DENON

Hi-Fi Component

SERVICE MANUAL

MODEL DCD-S10
MODEL DCD-3000

STEREO CD PLAYER

DCD-S10

DCD-3000

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NIPPON COLUMBIA CO., LTD.

IMPORTANT TO SAFETY

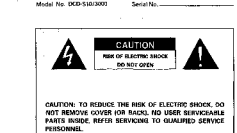
WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:

1. Handle the power supply cord carefully.
   Do not damage or deform the power supply cord. If it is damaged or deformed, it may cause electric shock or malfunction when used. When removing from wall outlet, be sure to remove by holding the plug attachment and not by pulling the cord.
2. Do not open the top cover.
   In order to prevent electric shock, do not open the top cover. If problems occur, contact your DENON DEALER.
3. Do not place anything inside.
   Do not place metal objects or spill liquid inside the CD player. Electric shock or malfunction may result.

Please, record and retain the Model name and serial number of your set shown on the rating label.
Model No. DCD-510/3000 Serial No.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

NOTE:
This CD player uses the semiconductor laser. To allow you to enjoy music at a stable operation, it is recommended to use this in a room of 5°C (41°F) – 35°C (95°F).

CAUTION:
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

NOTE:
This unit may cause interference to radio and television reception if you do not operate it in strict accordance with this OPERATING INSTRUCTIONS.

This unit complies with Class B computing device rules in accordance with the specifications in Sub-part J of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. If the unit does cause interference to any radio or television reception, try to reduce it by one or more of the following means:
a) Turn the other unit to improve reception
b) Move this unit
c) Move this unit away from others
d) Plug this unit respectively into a different AC outlet

* This is mite in accordance with Section 15.838 of the FCC Rules.

* FOR U.S.A. & CANADA MODEL ONLY

CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

* POUR LES MODELES AMERICAINS ET CANADIENS UNIQUEMENT

ATTENTION

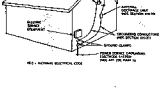
POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

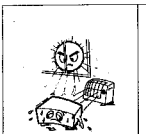
6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization – Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

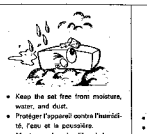


12. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.
14. Power Lines – An outdoor antenna should be located away from power lines.
15. Outdoor Antenna Grounding – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
16. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
17. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
18. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:
   A. The power-supply cord or the plug has been damaged; or
   B. Objects have fallen, or liquid has been spilled into the appliance; or
   C. The appliance has been exposed to rain; or
   D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
   E. The appliance has been dropped, or the enclosure damaged.
19. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

NOTE ON USE/OBSERVATIONS RELATIVES A L'UTILISATION/NOTAS SOBRE EL USO

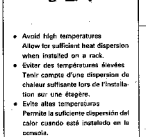


- Avoid high temperatures
  Allow for sufficient heat dispersion when installed on a rack.
- Eviter des températures élevées
  Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evite altas temperaturas
  Permita la suficiente dispersión del calor cuando esté instalado en la consola.

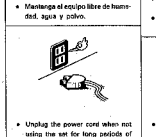


- Keep the set free from moisture, water, and dust.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Mantenga el equipo libre de humedad, agua y polvo.

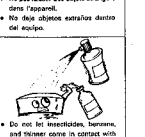
- Do not let foreign objects in the set.
- Ne pas laisser des objets étrangers dans l'appareil.
- No deje objetos extraños dentro del equipo.



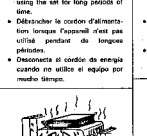
- Handle the power cord carefully. Hold the plug when unplugging the cord.
- Manipuler le cordon d'alimentation avec précaution.
  Tenir la prise lors du débranchement du cordon.
- Maneje el cordón de energía con cuidado.
  Sostenga el enchufe cuando desconecte el cordón de energía.



- Unplug the power cord when not using the set for long periods of time.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.

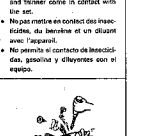


- Do not let insecticides, benzene, and thinner come in contact with the set.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.



*(For sets with ventilation holes)

- Do not obstruct the ventilation holes.
- Ne pas obstruer les trous d'aération.
- No obstruya los orificios de ventilación.



- Never disassemble or modify the set in any way.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Nunca desarme o modifique el equipo de ninguna manera.

Thank you for purchasing this DENON Compact Disc Player. Please read the operating instructions thoroughly in order to acquaint yourself with the CD player and achieve maximum satisfaction from it.

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Please check to make sure the following items are included with the main unit in the carton:

(1) Operating Instructions 1
(2) Connection Cord 1
(3) Remote Control Unit RC-293 (DCD-S10) 1
RC-252 (DCD-3000) 1
(4) R6P AA Dry Cell Battery 2
(5) AC Power Cord 1
(Multi-Voltage model only)

FEATURES

The DCD-S10/3000 is a CD player equipped with DENON's unique advanced super linear converter which eliminates loss of sound quality in the PCM playback section, plus carefully selected parts. It reproduces all the sounds of the studio as fast where the compact disc was recorded with high performance and rich musical expression.

(1) Ultimate signal reproduction using a newly developed ALPHA processor
1. High speed interpolation by the newly developed ALPHA processor recreates the data below the LSB (least significant bit) lost upon recording to provide smooth waveform reproduction.
2. The original signals, including such unusual waveforms as impulse response, can also be reproduced with no ringing.
3. The effects of ALPHA processing are particularly noticeable at low levels, such as when music gently fades out or gradually emerges from total silence.

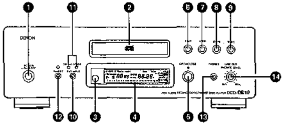
(2) Real 20-bit D.L.C.
The DCD-S10/3000 uses a new "D.L.C." (super linear converter) circuit to effect eliminating zero cross distortion, the main cause of loss of sound quality in the PCM playback section. Together with a real 20-bit digital/analog converter with excellent resolution, it greatly improves music reproducibility, especially at low volumes. In addition, two digital/analog converters are used for each channel, and the 8-times oversampling further reduces noise and improves resolution to recreate sound fields with rich musical expression.

(3) Brawny power source
The DCD-S10/3000 uses a large transformer with independent coils for the digital servo circuitry and audio circuitry.
In conjunction with a high capacity smooth capacitor, this offers power with room to spare.

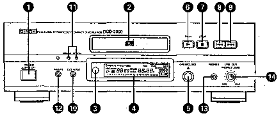
- **Line Voltage Selection (for multiple voltage model only)**
  - The desired voltage may be set with the VOLTAGE SELECTOR knob on the rear panel, using a screwdriver.
  - Do not twist the VOLTAGE SELECTOR knob with excessive force as this may cause damage.
  - If the VOLTAGE SELECTOR knob does not turn smoothly, please contact a qualified serviceman.

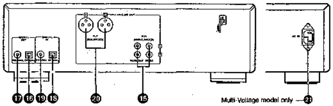
NAMES AND FUNCTIONS OF PARTS

DCD-S10



DCD-3000



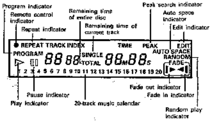


❶ Power Switch (POWER)
- When the power is turned on, "00" appears at the track number display, and if no disc is loaded, "00000000" appears on the number display and the calendar lights.
- If a disc is loaded when the power is turned on, in several seconds the total number of tracks on the disc appears at the track number display, the total time appears at the time display, and the numbers on the calendar display light up to the total number of tracks on the disc, then playback starts.

❷ Disc Holder
- This is where the disc is loaded.
- Press the disc holder open/close button ❺ (⏏ OPEN/CLOSE) to open and close the disc holder.
- The disc holder is also closed if the play button ❻ (PLAY).

❸ Remote Control Sensor(REMOTE SENSOR)
- This is the sensor for the wireless remote control signals.
- For remote control, point the supplied remote control unit towards this sensor.
- When a signal is transmitted from the remote control unit, the remote control indicator in the display ❹ will light up briefly.

❹ Display Window
- The digital display is divided into sections, such as displays for track number, index, playback time and calendar, as shown below.



❺ Disc Holder Open/Close Button (⏏ OPEN/CLOSE)
- Press this to open and close the disc holder ❷.
- When pressed, the disc holder ❷ opens. When pressed again, the disc holder ❷ closes.
- If a disc is loaded, the total number of tracks on the disc and the total playing time appear on the display window ❹ several seconds after the disc holder ❷ is closed.

❻ Play Button (PLAY)
- Press this button to start playback of a disc.
- When this button is pressed, ▷ is displayed, and the track number being played is displayed together with the elapsed playback time of the track.
- Tracks are shown on the calendar display. Once a track has been played, the corresponding track number goes out on the calendar display.

❼ Stop Button (STOP)
- Press this button to stop playback.
  The disc will stop rotating, and the number of tracks and total playing time of the disc are displayed on the TRACK NO. and TIME displays, respectively.
- In case programmed playback is engaged when this button is pressed, the number of tracks and total playing time of the program are displayed.

❽ Automatic Search Reverse Button (⏮)
- Press this button to return the pickup to the beginning of the present track. Press again to return to other tracks.
- By pressing the button a number of times, the pickup will move back the corresponding number of tracks.

❾ Automatic Search Forward Button (⏭)
- Press this button to move the pickup forward to the beginning of the next track. Press again to move ahead to other tracks.
- By pressing the button a number of times, the pickup will advance the corresponding number of tracks.

❿ Input Selector Switches (EXT. INPUT)
- Use these switches to select the digital signals input to the digital input jacks on the rear panel.
- The input signal is set to the CD player when the power is turned on. Press this switch to change the input signal in the following order: CD player → COAXIAL → OPTICAL → CD player
- Digital audio signals with three sampling frequencies (32kHz, 44.1kHz and 48kHz) can be connected to this unit's digital inputs.
- The sampling frequency of the digital audio signals of the digital input selected with the input selector is shown on the display (32, 44 or 48).
- The sampling frequency is not displayed if no external input is connected.
  The input indicator flashes at this time.

⓫ Input Indicators (COAXIAL/OPTICAL)
- The LEDs (light-emitting diodes) light to indicate the digital input jack selected with the input selector switch ❿. The sound of the main unit is selected when all the LEDs are off.

⓬ Phase Inverter Switch (INVERT)
- Press this to invert the phase of the output signals from output jacks ⓯ and ⓴.
- The LED (light-emitting diode) lights when the inverted output mode is selected.

⓭ Headphones Jack (PHONES)
- Use this jack to plug in headphones. (Headphones are sold separately.)

⓮ Volume Adjust Control (LINE OUT/PHONES)
- Use this to adjust the output level (volume) of the headphones or the line out (VARIABLE) output level.
- This operation is also possible using the included remote control unit. (Refer to Page 17.)

⓯ Output Terminal (FIXED and VARIABLE)
- Connect these to the amplifier's input jacks. (Refer to page 8.)

⓰ Digital Output Jack (OPTICAL)
- Digital data is output in optical form from this jack.
- Contact your nearest Denon Consumer Center or office for information on the optical fiber cable to be used for connection.

⓱ Digital Output Jack (COAXIAL)
- This jack outputs digital data.
- We recommend using a 75 Ω/ohm pin cord (available in stores) for connections.

⓲ Digital Input Jack (OPTICAL)
- Digital data is input in optical form from this jack.

⓳ Digital Input Jack (COAXIAL)
- Digital data is input to this jack.

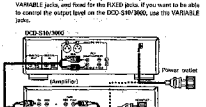
⓴ Analog Output Jacks (BALANCED) (Canon XLR-3-32 type)
- Use these jacks for connection to the amplifier's balanced input jacks (600 Ω/ohm input impedance).

> **Continuous Operation**
> If the automatic search reverse button ❽, the automatic search forward button ❾, are held in, the function of that button will be repeated.

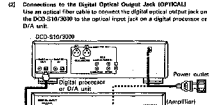
㉑ AC INPUT terminal (Multi-Voltage model only)
Connect the included AC Power cord to this terminal.

CONNECTION

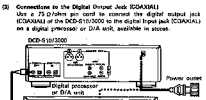
(1) Connections to the Output Jacks (FIXED and VARIABLE)
Using the included pin cords, connect the left (L) and right (R) output jacks (FIXED and VARIABLE) on the DCD-S10/3000 to the left (L) and right (R) CD, AUX, or TAPE PLAY input jacks on an amplifier. There are two types of output jacks. The output is variable for the VARIABLE jacks, and fixed for the FIXED jacks. If you want to be able to control the output level on the DCD-S10/3000, use the VARIABLE jacks.



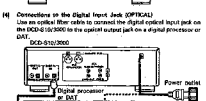
(2) Connections to the Digital Optical Output Jack (OPTICAL)
Use an optical fiber cable to connect the digital optical output jack on the DCD-S10/3000 to the optical input jack on a digital processor or D/A unit.



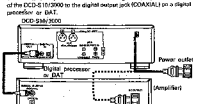
(3) Connections to the Digital Output Jack (COAXIAL)
Use a 75 Ω/ohm pin cord to connect the digital output jack (COAXIAL) of the DCD-S10/3000 to the digital input jack (COAXIAL) on a digital processor or D/A unit, available in stores.



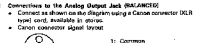
(4) Connections to the Digital Input Jack (OPTICAL)
Use an optical fiber cable to connect the digital output jack on the DCD-S10/3000 to the optical output jack on a digital processor or DAT.



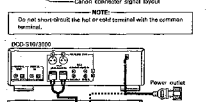
(5) Connections to the Digital Input Jack (COAXIAL)
Use a 75 Ω/ohm pin cord to connect the digital input jack (COAXIAL) of the DCD-S10/3000 to the digital output jack (COAXIAL) on a digital processor or DAT.



(6) Connections to the Analog Output Jack (BALANCED)
- Connect as shown on the diagram using a Canon connector (XLR type) cord, available in stores.
- Canon connector signal layout



NOTE:
Do not short-circuit the hot or cold terminal with the common terminal.



Connection Precautions
- Before proceeding with connections or disconnections of cables and power cords, be sure to turn all systems components off.
- Ensure that all cables are connected properly as the L (left) and R (right) jacks.
- Insert plugs fully into the terminals.
- Connect the output jacks to the amplifier CD, AUX or TAPE PLAY input jacks.

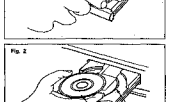
OPENING AND CLOSING THE DISC HOLDER AND LOADING A DISC

Opening and closing the disc holder (This operation only works while the power is on.)
1. Press the power switch (POWER) to turn on the power.
2. Press the open/close button (⏏ OPEN/CLOSE).

How to load a disc
- Make sure the disc holder is completely open.
- Hold the disc by the edges and place it on the disc tray. (Do not touch the signal surface, i.e., the glossy side.)
- When using 12 cm. diameter discs, make sure the outer edge matches the tray guide circumference (Fig. 1), and when using CD singles (8 cm. diameter) match the outer edge with the inner tray guide circumference. (Fig. 2)
- Press the open/close button (⏏ OPEN/CLOSE) to close the disc holder.
- When the disc holder is closed, the disc is read and after a few seconds the number of tracks and total playing time are displayed on the TRACK NO. and TIME displays, respectively.
- When the disc holder is open and a disc is loaded, it can may also press the play (PLAY) button to close the disc holder. If the play button (PLAY) is pressed, playback will start immediately upon the disc contents having been read.

Fig. 1 Tray guide for 12 cm disc

Fig. 2



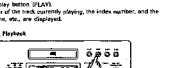
Caution:
- If your finger should get caught in the disc holder when it closes, press the open/close button (⏏ OPEN/CLOSE).
- Do not place any foreign objects on the disc tray, and do not place more than one disc on the tray at a time. Otherwise malfunction may occur.
- Do not push in the disc tray manually when the power is off as this may cause malfunction and damage the CD player.

NORMAL CD PLAYBACK

(1) Starting Playback

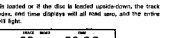
1 Turn the power switch on and load the disc.
2 Press the play button (PLAY).
3 The number of the track currently playing, the index number, and the elapsed time, etc., are displayed.

(2) Stopping Playback



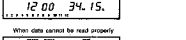
? Press the stop button (STOP).
- The stop mode is set automatically once all tracks on the disc are played.

NOTE:
- If no disc is loaded or if the disc is loaded upside-down, the track number, index, and time displays will all read zero, and the entire calendar will light.



- If the information at the innermost side of the disc cannot be read properly due to dirt or scratches, the display will be as shown below, and the number of tracks and remaining time per track will not be displayed. Also, the search operation may take longer than usual.

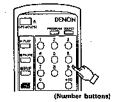
When normal:



When data cannot be read properly:

ADVANCED CD PLAYBACK

❶ Playing a Specific Track ..... Direct Search
(Remote control only)

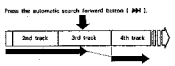


⑦ Use the number buttons and the +10 button to input the number of the desired track.
For example, to play the fourth track press 4, and to play the 12th track press +10 and 2. The beginning of the track is found and playback starts.

❷ Moving to Following Tracks

During Playback ..... Automatic Search

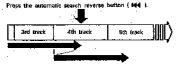
Press the automatic search forward button (⏭).



⑦ Press the automatic search forward button (⏭).
- If the automatic search forward button (⏭) is pressed again during the search operation, the pickup moves on to the next track, etc.

❸ Returning to the Beginning of the Current Track ..... Automatic Search

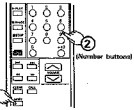
Press the automatic search reverse button (⏮).



⑦ Press the automatic search reverse button (⏮).
- If the automatic search reverse button (⏮) is pressed again during the search operation, the pickup moves on to the previous track, etc.

❹ Finding Sections Within a Track ..... Index Search
(Remote control only)

- Use this function to start playback from certain sections within a track decided by index numbers.



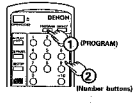
⑦ Press the INDEX button. "–" appears at the TRACK NO. display.
⑧ Use the number buttons to specify the track number.
"–" now appears at the INDEX display. Input the desired index number. Playback starts from there.
For example, to start listening from index number 2 on track 3, press INDEX, 3 and 2.

Indexes
- Indexes are numbers which are assigned to sections within a track. Check the disc's explanatory notes for the index numbers.
- If you make an index search for an index number that is not on the disc, playback will start from the last index number on the track.

❺ Playing Specific Tracks in a Specific Order ..... Programmed Play

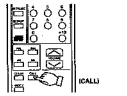
- With this function, you can choose any of the tracks on the disc and program them to play in any order.
- Programming is possible with the disc holder open.
- Up to 20 tracks can be programmed.
- The programmed tracks are shown on the calendar.

(1) Programming (Remote control only)



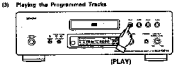
- The PROGRAM indicator lights when the program button (PROGRAM) is pressed. Next, use the number buttons and the +10 button to program the tracks.
To program track 3, 12, and 7, for example, press PROGRAM, 3, +10, 2, and 7.
The track number lights on the calendar each time a track is programmed. The number of tracks programmed is displayed at the Index display, and the total playing time for the programmed tracks is indicated at the time display. After the tracks are programmed, the total number of programmed tracks is displayed at the track number display, and the total playing time for the programmed tracks is indicated at the time display.

(2) Checking the Programmed Tracks (Remote control only)



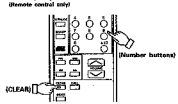
- Press the CALL button.
The programmed tracks are displayed in order on the TRACK NO. display each time the CALL button is pressed.

(3) Playing the Programmed Tracks



- Press the (PLAY) button to play the tracks in the programmed order.

(4) Correcting Programs (Remote control only)



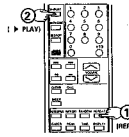
- To correct a programmed track, first press the CLEAR button, then program the correct track.
The last track programmed is replaced with the correct track.
- To clear a track in the middle of the program, use the CALL button to call out that track, then press the CLEAR button to clear it from the program.

(5) Clearing the Entire Program

- Press the DIRECT button to clear the entire program. The entire program can also be cleared by pressing the OPEN/CLOSE button.
- If the DIRECT button is pressed during programmed playback, the program mode is cleared and normal playback continues from that track on.

NOTES
- If the programming operation is performed in the play or pause mode, the servant track is programmed as the first track in the program. Other programs can be added, but the number of programmed tracks and playing time will not be displayed.
- Direct search is not possible during programmed playback. Pressing the number buttons adds tracks to the end of the program.
- Programming is also possible when the disc holder is open. A track number greater than the number of tracks on the disc can be set in the program, but it will automatically be cleared from the program before playback starts.
- The remaining time per track can only be displayed for the first 20 tracks on the disc.
- The total program time and remaining program time as well will not be displayed if tracks numbers greater than 20 are programmed.

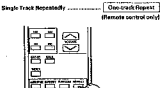
❻ Playing All Tracks Repeatedly ..... Repeat Playback
(Remote control only)



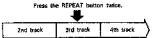
- Press the REPEAT button. The REPEAT indicator lights.
- The operation is the same whether button ① or ② is pressed first.
- The one-track repeat mode is set if the REPEAT button is pressed again during repeat playback.
- The all-track repeat mode is set once if the REPEAT button is pressed during playback.
- To cancel the repeat mode, press the REPEAT button twice.
- If the REPEAT button is pressed during programmed playback, the tracks are repeated in the programmed order.

❼ Playing a Single Track Repeatedly ..... One-track Repeat

(Remote control only)



Press the REPEAT button twice.

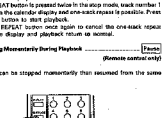


- Press this button when you hear a track you want to play repeatedly.
- Press the REPEAT button twice during playback. The REPEAT indicator lights, and if you are at track number 20 or less, that number appears on the calendar display and that track is played repeatedly.
- For track numbers 21 and above, the track number is not displayed on the calendar display but the one-track repeat mode will function.
- If the REPEAT button is pressed twice in the stop mode, track number 1 appears on the calendar display and one-track repeat is possible. Press the PLAY button to start playback.
- Press the REPEAT button once again to cancel the one-track repeat mode. The display and playback return to normal.

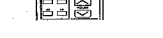
❽ Stopping Momentarily During Playback ..... Pause

(Remote control only)

- Playback can be stopped momentarily then resumed from the same point.



① Press the pause button (II PAUSE).



② Press the play button (▶ PLAY) or the pause button (II PAUSE).
- To resume playback, press either the play button (▶ PLAY) or the pause button (II PAUSE).

❾ Finding a Track While Listening at High Speed ..... Manual Search

(Remote control only)

- You can skip through the disc while listening at high speed. This function comes in handy for locating a certain part in the middle of a long track and starting playback from there.
- Once you find the desired position using the manual search operation, release the manual search forward button (▶▶) or manual search reverse button (◀◀) to start normal playback.

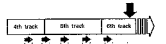
(1) Manual Search Forward

Hold in the manual search forward button (▶▶)

① During playback, press and hold in the manual search forward button (▶▶) to skip through the disc while listening at high speed.
- The number of the track being skipped through, the index number, and the elapsed time for that track are indicated on the display window.
- In the cruise mode, the disc plays at about three times the speed as during the play mode, but no sound is heard.
- When the end of the last track is reached while pressing the manual search forward button (▶▶), "-22" appears on the display window and the manual search operation is stopped.
To resume playback, press the manual search reverse button (◀◀), then do another operation once the "-22" disappears from the display.

