

DENON

MINIDISC RECORDER

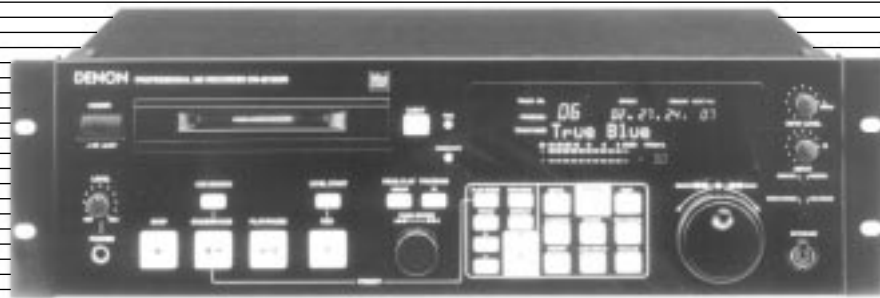
DN-M1050R

OPERATING INSTRUCTIONS

BEDIENUNGSANLEITUNG

MODE D'EMPLOI

INSTRUCCIONES DE OPERACION



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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 MD recorder. 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. DN-M1050R

Serial No. _____



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



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 to 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 to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

NOTE:

This MD recorder 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).

LABELS (for U.S.A. model only)

CERTIFICATION

THIS PRODUCT COMPLIES WITH DHHS RULES 21 CFR SUBCHAPTER J APPLICABLE AT DATE OF MANUFACTURE.

CAUTION:

USE OF CONTROLS OR ADJUSTMENTS OR REFORMANCE 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:

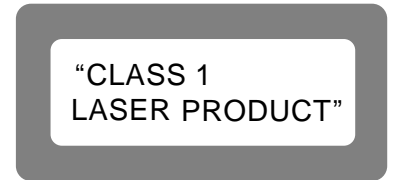
This unit may cause interference to radio and television reception if you do not operate it in strict accordance with this OPERATING INSTRUCTIONS.

This unit complies with Class B computing device rules in accordance with the specifications in Sub-part J or 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:

- Turn the other unit to improve reception
- Move this unit
- Move this unit away from others
- Plug this unit respectively into a different AC outlet

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

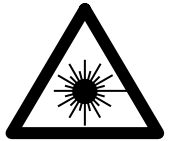
CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT



ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.

VAROITUSI: LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄMTTÖMÄLLE LASERSÄTEILYLLE.

VARNING- OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

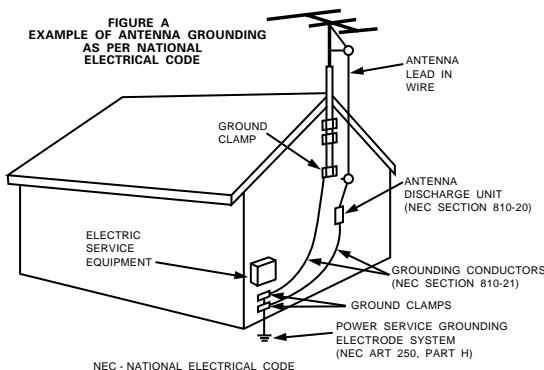


SAFETY INSTRUCTIONS

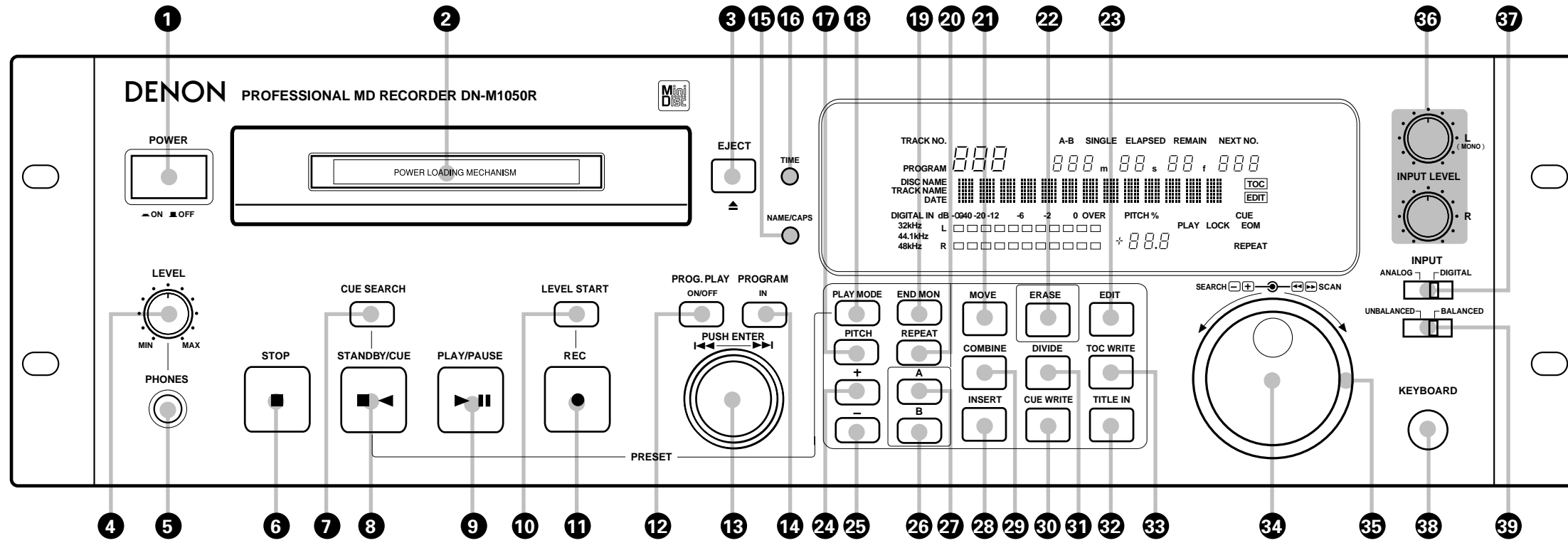
1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warning – All warnings on the appliance and in the operating instructions should be adhered to.
4. Following 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.



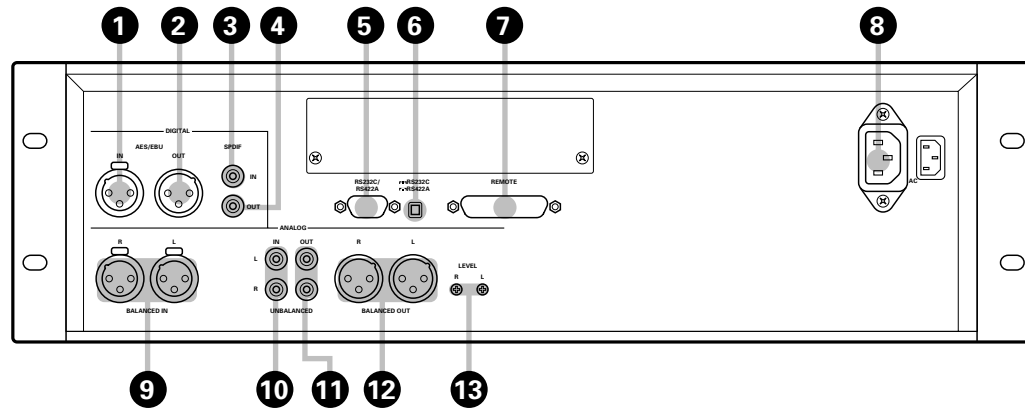
12. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
14. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.
15. Power Lines – An outdoor antenna should be located away from power lines.
16. 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.
17. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
18. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
19. 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.
20. 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.



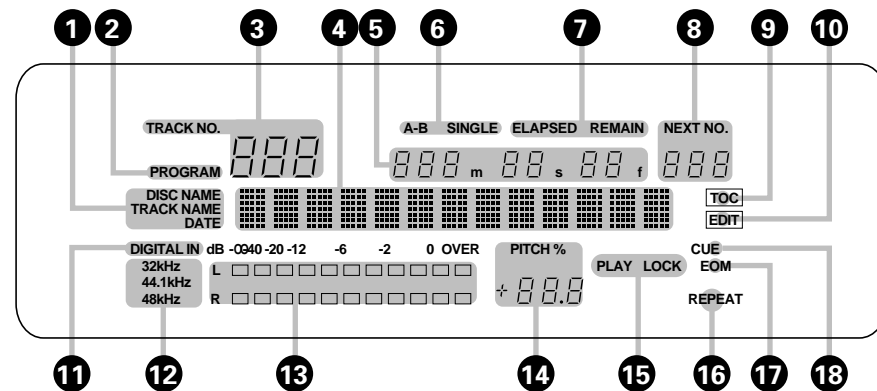
FRONT PANEL /FRONTPLATTE/PANNEAU AVANT/PANEL FRONTAL



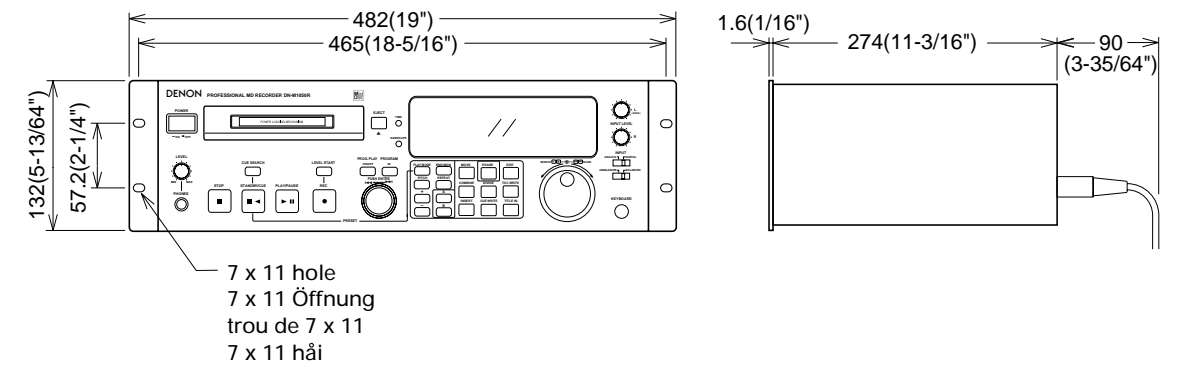
REAR PANEL/RÜCKWAND/PANNEAU ARRIERE/PANEL TRASERO



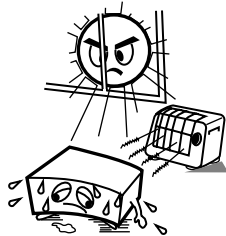
DISPLAY WINDOW/DISPLAY-FENSTER/FENETRE D'AFFICHAGE/PANTALLA DE VISUALIZACION



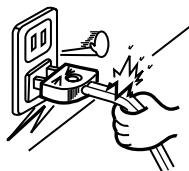
DIMENTIONS/ABMESSUNGEN/DIMENSIONS/DIMENSIONES



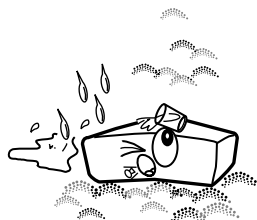
**NOTE ON USE / HINWEISE ZUM GEBRAUCH / OBSERVATIONS RELATIVES A L'UTILISATION
NOTE SULL'USO / NOTAS SOBRE EL USO / ALVORENS TE GEBRUIKEN / OBSERVERA
OBSERVAÇÕES QUANTO AO USO**



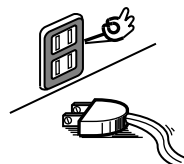
- Avoid high temperatures. Allow for sufficient heat dispersion when installed on a rack.
- Vermeiden Sie hohe Temperaturen. Beachten Sie, daß eine ausreichend Luftzirkulation gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
- Eviter des températures élevées. Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evitate di esporre l'unità a temperature alte. Assicuratevi che ci sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.
- Evite altas temperaturas. Permite la suficiente dispersión del calor cuando está instalado en la consola.
- Vermijd hoge temperaturen. Zorg voor een degelijk hitteafvoer indien het apparaat op een rek wordt geplaatst.
- Undvik höga temperaturer. Se till att det finns möjlighet till god värmeavledning vid montering i ett rack.
- Evite temperaturas altas. Conceda suficiente dispersão de calor quando o equipamento for instalado numa prateleira.



- Handle the power cord carefully. Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um. Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
- Manipuler le cordon d'alimentation avec précaution. Tenir la prise lors du débranchement du cordon.
- Manneggiare il filo di alimentazione con cura. Agite per la spina quando scollegate il cavo dalla presa.
- Maneje el cordón de energía con cuidado. Sostenga el enchufe cuando desconecte el cordón d energía.
- Hanteer het netsnoer voorzichtig. Houd het snoer bij de stekker vast wanneer deze moet worden aan- of losgekoppeld.
- Hantera nätkablen varsamt. Håll i kablarna när den kopplas från el-uttaget.
- Manuseie com cuidado o fio condutor de energia. Segure a tomada ao desconectar o fio.



- Keep the set free from moisture, water, and dust.
- Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Tenete l'unità lontana dall'umidità, dall'acqua e dalla polvere.
- Mantenga el equipo libre de humedad, agua y polvo.
- Laat geen vochtigheid, water of stof in het apparaat binnendringen.
- Utsätt inte apparaten för fukt, vatten och damm.
- Mantenha o aparelho livre de qualquer umidade, água ou poeira.

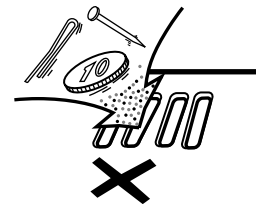


- Unplug the power cord when not using the set for long periods of time.
- Wenn das Gerät eine längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Disinnestate il filo di alimentazione quando avete l'intenzione di non usare il filo di alimentazione per un lungo periodo di tempo.
- Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.
- Neem altijd het netsnoer uit het stopcontact wanneer het apparaat gedurende een lange periode niet wordt gebruikt.
- Koppla ur nätkablen om apparaten inte kommer att användas i lång tid.
- Desligue o fio condutor de força quando o aparelho não tiver que ser usado por um longo período.

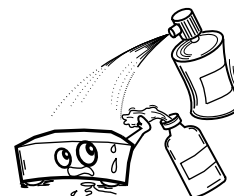


* (For sets with ventilation holes)

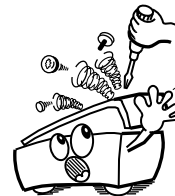
- Do not obstruct the ventilation holes.
- Die Belüftungsöffnungen dürfen nicht verdeckt werden.
- Ne pas obstruer les trous d'aération.
- Non coprite i fori di ventilazione.
- No obstruya los orificios de ventilación.
- De ventilatieopeningen mogen niet worden geblokkeerd.
- Täpp inte till ventilationsöppningarna.
- Não obstrua os orifícios de ventilação.



- Do not let foreign objects in the set.
- Keine fremden Gegenstände in das Gerät kommen lassen.
- Ne pas laisser des objets étrangers dans l'appareil.
- E' importante che nessun oggetto è inserito all'interno dell'unità.
- No deje objetos extraños dentro del equipo.
- Laat geen vreemde voorwerpen in dit apparaat vallen.
- Se till att främmande föremål inte tränger in i apparaten.
- Não deixe objetos estranhos no aparelho.



- Do not let insecticides, benzene, and thinner come in contact with the set.
- Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Assicuratevi che l'unità non venga in contatto con insetticidi, benzolo o solventi.
- No permita el contacto de insecticidas, gasoli-na y diluyentes con el equipo.
- Laat geen insectenverdelgende middelen, benzine of verfverdunder met dit apparaat in contact komen.
- Se till att inte insektsmedel på spraybruk, bensen och thinner kommer i kontakt med apparatens hölje.
- Não permita que inseticidas, benzina e dissolvente entrem em contacto com o aparelho.



- Never disassemble or modify the set in any way.
- Versuchen Sie niemals das Gerät auseinander zu nehmen oder auf jegliche Art zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontate mai, nè modificate l'unità in nessun modo.
- Nunca desarme o modifique el equipo de ninguna manera.
- Nooit dit apparaat demonteren of op andere wijze modificieren.
- Ta inte isär apparaten och försök inte bygga om den.
- Nunca desmonte ou modifique o aparelho de alguma forma.

MAIN FEATURES

The DN-M1050R MD recorder is a rack mount type MD recorder designed for use in broadcast stations, for productions, etc.

● Auto Level Rec start

This function automatically starts the recording operation when an audio signal level from an external unit connected to the DN-M1050R exceeds the preset level (-36 to -72 dB, 7 steps) *You can turn off this function.

● Auto Track Increment

DN-M1050R detects the silent portion of the program material and automatically increases the track number. The level of the silent portion can be set within a range of -36 to -72 dB (7 steps).

● Stereo/Mono recording (74/148 min.)

● UTOC Writing

The U-TOC recording method is selectable. (Manual/Auto is switched according to preset U-TOC mode.)

1) Manual: After editing is completed, use the buttons to write the U-TOC.

2) Auto: U-TOC is automatically recorded each time recording or editing is performed.

● Using CUE Signals to make searches (Up to 5 points per track)

● Editing

1) Basic Editing

- DIVIDE: Smallest edited unit is 11.6 msec (1 sound group)
- ERASE TRACK/ERASE DISC
- COMBINE
- MOVE
- TRACK NAME
- DISC NAME

Up to 100 characters can be used for each name, however, the combined total number of characters cannot exceed 1700.

Keyboard (PS/2 connector, US keyboard with 101 or 104 keys recommended) can be connected to perform playback, recording, program input, editing, hot start and other operations.

2) Erase any A-B section.

This function is convenient when repeating the DIVIDE and TRACK ERASE operations at the same time.

