O | Serial synchro input /output                                        | 62  | P22/FLD02            | I   | BASS                                |
| 24  | P87/PWM0/FLD39  | I   | TU PLL DO                                                           | 63  | P21/FLD01            | I   | TREBLE                              |
| 25  | P86/RTP1/FLD38  | O   | TU PLL /RDS CLK                                                     | 64  | P20/Buz02/FLD00      | I   | TREBLE                              |
| 26  | P85/RTP0/FLD37  | O   | TU PLL /RDS DATA                                                    | 65  | P57/Srty2/ScIk22     | I/O | Serial chip enable input/output     |
| 27  | P84/FLD36       | O   | TU PLL /RDS CE                                                      | 66  | P56/ScIk21           | I/O | Serial clock input/output           |
| 28  | Vee             |     | FL Minus power terminal                                             | 67  | P55/Txd              | Out | Serial DATA output                  |
| 29  | P83/FLD35       | O   | FL digit output(Pull Down R) SEL_12/24                              | 68  | P54/Rxd              | In  | Serial DATA input                   |
| 30  | P82/FLD34       | O   | FL digit output(Pull Down R) SEL_RDS                                | 69  | P53/ScIk12           | I   | Headphone switch                    |
| 31  | P81/FLD33       | O   | FL digit output(Pull Down R) SEL_RDSE                               | 70  | P52/ScIk11           | O   | Bass control output (ON="H")        |
| 32  | P80/FLD32       | O   | FL digit output(Pull Down R) SEL_10KEY                              | 71  | P51/Sout1            | O   | Front speaker relay control(H=ON)   |
| 33  | P37/FLD31       | O   | FL digit output SEL_FUNC                                            | 72  | P50/Sin1             | O   | Power control(Power ON=H)           |
| 34  | P36/FLD30       | O   | FL digit output SEL_ECO                                             | 73  | Avss                 |     | A/D ground potential terminal       |
| 35  | P35/FLD29       | O   | FL digit output SEL_DPS                                             | 74  | VREF                 |     | A/D standard sub potential terminal |
| 36  | P34/FLD28       | O   | FL digit output SEL_DIM                                             | 75  | P65/Sstb1/AN11       | O   |                                     |
| 37  | P33/FLD27       | O   | FL digit output SEL_FUNC2                                           | 76  | P64/INT4/Sbusy1/AN10 | O   |                                     |
| 38  | P32/FLD26       | O   | FL digit output SEL_DISP                                            | 77  | P63/AN09             | O   | LC75385NE CE                        |
| 39  | P31/FLD25       | O   | FL digit output SEL_FUNC3                                           | 78  | P62/AN08             | O   | 3D srround control output           |
|     |                 |     |                                                                     | 79  | P77/AN07             | O   | 3D srround control output           |
|     |                 |     |                                                                     | 80  | P76/AN06             | O   | NC                                  |

### IC452 (LA2615 Surround Signal Processor)

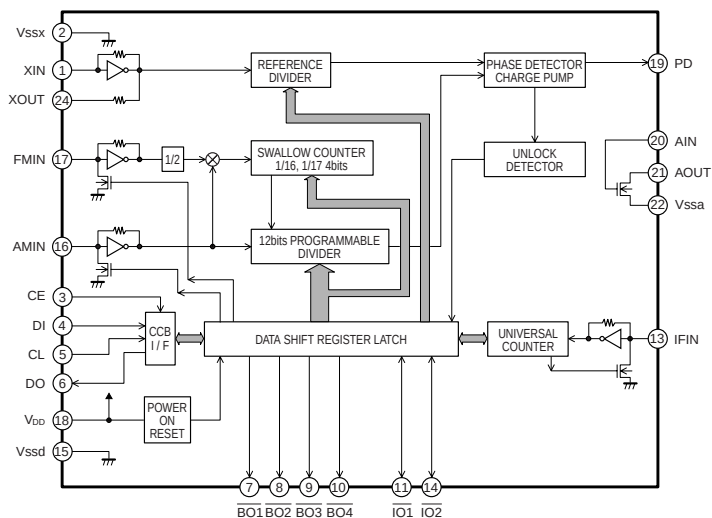


## IC BLOCK DIAGRAM & DESCRIPTION

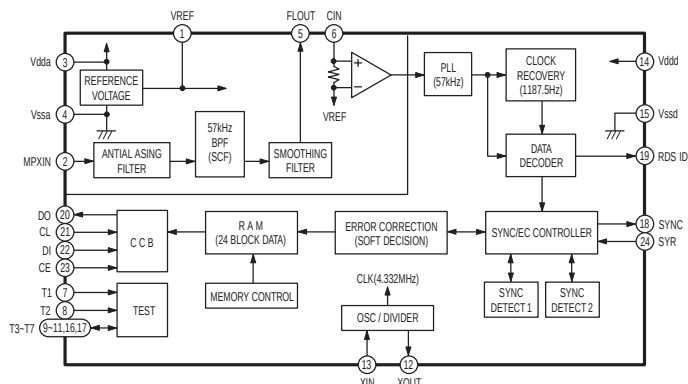
### IC231 LA1844ML (Tuner System)



### IC241 LC72121M-D (PLL Synthesizer)



### IC251 LC72722 (RDS Signal Processor)



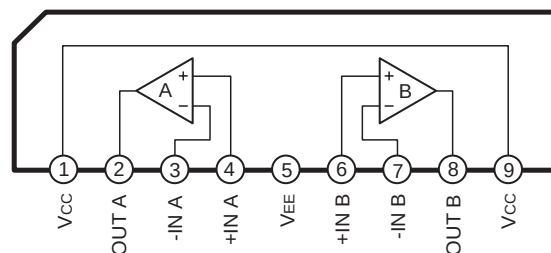
### IC450 LC75342M

(Electronically Controllable Electronic Volume)

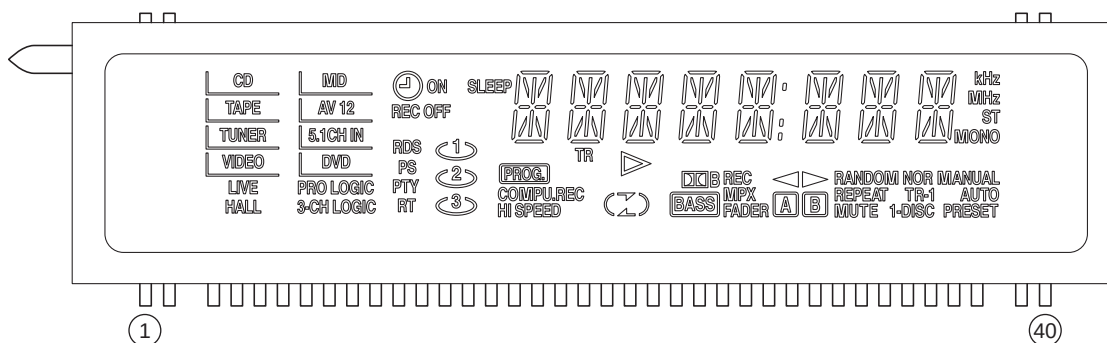


### IC451 KIA4558S

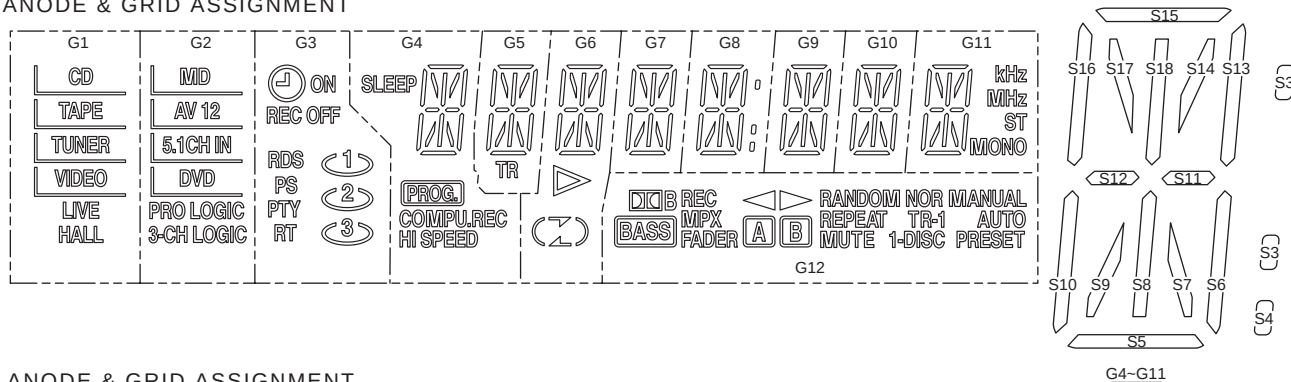
(Dual Low Noise Operational Amplifier)



## FL DISPLAY DESCRIPTION



### ANODE & GRID ASSIGNMENT



### ANODE & GRID ASSIGNMENT

|     | G1      | G2         | G3  | G4        | G5  | G6  | G7  | G8  | G9  | G10 | G11  | G12    |
|-----|---------|------------|-----|-----------|-----|-----|-----|-----|-----|-----|------|--------|
| S1  | CD      | MD         | ON  | SLEEP     |     |     |     |     |     |     | MONO | PRESET |
| S2  | (CD)    | (MD)       | ⌚   | HI SPEED  |     | (   |     |     |     |     | ST   | 1-DISC |
| S3  | TAPE    | (AV1) 2    | REC | COMPU.REC |     | ⏏   |     |     | S3  |     | MHz  | MUTE   |
| S4  |         |            |     | PROG      | TR  | ⏏   |     |     | S4  |     | KHz  | FADER  |
| S5  |         |            |     | S5        | S5  | S5  | S5  | S5  | S5  | S5  | S5   | DIB    |
| S6  |         |            | (3) | S6        | S6  | S6  | S6  | S6  | S6  | S6  | S6   | REC    |
| S7  |         |            | RT  | S7        | S7  | S7  | S7  | S7  | S7  | S7  | S7   | BASS   |
| S8  |         |            | 3   | S8        | S8  | S8  | S8  | S8  | S8  | S8  | S8   | MPX    |
| S9  |         |            | PTY | S9        | S9  | S9  | S9  | S9  | S9  | S9  | S9   | NOR    |
| S10 |         | 3-CH LOGIC | (2) | S10       | S10 | S10 | S10 | S10 | S10 | S10 | S10  | RANDOM |
| S11 |         | PRO LOGIC  | PS  | S11       | S11 | S11 | S11 | S11 | S11 | S11 | S11  | ◀      |
| S12 | HALL    | (DVD)      | 2   | S12       | S12 | S12 | S12 | S12 | S12 | S12 | S12  | ▶      |
| S13 | LIVE    | DVD        | RDS | S13       | S13 | S13 | S13 | S13 | S13 | S13 | S13  | MANUAL |
| S14 | (VIDEO) | (5.1CH IN) | (1) | S14       | S14 | S14 | S14 | S14 | S14 | S14 | S14  | A      |
| S15 | (TAPE)  | (AV)1(2)   | OFF | S15       | S15 | S15 | S15 | S15 | S15 | S15 | S15  | AUTO   |
| S16 | TUNER   | AV(12)     |     | S16       | S16 | S16 | S16 | S16 | S16 | S16 | S16  | TR-1   |
| S17 | (TUNER) | (AV12)     | 1   | S17       | S17 | S17 | S17 | S17 | S17 | S17 | S17  | REPEAT |
| S18 | VIDEO   | 5.1CH IN   |     | S18       | S18 | S18 | S18 | S18 | S18 | S18 | S18  | B      |

### PIN ASSIGNMENT

| Pin No.    | 1  | 2  | 3  | 4  | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|------------|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|
| Assignment | F1 | F1 | NP | NL | S18 | S17 | S16 | S15 | S14 | S13 | S12 | S11 | S10 | S9 | S8 | S7 | S6 | S5 | S4 | S3 |

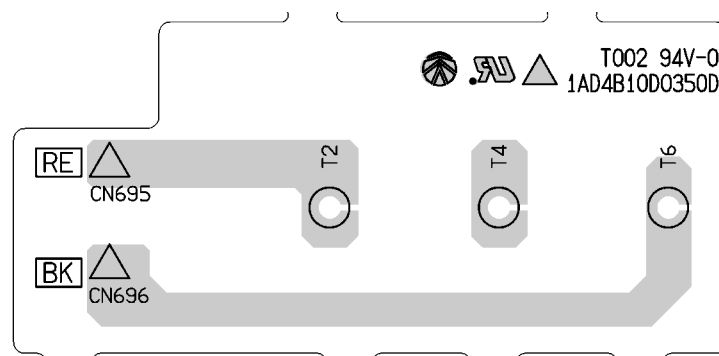
  

| Pin No.    | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34  | 35  | 36  | 37 | 38 | 39 | 40 |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|----|----|----|----|
| Assignment | S2 | S1 | NL | NL | G1 | G2 | G3 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 | G12 | NL | NP | F2 | F2 |

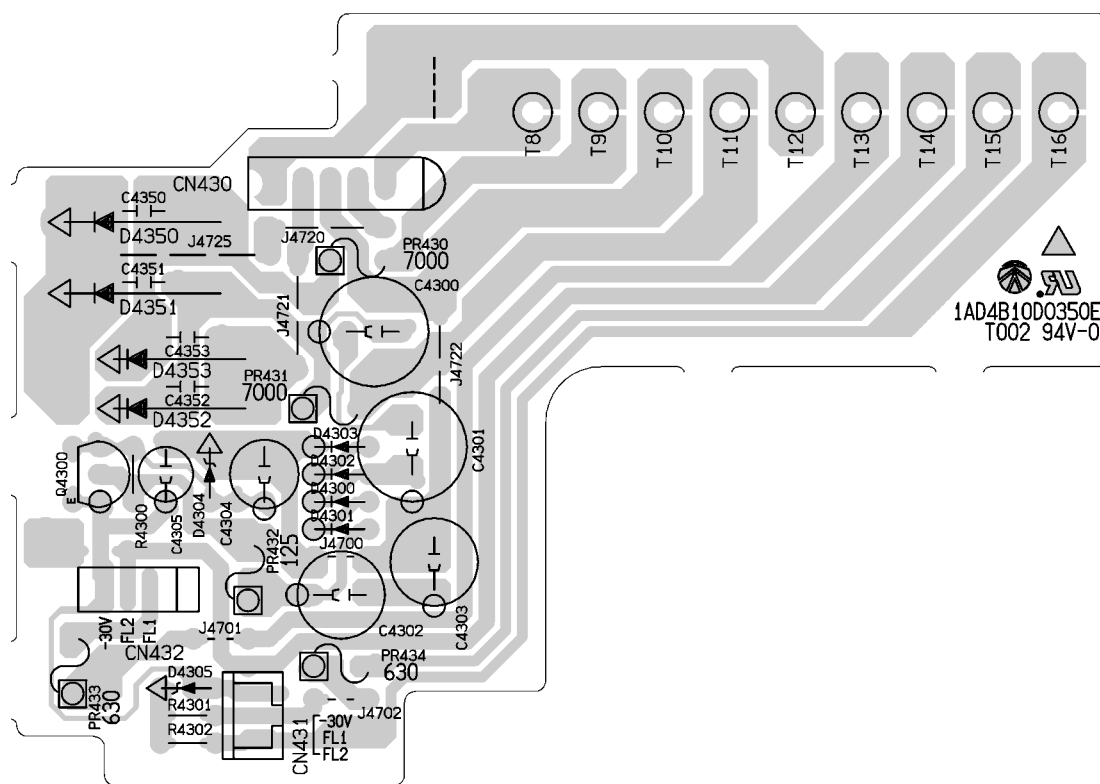
F1,F2:Filament G1~G12:Grid S1~S18:Anode NP:No Pin NL:No Lead

# **WIRING DIAGRAM (POWER TRANSFORMER, PRIMARY & SECONDARY P.W.BOARD)**

## **POWER TRANSFORMER, PRIMARY P.W.BOARD**

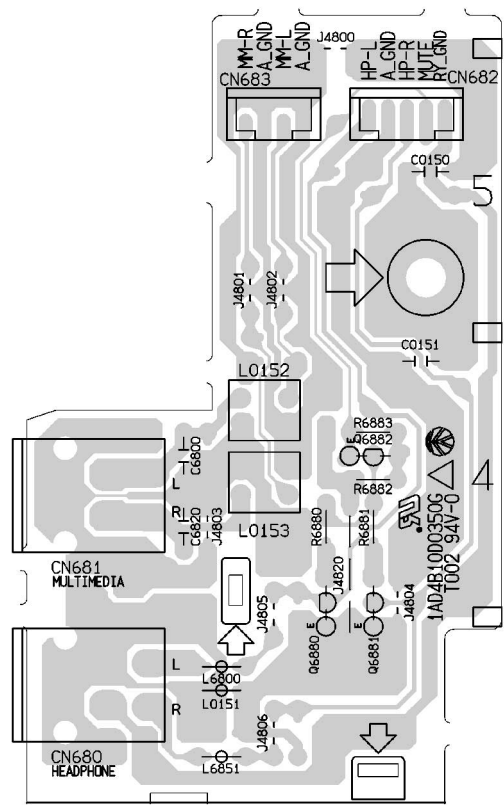


## **POWER TRANSFORMER, SECONDARY P.W.BOARD**

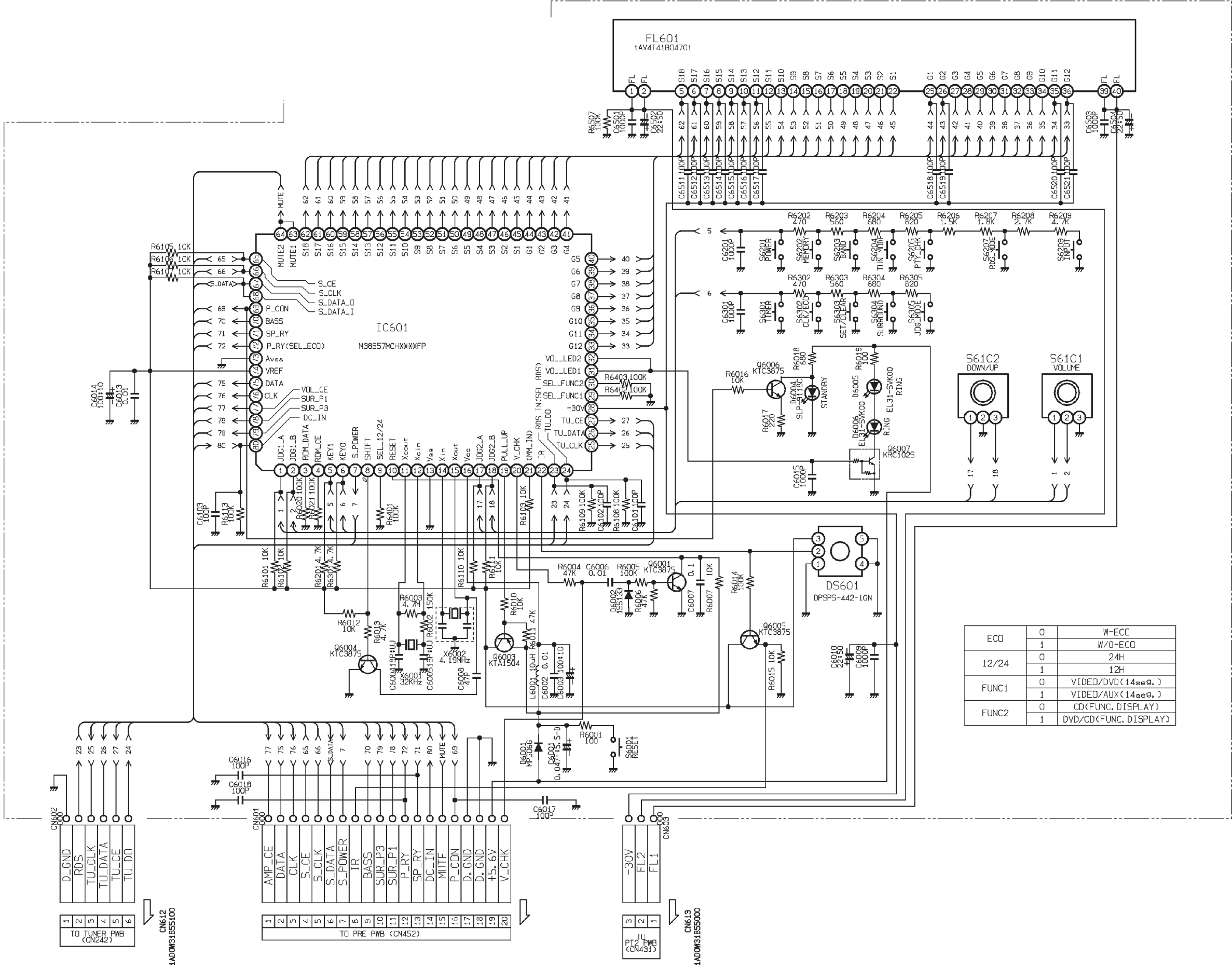


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## HEADPHONE P.W.BOARD



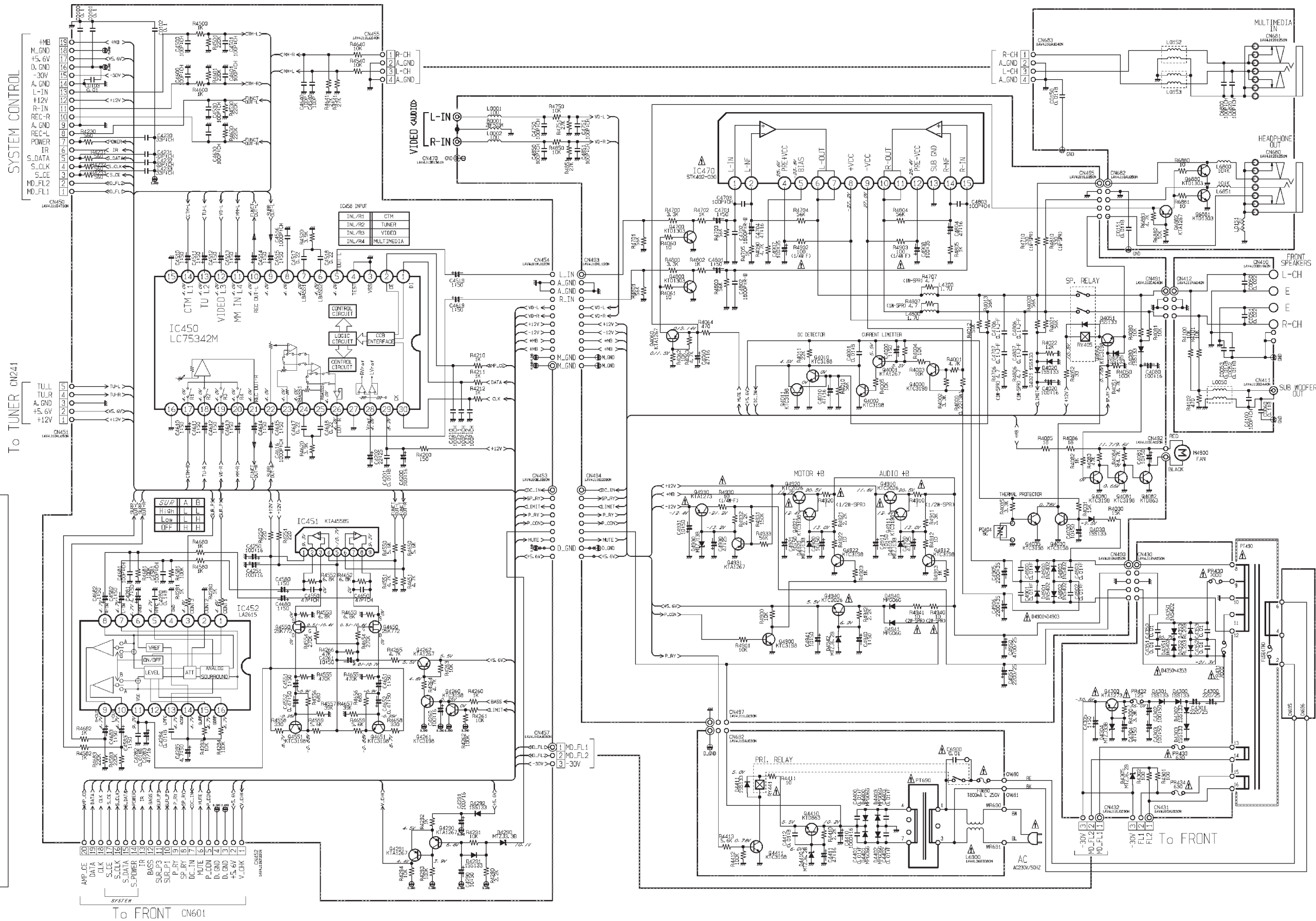
SCHEMATIC DIAGRAM (FRONT)

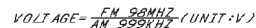


SCHEMATIC DIAGRAM (AMPLIFIER)

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  in the parts list and the schematic diagram designated components in which safety can be of special significance. When replacing a component identified by , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.



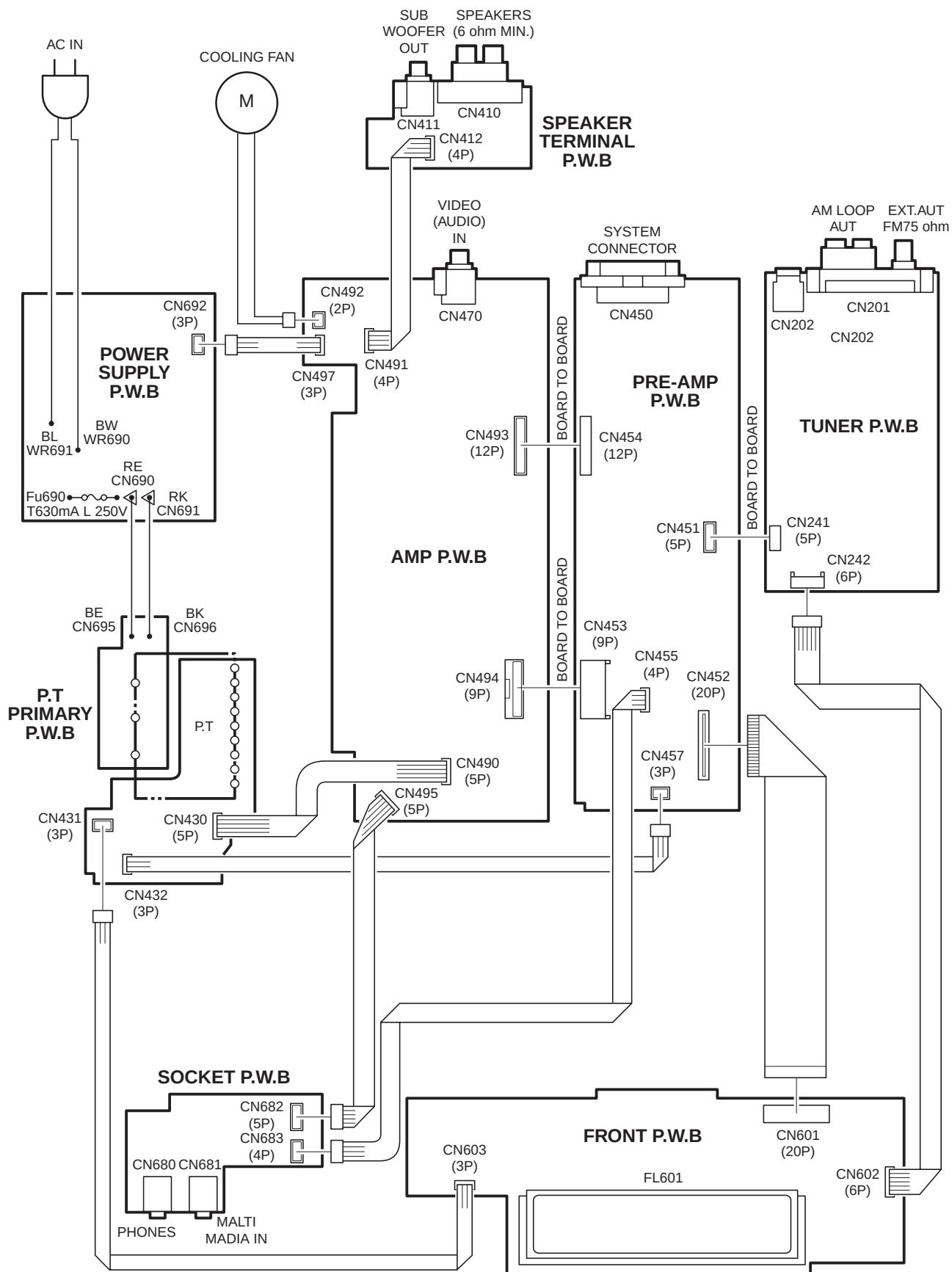


- 31 -

Each precaution in this

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  in the parts list and the schematic diagram designated components in which safety can be of special significance. When replacing a component identified by , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

## WIRING CONNECTION



## CD PICK-UP MAINTENANCE

### About pick-up (Optical lens) Cleaning

Clean a lens with swab of the cotton which moistened it with alcohol, cleaning paper or cleaning disc appointed.

Specified cleaning disc : LC-1 (Part code : 645 026 1961 ..... manufactured by SANYO.)

Show a clean procedure in the following in reference by swab of cotton.

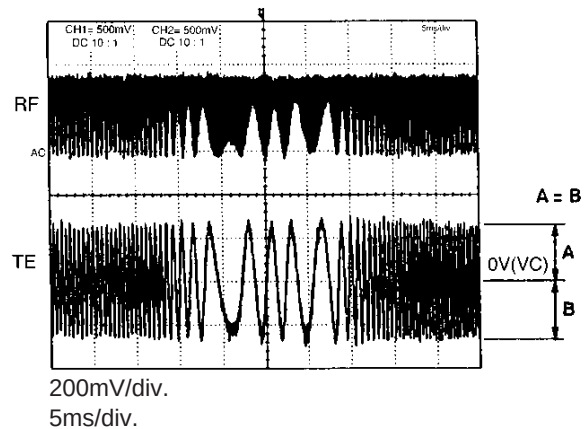
1. Cotton swab is wrapped with Cleaning paper.
2. Add the isopropyl alcohol.
3. Gently move the tip of cotton swab just like a draw a whirlpool from inside to outside on the surface of lens.