(2) Manual Search Reverse

Hold in the manual search reverse button (◀◀)

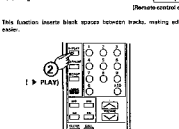


① During playback, press and hold in the manual search reverse button (◀◀) to skip through the disc while listening at high speed.
- The display is the same as during the manual search forward operation.
- In the pause mode, the disc moves at about three times the speed as during the play mode, but no sound is heard.
- When the beginning of the first track is reached while pressing the manual search reverse button (◀◀), "-CC" appears on the display window and the manual search operation is stopped.
To resume playback, press the manual search forward button (▶▶), then do another operation once the "-CC" disappears from the display.

❿ Inserting Blanks Between Tracks ..... Auto Space

(Remote control only)

- This function inserts blank spaces between tracks, making editing easier.



① The AUTO SPACE indicator lights when the auto space button is pressed.
② Press the play button (▶ PLAY) to start playback. When the end of a track is reached, a blank space of approximately 4 seconds is inserted before the beginning of the next track.
③ Press the auto space button again to turn the auto space function off.

⓫ Pausing At the Beginning of a Track After Searching ..... Pause

(Remote control only)

(1) Direct Search

- Pausing at the beginning of a track found with the direct search operation comes in handy for practicing karaoke.

① Use the number buttons to set the desired track.
② Press the pause button (II PAUSE).
- To start playback, press either the play button (▶ PLAY) or the pause button (II PAUSE).

(2) Program Search

- Turns the pause button (II PAUSE) after programming tracks. The beginning of the first track in the program is found and the disc is paused there.

⓬ Playing Tracks in Random Order ..... Random Playback

(Remote control only)

- All of the tracks recorded on the disc can be played once in random order.

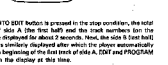
- When the random button (RANDOM) is pressed, the RANDOM indicator lights and random playback starts automatically.
- If the random button (RANDOM) is pressed when tracks are programmed, only the programmed tracks are played at random.
- If the random button (RANDOM) is pressed when the repeat function is set, all tracks will be played through once in random order, after which all tracks will be played through again in different order, and so on.
- During the search operation, the track numbers from the first to the last track on the disc are displayed in rapid succession on the track number display, so you cannot tell what track is going to be played next until playback begins.

NOTE:
- The total remaining time is not displayed during the random mode.
- The auto edit mode is cancelled if the random button (RANDOM) is pressed during the random mode.

⓭ Edit Recording on Sides A and B of the Tape ..... Edit Function

(1) Auto Edit Function (AUTO EDIT) (Remote control only)

The auto edit function automatically divides the tracks on the compact disc into sides A and B, with the division at the beginning of a track in such as way that the disc's total playing time is divided as close as possible by one half.



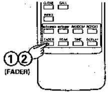
① When the AUTO EDIT button is pressed in the stop condition, the total play time of side A (the first half) and the track numbers for the cassettes are displayed for about 2 seconds. Next, the side B (last half) information is similarly displayed after which the player automatically pauses at the beginning of the first track of side A. EDIT and PROGRAM will be lit on the display at this time.
② Pressing the play button (▶ PLAY) or the pause button (II PAUSE) will start the play mode. When side A has finished playing, the player will pause at the beginning of the first track on side B.
③ Pressing the play button (▶ PLAY) or the pause button (II PAUSE) again will start the play mode. When side B has finished playing, the player automatically stop.

⑭ Fading Out or Fading In at the Desired Location .... Fader Function
(Analog output only)

(1) Fading out and fading in is possible at the desired position during play .... Manual Fader
(Remote control only)

① Fade Out
When the fader button (FADER) is pressed during play, fade out will be provided for about 5 seconds. (FADE) will light up during the operation and (▮▶) will flash. When fade out is completed the player will automatically pause.

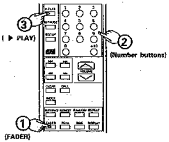
② Fade In
When the fader button (FADER) is pressed from the pause mode, the player will start playing and fade in will be provided for about 3 seconds. FADE will light up during the operation and (FADE) will flash.



(2) Setting the Fade Out Time In Advance (TIME FADE)
(Remote control only)

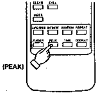
① When the fader button (FADER) is pressed in the stop mode, the FADE indicator ((FADE)) will light up, TIME will appear as --M--S, and the player will wait for the input of the fade out time.
② Input the fade out time with the (0~9) number buttons.
③ Pressing the play button (▶ PLAY) will start the playback and the FADE indicator ((FADE)) will light up.
④ The (▮▶) indication will start flashing 5 seconds before the specified fade out time and then the fade out will begin. The fade out will end at the specified time and the player will automatically pause.

> The time fade function will be cancelled if an auto search or manual search is performed during playback.



⑮ To Search for the Peak Level of the Disc .... Peak Search
(Remote control only)

- The player searches for the peak portion and plays a few seconds either side of this point repeatedly. This is convenient for making recording adjustments on the tape recorder.



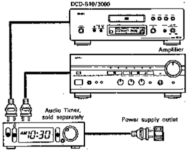
① When the peak search button (PEAK) is pressed in the stop mode, the PEAK indicator will flash and the player will search for the portion having the peak level.
② After the search, the PEAK indicator lights up and a few seconds either side of the peak level point are played back repeatedly. This is convenient for making recording adjustments on the tape recorder.
③ To cancel the peak search, press the stop (■ STOP) button.
④ When the play button (▶ PLAY) or the pause button (II PAUSE) is pressed during peak search or while playing the peak portion back repeatedly, the player will go to the beginning of the first track (the first track of the program for program playback, or the track that was first selected in the time edit) and begin playback from here if the play button was pressed or enter the pause mode if the pause button was pressed.

> **NOTE:**
> - The peak search function reads the level of the disc from the beginning of the disc to the end at a fixed interval and regards the maximum value that was read as the peak.
>   Peak search takes a little time for this reason.
> - The peak portion may change each time the disc is read and there may be a slight difference in the actual peak level, but since this difference ever so slight there will be no adverse affects on the adjustment of the recording level.
> - The time fade function is cancelled when the peak search operation is performed. To use the time fade function, set to the stop mode then reset the function.
> - Buttons other than the open/close button (⏏ OPEN/CLOSE), play button (▶ PLAY), pause button (II PAUSE), and stop (■ STOP) button will not function during peak search or repeat play of the peak portion.

TIMER-CONTROLLED PLAYBACK

■ Operation
1. Turn on the power of all system components.
2. Set the input selector on the amplifier to correspond to the inputs the CD player is connected to.
3. Make sure a disc has been loaded in the disc holder.
4. Check the time on the timer and then set the desired turn-on time.
5. Turn the audio timer ON.
   Power is turned off automatically in all components connected to the timer.
6. When the preset turn-on time is reached, power is turned on in the system components, and CD playback starts from the first track.

■ Connection



THE COMPACT DISC

1. **Precautions on handling compact discs**
   - Do not allow fingerprints, oil or dust on the surface of the compact disc. If the signal surface is dirty, wipe it off with a soft, dry cloth. Wipe in circular motions from the center and out.
   - Do not use water, benzene, thinner, record sprays, electrostatic proof chemicals, or silicone-treated cloth to clean discs.
   - Always use care when handling discs to prevent damaging the surface, in particular when removing a disc from the case and returning it.
   - Do not bend compact discs.
   - Do not apply heat to compact discs.
   - Do not enlarge the hole in the center of the disc.
   - Do not write on the disc and do not attach any labels.
   - Condensation will form on the disc surface if it is brought into a warm room from a cold area, such as outdoors during winter. Wait until the condensation disappears. Never dry discs with hair dryers, etc.

2. **Precautions on storage**
   - After playing a disc, always return it to its case.
   - Keep discs in the cases when they are not to be played. This will protect them from dust and dirt and prolong their service life.
   - Do not store discs in the following places:
     1) Places exposed to direct sunlight for a considerable time.
     2) Places subject to accumulation of dust or high humidity.
     3) Places exposed to high temperatures, such as close to heater outlets.

INSTALLATION PRECAUTIONS

The CD player uses a microcomputer for controlling internal electronic circuits. In the event that the player is used while a near-by tuner or TV is turned on, although unlikely, interference could occur either in the sound from the tuner or the picture of the TV. To avoid this, please take the following precautions.
- Keep the CD player as far away from the tuner or TV set as possible.
- Keep the power cable and connecting cable of the CD player separate from the antenna wires of the tuner and TV.
- Interference is particular likely to occur when an indoor antenna or a 300 Ω/ohm feeder cable is used. Thus, use of an outdoor antenna and 75 Ω/ohm coaxial cable is strongly recommended.

300 Ω/ohm feeder cable　　75 Ω/ohm coaxial cable

TROUBLESHOOTING

If the CD player does not seem to be functioning properly, check the following:

Disc holder does not open or close.
- Is the power on?

When a disc is loaded, 00000000 is displayed.
- Is the disc loaded properly? .... See page 9

When the play button (▶ PLAY) is pressed, playback does not start.
- Is the disc dirty or scratched? .... See page 15

There is no sound, or it is distorted.
- Is the output cord properly connected to the amplifier? .... See page 8
- Have the amplifier controls been set correctly?

Volume is low.
- Is volume setting (with volume buttons on remote control unit) correct? .... See page 17

A specific section of the disc will not play.
- Is the disc dirty or scratched? .... See page 15

Programmed playback does not work.
- Have programming been properly done? .... See pages 10, 11 and 17

Incorrect operation when buttons on the remote control are pressed.
- Is the remote control unit being operated too far from the CD player? .... See page 16
- Are there obstacles blocking the ray?
- Is the remote control sensor exposed to strong light?
- Are the batteries exhausted?

PLAYBACK USING THE REMOTE CONTROL UNIT

The accessory RC-253/RC-252 remote control unit can be used to control the CD player from a convenient distance.

(1) Inserting the dry cell batteries

1. Remove the battery cover on the back of the remote control unit.

2. Insert two R6P (standard size AA) dry cell batteries with correct polarity as indicated inside the battery compartment.

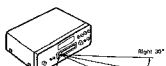
3. Replace the battery cover.

Notes on the Batteries

- The remote control unit uses standard size AA dry cell batteries.
- The batteries will need to be replaced approximately once a year. Replacement may be necessary earlier depending on how much the remote control unit is used.
- If, in less than a year from the time new batteries were inserted, the remote control fails to operate the CD player from a near-by position, it is time to replace the batteries.
- Insert the batteries properly, following the polarity diagram inside the battery compartment, in other words make sure (+) and (–) terminals are properly aligned.
- Batteries are prone to damage and leakage. Therefore:
  - Do not combine new batteries with used ones.
  - Do not combine different types of batteries.
  - Do not jumper opposite poles of the batteries, expose them to heat, break them open nor expose of them in open fire.
- If the remote control unit is not to be used for a long period of time, remove the batteries from the unit.
- If the batteries have leaked, remove any traces of battery fluid from the battery compartment, wiping thoroughly with a dry cloth. Then insert new batteries.

(2) Directions for Use

- Operate the remote control unit while pointing it towards the remote control sensor on the CD player (see below).



When a remote control signal is received, the remote control indicator on front of the CD player lights briefly.

- The remote control unit can be used at a distance up to 8 meters in a straight line from the CD player. This distance decreases if there are obstructions blocking the signal path or when the remote control unit is operated at an angle from the remote control sensor.
- The buttons on the remote control unit have identical functions with those on the CD player.
  However, the following functions cannot be remote controlled: Power ON/OFF.

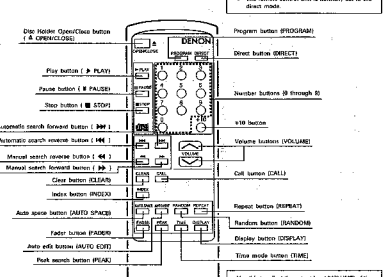
Cautions on Use

- Do not press the operation buttons on the main unit and on the remote control unit simultaneously, as this will result in malfunction.
- The remote control unit may not operate properly if the remote control sensor is exposed to direct sunlight or strong artificial lighting, or if there is an object between the remote control unit and the remote control sensor.

REMOTE CONTROL UNIT RC-253/RC-252

Setting to the Program Mode

- For program search, press the PROGRAM button then the number buttons (0 through 9 and +10).
- The remote control unit is normally set to the direct mode.



Use this to adjust the output level (VOLUME) of the headphones or line output (VARIABLE). The volume increases when the (+) button is pressed, decreases when the (–) button is pressed.

Display Button (DISPLAY)

- Press this button to change the brightness of the display.
- Press once to make the display 2/3 as bright as normal.
- Press again to make the display 1/3 as bright as normal.
- Press once again to turn the entire display off during playback and all but the track number off in any other mode.

- **Direct Search**
  Normally, direct search is possible simply by pressing the desired number buttons.
- **Program Search (During playback, the track which is currently playing is programmed as the 1st track.)**
  Press the PROGRAM button, then press the number buttons.
  For example, to program tracks number 3, 11, and 5, press PROGRAM → 3 → +10 and 1 → 5.
  To cancel the program, press the DIRECT button.

- **Inputting the Track Numbers**
  For track numbers below 9, simply press the corresponding button. For track numbers of 10 and greater, press the +10 then the number buttons.
  For example, for track number 22 press +10 twice then 2.
- **Volume**
  The volume control on the unit will operate when the volume buttons are pressed. The volume can be checked by looking at the position of the control.

SPECIFICATIONS

AUDIO

No. of Channels:	2 channels
Frequency Response:	2 ~ 20,000 Hz
Dynamic Range:	100 dB
Signal-to-noise Ratio:	118 dB
Harmonic Distortion:	0.0018% (1 kHz)
Separation:	110 dB (1 kHz)
Wow & Flutter:	Below measurable limit: (±0.001% W.peak)
Output Voltage:	FIXED 2.0 V VARIABLE 0~2.0 V

DISCS

Compact Disc format

GENERAL CHARACTERISTICS

Power Supply:	Voltage and frequency are shown on rating label.
Power Consumption:	22 W
Dimensions:	434 (W) × 135 (H) × 340 (D) mm (17-3/32") × (5-5/16") × (13-25/64")
Weight:	DCD-S10 10.0 kg (22 lbs 5oz) DCD-3000 8.0 kg(17 lbs 64oz)

FUNCTIONS AND DISPLAY

Functions:	Direct selection, automatic search, programmed playback, repeat playback, manual search, auto space, time mode, auto edit, index search, fader, peak search.
Display:	Track number, time, music calendar, and engaged modes
Others:	Headphones jack

REMOTE CONTROL UNIT

DCD-S10 RC-253
DCD-3000 RC-252

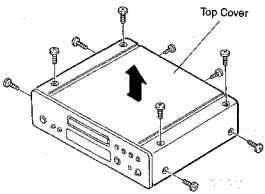
Remote Control System:	Infrared pulse system
Power Supply:	3 V DC; two R6P (standard size AA) dry cell batteries
External Dimensions:	60 (W) × 177 (H) × 18 (D) mm (2-23/64") × (6-31/32") × (45/64")
Weight:	120 g (26 oz)(including batteries)

* Design and specifications are subject to change without notice in the course of product improvement.

DISASSEMBLY

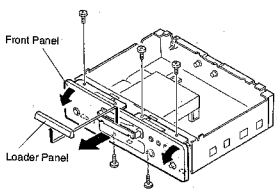
1. Top Cover

Remove 2 screws from rear side and 4 screws from both sides. Remove 4 upper screws and detach the Top Cover as show as arrow.



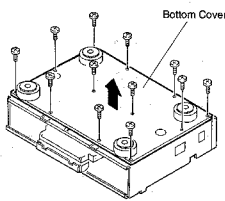
2. Front Panel

Pull out Loader Panel, remove 3 upper screws and 2 below screws, then detach the Front Panel as show as arrow.



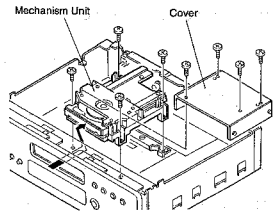
3. Bottom Cover

Remove 12 screws from bottom side, and detach Bottom Cover.



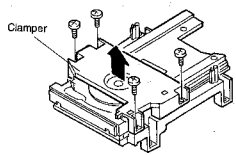
4. Mechanism Unit

Remove 4 screws and detach the Cover, then remove 4 screws and detach the Mechanism Unit as show as arrow.



5. Clamper

Remove 4 screws and detach the Clamper.



ADJUSTMENT

A microcomputer employed in this unit has a service program built-in so as to perform each servo confirmation easier with the operation buttons.
Also, the unit adopted with digital servo makes focus gain and tracking gain adjustments in automatic manner.

1. Actuating the Service Program

(1) Close the disc holder and turn OFF the power switch.

(2) Short-circuit Pin ⑥ of TP102(SWOP) and Pin ⑦(GND) of PWB(Main Unit).
Note: Do not touch the other pins.

(3) Turn ON the power switch.
(Service program actuates and the display shows TRACK No. 01)

(Caution)

- When service program actuates, the operation buttons will not function normal operation mode.
- Open the loader and load the adjustment disc.

2. Operational Function at a Time Service Program Actuation

Button Operation	Function	Description
▲ OPEN/CLOSE	Opens/closes disc holder.	● Open/close operation should be performed while disc fun is in stop. ● The other keys should be operated after open/close operation is finished.
■ STOP	Stops system operation.	● TRACK No. display becomes 01. ● Press it when adjustment is completed or attempting readjustment.
▶ PLAY	Focus servo actuates and disc runs.	● Press it for tracking adjustment. ● When completed action, TRACK No. display becomes 02.
▶▶I	Actuates focus servo, tracking servo, slide servo and spindle servo.	● When PLAY button is pressed, tracking servo and slide servo actuate. ● When completed action, TRACK No. display becomes 03.
EXT. INPUT	Displays a result of automatic focus gain adjustment.	● After completed PAUSE button action, pressing Button 1 of 10-key indicates a result of automatic focus gain adjustment. ● After action is completed, Display shows: TRACK INDEX TIME 03 1- 00'00"15 TIME display shows the value of automatic adjustment Displays: 0 to 27 ~ 00 to 0 or EE to 01
I◀◀	Displays a result of automatic tracking gain adjustment.	● After completed PAUSE button action, pressing Button 2 of 10-key indicates a result of automatic tracking gain adjustment. ● After action is completed, Display shows: TRACK INDEX TIME 03 2- 00'00"15 TIME display shows the value of automatic adjustment. Displays: 0 to 27 ~ 00 to 0 or EE to 02
Other Buttons	Unable to obtain normal function.	● Never attempt to operate the buttons other than the above. ● If the buttons are erroneously pressed, promptly turn OFF the power switch.

(Caution)

- During the service program is in operation, do not use remote control.

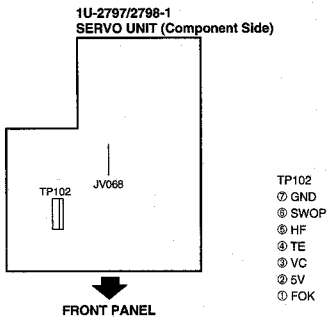
3. Confirming Method

(1) Required Measuring Equipment and Implement

a) Dual-trace oscilloscope

b) Test disc: CA-1094 "Yasuko TOMITA" or CO-76143 "W.A. Mozart"

(2) Check Point



Note: About the difference of test point between Analog Servo (DCD615, etc.) and Digital Servo (DCD-S10/3000).

Analog Servo		Digital Servo
TP101	TP102	TP102
⑥ TEI	⑥ 5V	⑦ GND
⑤ VC	⑤ NC	⑥ SWOP
④ FOK	④ SWOP	⑤ HF
③ TEO	③ SWCL	④ TE
② FEI	② GND	③ VC
① FEO	① HF	② 5V
		① FOK

As described above, test points of CD player have changed from this model (DCD-S10/3000), when replacement is required for pick-up according to the pick-up replacement standard, please use the test points as follows.

Analog Servo		Digital Servo
FOK (Pin4 of TP101)	⟶	FOK (Pin1 of TP102)
FEO (Pin1 of TP101)	⟶	FE (JV068)
TEO (Pin3 of TP101)	⟶	TE (Pin4 of TP102)
HF (Pin1 of TP102)	⟶	HF (Pin5 of TP102)
VC (Pin5 of TP101)	⟶	VC (Pin3 of TP102)

(3) Confirming Procedure

a) Actuate the service program.
b) Check the value of automatic focus gain adjustment.
c) Check the value of automatic tracking gain adjustment.
d) Check for tracking offset.
e) Finish the service program and return the mode to normal operation (turn ON the power switch in normal manner).
f) Check for HF level.

(4) Confirming Focus Gain
Confirm the following items.

a) Press [▶▶|] button. (TRACK No. indication 03)
b) Press [EXT. INPUT] button. (INDEX No. indication 1-)
c) Check for automatic adjustment value.
Automatic adjustment value: 01_M27_S ~ 00_M81_S (Test disc: CA-1094)
01_M27_S ~ 00_M77_S (Test disc: CO-76143)

Note: As there may have a possibility of abnormality in pick-up when adjustment value is less than EE_M01_S or 00_M80_S (CA-1094), 00_M76_S (CO-76143), execute the confirmation for pick-up according to pick-up replacement standard.
If there is no abnormality in pick-up as described in pick-up replacement standard notes, no problem will occur for disc playback even though the automatic adjustment value is less than EE_M01_S or 00_M80_S (CA-1094), 00_M76_S (CO-76143).

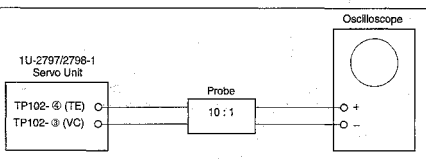
(5) Confirming Tracking Gain
Confirm the following items.

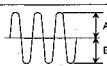
a) Press [▶▶|] button. (TRACK No. indication 03)
b) Press [|◀◀] button. (INDEX No. indication 2-)
c) Check for automatic adjustment value.
Automatic adjustment value: 01_M27_S ~ 00_M35_S (Test disc: CA-1094)
01_M27_S ~ 00_M31_S (Test disc: CO-76143)

Note: As there may have a possibility of abnormality in pick-up when adjustment value is less than EE_M02_S or 00_M34_S (CA-1094), 00_M30_S (CO-76143), execute the confirmation for pick-up according to pick-up replacement standard.
If there is no abnormality in pick-up as described in pick-up replacement standard notes, no problem will occur for disc playback even though the automatic adjustment value is less than EE_M01_S or 00_M34_S (CA-1094), 00_M30_S (CO-76143).

(6) Tracking offset (E/F Balance)

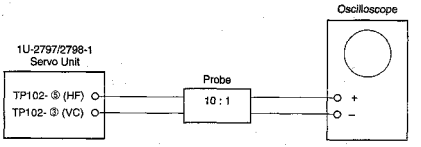
Connection

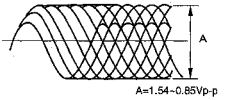
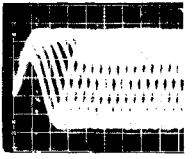


Oscilloscope		Check	Step
V	H	(Oscilloscope)	
0.1v/div	1~2 ms/div	 $\frac{A-B}{A+B} < 20\%$	1. Push [▲ OPEN/CLOSE] and load disc holder referrence disk. 2. Push [▲ OPEN/CLOSE] and close disc holder. 3. Push [▶ PLAY] to turn disc. (Displays track number 02) 4. Short (+)(–) of oscilloscope and check the base line. 5. Confirm that upper and lower amplitude of the waveform is symmetric against 0V.