3) A-B section can be inserted into any track

This function lets the user move a section between point A and point B into any section within another track. The DIVIDE, MOVE and COMBINE operations can be performed simultaneously.

4) Cue signals also can be edited. (Can be erased, rewritten, or added to later.)

● 19 inch Rack Mountable (Height: 3U)

● Large FL Display, Illuminated Rubber Button

● Track Search Select knob (Easy track selection)

● Search/Scan dial

Perform searches to 1 sound group precision using the dial and easy scans using the scan dial.

● Program Play (Max. 25 tracks)

1) When the PLAY mode is set to Single, the player stands by at the beginning of next track. (at Finish mode "NEXT")

2) When the PLAY mode is set to Continuous, the playback is continued according to your programmed sequence.

● Play mode and Finish mode

1) Play mode I Continuous: Play a whole disc II Single: Play a track III A-B: Play a A-B

2) Finish mode (Stop, Next, Recue)

* only when Single Track play is selected.

I Stop: Stop after finishing to play a track

II Next: Standby at the beginning of next track after finishing to play a track

III Rescue: After finishing to play a track, standby at the beginning of the track

● Auto Cue

After a track is selected it is automatically cued to the point where audio starts.

Cueing tracks place at the point where audio starts rather than where the track starts. The level at which sound is first detected can be set between -36 to -72 dB (7 steps).

● End Monitor

Pressing the END MON button during standby instantly previews the end of the track, thus assuring perfect "outros". The point at which monitoring starts can be set within a range of 5 to 35 seconds (7 steps) prior to the track's end.

● End Of Message (EOM)

At the end of a track, the EOM flashes, providing a visual warning to the operator that the track will end shortly. the point at which the flashing begins can be set within a range of 5 to 35 seconds (7 steps) prior to the end of the track.

● Pitch Control (+9.9 to -9.9%, 0.1 step)

● Instant Start (Playback starts less than 0.01 seconds after the PLAY button is pressed.)

● Rich Array of External Control Terminals

Serial Remote (RS232C/RS422A switchable, D-sub 9pin)

Parallel Remote (D-sub 25 pin)

● Undo function

Undo function during editing (Up to 2 editing operations prior to the most recent one can be undone.)

● SCMS

Recording is possible without reception of the copy defeat restriction. Writing of the copy defeat code is selectable.

● Easy operations from IBM-PC™ compatible keyboard

• PS/2 keyboard connector is equipped on the front panel.

• Keyboard (PS/2 connector, US keyboard with 101 or 104 keys recommended) can be connected to perform playback, recording, program input, editing, hot start and other operations.

● ACD-25FSM (Sampling Rate Convertor I/O Kit) *Option

• Digital output is possible at 32 and 48 kHz as well as 44.1 kHz.

• Digital input is possible at 32 and 48 kHz as well as 44.1 kHz.

• If input occurs at 32 or 48 kHz, it is automatically converted to 44.1 kHz during recording.

● ACD-26HM (Hot Start Kit) *Option

• Hot start is possible for up to 20 tracks.

• Tracks can be loaded into Hot Start by detecting the Auto Cue Level (-72/-66/-60/-54/-48/-42/-36 dB selectable in Preset mode).

• Sound can be loaded into Hot Start from any track location.

• Loaded tracks can be replaced with new tracks.

• Seamless Loop can be used during Hot Start playback.

• Hot Start operation is possible using parallel remote, serial remote or a keyboard (PS/2 connector, US keyboard with 101 or 104 keys recommended).

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Checking the Contents

Check that the carton contains the following items:

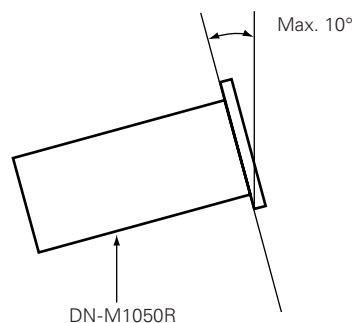
3P power supply cord	1 pc.
Operating instructions (this booklet)	1 pc.

Installing the Units

Mount the units onto your console or rack with 19" EIA rack rails.

CAUTION:

- This DN-M1050R will work normally when the player unit is mounted with the front panel within 10 degrees of the vertical plane. If the unit is tilted excessively, discs may not load or unload properly.



• DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product, to which this declaration relates, is in conformity with the following standards:

EN60065, EN55013, EN55020, EN60555-2 and EN60555-3.

Following the provisions of 73/23/EEC, 89/336/EEC and 93/68/EEC Directive.

1 PART NAMES AND FUNCTIONS

(1) Front Panel

- 1 POWER button**
 - This turns the set on and off.
 - 2 Cartridge insertion slot**
 - Insert the cartridge as indicated by the arrow on the top.
 - Once the cartridge is partially inserted, it is drawn in automatically.
 - 3 EJECT button**
 - Press this button to eject the cartridge.
 - The cartridge cannot be ejected during playback or recording or while the UTOC is being written.
 - 4 LEVEL control**
 - Use this to adjust the volume of the headphones.
 - 5 PHONES jack**
 - Connect headphones with an impedance of 30 to 40 Ω /ohms.
 - 6 STOP button**
 - Press this button to turn all the servo functions off and stop.
 - Press this button during the play, recording or recording pause mode to stop playback or recording.
 - 7 CUE SEARCH button**
 - When this button is pressed during the standby, pause, search or play mode, the cue signal point direct search mode is set.
 - When pressed again, the direct search mode is canceled.
 - The button lights when the direct search mode is set.
 - 8 STANDBY/CUE button**
 - When this button is pressed during the play or pause mode, the pickup returns to the position at which playback started and the standby mode is set. (**Back Cue**)
 - When pressed during playback when the next track has been programmed, the programmed track is searched for and the standby mode is set.
 - The button lights when the standby mode is set.
 - When the button is pressed during the recording or recording pause mode, recording stops, the pickup returns to the recording start position and the standby mode is set.
 - When the button is pressed during the cue direct search mode, the cue point is searched.
 - When the button is pressed while pressing the PLAY MODE button, the preset mode is set.
 - 9 PLAY/PAUSE button**
 - Press this button in the standby, pause or manual search mode to begin playback.
 - Press the button in the stop mode to search for the first track and begin playback.
 - When the button is pressed in the recording pause mode, recording starts.
 - The button lights when the play or recording mode is set.
 - When the button is pressed during playback, the pause mode is set. The button flashes while the pause mode is set.
 - When the button is pressed during recording, the recording pause mode is set. The button flashes when the recording pause mode is set.
- Caution on ejecting cartridge**

 - Do not push the cartridge back in while it is being ejected after pressing the EJECT button. If you wish to reload the cartridge, wait until it is fully ejected before pushing it back in.
 - If you wish to eject a cartridge that is already partially inserted, first push the cartridge in further so that it is drawn inside, then press the EJECT button to eject it.
 - Do not try to pull out a partially inserted cartridge. Doing so may damage it.
- 10 LEVEL START button**
 - When this button is pressed during the recording pause mode, the auto level start recording mode is set.
 - The button flashes when the auto level start recording mode is set.
 - When the button is pressed again, the auto level start recording mode is canceled.
 - 11 REC button**
 - When this button is pressed during the stop, standby or pause mode, the recording pause mode is set.
 - When the button is pressed during recording, the track number is incremented.
 - The button lights when the recording or recording pause mode is set.
 - 12 PROG. PLAY ON/OFF button**
 - When this button is pressed while the PROGRAM IN button is lit, the program play mode is set.
 - The button will not function during the A-B play mode.
 - The button lights during the program play standby and play modes.
 - When the button is pressed during the program play standby or play mode, the program play mode is cleared.
 - 13 Select knob**
 - Turn this knob to select the next track to be played.
 - Turn the knob clockwise by one click to move one track forward, counterclockwise by one click to move one track backward.
 - When the knob turned while pressing it in, one click corresponds to 10 tracks.
 - In the preset mode, use this knob to set and enter preset setting.
 - When setting programs, use this knob to select, enter and check the program.
 - In the cue point direct search mode, use this knob to select the cue point.
 - 14 PROGRAM IN button**
 - Press this button to set the program input mode.
 - The button will not function during the play mode.
 - The button flashes when in the program input mode.
 - The button lights when a program is set.
 - 15 NAME/CAPS button**
 - When this button is pressed, the character display switches between the disc name, track name and date, in that order.
 - The date is only displayed when the date display is preset. (Refer to Page 43.)
 - When the button is pressed while editing names, the selected characters switch between capital letters, small letters, numbers and symbols, in that order.
 - 16 TIME button**
 - Press this button to switch the time display between the remaining time (REMAIN) and the elapsed time (ELAPSED).
 - 17 PITCH button**
 - Press this button to switch to the play speed set with the + and - buttons.
 - The button lights when the pitch play mode is set.
 - Press the button again to cancel the pitch play mode and return to the normal speed.

- 18 PLAY MODE button**
- When this button is pressed, the play mode switches.
- 19 END MON button**
- Press this button in the standby mode to monitor the end of the track. (End Monitor)
 - The button lights when the end monitor mode is set.
- 20 REPEAT button**
- Press this button to set the repeat mode.
 - The button lights when the repeat mode is set.
 - Press the button again to cancel the repeat mode.
- 21 MOVE button**
- Press this button in the edit mode to set the move mode (to move tracks).
 - When this button is pressed again in the move mode after selecting the number to which the track is to be moved, the track is moved.
- 22 ERASE button**
- Press this button in the edit mode to set the erase mode (to erase discs, tracks, cue points or A-B sections.)
 - When this button is pressed again after selecting the item to be erased, “*** OK?” appears on the display. Press the button again to erase the selected item.
- 23 EDIT button**
- Press this button to set the edit mode.
 - The button lights when the edit mode is set.
 - When the button is pressed during the edit mode, the edit mode is canceled.
- 24 + button**
- Press this button once to increase the pitch by 0.1%.
 - Hold the button in to increase the pitch continuously.
 - Press the button in the program editing mode to set the program insert mode.
- 25 – button**
- Press this button once to decrease the pitch by 0.1%.
 - Hold the button in to decrease the pitch continuously.
 - Press the button in the program editing mode to clear the program.
- 26 B button**
- Use this button when setting A-B playback, A-B erase or the insert function.
 - Press this button when no B point is set to set the B point.
 - The button lights when the B point is set.
 - When pressed while the B point is set, the B point is searched for and the standby mode is set.
 - When the button is pressed during manual search while the B point is set, the B point changes.
- 27 A button**
- Use this button when setting A-B playback, A-B erase or the insert function.
 - Press this button when no A point is set to set the A point.
 - The button lights when the A point is set.
 - When pressed while the A point is set, the A point is searched for and the standby mode is set.
 - When the button is pressed during manual search while the A point is set, the A point changes.
- 28 INSERT button**
- Press this button in the edit mode to set the insert mode (to insert any section).
 - When the button is pressed again after setting the A and B points, “Insert PT ?” appears on the display.
- 29 COMBINE button**
- Press this button in the edit mode to set the combine mode (to combine tracks).
 - When the button is pressed again after checking the tracks, the tracks are combined and the combine mode is canceled.
- 30 CUE WRITE button**
- Press this button during the standby, pause, play, or manual search. When the edit mode and recording mode to record a cue signal.
- 31 DIVIDE button**
- Press this button in the edit mode to set the divide mode (to divide a track in two)
 - When the button is pressed again after checking the divide point, the track is divided and the divide mode is canceled.
- 32 TITLE IN button**
- Press this button during the standby, pause, play, manual search or recording mode to set the name input (edit) mode.
 - The TITLE IN and EDIT buttons light when the name input mode is set.
 - When the button is pressed after inputting the name, the name is input and the name input mode is canceled.
- 33 TOC WRITE button**
- Press this button while “UTOC Write” is lit after editing, inputting names or recording cue signals to write the new data in the UTOC.
- 34 SEARCH dial (inner side)**
- Turn this dial to set the manual search mode.
 - Turn the dial clockwise to move the playback position forward, counterclockwise to move the playback position backward.
 - One click corresponds to one frame of movement. The playback position can be moved anywhere between the beginning of the first track and the end of the last track.
- 35 SCAN dial (outer side)**
- Turn this dial to set the manual search (fast forward or fast reverse) mode.
 - Turn the dial clockwise to move the playback position forward, counterclockwise to move the playback position backward.
 - The speed changes according to the angle at which the dial is turned.
- 36 INPUT LEVEL L (MONO)/R controls**
- Use this to adjust the level of the analog input signal.
- 37 INPUT ANALOG/DIGITAL switch**
- Set this to ANALOG to record analog input signals, DIGITAL to record digital input signals.
- 38 KEYBOARD connector**
- To use a keyboard, connect it to this connector.
 - The connector is a mini DIN type 6-pin connector.
- 39 INPUT UNBALANCED/BALANCED switch**
- Set this to UNBALANCED to record the input signal connected to the UNBALANCED jack, to BALANCED to record the input signal connected to the BALANCED jack.

(2) Rear Panel

1 DIGITAL IN (AES/EBU) connector

- This is an active balanced input using an XLR type connector.
- Connect this connector to the balanced digital output connector on an amplifier or console.
- Signal format: AES/EBU or IEC958 Type II
- Pin layout:
 1. Common
 2. Cold
 3. Hot
- Applicable connector: Cannon XLR-3-32 or equivalent.

2 DIGITAL OUT (AES/EBU) connector

- This is an active balanced output using an XLR type connector.
- Connect this connector to the balanced digital input connector on an amplifier or console.
- Signal format: AES/EBU
- Pin layout:
 1. Common
 2. Cold
 3. Hot
- Applicable connector: Cannon XLR-3-31 or equivalent.

3 DIGITAL IN (SPDIF) jack

- This is an unbalanced input using an RCA type jack.
- Connect this jack to the unbalanced digital output jack on an amplifier or console.
- Signal format: SPDIF or IEC958 Type II

4 DIGITAL OUT (SPDIF) jack

- This is an unbalanced output using an RCA type jack.
- Connect this jack to the unbalanced digital input jack on an amplifier or console.
- Signal format: SPDIF or IEC958 Type II

5 RS232C/RS422A connector

- This is a serial remote connector. A personal computer or other external controller can be connected to control the DN-M1050R externally.
- Applicable connector: 9-pin D-sub (female)
- Baud rate: 9600 bps or 19200 bps
- Pin layout:

Pin no.	RS232C		RS422A	
	Signal name	I/O	Signal name	I/O
1	NC	-	NC	-
6	NC	-	S.GROUND	-
2	TXD	O	TXD (RETURN)	O
7	NC	-	TXD	O
3	RXD	I	RXD	I
8	NC	-	RXD (RETURN)	I
4	NC	-	NC	-
9	NC	-	NC	-
5	S.GROUND	-	NC	-

6 RS232C/RS422A selector switch

- Use this to switch the serial remote connector signal between RS232C and RS422A according to the external controller's signal.

7 REMOTE connector

- This is a parallel remote connector. Use it to control the DN-M1050R with dry contact circuit connections.
- Applicable connector: 25-pin D-sub (male)
- Connector signal layout:

Pin no.	Signal name	I/O	
1	FG	-	
14	PLAY tally	O	TTL (Iol=20mA)
2	PLAY command	I	HCMOS (Ii=3mA)
15	PAUSE tally	O	TTL (Iol=20mA)
3	PAUSE command	I	HCMOS (Ii=3mA)
16	STDBY/CUE tally	O	TTL (Iol=20mA)
4	STDBY/CUE commad	I	HCMOS (Ii=3mA)
17	END CUE tally	O	TTL (Iol=20mA)
5	TRACK (+) commad	I	HCMOS (Ii=3mA)
18	Tally common	-	
6	TRACK (-) commad	I	HCMOS (Ii=3mA)
19	REC command	I	HCMOS (Ii=3mA)
7	SEARCH (FWD) command	I	HCMOS (Ii=3mA)
20	CUE tally	O	TTL (Iol=20mA)
8	SEARCH (REV) command	I	HCMOS (Ii=3mA)
21	REC tally	O	TTL (Iol=20mA)
9	FADER START command	I	PHOTO COUPLER
22	Tally power supply	-	+5V, 20mA
10	Command common	-	(Ii=10mA)
23	Command common	-	
11	Reserved	-	
24	E.O.M. tally	O	TTL (Iol=20mA)
12	Reserved	-	
25	Reserved	-	
13	Hot Start Mode (High)	I	HCMOS (Ii=3mA)

NOTE: The tally output pin has open collector IC specifications (I_{max}. 20 mA, V_{max}. 5V), but the maximum supply current is 80 mA, so use with a total load current of 80 mA or less.

8 AC inlet

- Connect the included power cord here.

9 ANALOG IN (BALANCED) connectors

- These are active balanced inputs using XLR type connectors.
- Connect these connectors to the balanced analog output connectors on an amplifier or consoe.
- Pin layout:

U.S.A. & Canada	Europe , Asia & Others
1. Common	1. Common
2. Cold	2. Hot
3. Hot	3. Cold
- Applicable connector: Cannon XLR-3-32 or equivalent

10 ANALOG IN (UNBALANCED) jacks

- These are unbalanced inputs using RCA type jacks.
- Connect these jacks to the unbalanced analog output jacks on an amplifier or consoe.

11 ANALOG OUT (UNBALANCED) jacks

- These are unbalanced outputs using RCA type jacks.
- Connect these jacks to the unbalanced analog input jacks on an amplifier or consoe.

12 ANALOG OUT (BALANCED) connectors

- These are active balanced outputs using XLR type connectors.
- Connect these connectors to the balanced analog input connectors on an amplifier or console.
- Pin layout:

U.S.A. & Canada	Europe , Asia & Others
1. Common	1. Common
2. Cold	2. Hot
3. Hot	3. Cold

• Applicable connector: Cannon XLR-3-31 or equivalent

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

13 LEVEL L/R controls

- Use these controls to adjust the level of the audio signals from the ANALOG OUT (BALANCED) connectors.