## CD PLAYER ADJUSTMENTS

### 1. ADJUSTMENTS

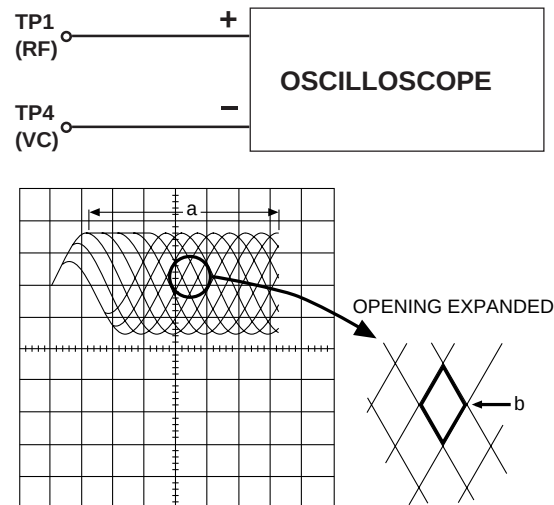
#### (1) Confirm the tracking balance

1. Turn on the POWER switch.
2. Connect an Oscilloscope to TP2 (TE) and TP4 (VC).
3. Set the test disc.
4. Press "PLAY" button to turn into the "PLAY" mode.
5. Keep holding "SKIP" button down so as to be "SERCH" mode, then confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V (VC).

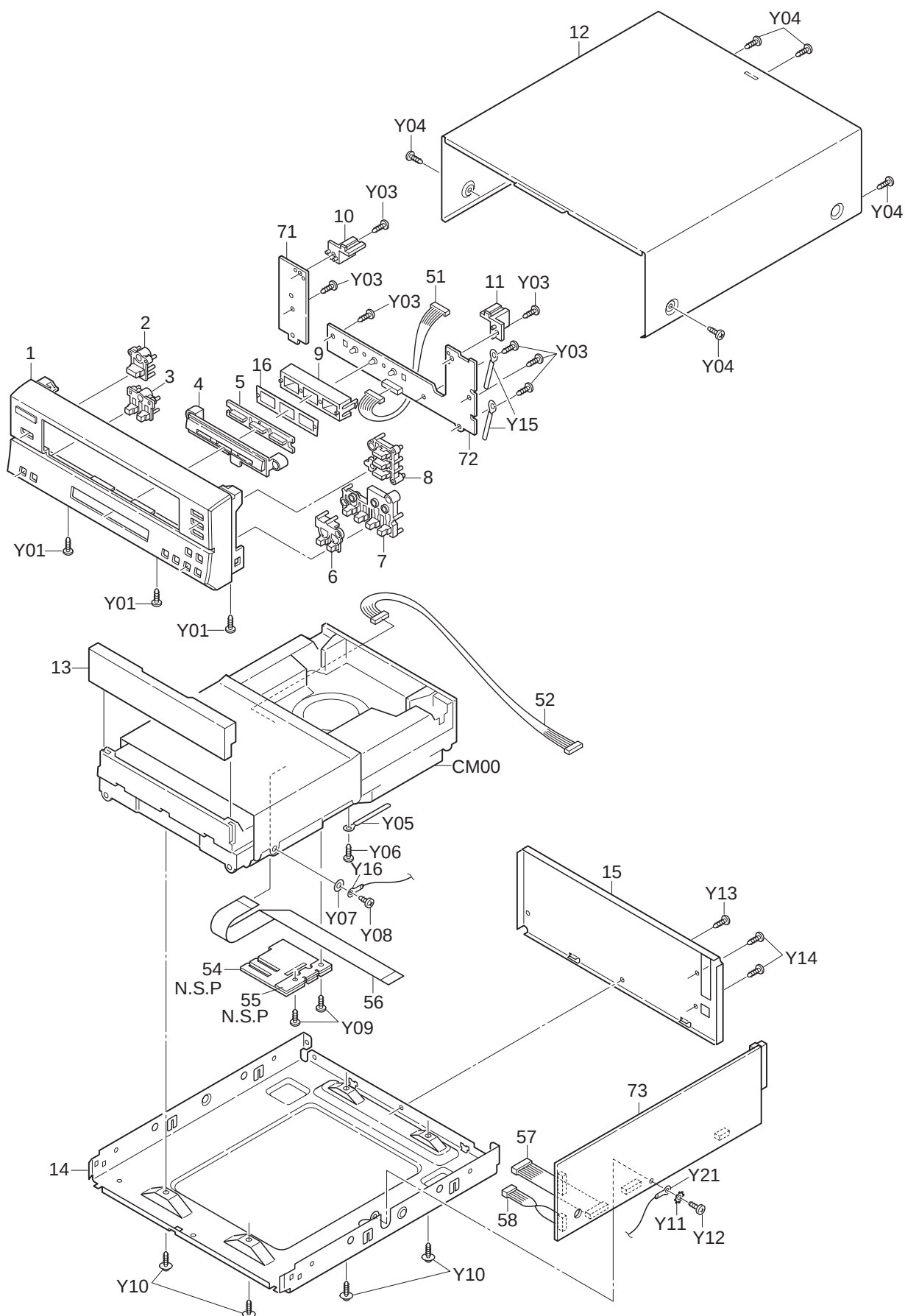


#### (2) Checking the "eye" pattern

1. Switch "ON" the POWER.
2. Connect an oscilloscope to TP1 (RF) and TP4 (VC).
3. Load the test disc.
4. Press the PLAY button.
5. Check to be sure that the "eye" pattern is at the center of waveform and that the diamond shape is clearly defined.
6. Press the STOP button.
7. Turn off the POWER switch.



## EXPLODED VIEW (CABINET & CHASSIS)



N.S.P : Not supplied as service parts.

## PARTS LIST

### PRODUCT SAFETY NOTICE

EACH PRECAUTION IN THIS MANUAL SHOULD BE FOLLOWED DURING SERVICING. COMPONENTS IDENTIFIED WITH THE IEC SYMBOL  $\Delta$  IN THE PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATED COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. WHEN REPLACING A COMPONENT IDENTIFIED BY  $\Delta$ , USE ONLY THE REPLACEMENT PARTS DESIGNATED, OR PARTS WITH THE SAME RATINGS OF RESISTANCE, WATTAGE OR VOLTAGE THAT ARE DESIGNATED IN THE PARTS LIST IN THIS MANUAL. LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS MUST BE MADE TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE PRODUCT TO THE CUSTOMER.

**CAUTION** : Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

Regular type resistors are less than 1/4 W Carbon type and Chip type resistors.

Regular type capacitors are less than 50 V and less than 1000  $\mu$ F type of Ceramic type, Electrolytic type and Chip type.

**N.S.P** : Not supplied as service parts.

### PACKING & ACCESSORIES

| REF.NO. | PART NO.     | DESCRIPTION                                                              |
|---------|--------------|--------------------------------------------------------------------------|
|         | 614 317 7920 | CARTON CASE,INNER SLEEVE<br>(DC-X8CT/UK & DC-X8CM/UK)                    |
|         | 614 317 7944 | CARTON CASE,INNER SLEEVE<br>(DC-088C/XE)                                 |
|         | 614 319 0943 | CARTON CASE,INNER SLEEVE<br>(DC-088C/SP)                                 |
|         | 614 316 2766 | CUSHION,FRONT,FRONT                                                      |
|         | 614 316 2773 | CUSHION,BACK,BACK                                                        |
|         | 645 047 3074 | POLY SHEET-0650X0400*NC,SET<br>(DC-X8CT/UK & DC-X8CM/UK<br>& DC-088C/SP) |
|         | 645 047 3081 | POLY SHEET-0650X0400*NC,SET<br>(DC-088C/XE)                              |

### CABINET & CHASSIS

| REF.NO. | PART NO.     | DESCRIPTION                                                          |
|---------|--------------|----------------------------------------------------------------------|
| 1       | 614 317 7463 | ASSY,CABINET,FRONT(DC-X8CT/UK,<br>DC-X8CM/UK & DC-088C/XE)           |
| 1       | 614 319 0592 | ASSY,CABINET,FRONT(DC-088C/SP)                                       |
| 2       | 614 316 2094 | BUTTON,OPEN/CLOSE(DC-X8CT/UK,<br>DC-X8CM/UK & DC-088C/XE)            |
| 2       | 614 319 0691 | BUTTON,OPEN/CLOSE(DC-088C/SP)                                        |
| 3       | 614 316 2100 | BUTTON,MEMORY,PLAY/PAUSE<br>(DC-X8CT/UK, DC-X8CM/UK<br>& DC-088C/XE) |
| 3       | 614 319 0707 | BUTTON,MEMORY,PLAY/PAUSE<br>(DC-088C/SP)                             |
| 4       | 614 316 2384 | DEC,ESC,LIGHTING,DISC SELECT                                         |
| 5       | 614 316 2391 | DEC,WINDOW,LIGHTING,<br>DISC SELECT                                  |
| 6       | 614 316 2131 | BUTTON,PLAY,PLAY PAUSE<br>(DC-X8CT/UK, DC-X8CM/UK<br>& DC-088C/XE)   |
| 6       | 614 319 0721 | BUTTON,PLAY,PLAY PAUSE<br>(DC-088C/SP)                               |
| 7       | 614 316 2148 | BUTTON,STOP(DC-X8CT/UK,<br>DC-X8CM/UK & DC-088C/XE)                  |
| 7       | 614 319 0738 | BUTTON,STOP(DC-088C/SP)                                              |
| 8       | 614 316 2117 | BUTTON,DISC SELECT(DC-X8CT/UK,<br>DC-X8CM/UK & DC-088C/XE)           |
| 8       | 614 319 0714 | BUTTON,DISC SELECT(DC-088C/SP)                                       |
| 9       | 614 316 2599 | REFLECTOR,LED,DISC SELECT                                            |
| 10      | 614 316 2513 | MOUNTING,CABINET,L                                                   |
| 11      | 614 316 2520 | MOUNTING,CABINET,R                                                   |
| 12      | 614 317 7418 | ASSY,CABINETAFTER BENDING                                            |
| 13      | 614 316 2377 | DEC,ESC,TRAY,DISC TRAY<br>(DC-X8CT/UK, DC-X8CM/UK<br>& DC-088C/XE)   |
| 13      | 614 319 0820 | DEC,ESC,TRAY,DISC TRAY<br>(DC-088C/SP)                               |
| 14      | 614 317 7487 | ASSY,CABINET,BOTTOM                                                  |

| REF.NO. | PART NO.     | DESCRIPTION                               |
|---------|--------------|-------------------------------------------|
| 15      | 614 316 2568 | PANEL,REAR<br>(DC-X8CT/UK & DC-X8CM/UK)   |
| 15      | 614 316 7839 | PANEL,REAR(DC-088C/XE)                    |
| 15      | 614 319 0851 | PANEL,REAR(DC-088C/SP)                    |
| 16      | 614 317 9245 | DEC,SHEET,LIGHTING,<br>REFLECTOR LIGHTING |
|         | 614 250 6721 | FOOT,CD MECHA                             |

### FIXING PARTS

| REF.NO. | PART NO.     | DESCRIPTION                             |
|---------|--------------|-----------------------------------------|
| Y01     | 411 021 3503 | SCR S-TPG BIN 3X10,<br>FRONT-BOTTOM FIX |
| Y03     | 411 165 3803 | SCR S-TPG BIN 2.3X10,<br>FRONT PWB FIX  |
| Y04     | 411 098 4205 | SCR S-TPG BIN 3X8,CABINET               |
| Y05     | 614 129 9136 | LUG,MECHA LEAD DRESS                    |
| Y06     | 411 021 3503 | SCR S-TPG BIN 3X10,LUG                  |
| Y07     | 411 092 2900 | WASHER Z 3X10X1,MECHA                   |
| Y08     | 411 028 9201 | SCR S-TPG PAN 3X4,MECHA                 |
| Y09     | 411 021 3503 | SCR S-TPG BIN 3X10,<br>LEAD DRESS PWB   |
| Y10     | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8,CD MECHA          |
| Y11     | 411 008 0402 | WASHER OUT TW 3,SIDE PWB                |
| Y12     | 411 021 3503 | SCR S-TPG BIN 3X10,SIDE PWB             |
| Y13     | 411 021 3701 | SCR S-TPG BIN 3X10,BOTTOM-REAR          |
| Y14     | 411 021 3701 | SCR S-TPG BIN 3X10,<br>REAR-ELECT PART  |
| Y15     | 614 129 9136 | LUG,FRONT PWB FIX                       |
| Y16     | 614 129 9082 | LUG,FOR CD-MECHA WIRE                   |

### ELECTRICAL PARTS

| REF.NO. | PART NO.              | DESCRIPTION         |
|---------|-----------------------|---------------------|
| 51      | $\Delta$ 614 317 9221 | ASSY,WIRE CD-FRONT  |
| 52      | $\Delta$ 614 305 2647 | ASSY,WIRE,CD-PICKUP |
| or      | $\Delta$ 614 308 5782 | ASSY,WIRE,CD-PICKUP |
| 54      | $\Delta$ 614 316 4500 | PWB FFC (N.S.P)     |
| 55      | $\Delta$ 614 318 0173 | PWB,FFC2 (N.S.P)    |
| 56      | $\Delta$ 645 041 1793 | FLEXIBLE FLAT CABLE |
| 57      | 614 318 0029          | ASSY,WIRE,CD-MECHA  |
| 58      | 614 318 8117          | ASSY,WIRE,CD-MECHA  |

### OPEN P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                  |
|---------|--------------|------------------------------|
| 71      | 614 316 4029 | ASSY,PWB OPEN (Only initial) |
| CN164   | 614 035 4928 | SOCKET,DIP 3P                |
| or      | 614 237 9769 | SOCKET                       |
| S1640   | 645 006 5958 | SWITCH,PUSH 1P-1T            |
| or      | 614 220 5471 | SWITCH,TACT                  |
| or      | 614 240 1002 | SWITCH,TACT                  |
| S1641   | 645 006 5958 | SWITCH,PUSH 1P-1T            |
| or      | 614 220 5471 | SWITCH,TACT                  |
| or      | 614 240 1002 | SWITCH,TACT                  |
| S1642   | 645 006 5958 | SWITCH,PUSH 1P-1T            |
| or      | 614 220 5471 | SWITCH,TACT                  |
| or      | 614 240 1002 | SWITCH,TACT                  |

## PARTS LIST

### FRONT P.W. BOARD ASSY

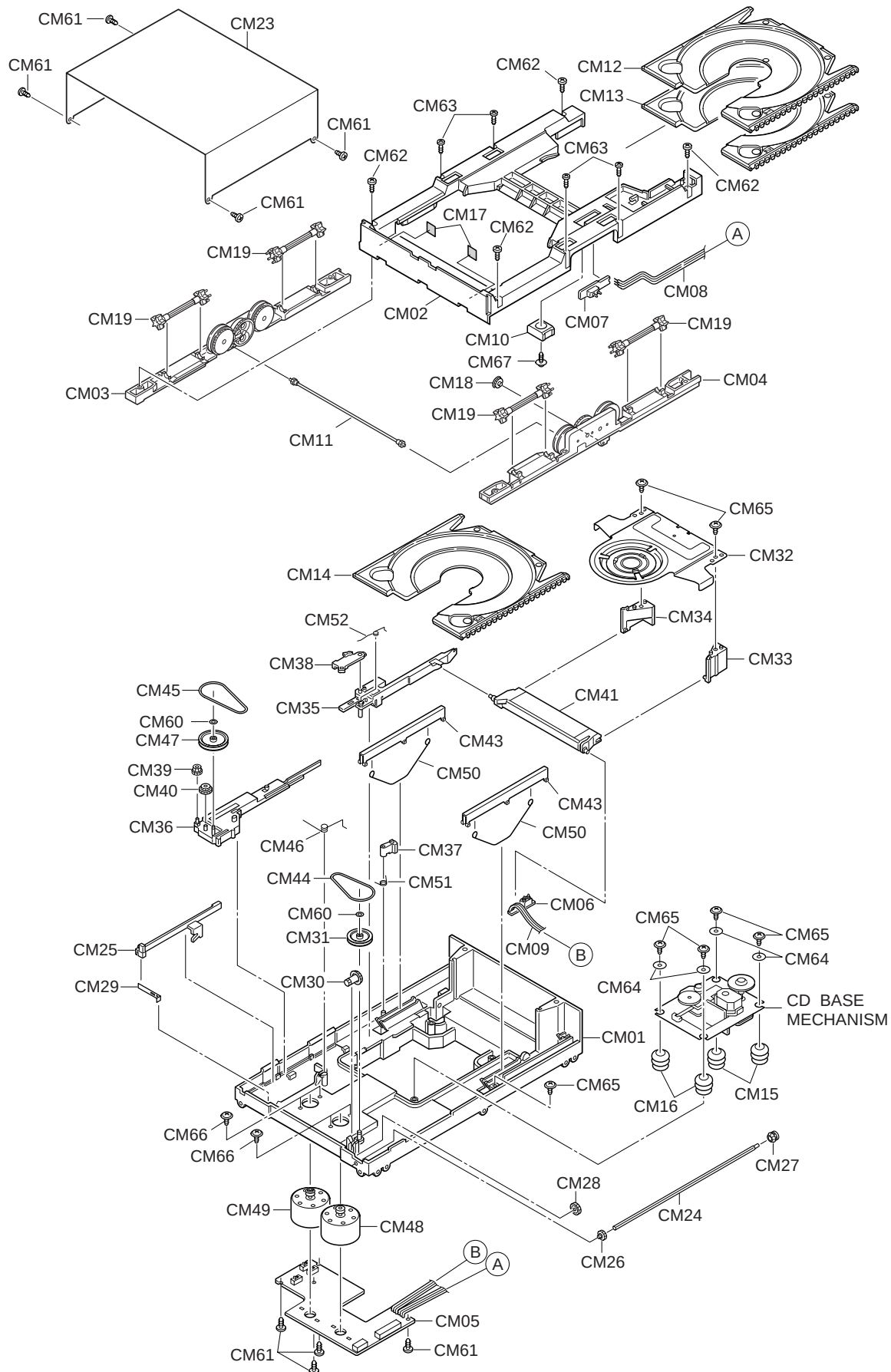
| REF.NO. | PART NO.     | DESCRIPTION                           |
|---------|--------------|---------------------------------------|
| 72      | 614 316 4012 | ASSY PWB FRONT (Only initial)         |
| CN160   | 645 006 0861 | PLUG,7P                               |
| CN161   | 614 035 4928 | SOCKET,DIP 3P                         |
| or      | 614 237 9769 | SOCKET                                |
| D1620   | 408 044 9100 | LED HLMP-EL31-SVK00,<br>FORLED_YELLOW |
| D1621   | 408 044 9100 | LED HLMP-EL31-SVK00,<br>FORLED_YELLOW |
| D1622   | 408 044 9100 | LED HLMP-EL31-SVK00,<br>FORLED_YELLOW |
| S1601   | 645 006 5958 | SWITCH,PUSH 1P-1T                     |
| or      | 614 220 5471 | SWITCH,TACT                           |
| or      | 614 240 1002 | SWITCH,TACT                           |
| S1602   | 645 006 5958 | SWITCH,PUSH 1P-1T                     |
| or      | 614 220 5471 | SWITCH,TACT                           |
| or      | 614 240 1002 | SWITCH,TACT                           |
| S1603   | 645 006 5958 | SWITCH,PUSH 1P-1T                     |
| or      | 614 220 5471 | SWITCH,TACT                           |
| or      | 614 240 1002 | SWITCH,TACT                           |
| S1604   | 645 006 5958 | SWITCH,PUSH 1P-1T                     |
| or      | 614 220 5471 | SWITCH,TACT                           |
| or      | 614 240 1002 | SWITCH,TACT                           |
| S1605   | 645 006 5958 | SWITCH,PUSH 1P-1T                     |
| or      | 614 220 5471 | SWITCH,TACT                           |
| or      | 614 240 1002 | SWITCH,TACT                           |
| S1606   | 645 006 5958 | SWITCH,PUSH 1P-1T                     |
| or      | 614 220 5471 | SWITCH,TACT                           |
| or      | 614 240 1002 | SWITCH,TACT                           |
| S1607   | 645 006 5958 | SWITCH,PUSH 1P-1T                     |
| or      | 614 220 5471 | SWITCH,TACT                           |
| or      | 614 240 1002 | SWITCH,TACT                           |
| S1608   | 645 006 5958 | SWITCH,PUSH 1P-1T                     |
| or      | 614 220 5471 | SWITCH,TACT                           |
| or      | 614 240 1002 | SWITCH,TACT                           |
| S1609   | 645 006 5958 | SWITCH,PUSH 1P-1T                     |
| or      | 614 220 5471 | SWITCH,TACT                           |
| or      | 614 240 1002 | SWITCH,TACT                           |

### CD P.W.BOARD ASSY

| REF.NO. | PART NO.       | DESCRIPTION                 |
|---------|----------------|-----------------------------|
| 73      | 614 316 4005   | ASSY PWB CD (Only initial)  |
| CN111   | 645 040 0513   | SOCKET,FPC 15P,CD_PICKUP    |
| CN113   | 645 005 8127   | PLUG,6P,BASEMECHA           |
| CN114   | 614 020 6562   | SOCKET,4P                   |
| or      | 614 223 9223   | SOCKET                      |
| CN115   | 614 020 6609   | SOCKET,8P                   |
| CN190   | 645 006 0946   | PLUG,7P                     |
| or      | 614 310 2632   | PLUG,7P                     |
| CN199   | 645 045 9511   | SOCKET,SYSTEM 19P,FORSYSTEM |
| D1211   | 407 063 9108   | ZENER DIODE MTZJ6.8B        |
| D1221   | 407 099 5303   | ZENER DIODE MTZJ5.6B        |
| D1480   | 407 012 4406   | DIODE 1SS133                |
| or      | 407 012 5809   | DIODE 1SS176                |
| D1491   | 407 099 5204   | ZENER DIODE MTZJ5.1B        |
| D1492   | △ 407 097 8009 | DIODE MPG06G                |
| D1493   | △ 407 097 8009 | DIODE MPG06G                |
| D1494   | △ 407 097 8009 | DIODE MPG06G                |
| D1495   | △ 407 097 8009 | DIODE MPG06G                |
| D1497   | △ 407 097 8009 | DIODE MPG06G                |
| D1901   | 407 099 6805   | ZENER DIODE MTZJ13B         |
| D1902   | 407 099 6805   | ZENER DIODE MTZJ13B         |
| D1903   | 407 012 4406   | DIODE 1SS133                |
| or      | 407 012 5809   | DIODE 1SS176                |

| REF.NO. | PART NO.       | DESCRIPTION              |
|---------|----------------|--------------------------|
| IC101   | 409 396 8100   | IC LA9241ML              |
| IC102   | 409 435 2106   | IC LC78622NE             |
| IC103   | △ 409 372 9602 | IC LA6541                |
| IC131   | △ 409 441 4507 | IC TA7291S(M)            |
| IC132   | △ 409 441 4507 | IC TA7291S(M)            |
| IC181   | 409 471 0302   | IC BMR-0301I             |
| IC190   | △ 410 409 8901 | IC M38504M6H 230FP,MICON |
| L1451   | 645 001 4550   | INDUCTOR,10U K           |
| L1771   | 614 212 3171   | INDUCTOR,FERITE          |
| or      | 645 006 9864   | INDUCTOR,80U             |
| L1781   | 614 212 3171   | INDUCTOR,FERITE          |
| or      | 645 006 9864   | INDUCTOR,80U             |
| PR141   | △ 645 014 2482 | PROTECTOR,0.315A 125V    |
| Q1301   | 405 008 7202   | TR 2SB810-E              |
| or      | 405 008 7301   | TR 2SB810-F              |
| or      | 405 008 6809   | TR 2SB808-F-SPA          |
| Q1401   | △ 405 141 3604 | TR KTA1273-Y             |
| or      | △ 405 009 5207 | TR 2SB927-S              |
| or      | △ 405 001 9302 | TR 2SA1020-Y             |
| Q1771   | 405 011 8609   | TR 2SC1740S-S            |
| or      | 405 011 8500   | TR 2SC1740S-R            |
| or      | 405 015 6403   | TR 2SC2785-F             |
| or      | 405 015 6205   | TR 2SC2785-E             |
| or      | 405 143 8706   | TR KTC3199-GR            |
| Q1772   | 405 149 6003   | TR 2SJ498,FET_FOR_A_SW   |
| Q1773   | 405 000 0508   | TR DTA114ES              |
| or      | 405 110 5400   | TR KRA102M-A             |
| Q1781   | 405 011 8609   | TR 2SC1740S-S            |
| or      | 405 011 8500   | TR 2SC1740S-R            |
| or      | 405 015 6403   | TR 2SC2785-F             |
| or      | 405 015 6205   | TR 2SC2785-E             |
| or      | 405 143 8706   | TR KTC3199-GR            |
| Q1782   | 405 149 6003   | TR 2SJ498,FET_FOR_A_SW   |
| Q1783   | 405 000 0508   | TR DTA114ES              |
| or      | 405 110 5400   | TR KRA102M-A             |
| Q1902   | 405 006 1905   | TR 2SA933S-S             |
| or      | 405 006 1806   | TR 2SA933S-R             |
| or      | 405 004 4601   | TR 2SA608-F-SPA          |
| or      | 405 004 5103   | TR 2SA608-G-SPA          |
| or      | 405 143 6504   | TR KTA1267-GR            |
| Q1903   | 405 011 8609   | TR 2SC1740S-S            |
| or      | 405 011 8500   | TR 2SC1740S-R            |
| or      | 405 015 6403   | TR 2SC2785-F             |
| or      | 405 015 6205   | TR 2SC2785-E             |
| or      | 405 143 8706   | TR KTC3199-GR            |
| R1211   | △ 402 082 0709 | RESISTOR 5.6 J- 2W       |
| or      | △ 402 072 0207 | RESISTOR 5.6 J- 2W       |
| R1221   | △ 402 082 0709 | RESISTOR 5.6 J- 2W       |
| or      | △ 402 072 0207 | RESISTOR 5.6 J- 2W       |
| S1650   | 407 218 1100   | PHOTO COUPLE GP1FA550TZ  |
| or      | 407 215 1608   | PHOTO COUPLE TOTX178A    |
| SH101   | 614 317 4714   | SHIELD,SYSTEM CONNECTOR  |
| T1001   | 407 212 0505   | THERMISTOR RXE065        |
| X1451   | 645 020 9024   | OSC,CRYSTAL 16.9344MHZ   |
| X1900   | 645 018 6103   | OSC,CERAMIC 6.000MHZ     |

# EXPLODED VIEW (CD MECHANISM)

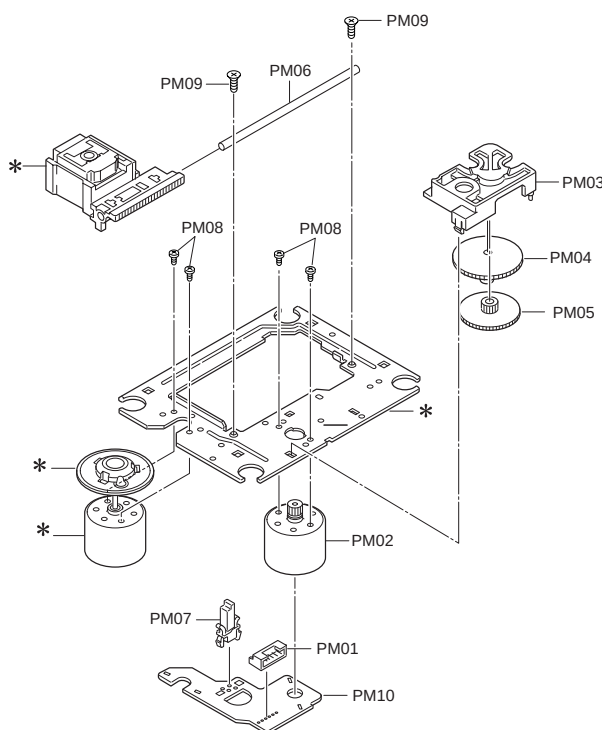


## PARTS LIST

### CD MECHA ASSY(PM-CDS800TP-SH... Only initial))

| REF.NO. | PART NO.     | DESCRIPTION                                             | REF.NO. | PART NO.     | DESCRIPTION                             |
|---------|--------------|---------------------------------------------------------|---------|--------------|-----------------------------------------|
| CM00    | 614 309 7181 | ASSY,MECHA,PM-CDS800TP-SH,<br>CD CHANGER (Only initial) | CM32    | 645 041 2448 | ASSY,CLAMPER SA,<br>CLAMPER (SANYO)     |
| CM01    | 645 033 6072 | ASSY,CHASSIS,CHASSIS ASSY                               | CM33    | 645 033 6140 | ARM SLIDER R                            |
| CM02    | 645 033 7512 | DRAWER 2                                                | CM34    | 645 033 6157 | ARM SLIDER L                            |
| CM03    | 645 033 5976 | ASSY,HOLDER L,<br>DRAWER HOLDER L ASS                   | CM35    | 645 033 6430 | SLIDER 1                                |
| CM04    | 645 033 6898 | ASSY,HOLDER R3B,<br>DRAWER HOLDER R ASSY                | CM36    | 645 033 5969 | ASSY,SLIDER 2,<br>FWD/RVS SLIDE ASSY    |
| CM05    | 645 033 6041 | ASSY,PC BOARD A                                         | CM37    | 645 033 6980 | ARM STOPPER A2                          |
| CM06    | 645 033 6065 | ASSY,PC BOARD B                                         | CM38    | 645 033 6416 | ARM STOPPER B                           |
| CM07    | 645 033 6058 | ASSY,PC BOARD C                                         | CM39    | 645 033 6263 | GEAR IDLER A2                           |
| CM08    | 645 033 5945 | LEAD WIRE                                               | CM40    | 645 033 6218 | GEAR IDLER C                            |
| CM09    | 645 033 5952 | LEAD WIRE                                               | CM41    | 645 047 8628 | LEVER 2                                 |
| CM10    | 645 033 6713 | SPACER SW                                               | CM43    | 645 033 6454 | LIFTER,CARRIGE LIFT UP                  |
| CM11    | 645 033 6027 | ASSY,GEAR DRIVE,<br>SINCHRO GEAR ASSY                   | CM44    | 645 033 5778 | BELT                                    |
| CM12    | 645 041 2417 | ASSY,CRG 101,CARRIAGE NO.1                              | or      | 645 047 8611 | BELT                                    |
| CM13    | 645 041 2424 | ASSY,CRG 201                                            | CM45    | 645 033 5785 | BELT                                    |
| CM14    | 645 041 2431 | ASSY,CRG 301                                            | or      | 645 047 8635 | BELT                                    |
| CM15    | 645 033 5877 | INSULATER                                               | CM46    | 645 033 7048 | SPRING                                  |
| CM16    | 645 033 5884 | INSULATER                                               | CM47    | 645 033 6393 | PULLEY A                                |
| CM17    | 645 033 5907 | CUSHION                                                 | CM48    | 645 033 6003 | ASSY,MOTOR CRG S,<br>CARRIGE MOTOR ASSY |
| CM18    | 645 033 6324 | BEVEL GEAR 4                                            | CM49    | 645 033 6010 | ASSY,MOTOR DRW S,<br>DRAWER MOTOR ASSY  |
| CM19    | 645 047 8543 | ASSY,GEAR STAR                                          | CM50    | 645 033 5723 | SPRING                                  |
| CM23    | 645 033 6089 | COVER 2                                                 | CM51    | 614 303 7545 | SPRING                                  |
| CM24    | 645 033 6539 | SHAFT                                                   | CM52    | 645 047 8604 | SPRING                                  |
| CM25    | 645 033 6461 | SLIDER 4                                                | CM60    | 645 033 5648 | WASHER                                  |
| CM26    | 645 033 6201 | GEAR SPLINE                                             | CM61    | 645 033 5594 | SCREW                                   |
| CM27    | 645 033 6232 | BEVEL GEAR 1                                            | CM62    | 645 033 7031 | SCREW                                   |
| CM28    | 645 033 6270 | GEAR IDLER 1                                            | CM63    | 645 033 5563 | SCREW                                   |
| CM29    | 645 033 6102 | PLATE SPRING                                            | CM64    | 645 033 5631 | WASHER                                  |
| CM30    | 645 033 6287 | BEVEL GEAR 3                                            | CM65    | 645 033 5570 | SCREW                                   |
| CM31    | 645 033 6225 | PULLEY C                                                | CM66    | 645 033 5600 | SCREW                                   |
|         |              |                                                         | CM67    | 645 033 5617 | SCREW                                   |

