JVC

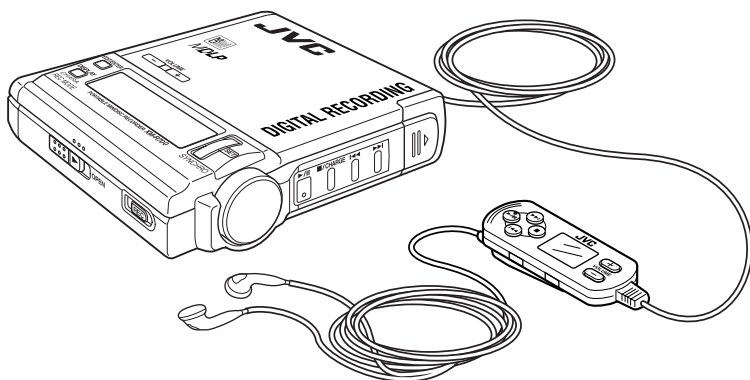## PORTABLE MINIDISC RECORDER
TRAGBARER MINIDISC-RECORDER
ENREGISTREUR DE MINIDISC PORTABLE
DRAAGBARE MINIDISC-RECORDER

XM-R700SL

MiniDisc

MD**LP**

INSTRUCTIONS
BEDIENUNGSANLEITUNG
MANUEL D'INSTRUCTIONS
GEBRUIKSAANWIJZING

WICHTIGER HINWEIS FÜR LASER-PRODUKTE / IMPORTANT POUR LES PRODUITS LASER /BELANGRIJKE INFORMATIE VOOR LASERPRODUKTEN

ACHTUNG! DIESES PRODUKT ERZEUGT LASERSTRAHLEN. DIE VERWENDUNG DER BEDIENUNGS- UND EINSTELL-ELEMENTE ZU ANDEREN ZWECKEN ALS DEN HIER BESCHRIEBENEN KANN ZUR FREISETZUNG GEFÄHRLICHER LASERSTRAHLUNG FÜHREN. ÖFFNEN SIE KEINE ABDECKUNG UND FÜHREN SIE KEINE REPARATUREN SELBST DURCH. REPARATUREN DÜRFEN NUR VON QUALIFIZIERTEM FACHPERSONAL DURCHGEFÜHRT WERDEN.

WARNUNG : ZUR VERHÜTUNG EINES BRANDES ODER STROMSCHLAGS MUSS DIESES GERÄT VOR REGEN UND FEUCHTIGKEIT GESCHÜTZT WERDEN.

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ATTENTION! CET APPAREIL EST DOTÉ D'UN LECTEUR AU LASER. L'UTILISATION DE COMMANDES OU LE RECOURS À DES RÉGLAGES AUTRES QUE CEUX INDIQUÉS DANS CE MANUEL PEUVENT PRÉSENTER DES RISQUES D'EXPOSITION À DES RADIATIONS.
NE PAS OUVRIR LE BOÎTIER. TOUTE RÉPARATION DOIT ÊTRE FAITE PAR UN PERSONNEL QUALIFIÉ ET NON PAR L'USAGER.

MISE EN GARDE : AFIN DE PRÉVENIR TOUR RISQUE D'INCENDIE OU DE CHOCS ÉLECTRIQUES, NE PAS L'EXPO-SER À LA PLUIE OU À UNE HUMIDITÉ EXCESSIVE.

A pleine puissance, l'écoute prolongée du baladeur peut endommager l'oreille de l'utilisateur.

Utilisez toujours le casque stéréo fourni.

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WAARSCHUWING! IN DIT APPARAAT WORDT EEN LASER GEBRUIKT. HET GEBRUIK VAN REGELAARS EN HET MAKEN VAN AFSTELLINGEN OF BEDIENINGEN DIE NIET IN DEZE GEBRUIKSAANWIJZING STAAN BESCHREVEN, KAN LEIDEN TOT BLOOTSTELLING AAN GEVAARLIJKE STRALING. MAAK HET APPARAAT NIET OPEN EN GA NIET ZELF REPAREREN. LAAT HET ONDERHOUD AAN ERKENDE VAKMENSEN OVER.

WAARSCHUWING : TENEINDE HET GEVAAR VOOR BRAND OF ELEKTRISCHE SCHOKKEN TE VERKLEINEN, MAG DIT APPARAAT NIET WORDEN BLOOTGESTELD AAN REGEN OF VOCHT.

ACHTUNG!
1. Blockieren Sie keine Belüftungsschlitze oder -bohrungen. (Wenn die Belüftungsöffnungen oder -löcher durch eine Zeitung oder ein Tuch etc. blockiert werden, kann die entstehende Hitze nicht abgeführt werden.)
2. Stellen Sie keine offenen Flammen, beispielsweise angezündete Kerzen, auf das Gerät.
3. Wenn Sie Batterien entsorgen, denken Sie an den Umweltschutz. Batterien müssen entsprechend den geltenden örtlichen Vorschriften oder Gesetzen entsorgt werden.
4. Setzen Sie die Anlage nicht in einem Badezimmer oder an Orten ein, an denen Wasser verwendet wird. Stellen Sie auch keine Behälter, die mit Wasser oder anderen Flüssigkeiten gefüllt sind (beispielsweise Kosmetik- oder Medikamentenbehälter, Blumenvasen, Topfpflanzen, Tassen etc) auf diese Anlage.

ACHTUNG (Lithiumionen-Batterie)
1. Es besteht Explosionsgefahr, wenn die Batterie falsch ausgewechselt wird.
2. Tauschen Sie sie nur gegen denselben oder einen äquivalenten Typ aus.

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ATTENTION!
1. Ne bloquez pas les orifices ou les trous de ventilation .
   (Si les orifices ou les trous de ventilation sont bloqués par un journal un tissu, etc., la chaleur peut ne pas être évacuée correctement de l'appareil.)
2. Ne placez aucune source de flamme nue, telle qu'une bougie, sur l'appareil.
3. Lors de la mise au rebut des piles, veuillez prendre en considération les problèmes de l'environnement et suivre strictement les règles et les lois locales sur la mise au rebut des piles.
4. N'utilisez pas cet appareil dans une salle de bain ou un autre endroit avec de l'eau. Ne placez aucun récipient contenant de l'eau (tel que des cosmétiques ou des médicaments, un vase de fleurs, un pot de fleurs, une tasse, etc.) sur cet appareil.

ATTENTION (Batterie au lithium-ion)
1. Danger d'explosion si la pile est remplacée de façon incorrecte.
2. Remplacez-la uniquement par une pile de type équivalent.