(3) Display**1 DISC NAME/TRACK NAME/DATE indicators**

- "DISC NAME" lights when the disc name is displayed on the character display, "TRACK NAME" lights when the track name is displayed, and "DATE" lights when the date is displayed.

2 PROGRAM indicator

- This lights when the Program play mode is set.

3 TRACK No. display

- This displays the number of the track at the current position. This also lights during the track search mode and when switching to the standby mode.

4 Character display

- This displays disc names, track names and the date.
- Various instructions are displayed here during presetting, programming, editing, etc.

5 Playing time display

- This indicates the time of the current position, in minutes (m), seconds (s) and frames (f).

6 PLAY MODE indicators

- "A-B" lights when in the A-B play mode.
- "SINGLE" lights when in the single track play mode.

7 TIME MODE indicators

- "ELAPSED" lights when the elapsed time is displayed.
- "REMAIN" lights when the remaining time is displayed.

8 NEXT No. display

- This displays the number of the next track to be played.

9 TOC indicator

- This lights when it is necessary to rewrite the TOC (UTOC) due to editing, etc
- This flashes while the TOC (UTOC) is being written.

10 EDIT indicator

- This lights when the edit mode is set.

11 DIGITAL IN indicator

- This lights (or flashes) when the digital input signal is selected.
- The indicator flashes when the digital signal is unlocked and remains lit when the digital signal is locked.

12 Sampling frequency display

- This displays the sampling frequency of the digital output. **(When an optional FS converter is connected, the sampling frequency can be set using the presettings.)**

13 Level display

- This displays the playback level during playback, the input level during recording.

14 PITCH display

- This indicates the set play speed in %.

15 PLAY LOCK indicator

- This lights when the PLAY LOCK is preset. (See Page 43)

16 REPEAT indicator

- This lights when the repeat mode is set.

17 EOM indicator

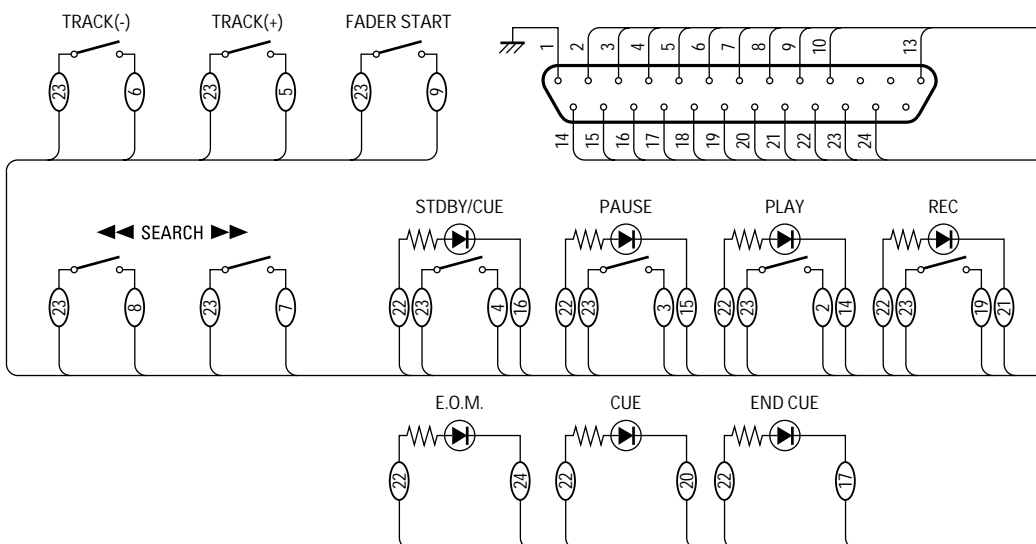
- This lights when the EOM is preset, and starts flashing when the EOM set time is reached.

18 CUE indicator

- This lights for approximately 3 seconds when the position at which a cue signal is set is played.
- The indicator flashes when the standby mode is set at a position at which a cue signal is set.

2 REMOTE CONTROL CONNECTIONS

To control the DN-M1050R remotely, refer to the example of remote control connections given below.



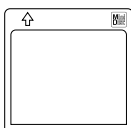
The rating of REMOTE connector pin 22 (TALLY POWER SUPPLY) is +5 V, 80 mA maximum. Avoid currents in excess of the rating.

3 ABOUT MINIDISCS

- MiniDiscs allow a maximum of 74 minutes (stereo) of recording and playback in a compact size. There are two types of MiniDiscs: those for playback only, and those for recording and playback.

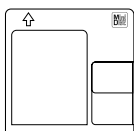
Playback only MiniDiscs

- These discs are for playback only. Commercially available music MDs are of this type.
- These are laser discs, like regular compact discs.
- Tracks on such discs cannot be edited.



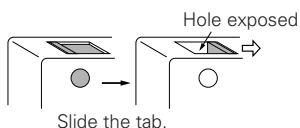
Recordable MiniDiscs

- These are magneto-optical discs on which both recording and playback are possible. Recording is performed through magnetic modulation.
- Re-recording is also possible.



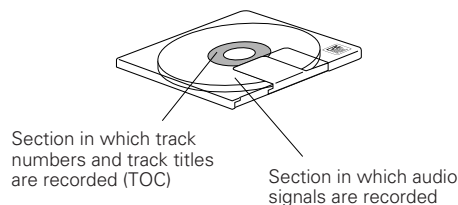
Accidental erasure prevention tabs

These tabs protect recordable MiniDiscs from accidental erasure. To avoid accidentally erasing the recording, open the tab so that the hole is exposed. (See the diagram below.) When this is done, "Protected" is displayed if you attempt to record, erase or otherwise edit the disc, and the recording is protected. To record or erase the disc, set the tab back to its original position (with the hole covered).



Recording on discs

MiniDiscs include a section in which the audio signals are recorded and a section in which such data as track numbers and track titles are recorded.



The TOC

With MiniDiscs, after the audio signals are recorded, data used for checking the tracks (TOC—Table of Contents) is also recorded on the disc. This TOC data is used when playing the disc. In addition, editing is performed by rewriting the TOC data. When TOC writing starts, the "[TOC]" indicator flashes. Do not shake the main unit, press the main unit's power button or unplug the power cord while the TOC is being written. If the data is not recorded properly, it will not be possible to play the disc.

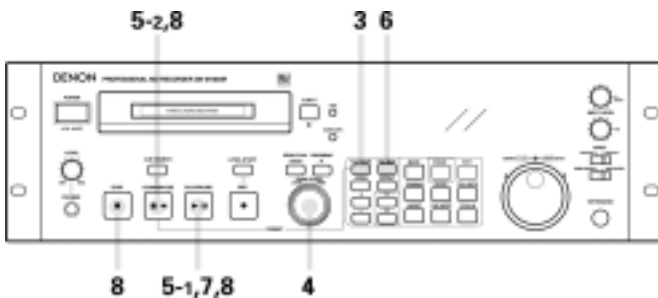
Handling MiniDiscs

- MiniDiscs are housed in cartridges, so there is no need to worry about dirt and scratches. However, dirty or warped cartridges may cause malfunction. Be careful of the following to ensure long-lasting, high quality sound:
 - Do not touch the disc surface directly.
 - Do not open the shutter by hand.
 - Do not place MiniDiscs in dusty, dirty or humid places.
 - Do not place MiniDiscs in places exposed to direct sunlight or high temperatures.

Cleaning

Use a dry cloth to gently wipe dirt or dust off the cartridge. Do not apply excessive force.

4 BASIC OPERATION



(1) Before Starting Playback

1	Load the cartridge.
2	Make the presettings according to the usage purpose. (See Page 40). NOTE: Steps 1 and 2 can be performed in the opposite order.
3	Select the play mode. Press the PLAY MODE button. NOTE: The A-B play mode cannot be set unless the A and B points are set.
4	Select the track to be played. Turn the select knob (◀◀◀▶▶▶). The selected track is cued and the standby mode is set.
5-1	To check the play start position. Press the PLAY/PAUSE button. Monitor the playback signals to check the play start position.
5-2	Press STANDBY/CUE button. The pickup returns to the play start position and the standby mode is set. (Back Cue)

To check the play end position.

Press the END MON button.

6

The end is monitored, then the pickup returns to the play start position and the standby mode is set. **(End Monitor)**
NOTE: If the STANDBY/CUE button is pressed during the end monitor operation, the end monitor operation is canceled, the pickup returns to the play start position and the standby mode is set.

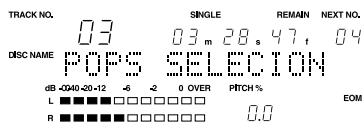
(2) Starting Playback

Start playback.

Press the PLAY/PAUSE button.

7

Playback begins and the playback signals are output.



(3) Stopping Playback

Playback can be stopped in the following ways:

8

Playback is interrupted and the stop mode is set.

Playback is interrupted, the pickup returns to the play start position and the standby mode is set.

Playback is interrupted and the pause mode is set at that point.

Sleep mode

The sleep mode is set if no operation is performed for 30 minutes in the standby, pause mode.

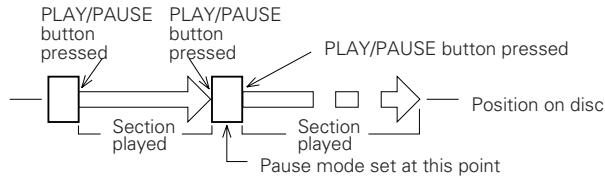
When in the sleep mode, press the PLAY/PAUSE button to search for the position before the sleep mode was set and start playback. Press the STANDBY/CUE button to search for the position before the sleep mode was set and standby at that point.

(4) PLAY/PAUSE and STANDBY/CUE Operations

- The operation switches between playback and pause each time the PLAY/PAUSE button is pressed.
- When the STANDBY/CUE button is pressed during playback, the pickup returns to the position at which playback was started.

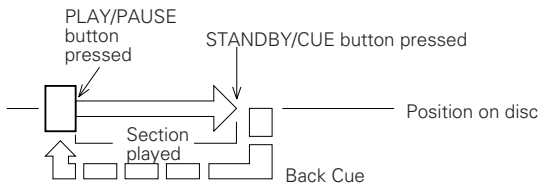
The diagrams below show playback patterns when the PLAY/PAUSE and STANDBY/CUE buttons are pressed.

PLAY and PAUSE



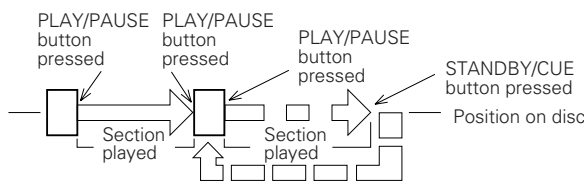
When the PLAY/PAUSE button is pressed, playback starts and proceeds as shown by the arrow on the diagram above. If the PLAY/PAUSE button is pressed again during playback, the pause mode is set at that point. Press the PLAY/PAUSE button again to resume playback.

PLAY and CUE



When the STANDBY/CUE button is pressed after starting playback by pressing the PLAY/PAUSE button, the pickup returns to the position at which playback was started and prepares for the next playback. Press the PLAY/PAUSE and STANDBY/CUE buttons alternately to start playback repeatedly from the same position. This function is called "Back Cue".

PLAY, PAUSE and CUE



If the pause mode is set and playback is then resumed, the position to which the pickup returns with the Back Cue function changes.

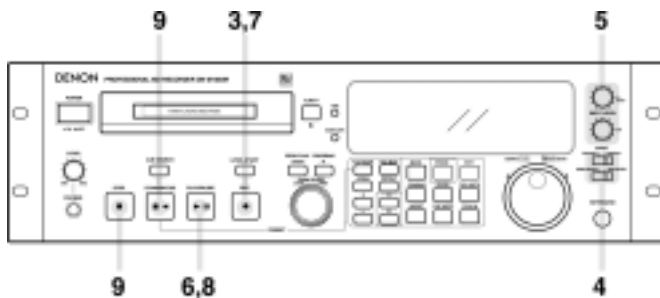
(5) Before Starting to Record

- Turn on the power. To record from the analog input, it is recommended to turn on the power at least 5 seconds before starting to record. This eliminates fluctuations of the A/D converter DC offset, reduces the amount of DC offset at the recording start position, in the middle of the recording and at the recording end position, and keeps the DC offset constant. DC offset hinders the auto cue function for detecting the point where the sound starts at low levels and the auto track increment function which detects soundless sections.
- Load a recordable disc. There are 60-minute and 74-minute recordable discs. For a description of recordable discs, see the section "Method of Recording on Discs" below. It is not possible to record on discs which are already recorded and have little free space left or on playback only discs.

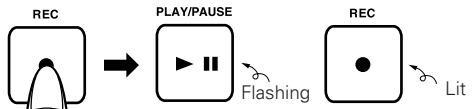
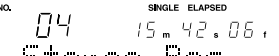
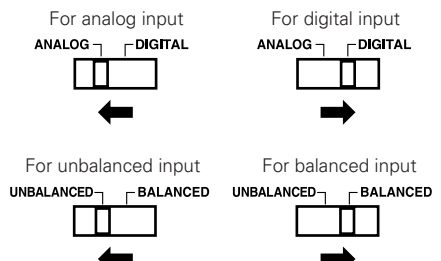
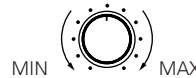
(6) Method of Recording on Discs

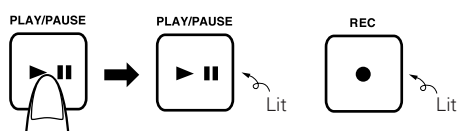

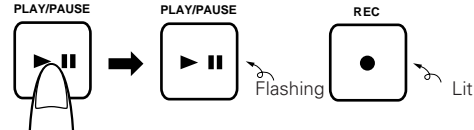
	Disc for recording	Method of recording on disc
1	Discs on which nothing is recorded	Recording starts from the beginning of the disc. The beginning of the disc is found automatically, so there is no need to do this manually.
2	Recording on discs after erasing all their tracks	Same as above.
3	Recording on an already recorded disc	Recording starts from the end of the last recorded section. The end of the last recorded section is found automatically, so there is no need to do this manually. The set is designed so that it is not possible to record over a recorded section, so you cannot accidentally erase a previous recording.
4	Recording on discs after erasing part or all of the disc	If there is not enough remaining space or if you want to do the recording over, erase before recording. To erase one track at a time: Use the track erase function. To erase all the tracks at once: Use the all erase function.

- Disc types
 - Blank discs: Discs on which nothing is recorded
Discs you have just bought
Discs that have been erased (using the all erase function)
 - No-track discs: Discs on which nothing is recorded but which contain a disc name
Blank discs which have been given a disc name
Discs with disc names on which all the tracks have been erased individually





(7) Starting to Record

1	Load the cartridge.
2	Set the presets according to the purpose. (Refer to Page 40). NOTE: Steps 1 and 2 can also be performed in the reverse order.
3	Set the recording pause mode. Press the REC button.   For a disc on which 3 tracks are already recorded The disc's total number of tracks and playing time are displayed. NOTE: If the REC button is pressed in the stop mode, the recording monitor mode is set. (Only the REC button lights.)
4	Set the input signal. Set the ANALOG/DIGITAL and UNBALANCED/BALANCED switches according to the input signal.  When the ANALOG/DIGITAL switch is set to the DIGITAL position, the DIGITAL IN indicator lights. NOTE: If the DIGITAL IN indicator is flashing, the digital signal is unlocked. If this is the case, recording is not possible.
5	Adjust the recording level. When recording analog inputs, use the INPUT LEVEL controls to adjust the recording level.  Adjust the left and right controls, watching how the input level meter lights.

6	Start recording. Press the PLAY/PAUSE button.  Recording starts and the TOC indicator lights.
7	To change the track number during recording: Press the REC button.  The track number is incremented and recording continues.
8	To pause recording: Press the PLAY/PAUSE button.  Recording stops and the recording pause mode is set. To resume recording, press the PLAY/PAUSE button again. The track number is incremented and recording resumes.

(8) Stopping Recording

9	Use one of the following methods to stop recording.  Recording stops, the UTOC is written and the stop mode is set.  Recording stops, the UTOC is written and the standby mode is set. The TOC indicator flashes while the UTOC is being written.
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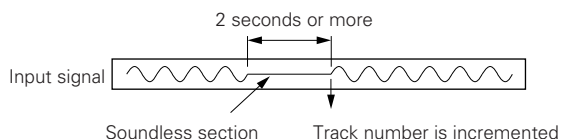
(9) Incrementing Track Numbers

During recording, track numbers can be incremented either manually or automatically.

- Track numbers can be incremented manually in the following four ways:
 - 1) Press the REC button (●) during recording. This increments the track number.
 - 2) Press the PLAY/PAUSE button (▶||) during recording to stop recording for that track number and set the recording pause mode. When the PLAY/PAUSE button (▶||) is pressed again, recording starts with a new track number.
 - 3) Press the STOP button (■) during recording to stop recording for that track number and set the stop mode. Now set the recording mode again. Recording starts with a new track number.
 - 4) After recording, use the divide function.
- Track numbers can be incremented automatically in the following three ways, according to the type of input signal:

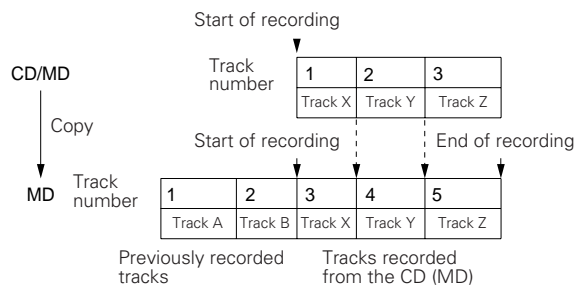
Input type		Method
Analog/digital input		Detection of soundless section 1)
Digital input	CDs and MDs	Detection of soundless section 1)
		Using the CD's or MD's subcodes 2)
	DATs	Detection of soundless section 1)
		Using the DAT's start IDs 3)

- 1) Detection of soundless section
 - I Make the following two presettings:
 - Set "Auto Inc OFF" (4) to "Auto Inc Det."
 - Set the soundless detection level setting to "Inc. Det.-(60) dB" (5).
 - II Start playback and recording in such a way that the beginning of the sound is not missed. When a soundless section (or a section with level lower than the preset soundless detection level setting) of at least 2 continuous seconds is detected, the disc's track number is automatically incremented.