(7) HF level

Connection



Oscilloscope		Check	Step
V	H	(Oscilloscope)	1. Push ▶▶| (Displays track number 03.)
50mv/div or 20mV/div	0.2μs/div or 0.5μs/div	 A=1.54~0.85Vp-p	2. Check HF level of oscilloscope.
• Set input mode to ALTERNATE or CHOPPER.			3. Confirm that the waveform is in good shape. (◊ pattern in center must be able to discriminate clearly.)

HEAT RUN MODE FUNCTION

Heat Run Mode

(1) To activate

While hold pushing PLAY and ⏮ keys simultaneously, turn the unit power on. The remote control sensor indicator will light to show that the unit is shifted in Heat Run mode.
Be sure to load the disc previously.
Press the disc holder open/close button (⏏ OPEN/CLOSE) to cancel Heat Run mode.
★ This mode functions only for a disc with 21 pieces of music or more. For a disc with 20 pieces of music or lesser, please do not use.

(2) Operation

During the Heat Run mode to shift the unit in Play mode makes the unit replays from the first music after opens the loader once and re-closes it when finish playing the last track (comes into lead out).
Hereafter, operates open/close of loader, servo on, reading of TOC, and playing repeatedly, and repeats playing the two tracks; the first and the last ones.

(3) Error Message

When the system error occurs while in Heat Run mode, the following error message will display on the Track No. indicator and stops operation.

1. E1
   At the time of Focus Servo does not activate.
2. E2
   When unable to detect synchronous pattern however the disc is in rotating. (GFS does not drive.)
3. E3
   No synchronous pattern can be detected while in Play mode. (No GFS drives.)
4. E4
   When TOC is unreadable in despite of servo is activated.
5. E5
   In case of loader malfunctions. (Unable to turn on the switch.)
6. E6
   The inner circle switch of Pick-up does not turn off.
7. E7
   The inner circle switch of Pick-up does not turn on.

★ The number of operation up to the stop will be displayed on the minute and second portion of the indicator.

JUDGMENT STANDARDS FOR OPTICAL PICK-UP REPLACEMENT

1. PICK-UP REPLACEMENT

The pick-up (PU) replacement must be executed on checking the following 4 items and found the abnormality in the PU. Also, refer to following pages.

(1) Judgment by confirming of Focus Search.
(Cause of PU abnormality: Focus search does not function from pick-up laser)

(2) Judgment by Changing of PU due to Focus Error Signal V_{FE}.
(Cause of PU abnormality: No proper emission of focus error signal (S-curve) V_{FE})

(3) Judgment by Changing of PU due to Tracking Error Signal V_{TE}.
(Cause of PU abnormality: No proper emission of tracking error signal (Traverse wave) V_{TE}.

(4) Judgment by Changing of PU due to HF level V_{HF}
(Cause of PU abnormality: No proper emission of HF wave)

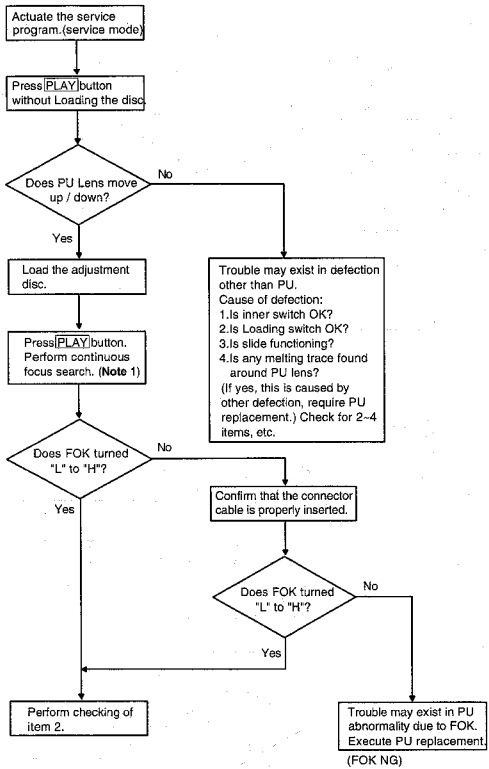
2. ABOUT USING DISK

Using Yasuko TOMITA disc (disc No. CA-1094) or w. A. Mozart (disc No. CO-76143)

3. PICK-UP REPLACEMENT OF OTHER CAUSE

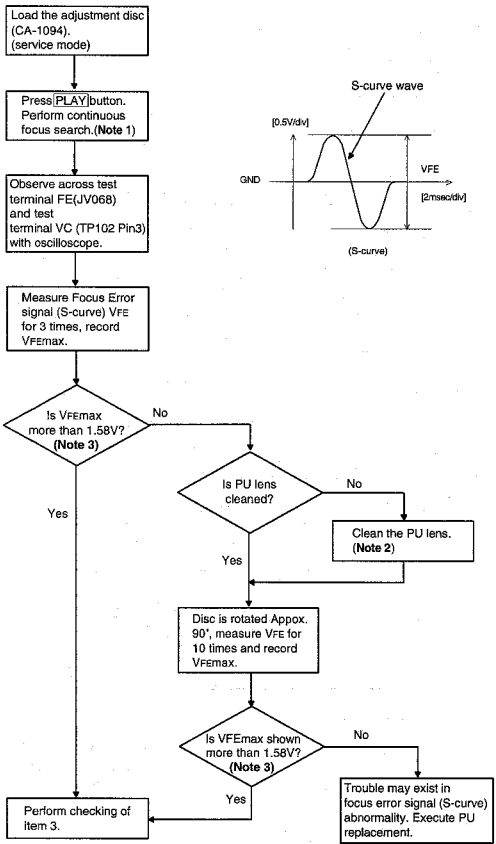
If it happens case of another PU change except for over checking items, please execute PU replacement.

1. Judgement by Confirming of Focus Search
(Check for focus searching of PU Lens)



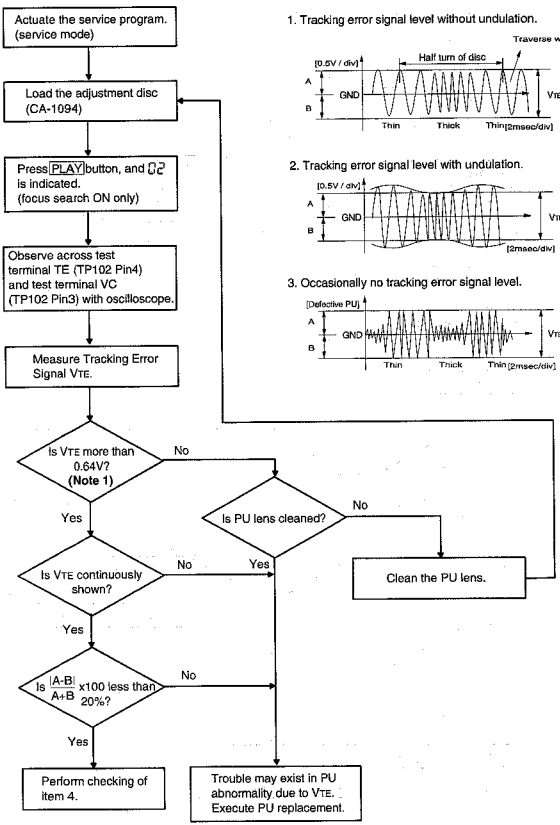
Note 1: Press PLAY button continuously in FOK measure.

2. Judgement by Changing of PU due to Focus Error signal (S-curve) VFE
(check for proper S-curve)



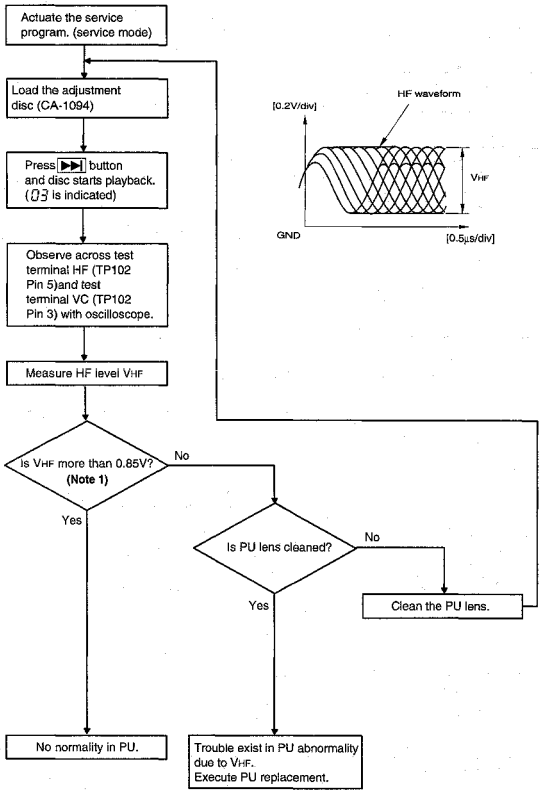
Note 1: Press PLAY button continuously in VFE measure.
Note 2: Clean the lens with-moistened cleaning paper without applying an excessive force to the lens.
Note 3: When using the Test disc CO-76143 value are 1.67V.

3. Judgement by changing of PU due to Tracking Error Signal VTE (check for proper Traverse wave)



Note 1: When using the Test disc CO-76143 value are 0.70V.

4. Judgement by changing of PU due to HF level V_{TE} (check for proper HF wave)



Note 1: When using the Test disc CO-76143 value are 0.85V.

NOTE FOR PARTS LIST

- Part indicated with the mark " ❋ " are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "l" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "✚" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol ⚠ ▒▒▒ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN (Type) 14K (Shape and performance) 2E (Power) 182 (Resistance) G (Allowable error) FR (Others)

RD : Carbon	2B : 1/8W	F : ±1%	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : ±2%	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : ±5%	NB : Non-burning type
RW : Wirding	3A : 1W	K : ±10%	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

• Resistance

1 8 2 ⇒ 1800 ohm = 1.8 kohm
- 2-digit effective number.
- Indicates number of zeros after effective number.

• Units: ohm

1 R 2 ⇒ 1.2 ohm
- 2-digit effective number.
- 1-digit effective number, decimal point indicated by R.

• Units: ohm

● Capacitors

Ex.: CE (Type) 04W (Shape and performance) 1H (Dielectric strength) 2R2 (Capacity) M (Allowable error) BP (Others)

CE : Aluminum foil electrolytic	0J : 6.3V	F : ±1%	HS : High stability type	
CA : Aluminum solid electrolytic	1A : 10V	G : ±2%	BP : Non-polar type	
CS : Tantalum electrolytic	1C : 16V	J : ±5%	HR : Ripple-resistant type	
CQ : Film	1E : 25V	K : ±10%	DL : For charge and discharge	
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high frequency	
CC : Ceramic	1H : 50V	Z : +80%	U : UL part	
CP : Oil	2A : 100V	−20%	C : CSA part	
CM : Mica	2B : 125V	P : +100%	W : UL-CSA type	
CF : Metallized	2C : 160V	−0%	F : Lead wire forming	
CH : Metallized	2D : 200V	C : ±0.25pF		
	2E : 250V	D : ±0.5pF		
	2H : 500V	∞ : Others		
	2J : 630V			

• Capacity (electrolyte only)

2 2 2 ⇒ 2200μF
- Indicates number of zeros after effective number.
- 2-digit effective number.

• Units: μF.

2 R 2 ⇒ 2.2μF
- 1-digit effective number.
- 2-digit effective number, decimal point indicated by R.

• Units: μF.

• Capacity (except electrolyte)

2 2 2 ⇒ 2200pF = 0.0022μF
- (More than 2) — Indicates number of zeros after effective number.
- 2-digit effective number.

• Units: μF.

2 2 1 ⇒ 220pF
- (0 or 1) — indicates number of zeros after effective number.
- 2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PARTS LIST OF P. W. BOARD

1U-2798 DIGITAL SERVO UNIT
(1U-2798: DCD-3000, DCD-S10 Europe Model)
(1U-2798D: DCD-3000, DCD-S10, U.S.A. & Canada Models)
(1U-2798B: DCD-3000 Multi-Voltage model)

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC101	262 1879 003	IC CXD2515Q	
IC102	263 0909 906	IC BA6392FP	
IC103	263 0565 007	IC BA15218	
IC104	262 0910 002	IC YM3623B	
IC105	263 0565 007	IC BA15218	
IC110,111	262 1641 901	IC HD74HC157FP	
IC201	262 2111 003	IC M38173M6-292FP	
IC202	262 1265 002	IC TC74HCU04AP	
IC300	262 1869 000	IC SM5845AF	
IC350	263 0615 902	IC BA15218F	
IC400	263 0516 001	IC NJM7812FA	Regulator +12V
IC401	263 0539 004	IC NJM79M12FA	Regulator –12V
IC402	263 0793 002	IC NJM7805FA(S)	Regulator +6V
IC403	263 0809 006	IC NJM7805FA(S)	Regulator +5V
IC406,407	268 0074 904	IC Protector ICP-N20	
IC409	263 0652 907	IC PST529C	
TR101	274 0036 905	Transistor 2SD468(C)	
TR102	272 0025 907	Transistor 2SB562(C)	
TR103	269 0026 900	Transistor RN2202(10K-10K)	Built in Resistor
TR111	274 0036 905	Transistor 2SD468(C)	
TR112	272 0025 907	Transistor 2SB562(C)	
TR119	272 0025 907	Transistor 2SB562(C)	
TR120	274 0036 905	Transistor 2SD468(C)	
TR350	273 0303 910	Transistor 2SC1740S(S)	
TR401	272 0025 907	Transistor 2SB562(C)	
TR402,403	269 0025 901	Transistor RN1202(10K-10K)	Built in Resistor
D101,102	276 0432 903	Diode 1SS270A	
D107	276 0432 903	Diode 1SS270A	
D203	276 0432 903	Diode 1SS270A	
D402,403	276 0553 905	Diode 1SR35-200A	
D404	276 0466 908	Zener Diode HZS7C-1	7V
D405	276 0484 906	Zener Diode HZS33-1	33V
D410~417	276 0553 905	Diode 1SR35-200A	
RESISTORS GROUP (Not Included Carbon Film ±5% 1/4W)			
R001,002	247 0018 905	Chip Resistor 0ohm 1/10W	RM73B–0R0K
R003,004	247 0009 914	Chip Resistor 5.1kohm 1/10W	RM73B–512J
R005,006	247 0018 905	Chip Resistor 0ohm 1/10W	RM73B–0R0K
R007	247 0009 914	Chip Resistor 5.1kohm 1/10W	RM73B–512J
R101~103	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B–103J
R109	247 0011 902	Chip Resistor 33kohm 1/10W	RM73B–333J
R114	247 0005 976	Chip Resistor 200ohm 1/10W	RM73B–201J
R115	247 0009 949	Chip Resistor 22ohm 1/10W	RM73B–220J
R116	247 0012 956	Chip Resistor 130kohm 1/10W	RM73B–134J

Ref. No.	Part No.	Part Name	Remarks
R118	247 0009 901	Chip Resistor 4.7kohm 1/10W	RM73B–472J
R120	247 0009 901	Chip Resistor 4.7kohm 1/10W	RM73B–472J
R121	247 0011 944	Chip Resistor 47kohm 1/10W	RM73B–473J
R122	247 0009 956	Chip Resistor 7.5kohm 1/10W	RM73B–752J
R123	247 0008 999	Chip Resistor 4.3kohm 1/10W	RM73B–432J
R124	247 0005 989	Chip Resistor 220ohm 1/10W	RM73B–221J
R126	247 0018 905	Chip Resistor 0ohm 1/10W	RM73B–0R0K
R127	247 0018 905	Chip Resistor 0ohm 1/10W	RM73B–0R0K
R128	247 0008 960	Chip Resistor 3.3kohm 1/10W	RM73B–332J
R129	247 0007 974	Chip Resistor 1.3kohm 1/10W	RM73B–132J
R130	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B–105J
R131	247 0012 927	Chip Resistor 100kohm 1/10W	RM73B–104J
R132	247 0009 998	Chip Resistor 11kohm 1/10W	RM73B–113J
R133	247 0008 960	Chip Resistor 3.3kohm 1/10W	RM73B–332J
R135	247 0008 960	Chip Resistor 3.3kohm 1/10W	RM73B–332J
R136	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B–102J
R138	247 0009 998	Chip Resistor 11kohm 1/10W	RM73B–113J
R144,145	247 0012 943	Chip Resistor 120kohm 1/10W	RM73B–124J
R146	247 0005 989	Chip Resistor 220ohm 1/10W	RM73B–221J
R147	247 0010 929	Chip Resistor 15kohm 1/10W	RM73B–153J
R148	247 0010 916	Chip Resistor 13kohm 1/10W	RM73B–133J
⚠R150	244 2061 949	Metal oxide film 1 ohm 1W (Non-burning type)	RS14B3A010JNBS(S)
R151	247 0009 956	Chip Resistor 7.5kohm 1/10W	RM73B–752J
R161	247 0012 985	Chip Resistor 180kohm 1/10W	RM73B–184J
R162	247 0011 999	Chip Resistor 75kohm 1/10W	RM73B–753J
R192	247 0009 949	Chip Resistor 22ohm 1/10W	RM73B–220J
R202	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B–102J
R206,207	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B–102J
R209	247 0004 977	Chip Resistor 75ohm 1/10W	RM73B–750J
R214,215	247 0012 943	Chip Resistor 120kohm 1/10W	RM73B–124J
R216	247 0012 927	Chip Resistor 100kohm 1/10W	RM73B–104J
R217	247 0005 989	Chip Resistor 220ohm 1/10W	RM73B–221J
R218	247 0004 922	Chip Resistor 47ohm 1/10W	RM73B–470J
R219	247 0012 927	Chip Resistor 100kohm 1/10W	RM73B–104J
R225	247 0004 977	Chip Resistor 75ohm 1/10W	RM73B–750J
R300~302	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B–102J
R350~355	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B–103J
⚠R356	244 2061 937	Metal oxide film 10 ohm 1W (Non-burning type)	RS14B3A100JNBS(S)
R357	247 0008 915	Chip Resistor 2kohm 1/10W	RM73B–202J
R358	247 0013 984	Chip Resistor 470kohm 1/10W	RM73B–474J
R359	247 0009 956	Chip Resistor 7.5kohm 1/10W	RM73B–752J
R360	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B–103J
R361	247 0010 987	Chip Resistor 27kohm 1/10W	RM73B–273J
R362	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B–105J
R363	247 0013 913	Chip Resistor 240Kohm 1/10W	RM73B–244J
R365~368	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B–105J

Ref. No.	Part No.	Part Name	Remarks
R406	247 0009 965	Chip Resistor 10kohm 1/10W	RM73B--103J
R407	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B--105J
R409	247 0005 989	Chip Resistor 220ohm 1/10W	RM73B--221J
R411	247 0006 962	Chip Resistor 470ohm 1/10W	RM73B--471J
R412	247 0009 914	Chip Resistor 5.1kohm 1/10W	RM73B--512J
R413	247 0006 962	Chip Resistor 470ohm 1/10W	RM73B--471J
R415	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B--105J
R416	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R420	247 0009 965	Chip Resistor 10kohm 1/10W	RM73B--103J
R423,424	247 0009 965	Chip Resistor 10kohm 1/10W	RM73B--103J
R431	247 0009 965	Chip Resistor 10kohm 1/10W	RM73B--103J
R440,441	247 0009 965	Chip Resistor 10kohm 1/10W	RM73B--103J
R442	247 0012 927	Chip Resistor 100kohm 1/10W	RM73B--104J
R443	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
R445	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R460--463	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R483	247 0009 914	Chip Resistor 5.1kohm 1/10W	RM73B--512J
R484	247 0005 905	Chip Resistor 100ohm 1/10W	RM73B--101J
R705	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
⚠R461,462	244 2013 940	Metal Oxide 2.2ohm 1W	RS1HB2R2JNES(S)

CAPACITORS GROUP

C101	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C103	254 4356 713	Electrolytic 100μF/50V	CE04W1H101MC(ARS)
C105	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C106	254 4254 938	Electrolytic 47μF/16V	CE04W1C470M(SME)
C107--109	257 0004 961	Ceramic(Chip) 100pF/50V	CC73L1H101J
C112	254 4254 925	Electrolytic 33μF/16V	CE04W1C330M(SME)
C119	257 0009 940	Ceramic(Chip) 0.0033μF/50V	CK73B1H332K
C120	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C121	257 0011 941	Ceramic(Chip) 0.022μF/25V	CK73B1E223K
C122	257 0005 944	Ceramic(Chip) 220pF/50V	CC73L1H221J
C124	257 0006 969	Ceramic(Chip) 680pF/50V	CC73L1H681J
C125	257 0010 997	Ceramic(Chip) 0.056μF/50V	CK73B1H563K
C126	257 0007 942	Ceramic(Chip) 0.0015μF/50V	CC73L1H152J
C127	257 0005 944	Ceramic(Chip) 220pF/50V	CC73L1H221J
C128	257 0011 909	Ceramic(Chip) 0.01μF/25V	CK73B1E103K
C131	257 0011 909	Ceramic(Chip) 0.01μF/25V	CK73B1E103K
C132,133	257 0002 921	Ceramic(Chip) 10pF/50V	CC73L1H100D
C135	257 0009 937	Ceramic(Chip) 0.0027μF/50V	CK73B1H272K
C141	254 4258 905	Electrolytic 4.7μF/35V	CE04W1V4R7M(SME)
C174	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C204	257 0002 921	Ceramic(Chip) 10pF/50V	CC73L1H100D
C207	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M(SME)
C301	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C350	257 0011 909	Ceramic(Chip) 0.01μF/25V	CK73B1E103K
C351	257 0004 961	Ceramic(Chip) 100pF/50V	CC73L1H101J
C352--354	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C401,402	254 4356 771	Electrolytic 3300μF/50V	CE04W1H332MC(ARS)
C403,404	254 4313 989	Electrolytic 33μF/50V	CE04W1H330M(ASF)

Ref. No.	Part No.	Part Name	Remarks
C405	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C406,407	254 4319 792	Electrolytic 4700μF/25V	CE04W1E472MC(ASF)
C409	254 4367 906	Electrolytic 47μF/63V	CE04W1J470M(ASF)
C413,414	254 4313 989	Electrolytic 33μF/50V	CE04W1H330M(ASF)
C416	257 0003 988	Ceramic(Chip) 47pF/50V	CC73L1H470J
C423	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C424	257 0009 966	Ceramic(Chip) 0.0047μF/50V	CK73B1H472K
C425,426	257 0002 921	Ceramic(Chip) 10pF/50V	CC73L1H100D
C427	256 1035 091	Ceramic 1μF/50V	CF93A1H105J
C440,441	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C442	257 0012 968	Ceramic(Chip) 0.01μF/50V	CK73F1H103Z
C443--448	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C463	257 0007 900	Ceramic(Chip) 0.001μF/50V	CC73L1H102J
C475,476	253 9039 906	Ceramic 0.1μF/25V	CK45=1E104Z