## EXPLODED VIEW (CD BASE MECHANISM)

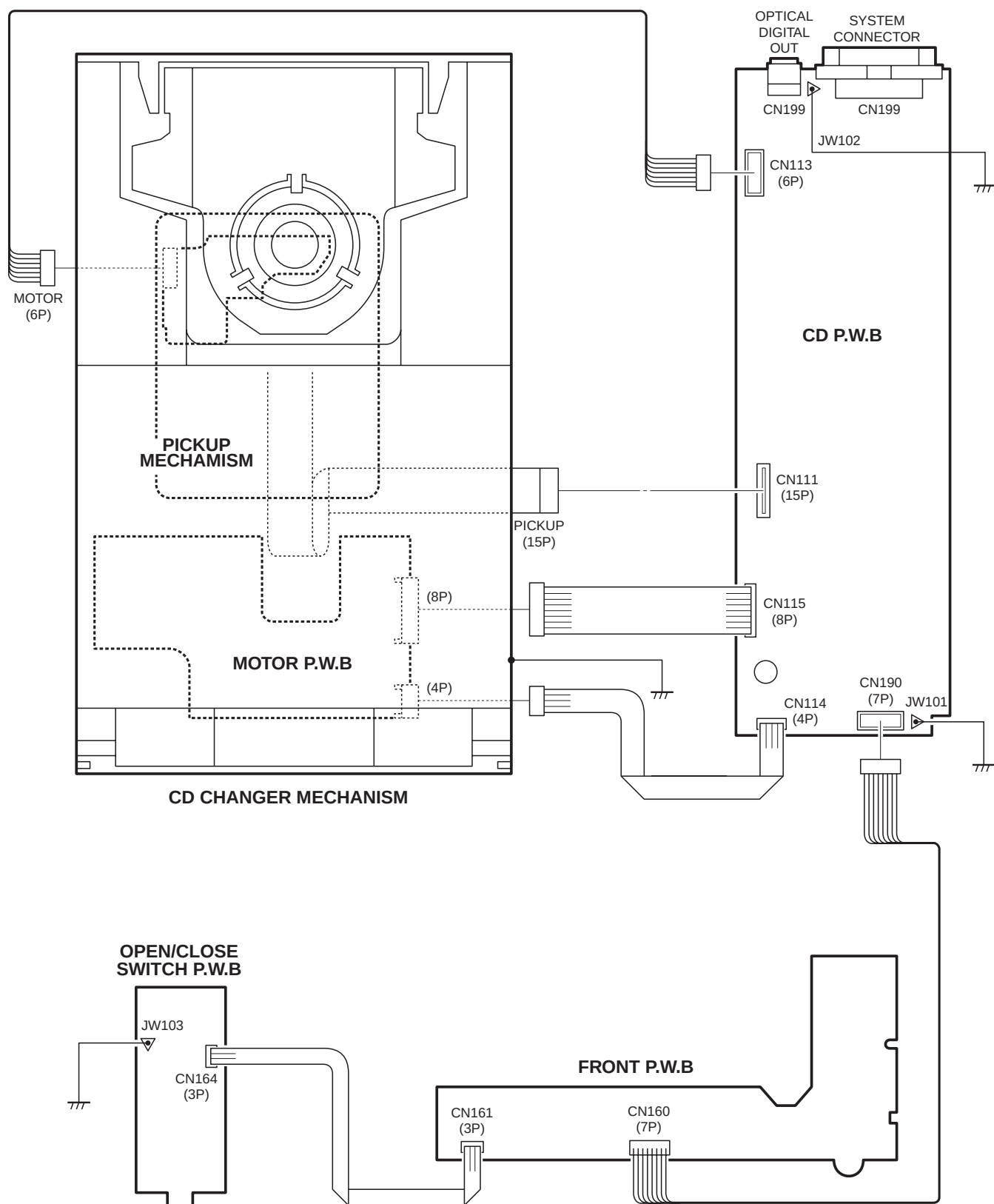


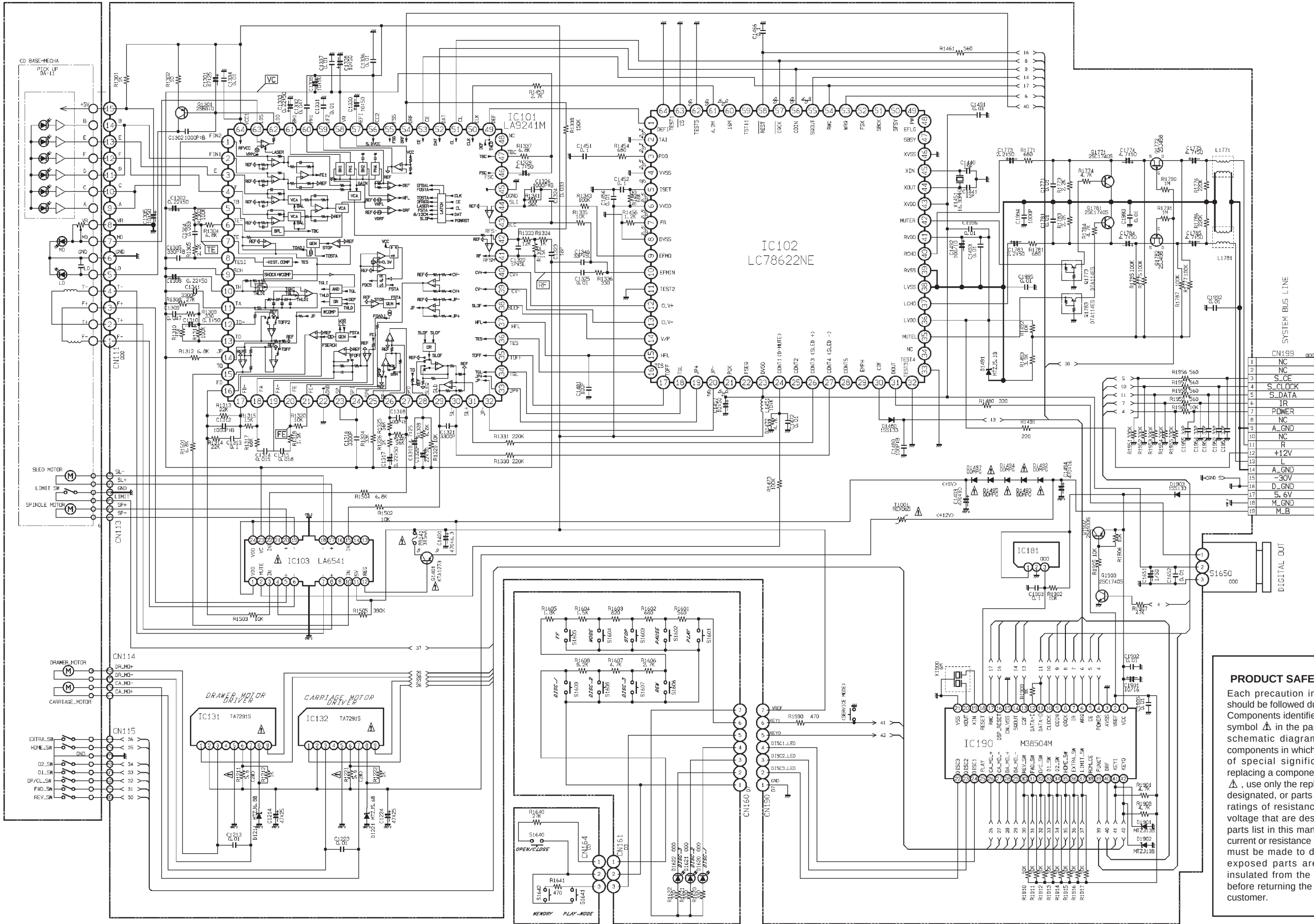
### CD BASE MECHA ASSY

| REF.NO. | PART NO.     | DESCRIPTION                  |
|---------|--------------|------------------------------|
| PM01    | 614 307 9804 | ASSY,MECHA,CDDA11N-SASH      |
| PM02    | 620 021 8436 | PLUG 6P                      |
| PM03    | 620 233 0853 | ASSY MOTOR,BASE CHASSIS ASSY |
| PM04    | 620 236 3776 | COVER,GEAR                   |
| PM05    | 620 230 8753 | GEAR MIDDLE,RELAY GEAR       |
| PM06    | 620 230 8760 | GEAR DRIVE                   |
| PM07    | 620 231 0596 | SHAFT SLIDE,PICK RAIL        |
| PM08    | 620 233 0860 | SWITCH LEAG,LIMIT SWITCH     |
| PM09    | 411 104 8401 | SCR PAN PCS 2X3              |
| PM10    | 411 027 5402 | SCR S-TPG FLT 2.6X6          |
|         | 620 236 0836 | PWB,MOTOR                    |

\* N.S.P : Not supplied as service parts.

## WIRING CONNECTION

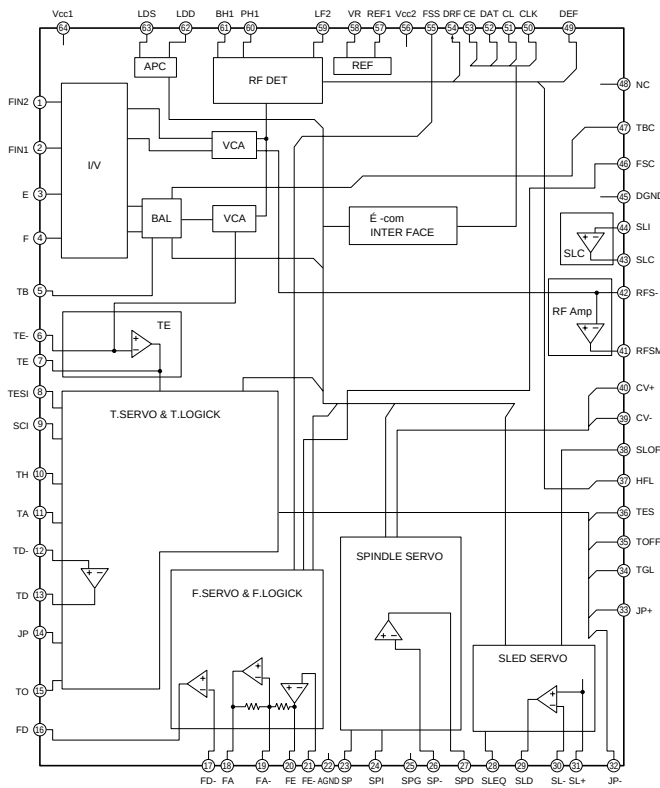




## IC BLOCK DIAGRAM & DESCRIPTION

### IC101 LA9241M (Servo Signal Processor)

LA9240M (Servo Signal Processor)



| No. | Pin Name | I/O | Function                                                                                    |
|-----|----------|-----|---------------------------------------------------------------------------------------------|
| 1   | FIN2     | I   | Connection Pin for Photo Diode of Pickup.                                                   |
| 2   | FIN1     | I   | FIN2 + FIN1 = RF, FIN2 - FIN1 = FE                                                          |
| 3   | E        | I   | Connection Pin for Photo Diode of Pickup.                                                   |
| 4   | F        | I   | E - F = TE                                                                                  |
| 5   | TB       | I   | Input Pin for DC ingredient of TE Signal.                                                   |
| 6   | TE-      | I   | Connection Pin for Gain Setting Resistor of TE Signal to TE Signal Pin.                     |
| 7   | TE       | O   | Output Pin for Tracking Error Signal.                                                       |
| 8   | TESI     | I   | Input Pin for Track Error Sense Comparator. TE Signal through Band Pass, and Inputted.      |
| 9   | SCI      | I   | Input Pin for Shock Detection.                                                              |
| 10  | TH       | I   | Connection Pin for Time Constant Setting of Tracking Gain.                                  |
| 11  | TA       | O   | Output Pin for TA Amplifier.                                                                |
| 12  | TD-      | I   | Connection Pin for Constant Tracking Phase Compensation, Consist of between TD and VR.      |
| 13  | TD       | I   | Connection Pin for Constant of Tracking Phase Compensation.                                 |
| 14  | JP       | I   | Connection Pin for Amplitude Setting of Tracking Jump (Kick Pulse) Signal.                  |
| 15  | TO       | O   | Output Pin for Tracking Control Signal.                                                     |
| 16  | FD       | O   | Output Pin for Focusing Control Signal.                                                     |
| 17  | FD-      | I   | Connection Pin for Constant of Focusing Phase Compensation, Consist of between FD and FA.   |
| 18  | FA+      | I   | Connection Pin for Constant of Focusing Phase Compensation, Consist of between FD- and FA-. |
| 19  | FA-      | I   | Connection Pin for Constant of Focusing Phase Compensation, Consist of between FA and FE.   |
| 20  | FE       | O   | Output Pin for Focusing Error Signal.                                                       |
| 21  | FE-      | I   | Connection Pin for Gain Setting Resistor of FE Signal to FE Signal Pin.                     |
| 22  | AGND     | -   | Ground for Analog Signal.                                                                   |

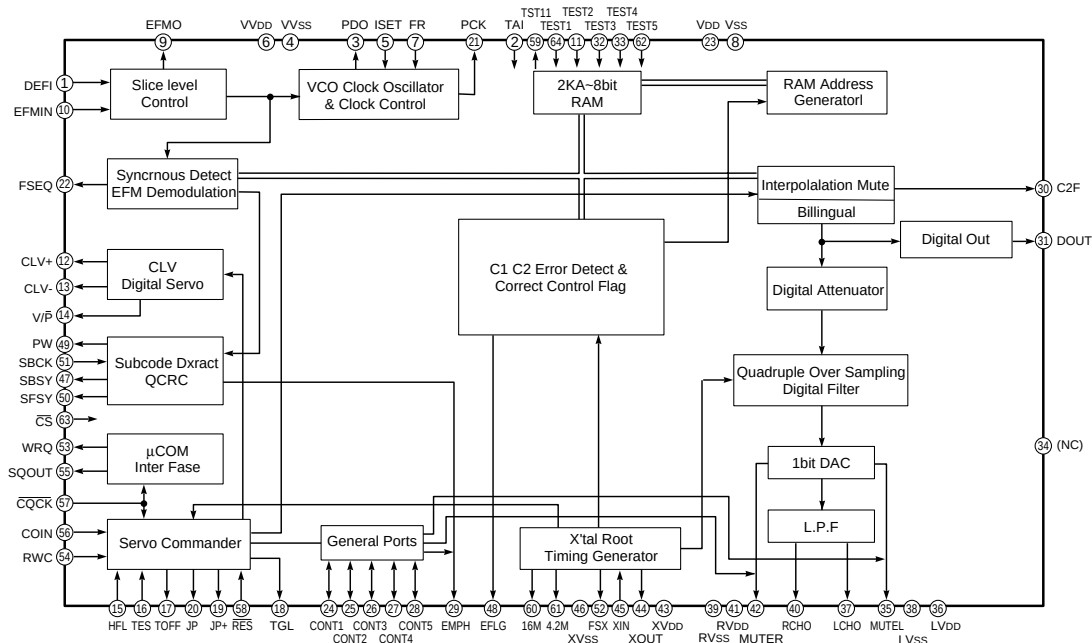
| No. | Pin Name | I/O | Function                                                                                                                 |
|-----|----------|-----|--------------------------------------------------------------------------------------------------------------------------|
| 23  | SP       | O   | Output Pin for Single End of Input Signal of the CV+, CV- Pin.                                                           |
| 24  | SPI      | I   | Input Pin for Spindle Amplifier.                                                                                         |
| 25  | SPG      | I   | Connection Pin for Gain Setting Resistor, when Spindle 12 cm Mode.                                                       |
| 26  | SP-      | I   | Connection Pin for Constant of Spindle Phase Compensation with SPD Pin.                                                  |
| 27  | SPD      | O   | Output Pin for Spindle Control Signal.                                                                                   |
| 28  | SLEQ     | I   | Connection Pin for Constant of Sled Phase Compensation.                                                                  |
| 29  | SLD      | O   | Output Pin for Sled Control Signal.                                                                                      |
| 30  | SL-      | I   | Input Pin for Sled Signal from Micro Processor.                                                                          |
| 31  | SL+      | I   |                                                                                                                          |
| 32  | JP-      | I   | Input Pin for Tracking Jump Signal from Digital Signal Processor.                                                        |
| 33  | JP+      | I   |                                                                                                                          |
| 34  | TGL      | I   | Input Pin for Tracking Gain Control Signal from Digital Signal Processor. TGL = H : Gain Low                             |
| 35  | TOFF     | I   | Input Pin for Tracking Off Control Signal from Digital Signal Processor. TOFF = H : OFF                                  |
| 36  | TES      | O   | Output Pin for Track Error Sense Signal to Digital Signal Processor.                                                     |
| 37  | HFL      | I   | High Frequency Level Signal Use Detection Main-Beam Position is on the pit or mirror.                                    |
| 38  | SLOF     | I   | Input Pin for Sled Servo Off Control.                                                                                    |
| 39  | CV-      | I   | Input Pin for Constant Linear Velocity Error                                                                             |
| 40  | CV+      | I   | Signal from Digital Signal Processor.                                                                                    |
| 41  | RFSM     | O   | Output Pin for RF Signal.                                                                                                |
| 42  | RFS-     | I   | Connection Pin for Gain Setting of RF and Constant Setting of 3T Compensation of the EFM Signal with RFSM Pin.           |
| 43  | SLC      | O   | Slice Level Control Signal is Output Pin. It Control Level of Data-Slice by Digital Signal Processor of the RF Waveform. |
| 44  | SLI      | I   | Input Pin for Level Control of Data-Slice by Digital Signal Processor.                                                   |
| 45  | DGND     | -   | Ground for Digital Signal.                                                                                               |
| 46  | FSC      | O   | Output Pin for Focus Search Smooth Condenser                                                                             |
| 47  | TBC      | O   | Connection Pin for Variable Range Setting of EF Balance.                                                                 |
| 48  | NC       | -   | No Connect                                                                                                               |
| 49  | DEF      | O   | Output Pin for Defect Detection of Disc.                                                                                 |
| 50  | CLK      | I   | Input Pin for Reference Clock Pulse. (4.23 MHz of Digital Signal Processor)                                              |
| 51  | CL       | I   | Input Pin of Clock Pulse for Command from Micro Processor.                                                               |
| 52  | DAT      | I   | Input Pin of Data for Command from Micro Processor.                                                                      |
| 53  | CE       | I   | Input Pin of Chip Enable for Command from Micro Processor.                                                               |
| 54  | DRF      | O   | Output Pin for Detect of RF Level.                                                                                       |
| 55  | FSS      | I   | Select Pin for Focus Search Mode                                                                                         |
| 56  | VCC2     | -   | VCC for Servo and Digital Root.                                                                                          |
| 57  | REFI     | I   | Bus Control Connection Pin for Reference Voltage.                                                                        |
| 58  | VR       | O   | Output Pin for Reference Voltage.                                                                                        |
| 59  | LF2      | I   | Connection Pin for Time Constant Setting of Detect Detection of the Disc.                                                |
| 60  | PH1      | I   | Capacitor Connection Pin for Peak-hold of RF Signal.                                                                     |
| 61  | BH1      | I   | Capacitor Connection Pin for Bottom-hold of RF Signal.                                                                   |
| 62  | LDD      | O   | Output Pin of APC (Automatic Power Control) Circuit.                                                                     |
| 63  | LDS      | I   | Input Pin of APC (Automatic Power Control) Circuit.                                                                      |
| 64  | VCC1     | I   | VCC for RF Root.                                                                                                         |

# IC BLOCK DIAGRAM & DESCRIPTION

## IC102 LC78622NE (Digital Signal Processor)

| No. | Pin Name | I/O | Function                                                                        |
|-----|----------|-----|---------------------------------------------------------------------------------|
| 1   | DEFI     | I   | Input terminal for detect signal of defect                                      |
| 2   | TAI      | I   | Input terminal for test.                                                        |
| 3   | PDO      | O   | The phase comparison output terminal for external VCO control.                  |
| 4   | VVSS     | -   | Ground terminal for built-in VCO                                                |
| 5   | ISET     | I   | Resistance connection terminal for electric current adjustment of PDO output.   |
| 6   | VVDD     | -   | Built-in VCO power supply terminal.                                             |
| 7   | FR       | I   | VCO frequency range adjustment.                                                 |
| 8   | VSS      | -   | Ground for Digital                                                              |
| 9   | EFMO     | O   | EFM signal output terminal for slice level control.                             |
| 10  | EFMIN    | I   | EFM signal input terminal for slice level control.                              |
| 11  | TEST2    | I   | TEST pin. Normal time is non connection.                                        |
| 12  | CLV+     | O   | Output terminal for Disc motor control.                                         |
| 13  | CLV-     | O   | Output terminal for Disc motor control.                                         |
| 14  | V/P      | O   | Change of rough servo / phase control<br>Rough servo : "H", Phase control : "L" |
| 15  | HFL      | I   | Input terminal of track search signal.                                          |
| 16  | TES      | I   | Input terminal of tracking error signal.                                        |
| 17  | TOFF     | O   | Output terminal of tracking off.                                                |
| 18  | TGL      | O   | Output terminal for change of tracking gain.                                    |
| 19  | JP+      | O   | Output terminal for tracking jump control.                                      |
| 20  | JP-      | O   | Output terminal for tracking jump control.                                      |
| 21  | PCK      | O   | Clock monitor output terminal for EFM data playback. (4.3218 MHz)               |
| 22  | FSEQ     | O   | Output terminal for detect of SYNC signal.                                      |
| 23  | DVDD     | -   | +5V                                                                             |
| 24  | CONT1    | I/O | This output can control at serial control from micro processor.                 |
| 25  | CONT2    | I/O |                                                                                 |
| 26  | CONT3    | I/O |                                                                                 |
| 27  | CONT4    | I/O |                                                                                 |
| 28  | CONT5    | I/O |                                                                                 |
| 29  | EMPH     | O   | Output terminal of de-emphasis monitor .<br>"H" : de-emphasis                   |
| 30  | C2F      | O   | Output terminal of C2 flag                                                      |
| 31  | DOUT     | O   | Output terminal of digital out                                                  |

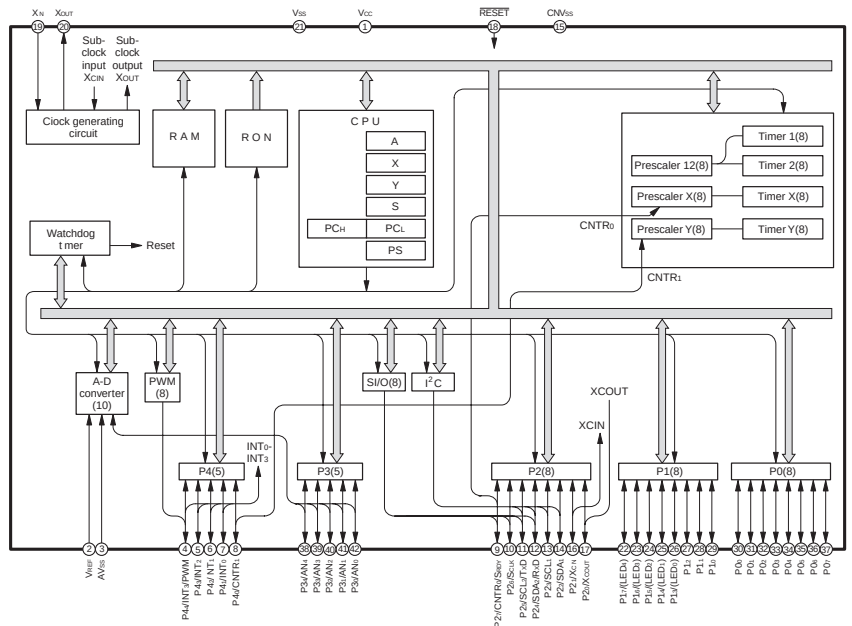
| No. | Pin Name | I/O | Function                                                            |
|-----|----------|-----|---------------------------------------------------------------------|
| 32  | TEST3    | I   | Test pin.                                                           |
| 33  | TEST4    | I   | Test pin.                                                           |
| 34  | NC       | -   | Non connection.                                                     |
| 35  | MUTEL    | O   | Mute output terminal for L-ch                                       |
| 36  | LVDD     | -   | Power supply for L-ch                                               |
| 37  | LCHO     | O   | Output terminal for L-ch                                            |
| 38  | LVSS     | -   | GND for L-ch                                                        |
| 39  | RVSS     | -   | GND for R-ch                                                        |
| 40  | RCHO     | O   | Output terminal for R-ch                                            |
| 41  | RVDD     | -   | Power supply for R-ch                                               |
| 42  | MUTER    | O   | Mute output terminal for R-ch                                       |
| 43  | XVDD     | -   | Power supply of crystal oscillation                                 |
| 44  | XOUT     | O   | Connection terminal of crystal oscillation (16.9344MHz)             |
| 45  | XIN      | I   | Connection terminal of crystal oscillation (16.9344MHz)             |
| 46  | XVSS     | -   | GND of crystal oscillation                                          |
| 47  | SBSY     | O   | Output terminal for synchronizing signal of sub-cord block          |
| 48  | EFLG     | O   | Output terminal for correction monitor of C1, C2, Single and Double |
| 49  | PW       | O   | Output terminal for sub-cord of P, Q, R, S, T, U and W              |
| 50  | SFSY     | O   | Output terminal for synchronizing signal of sub-cord frame          |
| 51  | SBCK     | I   | Input terminal for readout clock of sub-cord                        |
| 52  | FSX      | O   | Output terminal of Synchronizing signal (7.35kHz)                   |
| 53  | WRQ      | O   | Output terminal for standby of sub-cord Q output                    |
| 54  | RWC      | I   | Input terminal of read / write control                              |
| 55  | SQOUT    | O   | Output terminal of sub-cord Q                                       |
| 56  | COIN     | I   | Input terminal of command from micro processor                      |
| 57  | CQCK     | I   | Clock input for reading sub-cord from SQOUT                         |
| 58  | RES      | I   | Reset (turn on : L)                                                 |
| 59  | TST11    | O   | Test pin                                                            |
| 60  | 16M      | O   | 16.9344MHz                                                          |
| 61  | 4.2M     | O   | 4.2336MHz                                                           |
| 62  | TEST5    | I   | Test pin                                                            |
| 63  | CS       | I   | Chip select terminal                                                |
| 64  | TEST1    | I   | Test pin                                                            |



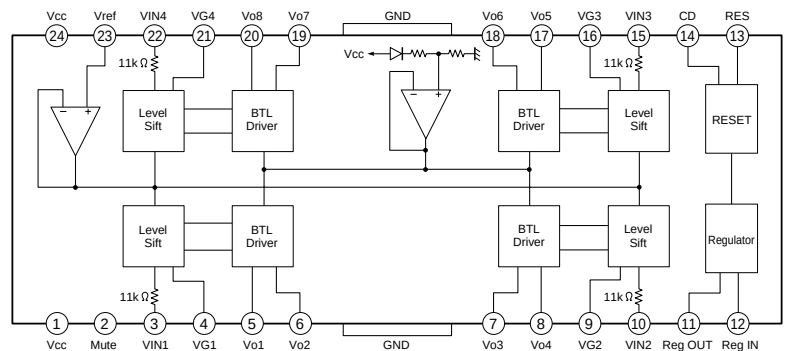
## IC BLOCK DIAGRAM & DESCRIPTION

### IC190 M38504M6H-230FP (Single Micro chip 8-bit)

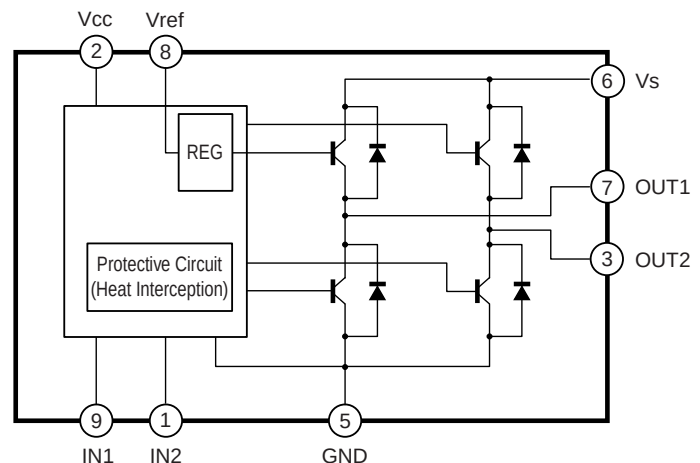
| Pin | Name           | Function                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | VCC            | Apply voltage of 2.7 - 5.5V to Vcc, and 0V to Vss.                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2   | VREF           | Reference voltage input pin for A-D converter.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3   | AVSS           | Connect Vss.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4   | P44/INT3/PWM   | 8-bit CMOS I/O port with the same function as port P0. CMOS compatible input level. CMOS 3-state output structure.                                                                                                                                                                                                                                                                                                                                                    |
| 5   | P43/INT2       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6   | P42/INT1       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 7   | P41/INT0       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 8   | P40/CNTR1      | I/O direction register allows each pin to be individually programmed as either input or 8-bit CMOS I/O port. CMOS compatible input level. P20, P21, P24 to P27: CMOS 3-state output structure. P22 to P25 can be switched between CMOS compatible input level or SMBUS input level in the I <sup>2</sup> C-BUS interface function. P24, P23: N-channel open-drain structure in the I <sup>2</sup> C-BUS interface function. P22, P23: N-channel open-drain structure. |
| 9   | P27/CNTR0/SRDY |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 10  | P26/SCLK       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 11  | P25/SCL2/TxD   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 12  | P24/SDA2/RxD   | This pin controls the operation mode of the chip. Normally connected to Vss                                                                                                                                                                                                                                                                                                                                                                                           |
| 13  | P23/SCL1       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 14  | P22/SDA1       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 16  | P21/XCIN       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 17  | P20/XOUT       | Reset input pin for active "L".                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 15  | CNVss          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 18  | RESET          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 19  | XIN            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 20  | XOUT           | Input and output pins for the clock generating circuit. When an external clock is used, connect the clock source to the XIN pin and leave the XOUT pin open.                                                                                                                                                                                                                                                                                                          |
| 21  | Vss            | Apply voltage of 2.7 - 5.5V to Vcc, and 0V to Vss.                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 22  | P17            | 8-bit CMOS I/O port. CMOS 3-state output structure. I/O direction register allows each pin to be individually programmed as either input or output. CMOS compatible.                                                                                                                                                                                                                                                                                                  |
| 23  | P16            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 24  | P15            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 25  | P14            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 26  | P13            | P13 to P17 (5 bits) are enabled to output large current for LED drive (M38513E4/M4). P10 to P17 (8-bits) are enabled to output large current for LED drive (M38514E6/M6)                                                                                                                                                                                                                                                                                              |
| 27  | P12            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 28  | P11            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 29  | P10            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 30  | P07            | 8-bit CMOS I/O port with the same function as port P0. CMOS compatible input level. CMOS 3-state output structure.                                                                                                                                                                                                                                                                                                                                                    |
| 31  | P06            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 32  | P05            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 33  | P04            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 34  | P03            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 35  | P02            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 36  | P01            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 37  | P00            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 38  | P34/AN4        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 39  | P33/AN3        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 40  | P32/AN2        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 41  | P31/AN1        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 42  | P30/AN0        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



### IC103 LA6541 (Pick-up Actuator & Motor Driver)



### IC131.IC132 TA7291S( Bridge Driver)



## TAPE ADJUSTMENTS

### 1. Azimuth Adjustment

- Be sure to clean the heads before attempting to make any adjustment.
- Be sure both channels (1 and 2) are the same level.  
(Using a dual-channel oscilloscope)
- Be sure both channel's waveform are same for the phase matching.
- After completion of the adjustment, use the threadlock (TB-1401B) to secure the azimuth adjustment screws.