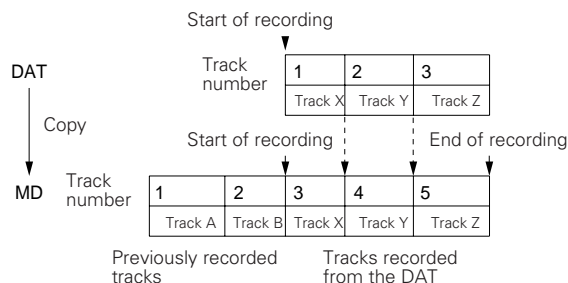


NOTE: The auto track increment function may not work when recording analog signals containing much noise. In this case lower the detection level to for example -54 dB.

- 2) Using the CD's or MD's subcodes (digital input)
 - I Make the following presetting:
 - Set "Auto Inc OFF" (4) to "Auto Inc Dig."
 - II Start playback on the CD (MD) player and recording on the recorder in such a way that the beginning of the sound is not missed. The disc's track number is automatically incremented when the CD's (MD's) track number changes. Changes in the CD's (MD's) track number will not be detected for approximately 4 seconds after the track number is incremented.



- 3) Using the DAT's start IDs (digital input)
 - I Record the start ID on the recorded DAT.
 - II Make the following presetting:
 - Set "Auto Inc OFF" (2) to "Auto Inc Dig."
 - III Start playback on the DAT player and recording on the recorder in such a way that the beginning of the sound is not missed. The disc's track number is automatically incremented when the DAT's start ID is detected. The start ID will not be detected for 15 seconds after the track number is incremented.

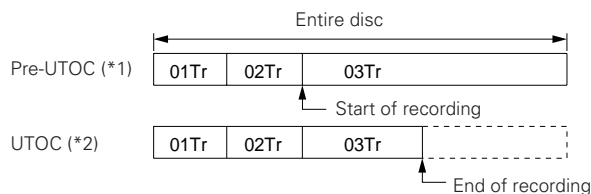


(10) Pre-UTOC Function

- Presettings must be set. (Refer to Page 42.) This function protects the recording should the power supply be cut off. The UTOC is written directly after recording starts.

(The pre-UTOC is written.)

Normally the UTOC is written after recording is completed, so if the power supply should be cut off during the recording or directly after the recording is finished, the recording will not be registered on the disc. To prevent this, the pre-UTOC (*1) is registered on the disc directly after recording starts. Once recording is completed normally, the actual UTOC (*2) is written. If the power should be cut before the actual UTOC is written, the disc can be played according to the pre-UTOC. This way you never accidentally lose recordings that cannot be made over again.



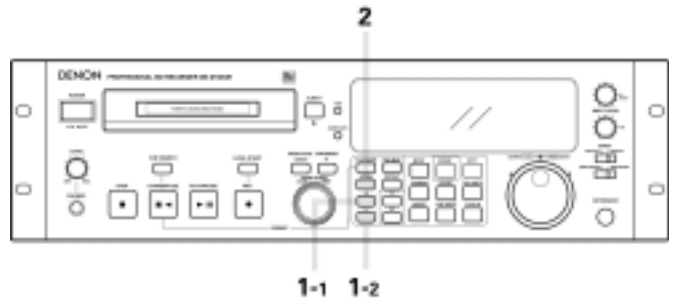
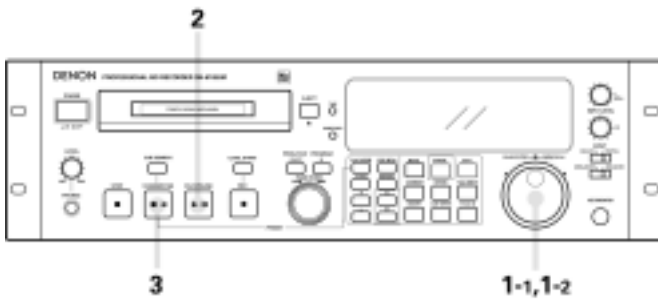
If some problem occurs and recording is interrupted, the same recording and UTOC can be written using the following editing operation:

Use the divide function at the point where recording was interrupted in track 03 on the above diagram to divide the track, then use the erase function to erase track 04.

NOTE:

The auto track increment function using the DAT's start ID or the CD's sub codes will not work if the digital input is in professional format (AES/EBU). Input digital signals of the consumer format (SPDIF). When recording from the DN-C680, set the presettings on the DN-C680.

5 HANDY OPERATION



(1) Starting Playback from the Middle of a Track (Manual Search)

- When a track is selected and PLAY/PAUSE button is pressed, playback starts from the beginning of that track. To start from a different position in the track, use the procedure described below to find the desired position.

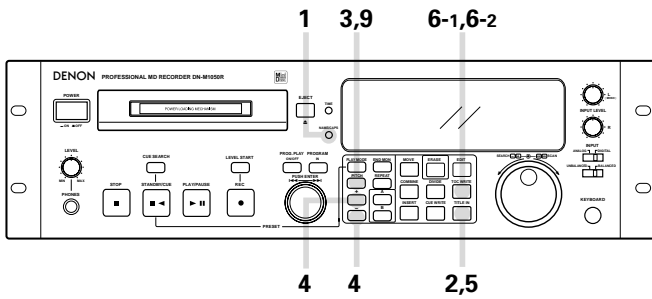
1-1	<p>Find the play start position. Turn the SEARCH dial.</p> <p>When the SEARCH dial (inner side) is turned, the frame move mode is set. The playback position moves one frame for each click.</p> <p>When the dial is turned clockwise, the playback position moves as follows: 03 m 46.52, ⇒ 53, ⇒ 54,</p> <p>Listen to the sound and find the desired play start position.</p>
1-2	<p>Turn the SCAN dial to change the playback position quickly.</p> <p>The fast forward/reverse mode is set when the SCAN dial (outer side) is turned. The speed changes according to the angle at which the dial is turned.</p>
2	<p>To check the play start position: Press the PLAY/PAUSE button.</p> <p>Playback starts.</p> <p>Monitor the play signal to check the play start position.</p>
3	<p>Cue the play start position. Press the STANDBY/CUE button.</p> <p>The pickup returns to the play start position and the standby mode is set.</p>

(2) Playing at a Different Speed (Pitch)

- Use this function to play discs at different speeds.
- The speed can be changed with the range of -9.9 to +9.9%.

1-1	<p>Set the play speed. (1) To increase the speed: Press the "+" button.</p> <p>The speed increases by 0.1% each time the button is pressed. If the button is held in, the speed changes continuously.</p>
1-2	<p>(2) To decrease the speed: Press the "-" button.</p> <p>The speed decreases by 0.1% each time the button is pressed. If the button is held in, the speed changes continuously.</p>
2	<p>Set the pitch play mode. Press the PITCH button.</p> <p>The button lights and the set play speed is set.</p> <p>NOTE: When the PITCH button is lit, the play speed can be changed by pressing the "+" and "-" buttons.</p>

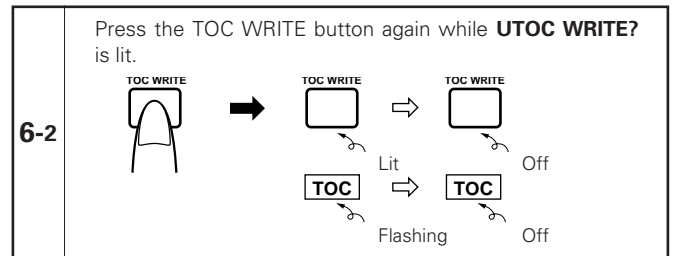
NOTE:
When the play speed (PITCH) is set, the display shows the set pitch, but the disc is played at the standard speed until the PITCH button is pressed (and the button is lit).
When the play speed is changed, the sampling frequency of the digital output signal also changes, so it may not be possible to receive digital signals.



(3) Storing the Play Speed on the Disc

- This function makes it possible to set and store a certain play speed on the disc, then play the disc at that speed.

1	<p>Display the disc name. Press the NAME/CAPS button and set the DISC NAME display mode.</p>
2	<p>Select the name input mode. Press the TITLE IN button.</p>
3	<p>Set the speed setting mode. Press the PITCH button.</p>
4	<p>Set the play speed. Use the "+" and "-" buttons to set the play speed.</p>
5	<p>Cancel the name input model. Press the TITLE IN button.</p>
6-1	<p>Write the UTOC. Press the TOC WRITE button.</p>

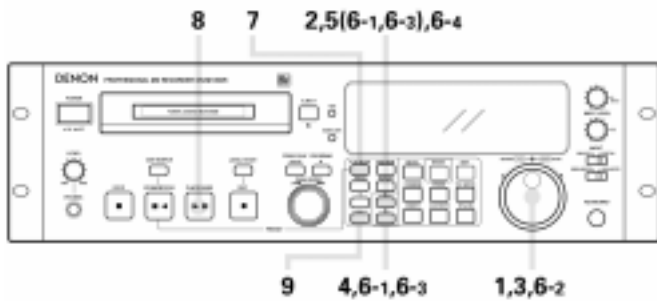


(4) Playing Discs for Which the Play Speed Has Been Set

7	<p>Set the presets. Set "PitchAuto" (12) to "ON", referring to "Preset Functions and Operations" on Page 40.</p> <p>PitchAuto OFF ↓ PitchAuto ON</p>
8	<p>Load the cartridge.</p> <p>The speed set for the disc is displayed here.</p>
9	<p>Set the variable speed (pitch) mode. Press the PITCH button.</p> <p>The button lights and the set play speed is set.</p>

The play speed can be changed even if another play speed has been stored on the disc. (Refer to "Playing at Different Speed" on Page 18.) The "PITCH %" display flashes when the play speed has been changed.

NOTE:
When the play speed (pitch) is set, the set pitch appears on the display, but the disc is played at the standard speed until the PITCH button is pressed (and lit).
When playing at a different speed, the sampling frequency of the digital output signal also changes, so it may not be possible to receive the digital signal.



(5) Playing a Specific Section of the Disc (A-B Play)

- Use the function to set the play start and end positions and only play the desired section of the disc.

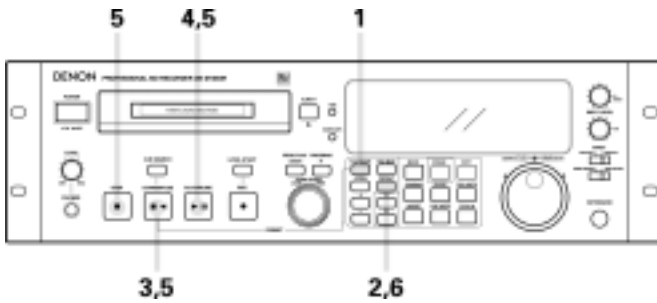
NOTE: The A-B play mode cannot be set unless the A point, B point or both the A and B points are set.

1	<p>Find the play start position (A point).</p> <ul style="list-style-type: none"> The SEARCH or SCAN dial to find the desired play start position.
2	<p>Set the A point. Press the "A" button.</p>
3	<p>Find the play end position (B point).</p> <ul style="list-style-type: none"> Turn the SEARCH or SCAN dial to find the desired play end position.
4	<p>Set the B point. Press the "B" button.</p> <p>* When setting the B point during playback, the B point can only be set if the A point is set before it.</p>
5	<p>Cue to A point. Press the "A" button.</p> <p>If the STANDBY/CUE button is pressed first, press the "A" button.</p>
6-1	<p>To change the A-B section: Press the "B" (or "A") button.</p> <p>To change the B point</p>

6-2	<p>Find the play end point (B point) (or play start point (A point)).</p> <ul style="list-style-type: none"> Turn the SEARCH dial to find the desired play end point.
6-3	<p>Set the new B point (or A point). Press the "B" (or "A") button.</p> <p>To change the B point</p>
6-4	<p>Cue to A point. Press the "A" button.</p>
7	<p>Set the A-B play mode. Press the PLAY MODE button.</p>
8	<p>Start playback. Press the PLAY/PAUSE button.</p> <p>Playback starts from the A point and stops when the B point is reached. "A-B" flashes on the display during the A-B play mode.</p>
9	<p>Clearing the A and B points</p> <ul style="list-style-type: none"> The set A and B points are cleared when the cartridge is ejected. If the "-" button is pressed while the A or B button is flashing, the button turns off, the set A or B point is cleared and the play mode is set to the single track play mode.

NOTE:

- The following happens if either the A or B point is not set:
- If only the A point is set, the B point is automatically set at the end of the track for which the A point is set.
 - If only the B point is set, the A point is automatically set at the beginning of the track for which the B point is set.
- When the B point is before the A point, the section from the B point to the A point is played.



(6) Playing Repeatedly (Repeat)

1 Select the play mode.
Press the PLAY MODE button.

To play the single selected track repeatedly: **A-B SINGLE** Lit

To play all the tracks on the disc repeatedly: **A-B SINGLE**

To play the set section repeatedly: **A-B SINGLE** Lit

NOTE: The A-B repeat mode cannot be set unless the A point, B point or both the A and B points are set.

2 Select the repeat mode.
Press the REPEAT button.

REPEAT Lit

The button lights, and the repeat mode is set.

3 Standby at the play start position.
Press the STANDBY/CUE button.

The pickup returns to the play start position and the standby mode is set.

4 Start playback.
Press the PLAY/PAUSE button.

Repeat playback starts.

Note: Repeat playback is performed from the beginning of the play mode set in 1, regardless of the playback start position.

Stopping playback

Playback can be stopped in the following ways:

5

STOP → Playback is interrupted and the stop mode is set.

STANDBY/CUE → **STANDBY/CUE** (Flashing) → **STANDBY/CUE** (Lit)

Playback is interrupted, the pickup returns to the play start position and the standby mode is set.

PLAY/PAUSE → **PLAY/PAUSE** (Flashing)

Playback is interrupted and the pause mode is set at that point.

6 Canceling the repeat mode during playback
Press the REPEAT button.

REPEAT Lit → **REPEAT** Off

REPEAT Lit → **REPEAT** Off

The normal play mode resumes and playback continues to the play end point.

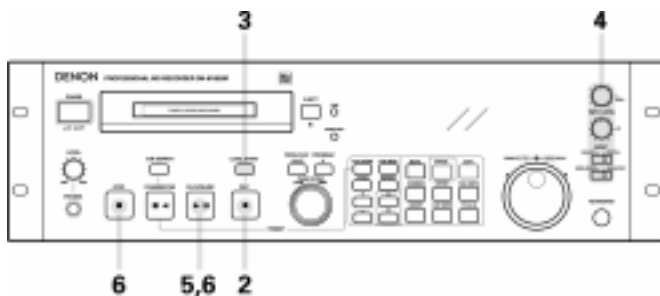
A-B repeat play

If playback is started before the A point, playback continues to the B point, then returns to the A point for repeat playback.

If playback is started after the B point, playback continues to the end of that track and nothing is repeated.

NOTE:

- When the B point is before the A point, the section from the B point to the A point is played repeatedly.



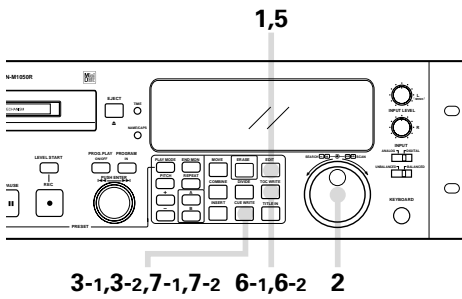
(7) Starting Recording Automatically by Detecting the Input Level

This function makes it possible to start recording by detecting the input signal level.

1	<p>Set the presets. Make the following settings, referring to "Preset Functions and Operations" on Page 40.</p> <ul style="list-style-type: none"> 8) RecStart - (**) dB Recording starts when a signal with a level at or above the set level is input. 9) RecOffset - (*) s Recording begins this number of seconds before the point where the set level is detected.
2	<p>Set the recording pause mode. Press the REC button.</p>
3	<p>Set the recording level start mode. Press the LEVEL START button.</p> <p>NOTE: If the LEVEL START button is pressed while the button is flashing, the recording level start mode is canceled.</p>
4	<p>Set the input signal and input level. Set the input signal and input level, referring to steps 4 and 5 under "Starting Recording" on Page 16.</p>
5	<p>Start recording. Press the PLAY/PAUSE button.</p> <p>Recording starts when an input signal with a level at or above the set level is detected.</p>

5 (continued)	<p>When the LEVEL START button is pressed in the input signal detection mode, recording starts immediately.</p> <p>During recording</p>
6	<p>To stop recording: Press the PLAY/PAUSE or STOP button.</p>

NOTE:
The auto track increment function and Auto Level Rec start function may not work when recording analog signals containing much noise. In this case lower the detection level to for example -54 dB.