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WAARSCHUWING!
1. Zorg dat u de ventilatieopeningen en -gaten niet afsluit. (Als de ventilatieopeningen en -gaten worden afgesloten door bijvoorbeeld papier of een doek, kan er hitte in het apparaat worden opgebouwd.)
2. Zet geen bronnen met open vuur, zoals brandende kaarsen, op het apparaat.
3. Wees milieubewust en gooi lege batterijen niet bij het huishoudelijk afval. Lege batterijen dient u in te leveren met het KCA of bij een innamepunt voor batterijen.
4. Gebruik dit apparaat niet in een badkamer of in andere natte ruimten. Zet ook geen voorwerpen op het apparaat die zijn gevuld met water of andere vloeistoffen (zoals cosmetica, medicijnen, bloemenvazen, bloempotten, kopjes enz.).

WAARSCHUWING (Lithium-ion-batterij)
1. Er bestaat explosiegevaar als de batterij verkeerd wordt geplaatst.
2. Vervang de batterijen alleen door identieke of soortgelijke batterijen.

• Dieses Gerät wurde mit großer Präzision hergestellt. Äußere Gewalteinwirkung durch Stoß oder Schlag oder ein Herunterfallen des Gerätes kann zu Funktionsstörungen führen. Wenn sich das Gerät z.B. beim Hinsetzen in der hinteren Hosentasche befindet, kann der hierbei ausgeübte Druck zum Versagen des Gerätes führen.

• L'appareil a été fabriqué avec la plus grande précision. Le fait de le heurter violemment ou de le faire tomber risque de provoquer une panne : Par exemple, si vous vous asseyez sur l'appareil dans la poche arrière de son pantalon, cela risque d'exercer une pression sur l'appareil et de provoquer une panne.

• Dit apparaat is met grote zorg en precisie vervaar-digd. Laat het apparaat niet vallen en stel het niet aan schokken bloot, want dit kan resulteren in een beschadiging. Als u gaat zitten terwijl u het apparaat in de achterzak van uw broek hebt gestoken, kan dit resulteren in beschadiging van het apparaat als gevolg van de druk die erop wordt uitgeoefend.

Thank you for purchasing this JVC product. Please read these instructions carefully before starting operation to be sure to obtain optimum performance and a longer service life from the unit.
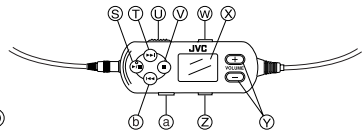
Table of Contents

Supplied Accessories

Location of Controls

[Display on the unit]

Synchro   A.C. BASS   Battery

-dB   40   12   OVER

SYNC
MONO — MONO
REC — REC
TOC — TOC
Repeat — 1
RANDOM

A.C.BASS

RANDOM   Disc Mark   Peak Level Meter
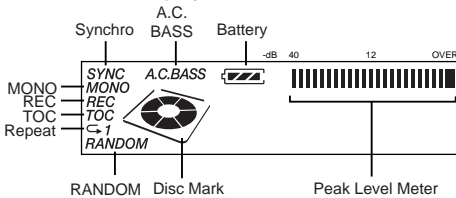
[Display on the remote control]

A.C. BASS   TRAIN   Manual Mode

(B)   LP2   LP4   Long playback Modes

1 RND

Disc Mark   Repeat   Battery   Random
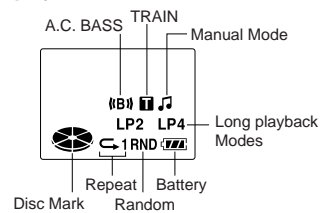
[On the unit]

- Ⓐ DISPLAY / CHARA. / REC MODE button
- Ⓑ EDIT/ENTER button
- Ⓒ VOLUME +, – button
- Ⓓ Display
- Ⓔ Skip / search button (▶▶⏐)
- Ⓕ Skip / search button (⏐◀◀)
- Ⓖ Stop (■)/CHARGE button
- Ⓗ Play / pause button (▶/⏸)
- Ⓘ JOG dial
- Ⓙ SET / SYNCHRO button
- Ⓚ REC switch
- Ⓛ OPEN switch
- Ⓜ HOLD switch
- Ⓝ MIC IN MARK MODE switch
- Ⓞ MIC (PLUG IN POWER) jack
- Ⓟ LINE IN (OPTICAL) jack
- Ⓠ Headphones jack (◠)
- Ⓡ DC IN 6V jack (◇–ⓒ–◇)

[On the remote control]

- Ⓢ Play / pause button (▶/⏸)
- Ⓣ Skip / search button (▶▶⏐)
- Ⓤ HOLD switch
- Ⓥ Stop button (■)
- Ⓦ A.C.BASS (Active Clear Bass) button
- Ⓧ Display
- Ⓨ VOLUME +/– button
- Ⓩ DISPLAY button
- ⓐ P.MODE button
- ⓑ Skip / search button (⏐◀◀)

Power Supply Preparations

As a power supply source, you can use the rechargeable battery and/or dry-cell batteries, or AC adaptor.
For information on operating times of batteries, refer to the specifications (page 20).

Using lithium–ion battery (rechargeable battery) (BN-R3610)

1 **Insert the rechargeable battery into the unit.**

Slide the cover and open it.

Cut part

Insert the battery with its "–" terminal facing you and its cut part facing up.

Firmly close the cover.
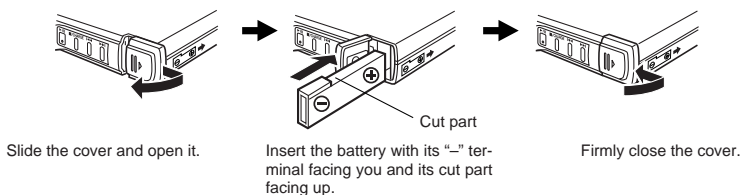
2 **To charge the rechargeable battery, connect the supplied AC adaptor.**

To AC power outlet

AC adaptor
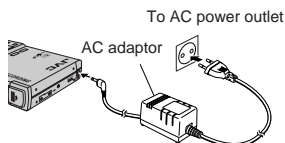
3 **Press the ■/CHARGE button twice on the unit.**

"CHARGE" appears on the display and charging starts. When charging is completed, "CHARGE" will disappear.
• "CHARGE" will appear for 5 seconds even when no lithium-ion battery is inserted.

4 **Disconnect the AC adaptor.**

Notes

• Recharging is not made if the unit is being used.
• It takes approximately 2 hours to recharge the rechargeable battery.
• Rechargeable battery has a service life of approximately 500 charge-discharge cycles. If the operating time on one full charge becomes noticeably shorter than it used to be, the battery has reached the end of its service life and should be replaced.
• The AC adaptor may become warm while recharging is in progress. This is not a malfunction.
• Before starting recording, fully charge the rechargeable battery. Otherwise, the unit may shut off during recording.
• Recharging with this unit shall be made at the temperature from +5°C to +35°C. Otherwise, "HIGH TEMP" or "LOW TEMP" will appear on the display.