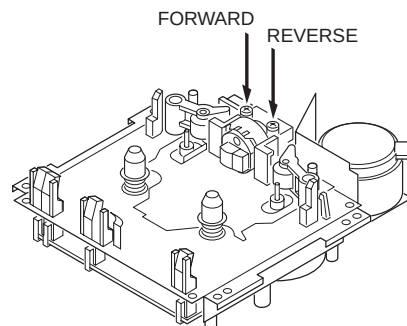


Fig.1

1. Remove the cover deck.
2. Load a test tape (MTT-114N etc. : 10kHz) in the Deck.
3. Press the PLAY (Normal playback) button.
4. Use a + tip screwdriver to turn the screw for normal azimuth adjustment so that the left and right outputs are maximized at the same phase during normal playback. See Fig.1.
5. Press the PLAY (Reverse playback) button.
6. Use a + tip screwdriver to turn the screw for reverse azimuth adjustment so that the left and right outputs are maximized at the same phase during reverse playback.
7. Adjust so that the waveforms for the left and right channels are in alignment.

### 2. Tape Speed Adjustment

- Connect the Frequency Counter to TAPE OUT.
1. Insert the test tape (MTT-111N, etc.; 3,000Hz) into the DECK.
  2. Press the PLAY button. .
  3. Adjust a hole on the motor bottom so that a frequency counter reading of  $3,000 \pm 5\text{Hz}$  is obtained. See Fig.2.
  4. Press the STOP button, and eject the test tape.

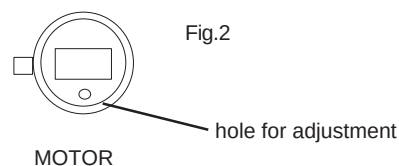
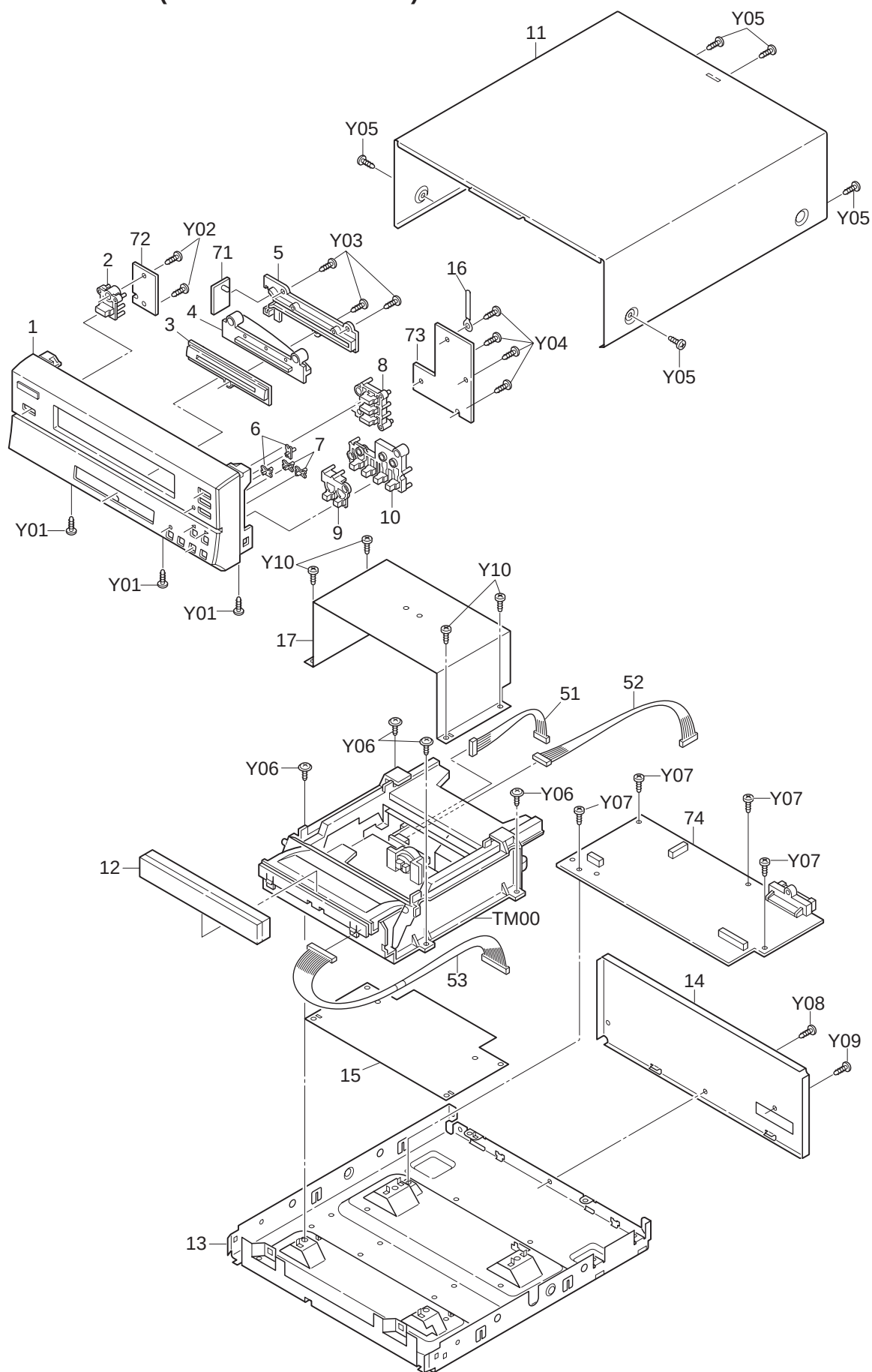


Fig.2

### 3. Torque Measurement

| Item          | Take-up Torque                                                       | Back tention                                 | Pulley tention                                                   |
|---------------|----------------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------------|
| Test Cassette | PLAY : TW2111A (FWD)<br>PLAY : TW2121A (REV)<br>F.FWD / REW : TW2231 | PLAY : TW2111A (FWD)<br>PLAY : TW2121A (REV) | Driving power cassette :<br>TW-2412 (PLAY)<br>TW-2422(REV. PLAY) |
| PLAY/REV.     | 30 ~ 70 grcm                                                         | 1 ~ 6 grcm                                   | >80grcm                                                          |
| F.FWD         | 70 ~ 150 grcm                                                        | -                                            | >80grcm                                                          |
| REW           | 70 ~ 150 grcm                                                        | -                                            |                                                                  |

# EXPLODED VIEW (CABINET & CHASSIS)



## PARTS LIST

### PRODUCT SAFETY NOTICE

EACH PRECAUTION IN THIS MANUAL SHOULD BE FOLLOWED DURING SERVICING. COMPONENTS IDENTIFIED WITH THE IEC SYMBOL  $\Delta$  IN THE PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATED COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. WHEN REPLACING A COMPONENT IDENTIFIED BY  $\Delta$ , USE ONLY THE REPLACEMENT PARTS DESIGNATED, OR PARTS WITH THE SAME RATINGS OF RESISTANCE, WATTAGE OR VOLTAGE THAT ARE DESIGNATED IN THE PARTS LIST IN THIS MANUAL. LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS MUST BE MADE TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE PRODUCT TO THE CUSTOMER.

**CAUTION :** Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

Regular type resistors are less than 1/4 W Carbon type and Chip type resistors.

Regular type capacitors are less than 50 V and less than 1000  $\mu$ F type of Ceramic type, Electrolytic type and Chip type.

### PACKING & ACCESSORIES

| REF.NO. | PART NO.     | DESCRIPTION                                           | REF.NO. | PART NO.     | DESCRIPTION                                                        |
|---------|--------------|-------------------------------------------------------|---------|--------------|--------------------------------------------------------------------|
|         | 614 318 0791 | CARTON CASE, INNER SLEEVE (DC-X8CT/UK)                | 9       | 614 319 0721 | BUTTON, PLAY, PLAY/REV (RD-088/SP)                                 |
|         | 614 317 7999 | CARTON CASE, INNER SLEEVE (RD-088/XE)                 | 10      | 614 316 2148 | BUTTON, STOP (DC-X8CT/UK, RD-088/XE & RD-X8/UK-2)                  |
|         | 614 317 8019 | CARTON CASE, PRINT INNER (RD-X8/UK-2)                 | 10      | 614 319 0738 | BUTTON, STOP (RD-088/SP)                                           |
|         | 614 319 0967 | CARTON CASE, PRINT INNER (RD-088/SP)                  | 11      | 614 317 7418 | ASSY, CABINET, BENDING                                             |
|         | 614 316 2766 | CUSHION, FRONT (DC-X8CT/UK)                           | 12      | 614 316 2346 | DEC, ESC, TRAY, CASSETTE TRAY (DC-X8CT/UK, RD-088/XE & RD-X8/UK-2) |
|         | 614 319 4385 | CUSHION, FRONT (RD-088/XE, RD-X8/UK-2 & RD-088/SP)    | 12      | 614 319 0813 | DEC, ESC, TRAY, CASSETTE TRAY (RD-088/SP)                          |
|         | 614 316 2773 | CUSHION, BACK (DC-X8CT/UK)                            | 13      | 614 317 7494 | ASSY, CABINET, BOTTOM                                              |
|         | 614 319 4392 | CUSHION, BACK (RD-088/XE, RD-X8/UK-2 & RD-088/SP)     | 14      | 614 316 2551 | PANEL, REAR (DC-X8CT/UK & RD-X8/UK-2)                              |
|         | 645 047 3074 | POLY SHEET-0650X0400*NC, SET (DC-X8CT/UK & RD-088/SP) | 14      | 614 316 8843 | PANEL, REAR (RD-088/XE)                                            |
|         | 645 047 3081 | POLY SHEET-0650X0400*NC, SET (RD-088/XE)              | 14      | 614 319 1131 | PANEL, REAR (RD-088/SP)                                            |
|         |              |                                                       | 15      | 614 316 7303 | SHIELD, BOTTOM                                                     |
|         |              |                                                       | 16      | 614 130 0382 | LUG, FRONT PWB                                                     |
|         |              |                                                       | 17      | 614 316 7297 | SHIELD, TOP                                                        |

### CABINET & CHASSIS

| REF.NO. | PART NO.     | DESCRIPTION                                                 |
|---------|--------------|-------------------------------------------------------------|
| 1       | 614 317 7470 | ASSY, CABINET, FRONT (DC-X8CT/UK, RD-088/XE & RD-X8/UK-2)   |
| 1       | 614 319 1094 | ASSY, CABINET, FRONT (RD-088/SP)                            |
| 2       | 614 316 2094 | BUTTON, OPEN/CLOSE (DC-X8CT/UK, RD-088/XE & RD-X8/UK-2)     |
| 2       | 614 319 0691 | BUTTON, OPEN/CLOSE (RD-088/SP)                              |
| 3       | 614 316 2353 | DEC, ESC, LIGHTING (DC-X8CT/UK, RD-088/XE & RD-X8/UK-2)     |
| 3       | 614 316 2360 | DEC, ESC, LIGHTING (RD-088/SP)                              |
| 4       | 614 316 2360 | DEC, WINDOW, LIGHTING (DC-X8CT/UK, RD-088/XE & RD-X8/UK-2)  |
| 4       | 614 316 2353 | DEC, WINDOW, LIGHTING (RD-088/SP)                           |
| 5       | 614 316 2605 | REFLECTOR, LED                                              |
| 6       | 614 302 0530 | DEC, WINDOW LED, REC/PAUSE, COMP/REC                        |
| 7       | 614 316 2407 | DEC, WINDOW, LED, PLAY (ARROW)                              |
| 8       | 614 316 2124 | BUTTON, DOLBY (DC-X8CT/UK, RD-088/XE & RD-X8/UK-2)          |
| 8       | 614 319 1100 | BUTTON, DOLBY (RD-088/SP)                                   |
| 9       | 614 316 2131 | BUTTON, PLAY, PLAY/REV (DC-X8CT/UK, RD-088/XE & RD-X8/UK-2) |

### FIXING PARTS

| REF.NO. | PART NO.     | DESCRIPTION                               |
|---------|--------------|-------------------------------------------|
| Y01     | 411 021 3503 | SCR S-TPG BIN 3X10, FRONT-BOTTOM-FIX      |
| Y02     | 411 165 3803 | SCR S-TPG BIN 2.3X10, FRONT-PWB/EJECT     |
| Y03     | 411 165 3803 | SCR S-TPG BIN 2.3X10, FRONT-REFLECTOR LED |
| Y04     | 411 165 3803 | SCR S-TPG BIN 2.3X10, FRONT-PWB/BUTTON    |
| Y05     | 411 098 4205 | SCR S-TPG BIN 3X8, CABINET                |
| Y06     | 411 020 8905 | SCR S-TPG BRZ+FLG 3X10, BOTTOM-C/MECHA    |
| Y07     | 411 021 3503 | SCR S-TPG BIN 3X10, BOTTOM-PWB/MAIN       |
| Y08     | 411 021 3701 | SCR S-TPG BIN 3X10, BOTTOM-REAR           |
| Y09     | 411 021 3701 | SCR S-TPG BIN 3X10, REAR-ELECT PART       |
| Y10     | 411 021 5705 | SCR S-TPG BIN 3X6, BOTTOM-SHIELD          |

### ELECTRICAL PARTS

| REF.NO. | PART NO.     | DESCRIPTION                  |
|---------|--------------|------------------------------|
| 51      | 614 316 7440 | ASSY, WIRE, TRAY MOTOR       |
| 52      | 614 316 7426 | ASSY, WIRE, R/P&E. HEAD LEAD |
| 53      | 614 316 7433 | ASSY, WIRE, MECHA            |

## PARTS LIST

### DECK LED P.W..BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                      |
|---------|--------------|----------------------------------|
| 71      | 614 315 9322 | ASSY,PWB,DECK LED (Only initial) |
| CN397   | 614 035 4935 | SOCKET,DIP 4P                    |
| CN398   | 614 035 4911 | SOCKET,DIP 2P                    |
| D3970   | 408 044 9100 | LED HLMP-EL31-SVK00              |

### DECK SW2 P.W.BOARD ASSY

| REF.NO. | PART NO.       | DESCRIPTION                      |
|---------|----------------|----------------------------------|
| 72      | 614 316 0410   | ASSY,PWB,DECK SW2 (Only initial) |
| CN399   | 614 035 4911   | SOCKET,DIP 2P                    |
| PB304   | △ 614 316 0472 | PWB,DECK SW2,SW                  |
| S3990   | 645 006 5958   | SWITCH,PUSH 1P-1T                |
| or      | 614 220 5471   | SWITCH,TACT                      |
| or      | 614 240 1002   | SWITCH,TACT                      |

### DECK SWITCH P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                     |
|---------|--------------|---------------------------------|
| 73      | 614 315 8493 | ASSY,PWB,DECK SW (Only initial) |
| CN341   | 645 012 2743 | SOCKET,DIP 9P                   |
| CN342   | 614 035 4935 | SOCKET,DIP 4P                   |
| CN343   | 614 318 1613 | ASSY,WIRE                       |
| D3331   | 408 032 5404 | LED SLP-9118C-51H-S-T1          |
| D3332   | 408 037 4204 | LED SLP-3118B-51HAB-T1          |
| D3333   | 408 037 4204 | LED SLP-3118B-51HAB-T1          |
| D3334   | 408 032 5404 | LED SLP-9118C-51H-S-T1          |
| S3331   | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 614 240 1002 | SWITCH,TACT                     |
| S3332   | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 614 240 1002 | SWITCH,TACT                     |
| S3333   | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 614 240 1002 | SWITCH,TACT                     |
| S3334   | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 614 240 1002 | SWITCH,TACT                     |
| S3335   | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 614 240 1002 | SWITCH,TACT                     |
| S3336   | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 614 240 1002 | SWITCH,TACT                     |
| S3337   | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 614 240 1002 | SWITCH,TACT                     |
| S3338   | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 614 240 1002 | SWITCH,TACT                     |
| S3339   | 645 006 5958 | SWITCH,PUSH 1P-1T               |
| or      | 614 220 5471 | SWITCH,TACT                     |
| or      | 614 240 1002 | SWITCH,TACT                     |

### DECK MAIN P.W.BOARD ASSY

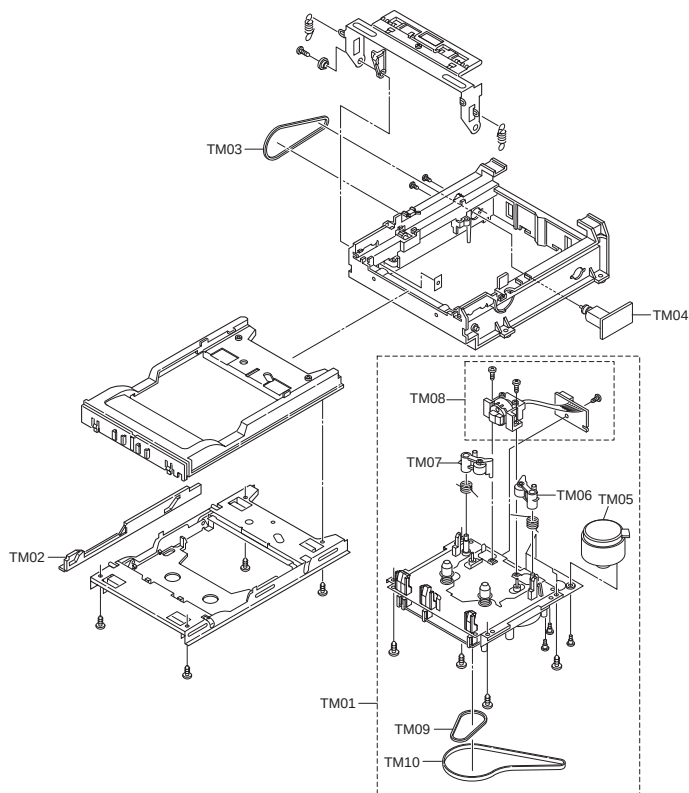
| REF.NO. | PART NO.     | DESCRIPTION                                         |
|---------|--------------|-----------------------------------------------------|
| 74      | 614 315 8486 | ASSY,PWB,DECK LOG.W/DOLBY, DECK MAIN (Only initial) |
| C3606   | 403 058 1508 | POLYESTER 1500P K 50V                               |
| C3607   | 403 058 3601 | POLYESTER 0.015U K 50V                              |
| CN301   | 645 045 9511 | SOCKET,SYSTEM 19P                                   |
| CN311   | 614 310 2540 | PLUG,13P                                            |
| or      | 645 006 0885 | PLUG,13P                                            |
| CN312   | 614 310 2472 | PLUG,6P                                             |
| or      | 645 005 8127 | PLUG,6P                                             |

| REF.NO. | PART NO.       | DESCRIPTION          |
|---------|----------------|----------------------|
| CN331   | 614 310 2502   | PLUG,9P              |
| or      | 645 005 8141   | PLUG,9P              |
| CN371   | 614 310 2496   | PLUG,8P              |
| or      | 645 005 8134   | PLUG,8P              |
| CN372   | 614 310 2441   | PLUG,3P              |
| or      | 645 005 7373   | PLUG,3P              |
| D3302   | 407 012 4406   | DIODE 1SS133         |
| D3500   | 407 012 4406   | DIODE 1SS133         |
| D3501   | 407 012 4406   | DIODE 1SS133         |
| D3502   | 407 012 4406   | DIODE 1SS133         |
| D3550   | 407 012 4406   | DIODE 1SS133         |
| D3551   | 407 012 4406   | DIODE 1SS133         |
| D3552   | 407 012 4406   | DIODE 1SS133         |
| D3601   | 407 012 4406   | DIODE 1SS133         |
| D3602   | 407 012 4406   | DIODE 1SS133         |
| D3603   | 407 063 9207   | ZENER DIODE MTZJ7.5B |
| D3621   | △ 407 004 9709 | DIODE DSK10C         |
| D3901   | 407 099 5303   | ZENER DIODE MTZJ5.6B |
| IC331   | 410 409 8802   | IC M38503M4H 378FP   |
| IC332   | 409 471 0302   | IC BMR-0301I         |
| IC351   | 409 294 6307   | IC CXA1552P          |
| IC361   | 409 408 1303   | IC LB1641L           |
| IC362   | 409 241 5308   | IC BA3126N           |
| IC371   | 409 486 3503   | IC NJM4580L          |
| IC373   | 409 426 1903   | IC KIA4558F          |
| L3501   | 614 270 4295   | FILTER,LC            |
| L3551   | 614 270 4295   | FILTER,LC            |
| L3601   | 645 045 6947   | TRANS,OSC,85KHZ      |
| L3701   | 614 029 3142   | MX COIL              |
| or      | 614 029 3937   | MX COIL              |
| L3801   | 614 029 3142   | MX COIL              |
| or      | 614 029 3937   | MX COIL              |
| L3901   | 645 001 4581   | INDUCTOR,100U K      |
| or      | 645 031 7842   | INDUCTOR,100U K      |
| L3902   | 645 004 0511   | INDUCTOR,270U J      |
| PR360   | △ 645 042 2539 | PROTECTOR,0.4A 125V  |
| or      | △ 645 014 2499 | PROTECTOR,0.4A 125V  |
| Q3302   | 405 143 0007   | TR KRC107M           |
| or      | 405 000 3806   | TR DTC114YS          |
| Q3303   | 405 143 0007   | TR KRC107M           |
| or      | 405 000 3806   | TR DTC114YS          |
| Q3304   | 405 143 0007   | TR KRC107M           |
| or      | 405 000 3806   | TR DTC114YS          |
| Q3309   | 405 143 0007   | TR KRC107M           |
| or      | 405 000 3806   | TR DTC114YS          |
| Q3501   | 405 143 8706   | TR KTC3199-GR        |
| or      | 405 017 9600   | TR 2SC3330-T         |
| or      | 405 017 9709   | TR 2SC3330-U         |
| or      | 405 011 8500   | TR 2SC1740S-R        |
| or      | 405 011 8609   | TR 2SC1740S-S        |
| Q3502   | 405 151 4400   | TR KTD1303           |
| or      | 405 021 0204   | TR 2SD1012-F-SPA     |
| or      | 405 021 0600   | TR 2SD1012-G-SPA     |
| or      | 405 033 6706   | TR 2SD1468S-R        |
| or      | 405 033 6805   | TR 2SD1468S-S        |
| Q3503   | 405 143 8706   | TR KTC3199-GR        |
| or      | 405 017 9600   | TR 2SC3330-T         |
| or      | 405 017 9709   | TR 2SC3330-U         |
| or      | 405 011 8500   | TR 2SC1740S-R        |
| or      | 405 011 8609   | TR 2SC1740S-S        |
| Q3551   | 405 143 8706   | TR KTC3199-GR        |
| or      | 405 017 9600   | TR 2SC3330-T         |
| or      | 405 017 9709   | TR 2SC3330-U         |
| or      | 405 011 8500   | TR 2SC1740S-R        |
| or      | 405 011 8609   | TR 2SC1740S-S        |

## PARTS LIST

| REF.NO. | PART NO.     | DESCRIPTION      | REF.NO. | PART NO.       | DESCRIPTION         |
|---------|--------------|------------------|---------|----------------|---------------------|
| Q3552   | 405 151 4400 | TR KTD1303       | Q3805   | 405 143 8706   | TR KTC3199-GR       |
| or      | 405 021 0204 | TR 2SD1012-F-SPA | or      | 405 017 9600   | TR 2SC3330-T        |
| or      | 405 021 0600 | TR 2SD1012-G-SPA | or      | 405 017 9709   | TR 2SC3330-U        |
| or      | 405 033 6706 | TR 2SD1468S-R    | or      | 405 011 8500   | TR 2SC1740S-R       |
| or      | 405 033 6805 | TR 2SD1468S-S    | or      | 405 011 8609   | TR 2SC1740S-S       |
| Q3601   | 405 141 3703 | TR KTA1271-Y     | Q3806   | 405 149 6003   | TR 2SJ498           |
| or      | 405 006 3909 | TR 2SA952-K      | Q3901   | 405 146 1209   | TR KRC104M          |
| or      | 405 006 4005 | TR 2SA952-L      | or      | 405 000 6104   | TR DTC144ES         |
| Q3602   | 405 143 8706 | TR KTC3199-GR    | Q3902   | 405 143 8904   | TR KRA106M          |
| or      | 405 017 9600 | TR 2SC3330-T     | or      | 405 075 8102   | TR DTA143ZS         |
| or      | 405 017 9709 | TR 2SC3330-U     | Q3903   | 405 143 8904   | TR KRA106M          |
| or      | 405 011 8500 | TR 2SC1740S-R    | or      | 405 075 8102   | TR DTA143ZS         |
| or      | 405 011 8609 | TR 2SC1740S-S    | Q3904   | 405 141 3109   | TR KTC3203-Y        |
| Q3603   | 405 143 8706 | TR KTC3199-GR    | or      | 405 024 9907   | TR 2SD734-F         |
| or      | 405 017 9600 | TR 2SC3330-T     | or      | 405 025 0200   | TR 2SD734-G         |
| or      | 405 017 9709 | TR 2SC3330-U     | R3633   | △ 402 083 3600 | RESISTOR 15 J- 2W   |
| or      | 405 011 8500 | TR 2SC1740S-R    | VR350   | 645 003 5531   | VR,SEMI,10K N       |
| or      | 405 011 8609 | TR 2SC1740S-S    | VR371   | 645 003 5586   | VR,SEMI,22K N       |
| Q3604   | 405 143 8706 | TR KTC3199-GR    | VR372   | 645 003 5531   | VR,SEMI,10K N       |
| or      | 405 017 9600 | TR 2SC3330-T     | VR373   | 645 003 5548   | VR,SEMI,100K N      |
| or      | 405 017 9709 | TR 2SC3330-U     | VR381   | 645 003 5586   | VR,SEMI,22K N       |
| or      | 405 011 8500 | TR 2SC1740S-R    | VR382   | 645 003 5531   | VR,SEMI,10K N       |
| or      | 405 011 8609 | TR 2SC1740S-S    | VR383   | 645 003 5548   | VR,SEMI,100K N      |
| Q3605   | 405 151 4905 | TR KTC3200-GR    | X3301   | 614 215 5561   | RESONATOR,CERAM     |
| or      | 405 151 5001 | TR KTC3200-BL    | or      | 645 013 7532   | OSC,CERAMIC 4.19MHZ |
| Q3607   | 405 143 0007 | TR KRC107M       |         |                |                     |
| or      | 405 000 3806 | TR DTC114YS      |         |                |                     |
| Q3621   | 405 141 3703 | TR KTA1271-Y     |         |                |                     |
| or      | 405 006 3909 | TR 2SA952-K      |         |                |                     |
| or      | 405 006 4005 | TR 2SA952-L      |         |                |                     |
| Q3622   | 405 141 3703 | TR KTA1271-Y     |         |                |                     |
| or      | 405 006 3909 | TR 2SA952-K      |         |                |                     |
| or      | 405 006 4005 | TR 2SA952-L      |         |                |                     |
| Q3701   | 405 143 8706 | TR KTC3199-GR    |         |                |                     |
| or      | 405 017 9600 | TR 2SC3330-T     |         |                |                     |
| or      | 405 017 9709 | TR 2SC3330-U     |         |                |                     |
| or      | 405 011 8500 | TR 2SC1740S-     |         |                |                     |
| or      | 405 011 8609 | TR 2SC1740S-S    |         |                |                     |
| Q3702   | 405 151 4400 | TR KTD1303       |         |                |                     |
| or      | 405 021 0204 | TR 2SD1012-F-SPA |         |                |                     |
| or      | 405 021 0600 | TR 2SD1012-G-SPA |         |                |                     |
| or      | 405 033 6706 | TR 2SD1468S-R    |         |                |                     |
| or      | 405 033 6805 | TR 2SD1468S-S    |         |                |                     |
| Q3703   | 405 143 0007 | TR KRC107M       |         |                |                     |
| or      | 405 000 3806 | TR DTC114YS      |         |                |                     |
| Q3704   | 405 143 0007 | TR KRC107M       |         |                |                     |
| or      | 405 000 3806 | TR DTC114YS      |         |                |                     |
| Q3705   | 405 143 8706 | TR KTC3199-GR    |         |                |                     |
| or      | 405 017 9600 | TR 2SC3330-T     |         |                |                     |
| or      | 405 017 9709 | TR 2SC3330-U     |         |                |                     |
| or      | 405 011 8500 | TR 2SC1740S-R    |         |                |                     |
| or      | 405 011 8609 | TR 2SC1740S-S    |         |                |                     |
| Q3706   | 405 149 6003 | TR 2SJ498        |         |                |                     |
| Q3801   | 405 143 8706 | TR KTC3199-GR    |         |                |                     |
| or      | 405 017 9600 | TR 2SC3330-T     |         |                |                     |
| or      | 405 017 9709 | TR 2SC3330-U     |         |                |                     |
| or      | 405 011 8500 | TR 2SC1740S-R    |         |                |                     |
| or      | 405 011 8609 | TR 2SC1740S-S    |         |                |                     |
| Q3802   | 405 151 4400 | TR KTD1303       |         |                |                     |
| or      | 405 021 0204 | TR 2SD1012-F-SPA |         |                |                     |
| or      | 405 021 0600 | TR 2SD1012-G-SPA |         |                |                     |
| or      | 405 033 6706 | TR 2SD1468S-R    |         |                |                     |
| or      | 405 033 6805 | TR 2SD1468S-S    |         |                |                     |
| Q3803   | 405 143 0007 | TR KRC107M       |         |                |                     |
| or      | 405 000 3806 | TR DTC114YS      |         |                |                     |
| Q3804   | 405 143 0007 | TR KRC107M       |         |                |                     |
| or      | 405 000 3806 | TR DTC114YS      |         |                |                     |