OTHER PARTS				Q'ty
X101	399 0165 007	Crystal Resonator	(16.9344MHz)	1
X200	399 0165 007	Crystal Resonator	(16.9344MHz)	1
PT300	231 8063 009	:Pulse Trans		1
Jk301,302	204 8178 028	1P Pin Jack		2
⚠SW902	212 1116 503	Voltage Selector	Multi-Voltage only	1
U304	269 0097 007	Optical Connector (IN)	(GP1F32R)	1
U305	269 0098 006	Optical Connector (OUT)	(GP1F32T)	1
CB101	205 0321 054	5P Connector Base (RED)		1
CB102	205 0343 058	5P Connector Base (KR-PH)		1
CB103	205 0892 004	12P FFC Connector Base (P=1)		1
CB201	205 0736 063	35P FFC Connector Base		1
CB202	205 0343 032	3P Connector Base (KR-PH)		1
CB401	205 0711 091	15P TBG Connector Base		1
CB412	205 0233 087	8P EH Connector Base		1
CB414,415	205 0653 036	3P VH Connector Base		2
CB501	205 0233 087	8P EH Connector Base		1
CB800	205 0581 001	2P VH Connector Base		1
CB803	205 0581 001	2P VH Connector Base		1
	204 2745 004	7P PH Connector Cord		1
TP102	205 0190 078	7P NH Connector Base		1
	417 0476 036	Radiator	for IC400, 403	2
	471 3304 015	Bind Screw 3x8		4
	417 0476 010	Radiator	for IC401, 402	2
	412 2160 028	Common Plate		1
	461 0415 007	Rubber Sheet		3
	415 0366 043	UL Tube (φ2) Clear		1
	461 0767 001	Rubber Sheet		1

1U-2797M DIGITAL SERVO UNIT ASS'Y (DCD-S10 Asia model only)

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC101	262 1879 003	IC CXD2515Q	
IC102	263 0909 906	IC BA6392FP	
IC103	263 0565 007	IC BA15218	
IC104	262 0910 002	IC YM3623B	
IC105	263 0565 007	IC BA15218	
IC110,111	262 1641 901	IC HD74HC157FP	
IC201	262 2111 003	IC M38173M6-292FP	
IC202	262 1265 002	IC TC74HCU04AP	
IC300	262 1869 000	IC SM5845AF	
IC350	263 0615 902	IC BA15218F	
IC400	263 0516 001	IC NJM7812FA	Regulator +12V
IC401	263 0539 004	IC NJM79M12FA	Regulator –12V
IC402	263 0793 002	IC NJM7806FA(S)	Regulator +6V
IC403	263 0809 006	IC NJM7805FA(S)	Regulator +5V
IC406,407	268 0074 904	IC Protector ICP-N20	
IC409	263 0652 907	IC PST529C	
TR101	274 0036 905	Transistor 2SD468(C)	
TR102	272 0025 907	Transistor 2SB562(C)	
TR103	269 0026 900	Transistor RN2202(10K-10K)	Built in Resistor
TR111	274 0036 905	Transistor 2SD468(C)	
TR112	272 0025 907	Transistor 2SB562(C)	
TR119	272 0025 907	Transistor 2SB562(C)	
TR120	274 0036 905	Transistor 2SD468(C)	
TR350	273 0303 910	Transistor 2SC1740S(S)	
TR401	272 0025 907	Transistor 2SB562(C)	
TR402,403	269 0025 901	Transistor RN1202(10K-10K)	Built in Resistor
D101,102	276 0432 903	Diode 1SS270A	
D107	276 0432 903	Diode 1SS270A	
D203	276 0432 903	Diode 1SS270A	
D402,403	276 0553 905	Diode 1SR35-200A	
D404	276 0466 908	Zener Diode HZS7C-1	7V
D405	276 0484 905	Zener Diode HZS33-1	33V
D410~421	276 0553 905	Diode 1SR35-200A	
RESISTORS GROUP (Not included Carbon Film ±5% 1/4W)			
R001,002	247 0018 905	Chip Resistor 0ohm 1/10W	RM73B--0R0K
R003,004	247 0009 914	Chip Resistor 5.1kohm 1/10W	RM73B--512J
R005,006	247 0018 905	Chip Resistor 0ohm 1/10W	RM73B--0R0K
R007	247 0009 914	Chip Resistor 5.1kohm 1/10W	RM73B--512J
R101~103	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
R109	247 0011 902	Chip Resistor 33kohm 1/10W	RM73B--333J
R114	247 0005 976	Chip Resistor 200ohm 1/10W	RM73B--201J
R115	247 0003 949	Chip Resistor 22ohm 1/10W	RM73B--220J
R116	247 0012 956	Chip Resistor 130kohm 1/10W	RM73B--134J
R118	247 0009 901	Chip Resistor 4.7kohm 1/10W	RM73B--472J
R120	247 0009 901	Chip Resistor 4.7kohm 1/10W	RM73B--472J
R121	247 0011 944	Chip Resistor 47kohm 1/10W	RM73B--473J

Ref. No.	Part No.	Part Name	Remarks
R122	247 0009 956	Chip Resistor 7.5kohm 1/10W	RM73B--752J
R123	247 0008 999	Chip Resistor 4.3kohm 1/10W	RM73B--432J
R124	247 0005 988	Chip Resistor 220ohm 1/10W	RM73B--221K
R126	247 0018 905	Chip Resistor 0ohm 1/10W	RM73B--0R0K
R127	247 0011 915	Chip Resistor 36kohm 1/10W	RM73B--363J
R128	247 0008 960	Chip Resistor 3.3kohm 1/10W	RM73B--332J
R129	247 0007 974	Chip Resistor 1.3kohm 1/10W	RM73B--132J
R130	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B--105J
R131	247 0012 927	Chip Resistor 100kohm 1/10W	RM73B--104J
R132	247 0009 998	Chip Resistor 11kohm 1/10W	RM73B--113J
R133	247 0008 960	Chip Resistor 3.3kohm 1/10W	RM73B--332J
R135	247 0008 960	Chip Resistor 3.3kohm 1/10W	RM73B--332J
R136	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R138	247 0009 998	Chip Resistor 11kohm 1/10W	RM73B--113J
R144,145	247 0012 943	Chip Resistor 120kohm 1/10W	RM73B--124J
R146	247 0005 989	Chip Resistor 220ohm 1/10W	RM73B--221J
R147	247 0010 929	Chip Resistor 15kohm 1/10W	RM73B--153J
R148	247 0010 916	Chip Resistor 13kohm 1/10W	RM73B--133J
△R149	244 2051 945	Metal oxide film 1 ohm 1W (Non-burning type)	RS1/2SA010JNBS(S)
R151	247 0009 956	Chip Resistor 7.5kohm 1/10W	RM73B--752J
R161	247 0012 985	Chip Resistor 180kohm 1/10W	RM73B--184J
R162	247 0011 999	Chip Resistor 75kohm 1/10W	RM73B--753J
R192	247 0003 949	Chip Resistor 22ohm 1/10W	RM73B--220J
R202	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R206,207	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R209	247 0004 977	Chip Resistor 75ohm 1/10W	RM73B--750J
R214,215	247 0012 943	Chip Resistor 120kohm 1/10W	RM73B--124J
R216	247 0012 927	Chip Resistor 100kohm 1/10W	RM73B--104J
R217	247 0005 989	Chip Resistor 220ohm 1/10W	RM73B--221J
R218	247 0004 922	Chip Resistor 47ohm 1/10W	RM73B--470J
R219	247 0012 927	Chip Resistor 100kohm 1/10W	RM73B--104J
R225	247 0004 977	Chip Resistor 75ohm 1/10W	RM73B--750J
R300~302	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R350~355	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
△R356	244 2041 947	Metal oxide film 10 ohm 1W (Non-burning type)	RS1/2SA100JNBS(S)
R357	247 0008 915	Chip Resistor 2kohm 1/10W	RM73B--202J
R358	247 0013 984	Chip Resistor 470kohm 1/10W	RM73B--474J
R359	247 0009 956	Chip Resistor 7.5kohm 1/10W	RM73B--752J
R360	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
R361	247 0010 987	Chip Resistor 27kohm 1/10W	RM73B--273J
R362	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B--105J
R363	247 0013 913	Chip Resistor 240Kohm 1/10W	RM73B--244J
R365~368	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B--105J
R406	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
R407	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B--105J
R409	247 0005 989	Chip Resistor 220ohm 1/10W	RM73B--221J
R411	247 0006 962	Chip Resistor 470ohm 1/10W	RM73B--471J
R412	247 0009 914	Chip Resistor 5.1kohm 1/10W	RM73B--512J
R413	247 0006 962	Chip Resistor 470ohm 1/10W	RM73B--471J

Ref. No.	Part No.	Part Name	Remarks
R415	247 0014 967	Chip Resistor 1Mohm 1/10W	RM73B--105J
R416	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R420	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
R423,424	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
R431	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
R440,441	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
R442	247 0012 927	Chip Resistor 100kohm 1/10W	RM73B--104J
R443	247 0009 985	Chip Resistor 10kohm 1/10W	RM73B--103J
R445	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R460--463	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R483	247 0009 914	Chip Resistor 5.1kohm 1/10W	RM73B--512J
R484	247 0005 905	Chip Resistor 100ohm 1/10W	RM73B--101J
R705	247 0007 945	Chip Resistor 1kohm 1/10W	RM73B--102J
R1491,492	244 2049 930	Metal Oxide 2.2ohm 1W	RS73B3A2R2JS(S)

CAPACITORS GROUP

C101	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C103	254 4486 706	Electrolytic 1000μF/6.3V	CE04W0J102MC(ARD)
C105	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C106	254 4254 938	Electrolytic 47μF/16V	CE04W1C470M(SME)
C107--109	257 0004 961	Ceramic(Chip) 100pF/50V	CC73L1H101J
C112	254 4254 925	Electrolytic 33μF/16V	CE04W1C330M(SME)
C119	257 0009 940	Ceramic(Chip) 0.0033μF/50V	CK73B1H332K
C120	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C121	257 0011 941	Ceramic(Chip) 0.022μF/25V	CK73B1E223K
C122	257 0005 944	Ceramic(Chip) 220pF/50V	CC73L1H221J
C124	257 0006 969	Ceramic(Chip) 680pF/50V	CC73L1H681J
C125	257 0010 997	Ceramic(Chip) 0.056μF/50V	CK73B1H563K
C126	257 0007 942	Ceramic(Chip) 0.0015μF/50V	CC73L1H152J
C127	257 0005 944	Ceramic(Chip) 220pF/50V	CC73L1H221J
C128	257 0011 909	Ceramic(Chip) 0.01μF/25V	CK73B1E103K
C131	257 0011 909	Ceramic(Chip) 0.01μF/25V	CK73B1E103K
C132,133	257 0002 921	Ceramic(Chip) 10pF/50V	CC73L1H100D
C135	257 0009 937	Ceramic(Chip) 0.0027μF/50V	CK73B1H272K
C141	254 4258 905	Electrolytic 4.7μF/35V	CE04W1V4R7M(SME)
C174	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C204	257 0002 921	Ceramic(Chip) 10pF/50V	CC73L1H100D
C207	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M(SME)
C301	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C350	257 0011 909	Ceramic(Chip) 0.01μF/25V	CK73B1E103K
C351	257 0004 961	Ceramic(Chip) 100pF/50V	CC73L1H101J
C352--354	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C401,402	254 4356 771	Electrolytic 3300μF/50V	CE04W1H332MC(ARS)
C403,404	254 4356 742	Electrolytic 470μF/50V	CE04W1H471(ARS)
C405	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C406,407	254 4319 792	Electrolytic 4700μF/25V	CE04W1E472MC(ASF)
C409	254 4367 906	Electrolytic 47μF/63V	CE04W1J470M(ASF)
C413,414	254 4313 989	Electrolytic 33μF/50V	CE04W1H330M(ASF)
C416	257 0003 988	Ceramic(Chip) 47pF/50V	CC73L1H470J
C420,421	256 1054 001	Metalized 0.1μF/50V	CF93B1H105K(GSG)

Ref. No.	Part No.	Part Name	Remarks
C423	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C424	257 0009 966	Ceramic(Chip) 0.0047μF/50V	CK73B1H472K
C425,426	257 0002 921	Ceramic(Chip) 10pF/50V	CC73L1H100D
C427	256 1035 091	Ceramic 1μF/50V	CF93A1H105J
C431,432	254 4446 720	Electrolytic 2.2μF/50V	CE04W1H2R2MC(ARSAG)
C440	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C441,442	255 6167 000	Polystyrol 0.01μF/125V	CQ09S2B103K(B)
C443--448	257 0014 935	Ceramic(Chip) 0.1μF/25V	CK73F1E104Z
C463	257 0007 900	Ceramic(Chip) 0.001μF/50V	CC73L1H102J
C491	255 4235 934	Film 0.01μF/100V	CQ93P2A103J(NH)

OTHER PARTS

				Q'ty
X101	399 0165 007	Crystal Resonator	(16.9344MHz)	1
X200	399 0165 007	Crystal Resonator	(16.9344MHz)	1
PT300	231 8063 009	Pulse Trans		1
Jk301,302	204 8178 028	1P Pin Jack		2
U304	269 0097 007	Optical Connector (IN)	(GP1F32R)	1
U305	269 0098 006	Optical Connector (OUT)	(GP1F32T)	1
CB101	205 0321 054	5P Connector Base (RED)		1
CB102	205 0343 056	5P Connector Base (KR-PH)		1
CB103	205 0892 004	12P FFC Connector Base (P=1)		1
CB201	205 0736 063	35P FFC Connector Base		1
CB202	205 0343 032	3P Connector Base (KR-PH)		1
CB401	205 0711 091	15P TBG Connector Base		1
CB410	205 0190 036	3PNH Connector Base		1
CB411	205 0190 005	6P NH Connector Base		1
CB412	205 0233 087	8P EH Connector Base		1
CB414,415	205 0653 036	3P VH Connector Base		2
CB501	205 0233 087	8P EH Connector Base		1
CB800	205 0606 025	2P Wrapping Terminal		1
CB801,802	205 0581 001	2P VH Connector Base		2
CB803	205 0581 001	2P VH Connector Base		1
	204 2745 004	7P PH Connector Cord		1
TP102	205 0190 078	7P NH Connector Base		1
	417 0476 010	Radiator	for IC400,403	2
	471 3304 015	Bind Screw 3x8		4
	417 0478 036	Radiator	for IC401,402	2
	412 2160 031	Common Plate (CU 0.8)		1
	461 0415 007	Rubber Sheet		5
	415 0366 043	UL TUBE (φ2) Clear		1
	461 0767 001	Rubber Sheet		1

1U-2796 AUDIO UNIT ASS'Y
(1U-2796: DCD-3000 Europe, U.S.A. & Canada and Multi-Voltage Models)
(1U-2796A: DCD-S10 Europe, U.S.A. & Canada models)
(1U-2796M: DCD-S10 Asia Model.)

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC301~304	262 1837 016	IC :PCM1702P-J	
IC309,310	263 0565 007	IC BA15218	
IC309,310	263 0990 009	:*IC OP275GP	Asia model only
IC311~318	262 0864 006	IC μPC4570C	
IC311,312	263 0836 008	IC SSM2139	Asia model only
IC313, 314	263 0360 008	:ICNE5532	Asia model only
IC315~316	263 0205 008	IC NJM2041DD	Asia model only
IC355,356	263 0432 907	IC NJM78L05A	Regulator +5V
IC357,358	263 0722 905	IC NJM79L05A	Regulator -5V
IC501	263 0995 004	IC NJM4558AD	
IC801	499 0264 004	Remote Sensor GP1U571	
IC901,902	263 0565 007	IC BA15218	
TR351	269 0026 900	Transistor RN2202 (10K-10K)	Built in Resistor
TR352	269 0025 901	Transistor RN1202 (10K-10K)	Built in Resistor
TR353	269 0026 900	Transistor RN2202 (10K-10K)	Built in Resistor
TR500,501	273 0253 918	Transistor 2SC2878 (A/B)	
TR801,802	269 0025 901	Transistor RN1202 (10K-10K)	Built in Resistor
TR804	269 0025 901	Transistor RN1202 (10K-10K)	Built in Resistor
TR901~908	273 0253 918	Transistor 2SC2878 (A/B)	
D351~354	276 0432 903	Diode 1SS270A	
D805~807	276 0432 903	Diode 1SS270A	
D818,819	276 0432 903	Diode 1SS270A	
LD801,802	393 9416 906	LED SEL-2810R	
LD804	393 9418 905	LED SEL-2810D	
RESISTORS GROUP (All carbon film resistor is DCD-S10 Asia model only.)			
R335,336	241 2471 962	Carbon Film 10ohm 1/4W	RD14B2E100J(PSNB)
R337,338	241 2427 923	Carbon Film 100kohm 1/4W	RD14B2E104J(PSNB)
R351	241 2424 984	Carbon Film 10kohm 1/4W	RD14B2E103J(PSNB)
R353	241 2423 956	Carbon Film 3kohm 1/4W	RD14B2E302J(PSNB)
R354	241 2419 999	Carbon Film 91ohm 1/4W	RD14B2E910J(PSNB)
R355	241 2422 944	Carbon Film 1kohm 1/4W	RD14B2E102J(PSNB)
R361~364	241 2421 929	Carbon Film 330ohm 1/4W	RD14B2E331J(PSNB)
R365~372	241 2422 944	Carbon Film 1kohm 1/4W	RD14B2E102J(PSNB)
R373~376	241 2423 972	Carbon Film 3.6kohm 1/4W	RD14B2E362J(PSNB)
R377~380	241 2423 927	Carbon Film 2.2kohm 1/4W	RD14B2E222J(PSNB)
R381,382	241 2424 942	Carbon Film 6.8kohm 1/4W	RD14B2E682J(PSNB)
R383,384	241 2423 972	Carbon Film 3.6kohm 1/4W	RD14B2E362J(PSNB)
R385,386	241 2422 973	Carbon Film 1.3kohm 1/4W	RD14B2E132J(PSNB)
R387,388	241 2423 943	Carbon Film 2.7kohm 1/4W	RD14B2E272J(PSNB)
R389~392	241 2424 900	Carbon Film 4.7kohm 1/4W	RD14B2E472J(PSNB)
R811~814	241 2424 942	Carbon Film 6.8kohm 1/4W	RD14B2E682J(PSNB)
R815	241 2418 945	Carbon Film 22ohm 1/4W	RD14B2E220J(PSNB)
R816	241 2415 919	Carbon Film 47ohm 1/4W	RD14B2E470J(PSNB)
R898,899	241 2427 923	Carbon Film 100kohm 1/4W	RD14B2E104J(PSNB)
VR300	211 0544 111	Variable Resistor 20Kohm	V1620V20FA203M

Ref. No.	Part No.	Part Name	Remarks
CAPACITORS GROUP			
C057	253 9039 906	Ceramic 0.1μF/25V	CK45=1E104Z
C321~324	254 4356 027	Electrolytic 22μF/50V	CE04W1H220M(ARS)
C325~332	254 4313 918	Electrolytic 10μF/50V	CE04W1H100M(ASF)
C333~340	254 4356 713	Electrolytic 100μF/50V	CE04W1H101MC(ARS)
C343~346	254 4356 742	Electrolytic 470μF/50V	CE04W1H471(ARS)
C347~350	254 4347 052	Electrolytic 2.2μF/50V	CE04W1H2R2M(ARSA)
C351	254 4256 852	Electrolytic 220μF/25V	CE04W1E221M(SME)
C351	254 4488 704	Electrolytic 220μF/25V	CE04W1E221MC(ARD)
			DCD-S10 Asia only
C353~356	255 4235 921	Film 270pF/100V	CQ93P2A271J(NH)
C353~356	255 6175 047	Polystyrol 270pF/125V	CQ09S2B271KF(B)
			DCD-S10 Asia only
C357~360	255 4235 918	Film 100pF/100V	CQ93P2A101J(NH)
C357~360	255 6175 034	Polystyrol 100pF/125V	CQ09S2B101KF(B)
			DCD-S10 Asia only
C371,372	255 4232 911	Film 180pF/100V	CQ93P2A181J(NH)
C371,372	255 6175 018	Polystyrol 80pF/125V	CQ09S2B181KF(B)
			DCD-S10 Asia only
C373,374	255 4232 908	Film 820pF/100V	CQ93P2A821J(NH)
C373,374	255 6175 021	Polystyrol 820pF/125V	CQ09S2B821KF(B)
			DCD-S10 Asia only
C375~380	255 4237 903	Film 0.0027μF/100V	CQ93P2A102J(NH)
C375,380	255 6175 005	Polystyrol 0.0027μF/125V	CQ09S2B272KF(B)
			DCD-S10 Asia only
C381~388	254 4356 713	Electrolytic 100μF/50V	CE04W1H101MC(ARS)
C389,390	255 6167 000	Polystyrol 0.01μF/125V	CQ09S2B103K(B)
			DCD-S10 Asia only
C391,392	256 1045 007	Metallized 1μF/63V	CF93B1J105K(SA)
			(DCD-S10 only)
C503	254 4254 776	Electrolytic 470μF/16V	CE04W1C471MC(SME)
C503	254 4487 705	Electrolytic 470μF/16V	CE04W1C471MC(ARD)
			(DCD-S10 Asia only)
C504	254 4254 792	Electrolytic 2200μF/16V	CE04W1C222MC(SME)
C504	254 4462 714	Electrolytic 2200μF/16V	CE04W1C222MC(ASF)
			(DCD-S10 Asia only)
C807	253 9036 909	Ceramic 0.1μF/25V	CK45=1E104Z
⚠C900	253 6014 003	Ceramic 0.01μF/400V~C	CK45E2GAC103M
C901~904	254 4356 739	Electrolytic 47μF/50V	CE04W1H470MC(ARS)
C905~908	255 4232 924	Film 39pF/100V	CQ93P2A390J(NH)
C909~912	255 4232 937	Film 0.001μF/100V	CQ93P2A102J(NH)

OTHER PARTS				Q'ty
RL301	214 0127 003	Relay (RY-12W)		1
⚠SW300	213 1101 009	Power Switch (TV-S		1
	212 5604 907	Tact Switch		7
JK403,404	204 8406 017	1P Pin Jack	DCD-S10 Asia only	2

1U-2836A SERVO AMP UNIT ASS'Y
(This unit is common in all models and Ser. No. 501 ✱✱✱✱ ✱✱✱ and after.)