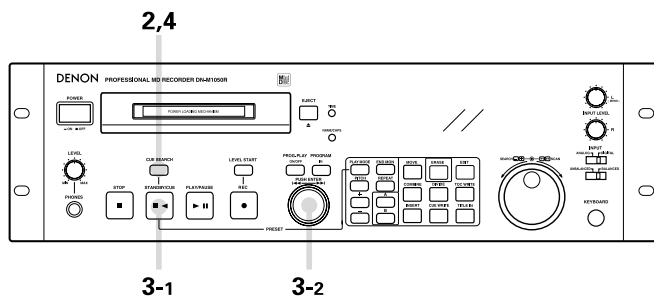


(8) Setting Cue Points

With this function, cue points can be set at any positions in tracks then searched for during playback. Up to five cue points can be set per track.

1	<p>In the standby, pause, manual search or play mode:</p> <p>Set the EDIT mode. Press the EDIT button.</p>
2	<p>Find the position at which you want to set the cue point. Use the SEARCH or SCAN dials to find the position at which you want to set the cue point.</p>
3-1	<p>Set the cue point. Press the CUE WRITE button.</p>
3-2	<p>Press the CUE WRITE button again while Cue Write OK? is displayed.</p>
4	<p>To continue setting other cue points: Repeat steps 2, 3-1 and 3-2.</p>
5	<p>Cancel the edit mode. Press the EDIT button.</p>

6-1	<p>Write the UTOC. Press the TOC WRITE button.</p>
6-2	<p>Press the TOC WRITE button again while UTOC Write? is displayed. ("UTOC Write?" is displayed for 5 seconds.)</p>
7-1	<p>To set cue points during recording: Press the CUE WRITE button.</p>
7-2	<p>Press the CUE WRITE button again while Cue Write OK? is displayed.</p> <p>NOTE: The UTOC is written once recording is completed.</p>



(9) Direct Search for Cue Points

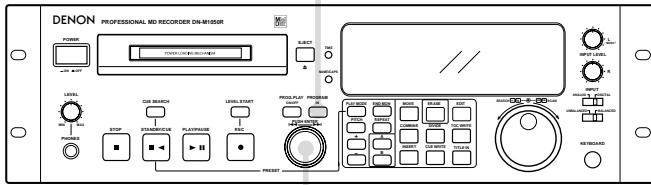
When cue points are stored on a track, they can be used for direct search.

1	<p>Load the cartridge.</p>
2	<p>Set the cue direct search mode. Press the CUE SEARCH button.</p> <p>NOTE: The cue direct search mode cannot be set if no cue points are stored on the disc.</p>
3-1	<p>Search for the cue point. Press the STANDBY/CUE button.</p> <p>The Cue1 point is searched for and the standby mode is set at that position. Press the STANDBY/CUE button again to search as follows:</p> <p><Cue2> ⇄ <Cue3> □□□ ⇄ <Cue5> ⇄ <Cue1></p>
3-2	<p>Cue points can also be searched for by turning the select knob (◀◀ - ▶▶).</p> <p>When turned clockwise: <Cue1> ⇄ <Cue2> □□□ ⇄ <Cue5> ⇄ <Cue1></p> <p>When turned counterclockwise: <Cue5> ⇄ <Cue4> □□□ ⇄ <Cue1> ⇄ <Cue5></p>
4	<p>Cancel the cue direct search mode.</p> <p>The set returns to the normal operating mode.</p>

6 PROGRAMMED PLAYBACK

- The tracks can be programmed to play in a certain order.
- Up to 25 tracks can be programmed.
- Programmed playback is performed according to the play mode (single or continuous) and preset finish mode (stop, next or recue) settings.

1,5,6



2,3,4,7,8,9-1,9-2

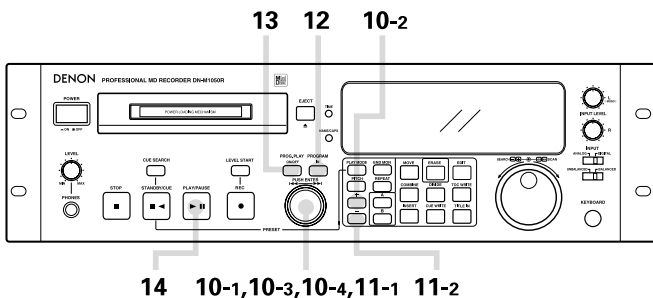
(1) Inputting Program

1	<p>Set the program input mode. Press the PROGRAM IN button.</p> <p>TRACK NO. --- SINGLE REMAIN Select Tr? 01 The step number flashes.</p>
2	<p>Select the track to be programmed. Turn the select knob (◀◀ - ▶▶).</p> <p>When track 3 is selected: TRACK NO. 03 SINGLE REMAIN Selected track number 01 Flashing</p>
3	<p>Enter the selected track in the program. Press the select knob.</p> <p>TRACK NO. --- SINGLE REMAIN Select Tr? 03m 42s 47, 02 Lit</p> <p>The number of the next step in the program is displayed.</p>
4	<p>Enter the next track in the program. Press the select knob.</p> <p>TRACK NO. --- SINGLE REMAIN Select Tr? 03m 42s 47, 02 Flashing</p> <p>The time display shows the total playing time for the program.</p> <p>Repeat steps 2, 3 and 4 to program the tracks in the desired order.</p>
5	<p>Exit the program input mode. Press the PROGRAM IN button.</p> <p>The set returns to the normal mode.</p>

(2) Changing Program

6	<p>Set the program edit mode. Press the PROGRAM IN button.</p> <p>TRACK NO. 03 SINGLE REMAIN 30m 28s 47, 01 TRACK NAME Light Of Love The step number lights.</p>
7	<p>Select the step number to be edited. Turn the select knob (◀◀ - ▶▶).</p> <p>To edit the third step in the program: TRACK NO. 05 SINGLE REMAIN 30m 28s 47, 03 TRACK NAME Mirasol Lit</p>
8	<p>Set the program change mode. Press the select knob.</p> <p>TRACK NO. 05 SINGLE REMAIN 30m 28s 47, 03 TRACK NAME Mirasol The step number to be edited flashes.</p>
9-1	<p>To change the track: Select the track to be changed. Turn the select knob (◀◀ - ▶▶).</p> <p>When track 7 is selected: TRACK NO. 07 SINGLE REMAIN 30m 28s 47, 03 Selected track number Time after Ti Flashing</p>
9-2	<p>Enter the selected track. Press the select knob.</p> <p>TRACK NO. 10 SINGLE REMAIN 30m 28s 47, 04 TRACK NAME A Song On The The number of the next step in the program lights.</p> <p>To continue editing the program, repeat steps 7, 8, 9-1 and 9-2.</p>

To exit the program editing mode, press the **PROGRAM IN** button. The set returns to the normal mode.



10 -1 **Inserting a track in the program**
Select the position at which to insert a track.
 Turn the select knob (◀◀ - ▶▶).

To insert a track at the third step in the program:

TRACK NO. 05 SINGLE 30 m 28 s 47, 03
 TRACK NAME Mirage Lit

10 -2 **Set the program insert mode.**
 Press the "+" button.

TRACK NO. 05 SINGLE 30 m 28 s 47, 03
 TRACK NAME Select Tr? Lit

10 -3 **Select the track to be inserted.**
 Turn the select knob (◀◀ - ▶▶).

When track 8 is selected:

TRACK NO. 08 SINGLE 30 m 28 s 47, 03
 TRACK NAME Touch The New Lit

Number of selected track

10 -4 **Enter the selected track.**
 Press the select button.

TRACK NO. 05 SINGLE 34 m 26 s 17, 04
 TRACK NAME Mirage Lit

The number of the next step in the program lights.

To insert more tracks in the program, repeat steps 10-1, 10-2, 10-3 and 10-4.
 (To exit the program insert mode, press the **PROGRAM IN** button.)

11 -1 **Deleting tracks from the program**
Select the step to be deleted.
 Turn the select knob (◀◀ - ▶▶).

To delete the track at the third step

TRACK NO. 05 SINGLE 30 m 28 s 47, 03
 TRACK NAME Mirage Lit

11 -2 **Delete that track from the program.**
 Press the "-" button.

Number of track at the next step in the program

TRACK NO. 08 SINGLE 27 m 36 s 15, 03
 TRACK NAME Touch The New Lit

The next step number lights.

To continue deleting tracks from the program, repeat steps 11-1 and 11-2.

12 **Exit the program editing mode.**
 Press the PROGRAM IN button.

PROGRAM IN → PROGRAM IN (Flashing) → PROGRAM IN (Lit)

(3) Playing Programs

13 **Set the program play mode.**
 Press PROG. PLAY ON/OFF button.

PROG. PLAY ON/OFF (Lit) → PROG. PLAY ON/OFF (Lit) → STANDBY/CUE (Flashing) → STANDBY/CUE (Lit)

TRACK NO. 03 SINGLE 30 m 28 s 47, 02
 PROGRAM NAME Light Of Love Lit

Number of next step

The first track in the program is cued and the standby mode is set.

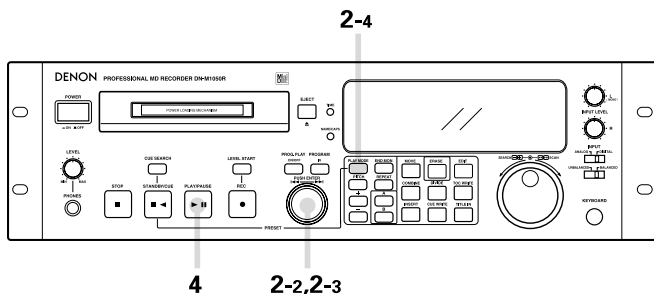
14 **Start programmed playback.**
 Press the PLAY/PAUSE button.

PLAY/PAUSE (Lit) → PLAY/PAUSE (Lit) → STANDBY/CUE (Off)

Programmed playback starts.

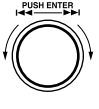


- When the cartridge is ejected, the set program is cleared.
- If a track that is not in the program is selected with a serial command during programmed playback, that command is ignored.

NOTE:
 Programs cannot be input when no disc is loaded.




(4) Presetting Programs

- Programs can be stored in the preset memory. When a cartridge for which a program is preset is loaded, the programmed playback mode is set automatically.
- Programs can be stored for up to three cartridges.


1	<p>Input the program. Following the instructions under “(1) Inputting the Program” to input the program. (See Page 25)</p>								
2-1	<p>Set the preset mode. Follow the instructions under “(2) Presetting Procedure” to set the preset mode. (See Page 41)</p>								
2-2	<p>Select the preset item. Turn the select knob to select “Program 1” (or “Program 2” or “Program 3”).</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Character display</p> <p>Program1 ↓ Program2 ↓ Program3</p> <p>Select one of these.</p> </div> </div>								
2-3	<p>Change the preset setting. Press the select knob.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>The character display changes as follows:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Before change</td> <td style="text-align: center;">After change</td> </tr> <tr> <td style="text-align: center;">Program1 OFF</td> <td style="text-align: center;">Program1 ON</td> </tr> <tr> <td style="text-align: center;">Program2 OFF</td> <td style="text-align: center;">Program2 ON</td> </tr> <tr> <td style="text-align: center;">Program3 OFF</td> <td style="text-align: center;">Program3 ON</td> </tr> </table> </div> </div>	Before change	After change	Program1 OFF	Program1 ON	Program2 OFF	Program2 ON	Program3 OFF	Program3 ON
Before change	After change								
Program1 OFF	Program1 ON								
Program2 OFF	Program2 ON								
Program3 OFF	Program3 ON								
2-4	<p>Cancel the preset mode. Press the PLAY MODE button.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>The preset setting mode is canceled and the set returns to the normal mode.</p> </div> </div>								

To play a preset disc:


Load a disc for which a program is preset.



Lit



Lit



Lit


TRACK NO. SINGLE REMAIN NEXT NO.


PROGRAM 03 30m 28s 47.02

TRACK NAME Light Of Love


The pickup searches for the first programmed track and the standby mode is set.

Start programmed playback.
Press the PLAY/PAUSE button.





Lit



Off

Programed playback starts.

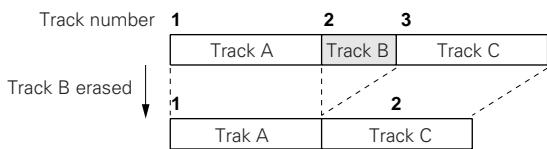
7 EDITING FUNCTIONS

(1) Editing Functions

There are six basic editing functions possible on MDs, as described below. Here we describe these functions briefly.

• **Track erase function (for erasing specific tracks)**

An entire track, from beginning to end, can be erased instantaneously simply by operating buttons. Unlike tapes, there is no need to record over, erase, or cut the tape.

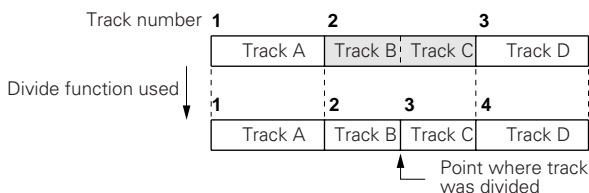


• **All erase function (for erasing all the tracks on the disc)**

All the tracks on the disc can be erased instantaneously simply by operating buttons. Unlike tapes, there is no need to use an eraser or record over.

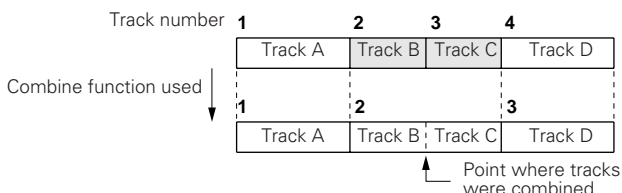
• **Divide function (for dividing a track in two)**

One track can be divided into two tracks. This makes it possible to easily set search points simply by operating buttons after recording.



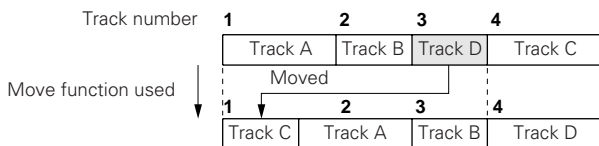
• **Combine function (for combining two tracks)**

Short recordings or cuts created by dividing tracks can be combined into a single track. Unlike tapes, there is no need to copy over or cut the tape.



• **Move function (for moving tracks)**

The order of the tracks can be changed. Unlike tapes, there is no need to copy over or cut the tape.



• **Title function**

Disc names or track names can be stored on recorded discs. The disc names and track names can be called out on the display using the display function.

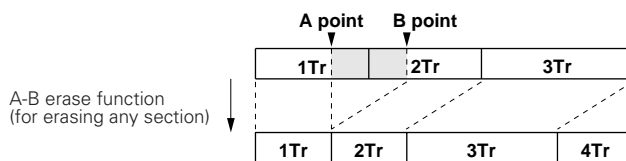
There are six basic editing functions possible on MDs, as described below. Here we describe these functions briefly.

• **Cue erase function (erasing cue signals)**

Cue signals (external control signals) recorded on the disc can be erased without affecting the tracks.

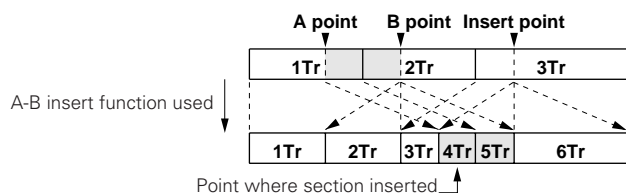
• **A-B erase function (for erasing any section)**

Sections can be selected directly and erased, without using the divide or combine function.



• **A-B insert function (for inserting any section)**

Sections can be selected directly and inserted, without using the divide or combine function.



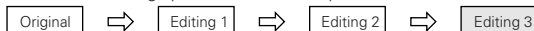
• **Undo functions (for undoing the editing)**

Even after editing is completed, the editing can be undone as long as the UTOC has not yet been written.

There are three types of undo functions:

- 1) UNDO: For undoing the last editing operation.
- 2) REDO: For resetting the editing undone with the undo function.
- 3) FIRST: For undoing all the editing operations.

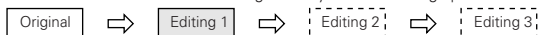
When three editing operations have been performed:



When the **undo** function is used: Only the first two editing operations remain.



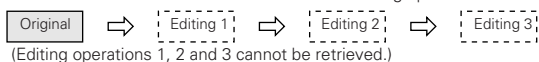
When the **undo** function is used again: Only the first editing operation remains.

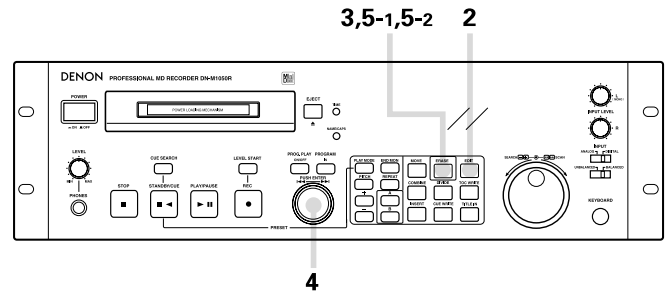
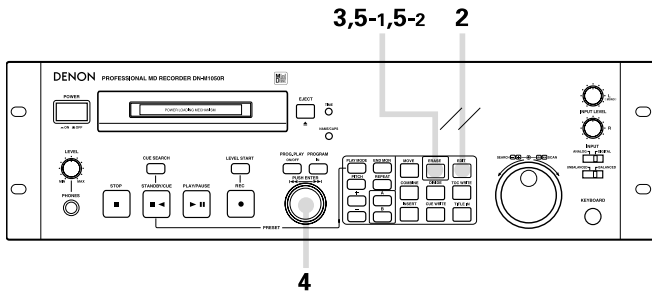


When the **redo** function is used: The first two editing operations remain.