EXPLODED VIEW (TAPE MECHANISM)



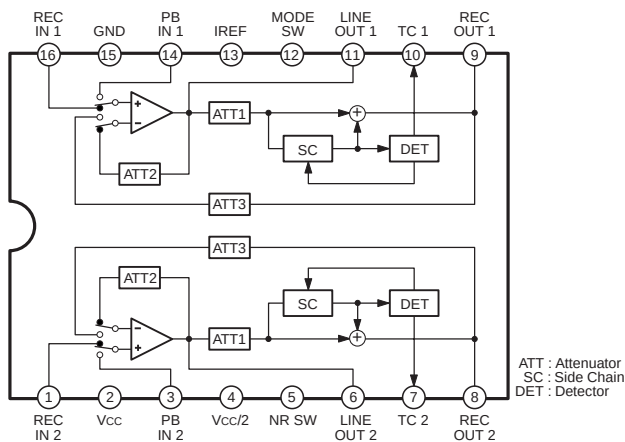
TAPE MECHANISM (TM-X8SM-SH)

| REF.NO. | PART NO.     | DESCRIPTION           |
|---------|--------------|-----------------------|
| TM00    | 614 316 7822 | ASSY,MECHA,TM-X8SM-SH |
| TM01    | 645 047 2930 | ASSY,MECHA ADR2174TB3 |
| TM02    | 645 047 1032 | GEAR LUCK             |
| TM03    | 645 047 1070 | BELT D49.2            |
| TM04    | 645 047 0981 | ASSY,MOTOR PCB        |
| TM05    | 645 047 2633 | DC MOTOR ASSY         |
| TM06    | 645 047 2596 | PINCH ROLLER ASSY (R) |
| TM07    | 645 047 2589 | PINCH ROLLER ASSY (F) |
| TM08    | 645 047 2626 | HEAD ASSY             |

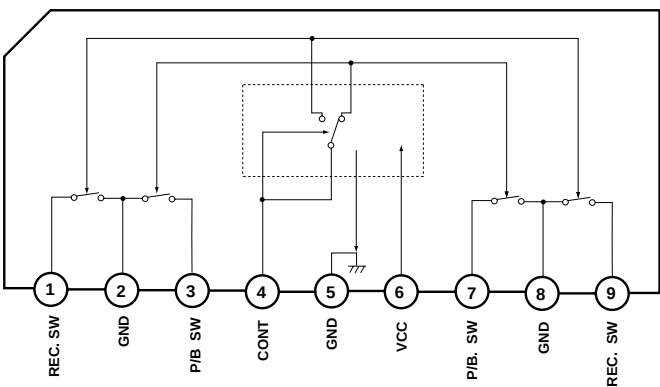
IC BLOCK DIAGRAM & DESCRIPTION

IC351 CXA1552P

(Dolby B type Noise Reduction System)

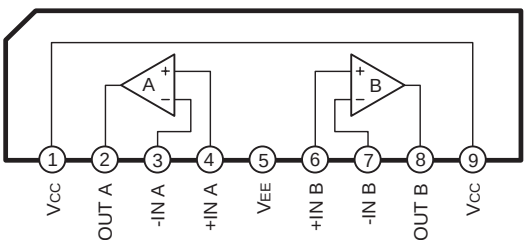


IC362 BA3126N (2-channel head switch for radio cassette recorders)



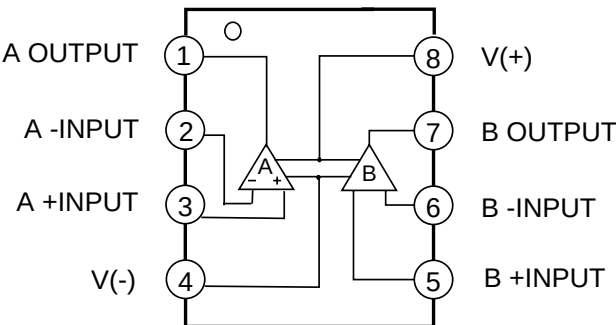
IC451 KIA4558S

(Dual Low Noise Operational Amplifier)



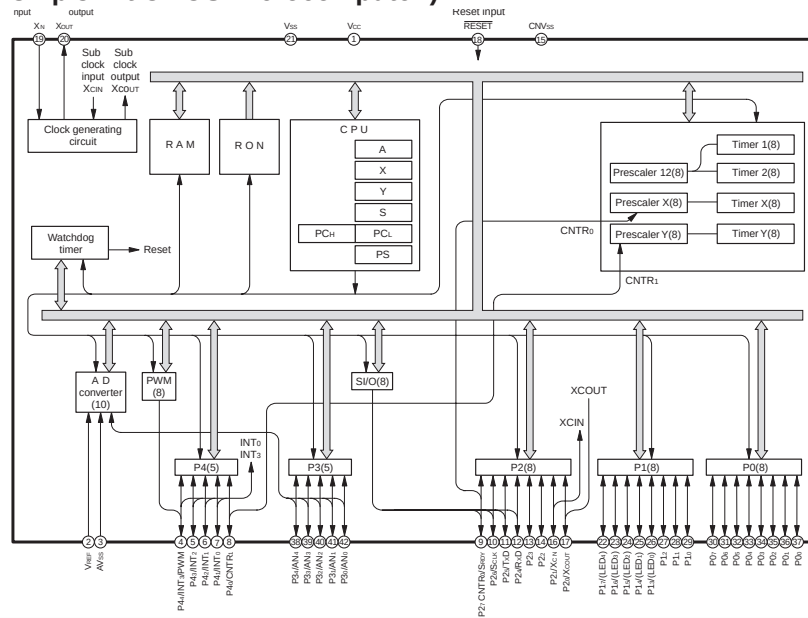
IC371 KIA4580L

(Dual Operation Amplifier)



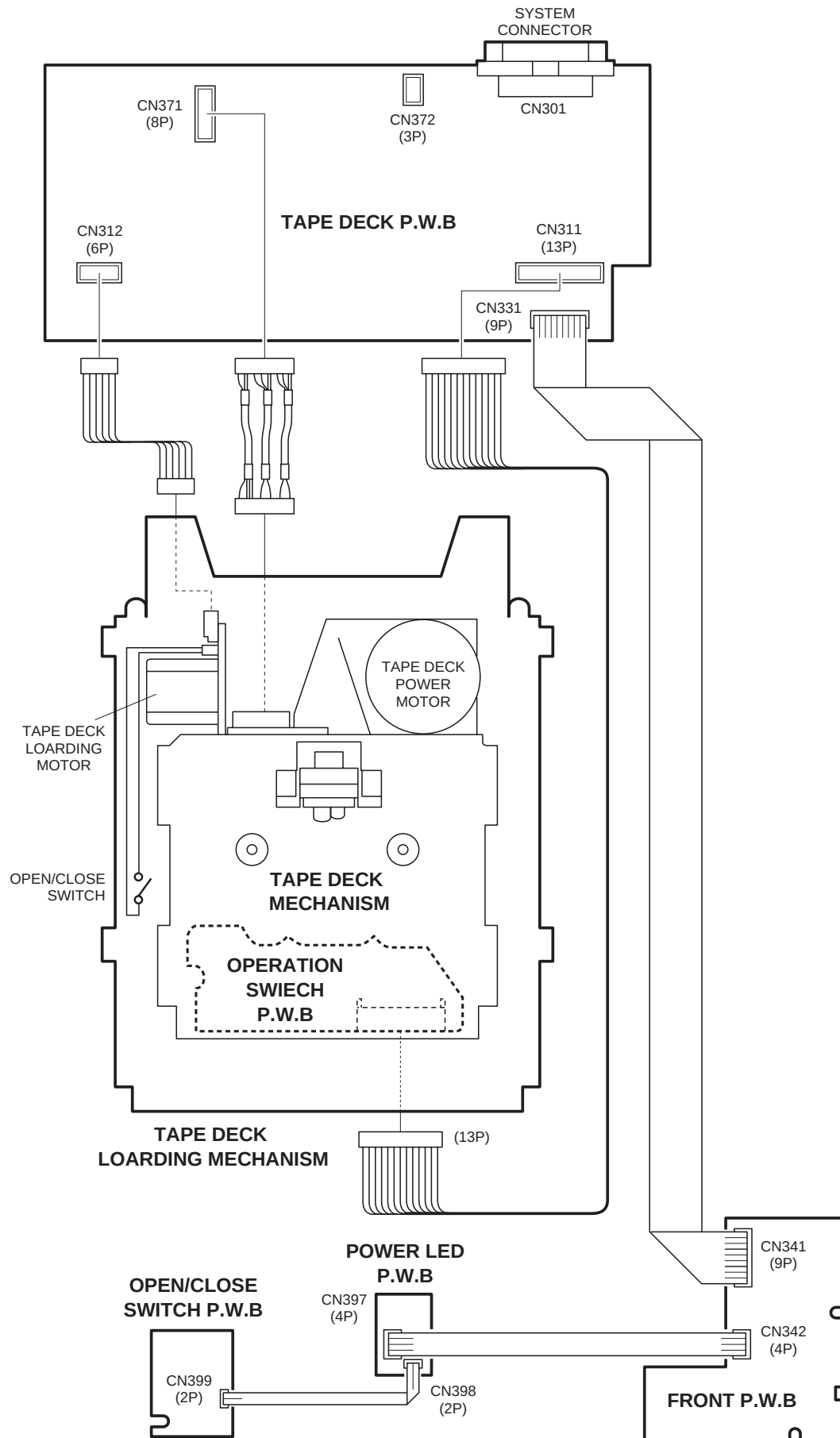
## IC BLOCK DIAGRAM & DESCRIPTION

### IC331 M38503M4 ( Syngle-Chip 8-Bit CMOS Microcomputer )



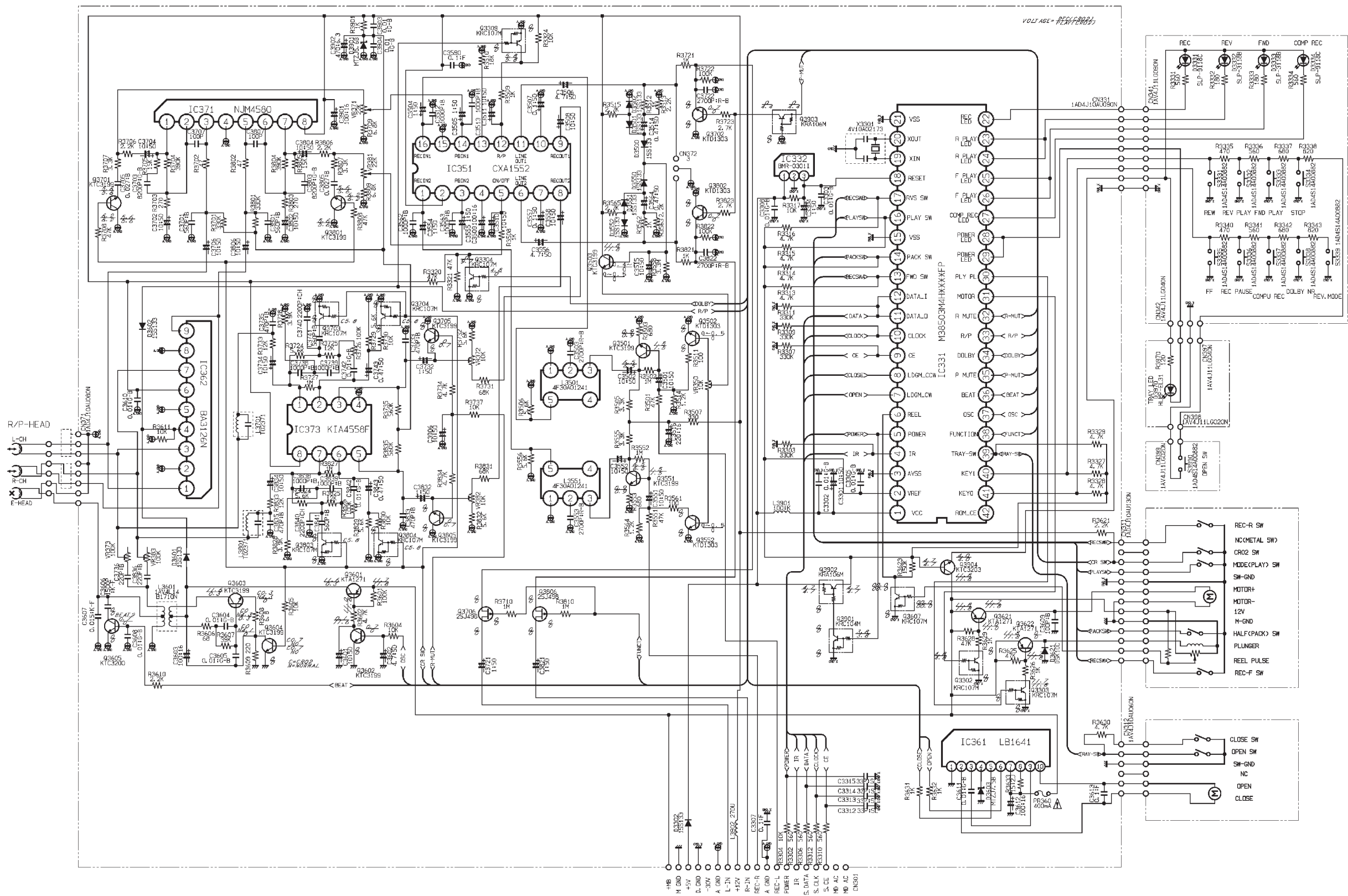
| No. | Pin            | Name         | FUNCTIONS                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                 |
|-----|----------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|     |                |              |                                                                                                                                                                                                                                                                                                                                                           | Function ex except a port function                                                                                              |
| 1   | VCC            | Power Source | Apply voltage of 2.7V-5.5V to VCC, and 0V to VSS.                                                                                                                                                                                                                                                                                                         |                                                                                                                                 |
| 2   | VRFF           |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 3   | AVSS           |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 4   | P44/INT3/PWN   | I/O port P4  | <ul style="list-style-type: none"> <li>8-bit CMOS I/O port with the same function as port P0.</li> </ul>                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>Interrupt input pins</li> <li>PWM output pin</li> <li>Interrupt input pins</li> </ul>    |
| 5   | P43/INT2       | I/O port P4  | <ul style="list-style-type: none"> <li>CMOS compatible input level.</li> <li>CMOS 3-state output structure.</li> </ul>                                                                                                                                                                                                                                    |                                                                                                                                 |
| 6   | P42/INT1       | I/O port P4  |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 7   | P41/INT0       | I/O port P4  |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 8   | P40/CNTR1      | I/O port P4  |                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Timer Y function pin</li> </ul>                                                          |
| 9   | P27/CNTR0/SRDY | I/O port P2  | <ul style="list-style-type: none"> <li>8-bit CMOS I/O port.</li> <li>I/O direction register allows each pin to be individually programmed as either input or output.</li> </ul>                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Serial I/O function pin/Timer X function pin</li> <li>Serial I/O function pin</li> </ul> |
| 10  | P26/SCLK       | I/O port P2  |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 11  | P25/TXD        | I/O port P2  |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 12  | P24/RXD        | I/O port P2  | <ul style="list-style-type: none"> <li>CMOS compatible input level.</li> <li>P20,P21,P24 to P27: CMOS3-state output structure.</li> </ul>                                                                                                                                                                                                                 |                                                                                                                                 |
| 13  | P23            | I/O port P2  |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 14  | P22            | I/O port P2  | <ul style="list-style-type: none"> <li>P22,P23,N-channel open-drain structure.</li> </ul>                                                                                                                                                                                                                                                                 |                                                                                                                                 |
| 15  | CNVSS          | CNVSS Input  | <ul style="list-style-type: none"> <li>This pin controls the operation mode of the chip.</li> <li>Normally connected to VSS.</li> </ul>                                                                                                                                                                                                                   |                                                                                                                                 |
| 16  | P21/XCIN       | I/O port P2  | <ul style="list-style-type: none"> <li>8-bit CMOS I/O port.</li> <li>I/O direction register allows each pin to be individually programmed as either input or output.</li> </ul>                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Sub-clock generating circuit I/O pins(connect a resonator)</li> </ul>                    |
| 17  | P20/XOUT       | I/O port P2  | <ul style="list-style-type: none"> <li>CMOS compatible input level.</li> <li>P20,P21,P24 to P27: CMOS3-state output structure.</li> <li>P22,P23,N-channel open-drain structure.</li> </ul>                                                                                                                                                                |                                                                                                                                 |
| 18  | RESET          | Reset Input  | <ul style="list-style-type: none"> <li>Reset input pin for active "L".</li> </ul>                                                                                                                                                                                                                                                                         |                                                                                                                                 |
| 19  | XIN            | Clock Input  | <ul style="list-style-type: none"> <li>Input and output pins for the clock generating circuit.</li> <li>Connect a ceramic resonator or quartz-crystal oscillator between the XIN and XOUT pins to set the oscillation frequency.</li> <li>When an external clock is used, connect the clock source to the Xin pin and leave the Xout pin open.</li> </ul> |                                                                                                                                 |
| 20  | XOUT           | Clock Output |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 21  | VSS            | Power Source | <ul style="list-style-type: none"> <li>Apply voltage of 2.7V-5.5V to VCC, and 0V to VSS.</li> </ul>                                                                                                                                                                                                                                                       |                                                                                                                                 |
| 22  | P17            | I/O port P1  | <ul style="list-style-type: none"> <li>8-bit CMOS I/O port.</li> </ul>                                                                                                                                                                                                                                                                                    |                                                                                                                                 |
| 23  | P16            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 24  | P15            |              | <ul style="list-style-type: none"> <li>I/O direction register allows each pin to be individually programmed as either input or output.</li> </ul>                                                                                                                                                                                                         |                                                                                                                                 |
| 25  | P14            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 26  | P13            |              | <ul style="list-style-type: none"> <li>CMOS compatible input level.</li> </ul>                                                                                                                                                                                                                                                                            |                                                                                                                                 |
| 27  | P12            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 28  | P11            |              | <ul style="list-style-type: none"> <li>CMOS 3-state output structure.</li> </ul>                                                                                                                                                                                                                                                                          |                                                                                                                                 |
| 29  | P10            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 30  | P07            | I/O port P0  | <ul style="list-style-type: none"> <li>P13 to P17(5 bits) are enabled to output large current for LED drive.</li> </ul>                                                                                                                                                                                                                                   |                                                                                                                                 |
| 31  | P06            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 32  | P05            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 33  | P04            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 34  | P03            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 35  | P02            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 36  | P01            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 37  | P00            |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 38  | P34/AN4        | I/O port P3  | <ul style="list-style-type: none"> <li>8-bit CMOS I/O port with the same function as port P0.</li> </ul>                                                                                                                                                                                                                                                  |                                                                                                                                 |
| 39  | P33/AN3        |              |                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                 |
| 40  | P32/AN2        |              | <ul style="list-style-type: none"> <li>CMOS compatible input level.</li> </ul>                                                                                                                                                                                                                                                                            |                                                                                                                                 |
| 41  | P31/AN1        |              | <ul style="list-style-type: none"> <li>CMOS 3-state output structure.</li> </ul>                                                                                                                                                                                                                                                                          |                                                                                                                                 |
| 42  | P30/AN0        |              | <ul style="list-style-type: none"> <li>A-D converter input pin</li> </ul>                                                                                                                                                                                                                                                                                 |                                                                                                                                 |

## WIRING CONNECTION





SCHEMATIC DIAGRAM (TAPE DECK)



| IC331 | PLAY | REC | OTHER      |
|-------|------|-----|------------|
| 1     | 4.7  | 4.7 |            |
| 2     | 4.5  | 4.5 |            |
| 3     | 0    | 0   |            |
| 4     | 3.8  | 3.8 |            |
| 5     | 3.8  | 3.8 |            |
| 6     | -    | -   |            |
| 7     | 4.6  | 4.6 |            |
| 8     | 4.6  | 4.6 |            |
| 9     | -    | -   |            |
| 10    | 4.6  | 4.6 |            |
| 11    | 0    | 0   |            |
| 12    | 0    | 0   |            |
| 13    | 0    | 0   |            |
| 14    | 0    | 0   |            |
| 15    | 0    | 0   |            |
| 16    | 0    | 0   |            |
| 17    | 0    | 0   |            |
| 18    | 4.7  | 4.7 |            |
| 19    | 1.9  | 2.0 |            |
| 20    | 2.2  | 2.2 |            |
| 21    | 0    | 0   |            |
| 22    | 2.8  | 0   |            |
| 23    | 2.7  | 2.7 | 0(CFWD)    |
| 24    | 2.7  | 2.7 | 0(CFWD)    |
| 25    | 0    | 0   | 2.7(REV)   |
| 26    | 0    | 0   | 2.7(REV)   |
| 27    | 2.8  | 2.8 | 0(C-REC)   |
| 28    | 0    | 0   |            |
| 29    | 0    | 0   |            |
| 30    | 0    | 0   |            |
| 31    | 0    | 0   |            |
| 32    | 4.6  | 0   |            |
| 33    | 0    | 4.6 |            |
| 34    | 0    | 0   |            |
| 35    | 0    | 4.4 |            |
| 36    | 0    | 0   | 4.6(BEAT2) |
| 37    | 0    | 0   |            |
| 38    | 0    | 0   |            |
| 39    | 2.3  | 2.3 |            |
| 40    | 4.7  | 4.7 |            |
| 41    | 4.7  | 4.7 |            |
| 42    | 0    | 0   |            |

| IC362 | PLAY | REC  | OTHER      |
|-------|------|------|------------|
| 1     | 0    | 0    |            |
| 2     | 0    | 0    |            |
| 3     | 0    | 0    |            |
| 4     | 0.4  | 11.4 |            |
| 5     | 0    | 0    |            |
| 6     | 11.6 | 11.6 |            |
| 7     | 0    | 0    |            |
| 8     | 0    | 0    |            |
| 9     | 0    | 0    |            |
| 10    | 4.6  | 4.6  |            |
| 11    | 0    | 0    |            |
| 12    | 0    | 0    |            |
| 13    | 0    | 0    |            |
| 14    | 0    | 0    |            |
| 15    | 0    | 0    |            |
| 16    | 0    | 0    |            |
| 17    | 0    | 0    |            |
| 18    | 4.7  | 4.7  |            |
| 19    | 1.9  | 2.0  |            |
| 20    | 2.2  | 2.2  |            |
| 21    | 0    | 0    |            |
| 22    | 2.8  | 0    |            |
| 23    | 2.7  | 2.7  | 0(CFWD)    |
| 24    | 2.7  | 2.7  | 0(CFWD)    |
| 25    | 0    | 0    | 2.7(REV)   |
| 26    | 0    | 0    | 2.7(REV)   |
| 27    | 2.8  | 2.8  | 0(C-REC)   |
| 28    | 0    | 0    |            |
| 29    | 0    | 0    |            |
| 30    | 0    | 0    |            |
| 31    | 0    | 0    |            |
| 32    | 4.6  | 0    |            |
| 33    | 0    | 4.6  |            |
| 34    | 0    | 0    |            |
| 35    | 0    | 4.4  |            |
| 36    | 0    | 0    | 4.6(BEAT2) |
| 37    | 0    | 0    |            |
| 38    | 0    | 0    |            |
| 39    | 2.3  | 2.3  |            |
| 40    | 4.7  | 4.7  |            |
| 41    | 4.7  | 4.7  |            |
| 42    | 0    | 0    |            |

| IC351 | PLAY | REC  | OTHER    |
|-------|------|------|----------|
| 1     | 5.7  | 5.7  |          |
| 2     | 11.8 | 11.8 |          |
| 3     | 5.7  | 5.7  |          |
| 4     | 5.7  | 5.7  |          |
| 5     | 5.7  | 5.7  | 0(CD-ON) |
| 6     | 5.8  | 5.7  |          |
| 7     | 0.4  | 0.4  |          |
| 8     | 5.8  | 5.7  |          |
| 9     | 5.8  | 5.7  |          |
| 10    | 0.4  | 0.4  |          |
| 11    | 5.8  | 5.7  |          |
| 12    | 11.4 | 0    |          |
| 13    | 1.2  | 1.2  |          |
| 14    | 5.7  | 5.7  |          |
| 15    | 0    | 0    |          |
| 16    | 5.7  | 5.7  |          |

| IC373 | PLAY | REC  | OTHER |
|-------|------|------|-------|
| 1     | 5.6  | 5.6  |       |
| 2     | 5.6  | 5.6  |       |
| 3     | 5.4  | 5.4  |       |
| 4     | 0    | 0    |       |
| 5     | 5.4  | 5.4  |       |
| 6     | 5.6  | 5.6  |       |
| 7     | 5.6  | 5.6  |       |
| 8     | 12.0 | 12.0 |       |
| 9     | 0.7  | 0.7  |       |
| 10    | 0.5  | 0.5  |       |

| IC361 | PLAY | REC  | OTHER |
|-------|------|------|-------|
| 1     | 0    | 0    |       |
| 2     | 0.5  | 0.5  |       |
| 3     | 0.7  | 0.7  |       |
| 4     | 0.4  | 4.4  |       |
| 5     | 3.1  | 3.1  |       |
| 6     | 3.1  | 3.1  |       |
| 7     | 12.0 | 12.0 |       |
| 8     | 12.0 | 12.0 |       |
| 9     | 0.7  | 0.7  |       |
| 10    | 0.5  | 0.5  |       |

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  $\Delta$  in the parts list and the schematic diagram designated components in which safety can be of special significance. When replacing a component identified by  $\Delta$ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

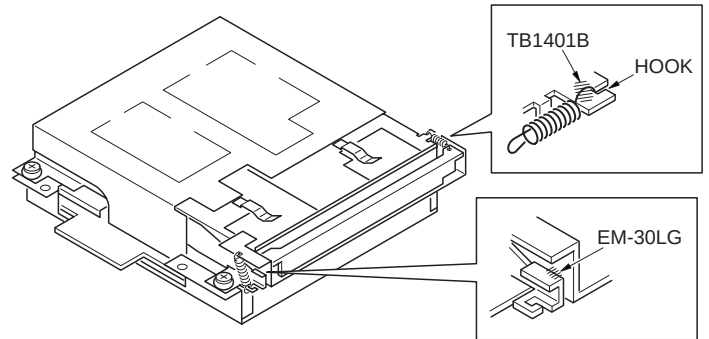
## REPLACEMENT AND LUBRICATION OF THE MD DOOR

## How to remove the MD door

1. Pinch a spring coil (front right side) with a pair of tweezers, and take it off from a hole of MD door with care. Pay attention that the spring is not to be exhausted when taking off from the hole of MD door.
2. Remove a MD door and a shaft.