Using dry-cell batteries (not included)

1 **As explained below, open the battery cover of the battery case and insert three LR6 (UM-3) alkaline batteries into the battery compartment.**

2 **Turn the knob of the battery case in the direction as shown by the arrow until it stops. (To detach the battery case, turn the knob toward in reverse until the battery case is removed.)**

(Bottom View)
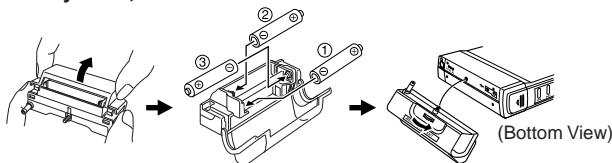
Note

To lengthen the battery life, you can use both rechargeable battery and the dry-cell batteries.

Using the AC adaptor

Connect the supplied AC adaptor to the unit.
Refer to the connecting diagram in "Using lithium-ion battery (rechargeable battery)".
When the unit is turned off with a lithium-ion battery inserted, "CHARGE" is displayed and recharging automatically starts.

The unit is in the standby condition when the AC adaptor is connected. The primary circuit is always "live" as long as the AC adaptor is connected to an electrical outlet.

Battery indicator

The battery indicator appears on the display of the unit and remote control. When the indication changes as follows, power will be shut off a short while after.

Rechargeable battery: Recharge it.
Dry-cell batteries: Replace them with new ones.

Note
The battery indicator also appears when the AC adaptor is connected, though it has no meaning.

Accidental Operation Prevention Function (Hold Mode)

This function prevents accidental operation of buttons on the unit.
The unit and remote control have the HOLD switches, each of which works independently.

Bottom of the unit
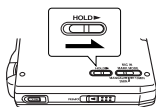
Top of the remote control
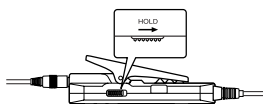
Slide the HOLD switch in the direction shown by the arrow to activate it.
In HOLD mode, no button operation is possible.
• Once the HOLD switch of the unit has been activated, "HOLD" will appear each time a button on the unit is pressed.
To operate the unit or remote control normally, release the HOLD switch.

Normal Play

Follow the numbers in the figure to perform normal-play.
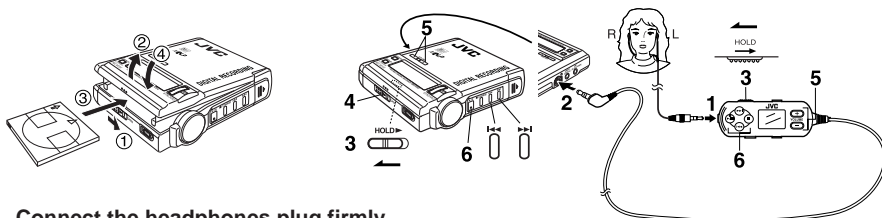
1   Connect the headphones plug firmly.

2   Connect the remote control plug firmly.

3   Release the HOLD switches.

4   Load an MD.
① Slide the OPEN switch to open the lid.
② Open the lid by hand.
③ Insert the MD into the MD slot beneath the lid, with its label side facing up. Insert the MD until it stops. Be sure △ or ⇨ mark on the MD are oriented as shown in the figure.
④ Close the lid.
"TOC Reading" appears on the display. Then the track number and playback time appear.
When a sound mode is set, the mode name (for example, "A.C.BASS") will firstly appear.

5   Adjust the volume level between 0 and 25.
Press the VOLUME+, – button on the unit or remote control. To continuously change the volume level, depress the VOLUME button.

6   Press the ▶/II button on the unit or remote control.

Playback will start from the first track and ends after playing all the tracks of the MD.

[Unit's display]   [Remote control's display]

Disc mark turns.   Peak Level Meter   Playing time

Playback mode and track title
Number of tracks being played
Playing time

Disc mark turns.   Number of tracks being played
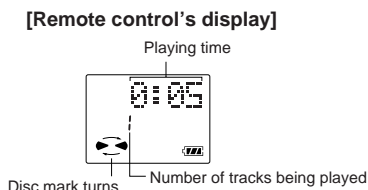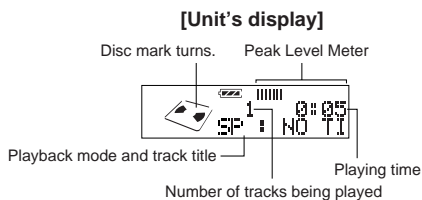
To eject the MD, slide the OPEN switch to open the lid and open it by hand. Then, the MD comes out.

Notes

• If no MD is loaded, "NO DISC" appears on the display and the power will be automatically shut off after approx. 10 seconds.
• When the ▶/II button is pressed for the first time, "TOC Reading" and "T.READ" appear on the unit's display and remote control's display for several seconds, to read the information on the MD. Wait until this message disappears except when stopping the unit by pressing the ■ button.

Operation	Button	Display/reference
To pause play	Press during play. ▶/II or	Blinks. Blinks. Press again to restart play. If nothing is done for 2 minutes, the power will be automatically shut off.
To stop play **(Stop mode)**	Press during play. ■/CHARGE or	Stops. Stops. Press the ▶/II button to restart play. The current track will be played from the beginning (Resume Play). If nothing is done for 45 seconds, the power will be automatically shut off. In this case, to restart play, press the ▶/II button for more than one second.
To turn off the unit **(Off mode)**	Push in Stop mode, or press for more than 1 second in any other mode. ■/CHARGE or	• Unit POWER OFF ↓ (Blank display) • Remote Control BYE ↓ (Blank display)	The power is shut off after "POWER OFF" and "BYE" appear on the display. To turn on the unit, press the ▶/II button. Then, the last track before turning off the power will be played from the beginning (Resume Play).

Operation	Button	Display/reference
Fast forward/ reverse	**Skip function (unit)** Press during play or in Stop mode. **Search function (unit)** Keep depressed during play. **Skip function (remote control)** Press during play or in Stop mode. **Search function (remote control)** Keep depressed during play. Reverse Forward I◄◄ ►►I Reverse Forward I◄◄ ►►I	• During Random Play, the skip buttons cannot be used to skip back to tracks that were played previously in the random sequence.