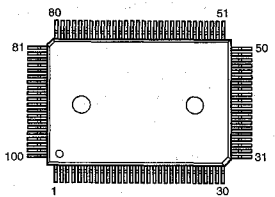
Ref. No.	Part No.	Part Name	Remarks	Q'ty
JK405	204 8265 009	4P RCA Pin Jack (EMI)	Except DCD-S10 Asia	1
PJ301	204 8322 007	Head Phone Jack		1
FL801	393 4095 007	FL Tube	(FIP10SM6)	1
CB301	204 2447 014	8P PH-SAN Shield Cord		1
CB400	205 0711 061	15P TBG Connector Base		1
CB401,402	205 0581 001	2P VH Connector Base	DCD-S10 Asia only	2
CB404,405	205 0653 036	3P VH Connector Base		2
CB406	205 0343 061	6P Connector Base (KR-PH)		1
CB805	205 0756 083	35P FFC Connector Base		1
CB900	205 0581 001	2P VH Connector Base		1
CC301	205 0343 087	8P Connector Base (KR-PH)		1
CC302	203 4650 039	3P PH-SAN Connector Cord		1
CN901	205 0343 061	6P Connector Base (KR-PH)		1
CN902,903	205 0428 009	3P Cannon Connector		2
	415 0299 000	Condenser Cover	for C900	1

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC901	263 0565 007	IC BA15218	
TR901	269 0025 901	Transistor RN1202	Built in resistor
RESISTORS GROUP (Not included Carbon Film ±5% 1/4W type. Refer to the Schematic diagram for those parts.)			
CAPACITORS GROUP			
C901	253 2293 934	Ceramic Cap. 100pF/50V	CK45B1H101K
C902	256 1035 907	Metalized Cap. 0.15μF/50V	CF93A1H184J

OTHER GROUP				Q'ty
	—	(P.W. board)		(1)
CB901	205 0343 074	7P Conn. Base (KR-PH)		1
	001 0018 082	Vinyl Wire	L=40	1
	001 0164 020	Vinyl Wire	L=140	1

IC TERMINAL FUNCTION

CXD2515Q (IC101)

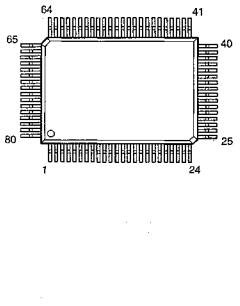


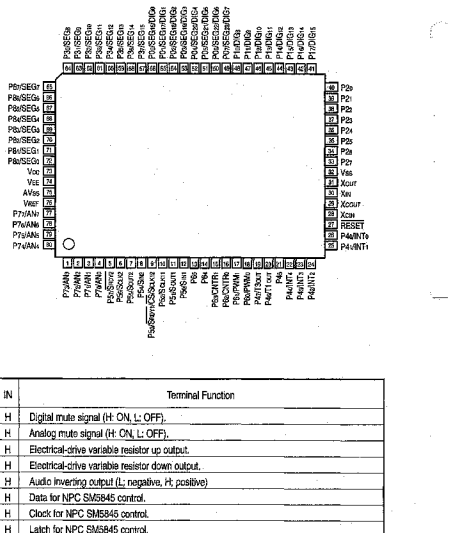
CXD2515Q Terminal Function

Pin No.	Symbol	I/O	Terminal Function
1	SRON	O	Sled drive output.
2	SRDR	O	Sled drive output.
3	SFON	O	Sled drive output.
4	TFDR	O	Tracking drive output.
5	TRON	O	Tracking drive output.
6	TRDR	O	Tracking drive output.
7	TFON	O	Tracking drive output.
8	FFDR	O	Focus drive output.
9	FRON	O	Focus drive output.
10	FRDR	O	Focus drive output.
11	FFON	O	Focus drive output.
12	VCOO	O	Oscillation circuit output for analog EFM PLL.
13	VCOI	I	Oscillation circuit input for analog EFM PLL. fLOCK=8.6436MHz.
14	TEST	I	Test terminal, normally GND.
15	V_{SS}	—	Digital GND.
16	TES2	I	Test terminal, normally GND.
17	TES3	I	Test terminal, normally GND.
18	PDO	O	Charge pump output for analog EFM PLL.
19	VPCO	O	PLL charge pump output for variable pitch.
20	VCKI	I	Clock input from external VCO for variable pitch. fCENTER=16.9344MHz.
21	AV_{DD}	—	Analog power supply.
22	IGEN	I	Current source reference resistor connecting terminal for OP amplifier.
23	AV_{SS}	—	Analog GND.
24	ADII	I	A/D converter input terminal.
25	ADIO	O	OP amplifier output terminal.
26	RFDC	I	RF signal input. Input range 2.15–5.0V (at V_{DC}=AV_{DD}=5.0V).
27	TE	I	Tracking error signal input. Input range 2.5V±1.0V (at V_{DD}=AV_{DD}=5.0V).
28	SE	I	Sled error signal input. Input range 2.5V±1.0V (at V_{DD}=AV_{DD}=5.0V).
29	FE	I	Focus error signal input. Input range 2.5V±1.0V (at V_{DD}=AV_{DD}=5.0V).
30	VC	I	Mid-point voltage input terminal.
31	FILO	O	Filter output for master PLL.
32	FILI	I	Filter input for master PLL.
33	PCO	O	Charge pump output for master PLL.
34	CLTV	I	VCO control voltage input for master.
35	AV_{SS}	—	Analog GND.
36	RFAC	I	EFM signal input.
37	BIAS	I	Asymmetry circuit constant current input.
38	ASYI	I	Asymmetry compare voltage input.
39	ASYO	O	EFM full swing output. (L=V_{SS}, H=V_{DD}).
40	AV_{DD}	—	Analog power supply.

Pin No.	Symbol	I/O	Terminal Function
41	V_{DD}	—	Digital power supply.
42	ASYE	I	Asymmetry circuit ON/OFF (L=OFF, H=ON).
43	PSSL	I	Audio data output mode shifting input. L to serial output, H to parallel output.
44	WDCK	O	46-bit slot D/A interface. Word clock f=2Fs.
45	LRCK	O	46-bit slot D/A interface. LR clock f=Fs.
46	DA16	O	DA16 output at PSSL=1. Serial data of 48-bit slot at PSSL=0.
47	DA15	O	DA15 output at PSSL=1. Bit clock of 48-bit slot at PSSL=0.
48	DA14	O	DA14 output at PSSL=1. Serial data of 64-bit slot at PSSL=0.
49	DA13	O	DA13 output at PSSL=1. Bit clock of 64-bit slot at PSSL=0.
50	DA12	O	DA12 output at PSSL=1. LR clock of 64-bit slot at PSSL=0.
51	DA11	O	DA11 output at PSSL=1. GTOP output at PSSL=0.
52	DA10	O	DA10 output at PSSL=1. XUGF output at PSSL=0.
53	DA09	O	DA09 output at PSSL=1. XPLCK output at PSSL=0.
54	DA08	O	DA08 output at PSSL=1. GFS output at PSSL=0.
55	DA07	O	DA07 output at PSSL=1. RFCK output at PSSL=0.
56	DA06	O	DA06 output at PSSL=1. C2PO output at PSSL=0.
57	DA05	O	DA05 output at PSSL=1. XRAOF output at PSSL=0.
58	DA04	O	DA04 output at PSSL=1. MNT3 output at PSSL=0.
59	DA03	O	DA03 output at PSSL=1. MNT2 output at PSSL=0.
60	DA02	O	DA02 output at PSSL=1. MNT1 output at PSSL=0.
61	DA01	O	DA01 output at PSSL=1. MNT0 output at PSSL=0.
62	XTAI	I	X'tal oscillation circuit input. 16.9344MHz or 33.8688MHz input.
63	XTAO	O	X'tal oscillation circuit output.
64	XTSL	I	X'tal selection input terminal. L at X'tal for 16.9344MHz, at 33.8688MHz turns to H.
65	V_{SS}	—	Digital GND.
66	FSTI	I	2/3 divided input of terminals 62 and 63.
67	FSTO	O	2/3 divided input of terminals 62 and 63. Unvarying by variable pitch.
68	C4M	O	4.2366MHz output. Simultaneously varies when variable pitched.
69	C16M	O	16.9344MHz output. Simultaneously varies when variable pitched.
70	MD2	I	Digital-out ON/OFF control terminal (L=OFF, H=ON).
71	DOUT	O	Digital-out output terminal.
72	EMPH	O	Emphasis mode output of playback disc (L at without emphasis, H at emphasized).
73	WFCK	O	WFCK output.
74	SCOR	O	Subcode sync output terminal (H at detecting either one of SO or SI subcode sync).
75	SBSO	O	Serial output of sub P–W.
76	EXCK	I	Clock input for SBSO read out.
77	SQSO	O	SubQ 80-bit output. PCM peak data, level data 16-bit output.
78	SQCK	I	Clock input for SQSO read out.
79	MUTE	I	Mute shifting terminal (H to mute).
80	SENS	O	SENS output. Outputs to CPU.
81	XRST	I	System reset (L to reset).
82	DIRC	I	Used for at t-track jump.
83	SCLK	I	Clock for SENS serial data reading.
84	DFSW	I	DFCT shifting terminal (H to DFCT countermeasure circuit OFF).
85	ATSK	I	Anti-shock terminal.
86	DATA	I	Serial data input from CPU.
87	XLAT	I	Latch input from CPU.
88	CLOK	I	Serial data transfer clock input from CPU.
89	COUT	O	Number of track count signal output.
90	V_{DD}	—	Digital power supply.
91	MIRR	O	Mirror signal output.
92	DFCT	O	Defect signal output.
93	FOK	O	Focus OK output.
94	FSW	O	Output filter shifting output of spindle motor.
95	MON	O	ON/OFF control output of spindle motor.
96	MDP	O	Servo control of spindle motor.
97	MDS	O	Servo control of spindle motor.
98	LOCK	O	Sampling GFS with 460Hz and outputs H at GFS is H. Outputs L when continuously 8 times L.
99	SSTP	I	Terminal for inner most circle detection signal of disc.
100	SFDR	O	Sled drive output.

M38173M6-292FP (IC201)





M38173M6-292FP Terminal Function

Pin No.	Terminal Name	Symbol	I/O	TY	OP	AC	IN	Terminal Function
1	P73	DMUTE	O	A	—	H	H	Digital mute signal (H: ON, L: OFF).
2	P72	AMUTE	O	A	—	H	H	Analog mute signal (H: ON, L: OFF).
3	P71	VRUP	O	A	—	L	H	Electrical-drive variable resistor up output.
4	P70	VRDN	O	A	—	L	H	Electrical-drive variable resistor down output.
5	P57	INVERT	O	B	—	L	H	Audio inverting output (L: negative, H: positive)
6	P56	FDATA	O	B	—	—	H	Data for NPC SM5845 control.
7	P55	FCLK	O	B	—	—	H	Clock for NPC SM5845 control.
8	P54	FLAT	O	B	—	L	H	Latch for NPC SM5845 control.
9	P53	INMOST	I	B	—	L	(H)	INMOST SW inner circle detection switch.
10	P52	SQCK	O	B	—	—	H	SUB code Q data reading clock.
11	P51	MODEL	I	B	—	—	H	H: DCD 3000, L: DCD1015
12	P50	SUBQ	I	B	—	H	(H)	SUB code Q data input.
13	P65	DIRC	O	A	—	L	H	DIRC output (CXA1372).
14	P64	FOK	I	A	—	H	(H)	FOK input (CXA1372).
15	P63	GFS	I	A	—	H	(H)	GFS input (CXA1372)
16	P62	SENSE	I	A	—	H	(H)	Sense input (CXA1372, CXA2515).
17	P61	CLK	O	A	—	—	H	Control clock output (CXA1372, CXD2515).
18	P60	DATA	O	A	—	—	H	Control data output (CXA1372, CXD2515).
19	P47	XLT	O	A	—	L	H	Control latch output (CXA1372, CXD2515).
20	P46	LASW	O	A	—	H	L	Laser drive signal.
21	P45	SCLK	O	A	—	—	L	SUB setting value read clock output.
22	P44	STEP	O	A	—	—	—	Electron variable resistor gain setting clock output.
23	P43	E. VR. UP	—	A	—	—	H	Electron variable resistor up output.
24	P42	E. VR. DOWN	O	A	—	—	H	Electron variable resistor down output.
25	P41/INT1	SCOR	I	A	—	L	(H)	Interrupt from SUB code.

IO: I/O
TY: Type
OP: Option
AC: Action
IN: Initialize

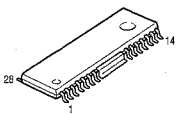
Type: A: Standard
B: N-ch Open drain
C: P-ch Open drain (high voltage proof)

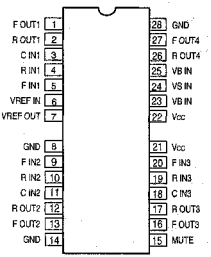
Pin No.	Terminal Name	Symbol	I/O	TY	OP	AC	IN	Terminal Function
26	P40/INT0	RIN	I	A	—	L	(H)	Interrupt from remote control.
27	RESET	RST	I	—	—	L	—	Reset signal input.
28	XCIN	LRCK	I	—	—	—	—	SUB clock input for LRCK.
29	XCOUT	NC	O	—	—	—	—	Open.
30	XIN	XIN	I	—	—	—	—	XTAL 4.23 MHz.
31	XOUT	XOUT	O	—	—	—	—	XTAL 4.23 MHz.
32	VSS	GND	I	—	—	—	—	GND
33	P27	MAINS	O	A	—	H	H	Alpha 1 ON/OFF H: ON, L: OFF.
34	P26	SHFTN	O	A	—	L	H	Bit shift ON/OFF H: OFF, L: ON.
35	P25	ADEEN	O	A	—	L	H	Alpha 2 ON/OFF H: OFF, L: ON.
36	P24	AGCNTL	O	A	—	H	L	Auto gain control, H: auto adjustment.
37	P23	OPEN	O	A	—	L	H	Loader open signal.
38	P22	CLOSE	O	A	—	L	H	Loader close signal.
39	P21	MD2	O	A	—	H	H	Digital out ON/OFF signal, H: ON.
40	P20	CD/AUX	O	A	—	—	L	DA input source selection output H: AUX, L: CD.
41	P17	G2	O	C	PD	H	L	Grid terminal (display indication).
42	P16	G3	O	C	PD	H	L	Grid terminal (display indication).
43	P15	G4	O	C	PD	H	L	Grid terminal (display indication).
44	P14	G5	O	C	PD	H	L	Grid terminal (display indication).
45	P13	G6	O	C	PD	H	L	Grid terminal (display indication).
46	P12	G7	O	C	PD	H	L	Grid terminal (display indication).
47	P11	G8	O	C	PD	H	L	Grid terminal (display indication).
48	P10	G9	O	C	PD	H	L	Grid terminal (display indication).
49	P07	G1	O	C	PD	H	L	Grid terminal (display indication).
50	P06	G10	O	C	PD	H	L	Grid terminal (display indication).
51	P05	FOCUS	O	C	PD	L	H	Focus error offset L: Focus search.
52	P04	l	O	C	PD	H	L	Segment terminal (display indication).
53	P03	k	O	C	PD	H	L	Segment terminal (display indication).
54	P02	j	O	C	PD	H	L	Segment terminal (display indication).
55	P01	i	O	C	PD	H	L	Segment terminal (display indication).
56	P00	a	O	C	PD	H	L	Segment terminal (display indication).
57	P37	b	O	C	PD	H	L	Segment terminal (display indication).
58	P36	f	O	C	PD	H	L	Segment terminal (display indication).
59	P35	g	O	C	PD	H	L	Segment terminal (display indication).
60	P34	e	O	C	PD	H	L	Segment terminal (display indication).
61	P33	d	O	C	PD	H	L	Segment terminal (display indication).
62	P32	h	O	C	PD	H	L	Segment terminal (display indication).
63	P31	c	O	C	PD	H	L	Segment terminal (display indication).
64	P30	OPTICAL	O	C	—	—	L	Optical output H: OPT L: COAX.
65	P87	SER2	I	C	—	—	—	Digital input for fs detection input 2.
66	P86	SER1	I	C	—	—	—	Digital input for fs detection input 1.
67	P85	ERR	I	C	—	—	—	Digital input for error input.
68	P84	DEP	I	C	—	—	—	Digital input for emphasis ON/OFF input.
69	P83	K4	I	C	—	H	(H)	Key input 4
70	P82	K3	I	C	—	H	(H)	Key input 3
71	P81	K2	I	C	—	H	(H)	Key input 2
72	P80	K1	I	C	—	H	(H)	Key input 1
73	VCC	+5V	I	—	—	—	—	+5V
74	VEE	-30V	I	—	—	—	—	Power supply for FIP drive
75	AVSS	GND	I	—	—	—	—	GND
76	VREF	+5V	I	—	—	—	—	+5V
77	P77	OPT LED	O	A	—	H	L	Optical LED drive output.
78	P76	COAX LED	O	A	—	H	L	COAX LED drive output.
79	P75	SWCL	I	A	—	L	(L)	Close detection switch.
80	P74	SWOP	I	A	—	L	(L)	Open detection switch.

SEMICONDUCTORS

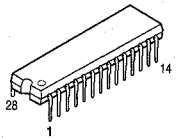
● IC's

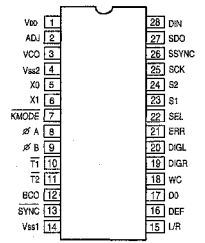
BA6392FP (IC102)



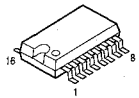


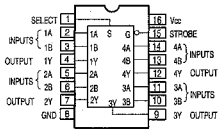
YM3623B (IC104)



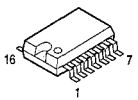


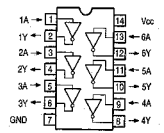
HD74HC157FP (IC110, 111)



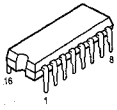


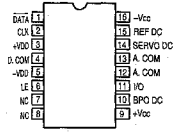
TC74HCU04AP (IC202)



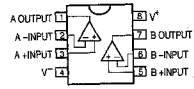


PCM1702P-J (IC301~304)

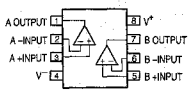




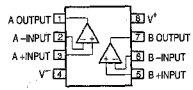
BA15218
(IC103, 105, 309, 310, 901)
OP275GP (IC309, 310)
SSM2139 (IC311, 312)
NE5532 (IC313, 314)
DCD-S10 Asia model only



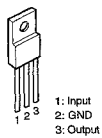
NJM2041DD (IC315~318) DCD-S10 Asia model only
NJM4556AD (IC501)
μPC4570C (IC311~318)



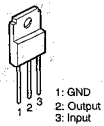
BA15218F (IC350)



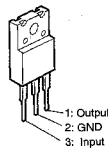
NJM7812FA (IC400)



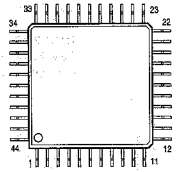
NJM79M12FA (IC401)

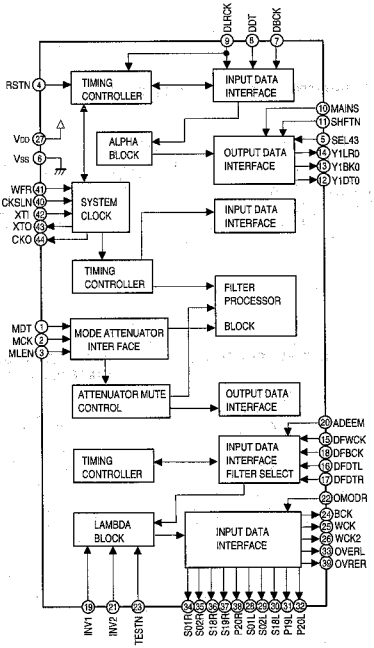


NJM7805FA (S) (IC403)
NJM7806FA (S) (IC402)



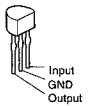
SM5845-AF (IC300)



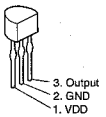


● IC PROTECTOR

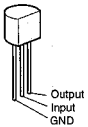
NJM78L05A (IC355, 356)



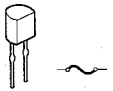
PST529C (IC409)



NJM79L05A (IC357, 358)

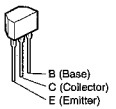


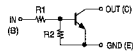
ICP-N20 (IC406, 407)



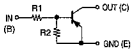
● TRANSISTORS

RN1202 (10K-10K) NPN Type
RN2202 (10K-10K) PNP Type
(BUILT IN RESISTOR)



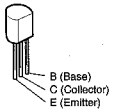


	R1	R2
RN1202	10kohm	10kohm

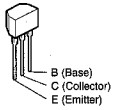


	R1	R2
RN2202	10kohm	10kohm

2SB562 (C)
2SC2878 (A/B)
2SD468 (C)



2SC1740S (S)

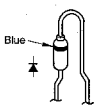


● DIODES

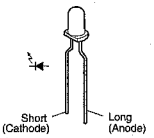
HZS7C-1
HZS33-1

1SS270A

1SR35-200A



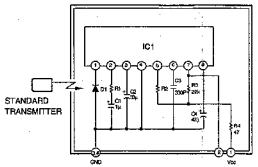
SEL2810R (Red)
SEL2810D (Amber)



● OTHER

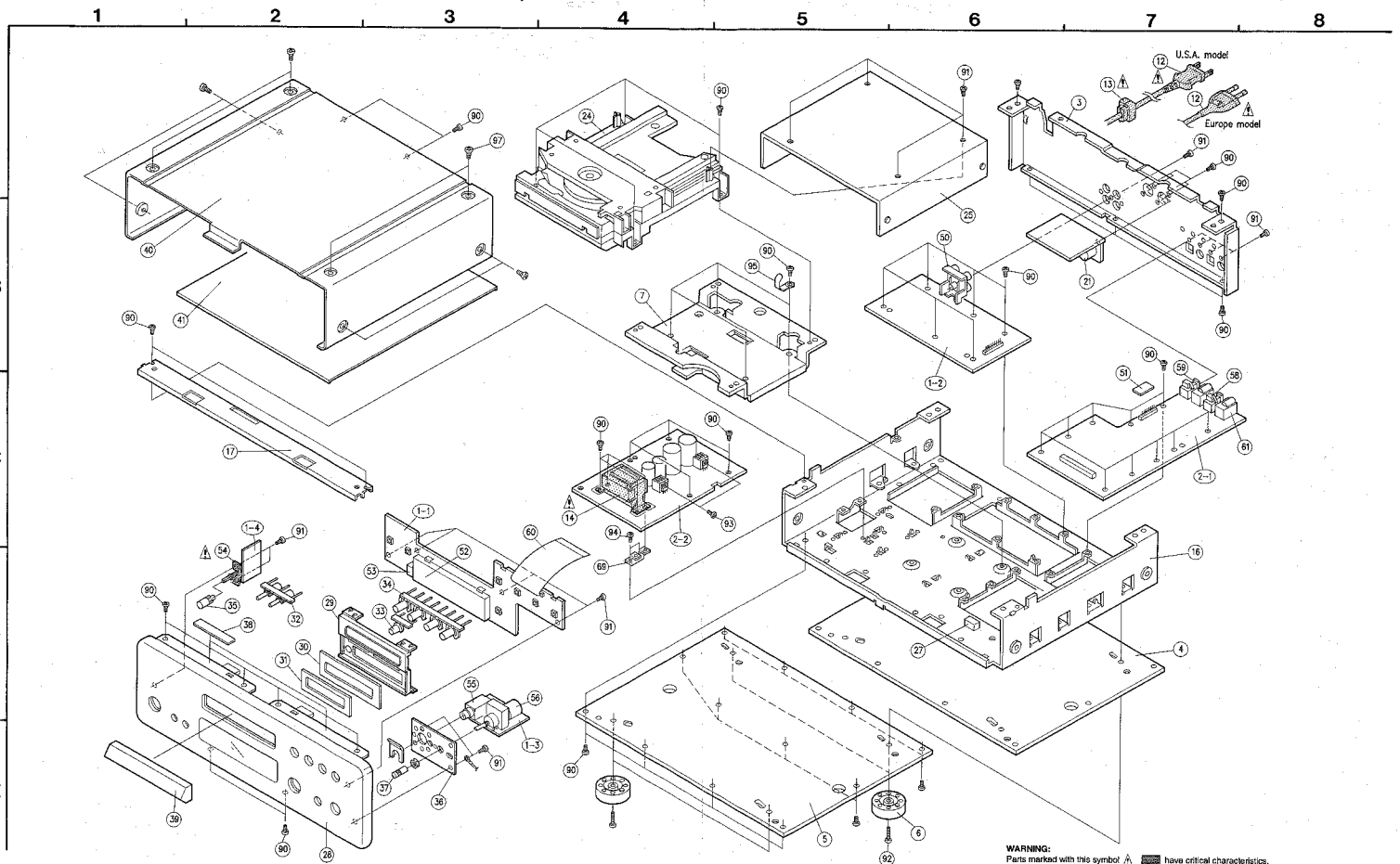
GP1U571 (Remote Control Receiver)
(IC801)