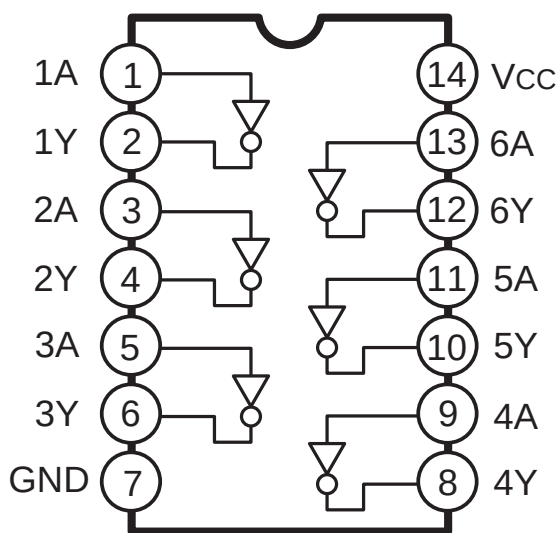
## MD door installation method

1. Put molykote (EM-30LG) on the door contacted part.
2. Install the shaft into ditches of MD door with care as shown.
3. Pinch the spring coil with a pair of tweezers, and hang it on the holes of the MD door.
4. Apply glue (TB1401B) on the hook as shown when the spring coil has been replaced with new one.

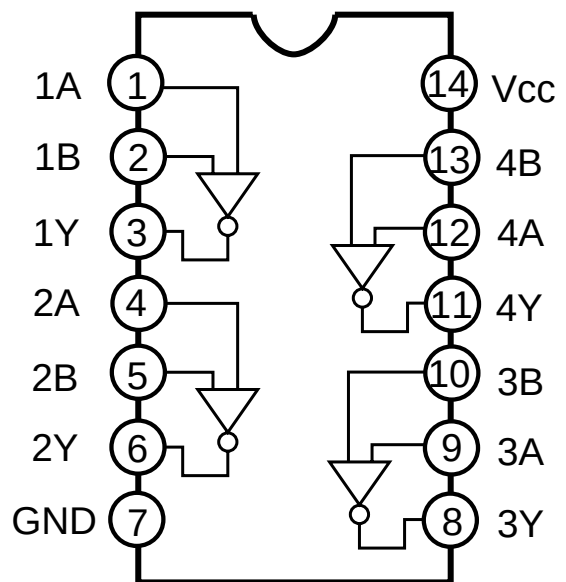


## IC BLOCK DIAGRAM & DESCRIPTION

### IC503 TC74HCU04AP (HEX INVERTER)

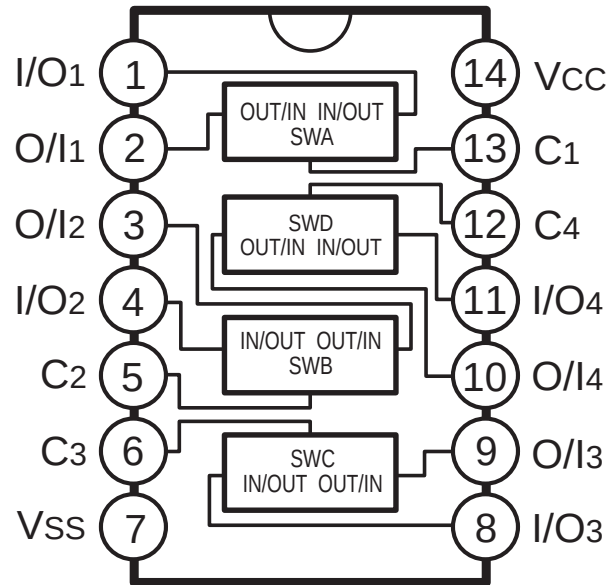
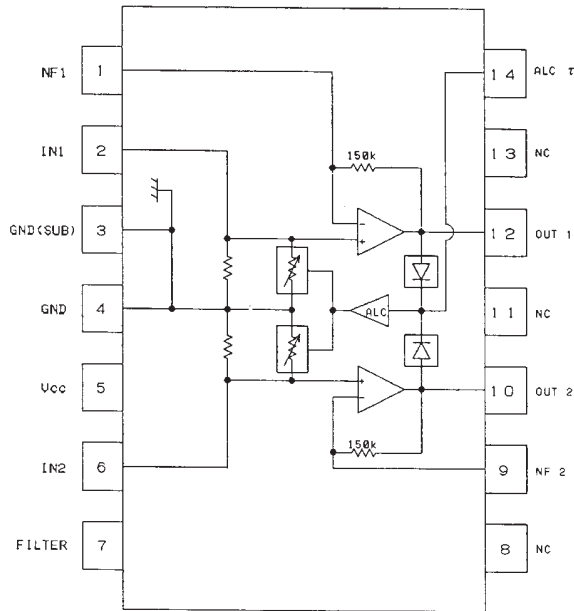


**IC532 TC74ACT32FT (Serial EEPROM)**

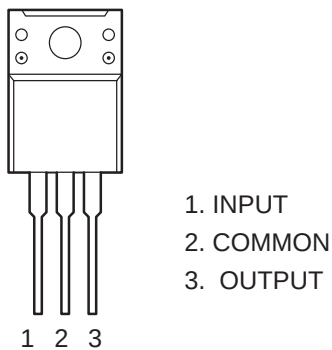


## IC BLOCK DIAGRAM & DESCRIPTION

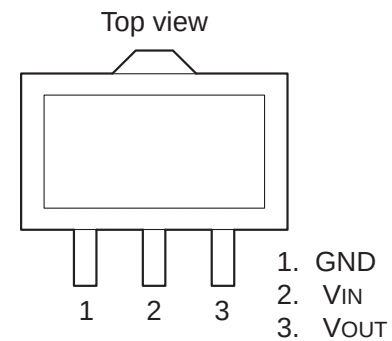
IC571 BA3314F (Dula Preamplifier with ALC Detector) IC573 BU4066BCF (Quad Analog Switch)



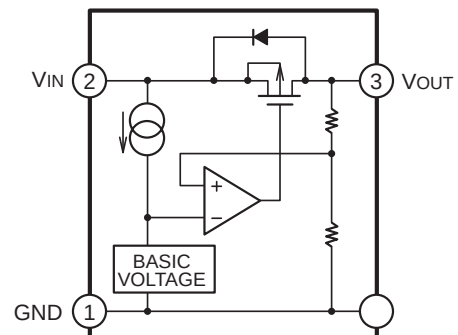
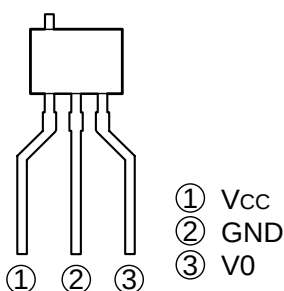
IC591 KIA7805API (REGULATOR)



IC592 & 594 S-81233SGUP-DQF (REGULATOR)

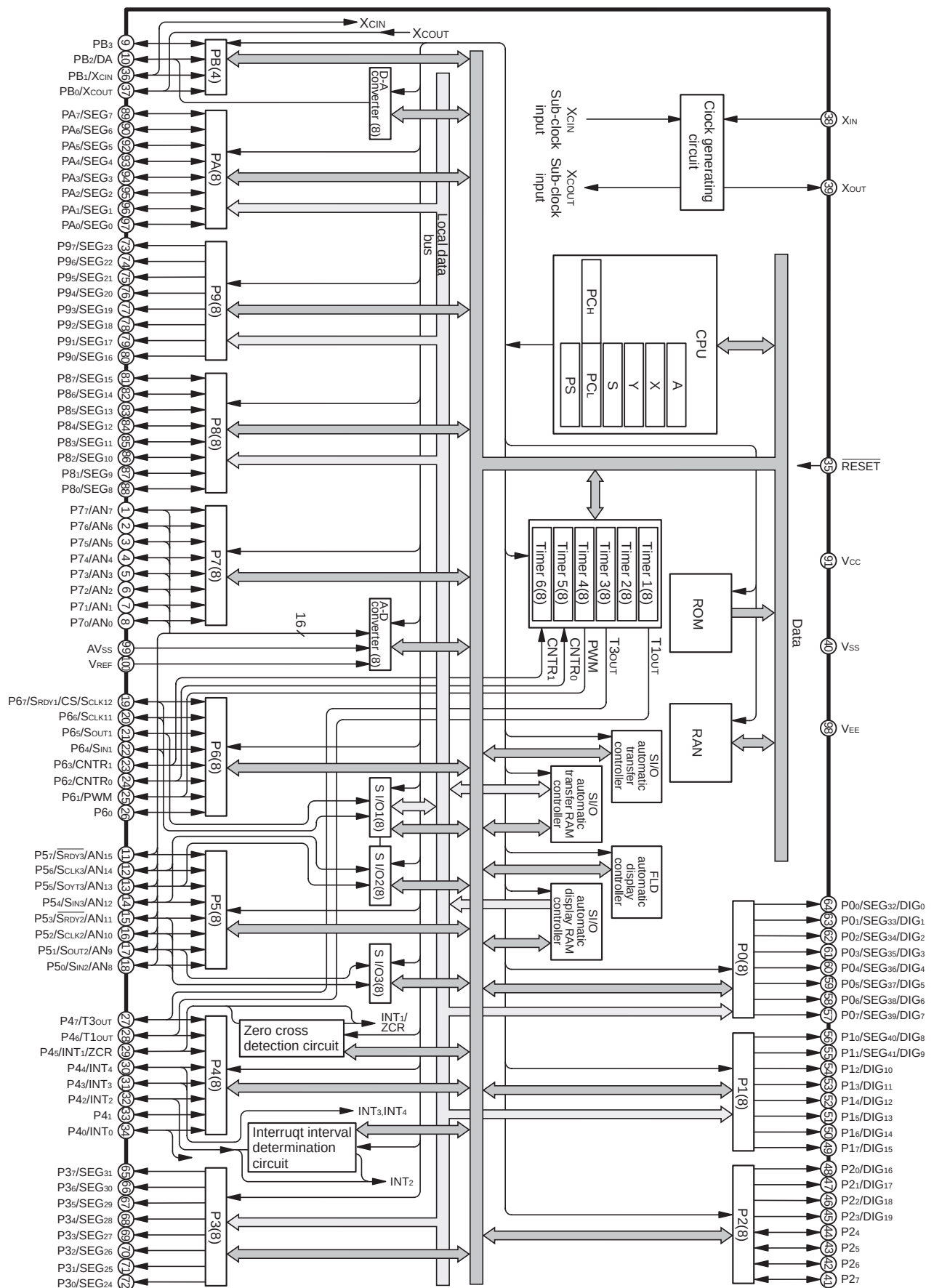


IC533 & 593 BNR-0301I (SYSTEM RESET)



# IC BLOCK DIAGRAM & DESCRIPTION

## IC531 M38197MAA-636FP (Single Chip 8-bit C Mos)



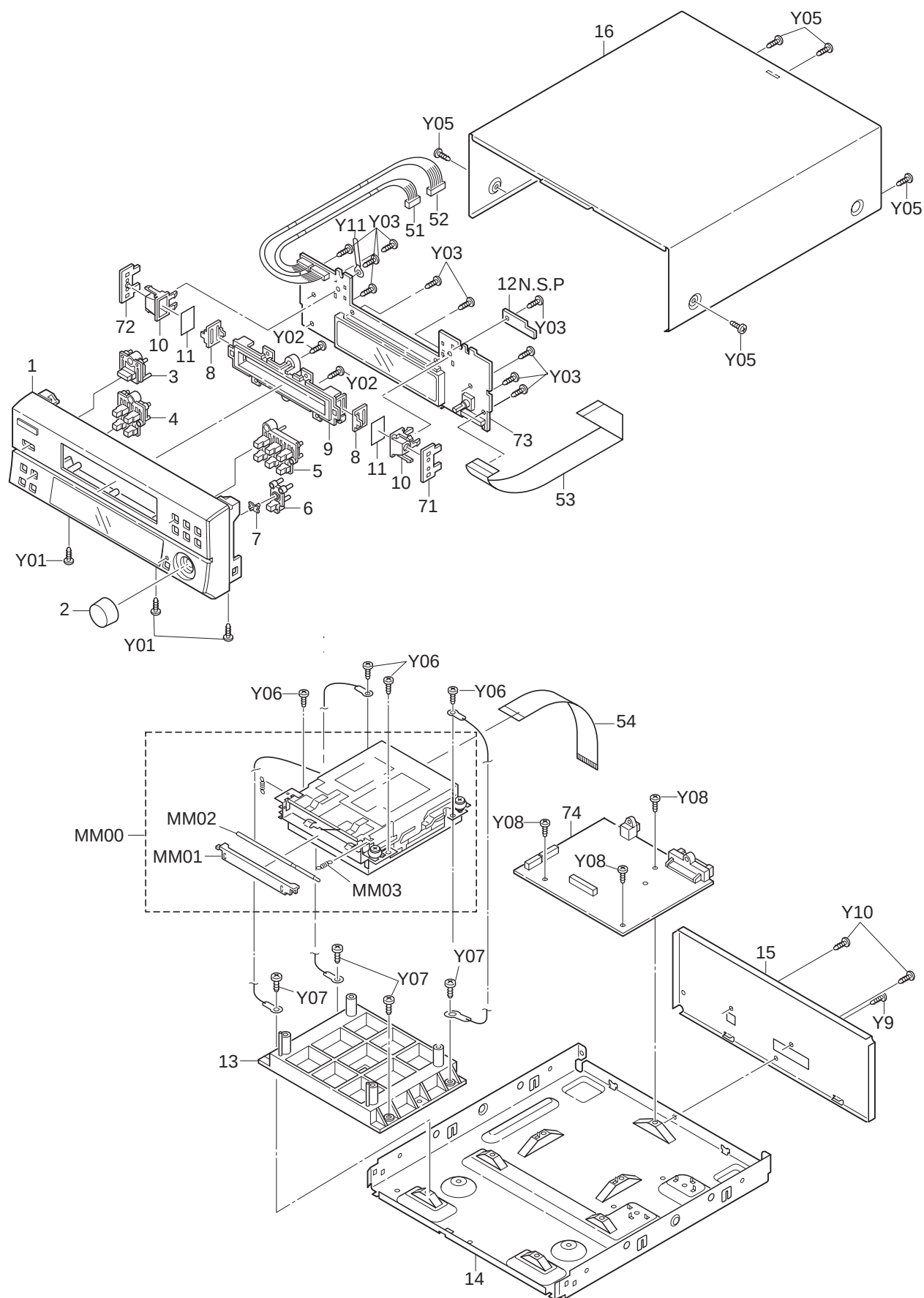
## IC BLOCK DIAGRAM & DESCRIPTION

### IC531 M38197MAA-636FP (Single Chip 8-bit C Mos)

| Pin | Name                                                      | Function                                                                                                                                          |
|-----|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | P7 <sub>7</sub> /AN <sub>7</sub>                          |                                                                                                                                                   |
| 2   | P7 <sub>6</sub> /AN <sub>6</sub>                          |                                                                                                                                                   |
| 3   | P7 <sub>5</sub> /AN <sub>5</sub>                          | 8-bit C MOS I/O port with the same function                                                                                                       |
| 4   | P7 <sub>4</sub> /AN <sub>4</sub>                          | as ports P2 <sub>4</sub> - P2 <sub>7</sub>                                                                                                        |
| 5   | P7 <sub>3</sub> /AN <sub>3</sub>                          | C MOS compatible input level                                                                                                                      |
| 6   | P7 <sub>2</sub> /AN <sub>2</sub>                          | C MOS 3-state output                                                                                                                              |
| 7   | P7 <sub>1</sub> /AN <sub>1</sub>                          |                                                                                                                                                   |
| 8   | P7 <sub>0</sub> /AN <sub>0</sub>                          |                                                                                                                                                   |
| 9   | PB <sub>3</sub>                                           | 4-bit C MOS I/O port with the same function as ports P2 <sub>4</sub> - P2 <sub>7</sub>                                                            |
| 10  | PB <sub>2</sub> /DA                                       | C MOS compatible input level<br>C MOS 3-state output                                                                                              |
| 11  | P5 <sub>7</sub> /S <sub>RDY3</sub> /AN <sub>15</sub>      |                                                                                                                                                   |
| 12  | P5 <sub>6</sub> /S <sub>CLK3</sub> /AN <sub>14</sub>      |                                                                                                                                                   |
| 13  | P5 <sub>5</sub> /S <sub>OUT3</sub> /AN <sub>13</sub>      |                                                                                                                                                   |
| 14  | P5 <sub>4</sub> /S <sub>IN3</sub> /AN <sub>12</sub>       |                                                                                                                                                   |
| 15  | P5 <sub>3</sub> /S <sub>RDY2</sub> /AN <sub>11</sub>      | 8-bit C MOS I/O port with the same function                                                                                                       |
| 16  | P5 <sub>2</sub> /S <sub>CLK2</sub> /AN <sub>10</sub>      | as ports P2 <sub>4</sub> - P2 <sub>7</sub>                                                                                                        |
| 17  | P5 <sub>1</sub> /S <sub>OUT2</sub> /AN <sub>9</sub>       | C MOS compatible input level                                                                                                                      |
| 18  | P5 <sub>0</sub> /S <sub>IN2</sub> /AN <sub>8</sub>        | C MOS 3-state output                                                                                                                              |
| 19  | P6 <sub>7</sub> /S <sub>RDY1</sub> /CS/S <sub>CLK12</sub> |                                                                                                                                                   |
| 20  | P6 <sub>6</sub> /S <sub>CLK11</sub>                       |                                                                                                                                                   |
| 21  | P6 <sub>5</sub> /S <sub>OUT1</sub>                        |                                                                                                                                                   |
| 22  | P6 <sub>4</sub> /S <sub>IN1</sub>                         |                                                                                                                                                   |
| 23  | P6 <sub>3</sub> /CNTR <sub>1</sub>                        |                                                                                                                                                   |
| 24  | P6 <sub>2</sub> /CNTR <sub>0</sub>                        |                                                                                                                                                   |
| 25  | P6 <sub>1</sub> /PWM                                      |                                                                                                                                                   |
| 26  | P6 <sub>0</sub>                                           |                                                                                                                                                   |
| 27  | P4 <sub>7</sub> /T3 <sub>OUT</sub>                        | 6-bit C MOS I/O port with the same function as ports P2 <sub>4</sub> - P2 <sub>7</sub>                                                            |
| 28  | P4 <sub>6</sub> /T1 <sub>OUT</sub>                        | C MOS compatible input level<br>C MOS 3-state output                                                                                              |
| 29  | P4 <sub>5</sub> /INT <sub>1</sub> /ZCR                    | 2-bit input port<br>C MOS compatible input level                                                                                                  |
| 30  | P4 <sub>4</sub> /INT <sub>4</sub>                         | 6-bit C MOS I/O port with the same function                                                                                                       |
| 31  | P4 <sub>3</sub> /INT <sub>3</sub>                         | as ports P2 <sub>4</sub> - P2 <sub>7</sub>                                                                                                        |
| 32  | P4 <sub>2</sub> /INT <sub>2</sub>                         | C MOS compatible input level                                                                                                                      |
| 33  | P4 <sub>1</sub>                                           | C MOS 3-state output                                                                                                                              |
| 34  | P4 <sub>0</sub> /INT <sub>0</sub>                         | 2-bit input port<br>C MOS compatible input level                                                                                                  |
| 35  | RESET                                                     | Reset input pin for active "L"                                                                                                                    |
| 36  | PB <sub>1</sub> /X <sub>CIN</sub>                         | 4-bit C MOS I/O port with the same function as ports P2 <sub>4</sub> - P2 <sub>7</sub>                                                            |
| 37  | PB <sub>0</sub> /X <sub>OUT</sub>                         | C MOS compatible input level<br>C MOS 3-state output                                                                                              |
|     |                                                           | Input and output pins for the main clock generating circuit.                                                                                      |
|     |                                                           | Feedback resistor is built in between X <sub>IN</sub> pin and X <sub>OUT</sub> pin.                                                               |
|     |                                                           | Connect a ceramic resonator or a quartz-crystal oscillator between the X <sub>IN</sub> pin and X <sub>OUT</sub> pin to set oscillation frequency. |
| 38  | X <sub>IN</sub>                                           | If an external clock is used, connect the clock source to the X <sub>IN</sub> pin and leave the X <sub>OUT</sub> pin open.                        |
| 39  | X <sub>OUT</sub>                                          |                                                                                                                                                   |
|     |                                                           | This clock is used as the oscillating source of system clock.                                                                                     |
| 40  | V <sub>SS</sub>                                           | Apply voltage of 0V to V <sub>SS</sub>                                                                                                            |
| 41  | P2 <sub>7</sub>                                           | 4-bit I/O port                                                                                                                                    |
| 42  | P2 <sub>6</sub>                                           | I/O direction register allows each pin to individually programmed as either input or output.                                                      |
| 43  | P2 <sub>5</sub>                                           | At reset this port is set to input mode.                                                                                                          |
| 44  | P2 <sub>4</sub>                                           | TTL input level<br>C MOS 3-state output                                                                                                           |

| Pin | Name                                                 | Function                                                                                                      |
|-----|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 45  | P2 <sub>3</sub> /DIG <sub>19</sub>                   |                                                                                                               |
| 46  | P2 <sub>2</sub> /DIG <sub>18</sub>                   | 4-bit output port with the same function as port P0                                                           |
| 47  | P2 <sub>1</sub> /DIG <sub>17</sub>                   |                                                                                                               |
| 48  | P2 <sub>0</sub> /DIG <sub>16</sub>                   |                                                                                                               |
| 49  | P1 <sub>7</sub> /DIG <sub>15</sub>                   |                                                                                                               |
| 50  | P1 <sub>6</sub> /DIG <sub>14</sub>                   |                                                                                                               |
| 51  | P1 <sub>5</sub> /DIG <sub>13</sub>                   |                                                                                                               |
| 52  | P1 <sub>4</sub> /DIG <sub>12</sub>                   | 8-bit output port with the same function as port P0                                                           |
| 53  | P1 <sub>3</sub> /DIG <sub>11</sub>                   |                                                                                                               |
| 54  | P1 <sub>2</sub> /DIG <sub>10</sub>                   |                                                                                                               |
| 55  | P1 <sub>1</sub> /SEG <sub>41</sub> /DIG <sub>9</sub> |                                                                                                               |
| 56  | P1 <sub>0</sub> /SEG <sub>40</sub> /DIG <sub>8</sub> |                                                                                                               |
| 57  | P0 <sub>7</sub> /SEG <sub>39</sub> /DIG <sub>7</sub> |                                                                                                               |
| 58  | P0 <sub>6</sub> /SEG <sub>38</sub> /DIG <sub>6</sub> | 8-bit output port                                                                                             |
| 59  | P0 <sub>5</sub> /SEG <sub>37</sub> /DIG <sub>5</sub> | This port builds in pull-down resistor between port P0 and the V <sub>EE</sub> pin                            |
| 60  | P0 <sub>4</sub> /SEG <sub>36</sub> /DIG <sub>4</sub> | At reset this port is set to V <sub>EE</sub> level                                                            |
| 61  | P0 <sub>3</sub> /SEG <sub>35</sub> /DIG <sub>3</sub> | The high-breakdown-voltage P-channel open-drain                                                               |
| 62  | P0 <sub>2</sub> /SEG <sub>34</sub> /DIG <sub>2</sub> |                                                                                                               |
| 63  | P0 <sub>1</sub> /SEG <sub>33</sub> /DIG <sub>1</sub> |                                                                                                               |
| 64  | P0 <sub>0</sub> /SEG <sub>32</sub> /DIG <sub>0</sub> |                                                                                                               |
| 65  | P3 <sub>7</sub> /SEG <sub>31</sub>                   |                                                                                                               |
| 66  | P3 <sub>6</sub> /SEG <sub>30</sub>                   |                                                                                                               |
| 67  | P3 <sub>5</sub> /SEG <sub>29</sub>                   |                                                                                                               |
| 68  | P3 <sub>4</sub> /SEG <sub>28</sub>                   | 8-bit output port with the same function as port P0                                                           |
| 69  | P3 <sub>3</sub> /SEG <sub>27</sub>                   |                                                                                                               |
| 70  | P3 <sub>2</sub> /SEG <sub>26</sub>                   |                                                                                                               |
| 71  | P3 <sub>1</sub> /SEG <sub>25</sub>                   |                                                                                                               |
| 72  | P3 <sub>0</sub> /SEG <sub>24</sub>                   |                                                                                                               |
| 73  | P9 <sub>7</sub> /SEG <sub>23</sub>                   |                                                                                                               |
| 74  | P9 <sub>6</sub> /SEG <sub>22</sub>                   |                                                                                                               |
| 75  | P9 <sub>5</sub> /SEG <sub>21</sub>                   |                                                                                                               |
| 76  | P9 <sub>4</sub> /SEG <sub>20</sub>                   | 8-bit output port with the same function as port P0                                                           |
| 77  | P9 <sub>3</sub> /SEG <sub>19</sub>                   |                                                                                                               |
| 78  | P9 <sub>2</sub> /SEG <sub>18</sub>                   |                                                                                                               |
| 79  | P9 <sub>1</sub> /SEG <sub>17</sub>                   |                                                                                                               |
| 80  | P9 <sub>0</sub> /SEG <sub>16</sub>                   |                                                                                                               |
| 81  | P8 <sub>7</sub> /SEG <sub>15</sub>                   |                                                                                                               |
| 82  | P8 <sub>6</sub> /SEG <sub>14</sub>                   |                                                                                                               |
| 83  | P8 <sub>5</sub> /SEG <sub>13</sub>                   | 8-bit I/O port with the same function as ports P2 <sub>4</sub> -P2 <sub>7</sub>                               |
| 84  | P8 <sub>4</sub> /SEG <sub>12</sub>                   |                                                                                                               |
| 85  | P8 <sub>3</sub> /SEG <sub>11</sub>                   | C MOS compatible input level                                                                                  |
| 86  | P8 <sub>2</sub> /SEG <sub>10</sub>                   | The high-breakdown-voltage P-channel open-drain                                                               |
| 87  | P8 <sub>1</sub> /SEG <sub>9</sub>                    |                                                                                                               |
| 88  | P8 <sub>0</sub> /SEG <sub>8</sub>                    |                                                                                                               |
| 89  | PA <sub>7</sub> /SEG <sub>7</sub>                    |                                                                                                               |
| 90  | PA <sub>6</sub> /SEG <sub>6</sub>                    |                                                                                                               |
| 91  | V <sub>CC</sub>                                      | Apply voltage of 4.0 to 5.5V to V <sub>CC</sub>                                                               |
| 92  | PA <sub>5</sub> /SEG <sub>5</sub>                    | 8-bit I/O port with the same function as ports P2 <sub>4</sub> -P2 <sub>7</sub>                               |
| 93  | PA <sub>4</sub> /SEG <sub>4</sub>                    |                                                                                                               |
| 94  | PA <sub>3</sub> /SEG <sub>3</sub>                    | C MOS compatible input level                                                                                  |
| 95  | PA <sub>2</sub> /SEG <sub>2</sub>                    | The high-breakdown-voltage P-channel open-drain                                                               |
| 96  | PA <sub>1</sub> /SEG <sub>1</sub>                    |                                                                                                               |
| 97  | PA <sub>0</sub> /SEG <sub>0</sub>                    |                                                                                                               |
| 98  | V <sub>EE</sub>                                      | Applies voltage supplied to pull-down resistors of ports P0, P1, P2 <sub>0</sub> -P2 <sub>3</sub> , P3 and P9 |
| 99  | AV <sub>SS</sub>                                     | GND input pin for A-D converter and D-A converter<br>Connect AV <sub>SS</sub> to V <sub>SS</sub>              |
| 100 | V <sub>REF</sub>                                     | Reference voltage input pin for A-D converter and D-A converter                                               |

# EXPLODED VIEW (CABINET, CHASSIS & MD MECHANISM)



## PARTS LIST

### PRODUCT SAFETY NOTICE

EACH PRECAUTION IN THIS MANUAL SHOULD BE FOLLOWED DURING SERVICING. COMPONENTS IDENTIFIED WITH THE IEC SYMBOL  $\Delta$  IN THE PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATED COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. WHEN REPLACING A COMPONENT IDENTIFIED BY  $\Delta$ , USE ONLY THE REPLACEMENT PARTS DESIGNATED, OR PARTS WITH THE SAME RATINGS OF RESISTANCE, WATTAGE OR VOLTAGE THAT ARE DESIGNATED IN THE PARTS LIST IN THIS MANUAL. LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS MUST BE MADE TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE PRODUCT TO THE CUSTOMER.

**CAUTION :** Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

Regular type resistors are less than 1/4 W Carbon type and Chip type resistors.

Regular type capacitors are less than 50 V and less than 1000  $\mu$ F type of Ceramic type, Electrolytic type and Chip type.