Playback mode and track title display

When an MD is played back, the playback mode and the title recorded on the track being played back appear at the lower part of the unit's display. Also, on the remote control's display, the track title appears once if it is recorded. Also, "LP2" and "LP4" indicators are on the remote control's display.

Playback mode:

There are four playback modes shown on the unit's display; SP (STEREO), LP2, LP4, and MN (MONO). Note that MDs are played back in the same recording length as they were recorded.

SP: Indicates the tracks recorded in standard stereo recording mode on this unit or those recorded on an MD recorder incompatible with MDLP*.

LP2: Indicates the tracks recorded in 2 times long-hour stereo recording mode. The "LP2" indicator on the remote control's display also lights up.

LP4: Indicates the tracks recorded in 4 times long-hour stereo recording mode. The "LP4" indicator on the remote control's display also lights up.

MN: Indicates the tracks recorded in standard monaural recording mode on this unit or those recorded on an MD recorder incompatible with MDLP*. The "MONO" indicator on the unit's display also lights up.

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* MDLP features a new sound compression method (ATRAC3) and a 2 times (or 4 times) long-hour stereo recording and playing function.

The MDLP logo is marked on the MD recorders and players compatible with MDLP. It is also marked on MDs prerecorded in ATRAC3 (excluding recordable MDs).

Track title:

The track title will appear on the unit's and remote control's displays. If the title is long and cannot be displayed at a time, it will be scrolled. If no title is given, "NO TITLE" will scroll on the unit's display but nothing will appear on the remote control's display.

Changing the Sound (A.C.BASS)

You can choose one of the following sound modes. Each time you press the A.C.BASS button on the remote control, the sound mode name changes as follows on both unit's and remote control's displays:

A.C.BASS

A.C.BASS → TRAIN → MANUAL* → (Original display)

*: On the Unit's display, "MANUAL EQ" appears.
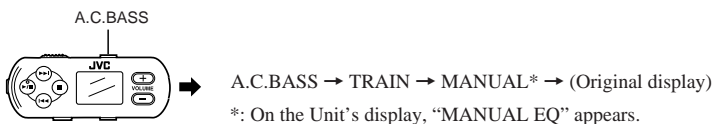
[In the case of remote control's display]

A.C.BASS : The A.C.BASS (Active Clear Bass) function is enabled and the bass level is automatically controlled in conjunction with the sound volume.

The "A.C.BASS" indicator lights up on the unit's display and the ((B)) indicator lights up on the remote control's display.

TRAIN : The amount of sound leaking from the headphones will be reduced.

The ▇ indicator lights up on the remote control's display.

MANUAL : In this mode, you can adjust the tone. See "Adjusting Tone in MANUAL Sound Mode" on page 6.

(MANUAL EQ) The ♫ indicator lights up on the remote control's display.

To cancel above function, press the A.C.BASS button on the remote control to exit above mode, i.e., to go out ((B)), ▇, or ♫ indicator on the remote control's display.

5

Adjusting Tone in MANUAL Sound Mode

You can adjust the tone by changing the bass and treble.

1 Press the A.C.BASS button on the remote control until "MANUAL" appears on the display.

The ♫ indicator lights up on the remote control's display. (If the ♫ indicator is already lit, you can skip this step.)

2 Press the A.C.BASS button for 2 seconds or more.

The following tone level meter appears on the remote control's display.

(For 2 seconds)
A.C.BASS button

Bass level bar
Fixed bars (flat level)
Treble level bar

►►I: Press to select Treble.

VOLUME +/– : Press to adjust the level.

I◄◄: Press to select Bass.
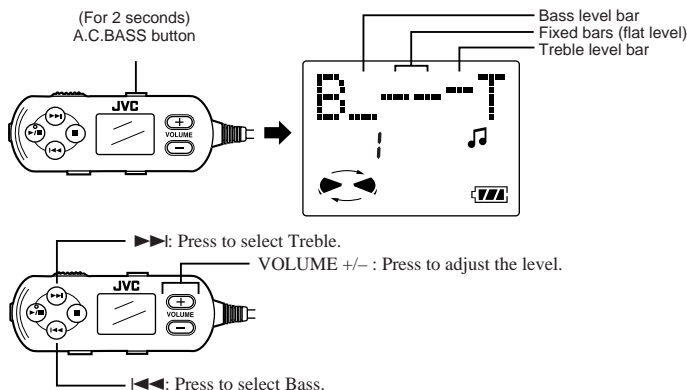
3 To change the bass level, press the I◄◄ button. The bass level bar blinks. Then, press the VOLUME + or – button to move the bass level bar up or down (in 3 steps each).

4 To change the treble level, repeat above step 3 except for pressing the ►►I button.

To exit MANUAL sound mode:
• Wait until the display automatically returns to the original one.
• When no level bar is blinking, press a button other than the I◄◄ and ►►I buttons on the remote control.
• When the level bar is blinking, press the A.C.BASS or ■ button on the remote control.

Notes
• If you leave the unit for 8 seconds in step 2, the display returns to the original one. In this case, repeat from the step 2.
• If you leave the unit for 16 seconds in step 3 or 4, the display returns to the original one. In this case, repeat from the step 2.
• The tone levels set here is stored in memory.

6

Showing the Disc Information

Each time you press the DISPLAY / CHARA. (or DISPLAY) button in Stop mode or during playback, the disc information is displayed as follows.
The DISPLAY / CHARA. button on the unit and the DISPLAY button on the remote control work independently.

or
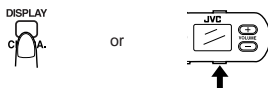
Display change on the unit:
In Stop mode:
Disc title*, total track number, and total playback time of the MD → Recordable capacity (remaining time) of the MD (e.g. REMAIN -69:20) → Normal display → (back to the beginning)
During Playback:
Playback remaining time of the track → Normal display → (back to the beginning)

Display change on the remote control:
In Stop mode:
Disc title* → Total track number and total playback time of the MD → Track title* → Normal display → (back to the beginning)
During Playback:
Track title* → Normal display → (back to the beginning)

*: The disc title or track title will scroll if it is long. If no title is given, "NO TITLE" appears on the unit's display and "♪♪♪♪♪ ~" appears on the remote control's display.

Repeat Play and Random Play (Using the Remote Control)

You can select Repeat Play or Random Play. In Repeat Play, you can repeat all the tracks or individual track as many times as you like. In Random Play, you can play all the tracks in random order.

Selecting Repeat Play and Random Play in Stop mode

In Stop mode, press the P.MODE button on the remote control. Each time you press the button, the play mode changes as follows:

P.MODE button
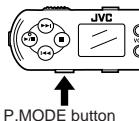
⊂1 → ⊂ → RND → ⊂1 RND → ⊂RND → Original display → (back to the beginning)
⊂1: Repeats 1 track.
⊂: Repeats all the tracks.
RND: Random play
⊂1 RND: Repeats one track randomly selected.
⊂RND: Repeats all the tracks in random order.
(On the unit's display, "RANDOM" indicator lights up instead of "RND".)