When the **first** function is used: None of the editing operations remain.



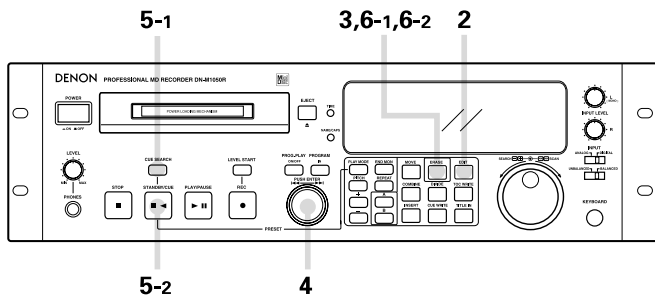


(2) Erasing Tracks (Track erase function)

1	<p>First check the track you to erase by monitoring in, then set the standby mode at that track.</p>
2	<p>Set the edit mode. Press the EDIT button.</p>
3	<p>Set the erase mode. Press the ERASE button.</p> <p>* The ERASE button lights.</p>
4	<p>Select the track erase mode. Turn the select knob and select "Track Erase?".</p> <p>NOTE: Cue Erase? and A-B Erase? are not displayed if no cue signals or A-B points are set.</p>
5-1	<p>Erase the selected track. Press the ERASE button.</p> <p>NOTE: The track to be erased can be selected (or changed) by turning the select knob.</p>
5-2	<p>Press the ERASE button again.</p> <p>The track is erased and the mode returns to the edit mode. * The ERASE button turns off.</p>

(3) Erasing All the Tracks on the Disc (All erase function)

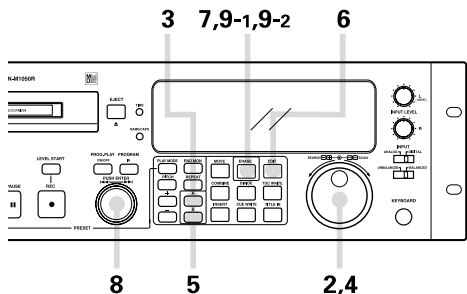
1	<p>Erasing All the Tracks on the Disc. Set the edit mode. Press the EDIT button.</p>
3	<p>Set the erase mode. Press the ERASE button.</p> <p>* The ERASE button lights.</p>
4	<p>Select the all erase mode. Turn the select knob and select "All Erase?".</p> <p>NOTE: Cue Erase? and A-B Erase? are not displayed if no cue signals or A-B points are set.</p>
5-1	<p>Erase all the tracks on the disc. Press the ERASE button.</p>
5-2	<p>Press the ERASE button again.</p> <p>All the tracks are erased and the mode returns to the edit mode. * The ERASE button turns off.</p>



(4) Erasing Cue Signals «Cue erase function»

1	<p>Set the standby mode at the track containing the cue signal you want to erase.</p>
2	<p>Set the edit mode. Press the EDIT button.</p> <p>TRACK NO. 03 SINGLE 03 m 05 s 06, 04 Edit Mode</p>
3	<p>Set the erase mode. Press the ERASE button.</p> <p>TRACK NO. 01 SINGLE 03 m 05 s 06, 02 Cue Erase?</p> <p>* The ERASE button lights.</p>
4	<p>Select the cue erase mode. Turn the select knob and select "Cue Erase?".</p> <p>Cue Erase? ↓ A-B Erase? ↓ Track Erase? ↓ All Erase?</p> <p>NOTE: A-B Erase? is not displayed if no A-B points are set.</p>
5-1	<p>Set the standby mode at the position of the cue signal you want to erase. Press the CUE SEARCH button</p> <p>The cue direct search mode is set.</p>
5-2	<p>Press the STANDBY/CUE button.</p> <p><Cue1></p> <p>NOTE: Press the STANDBY/CUE button again to search for "Cue2", "Cue3", etc., and set the standby.</p>

6-1	<p>Erase the cue signal. Press the ERASE button.</p>
6-2	<p>Press the ERASE button again.</p> <p>The cue signal is erased and the mode returns to the edit mode.</p> <p>* The ERASE button turns off.</p>



(5) Erasing Specific Sections (A-B erase function)

1	Load the cartridge.
2	Set the section to be erased. Use the SCAN or SEARCH dial to find the starting point.
3	Set the starting point. Press the "A" (or "B") button. A(B) point Lit 02Tr 03Tr
4	Use the SCAN or SEARCH dial to find the end point.
5	Set the end point. Press the "B" (or "A") button. A(B) point Lit B(A) point 02Tr 03Tr
6	Set the edit mode. Press the EDIT button. Lit TRACK NO. 03 SINGLE 03m 05s.06, 04 Edit Mode EDIT Lit
7	Set the erase mode. Press the ERASE button. ERASE TRACK NO. 01 SINGLE 03m 05s.06, 02 Cue Erase? EDIT * The ERASE button lights.

8 **Select the A-B erase mode.**
Turn the select knob and select "A-B Erase?".

NOTE: Cue Erase? is not displayed if no cue signals are set.

9-1 **Erase the set section.**
Press the ERASE button.

Displayed if only the A point is set.
B Point?
Displayed if only the B point is set.
A Point?
(Set the B or A point, as necessary.)

Press the ERASE button again.

A-B erase is rehearsed.
A-B Erase OK?

NOTE: If both the A and B points are set, the A-B section is rehearsed and A-B Erase OK? is displayed the first time the ERASE button is pressed.

Press the ERASE button again.

Complete! Lit
Edit Mode Lit
* The ERASE button turns off.
A(B) point B(A) point
02Tr 03Tr
02Tr 03Tr 04Tr

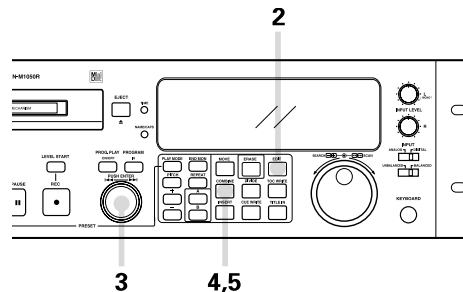
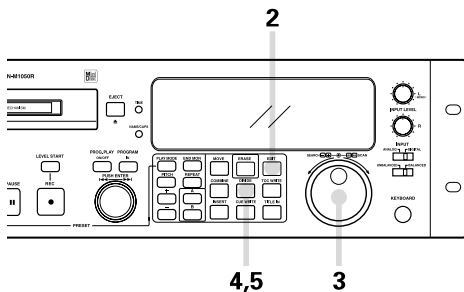
The A-B section is erased and the mode returns to the edit mode.

Display during the A-B erase operation

B Point? This is displayed if no B point is set. If you continue without setting the B point, the end of the track is set as the B point, and the section from the A point to the end of the track is rehearsed and erased.

A Point? This is displayed if no A point is set. If you continue without setting the A point, the beginning of the track is set as the A point, and the section from the beginning of the track to the B point is rehearsed and erased.

NOTE:
The A-B erase operation cannot be performed if the A or B point is set on a track for which cue signals are set.



(6) Dividing Tracks into Two Parts (Divide function)

1	<p>Load the cartridge.</p>
2	<p>Set the edit mode. Press the EDIT button.</p>
3	<p>Use manual search, etc., to find the point at which you want to divide the track.</p>
4	<p>Set the divide mode. Press the DIVIDE button.</p> <p>* The DIVIDE button lights.</p> <p>The section from three seconds before the divide point to the divide point is played repeatedly.</p> <p>NOTE: To move the divide point, turn the SEARCH or SCAN dial.</p>
5	<p>Divide the track. Press the DIVIDE button.</p> <p>* The DIVIDE button turns off.</p> <p>The track is divided and the mode returns to the edit mode.</p>

NOTE:

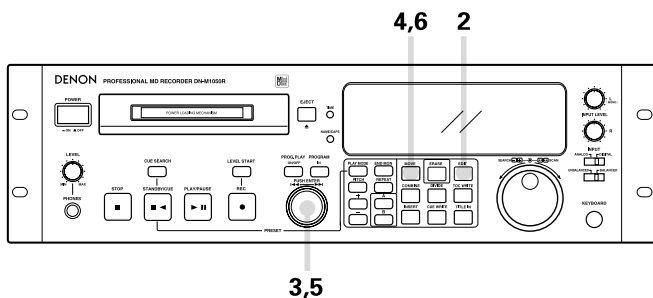
- The divide operation cannot be performed if cue signals are set for that track.
(Clear all the cue signals first.)

(7) Combining Two Tracks (Combine function)

1	<p>Load the cartridge.</p>
2	<p>Set the edit mode. Press the EDIT button.</p>
3	<p>Select the tracks to be combined. Use the select knob to set the standby mode at the second of the tracks to be combined.</p> <p>To combine tracks 02 and 03:</p>
4	<p>Set the combine mode. Press the COMBINE button.</p> <p>* The COMBINE button lights.</p>
5	<p>Combine the tracks. Press the COMBINE button.</p> <p>* The COMBINE button turns off.</p> <p>The tracks are combined and the mode returns to the edit mode.</p>

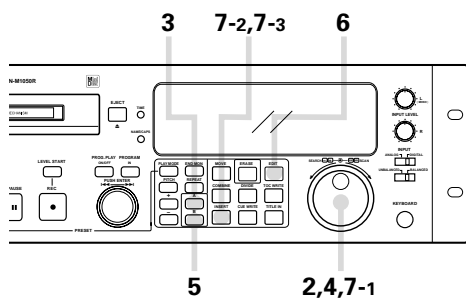
NOTE:

- If the tracks have track names, the name of the second track will be cleared.
- The following tracks cannot be combined:
 - The first track with the last track
 - A stereo track with a monaural track
 - Tracks containing cue signals

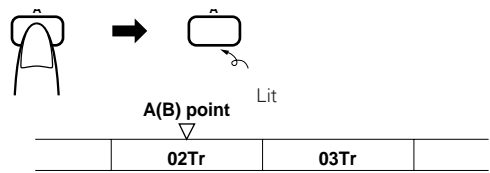
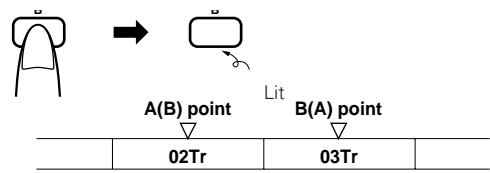
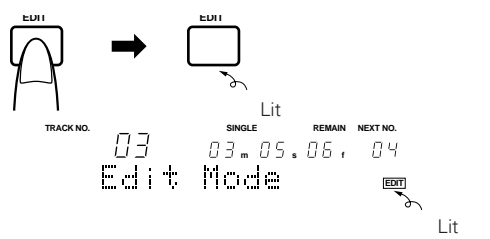
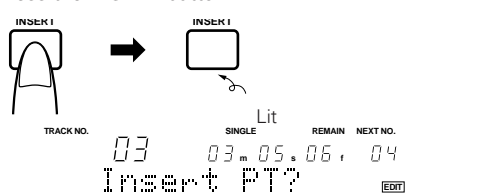


(8) Moving Tracks (Move function)

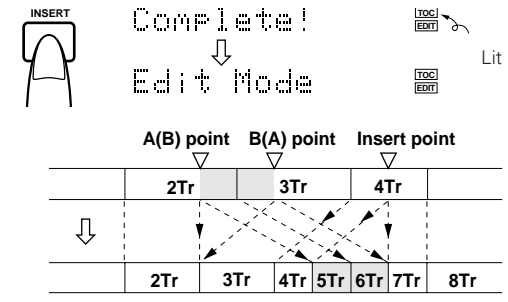
1	<p>Load the cartridge.</p>
2	<p>Set the edit mode. Press the EDIT button.</p>
3	<p>Use the select knob to select the track to be moved.</p>
4	<p>Set the move mode. Press the MOVE button.</p> <p>* The MOVE button lights.</p>
5	<p>Turn the select knob to select the destination of the track. To move track 3 to track 1:</p>
6	<p>Move the track. Press the MOVE button.</p> <p>* The MOVE button turns off.</p> <p>The track is moved and the mode returns to the edit mode.</p>



(9) Inserting Specific Sections «A-B insert function»

1	Load the cartridge.
2	Set the section to be inserted. Use the SCAN or SEARCH dial to find the starting point.
3	Set the starting point. Press the "A" (or "B") button. 
4	Use the SCAN or SEARCH dial to find the end point.
5	Set the end point. Press the "B" (or "A") button. 
6	Set the edit mode. Press the EDIT button. 
7-1	Use the SCAN or SEARCH dial to set the insert point.
7-2	Set the insert mode. Press the INSERT button.  NOTE: If both the A and B points are set, the A-B section is rehearsed and Insert PT? is displayed the when the INSERT button is pressed once.

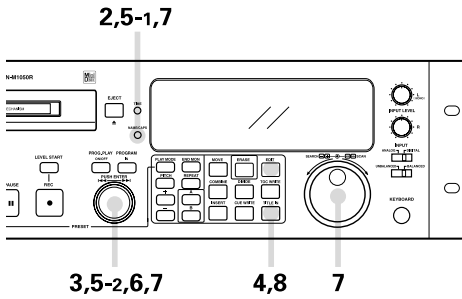
Press the INSERT button again.



7-3

The section is inserted and the mode returns to the edit mode.
* **The INSERT button turns off.**

- NOTE:**
- The A-B insert operation cannot be performed if the A or B point is set on a track for which cue signals are set.
 - The A-B insert operation cannot be performed unless both the A and B points are set.
 - A-B insert is not possible if the insert point is set at the beginning or end of a track.



(10) Inputting (Changing) Names (Title function)

1	<p>Load the cartridge.</p> <p>Display "DISC NAME" or "TRACK NAME". Press the NAME/CAPS button.</p>
2	<p>Display "DISC NAME" to input a disc name, "TRACK NAME" to input a track name.</p>
3	<p>Use the select knob to select the track for which a name is to be input.</p>
4	<p>Select the name input mode. Press the TITLE IN button.</p> <p>TRACK NO. 01 SINGLE Lit REMAIN NEXT NO. Lit DISC NAME 03 m 05 s 06 : 02 EDIT Lit</p> <p>Flashing Lit</p> <p>If a name is already set, the name is displayed and the first character flashes.</p>
5-1	<p>Select the type of characters to be input. Press the NAME/CAPS button and select the type of characters.</p> <p>Capital letters Small letters Numbers Symbols</p>
5-2	<p>Turn the select knob to select the character to be input.</p> <p>A B C D E</p>
6	<p>Enter the selected character. Press the select knob.</p> <p>Flashing Flashing (cursor)</p>

7	<p>Continue inputting the name. Repeat steps 5-1, 5-2 and 6 to input the name. Turn the SEARCH dial to move the cursor to change or correct a name.</p> <p>When the SEARCH dial is turned, the cursor moves one space for each click of the dial.</p> <p>When the SEARCH dial is turned, the cursor moves one space for each click of the dial.</p> <p>Backwards Forwards</p>
8	<p>Cancel the name input mode. Press the TITLE IN button.</p> <p>Lit</p> <p>The name input mode is canceled.</p>

Input Characters

The following letters, numbers and symbols (ASCII code) can be selected using the NAME/CAPS button and the select knob:

Capital letters
SP A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

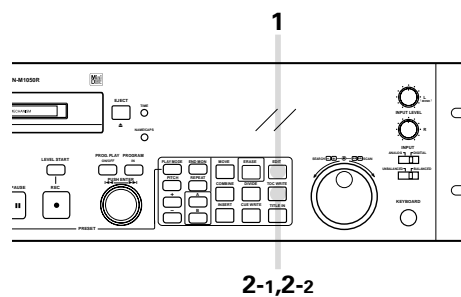
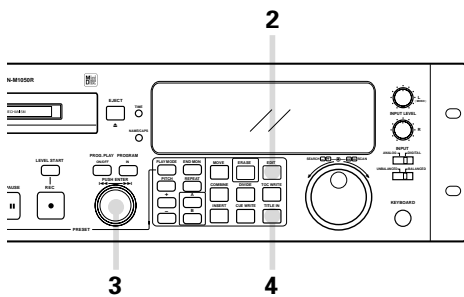
Small letters
SP a b c d e f g h i j k l m n o p q r s t u v w x y z

Numbers
SP 1 2 3 4 5 6 7 8 9 0

Symbols
SP ! " # \$ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ` { | } ~

SP _space

NOTE:
Disc and track names can be up to 100 characters long, but the maximum number of characters that can be set for the disc name and all the track names is 1700.



(11) Undoing Editing (Undo functions)

1	<p>Set the stop mode. Press the STOP button.</p>
2	<p>Set the undo mode. Press the EDIT button and hold it in for about 3 seconds.</p> <p>Keep pressing the button until Undo? is displayed.</p>
3	<p>Select the undo mode. Turn the select knob.</p> <p>UNDO: For undoing the last editing operation. REDO: For resetting the editing undone with the undo function. FIRST: For undoing all the editing operations.</p>
4	<p>Undo the editing. Press the TITLE IN button.</p> <p>The editing is undone and the mode returns to the edit mode.</p>

NOTE:

- The undo operation can be used to undo up to the two last editing operations. To undo previous editing operations, use the "First" operation to undo all the editing operations, then redo the editing.
- Once the UTOC is written, it is not possible to change previous editings.

NOTE:
If editing is performed when a program is set, the program is discarded.