**N.S.P :** Not supplied as service parts.

### PACKING & ACCESSORIES

| REF.NO. | PART NO.     | DESCRIPTION                                  |
|---------|--------------|----------------------------------------------|
|         | 614 318 0609 | CARTON CASE, INNER SLEEVE<br>(DC-X8CM/UK)    |
|         | 614 317 8026 | CARTON CASE(MDG-088/XE)                      |
|         | 614 316 2766 | CUSHION, FRONT(DC-X8CM/UK)                   |
|         | 614 319 4385 | CUSHION, FRONT(MDG-088/XE)                   |
|         | 614 316 2773 | CUSHION, BACK(DC-X8CM/UK)                    |
|         | 614 319 4392 | CUSHION, BACK(MDG-088/XE)                    |
|         | 645 047 3074 | POLY SHEET-0650X0400*NC, SET<br>(DC-X8CM/UK) |
|         | 645 047 3081 | POLY SHEET-0650X0400*NC, SET<br>(MDG-088/XE) |
|         | 645 043 9421 | CABLE, OPTICAL(MDG-088/XE)                   |

### CABINET & CHASSIS

| REF.NO. | PART NO.     | DESCRIPTION                              |
|---------|--------------|------------------------------------------|
| 1       | 614 316 6290 | ASSY, CABINET, FRONT                     |
| 2       | 614 316 2506 | KNOB, ROTARY, JOG                        |
| 3       | 614 316 2070 | BUTTON, EJECT                            |
| 4       | 614 316 2087 | BUTTON, EDIT                             |
| 5       | 614 316 2063 | BUTTON, PLAY                             |
| 6       | 614 316 6610 | BUTTON, REC, COM REC                     |
| 7       | 614 302 0530 | DEC, WINDOW LED, COM REC                 |
| 8       | 614 316 2339 | DEC, WINDOW, MD, LIGHTING                |
| 9       | 614 316 2322 | DEC, PANEL, MD, LIGHTING                 |
| 10      | 614 316 2582 | REFLECTOR, MD, LIGHTING                  |
| 11      | 614 316 2421 | DEC, SHEET, MD, LIGHTING                 |
| 12      | 614 317 5490 | PWB, BUTTON( N.S.P)                      |
| 13      | 614 302 4378 | MOUNTING, MD, MECHA                      |
| 14      | 614 316 6306 | ASSY, CABINET, BOTTOM                    |
| 15      | 614 316 2544 | PANEL, REAR(DC-X8CM/UK)                  |
| 15      | 614 316 7587 | PANEL, REAR(MDG-088/XE)                  |
| 16      | 614 317 7418 | ASSY, CABINET, BENDING,<br>AFTER BENDING |

### FIXING PARTS

| REF.NO. | PART NO.     | DESCRIPTION                              |
|---------|--------------|------------------------------------------|
| Y01     | 411 021 6405 | SCR S-TPG BIN 3X8,<br>FRONT-BOTTOM FIX   |
| Y02     | 411 165 3803 | SCR S-TPG BIN 2.3X10,<br>DEC PANEL MD    |
| Y03     | 411 165 3803 | SCR S-TPG BIN 2.3X10,<br>FRONT PWB FIX   |
| Y05     | 411 098 4205 | SCR S-TPG BIN 3X8, CABINET               |
| Y06     | 411 023 4003 | SCR S-TPG PAN 3X10,<br>MD MECHA-MOUNTING |
| Y07     | 411 021 6405 | SCR S-TPG BIN 3X8,<br>MOUNTING-BOTTOM    |
| Y08     | 411 021 6405 | SCR S-TPG BIN 3X8, MAIN PWB              |
| Y09     | 411 021 3701 | SCR S-TPG BIN 3X10, BOTTOM-REAR          |
| Y10     | 411 021 3701 | SCR S-TPG BIN 3X10,<br>REAR-ELECT PART   |
| Y11     | 614 129 9136 | LUG                                      |

### ELECTRICAL PARTS

| REF.NO. | PART NO.     | DESCRIPTION                          |
|---------|--------------|--------------------------------------|
| 51      | 614 318 0012 | ASSY, WIRE, 7P-FRONT_DG              |
| 52      | 614 318 0005 | ASSY, WIRE, 8P-FRONT_DG              |
| 53      | 645 048 1970 | FLEXIBLE FLAT CABLE                  |
| 54      | 645 037 3190 | FLEXIBLE FLAT CABLE,<br>MECHA-DG PWB |

### LED1 P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                       |
|---------|--------------|-----------------------------------|
| 71      | 614 316 4067 | ASSY, PWB, MD LED1 (Only Initial) |
| D5440   | 408 044 9100 | LED HLMP-EL31-SVK00               |

### LED2 P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                       |
|---------|--------------|-----------------------------------|
| 72      | 614 316 4074 | ASSY, PWB, MD LED2 (Only Initial) |
| D5450   | 408 044 9100 | LED HLMP-EL31-SVK00               |

### FRONT P.W.BOARD ASSY

| REF.NO. | PART NO.     | DESCRIPTION                        |
|---------|--------------|------------------------------------|
| 73      | 614 316 4050 | ASSY, PWB, MD FRONT (Only Initial) |
| CN532   | 645 034 8631 | SOCKET, FPC 23P                    |
| D5302   | 408 032 5404 | LED SLP-9118C-51H-S-T1             |
| D5303   | 407 100 0303 | ZENER DIODE MTZJ36B                |
| FL501   | 645 034 8044 | FLOURESCENT TUBE                   |
| HL530   | 614 302 4347 | HOLDER, FL, HOLDER-FL              |
| IC531   | 410 384 0907 | IC M38197MAA-636FP                 |
| IC532   | 409 329 9204 | IC TC74ACT32F                      |
| IC533   | 409 471 0302 | IC BMR-0301I                       |
| L5961   | 645 001 4550 | INDUCTOR, 10U K                    |
| or      | 645 031 7835 | INDUCTOR, 10U K                    |
| L5962   | 645 001 4550 | INDUCTOR, 10U K                    |
| or      | 645 031 7835 | INDUCTOR, 10U K                    |
| LG531   | 614 129 9082 | LUG, FRONT-BOTTOM                  |
| LG541   | 645 023 8987 | FIXER                              |
| Q5304   | 405 143 0007 | TR KRC107M                         |
| or      | 405 000 3806 | TR DTC114YS                        |
| Q5330   | 405 143 8904 | TR KRA106M                         |
| or      | 405 075 8102 | TR DTA143ZS                        |
| RA531   | 614 218 0525 | RESISTOR                           |
| S5301   | 645 033 7680 | SWITCH, ROTARY(ENCODER)            |
| S5302   | 645 006 5958 | SWITCH, PUSH 1P-1T                 |
| or      | 614 220 5471 | SWITCH, TACT                       |
| or      | 614 240 1002 | SWITCH, TACT                       |

## PARTS LIST

| REF.NO. | PART NO.     | DESCRIPTION          |
|---------|--------------|----------------------|
| S5304   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5305   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5306   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5308   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5309   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5310   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5311   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5312   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5313   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5314   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| S5315   | 645 006 5958 | SWITCH,PUSH 1P-1T    |
| or      | 614 220 5471 | SWITCH,TACT          |
| or      | 614 240 1002 | SWITCH,TACT          |
| TA541   | 614 112 1451 | DOUBLE FACE,FL_MOUNT |
| X5301   | 645 027 5470 | OSC,CERAMIC 8MHZ     |

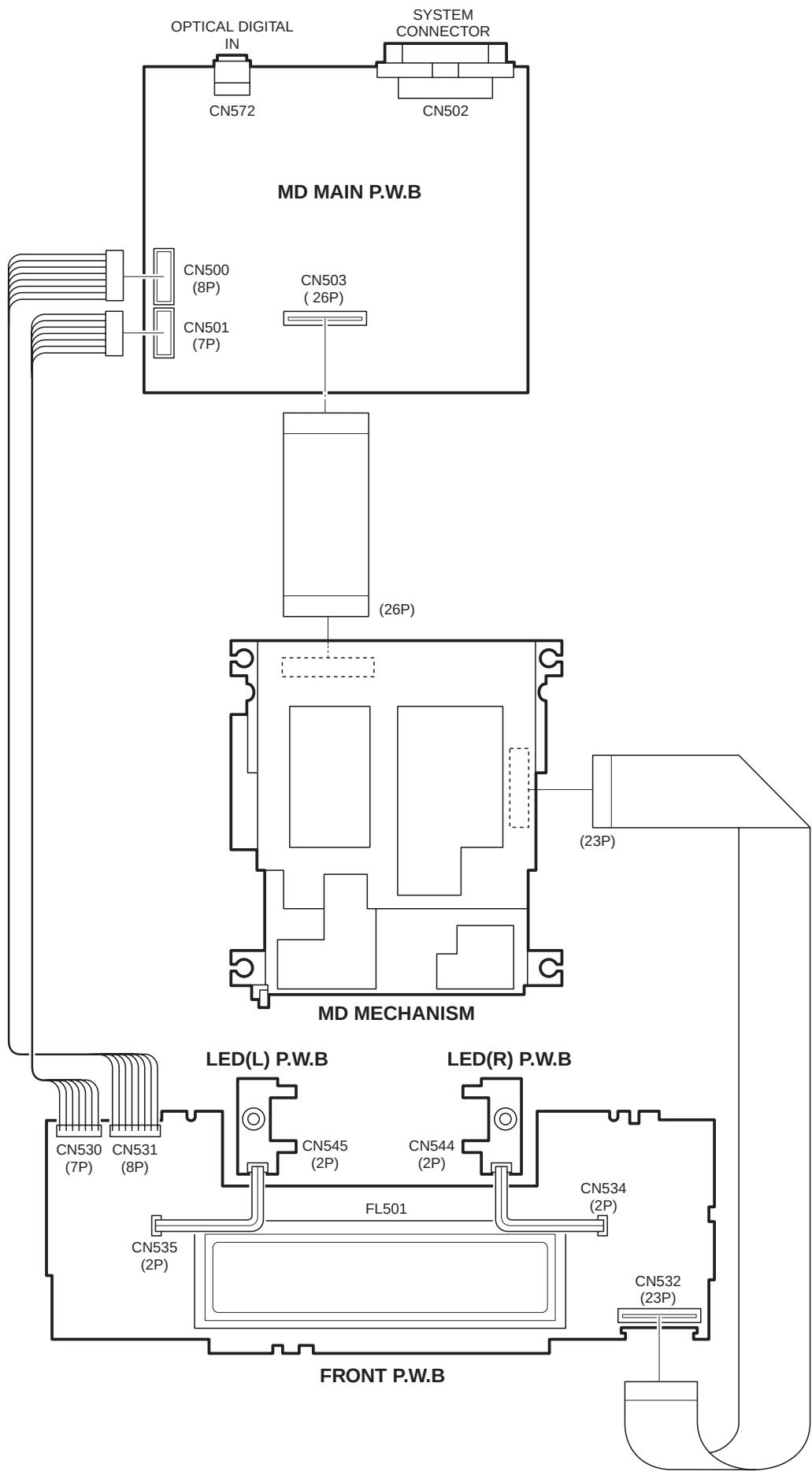
| REF.NO. | PART NO.      | DESCRIPTION                  |
|---------|---------------|------------------------------|
| IC594   | 409 466 6807  | IC S-81233SGUP-DQF           |
| L5701   | 645 001 4581  | INDUCTOR,100U K              |
| or      | 645 031 7842  | INDUCTOR,100U K              |
| L5801   | 645 001 4581  | INDUCTOR,100U K              |
| or      | 645 031 7842  | INDUCTOR,100U K              |
| L5901   | 645 001 4550  | INDUCTOR,10U K               |
| or      | 645 031 7835  | INDUCTOR,10U K               |
| L5902   | 645 001 4581  | INDUCTOR,100U K              |
| or      | 645 031 7842  | INDUCTOR,100U K              |
| L5903   | 645 006 3602  | INDUCTOR,1.1UH               |
| L5904   | 645 006 3602  | INDUCTOR,1.1UH               |
| L5905   | 645 006 3602  | INDUCTOR,1.1UH               |
| L5906   | 645 004 0511  | INDUCTOR,270U J              |
| L5951   | 645 001 5519  | INDUCTOR,47U K               |
| LG581   | 645 023 8987  | FIXER,FIX_WIRE               |
| Q5342   | 405 146 1209  | TR KRC104M                   |
| or      | 405 000 6104  | TR DTC144ES                  |
| Q5343   | 405 146 1308  | TR KRA104M                   |
| or      | 405 000 2205  | TR DTA144ES                  |
| Q5710   | 405 109 9402  | TR KRC111M                   |
| or      | 405 000 3400  | TR DTC114TS                  |
| Q5810   | 405 109 9402  | TR KRC111M                   |
| or      | 405 000 3400  | TR DTC114TS                  |
| Q5902   | 405 146 1209  | TR KRC104M                   |
| or      | 405 000 6104  | TR DTC144ES                  |
| Q5905   | 405 141 3703  | TR KTA1271-Y                 |
| or      | 405 008 2405  | TR 2SB698-F                  |
| or      | 405 008 2504  | TR 2SB698-G                  |
| Q5906   | X405 141 1402 | TR KTD863-GR                 |
| or      | X405 023 5009 | TR 2SD400-E-MP               |
| or      | X405 023 5306 | TR 2SD400-F-MP               |
| Q5907   | 405 141 3703  | TR KTA1271-Y                 |
| or      | 405 008 2405  | TR 2SB698-F                  |
| or      | 405 008 2504  | TR 2SB698-G                  |
| Q5908   | 405 146 1209  | TR KRC104M                   |
| or      | 405 000 6104  | TR DTC144ES                  |
| SA001   | 411 021 3503  | SCR S-TPG BIN 3X10,FOR_IC591 |

## POWER SUPPLY P.W.BOARD ASSY

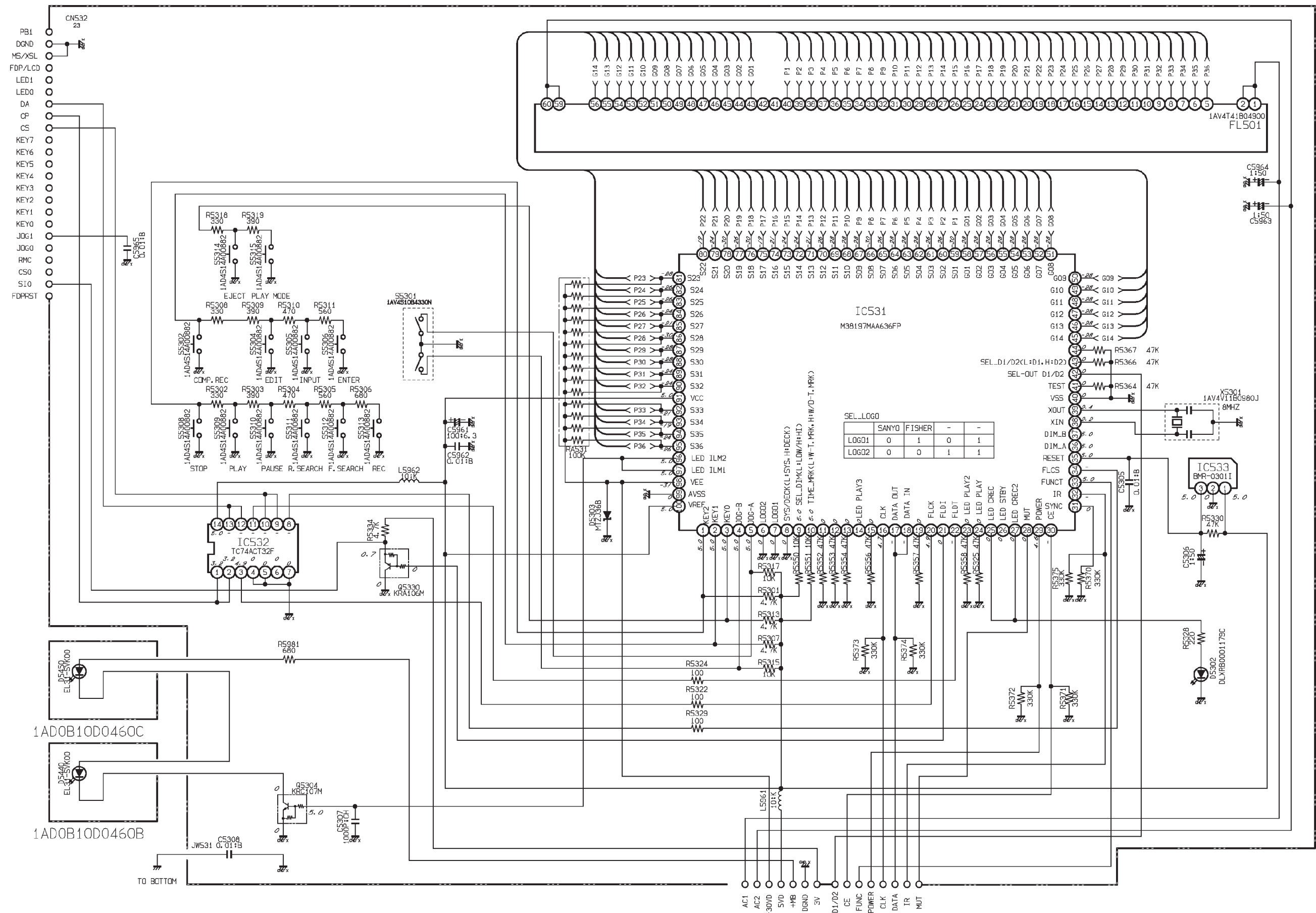
| REF.NO. | PART NO.     | DESCRIPTION                                |
|---------|--------------|--------------------------------------------|
| 74      | 614 316 4081 | ASSY,PWB,MD POWER SUPPLY<br>(Only Initial) |
| C4410   | 403 313 4602 | ELECT 1000U M 16V                          |
| C4905   | 403 329 6201 | ELECT 2200U M 35V                          |
| C4906   | 403 329 6201 | ELECT 2200U M 35V                          |
| C4950   | 403 329 6003 | ELECT 4700U M 25V                          |
| C4951   | 403 329 3309 | ELECT 2200U M 25V                          |
| C5940   | 403 291 5608 | ELECT 1000U M 6.3V                         |
| CN500   | 614 310 2496 | PLUG,8P                                    |
| or      | 645 005 8134 | PLUG,8P                                    |
| CN501   | 614 310 2489 | PLUG,7P                                    |
| or      | 645 006 0861 | PLUG,7P                                    |
| CN502   | 645 045 9511 | SOCKET,SYSTEM 19P                          |
| CN503   | 645 035 5769 | SOCKET,FPC 26P                             |
| CN572   | 407 222 4302 | PHOTO COUPLE TORX141                       |
| or      | 407 212 5708 | PHOTO COUPLE GP1F38R                       |
| D5932   | 407 099 5303 | ZENER DIODE MTZJ5.6B                       |
| D5933   | 407 099 5303 | ZENER DIODE MTZJ5.6B                       |
| D5940   | 408 044 6307 | DIODE SB140L 19C2-004                      |
| HS501   | 614 270 2598 | HEAT SINK                                  |
| IC503   | 409 185 6102 | IC TC74HCU04AP                             |
| IC571   | 409 384 3506 | IC BA3314F                                 |
| IC573   | 409 333 2505 | IC BU4066BCF                               |
| IC591   | 409 463 6701 | IC KIA7805API                              |
| IC592   | 409 466 6807 | IC S-81233SGUP-DQF                         |
| IC593   | 409 471 0302 | IC BMR-0301I                               |

## MD MECHANISM(MDG007/SH)

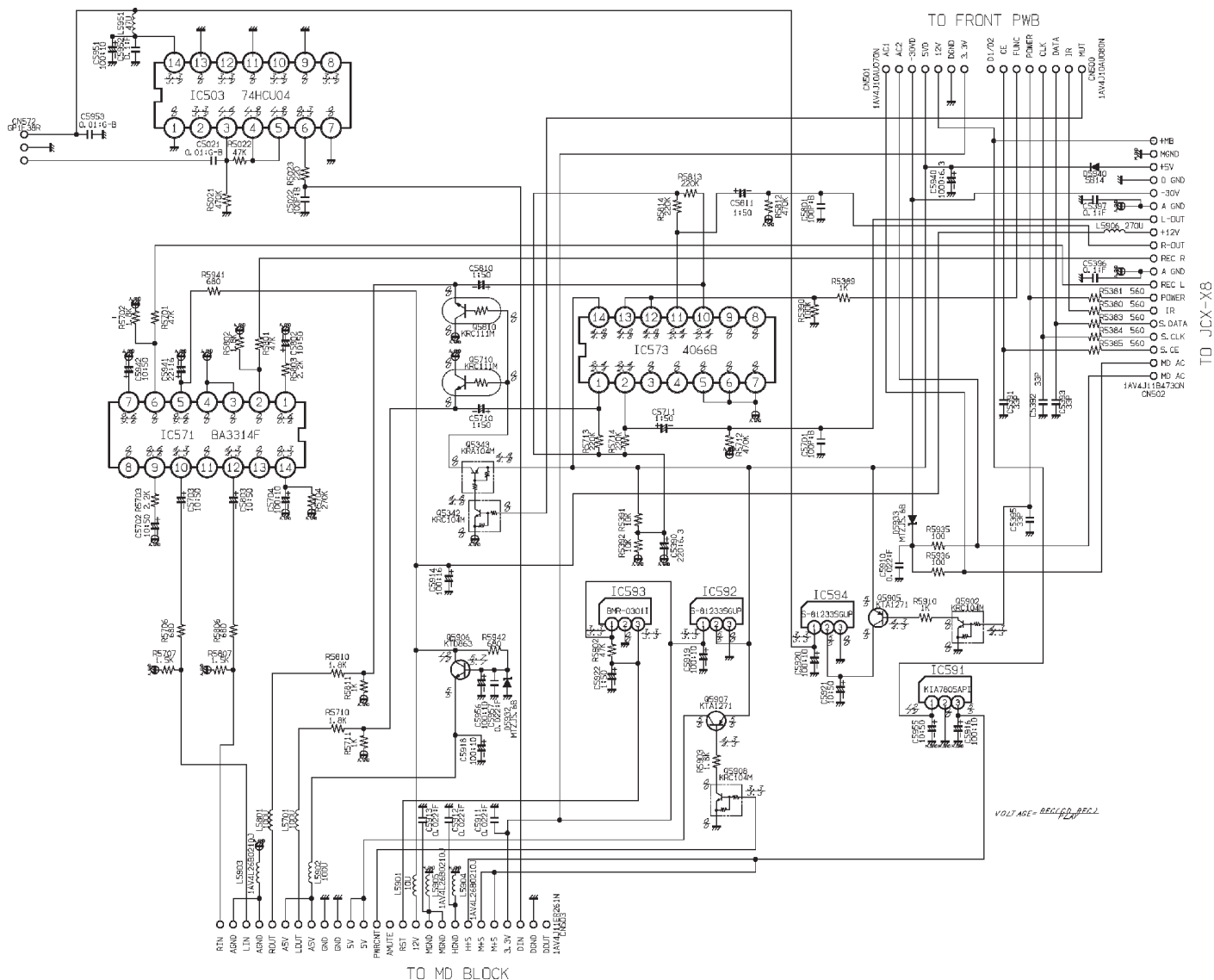
| REF.NO. | PART NO.     | DESCRIPTION                            |
|---------|--------------|----------------------------------------|
| MM00    | 614 304 8350 | ASSY,MECHA,MDG007/SH,<br>MD MECHA ASSY |
| MM01    | 614 303 8344 | ASSY,DOOR,MD DOOR W/PAINTING           |
| MM02    | 614 303 6609 | SHAFT,DOOR,MD DOOR SHAFT               |
| MM03    | 614 303 6616 | SPRING,DOOR,MD DOOR RETURN             |



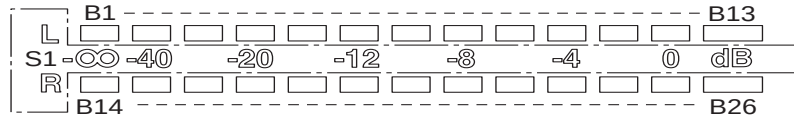
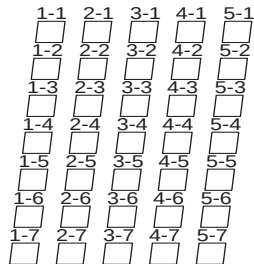
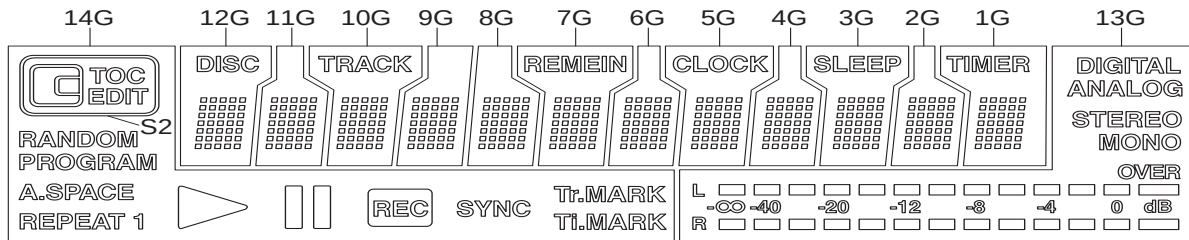
SCHEMATIC DIAGRAM (FRONT)



# SCHEMATIC DIAGRAM (POWER SUPPLY)



## FL DISPLAY & DESCRIPTION



(13G)

(12G~1G)

| PIN CONNECTION |  | 60 | 59 | 58 | 57 | 56  | 55  | 54  | 53  | 52  | 51 | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 |
|----------------|--|----|----|----|----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|
| PIN NO.        |  | 60 | 59 | 58 | 57 | 56  | 55  | 54  | 53  | 52  | 51 | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 |
| CONNECTION     |  | F2 | F2 | NP | NP | 14G | 13G | 12G | 11G | 10G | 9G | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G | NC | NC |

| PIN CONNECTION |  | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31  | 30  | 29  | 28  | 27  | 26  | 25  | 24  | 23  | 22  | 21  |
|----------------|--|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| PIN NO.        |  | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31  | 30  | 29  | 28  | 27  | 26  | 25  | 24  | 23  | 22  | 21  |
| CONNECTION     |  | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | P11 | P12 | P13 | P14 | P15 | P16 | P17 | P18 | P19 | P20 |

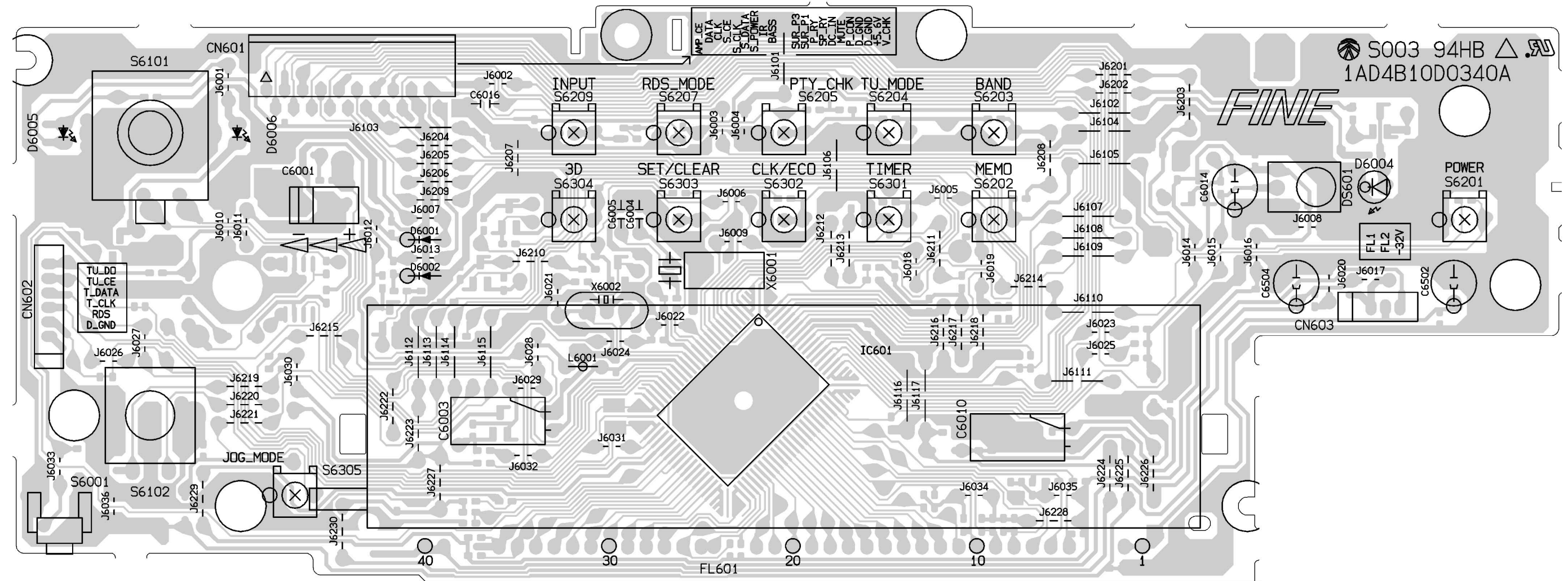
| PIN CONNECTION |  | 20  | 19  | 18  | 17  | 16  | 15  | 14  | 13  | 12  | 11  | 10  | 9   | 8   | 7   | 6   | 5   | 4  | 3  | 2  | 1  |
|----------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| PIN NO.        |  | 20  | 19  | 18  | 17  | 16  | 15  | 14  | 13  | 12  | 11  | 10  | 9   | 8   | 7   | 6   | 5   | 4  | 3  | 2  | 1  |
| CONNECTION     |  | P21 | P22 | P23 | P24 | P25 | P26 | P27 | P28 | P29 | P30 | P31 | P32 | P33 | P34 | P35 | P36 | NP | NP | F1 | F1 |

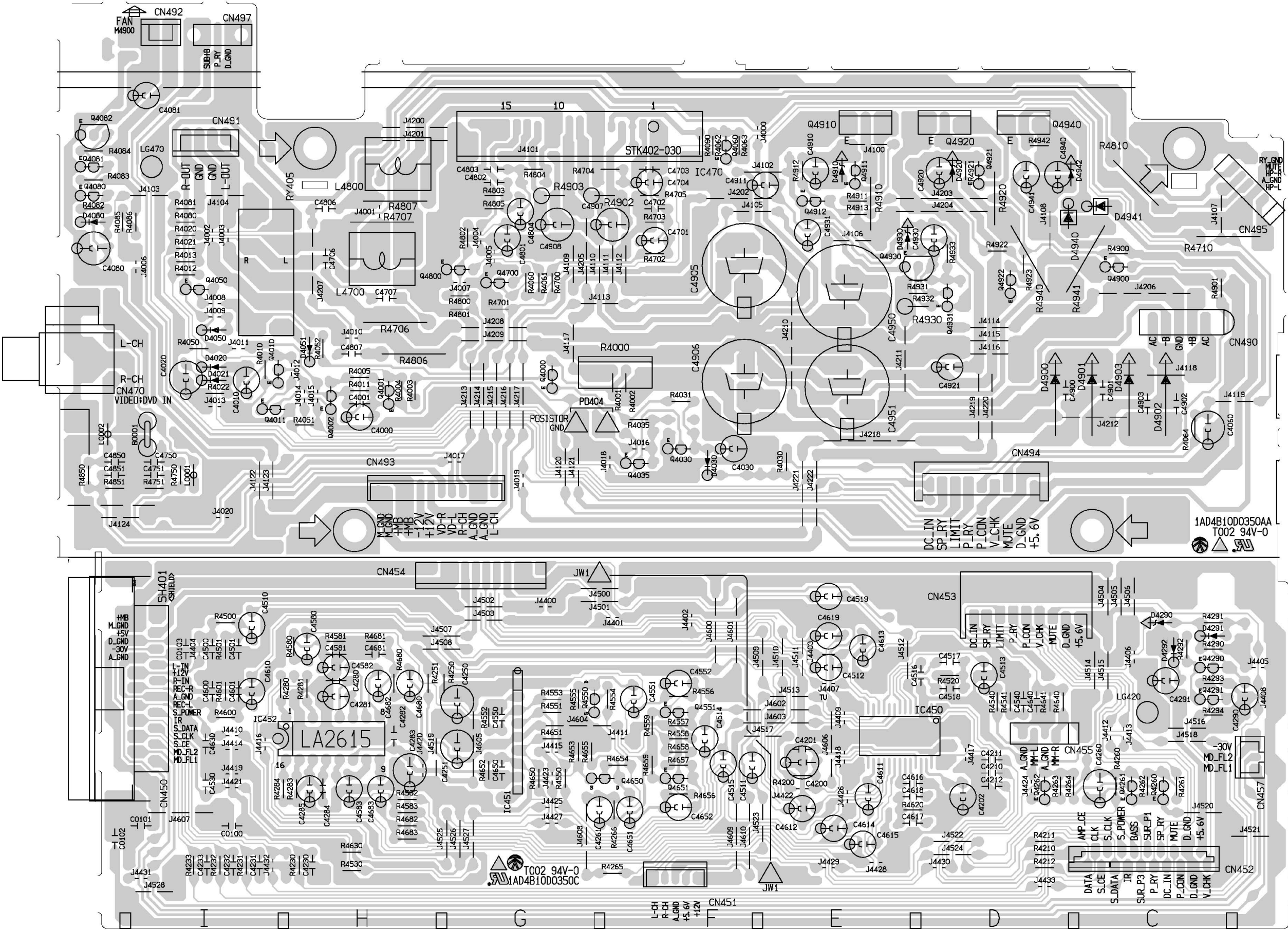
NOTE: 1) F1,F2 ..... Filament  
2) NP ..... No pin  
3) NC ..... No connection  
4) DL ..... Datum Line  
5) 1G~14G Grid