1. Vcc
2. Output
3. GND
4. Case Fin
5. Case Fin



IC1 : CX20106A Chip
D1 : PIN Photodiode Chip
C1,C2,C4 : Aluminum Electrolytic Capacitor
C3 : SL Characteristic ±5%
R1 : Gain control resistor
R2 : fo control resistor (Using ±1%)
R (Other than above items) : ±5%

EXPLODED VIEW (DCD-S10 Europe, U.S.A. & Canada Models)



(DCD-S10 Asia Model)

Ref. No.	Part No	Part Name	Remarks	Q'ty
◉ 1	1U- 2798 M	Audio P.W.B. Ass'y		1s
1-1	—	Display Unit		(1)
1-2	—	Audio Unit		(1)
1-3	—	Head Phone Unit		(1)
1-4	—	Power Switch Unit		(1)
1-5	—	Balance Out Unit		(1)
◉ 2	1U- 2797 M	Digital Servo P.W.B. Ass'y		1s
2-1	—	Servo Unit		(1)
2-2	—	Power Supply Unit		(1)
3	105 1170 001	Rear Panel		1
4	105 1152 100	Inside Bottom		1
5	105 1151 211	Bottom Cover		1
6	104 0267 006	Foot Ass'y		4
◉ 7	412 2843 400	Mecha Fix Bracket		1
8	129 0214 003	Bass Rubber (f)		1
9	129 0215 002	Bass Rubber (s)		1
◉ 10	412 3992 101	Pin Jack Damper		1
11	129 0212 005	Foot Damper		4
△ 14	233 6171 009	Power Trans (Analog)		1
△ 15	233 6172 006	Power Trans (Digital)		1
16	411 1317 219	Chassis		1
17	411 1318 014	Front Angle		1
18	—	—		
△ 20	283 3062 003	AC Inlet		1
21	205 0428 009	3P Cannon Connector	CN902,903	2
22	129 0213 004	Trans Damper		2
◉ 23	412 3957 007	Trans Plate		2
◉ 24	337 0041 000	CD Mecha Unit (FG-77)		1
25	412 3966 108	Mecha Cover		1
26	441 1706 007	Mecha Cover Damper		2
27	461 0889 015	Cushion (T:15)		1
28	144 2428 100	Front Panel Ass'y		1
29	146 1542 216	FL Holder		1
30	143 0919 207	Window		1
31	144 2450 000	Display Frame		1
32	113 1708 102	Input Button Ass'y		1
33	113 1709 004	OP/CL Button Ass'y		1
34	113 1710 006	Function Button Ass'y		1
35	113 9303 101	Power Button Ass'y		1
◉ 36	412 3935 003	Headphone Bracket		1
37	113 1713 100	Headphone Button Ass'y		1
38	129 0140 151	Rubber Sheet	T: 2.0	2
◉ 39	144 2436 150	Loader Panel Ass'y		1
◉ 40	102 9048 000	Top Cover		1
41	441 1709 006	Top Cover Damper		1
50	204 9801 006	1p Pin Jack		2
51	205 0711 091	15P TBG-S Connector	CB400, 401	2
52	393 4095 007	E.L. Tube FIP10SM6	FL801	1
53	499 0264 004	Remocon Sensor GP1U571	IC801	1
△ 54	213 1101 009	Power Switch	SW900	1
55	204 8322 007	Headphone Jack	PJ301	1
56	211 0544 111	Variable Resistor 20kohm	VR300	1
57	204 8406 017	1P Pin Jack	JK403,404	2
58	269 0098 006	Optical Connector (GP1F32T)	Out U305	1
59	269 0097 007	Optical connector (GP1F32R)	In U304	1
60	009 0090 033	35P FFC Cable	L=145	1
61	204 8178 028	1P Pin Jack	JK301,302	2

Ref. No.	Part No	Part Name	Remarks	Q'ty
◉ 62	1U- 2836 A	Servo Amp. P.W.B. Ass'y		1s
★ 63	214 0127 003	Relay (RY-12W)	RL301	1
★ 64	513 1606 006	Power Trans Label (A)		1
★ 65	513 1607 005	Power Trans Label (B)		1
★ 66	125 0078 001	Square Washer		2
★ 67	513 2299 043	Rating Sheet		1
★ 68	513 1220 000	Caution Label	Bottom Cover	1
◉ 69	412 3956 008	Trans Bracket		1
90	473 8034 001	Screw 3x8 CBTS(B)-CU		48
91	473 7518 104	Screw 3x10 CBTS(P)-CU		18
92	473 7007 026	Screw 4x16 CBTS(S)-B	Black	4
93	473 7508 017	Screw 3x10 CBTS(S)-B	Black	6
94	473 7002 021	Screw 3x8 CBTS(S)-B	Black	2
95	445 0048 016	Cord Holder	L=50	2
96	—	—		
97	471 8043 008	Special Screw		8
98	471 3830 000	Screw 3x6 CBS-CU		4

PACKING & ACCESSORIES (not Included EXPLODED VIEW)

151	505 0131 076	Cabinet Cover		1
152	504 0092 060	Styrene Paper	For AC Cord	1
153	503 9275 102	Cushion		2
154	501 1860 056	Carton Case		1
155	GEN 3032 -3	Envelop Sub. Ass'y		1s
155-1	505 0038 030	Poly Cover		(1)
155-2	511 2721 007	Operating Instructions (3)		(1)
155-3	511 2722 006	Operating Instructions		(1)
155-4	204 8121 004	: 2P Pin Cord		(1)
155-5	399 0263 006	Remote Control Unit	RC-253	(1)
△ 155-6	282 0048 002	AC Plug Adaptor		(1)
△ 155-7	286 2130 004	AC Cord W/Con & Plug		(1)
155-8	511 2773 000	Notice Sheet		(1)
156	513 9111 001	Color Label (Gold)		2

PARTS LIST OF EXPLODED VIEW

(DCD-S10 Europe, U.S.A. & Canada Models)

Ref. No.	Part No	Part Name	Remarks	Q'ty
◉ 1	1U- 2796 A	Audio P.W.B. Ass'y		1s
1-1	—	Display Unit		(1)
1-2	—	Audio Unit		(1)
1-3	—	Head Phone Unit		(1)
1-4	—	Power Switch Unit		(1)
1-5	—	Balance Out Unit		(1)
◉ 2	1U- 2798	Digital Servo P.W.B. Ass'y	Europe model	1s
	1U- 2798 D	Digital Servo P.W.B. Ass'y	U.S.A. & Canada models	1s
2-1	—	Servo Unit		(1)
2-2	—	Power Supply Unit		(1)
3	105 1150 128	Rear Panel		1
4	105 1152 100	Inside Bottom		1
5	105 1151 208	Bottom Cover		1
6	104 9044 000	Foot Ass'y		4
◉ 7	412 2843 400	Mecha Bracket Ass'y		1
8	—	—		
9	—	—		
10	—	—		
11	—	—		
△ 12	286 2883 106	AC Cord	Europe model	1
△ 12	286 2110 004	AC Cord	U.S.A. & Canada models	1
△ 13	445 0056 008	Cord Bush		1
△ 14	253 6828 006	Power Trans.	U.S.A. & Canada models	1
△ 14	253 6151 016	Power Trans.	Europe model	1
16	411 1317 219	Chassis		1
17	411 1318 014	Front Angle		1
18	—	—		
19	—	—		
20	—	—		
21	205 0428 009	3P Cannon Connector	CN902,903	2
22	—	—		
23	—	—		
◉ 24	337 0041 000	CD Mecha Unit (FG-77)		1
◉ 25	412 3966 108	Mecha Cover		1
26	—	—		
27	461 0689 015	Cushion (T:15)		1
28	144 2428 100	Front Panel Ass'y		1
29	146 1542 216	FL Holder		1
30	143 0919 207	Window		1
31	144 2450 000	Display Frame		1
32	113 1708 102	Input Button Ass'y		1
33	113 1709 004	OP/CL Button Ass'y		1
34	113 1710 006	Function Button Ass'y		1
35	113 9303 101	Power Button Ass'y		1
◉ 36	412 3935 003	Headphone Bracket		1
37	113 1713 100	Headphone Button Ass'y		1
38	129 0140 151	Rubber Sheet	T: 2.0	2
◉ 39	144 2436 150	Loader Panel Ass'y		1
◉ 40	102 9048 000	Top Cover		1
41	441 1709 006	Top Cover Damper		1
50	204 8265 009	4P PCA Pin Jack	JK405	1
51	205 0711 091	15P TBG-S Connector	CB400,401	2
52	393 4095 007	F.L. Tube FIP10SM6	FL601	1
53	499 0264 004	Remocon Sensor GP1U571	IC601	1

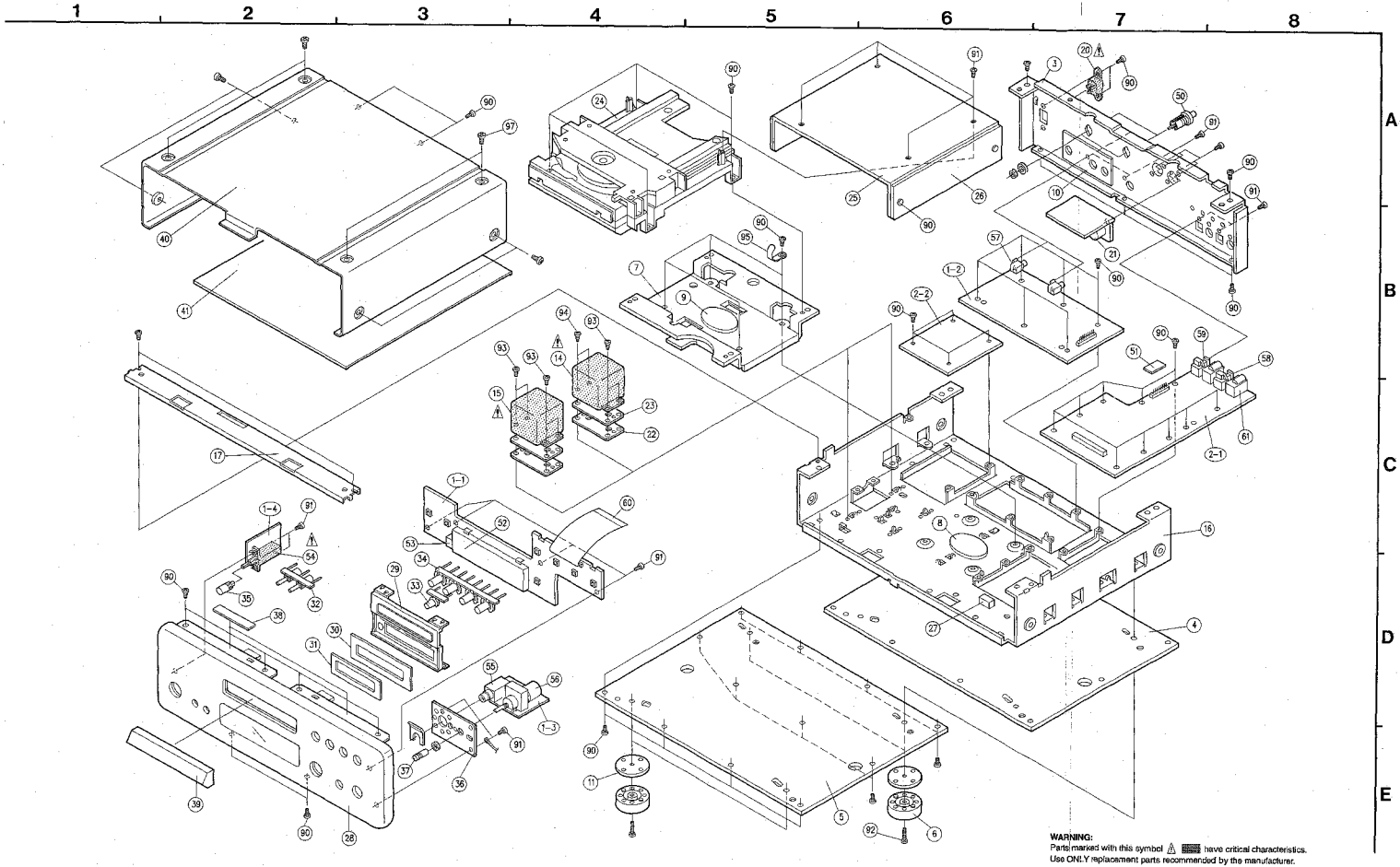
Ref. No.	Part No	Part Name	Remarks	Q'ty
△ 54	213 1101 006	Power Switch (1+5)	SW600	1
55	204 8322 007	Headphone Jack	PJ301	1
56	211 0544 111	Variable Resistor 20kohm	VR300	1
57	—	—		
58	269 0098 006	Optical Connector (GP1F32T)	Out U305	1
59	269 0097 007	Optical connector (GP1F32R)	In U304	1
60	009 0090 033	35P FFC Cable	L=145	1
61	204 8178 028	1P Pin Jack	JK301,302	2
◉ 62	1U- 2836 A	Servo Amp. P.W.B. Ass'y		1s
★ 63	214 0127 003	Relay (RY-12W)	RL301	1
★ 64	513 1381 004	Manufac. Date Label	U.S.A. & Canada models only	1
★ 65	513 0772 009	UL Label	U.S.A. & Canada models only	1
★ 66	LL- 6442 6	CSA Label	U.S.A. & Canada models only	1
★ 67	513 2337 015	Rating Sheet	Europe model	1
	513 2301 038	Rating Sheet	U.S.A. & Canada models only	1
★ 68	513 1220 000	Caution Label		1
◉ 69	412 3956 008	Trans Bracket		1
★ 70	122 0196 007	Sheet (Double Circle)		2
★ 71	513 2141 007	Caution Label	U.S.A. & Canada models only	1
★ 72	513 2065 002	Laser Caution	Europe model only	1
★ 73	513 0965 003	inst. Label	Europe model only	1
◉ 74	412 3969 004	SEMKO Bracket	Europe model only	1
90	473 7002 021	Screw 3x8 CBTS(S)-B	Black	57
91	473 7508 017	Screw 3x10 CBTS(P)-B	Black	17
92	473 7007 013	Screw 4x10 CBTS(S)-B	Black	4
93	471 3304 015	Screw 3x8 CBS-Z		4
94	473 7005 073	Screw 3x5 CBTS(S)-Z		4
95	445 0048 016	Cord Holder	L=50	2
96	—	—		
97	471 9043 008	Special Screw		8

PACKING & ACCESSORIES (not included EXPLODED VIEW)

151	505 0131 076	Cabinet Cover		1
152	504 0092 060	Styrene Paper	For AC Cord	1
153	503 9275 102	Cushion		2
154	501 1860 027	Carton Case		1
155	515 0690 006	DEL Warranty Home	U.S.A.,Canada only	1
156	517 0102 040	UPC Label	U.S.A.,Canada only	1
157	GEN 3032	Envelope Sub. Ass'y	Europe model	1s
	GEN 3032 -6	Envelope Sub. Ass'y	U.S.A. & Canada models	1s
157-1	505 0038 030	Poly Cover		1
157-2	511 2718 007	Operating Instructions (5)	Europe,U.K. only	1
157-3	511 2721 007	Operating Instructions (3)		1
157-4	204 8121 004	: 2P Pin Cord		1
157-5	399 0263 006	Remote Control Unit	RC-253	1
158	513 9111 001	Color Label (Gold)		2
159	513 8253 025	Approval Mark	Europe mode only	1

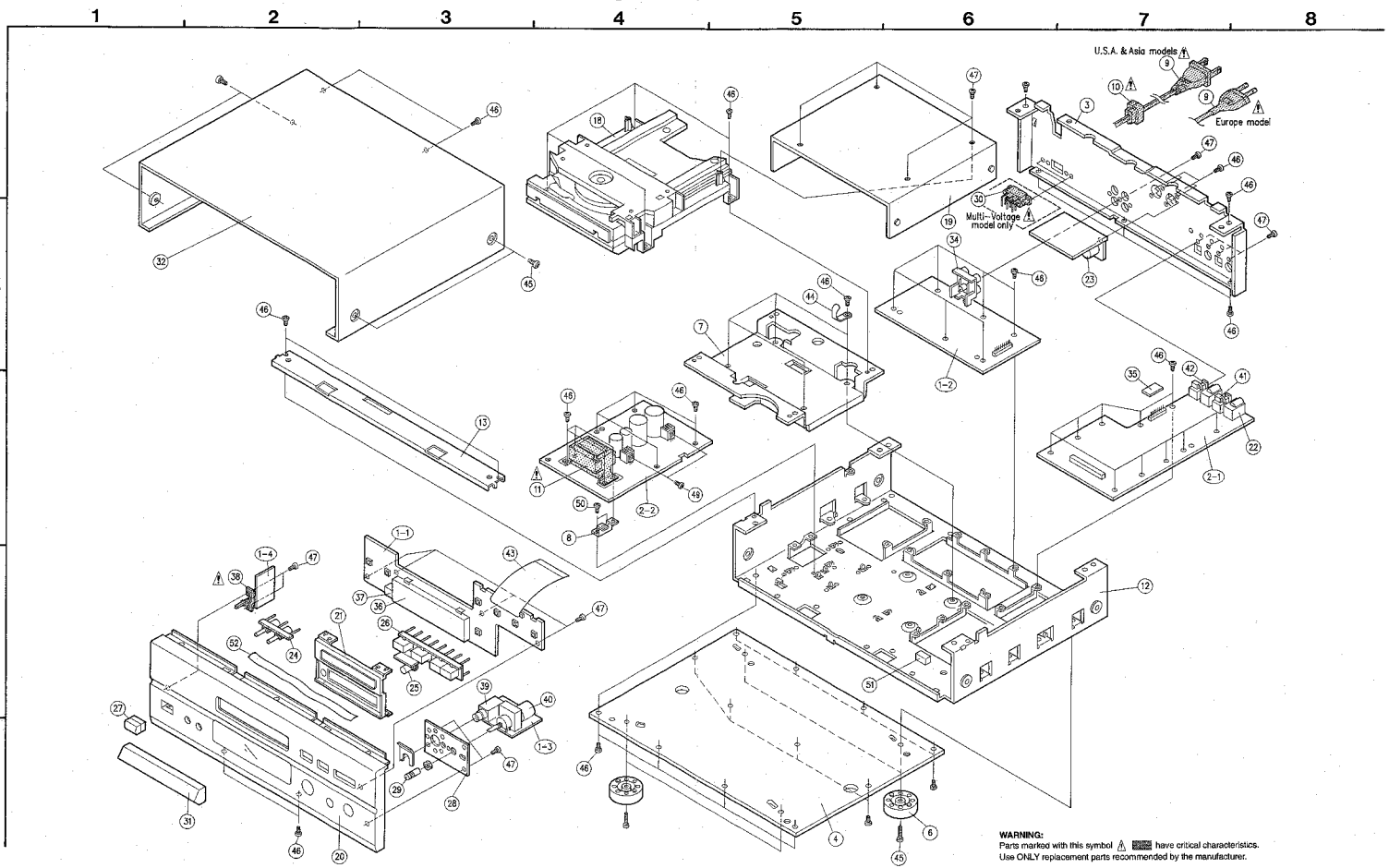
NOTE: (Gold) in the Remarks column refers to models with Gold front panels.

EXPLODED VIEW (DCD-S10 Asia Model)



WARNING:
Parts marked with this symbol ⚠ ▒▒ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

EXPLODED VIEW (DCD-3000 Europe, U.S.A. and Canada and Multi-Voltage Models)



WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

PARTS LIST OF EXPLODED VIEW

(Model DCD-3000 EUROPE, U.S.A. & Canada, and Multi-Voltage Models)

Ref. No.	Part No	Part Name	Remarks	Q'ty
◉ 1	1U- 2796	Audio P.W.B. Ass'y		1s
1-1	—	Display Unit		(1)
1-2	—	Audio Unit		(1)
1-3	—	Head Phone Unit		(1)
1-4	—	Power Switch Unit		(1)
1-5	—	Balance Out Unit	Multi-Voltage only	(1)
◉ 2	1U- 2798	Digital Servo P.W.B. Ass'y	Europe model	1s
	1U- 2798D	Digital Servo P.W.B. Ass'y	U.S.A. & Canada models	1s
	1U- 2798B	Digital Servo P.W.B. Ass'y	Multi-Voltage model	1s
2-1	—	Servo Unit		(1)
2-2	—	Power Supply Unit		(1)
3	105 1150 131	Rear Panel	Multi-Voltage model	1
3	105 1150 102	Rear Panel	Europe, U.S.A. and Canada models	1
4	105 1152 100	Inside Bottom		1
6	104 0180 112	Foot Ass'y		4
◉ 7	412 2812 402	Mecha Fix Bracket		1
◉ 8	412 3956 008	Trans Bracket		1
⚠ 9	203 2089 105	AC Cord	Multi-Voltage model	
⚠ 9	203 2110 004	AC Cord	U.S.A. & Canada models	
⚠ 9	203 0089 106	AC Cord	Europe model	
⚠ 10	445 0055 038	Cord Bush		
⚠ 11	233 6191 016	Power Trans	Europe model	
⚠ 11	233 5968 002	Power Trans	U.S.A. & Canada models	
⚠ 11	233 6152 019	Power Trans	Multi-Voltage model	
◉ 12	411 1317 206	Chassis		1
13	411 1318 001	Front Angle		1
◉ 18	337 0039 009	CD Mecha Unit (FG-76)		1
19	412 3966 111	Mecha Cover		1
◉ 20	144 2426 102	Front Panel Ass'y		1
21	146 1542 203	FL Holder		1
22	204 8178 026	1p Pin Jack	JK301,302	2
23	205 0426 009	3P Cannon Connector	CN902,903	2
24	113 1705 008	Input Button Ass'y		1
25	113 1705 024	OP/CL Button Ass'y		1
26	113 1706 007	Function Button Ass'y		1
27	113 9213 000	Power Button Ass'y		1
◉ 28	412 3935 003	Headphone Bracket		1
29	113 1713 113	Headphone Button Ass'y		1
⚠ 30	212 1118 002	Voltage Selector	SW902 Multi-Voltage model	
31	144 2436 105	Loader Panel Ass'y		1
32	102 0556 009	Top Cover		1
34	204 8265 009	4P RCA Pin Jack	JK405	1
35	205 0711 091	15P TBG-S Connector	CB400,401	2
36	393 4095 007	FL Tube FIP10SM6	FL801	1
37	499 0264 004	Remocon Sensor GP1U571	IC801	1
⚠ 38	212 1101 006	Power Switch	SW900	
39	204 8322 007	Headphone Jack		1
40	211 0544 111	Variable Resistor 20kohm		1
41	269 0098 006	Optical Connector (GP1F32T)	Out U305	1
42	269 0097 007	Optical Connector (GP1F32R)	In U304	1
43	009 0090 033	35P FFC Cable	L=145	1
44	445 0048 016	Cord Holder	L=50	2