After selecting one of the above modes, press the ▶/Ⅱ button.
For example, to start Random Play, press the P.MODE button until "RND" indicator appears and then press the ▶/Ⅱ button.
To exit Repeat Play or Random Play, stop the MD and then press the P.MODE button until the display returns to the original one.

Repeat Play during Playback

During Normal Play:
Each time you press the P.MODE button, the play mode changes as follows:
⊂1 → ⊂ → Original display → (back to the beginning)
Select "⊂1" to repeatedly play the current track. Select "⊂" to repeat all the tracks.
During Random Play:
Each time you press the P.MODE button, the play mode changes as follows:
⊂1 RND → ⊂RND → Original display → (back to the beginning)
Select "⊂1 RND" to repeatedly play a randomly selected track. Select "⊂RND" to repeat all the tracks in random order. (On the unit's display, "RANDOM" indicator lights up instead of "RND".)
When you stop Random Play once and then restarts it, the track lastly played is played back. After that, Random Play is carried out.
To exit Repeat Play, stop the MD and then press the P.MODE button until the display returns to the original one.

Selecting the Operational Options of Remote Control

Muting a pip tone

When you press the buttons on the remote control, a pip tone is issued except for the A.C.BASS and VOLUME +, – buttons.

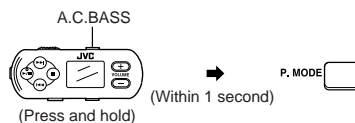**To mute the pip tone,** in Stop mode or during playback, press and hold the A.C.BASS button, and within one second, press the P.MODE button. "BEEP OFF" scrolls on the remote control's display.

To resume a pip tone, do the same operation again. "BEEP ON" will scroll on the display.

A.C.BASS

(Press and hold) (Within 1 second) P. MODE

Note

If the P.MODE button is not pressed within one second, Sound mode will changed.

Changing the Display Character Contrast

The character display contrast can be adjusted when the characters become less clear due to ambient temperature or during scrolling. In Stop mode or during playback, press and hold the A.C.BASS button and, within one second, press the |◄◄ or ►►| button.

Adjustment can be made between LCD00 and LCD15. While the |◄◄ or ►►| button is pressed, the contrast will be changed continuously. The initial setting is "LCD10".

A.C.BASS

(Press and hold) (Within 1 second) ◄◄ or ►►

Note

If the |◄◄ or ►►| button is not pressed within one second, Sound mode will be changed.
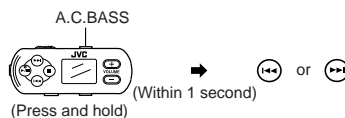
Preparation Before Recording

Connection for recording

Connect one of the following music sources to the unit.
- Analog input to the LINE IN (OPTICAL) jack
- Digital input to the LINE IN (OPTICAL) jack
- Microphone input to the MIC (PLUG IN POWER) jack

Microphone (not supplied)

Stereo connection cable (not supplied)

MD player, tape deck, etc.

Optical digital cable (supplied)

CD player, etc.
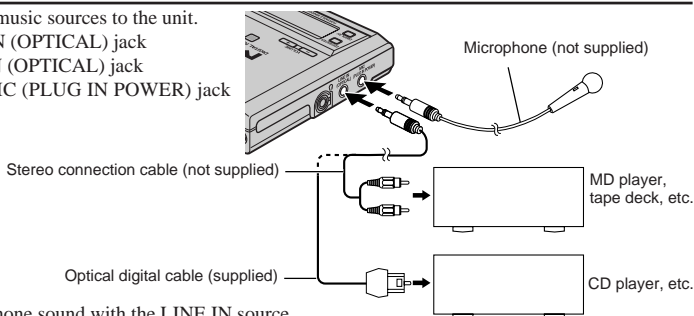
Notes

- You cannot mix the microphone sound with the LINE IN source.
- Since the priority for each input is as follows, be sure to disconnect the other music source before recording. For example, disconnect the microphone before recording an analog input.
  Digital input (LINE IN) > MIC input > Analog input (LINE IN)

Things to know before you start recording

- **It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.**
- Carefully read the "Rules of Digital Dubbing" on page 18.
- The MD recorder supports the following sampling frequencies for digital source, LINE IN (OPTICAL).
  32 kHz, 44.1 kHz and 48 kHz
- When recording a digital input or microphone input, the recording level is automatically set correctly. When recording an analog input, it is necessary to adjust the recording level properly. Recording is not affected by the A.C.BASS or tone level setting.
- The accidental erasure prevention knob is provided on the back of an MD cartridge to prevent accidental erasure or recording. It must be set to the close position before recording or editing.
- Remote control operation will be disabled during recording or editing.
- Unplugging or plugging of the connection cord or microphone should be avoided during recording.
- Removal of the rechargeable battery should be avoided during recording. Otherwise, you cannot open the lid unless the rechargeable battery is reinserted or AC adaptor is connected to the unit.

Accidental erasure prevention knob

Close   Open

For recording or editing   **For protecting erasure**
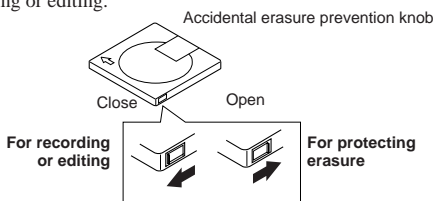
Check Items Before Starting Recording

- The MD is not the Play-only type one.
- The accidental erasure prevention knob of the MD cartridge is set to the close position.
- The MD has enough space for recording. If not, carry out ALL ERASE or ERASE function mentioned later to erase all the tracks or desired tracks in the MD. You can check the recordable remaining time of the MD by repeatedly pressing the DISPLAY/CHARA. button on the unit in Standby mode. (See "Showing the Disc Information" on page 7.)

Standard Recording

CAUTIONS:
- Be sure that the rechargeable battery is fully charged. Otherwise, the unit may shut off, leaving recording unfinished.
- While "UTOC Writing" appears on the display, to avoid improper recording, do not give a shock to the Unit and do not disconnect any cable from the Unit, including the AC adaptor's cable.

Notes
- The recording operation is possible only with the buttons on the unit.
- When a stereo signal is recorded in MONO mode, stereo sound will be heard though the signal is correctly recorded in MONO mode.