(12) Canceling the Edit Mode and Writing the UTOC

1	<p>Cancel the edit mode. Press the EDIT button.</p> <p>When the "UTOC Auto" mode is set, the UTOC is automatically written on the disc and the edit mode is canceled. ("UTOC Auto" mode : Refer to Page 42)</p> <p>UTOC Writing flashes while the UTOC is being written.</p>
2-1	<p>Write the UTOC. Press the TOC WRITE button.</p> <p>When the "UTOC Manual" mode is set, the edit mode is canceled and the UTOC is not written on the disc. ("UTOC Manual" mode : Refer to Page 42)</p>
2-2	<p>Press the TOC WRITE button again while UTOC Write? is displayed. ("UTOC Write?" is displayed for 5 seconds.)</p>

NOTE:
If the EJECT button is pressed after editing without writing the UTOC, UTOC Write! is displayed for 5 seconds. If the EJECT button is pressed again while the message is displayed, the editing is discarded and the cartridge is ejected.

(13) Error Messages

Messages appear if editing could not be completely normally. The meanings of the messages are described below.

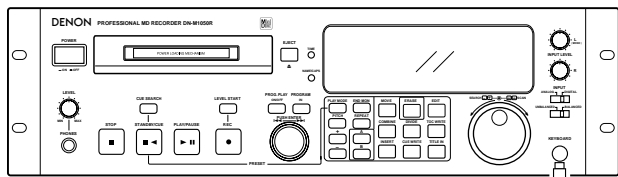
Message	Description
Protected	Disc's tab is set to record disable position.
Disc Type Err	Pre-mastered disc (disc on which recording is not possible) is loaded.
Can't Edit 10	Point to be erased unclear (cue erase operation).
Can't Edit 11	There are already 5 cue points (cue write operation).
Can't Edit 12	There is no space for names and cue data cannot be written (cue write operation).
Can't Edit 13	There is already a cue signal at this position (cue write operation).
Can't Edit 20	Dividing is not possible because the disc already contains 255 tracks.
Can't Edit 21	Dividing is not possible because you are at the beginning of the track.
Can't Edit 22	Dividing is not possible because the track is protected.
Can't Edit 23	Dividing is not possible because cue signals are set on that track.
Can't Edit 24	After dividing, the track name could not be given to the second track. (Dividing is completed)
Can't Edit 25	Dividing is not possible due to MD limitations.
Can't Edit 30	Combining is not possible because you are at track 1.
Can't Edit 31	Combining is not possible because the track is protected.
Can't Edit 32	Combining is not possible because cue signals are set on that track.
Can't Edit 33	Combining is not possible because the first track is protected.
Can't Edit 34	Combining is not possible because the track mode is different for the first and second tracks.
Can't Edit 35	Combining is not possible because cue signals are set for the first track.
Can't Edit 36	Combining is not possible due to MD limitations.
Can't Edit 40	Moving the same track is not possible.
Can't Edit 50	No more titles can be added because the maximum number of characters has already been reached.
Can't Edit 60	No A or B point (A-B insert operation).
Can't Edit 61	A and B points are the same (A-B insert operation).
Can't Edit 62	A point is the beginning of the track (A-B insert operation).
Can't Edit 63	B point is the end of the track (A-B insert operation).
Can't Edit 64	Inserting is not possible because there are already 253 tracks.
Can't Edit 65	Inserting is not possible because the insert point is between the A and B points.
Can't Edit 66	Inserting is not possible because the track at the insert point is protected.
Can't Edit 67	Inserting is not possible because the insert point is the beginning of a track.
Can't Edit 68	Inserting is not possible because the insert point is the end of a track.
Can't Edit 69	Inserting is not possible because there is a cue signal at the insert point.
Can't Edit 6a	Inserting is not possible because the track at the A point is protected.
Can't Edit 6b	Inserting is not possible because there is a cue signal at the A point.
Can't Edit 6c	Inserting is not possible because the track at the B point is protected.
Can't Edit 6d	Inserting is not possible because there is a cue signal at the B point.
Can't Edit 6e	A-B insert is not possible due to MD limitations.
Can't Edit 70	Erasing is not possible because the A and B points are the same (A-B erase operation). (When both the A and B points are set)
Can't Edit 71	Erasing is not possible because there are already 254 tracks (A-B erase operation). (When both the A and B points are set)
Can't Edit 72	Erasing is not possible because there are already 255 tracks (A-B erase operation). (When only the A or B point is set)
Can't Edit 73	Erasing is not possible because the track at the A point is protected (A-B erase operation).
Can't Edit 74	Erasing is not possible because there is a cue signal at the A point (A-B erase operation).
Can't Edit 75	Erasing is not possible because the track at the B point is protected (A-B erase operation).
Can't Edit 76	Erasing is not possible because there is a cue signal at the B point (A-B erase operation).
Can't Edit 77	Erasing is not possible due to MD limitations.
Can't Edit 80	No undo data.
Can't Edit 81	No redo data.
Can't Edit 82	No first data.

8 CONNECTING AND OPERATING A KEYBOARD

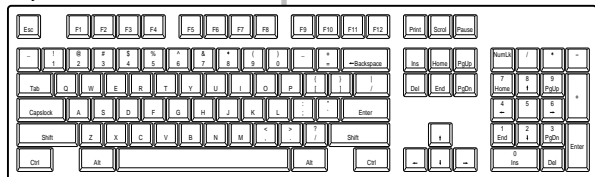
An IBM PC compatible keyboard can be connected and used to control the DN-M1050R.

Connectable keyboard: IBM US101 keyboard
 (connector: 6-pin mini DIN PS/2 type)
Applicable cord: SCAN CODE SET 02

(1) Connecting the Keyboard



Key Board

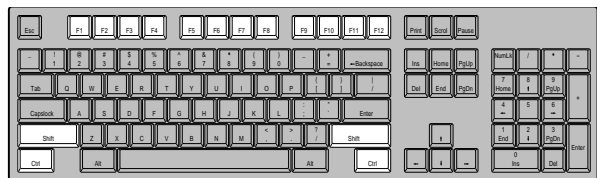


NOTE: Turn off the power of the DN-M1050R before connecting the keyboard.

(2) Keyboard Operations

The keyboard's keys are allocated to specific DN-M1050R panel operations. The functions of the keys differ according to the DN-M1050R's operating mode.

• Functions of keys **F1** to **F12**



- F1** Track search reverse (1 track)
- F2** Track search forward (1 track)
- F3** PLAY/PAUSE button
- F4** STANDBY/CUE button
- F5** STOP button
- F6** REC button
- F7** PLAY MODE button
- F8** TIME button
- F9** PITCH button
- F10** PROG.PLAY ON/OFF button
- F11** NAME/CAPS button
- F12** END MON button

When the **Shift** key is held in while pressing keys **F1** to **F12**, the keys function as follows:

- F1** Track search reverse (10 tracks)
- F2** Track search forward (10 tracks)
- F3** Manual search reverse
- F4** Manual search forward
- F5** CUE SEARCH button
- F6** LEVEL START button
- F7** A button
- F8** B button
- F9** REPEAT button
- F10** PROGRAM IN button
- F11** Loads hot start data.
- F12** TITLE IN button.

When the **Ctrl** key is held in while pressing keys **F1** to **F12**, the keys function as follows:

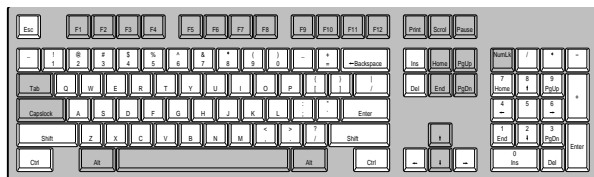
- F1** TOC WRITE button
- F2** Selects **First** in edit mode
- F3** Selects **Redo** in edit mode
- F4** Selects **Undo** in edit mode
- F5** EDIT button
- F6** DIVIDE button
- F7** COMBINE button
- F8** MOVE button
- F9** INSERT button
- F10** Selects **A-B Erase** in edit mode
- F11** Selects **Track Erase** in edit mode
- F12** Selects **All Erase** in edit mode

• Functions of other keys
 1) In normal operating mode



- Numerical keypad keys** Select tracks
- +** Pitch "+" button
 - Pitch "-" button
 - Increments track selection
 - ←** Decrements track selection
 - Esc** Cancels track selected with numerical keypad keys
 - Enter** "PUSH ENTER" operation.

• When editing names



Letter keys Input small letters (when CapsLock is off)

Number keys Input numbers

Symbol keys Input symbols

Numerical keypad keys Input numbers

+ Inputs “+” symbol

- Inputs “-” symbol

Ins Inserts character

Del Deletes character

BackSpace Deletes previous character

→ Moves cursor one step to right

← Moves cursor one step to left

Esc Cancels name input

Enter Enters input name (“PUSH ENTER” operation)

When keys are pressed while holding in the **Shift** key, the keys functions as follows:

Letter keys Input capital letters (when CapsLock is off)

Number keys Input symbols

Symbol keys Input (upper) symbols

Numerical keypad keys Input numbers

Del Deletes all characters after cursor

→ Moves cursor to right end of display window

← Moves cursor to left end of display window

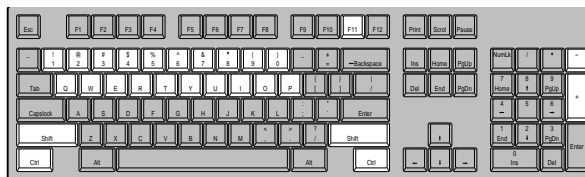
When keys are pressed while holding in the **Ctrl** key, the keys functions as follows:

Del Deletes all characters

→ Moves cursor to final character

← Moves cursor to first character

• Hot start (optional function) data is load.



Letter keys Q to P : Hot start 11 to 20

Number keys Hot start 1 to 10

+ Pitch “+” button

- Pitch “-” button

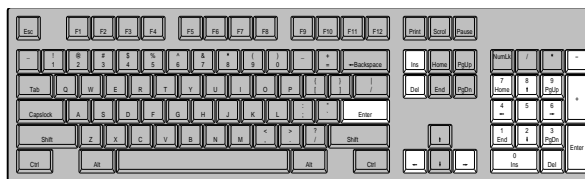
When keys are pressed while holding in the **Ctrl** key, the keys functions as follows:

Letter keys Q to P : Reload data 11 to 20

Number keys Reload data 1 to 10

When the **Shift** key is pressed while holding in the **F11** key, the hot start data is loaded.

• In the program mode



Numerical keypad keys Input tracks in the program

+ Pitch “+” button

- Pitch “-” button

Ins Inserts track in program

Del Deletes track from program

→ Increments track selection

← Decrements track selection

Enter Enter : Set track (“PUSH ENTER” operation)

9 PRESET FUNCTIONS AND OPERATIONS

(1) List of Preset Functions

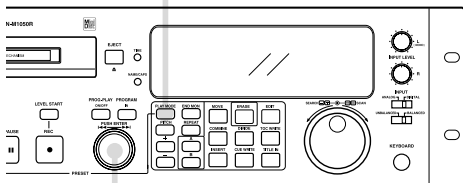
- Functions can be preset using the buttons on the front panel. These presettings are stored in a permanent memory, so they are not cleared even when the power is turned off.
- The functions shown on the table below can be preset. Set the functions according to the usage purpose to efficiently achieve even higher quality playback.
- One of the preset functions can be used to display information on this set (microprocessor version).

Preset function type	Description	Character display (as set upon shipment from factory)	No.
Preset type	Selection of preset type	Preset Type 1	1
Play end mode	Play end mode selection	Finish Next	2
Auto cue	Auto cue on/off setting and startup level setting	CueDet.OFF	3
Auto increment	Auto increment selection	Auto Inc OFF	4
Auto increment	Auto increment level setting	Inc Det.-60dB	5
UTOOC	Pre-UTOOC on/off setting	Pre UTOOC OFF	6
UTOOC	Manual/auto UTOOC write mode selection	UTOOC Manual	7
Recording start level	Recording start level setting	RecStart-60dB	8
Recording start offset	Recording start offset time setting	Rec Offset OFF	9
Stereo/mono	Stereo recording or mono recording selection	Rec Stereo	10
Copy management	Serial copy management on/off selection	SCMS INH	11
Play pitch	Selection of whether or not to use pitch set for disc	PichAuto OFF	12
Auto stop	Setting of whether or not to automatically stop the servo functions	Sleep ON	13
FS converter	Setting of whether or not to use the FS converter and sampling frequency setting (when optional FS converter mounted)	FS OFF	14
Hot start	Hot start on/off selection (when option mounted)	Hot start OFF	15
Date display	Date display on/off selection	Date Disp OFF	16
Program 1	Setting of whether or not to play program 1	Program 1 OFF	17
Program 2	Setting of whether or not to play program 2	Program 2 OFF	18
Program 3	Setting of whether or not to play program 3	Program 3 OFF	19
End monitor	Setting of whether or not to use the end monitor function and monitor time setting	End Mon. 10s	20
E.O.M.	Setting of whether or not to display the EOM and display time setting	E.O.M. 10s	21
End cue	End cue time setting	End Cue -2s	22
Next track standby	Setting of whether or not to standby at the next track when the STANDBY/CUE button is pressed during playback	Next Stb.OFF	23
Play lock	Selection of whether or not to inhibit the panel switches during playback	PlayLock.OFF	24
Serial remote	Baud rate setting	9600bps	25
Switch protect	Selection of whether or not to enable the panel switches	Switch ENA	26
Serial remote	Player ID on/off selection and ID setting	Player ID OFF	27
Parallel remote	Fader start mode selection	Fader Pause	28
Stereo/mono	Selection of stereo or monaural playback	Stereo	29
Preset clear	Setting for clearing presets and setting them to the initial values	Ini. Preset	30
Set information	Microprocessor version display	Ver. xxxx yyyy * 1 (xxxx yyyy is a number.)	31

* 1 "xxxx" indicates the system microprocessor version, "yyyy" the servo microprocessor version.

(2) Presetting Procedure

- Functions can be preset using the buttons on the front panel.
- The presettings can also be set using serial remote signals (RS232C/RS422A).
- Presettings can be made when no cartridge is loaded or when in the stop, standby, pause, recording pause or recording monitor mode.



2,3

1	<p>Enter the preset mode. Press the STANDBY/CUE button while pressing the PLAY MODE button.</p>															
2	<p>Select the preset item. Turn the select knob (◀◀◀ - ▶▶▶).</p> <p>Turn the knob clockwise to move in the direction of the arrows, counterclockwise to move in the opposite direction.</p> <p>NOTE: The first preset item displayed is the last preset item displayed the last time the presettings were made.</p>															
3	<p>Change the preset values. Press the select knob.</p> <p>The character display changes as shown below.</p> <table border="0"> <tr> <td style="text-align: center;">Before change</td> <td style="text-align: center;">⇒</td> <td style="text-align: center;">After change</td> </tr> <tr> <td>Preset Type1</td> <td></td> <td>Preset Type2</td> </tr> <tr> <td>Finish Next</td> <td></td> <td>Finish Recue</td> </tr> <tr> <td>CueDet. OFF</td> <td></td> <td>CueDet. -72dB</td> </tr> <tr> <td>Auto Inc OFF</td> <td></td> <td>Auto Inc Dig.</td> </tr> </table>	Before change	⇒	After change	Preset Type1		Preset Type2	Finish Next		Finish Recue	CueDet. OFF		CueDet. -72dB	Auto Inc OFF		Auto Inc Dig.
Before change	⇒	After change														
Preset Type1		Preset Type2														
Finish Next		Finish Recue														
CueDet. OFF		CueDet. -72dB														
Auto Inc OFF		Auto Inc Dig.														

4	<p>Exit the preset mode. Press the PLAY MODE button.</p> <p>The preset mode is canceled and the set returns to the previous mode.</p>
5	<p>To set the presettings back to the initial settings (the settings set upon shipment from the factory) Turn the power on while holding in both the PLAY MODE and the END MON buttons. For the initial settings, refer to "(1) List of preset functions".</p> <p>The character display changes as shown below.</p> <p style="text-align: center; font-size: 1.5em;">Initial Set</p>

NOTE:
If the message shown below appears, there is a problem with the preset memory. Contact a serviceperson.

Initial Error

(3) Detailed Description of Preset Functions

(* = initial setting)

- 1) "Preset Type (*)" (Three different sets (types) of presettings can be made and used for different purposes.)
 - * Preset Type1 : Set to preset type 1.
 - Preset Type2 : Set to preset type 2.
 - Preset Type3 : Set to preset type 3.
- 2) "Finish (*)"
 - Finish Stop : Stop mode is set after track playing is finished.
 - * Finish Next : Standby mode is set at next track after track playing is finished.
 - Finish Rescue : Standby mode is set at playback start position after track playing is finished.
- 3) "CueDet. OFF (-**)dB"
 - * CueDet.OFF : Sound is not detected when cueing.
 - CueDet.(-**)dB : Sound detection level setting for cueing. (-72/-66/-60/-54/-48/-42/-36)
- 4) "Auto Inc OFF (*)"
 - * Auto Inc OFF : No auto increment of track number.
 - Auto Inc Dig. : Track number is automatically incremented during digital recording using subcodes on CDs or MDs (Q codes) or start IDs on DATs.
 - Auto Inc Det. : Track number is automatically incremented during recording when level set in "5) "Inc Det. (-**)dB" setting is detected.
- 5) "Inc Det. (-**)dB"
 - Inc Det.(-**)dB : Sound detection level for auto increment function. (-72/-66/*-60/-54/-48/-42/-36)
- 6) "Pre UTOC OFF (ON)" (Playback is possible up to that point even if power supply is cut off during recording or if recording stops due to some problem.)
 - * Pre UTOC OFF : Pre-UTOC function off.
 - Pre UTOC ON : Pre-UTOC function on.
- 7) "UTOC Manual (Auto)"
 - * UTOC Manual : UTOC is written by pressing TOC WRITE button after editing is completed.
 - UTOC Auto : UTOC is written automatically when editing is completed.
- 8) "RecStart (-**)dB"
 - RecStart (-**)dB : Sound detection level for auto record start function. (-72/-66/*-60/-54/-48/-42/-36)
- 9) "Rec Offset (*)" (Recording can be started before sound detection during auto record start operation.)
 - Rec Offset (*) : Recording starts the set number of seconds before level detection. (*OFF/1s/2s/3s/4s/5s)
- 10) "Rec Stereo (Mono)"
 - * Rec Stereo : Record in stereo.
 - Rec Mono : Record left channel signal in mono.
- 11) "SCMS INH (ENA)"
 - * SCNS INH : Record onto disc same code as copy prohibit code in recording source.
 - SCMS ENA : Record copy prohibit code on disc according to SCMS.
- 12) "PitchAuto OFF (ON)"
 - * PitchAuto OFF : Play pitch data stored on disc not used.
 - PitchAuto ON : Play disc at play pitch stored on disc.
- 13) "Sleep ON (OFF)"
 - * Sleep ON : Automatically turn the servo functions off if no button is operated for 30 minutes in the pause, standby or manual search mode.
 - Sleep OFF : Do not automatically turn the servo functions off.
- 14) "FS OFF (***)kHz" (This setting can only be made when an optional FS converter is mounted.)
 - * FS OFF : Do not use the FS converter.
 - FS (***)kHz : Select the digital output FS. (32 kHz/44.1 kHz/48 kHz)
- 15) "Hot Start OFF (ON)" (Hot start can be set when optional hot start unit is mounted.)
 - * Hot Start OFF : Hot start off.
 - Hot Start ON : Hot start on.