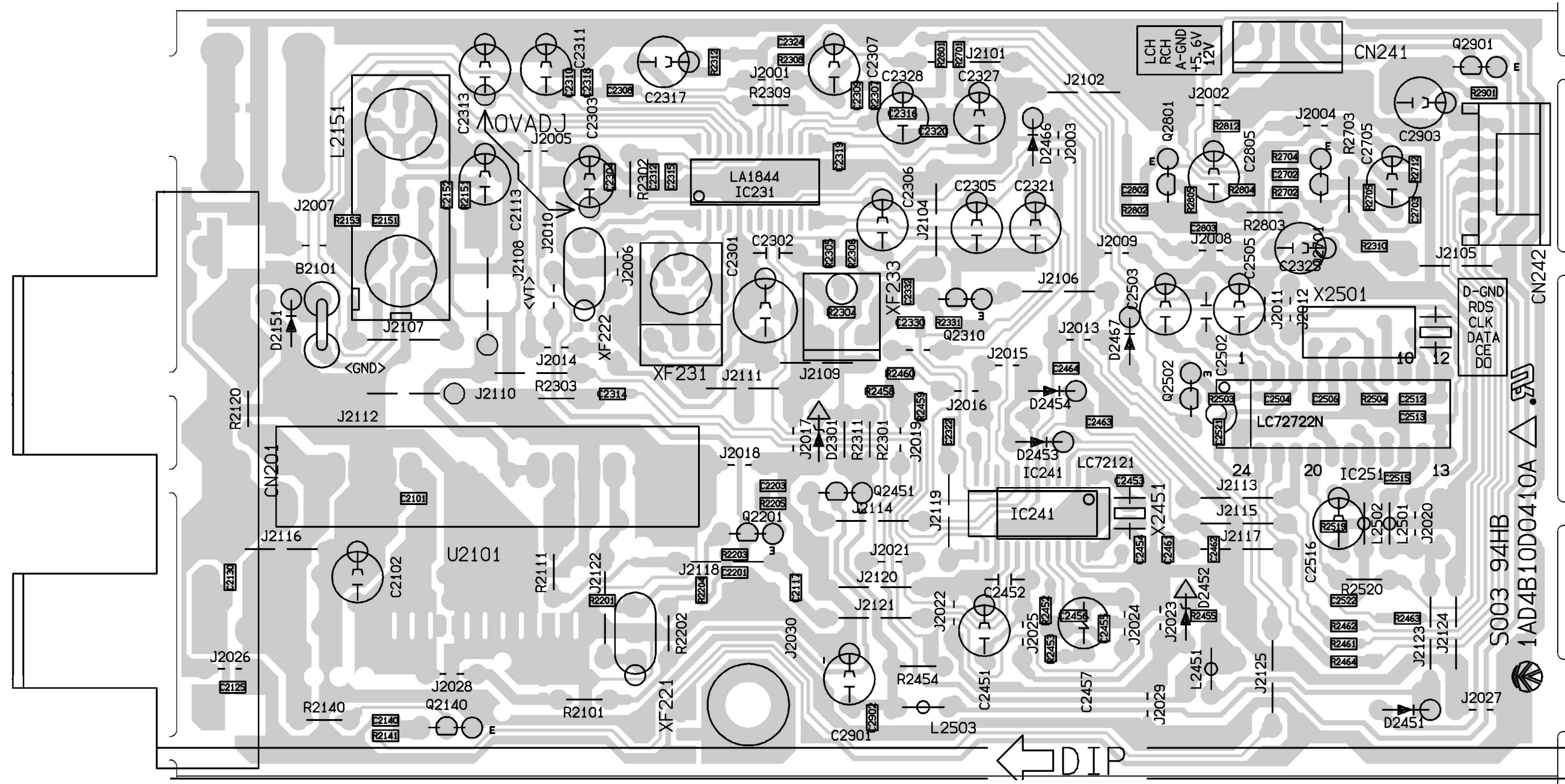
### ANODE CONNECTION

|     | 14G      | 13G     | 12G  | 11G | 10G   | 9G  | 8G  | 7G     | 6G  | 5G    | 4G  | 3G    | 2G  | 1G  |
|-----|----------|---------|------|-----|-------|-----|-----|--------|-----|-------|-----|-------|-----|-----|
| P1  | —        | MONO    | DISC | —   | TRACK | —   | —   | REMAIN | —   | CLOCK | —   | SLEEP | —   | —   |
| P2  | —        | —       | 1-1  | 1-1 | 1-1   | 1-1 | 1-1 | 1-1    | 1-1 | 1-1   | 1-1 | 1-1   | 1-1 | 1-1 |
| P3  | TOC      | B1      | 2-1  | 2-1 | 2-1   | 2-1 | 2-1 | 2-1    | 2-1 | 2-1   | 2-1 | 2-1   | 2-1 | 2-1 |
| P4  | EDIT     | B8      | 3-1  | 3-1 | 3-1   | 3-1 | 3-1 | 3-1    | 3-1 | 3-1   | 3-1 | 3-1   | 3-1 | 3-1 |
| P5  | S2       | B14     | 4-1  | 4-1 | 4-1   | 4-1 | 4-1 | 4-1    | 4-1 | 4-1   | 4-1 | 4-1   | 4-1 | 4-1 |
| P6  | RANDOM   | B21     | 5-1  | 5-1 | 5-1   | 5-1 | 5-1 | 5-1    | 5-1 | 5-1   | 5-1 | 5-1   | 5-1 | 5-1 |
| P7  | RPROGRAM | —       | 1-2  | 1-2 | 1-2   | 1-2 | 1-2 | 1-2    | 1-2 | 1-2   | 1-2 | 1-2   | 1-2 | 1-2 |
| P8  | A.SPACE  | B21     | 2-2  | 2-2 | 2-2   | 2-2 | 2-2 | 2-2    | 2-2 | 2-2   | 2-2 | 2-2   | 2-2 | 2-2 |
| P9  | REPEAT   | B9      | 3-2  | 3-2 | 3-2   | 3-2 | 3-2 | 3-2    | 3-2 | 3-2   | 3-2 | 3-2   | 3-2 | 3-2 |
| P10 | 1        | B15     | 4-2  | 4-2 | 4-2   | 4-2 | 4-2 | 4-2    | 4-2 | 4-2   | 4-2 | 4-2   | 4-2 | 4-2 |
| P11 | A        | B22     | 5-2  | 5-2 | 5-2   | 5-2 | 5-2 | 5-2    | 5-2 | 5-2   | 5-2 | 5-2   | 5-2 | 5-2 |
| P12 | K        | —       | 1-3  | 1-3 | 1-3   | 1-3 | 1-3 | 1-3    | 1-3 | 1-3   | 1-3 | 1-3   | 1-3 | 1-3 |
| P13 | [REC]    | B3      | 2-3  | 2-3 | 2-3   | 2-3 | 2-3 | 2-3    | 2-3 | 2-3   | 2-3 | 2-3   | 2-3 | 2-3 |
| P14 | SYNC     | B10     | 3-3  | 3-3 | 3-3   | 3-3 | 3-3 | 3-3    | 3-3 | 3-3   | 3-3 | 3-3   | 3-3 | 3-3 |
| P15 | TrMARK   | B16     | 4-3  | 4-3 | 4-3   | 4-3 | 4-3 | 4-3    | 4-3 | 4-3   | 4-3 | 4-3   | 4-3 | 4-3 |
| P16 | TrMARK   | B23     | 5-3  | 5-3 | 5-3   | 5-3 | 5-3 | 5-3    | 5-3 | 5-3   | 5-3 | 5-3   | 5-3 | 5-3 |
| P17 | —        | —       | 1-4  | 1-4 | 1-4   | 1-4 | 1-4 | 1-4    | 1-4 | 1-4   | 1-4 | 1-4   | 1-4 | 1-4 |
| P18 | —        | B4      | 2-4  | 2-4 | 2-4   | 2-4 | 2-4 | 2-4    | 2-4 | 2-4   | 2-4 | 2-4   | 2-4 | 2-4 |
| P19 | —        | B11     | 3-4  | 3-4 | 3-4   | 3-4 | 3-4 | 3-4    | 3-4 | 3-4   | 3-4 | 3-4   | 3-4 | 3-4 |
| P20 | —        | B17     | 4-4  | 4-4 | 4-4   | 4-4 | 4-4 | 4-4    | 4-4 | 4-4   | 4-4 | 4-4   | 4-4 | 4-4 |
| P21 | —        | B24     | 5-4  | 5-4 | 5-4   | 5-4 | 5-4 | 5-4    | 5-4 | 5-4   | 5-4 | 5-4   | 5-4 | 5-4 |
| P22 | —        | S1      | 1-5  | 1-5 | 1-5   | 1-5 | 1-5 | 1-5    | 1-5 | 1-5   | 1-5 | 1-5   | 1-5 | 1-5 |
| P23 | —        | B5      | 2-5  | 2-5 | 2-5   | 2-5 | 2-5 | 2-5    | 2-5 | 2-5   | 2-5 | 2-5   | 2-5 | 2-5 |
| P24 | —        | B12     | 3-5  | 3-5 | 3-5   | 3-5 | 3-5 | 3-5    | 3-5 | 3-5   | 3-5 | 3-5   | 3-5 | 3-5 |
| P25 | —        | B18     | 4-5  | 4-5 | 4-5   | 4-5 | 4-5 | 4-5    | 4-5 | 4-5   | 4-5 | 4-5   | 4-5 | 4-5 |
| P26 | —        | B25     | 5-5  | 5-5 | 5-5   | 5-5 | 5-5 | 5-5    | 5-5 | 5-5   | 5-5 | 5-5   | 5-5 | 5-5 |
| P27 | —        | OVER    | 1-6  | 1-6 | 1-6   | 1-6 | 1-6 | 1-6    | 1-6 | 1-6   | 1-6 | 1-6   | 1-6 | 1-6 |
| P28 | —        | B6      | 2-6  | 2-6 | 2-6   | 2-6 | 2-6 | 2-6    | 2-6 | 2-6   | 2-6 | 2-6   | 2-6 | 2-6 |
| P29 | —        | B13     | 3-6  | 3-6 | 3-6   | 3-6 | 3-6 | 3-6    | 3-6 | 3-6   | 3-6 | 3-6   | 3-6 | 3-6 |
| P30 | —        | B19     | 4-6  | 4-6 | 4-6   | 4-6 | 4-6 | 4-6    | 4-6 | 4-6   | 4-6 | 4-6   | 4-6 | 4-6 |
| P31 | —        | B26     | 5-6  | 5-6 | 5-6   | 5-6 | 5-6 | 5-6    | 5-6 | 5-6   | 5-6 | 5-6   | 5-6 | 5-6 |
| P32 | —        | DIGITAL | 1-7  | 1-7 | 1-7   | 1-7 | 1-7 | 1-7    | 1-7 | 1-7   | 1-7 | 1-7   | 1-7 | 1-7 |
| P33 | —        | B7      | 2-7  | 2-7 | 2-7   | 2-7 | 2-7 | 2-7    | 2-7 | 2-7   | 2-7 | 2-7   | 2-7 | 2-7 |
| P34 | —        | ANALOG  | 3-7  | 3-7 | 3-7   | 3-7 | 3-7 | 3-7    | 3-7 | 3-7   | 3-7 | 3-7   | 3-7 | 3-7 |
| P35 | —        | B20     | 4-7  | 4-7 | 4-7   | 4-7 | 4-7 | 4-7    | 4-7 | 4-7   | 4-7 | 4-7   | 4-7 | 4-7 |
| P36 | —        | STEREO  | 5-7  | 5-7 | 5-7   | 5-7 | 5-7 | 5-7    | 5-7 | 5-7   | 5-7 | 5-7   | 5-7 | 5-7 |



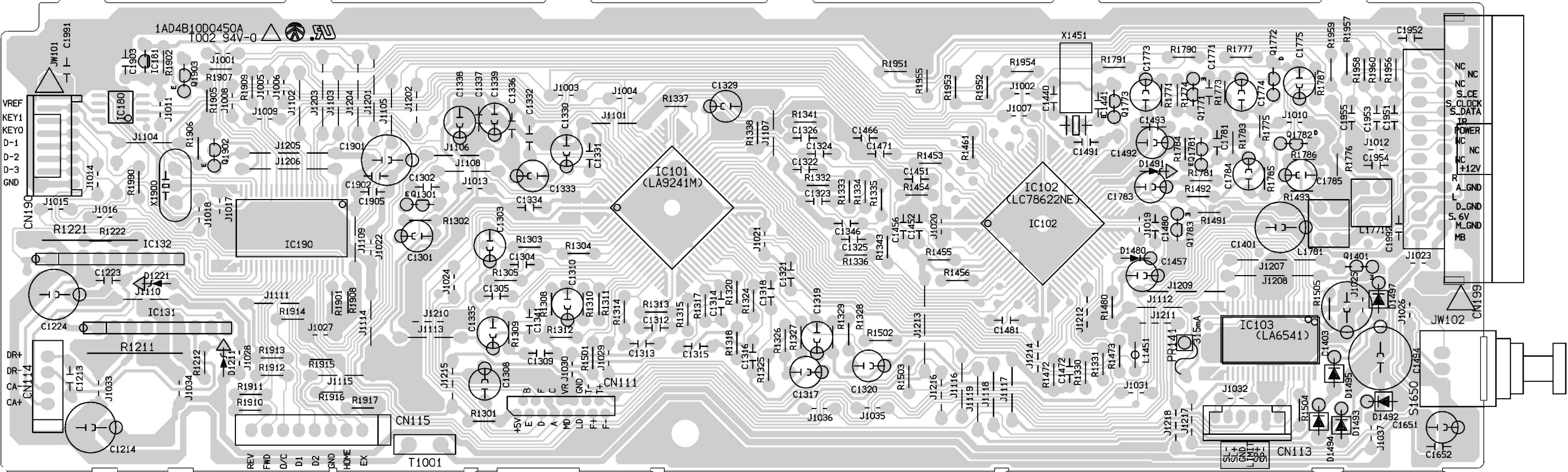




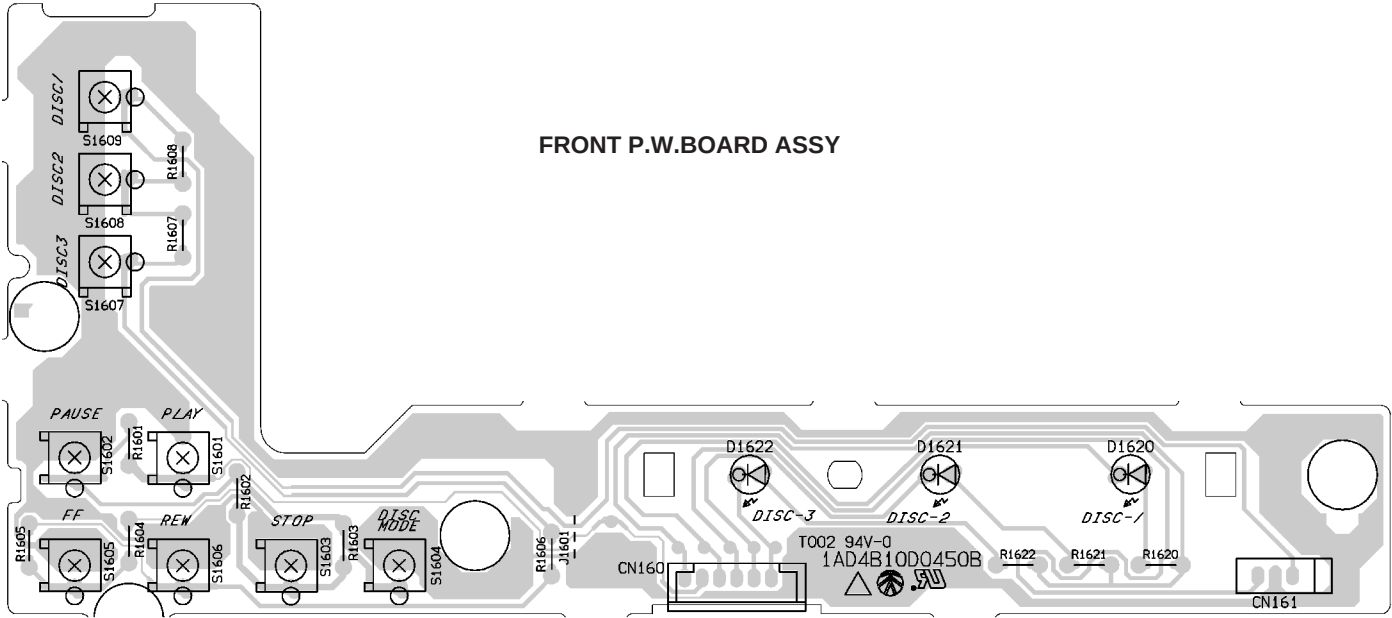


WIRING DIAGRAM (CD,FRONT & OPEN CLOSE SWITCH)

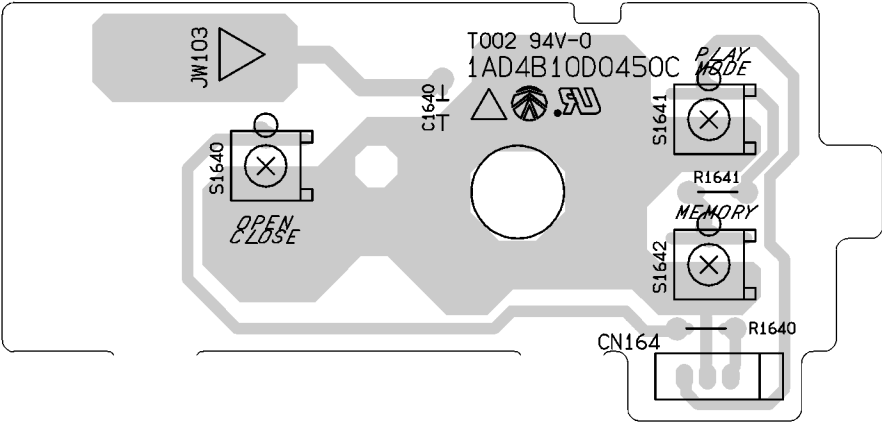
CD P.W.BOARD ASSY

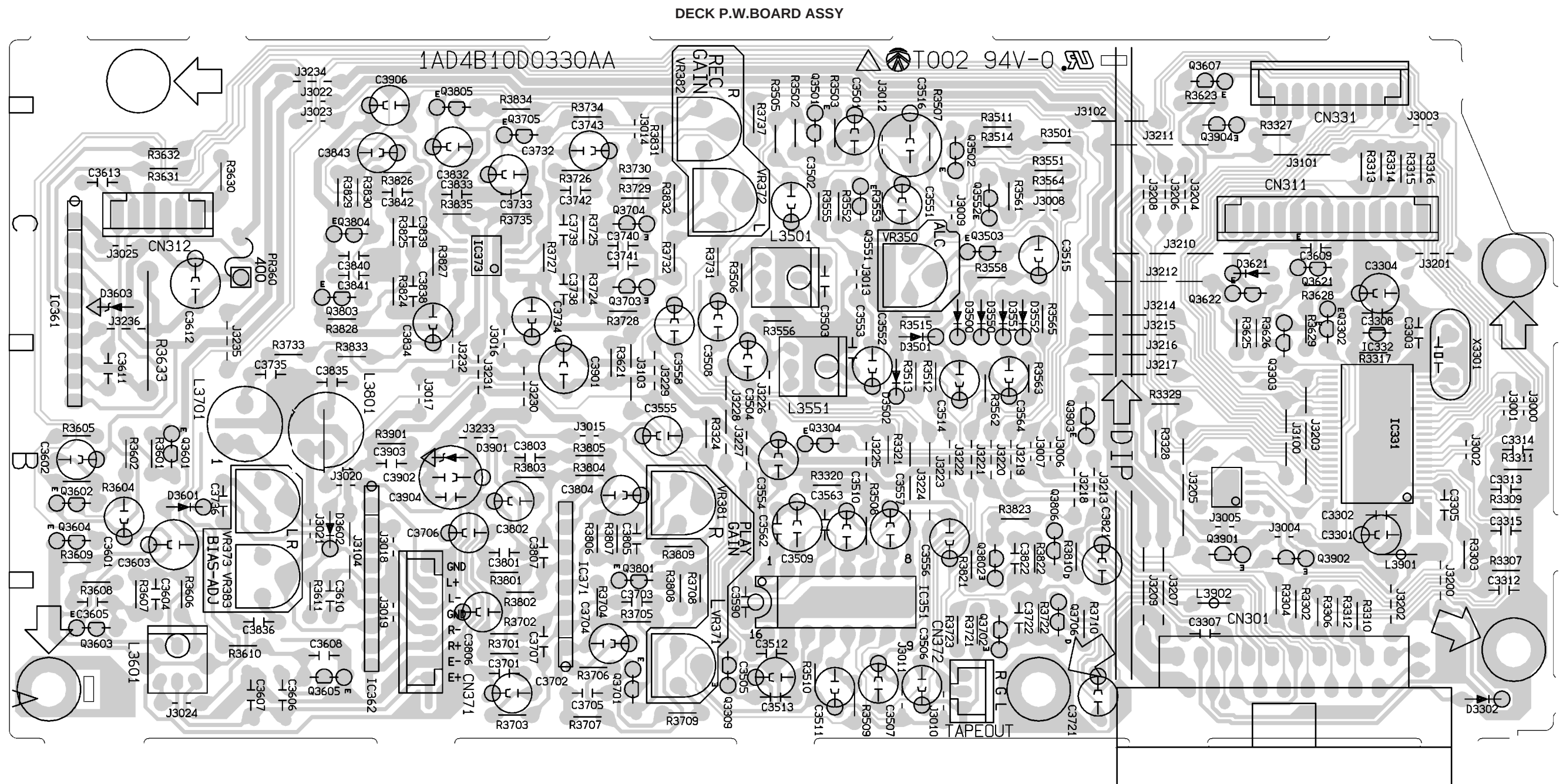
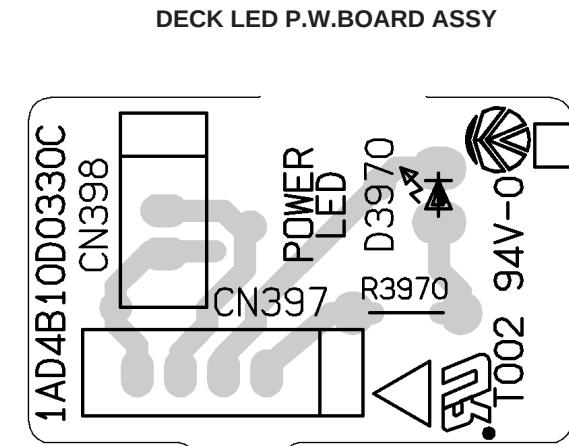
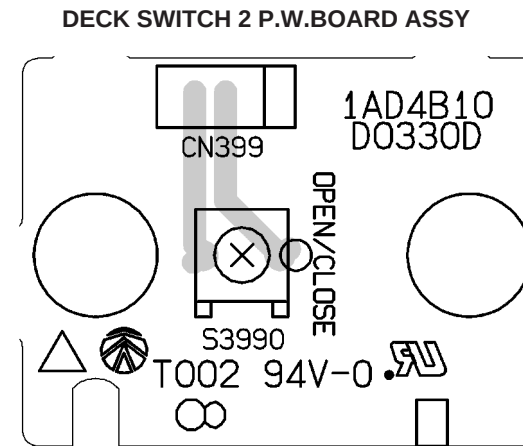
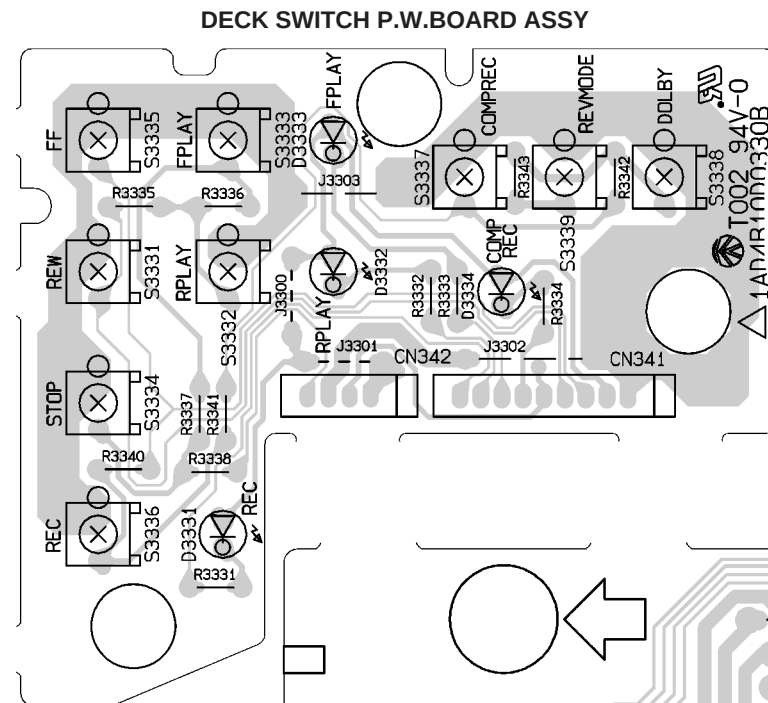


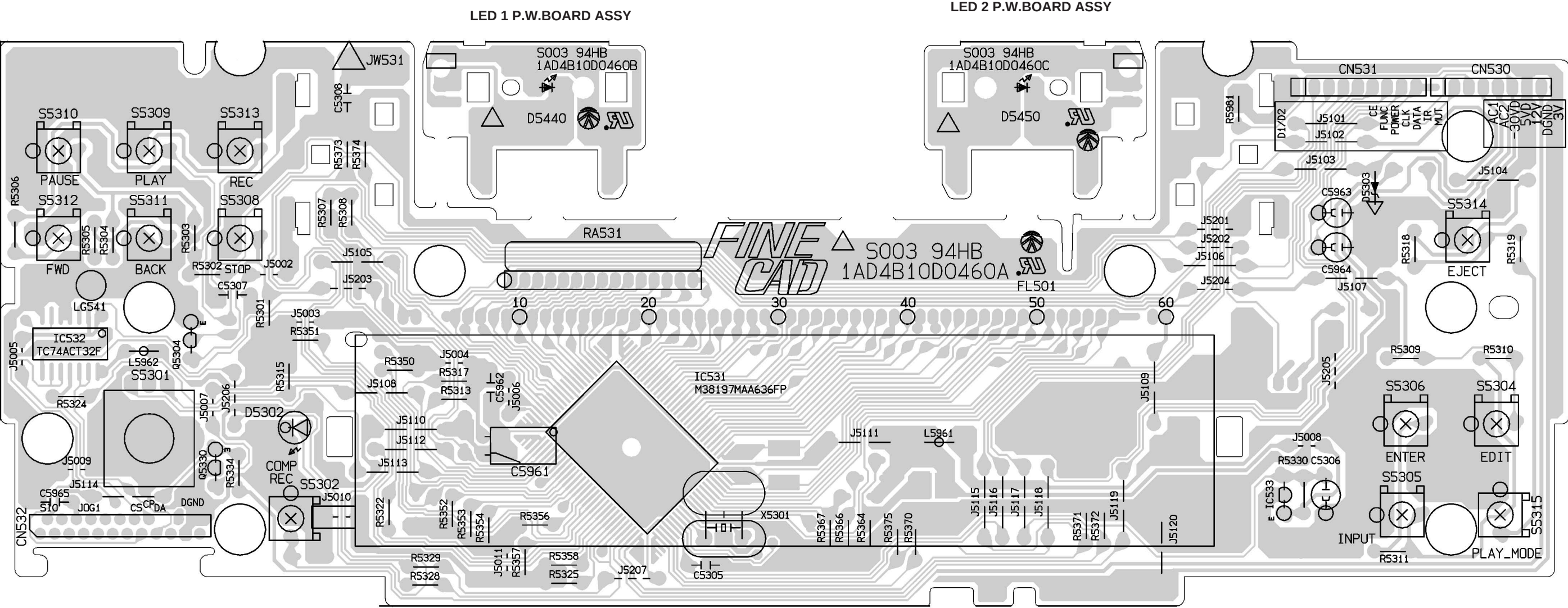
FRONT P.W.BOARD ASSY



OPEN CLOSE SWITCH P.W.BOARD ASSY







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