1 Check the things before recording.
See "Check Items Before Starting Recording" above.

2 Insert an MD with its label side facing up.
Proceed to the next step after "TOC Reading" goes out on the display.

3 Slide the REC switch.
The unit enters Rec/Standby mode, the REC indicator lights up, and the disc mark blinks. The track number is increased by one.

(Appears only if MONO is selected.) ⎯⎯⎯ Total track number

MONO REC 15 8:02
SP -18:05 ⎯ Remaining time
Recording mode

- **To cancel Rec/Standby mode,** press the ■/CHARGE button.

4 Within two minutes, press the REC MODE button to select the recording mode.
Each time you press the button, the display changes as follows:
SP → LP2 → LP4 → MONO

SP: Signifies standard-hour stereo recording. The number of hours usable for recording is the same as shown on the package of the MD.

LP2: Signifies 2 times long-hour stereo recording. The number of hours usable for recording is twice as long as shown on the package of the MD.

LP4: Signifies 4 times long-hour stereo recording. The number of hours usable for recording is 4 times as long as shown on the package of the MD.

MONO: Signifies standard-hour monaural recording. The number of hours usable for recording is twice as long as shown on the package of the MD.

5 Play the recording source.

6 Adjust the recording level for analog input only.
See "Adjusting the recording level" on page 10.

7 Press the ▶/Ⅱ button to start recording.
When the MD becomes full, "UTOC Writing" appears on the display, indicating that the recording is successfully completed. The "TOC" indicator will light up during this period. Then, the MD stops. (The "TOC" indicator goes out.)

To pause, press the ▶/Ⅱ button. (The track number is increased by one.)
To cancel pause, press the ▶/Ⅱ button again.
To stop recording, press the ■/CHARGE button. "UTOC Writing" appears on the display and then the MD stops. (The "TOC" indicator goes out.)

Notes
- During recording, recording mode does not change even if the REC MODE button is pressed. To change it, you need to stop the Unit.
- Once you have set the recording mode, it remains until the Unit is turned off. When the Unit is turned on, SP (Stereo) recording mode is always selected.

Title "LP:" ON/OFF

To increase the space usable for a title, you can delete the recording mode name "LP:" that will be added immediately before the title.

In stop mode, press the SET button for two seconds or more. Each time you press the button, the display alternates as follows:

TITLE LP: OFF ↔ TITLE LP: ON

To delete from the title, select "TITLE LP: OFF". Otherwise, select "ON".

Note

The recorded "LP:" cannot be deleted (edited) with the TITLE function mentioned on page 14.

Adjusting the recording level (for analog input only)

The recording level should be adjusted so that the peak level meter does not reach the OVER mark to avoid distorting the recording signal.

Press the ⏮ or ⏭ buttons on the unit to decrease or increase the recording level.
You can change the recording level between "REC LEVEL 00" (nothing will be recorded) to "REC LEVEL 25".

Track marking (When recording LINE IN input signals)

• Whenever playback at the source side advances from one track to another during digital recording, the track number of the MD is automatically incremented by 1.
• Whenever no sound at the playback side continues for 3 or more seconds during analog/digital recording, the track number of the MD is automatically incremented by 1.
• During analog/digital recording, you can increment the track number by 1 by sliding the REC switch. (By adding the track number in this way, you can edit the recording contents later using the edit functions, such as erase, move, and join. Also, you can quickly locate the desired track using the fast forward or reverse button.)

Track marking (When recording MIC input signals)

You can choose the way to make a track for the MIC input, with the MIC IN MARK MODE switch on the bottom of the unit.
• If you need to change the setting, you must set this switch before starting recording.

MANUAL: You can increase the track number by 1 by sliding the REC switch.
3 MIN: The track number is automatically increased by 1 approx. every three minutes. You can also increase it by sliding the REC switch.
10 MIN: The track number is automatically increased by 1 approx. every 10 minutes. You can also increase it by sliding the REC switch.

SYNCHRO Recording (SYNCHRO)

The synchro recording automatically starts when an input signal is given and ends if no signal condition continues for 30 seconds.
• Use the buttons on the unit.

1 Insert an MD with its label side facing up.
Proceed to the next step after "TOC Reading" goes out on the display.

2 Slide the REC switch.

3 Press the SYNCHRO button.
The "SYNC" indicator lights up, and the current recording mode and "SYNCHRO" appear on the display. Then, the disc mark blinks.
To cancel the synchro recording, press the SYNCHRO button again to go out the "SYNC" indicator.

4 Press the ▶/❚❚ button.
The "SYNC" indicator blinks, indicating that the unit enters Rec/Standby mode.

5 Play the recording source.
When an input signal is detected by the unit, recording automatically starts.
The recording will automatically end if no signal condition continues for 30 seconds.

Note

Once the ▶/❚❚ button is pressed during the SYNCHRO recording, the unit enters Rec/Pause mode and the SYNCHRO recording is disabled. To restart the SYNCHRO recording, repeat the above steps.
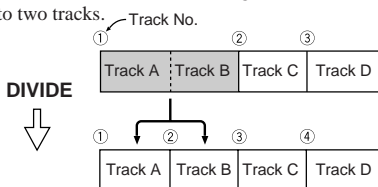
10

Editing the MD (Using the unit)

In addition to its recording and play functions, the unit comes with editing functions. You can divide, join, move, or erase the recorded tracks in the MD as required. Also, you can give a disc title to the MD and track titles to the tracks in the MD.

Note that you cannot edit the MD in Random Play mode.
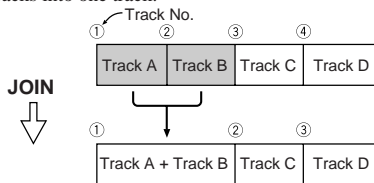
Dividing tracks (DIVIDE function)

This involves adding a track mark (see Note) at some point during the track which is to be made into the start of an additional track so that the original track is divided into two tracks.
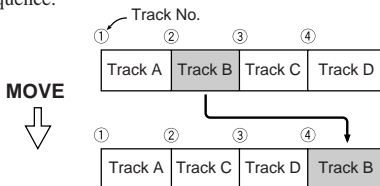
Track No.
① ② ③
| Track A | Track B | Track C | Track D |

DIVIDE

① ② ③ ④
| Track A | Track B | Track C | Track D |

Joining tracks (JOIN function)

This involves erasing a track mark and turning two adjoining tracks into one track.

Track No.
① ② ③ ④
| Track A | Track B | Track C | Track D |

JOIN

① ② ③
| Track A + Track B | Track C | Track D |

Moving tracks (MOVE function)

Tracks can be moved around so that they are in the desired sequence.