- 16) "Date Disp OFF (ON)"
 * Date Disp OFF : Date not displayed even when NAME/CAPS button pressed.
 Date Disp ON : Date displayed when NAME/CAPS button pressed.
- 17) "Program 1 OFF (ON)"
 Program 1 OFF (ON) : Store the contents of program 1 when on. (Initial setting – "OFF")
- 18) "Program 2 OFF (ON)"
 Program 2 OFF (ON) : Store the contents of program 2 when on. (Initial setting – "OFF")
- 19) "Program 3 OFF (ON)"
 Program 3 OFF (ON) : Store the contents of program 3 when on. (Initial setting – "OFF")
- 20) "End Mon. (**)sec"
 End Mon. (**)sec : Set the end monitor time. (5/*10/15/20/25/30/35)
 End Mon. OFF : Do not use the end monitor function.
- 21) "E.O.M. (**)sec" (Output EOM tally signal to remote pint (24))
 E.O.M. (**)sec : Set the EOM time. (0/5/*10/15/20/25/30)
 E.O.M. OFF : Do not use the EOM function.
- 22) "End Cue (-*)sec" (Cue signal can be emitted before playback is completed.)
 End Cue (-*)sec : End cue time setting. (0/-1/*-2/-3)
- 23) "Next Stb.OFF (ON)"
 * Next Stb.OFF : Return to the play start position and standby when the STANBY/CUE button is pressed during playback.
 Next Stb.ON : Standby at the beginning of the next track when the STANDBY/CUE button is pressed during playback.
- 24) "PlayLock ON (OFF)"
 PlayLock ON : Inhibit all operations other than the PLAY/PAUSE, TIME and PLAY MODE buttons during playback.
 * PlayLock OFF : Enable all functions during playback.
- 25) "9600 (19200) bps"
 * 9600 bps : Set the baud rate to 9600 bps.
 19200 bps : Set the baud rate to 19200 bps.
- 26) "Switch ENA (INH)"
 *Switch ENA : Enable operation of all the switches on the front panel.
 Switch INH : Inhibit operation of all panel switches other than those used for presetting operations.
- 27) "Player ID (**)"
 Player ID (**) : Player ID setting.
 (Set ID to OFF or 0 to 15. Default setting - "OFF".)
- 28) "Fader Pause (Play)"
 * Fader Pause : Start playback when remote fader pins (9-10) are short-circuited and pause when pins are open.
 Fader Play : Start playback when remote fader pins (9-10) are short-circuited and continue playback when pins are open.
- 29) "Stereo (Mono)"
 * Stereo : Output L and R stereo signals from the output connector.
 Mono : Output mixed L and R signals from the output connector.
- 30) "Preset Clr? (Ini. Preset)"
 Preset Clr? : Clear the presettings (set to the initial factory values).
 * Ini. Preset : Presettings set to initial factory defaults.
- 31) "Ver. xxxx yyyy" : Display the microprocessor version. ("xxxx yyyy" is a number.)

10 HANDLING CARTRIDGES

Discs are stored inside cartridges, so they can be handled easily without worrying about dust or fingerprints. Be careful of the following in order to keep recordings in optimum condition.

(1) Cautions on Handling

- Keep cartridges away from magnets and sources of strong magnetic forces. (Only for recordable discs)
- Put cartridges in their cases when carrying them.
- Do not apply labels other than the ones included when the discs are purchased.
- Use a soft, dry cloth to wipe any dirt off the surface of the cartridge.
- Do not open the shutter.
Forcing the shutter open could break it.
If the shutter is opened, dirt or dust may get inside and fingerprints may get on the disc.

- Do not bend, heat or throw cartridges.
- Water droplets may form on the surface if cartridges are moved suddenly from outside or any cold place to a warm place. If this happens, wait awhile before using them.

(2) Cautions on Storing

- Always remove cartridges from the set after recording or playing them.
- Do not put cartridges in the following places:
 - Places exposed to direct sunlight.
 - Hot places.
 - Humid or dusty places.

11 MESSAGES

Messages appear on the display when operating the set. The meanings of the messages are described below.

Message	Description
A Point?	Indicates that the A point has not been set during the A-B erase operation.
B Point?	Indicates that the B point has not been set during the A-B erase operation.
Can't Edit **	Indicates that editing was not possible. (For details, refer to Page 37)
Can't Increment	Indicates that the track number cannot be incremented by pressing the REC button during recording.
Can't Rec!	Recording is not possible because of a problem in the TOC recording enable data.
Complete!	Indicates that editing is complete.
Cue*	Indicates that the cue search operation is being performed. (* is the cue number.)
<Cue>*****	Displayed at the beginning of the track name if cue signals are set for that track.
Disc Full	There is no more remaining time on the disc, or there are already 255 tracks on the disc.
Disc Type Err	Recording or editing is not possible with pre-mastered discs.
EEPROM Error	Displayed when changing the presets if there is a problem with the memory storage operation.
Error **	Displayed when a system error occurs.
Initial Error	Displayed if there is a problem with the memory storage operation when the presets have been reset (initialized).
Initial Set	Displayed when initializing the presets.
No Date	Indicates that the date data has not been set.
No Name	Indicates that no track name or disc name has been set.
No Program!	Indicates that no program has been input.
No Sel.Track	Displayed when the selected track does not exist on the disc.
No Track	Indicates discs containing disc names but no tracks.
Not Audio!	Data other than audio data is input.
Now A-B!	The A-B playback mode is set.
Now Program!	This means that a program has been input.
Play Lock!	Displayed when a locked operation is performed when play lock is preset.
Program Full	Displayed if you attempt to program a 26th step.
Protected	Displayed when you attempt to record or edit while the cartridge is in the accidental erasure prevention mode.
Rec Mono	Sound will be recorded in monaural.
Rec Stereo	Sound will be recorded in stereo.
Sleep	Indicates the sleep mode.
Track Full	Displayed when you attempt to set the recording mode on a disc containing 255 tracks.
UTOC Write!	Displayed when you attempt to eject the cartridge after editing is completed without first writing the UTOC.
UTOC Write?	Displayed when the TOC WRITE button is pressed.
UTOC Writing	Displayed while the UTOC is being written.

12 SYSTEM LIMITATIONS

(1) Track Number Limits

- Up to 255 tracks can be recorded when recording the tracks successively starting from the first track on blank or no-track discs. In the following cases, however, the number of tracks that can be recorded decreases:
 - When editing has been performed.
 - When there are scratches on the disc and tracks have been re-recorded.

(2) Recording Time Limits

- Recording is performed in units of approximately 2 seconds. Sections of less than 2 seconds still take up 2 seconds worth of space on the disc, so this decreases the actual recordable time.
- Scratched sections of discs are automatically eliminated from the recording time.
- Recording is no longer possible once the maximum number of tracks is reached, even if they take up less than the maximum recordable time. To record on such discs, first erase unneeded tracks. When this is done, it is not possible to record for longer than the time of the tracks that have been erased.
- The remaining time on the disc may not increase when short tracks (less than approximately 8 seconds) are erased.
- If there are many emphasis data on/off signals or other similar signals in a track, they are treated as divisions between tracks, so recording will not be possible regardless of the recording time and number of tracks.

(3) Editing Function Limits

- It may not be possible to combine a short track with another track.
- Tracks containing cue points cannot be divided or combined.

(4) Title Function Limits

- There are limits to the number of characters that can be used in disc and track names and to the total number of characters used for both. When writing names, the cursor will only move by the maximum number of writeable spaces. (after this no more characters can be input).

Track names:	Up to 100 characters
Disc names:	Up to 100 characters
Total:	Up to 1700 characters
- The number of characters that can be used in track names decreases when the following functions are used:

Cue point function:	Using one cue point decreases the number of characters that can be used by 5.
Play speed function:	Changing the play speed decreases the number of characters that can be used by 6.
- When a track with a track name is divided, both of the divided tracks are given the same name. However, if the number of characters writeable on the disc is near the limit, the second track may only have part of the track name.
- When two tracks with track names are combined, the name of the second track is erased.

(5) Other Limits

- During the programmed playback mode, the recording mode cannot be set by pressing the REC button. If the REC button is pressed, "Now Program!" is displayed for approximately 5 seconds, then turns off.
- During the programmed playback mode, the edit mode cannot be set by pressing the EDIT button. If the EDIT button is pressed, "Now Program!" is displayed for approximately 5 seconds, then turns off.
- During the programmed playback mode, the A and B points cannot be set by pressing the A and B buttons.
- During the A-B play mode, the edit mode cannot be set by pressing the EDIT button.
- During the A-B play mode, the programmed playback mode cannot be set by pressing the PROG.PLAY ON/OFF button.
- The edit mode is set if the EDIT button is pressed when A and B points are set. The positions of the A and B points are corrected after editing is completed.

13 SPECIFICATIONS

GENERAL

Type: MiniDisc Recorder
Recordable/Playable Discs: Playback: Pre-mastered MDs and recordable MDs
 Recording: Recordable MDs
Recording System: Magneto-optical overwriting system (Magnetic field modulation)
Signal Compression System: ATRAC(Adaptive Transform Acoustic Coding) version 4.0
Rotating Speed: Approx. 400 to 900 rpm.
Recording/playback time 74 min. (Stereo), 148 min. (Mono)

AUDIO SECTION

Channels: 2 channels (Stereo), 1channel (Mono)
Sampling Frequency: 44.1kHz (32/48 kHz available using optional ACD-25FSM)
Quantization Bits: A/D converter: 16bit, D/A converter: 18bit
Frequency Response: 20 to 20,000 Hz (± 1.0 dB)
Total Harmonic Distortion: 0.012% or less (Playback, A filter)
 0.02% or less (Recording, A filter)
Signal to Noise Ratio: 92 dB or higher (Playback, A filter)
 84 dB or higher (Recording, A filter)
Channel Separation: 86 dB or higher (Playback, A filter)
 80 dB or higher (Recording, A filter)
Analog Output
Transfer and Connector: (1 kHz, 0dB playback)
 Balanced active, XLR connector
 Unbalanced, RCA jack
Output Level: Balanced: +18 dBs, 600 Ω /ohms
 Unbalanced: 1.7 Vrms, 10 k Ω /ohms
Output Level Adjust Range: +22 dBs to -20 dBs (Balanced)
Headphone Output: 20 mW (30 to 40 Ω /ohms)

Pin No.	USA & Canada	Europe , Asia & Others
1	Common	Common
2	Cold	Hot
3	Hot	Cold

Digital Output
Transfer and Connector: Balanced active, XLR connector (1. Common 2. Cold 3. Hot)
 Unbalanced, RCA jack
Signal Format: Balanced: AES/EBU
 Unbalanced: SPDIF or IEC-958 Type II
Output Level: Balanced: 3 Vp-p, 110 Ω /ohms
 Unbalanced: 0.5 Vp-p, 75 Ω /ohms

Analog Input

Transfer and Connector: Balanced active, XLR connector
 Unbalanced, RCA jack
Input Level: Balanced: +18 dBs, 10 k Ω /ohms
 Unbalanced: 1.7 Vrms, 47 k Ω /ohms

Pin No.	USA & Canada	Europe , Asia & Others
1	Common	Common
2	Cold	Hot
3	Hot	Cold

Digital Input

Transfer and Connector: Balanced active, XLR connector (1. Common 2. Cold 3. Hot)
 Unbalanced, RCA jack
Signal Format: Balanced: AES/EBU or IEC-958 Type I
 Unbalanced: SPDIF or IEC-958 Type II
Input Level: Balanced: 3 to 10 Vp-p, 110 Ω /ohms
 Unbalanced: 0.3 to 1.0 Vp-p, 75 Ω /ohms

Variable Pitch Control:

Audio Start-up Time: $\pm 9.9\%$
 0.01 second less
Frame Search Accuracy: 1 frame (1/85 second)

DIMENSIONS:

WEIGHT: 482(W) x 132(H) x 275.6(D) (Not including feet, dials and terminals)
 6.9 kg, 15.2 lbs
POWER CONSUMPTION: 29W
POWER SUPPLY: AC 120 V $\pm 10\%$, 60 Hz (U.S.A. & Canada)
 AC 230 V $\pm 10\%$, 50 Hz (Europe, Asia & Others)

ENVIRONMENTAL CONDITIONS

Operating Temperature: +5°C to 35°C
Humidity: 25% to 85%, non condensing
Storage Temperature: -20°C to 60°C

REMOTE

Serial Remote: RS232C/RS422A (switchable), 9600 bps/19200 obps (Selectable), D-sub 9-pin
Parallel Remote: D-sub 25-pin
Keyboard terminal: PS/2

* Specifications and design are subject to change without notice for purpose improvement.

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DENON SERVICE NETWORK/服務網絡

- Please contact one of our overseas service centers, listed below, for follow-up service consultation.
- Wenden Sie sich für anfallende Wartungs-bzw. Reparaturarbeiten bitte an eine der folgend aufgeführten Kundendienststellen.
- Adressez-vous à nos centres de service d'outre-mer indiqués ci-dessous, pour le service après-vente.
- Per il servizio dopo vendita rivolgete Vi al nostro centro di servizio estero appropriato della lista seguente.
- Para consultas de servicio porfavor diríjirse a cualquiera de nuestros centros de servicio en el extranjero, enlistados abajo.
- Neem kontakt op met één van onze reparatie-inrichtingen in het buitenland, waarvan hier een lijst volgt, voor na-service.
- Ta kontakt med nedan angivna servicecentraler för rådfrågning om servicearbeten efter försäljningen.
- Favor contactar um de nossos centros de serviços internacionais, abaixo listados, para consulta de serviços de acompanhamento.
- 請向下表所列本公司海外服務中心查詢售後服務事宜。

Australia	AWA Limited. 112-118 Talavera Road, North Ryde NSW 2113, Australia, Postal Locked Bag No. 12, North Ryde. Tel: (02) 888-9000, Fax: (02) 888-9310, Telex: AA 22692
Austria	Digital-Professional-Audio Vertriebsges.m.b.H., 1170 Wien, Rupertusplatz 3 Tel: 0222-4501006~9, Fax: 0222-457679
Belgium	Transtel-Sabima P.V.B.A. Harmoniestraat 13, 2018 Antwerpen 1, België Tel: 03-237-3607
Canada	Denon Canada Inc. 17 Denison Street, Markham Ontario, Canada L3R 1B5 Tel: 905-475-4085
China	Shanghai Denon Products Service Co., Ltd. 638 Hua Shan Road, Jingan-qu, Shanghai Tel: (21) 248-6226
Czecho	EUROSTAR OSTORAVA s.r.o. Za Vokovikou vozovnou 369/5, 161 00 Praha 6 Tel: 2-316-3690 Fax: 2-316-6852
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Finland	Suomen Hi-Fi Klubi OY Nylandsgatan 4-6, Helsingfors Tel: 0644401
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Iceland	Japis Ltd. Brautarholt 2, Box 396, 101 Reykjavik, Iceland Tel: 27133
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U.S.A.	DENON ELECTRONICS, a Division of Deonon Corporation (U.S.A.) 222 New Road Parsippany, NJ07054, U.S.A., Tel: 201-882-7490 Fax: 201-575-1213

- * If there is no service center in your local area, consult the outlet where the equipment was purchased.
- * Falls sich in Ihrer Nähe keine Kundendienststelle befindet, wenden Sie sich an das Geschäft, wo das Gerät gekauft wurde.
- * S'il n'y a aucun centre de service dans votre région, consultez votre revendeur.
- * Se nella Vostra zona non c'è il centro di servizio, rivolgete Vi al negozio dove avete acquistato l'apparecchio.
- * Si no hay centros de servicio en su área local, consulte en donde haya comprado su equipo.
- * Als er in uw streek geen reparatie-inrichting is, neemt u kontakt op met de vestiging waar u de apparatuur gekocht heeft.
- * Saknas servicecentral i närheten där du bor, bör kontakt tas med återförsäljaren för apparaten.
- * Se não existir um centro de serviços em sua área local, consulte o estabelecimento onde o equipamento foi adquirido.
- * 若當地無服務中心，可向你購入本機的商號查詢。

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