Ref. No.	Part No	Part Name	Remarks	Q'ty
45	473 7007 000	Screw 4×8 CBTS (S)-B	Black	8
46	473 7002 021	Screw 3×8 CBTS (S)-B	Black	50
47	473 7508 017	Screw 3×10 CBTS (P)-B	Black	17
49	471 3304 015	Screw 3×8 CBS-Z		4
50	473 7005 073	Screw 3×5 CBTS (S)-Z		4
51	461 0889 002	Cushion (T:10)		1
52	122 0187 113	Top Cover Spacer		1
◉ 53	1U- 2836 A	Servo Amp. P.W.B. Ass'y		1s
★ 54	214 0127 003	Relay (RY-12W)	RL301	1
★ 55	125 0077 002	Spacer	10x160	1
★ 56	129 0222 008	Rubber Spacer	T:4	1
★ 57	122 0196 007	Sheet		2
★ 100	513 2065 002	Laser Caution Label	Europe, U.S.A. and Canada models	1
★ 101	513 1220 000	Caution Label		1
★ 102	513 2301 041	Rating Sheet	U.S.A. model	1
	513 2337 002	Rating Sheet	Europe model	1
	513 2374 007	Rating Sheet	Multi-Voltage model	1
★ 103	513 2141 007	Caution Label	U.S.A. & Canada models	1
★ 104	513 0772 009	UL Label	U.S.A. & Canada models	1
★ 105	LL- 6442 6	CSA Label	U.S.A. & Canada models	1
★ 106	513 1361 004	Manufac. Date Label	U.S.A. & Canada models	1
★ 107	513 1286 002	Fuse Caution Label	U.S.A. & Canada models	1
★ 108	513 0985 003	Inst. Label	Europe, Multi-Voltage models	1
★ 109	513 8253 025	Approval Mark	Europe model	1
★ 110	515 8030 040	Preset Label 230V	Mult-Voltage model	1

PACKING & ACCESSORIES (not included EXPLODED VIEW)

	151	505 0131 076	Cabinet Cover	1
	152	504 0092 060	Styrene Paper	For AC Cord 1
	153	503 9275 102	Cushion	2
	154	501 1660 001	Carton Case	1
	155	515 0690 006	DEL Warranty Home	U.S.A.,Canada only 1
	156	517 0102 037	UPC Label	U.S.A.,Canada only 1
	157	GEN 3032 -	Envelop Sub. Ass'y	Europe model 1s
		GEN 3032 -2	Envelop Sub. Ass'y	U.S.A. & Canada models 1s
		GEN 3032 -3	Envelop Sub. Ass'y	Multi-Voltage model 1s
	157-1	505 0038 030	Poly Cover	(1)
	157-2	511 2718 007	Operating Instructions(5)	Europe,U.K. only (1)
	157-3	511 2721 007	Operating Instructions(3)	(1)
	157-4	511 2722 006	Operating Instructions	Multi-Voltage only (1)
	158-5	204 8121 004	2P Pin Cord	(1)
	159-6	399 0260 009	Remote Control Unit	RC-252 (1)
	157-7	—	Dry Battery	R06P/AA/UM-3 (2)
⚠	258	203 0042 004	AC Plug Adaptor	Multi-Voltage model 1

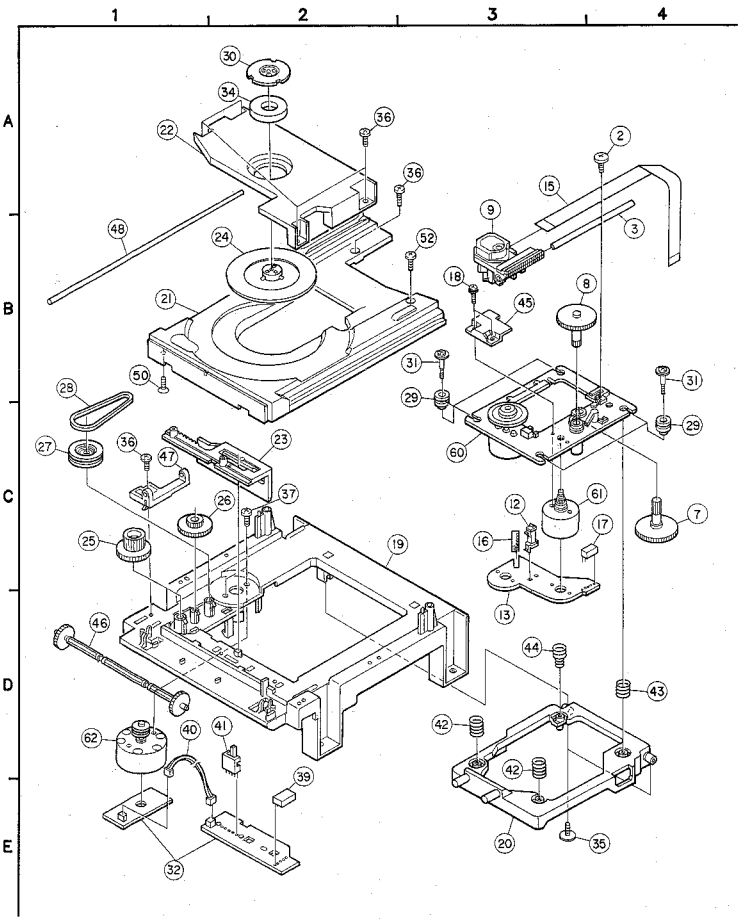
NOTE: (Gold) in the Remarks column refers to models with Gold front panel.

PARTS LIST OF FG-76/77 MECHANISM UNIT

FG-76 Part No. 337 0039 009 for DCD-3000
FG-77 Part No. 338 0041 000 for DCD-S10

Ref. No.	Part No.	Part Name	Remarks	Q'ty
2	9KA 90H0 06	FS Fixing Screw		1
3	9KA 90H0 05	Feed Shaft		1
7	9KA 80G0 17	Drive Gear (a)		1
8	9KA 80G0 18	Drive Gear (b)		1
9	499 0191 009	Laser P.U		1
12	9KS 01W1 47	Leaf Switch		1
13	9KA 85P0 09	Motor P.W.B.		1
15	009 0051 001	12P FFC Cable		1
16	443 1093 006	FFC Bush		1
17	9KA 82G2 53	S5B-PH Connector Base		1
18	9KM 20S0 04	Screw 2×4 (Sems)		2
19	411 1319 301	Mecha. Chassis		1
20	9KA 85G0 20	Mecha. Frame (FG70)		1
21	431 0383 219	Loader 76	model DCD-3000	1
	431 0383 235	Loader 77	model DCD-S10	1
22	412 3943 202	Clamper Holder		1
23	9KA 4G00 5A	UD Plate Gear (FG70)		1
24	421 0716 203	Clamper (F)		1
25	9KA 85G0 07	Relay Gear (A)		1
26	9KA 4G00 6A	Relay Gear (B)		1
27	9KA 85G0 09	Relay Gear (C)		1
28	9KA 85G0 10	Gear Belt (F)		1
29	9KA 85G0 30	Damper (FG40)		4
30	9KA 85P0 07	Clamper Plate (F)		1
31	9KA 85H0 01	Screw (F)		4
32	9KA 85P0 05	Motor P.W.B. (FG-70)		1
34	9KA 82G0 57	Magnet		1
35	9KA 92H0 01	Special Screw 3×8		2
36	9KB 30B0 08	Screw 3×8 Baind		6
37	9KM 26BK 04	Screw 2.6×4 Baind		2
39	9KA 82G3 08	S5B-PH (Red)		1
40	9KA 85G0 27	CNW2 (FG70)		1
41	9KS 01W1 48	OP/CL Switch (SSS-12)		1
42	9KA 85S0 04	Spring (D)		2
43	9KA 85S0 02	Spring (B)		1
44	9KA 85S0 03	Spring (C)		1
45	9KA 85G0 33	Gear Guide		1
46	424 0246 109	Loader Gear		1
47	412 3944 308	Holder		1
48	431 0384 001	Slide Shaft		1
50	9KH 30PK 08	Screw 3×8 CPS		1
52	9KB 30PK 10	Screw 3×10 Baind		1
60	9KA 85A0 14	Spindle Motor Ass'y		1s
61	9KA 85A0 08	Feed Motor Ass'y		1s
62	9KA 85A0 06	Loading Motor Ass'y		1s

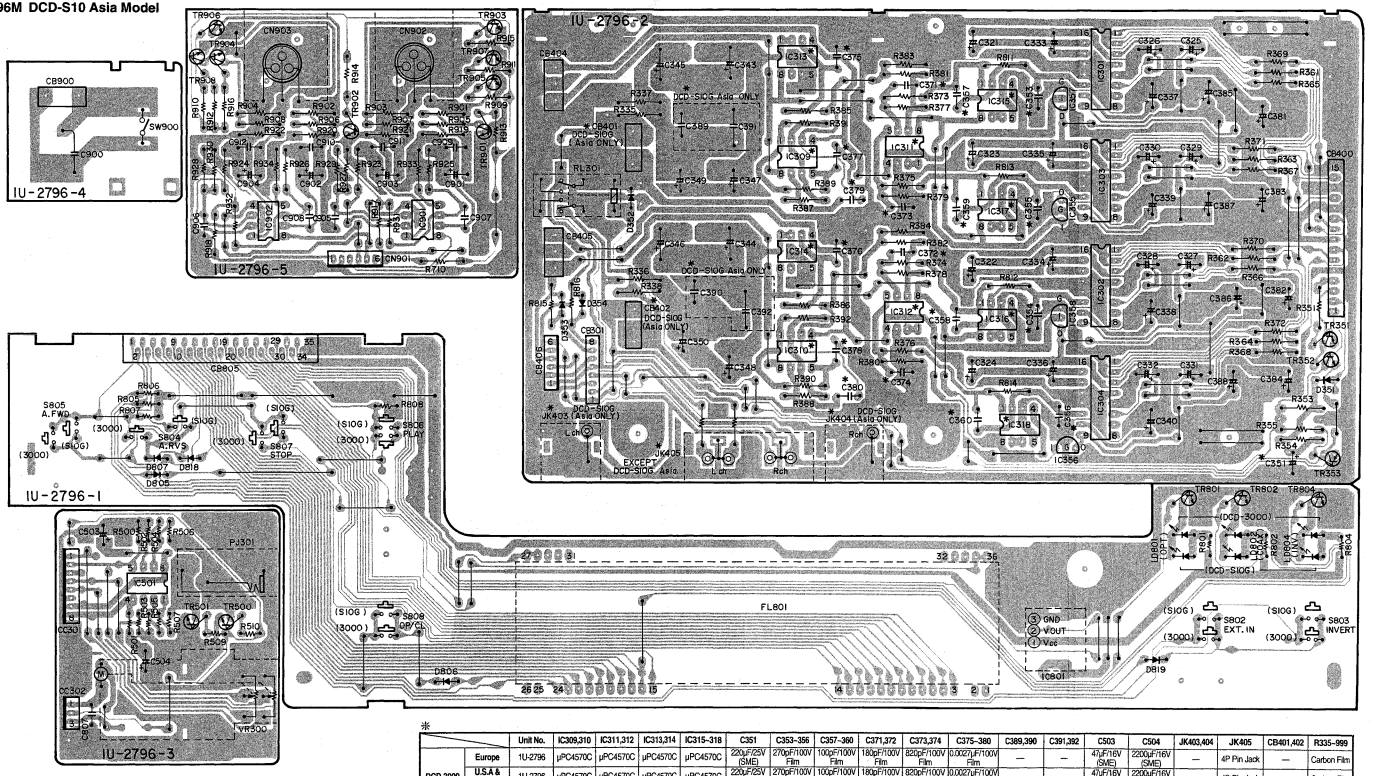
EXPLODED VIEW OF FG-76/77 MECHANISM UNIT



P.W. BOARD UNIT ASS'Y

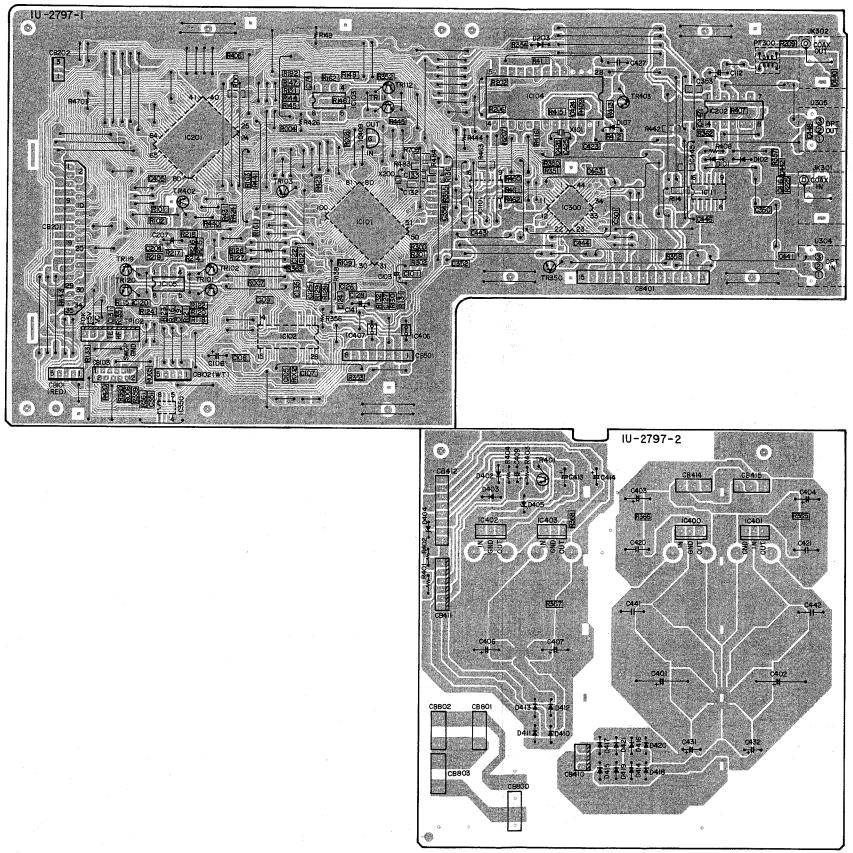
1U-2796 AUDIO UNIT

1U-2796 DCD-3000 Europe, U.S.A. & Canada and Multi-Voltage Models
1U-2796A DCD-S10 Europe, U.S.A. & Canada Models
1U-2796M DCD-S10 Asia Model



		Unit No.	IC309,310	IC311,312	IC313,314	IC315~318	C351	C353~356	C357~360	C371,372	C373,374	C375~380	C389,390	C391,392	C503	C504	JK403,404	JK405	CB401,402	R335~999
DCD-3000	Europe	1U-2796	µPC4570C	µPC4570C	µPC4570C	µPC4570C	220µF/25V (SMD)	270pF/100V Film	100pF/100V Film	180pF/100V Film	820pF/100V Film	0.0027µF/100V Film	—	—	47µF/16V (SMD)	2200µF/16V (SMD)	—	4P Pin Jack	—	Carbon Film
	U.S.A. & Canada	1U-2796	µPC4570C	µPC4570C	µPC4570C	µPC4570C	220µF/25V (SMD)	270pF/100V Film	100pF/100V Film	180pF/100V Film	820pF/100V Film	0.0027µF/100V Film	—	—	47µF/16V (SMD)	2200µF/16V (SMD)	—	4P Pin Jack	—	Carbon Film
	Multi-voltage	1U-2796	µPC4570C	µPC4570C	µPC4570C	µPC4570C	220µF/25V (SMD)	270pF/100V Film	100pF/100V Film	180pF/100V Film	820pF/100V Film	0.0027µF/100V Film	—	—	47µF/16V (SMD)	2200µF/16V (SMD)	—	4P Pin Jack	—	Carbon Film
DCD-S10	Europe	1U-2796A	µPC4570C	µPC4570C	µPC4570C	µPC4570C	220µF/25V (SMD)	270pF/100V Film	100pF/100V Film	180pF/100V Film	820pF/100V Film	0.0027µF/100V Film	—	1µF/63V	47µF/16V (SMD)	2200µF/16V (SMD)	—	4P Pin Jack	—	Carbon Film
	U.S.A. & Canada	1U-2796A	µPC4570C	µPC4570C	µPC4570C	µPC4570C	220µF/25V (SMD)	270pF/100V Film	100pF/100V Film	180pF/100V Film	820pF/100V Film	0.0027µF/100V Film	—	1µF/63V	47µF/16V (SMD)	2200µF/16V (SMD)	—	4P Pin Jack	—	Carbon Film
	Asia model	1U-2796M	OP275GP	SSM2139	NE5532	NJM2041DD	220µF/25V (ARD)	270pF/125V Polystyrol	100pF/125V Polystyrol	180pF/125V Polystyrol	820pF/125V Polystyrol	0.0027µF/125V Polystyrol	0.01µF/125V Polystyrol	1µF/63V	47µF/16V (ARD)	2200µF/16V (ASF)	1P Pin Jack	—	2PVH Con. Base	Carbon Film (PSNB)

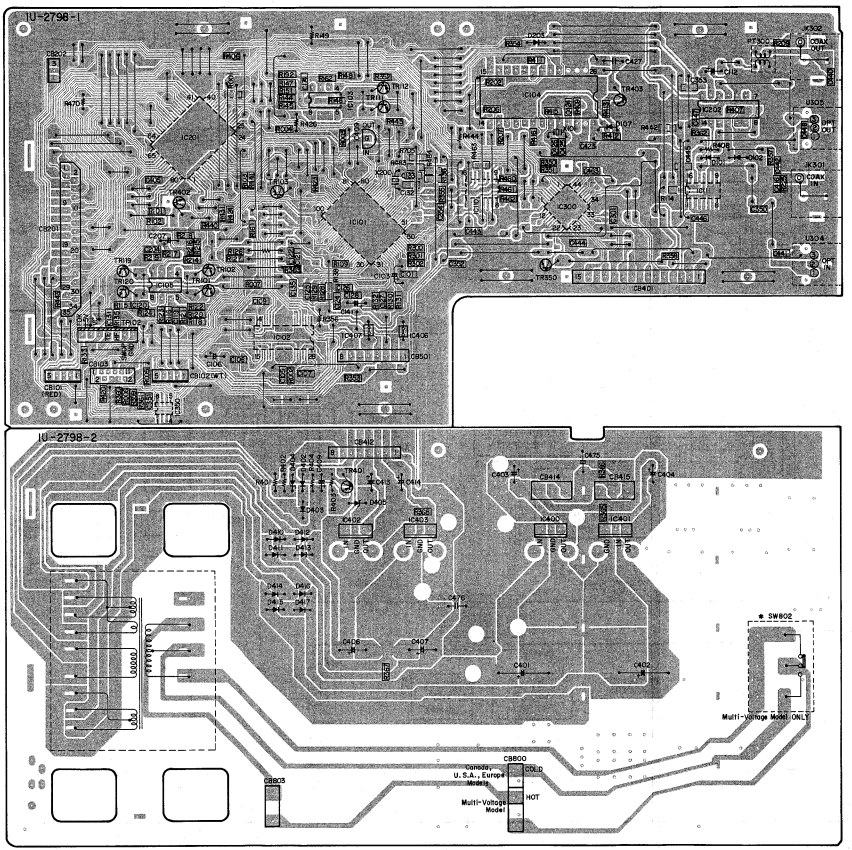
1U-2797 DIGITAL SERVO UNIT (DCD-S10 Asia Model only)



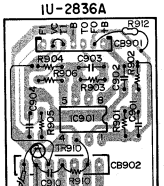
1U-2798 DIGITAL SERVO UNIT

1U-2798 DCD-3000, DCD-S10 Europe Models
1U-2798D DCD-3000, DCD-S10 U.S.A. & Canada Models
1U-2798B DCD-3000 Multi-Voltage Model

		Unit No.	SW802
DCD-S10	Europe	1U-2798	—
	U.S.A. & Canada	1U-2798D	—
DCD-3000	Europe	1U-2798	—
	U.S.A. & Canada	1U-2798D	—
	Multi-Voltage	1U-2798B	Vol. Sel. SW