Track No.
① ② ③ ④
| Track A | Track B | Track C | Track D |

MOVE

① ② ③ ④
| Track A | Track C | Track D | Track B |

Erasing tracks (ERASE function)

This enables unnecessary tracks. Narration, etc. to be erased speedily. The erased parts do not remain as silences but are closed up by the subsequent tracks.

Track No.
① ② ③ ④
| Track A | Track B | Track C | Track D |

Erasing Track B

① ② ③
| Track A | Track C | Track D | New tracks can be recorded. |

Erasing all the tracks (ALL ERASE function)

All the tracks can be erased at once without recording fresh material over them.

Track No.
① ② ③ ④
| Track A | Track B | Track C | Track D |

ALL ERASE

| New tracks can be recorded. |

Giving titles to discs and tracks (TITLE function)

A title consisting of up to 61 characters can be given to a disc and a track. The title given appears in the display window.
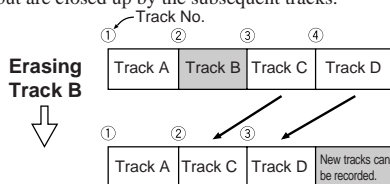
Note

Track marks: These marks are provided to locate the start of each track. Whatever lies between one track mark and the next is considered to a track and the numbers of the tracks (called "track numbers") are displayed in the sequence in which they are to be played.
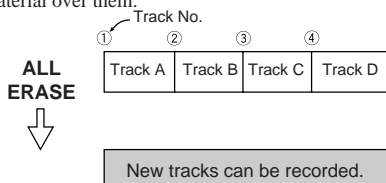
Dividing Tracks (DIVIDE Function)

Use the unit to carry out this function.

1 **In Stop mode, press the EDIT/ENTER button and turn the JOG dial until "DIVIDE?" is displayed.**

2 **Press the SET button and then press the ▶/ll button.**

EDIT/ENTER ➔ (JOG dial) ➔ SET ➔ ▶/ll

DIVIDE
1   0:05

Track to be divided   Playing time

3 **Turn the JOG dial (or press the I◀◀ or ▶▶I button) to select the track number to be divided.**

4 **Press the SET button at the point where the track is to be divided.**

SET ➔ **DIVIDE**
Pos. 0

- The recording lasting for 4 seconds starting where the track was divided is repeatedly played for your reference.
- Movement is possible within the POSITION-128 to +128 range (the following period of time before and after the position).

  Recording mode SP: About 8 seconds
  Recording mode MONO or LP2: About 16 seconds
  Recording mode LP4:   About 32 seconds

  To move the point, turn the JOG dial while listening the music.

5 **Press the EDIT/ENTER button.**

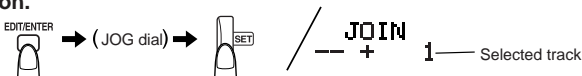"COMPLETE" and "TOC" appear, indicating successful recording.

- The selected track is divided into two tracks and the track number will increase by 1.
- When you turn off the power by pressing the ■/CHARGE button, "UTOC Writing" will be displayed and the edited contents are written. (The "TOC" indicator goes out.)

To cancel the operation, press the ■/CHARGE button in step 1 through 4.

Joining Tracks (JOIN Function)

Use the unit to carry out this function.

1 **In Stop mode, press the EDIT/ENTER button and turn the JOG dial until "JOIN?" is displayed.**

2 **Press the SET button.**

EDIT/ENTER ➔ (JOG dial) ➔ SET

JOIN
-- +   1 —— Selected track

- You can listen to the track by pressing the ▶/ll button. The selected track is repeatedly played.

3 **Turn the JOG dial (or press the I◀◀ or ▶▶I button) to select the track number to be joined.**

Track to be joined ——**JOIN**
4 +   5 —— Selected track

4 **Press the SET button.**

"PUSH ENTER" appears.

5 **Press the EDIT/ENTER button.**

"COMPLETE" and "TOC" appear, indicating successful recording.

The selected track and the previous track are joined and the track number is decreased by 1.

- When you turn off the power by pressing the ▶/CHARGE button, "UTOC Writing" will be displayed and the edited contents are written. (The "TOC" indicator goes out.)

To cancel the operation, press the ■/CHARGE button in step 1 through 4.

Notes

- The tracks recorded in different recording modes cannot be joined. (For example, SP and LP2.)
- The track recorded with the analog input and that recorded with the digital input cannot be joined.

Moving Tracks (MOVE Function)

Use the unit to carry out this function.

1   In Stop mode, press the EDIT/ENTER button and turn the JOG dial until "MOVE?" is displayed.

2   Press the SET button.

EDIT/ENTER ➡ (JOG dial) ➡ SET   MOVE
                                    1
                                    Track to moved

- You can listen to the track by pressing the ▶/Ⅱ button. The track to be moved is repeatedly played.

3   Turn the JOG dial (or press the ⏮ or ⏭ button) to select the track number to be moved.

4   Press the SET button.

MOVE
3 ➡ 3

5   Turn the JOG dial (or press the ⏮ or ▶▶Ⅰ button) to select the destination to which the track is to be moved.

MOVE
3 ➡ 5

Track to be moved   Destination track
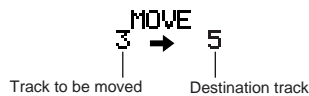
- If you are playing back the MD, the destination track is repeatedly played.

6   Press the SET button.
"PUSH ENTER" appears.

7   Press the EDIT/ENTER button.
"COMPLETE" and "TOC" appear, indicating successful recording.

- When you turn off the power by pressing the ■/CHARGE button, "UTOC Writing" will be displayed and the edited contents are written. (The "TOC" indicator goes out.)

To cancel the operation, press the ■/CHARGE button in step 1 through 6.

Erasing Tracks (ERASE Function)

Use the unit to carry out this function.

1   In Stop mode, press the EDIT/ENTER button and turn the JOG dial until "ERASE?" is displayed.

2   Press the SET button.

EDIT/ENTER ➡ (JOG dial) ➡ SET   ERASE
                                    1(Track Title)
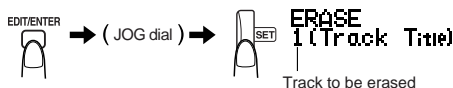   Track to be erased

- You can listen to the track by pressing the ▶/Ⅱ button. The track to be erased is repeatedly played.

3   Turn the JOG dial (or press the ⏮ or ▶▶Ⅰ button) to select the track number to be erased.

4   Press the SET button.
"ERASE OK? PUSH ENTER" appears.

5   Press the EDIT/ENTER button.
"COMPLETE" appears, indicating successful erasing.
The selected track is erased and the track number is decreased by 1.