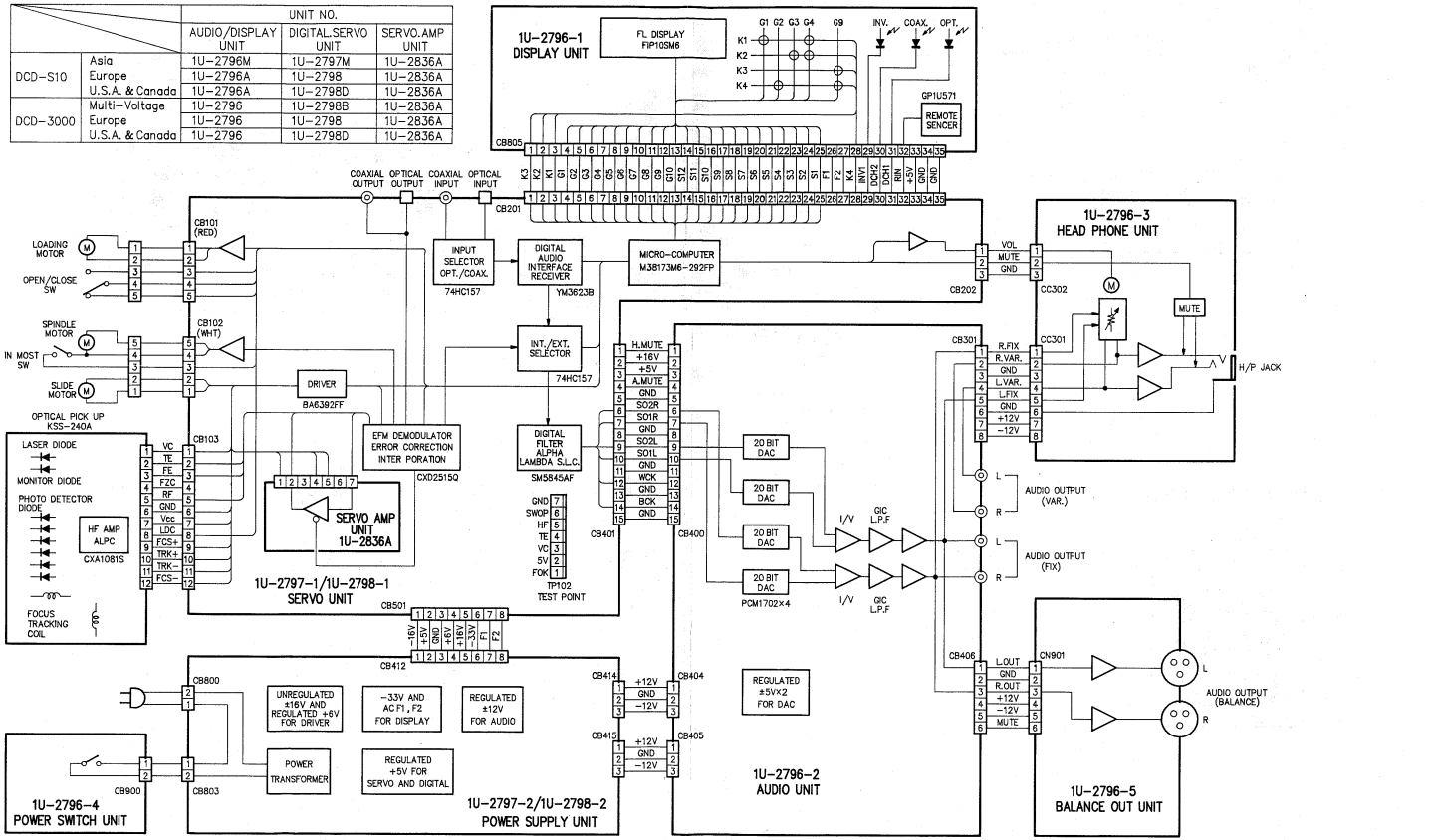


1U-2836A SERVO AMP UNIT



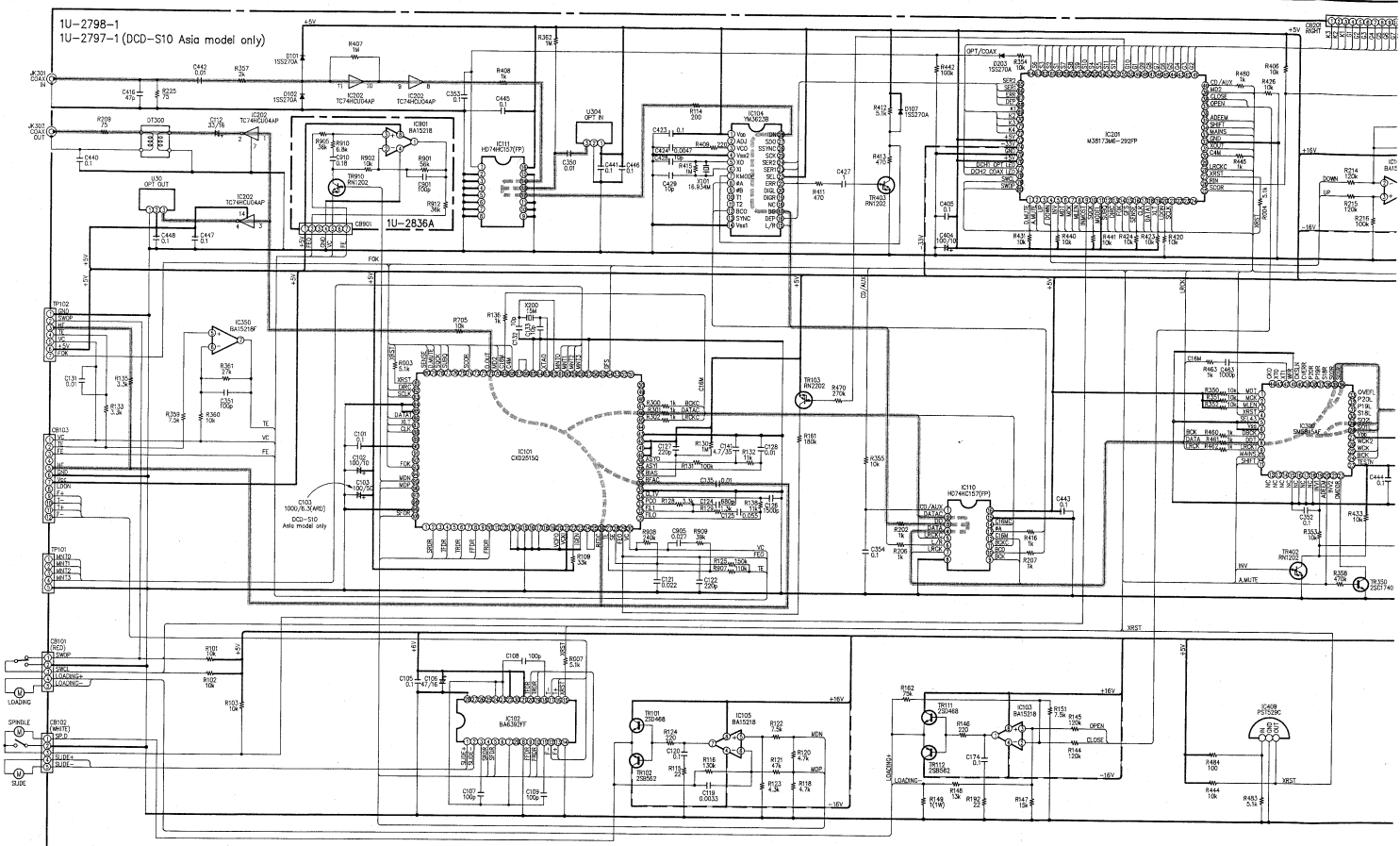
WIRING DIAGRAM

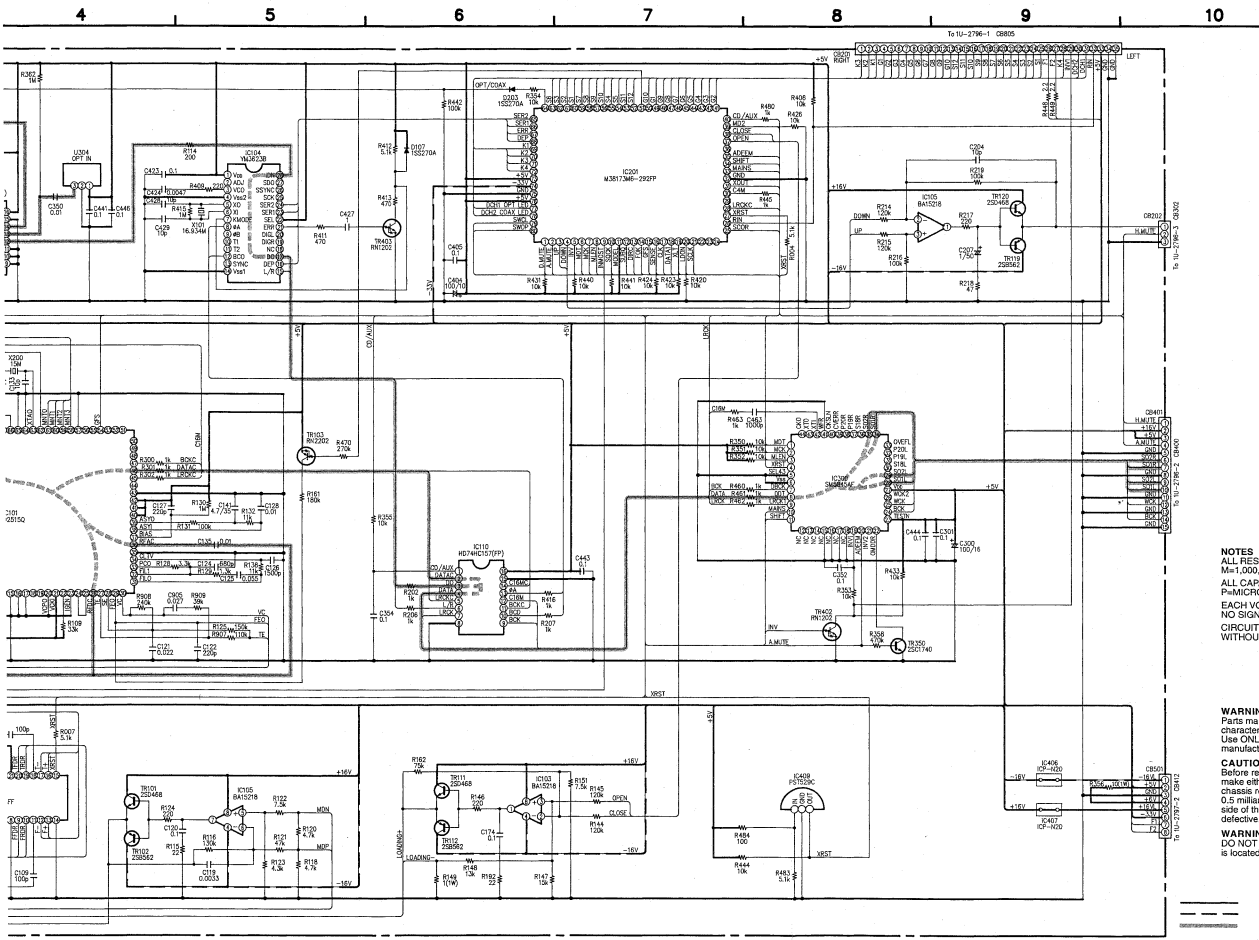
		UNIT NO.		
		AUDIO/DISPLAY UNIT	DIGITAL SERVO UNIT	SERVO AMP UNIT
DCD-S10	Asia	1U-2796M	1U-2797M	1U-2836A
	Europe	1U-2796A	1U-2798	1U-2836A
	U.S.A. & Canada	1U-2796A	1U-2798D	1U-2836A
DCD-3000	Multi-Voltage	1U-2796	1U-2798B	1U-2836A
	Europe	1U-2796	1U-2798	1U-2836A
	U.S.A. & Canada	1U-2796	1U-2798D	1U-2836A



SCHEMATIC DIAGRAM-1/3

1 2 3 4 5 6 7 8





NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

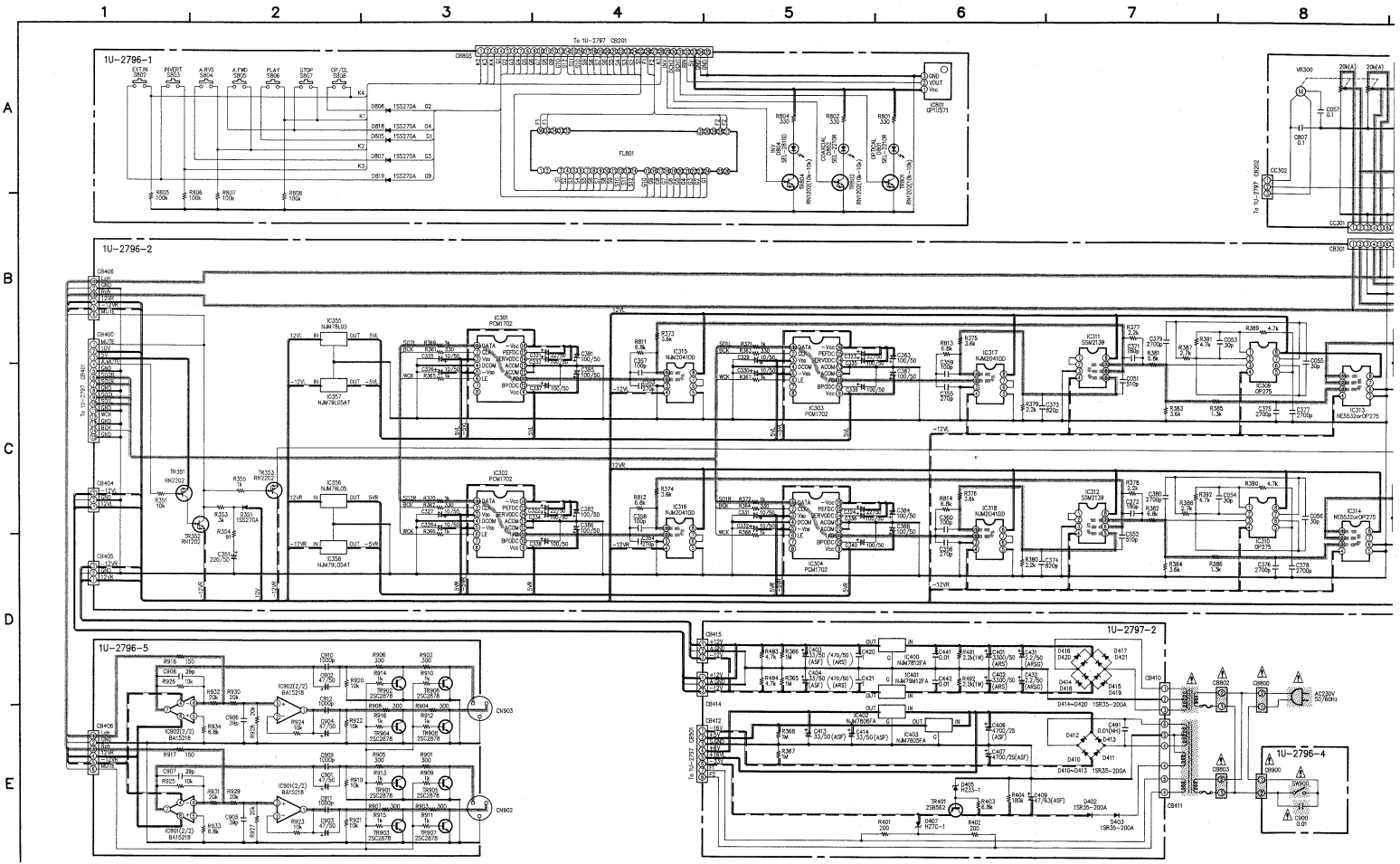
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

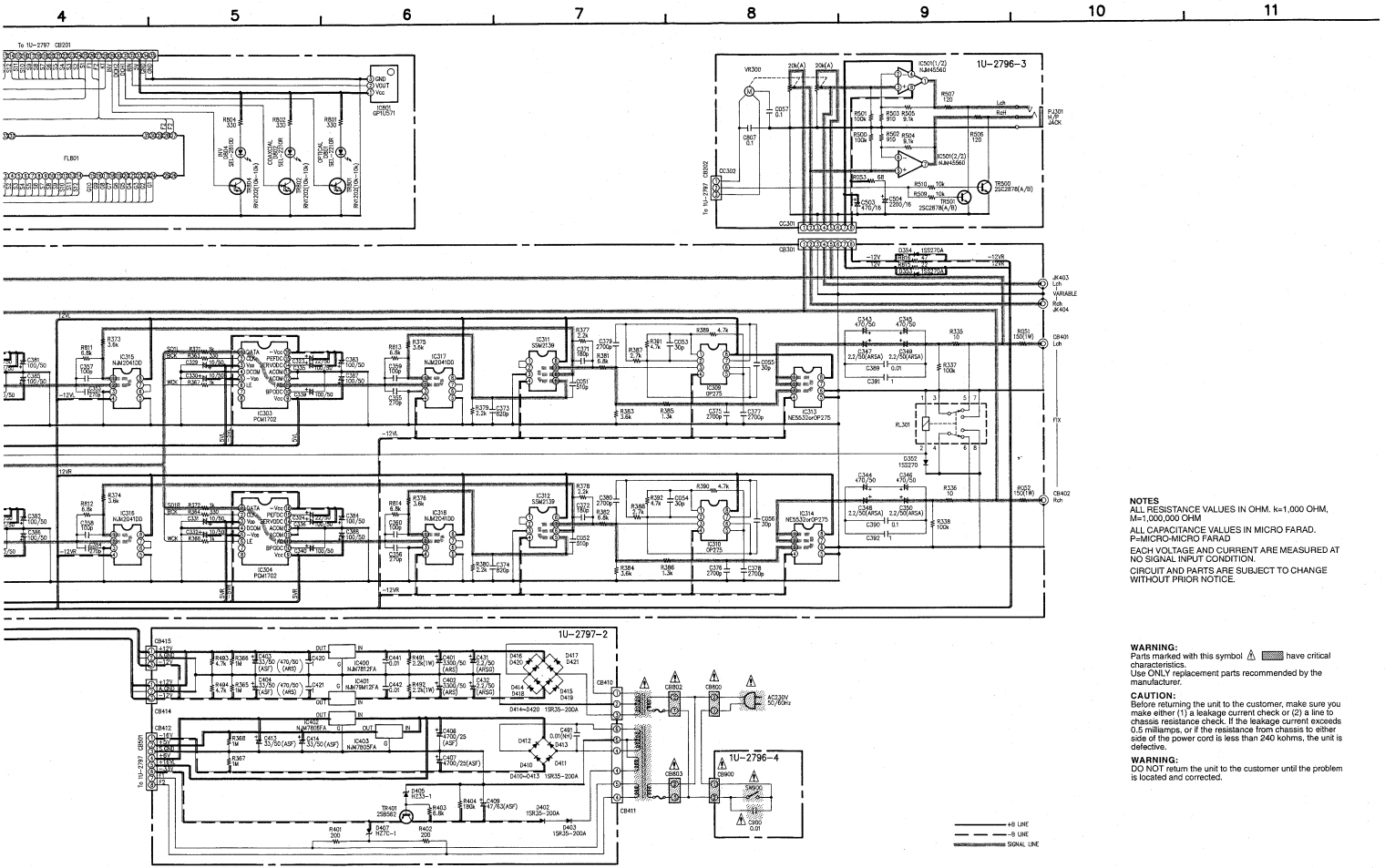
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

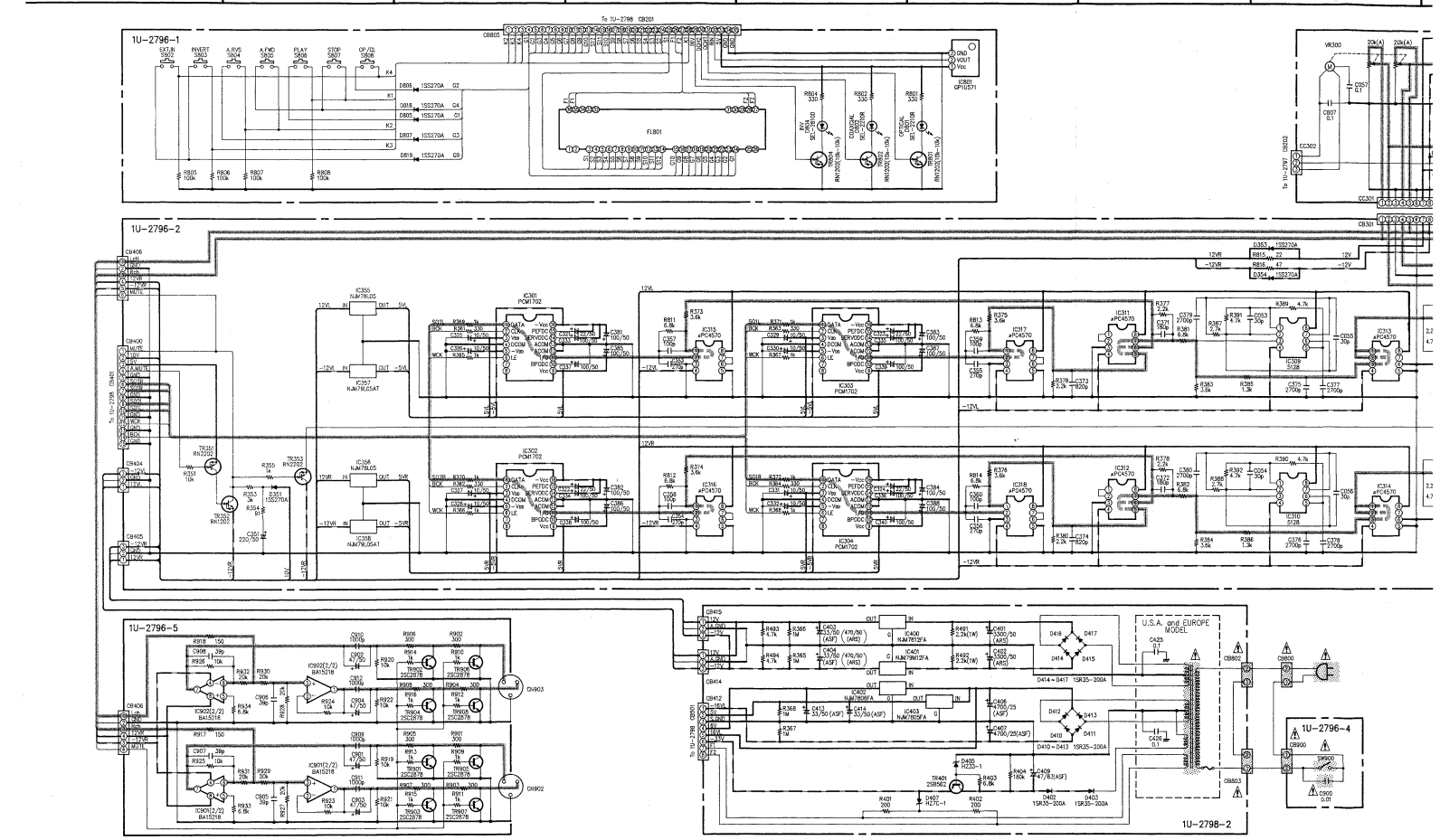
WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

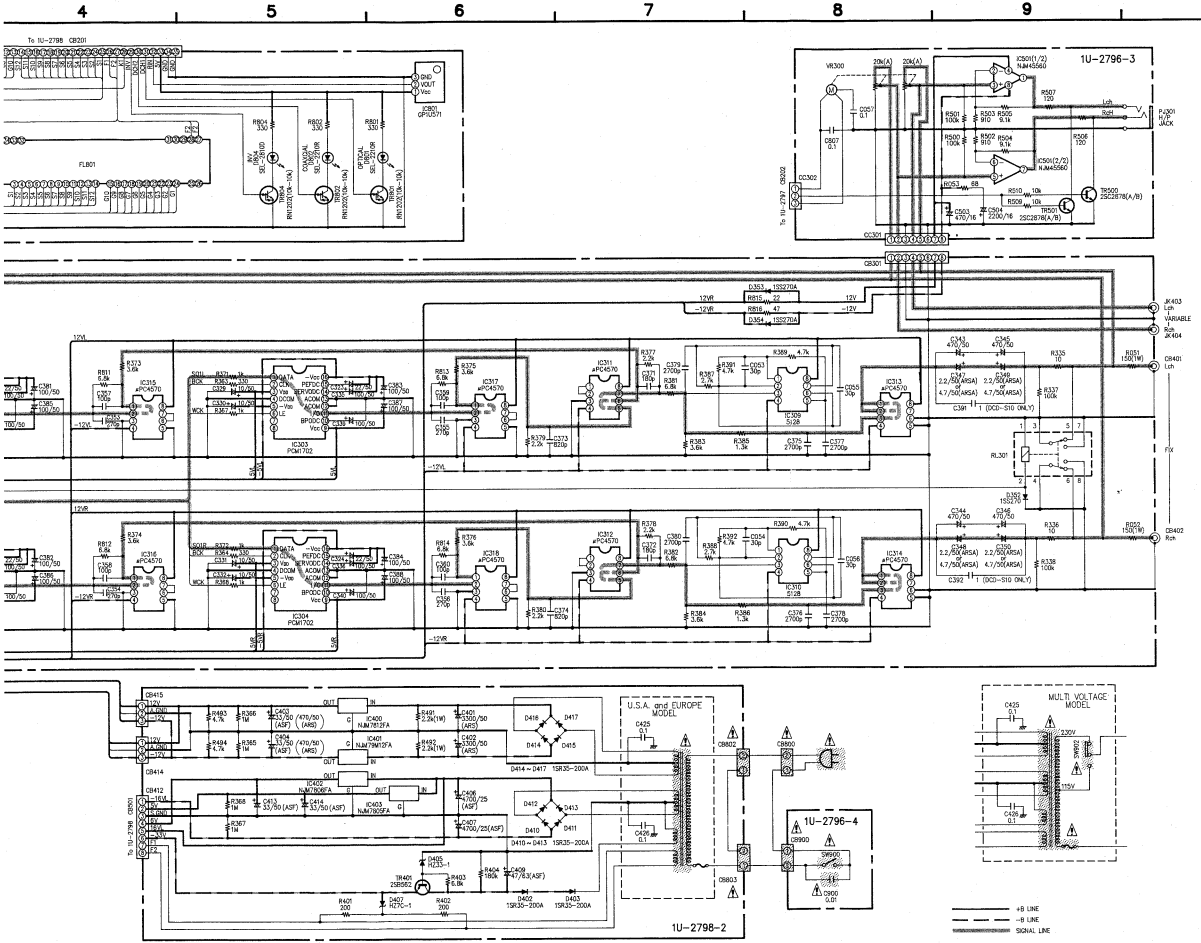
SCHEMATIC DIAGRAM-2/3




4
5
6
7
8
9
10
11
1U-2796-3
1U-2797-2
1U-2796-4
NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.
WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.
+B LINE
-B LINE
SIGNAL LINE

SCHEMATIC DIAGRAM-3/3





NOTES

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 miliamps, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.