- When you turn off the power by pressing the ■/CHARGE button, "UTOC Writing" will be displayed and the edited contents are written.

To cancel the operation, press the ■/CHARGE button in step 1 through 4.

Erasing All the Tracks (ALL ERASE Function)

Use the unit to carry out this function.

1   In Stop mode, press the EDIT/ENTER button and turn the JOG dial until "ALL ERASE?" is displayed.

2   Press the SET button.
"ERASE OK? PUSH ENTER" appears.

3   Press the EDIT/ENTER button.
"COMPLETE" appears, indicating successful erasing.
All the tracks in the MD are erased and "BLANK DISC" is displayed.

- When you turn off the power by pressing the ■/CHARGE button, "UTOC Writing" will be displayed and the edited contents are written.

To cancel the operation, press the ■/CHARGE button in step 1 or 2.

Giving Titles to MD (TITLE Function)

Use the unit to carry out this function.
• You can give a disc title to the MD and a track title to the tracks in the MD. Any title name can be given up to 61 characters using the provided character sets.

About the number of characters inputted for an MD

The total number of characters that can be input for an MD is 1792, and the maximum number that can be input for each track is 61. (However, the actual number you can input may be slightly less than this maximum numbers due to the MD limitations — see page 18.)
• A space can be counted as one character.
• When the stereo long-hour recording (LP2 or LP4: see page 9) method is used for recording, the maximum number you can input for a track title automatically reduced since "LP:" and four spaces are automatically added to the beginning of the track title. Consequently this reduces the total number of characters you can input for an MD.

Example: You can input up to 10 characters for each track if an MD is composed of 120 tracks recorded using the stereo long-hour recording method.
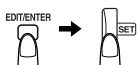
Note

• When "LP:" is recorded to head of the title, you cannot delete (edit) it. Attaching it or not is selectable before recording. For details, see "Title "LP:" ON/OFF" on page 10.

1   In Stop mode, press the EDIT/ENTER button.

"TITLE?" is displayed.

**2   Press the SET button.**

Track to be entitled

• You can listen to the track by pressing the ▶/❙❙ button. The track to be entitled is repeatedly played.

3   Turn the JOG dial (or press the ❙◀◀ or ▶▶❙ button) to select the track number to be entitled.

To select the disc title, turn the JOG dial reverse (or press the ❙◀◀ button) until the following disc mark is shown on the display.

Disc mark

4   Press the SET button.

Cursor   Title name area

Characters to be input
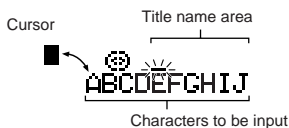
5   Input a preferred title (up to 61 characters).

Use the following title editing buttons to input a title.

[Title editing buttons on the unit]

Button	Function
DISPLAY / CHARA.	Changes the type of characters to be input as follows. Upper-case letters (ABC) → Lower-case letters (abc) → Symbols (space, !") → Numbers (012) → (back to the beginning)
SET	Adds the character being selected to the title name area.
JOG (forward)	Moves the cursor for the character to be input to the right. When continue turning, the characters scroll to the left.
JOG (reverse)	Moves the cursor for the character to be input to the left. When continue turning, the characters scroll to the right.
▶▶❙	Moves the cursor for the title name to the right.
❙◀◀	Moves the cursor for the title name to the left.

Example: When input the title "M1"
1) Select "M" (put the cursor to the letter M using the JOG dial).
2) Press the SET button. The letter M is now displayed in the title name area.
3) Press the DISPLAY / CHARA. button until the numbers are displayed.
4) Select "1" and press the SET button. The title name "M1" will be displayed.
• If the wrong character has been input, clear it by pressing the ■/CHARGE button.
• To clear a particular character which has been input, use the ►►I or I◄◄ button to align the cursor with the character, and press the ■ /CHARGE button. Then, select the correct character and press the SET button.

[Character sets table]

Upper-case letters

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				

Lower-case letters

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				

Symbols

(space)	!	"	#	$
%	&	'	(	)
*	+	,	−	.
/	:	;	<	=
>	?	@	_	`

Numbers

0	1	2	3	4
5	6	7	8	9

6   Press the EDIT/ENTER button.
"COMPLETE" and "TOC" appear, indicating successful recording.
• When you turn off the power by pressing the ■/CHARGE button, "UTOC Writing" will be displayed and the edited contents are written. (The "TOC" indicator goes out.)

To cancel the operation, press the ■/CHARGE button in step 1 through 3 or depress it in step 4 or 5, until the display returns to the original display.

Using the Unit with Optional Accessory

Listening to MDs with an audio system

You can listen to MDs through your audio system.
• Connect a stereo connection cable (not supplied) as shown on the right after turning off the amplifier.
• Adjust the volume level of the unit to an appropriate level.
• Adjust the volume level on the amplifier.
• Use the unit's buttons for operation. (The remote control will issue a pip tone.)

Amplifier
LINE IN
or
AUX IN

Stereo connection cable
(not supplied)
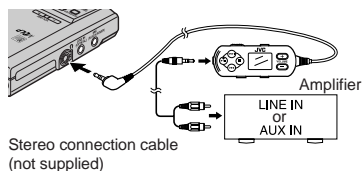
Cautions

Batteries

• Before replacing batteries, always turn off the unit.

Rechargeable lithium–ion battery (BN-R3610):
• Use only the rechargeable battery (BN-R3610) supplied with the unit.
• If the power delivered by the battery lasts for a very short time after recharging, it means that the battery's service life is over. Do not use it any more.
• Recharging already charged battery will shorten its service life.
• When recharging battery for the first time or when it has not been used for a long period of time, the play time may be shorter than usual. In a case like this, repeatedly recharge and discharge the battery. This will restore it to its regular state.
• Do not allow any metal objects to touch the terminals of rechargeable battery since this may cause short-circuiting which is dangerous.
• Recharging shall be made at the temperature from 0°C to 40°C.

Dry cell battery and rechargeable battery:
To prevent damage to the batteries and electrolyte leakage, heed the following points.
• Align the ⊕ and ⊖ polarities properly when inserting the batteries.
• Remove the batteries if you do not plan to use the unit for a long period of time.
• Do not throw batteries into a fire, and do not short-circuit, disassemble or subject them to excessive heat.
• Do not attempt to recharge dry cell batteries.

Carrying batteries:

When putting dry cell or rechargeable battery in a pocket or bag, ensure that no other metal objects such as a necklace are placed together with them. Contact with metal may cause short-circuiting which, in turn, may cause a fire.

> **Notice about the rechargeable battery.**
> **The battery is designated recyclable.**
> **Please follow your local recycling regulations.**

AC adaptor

• Handle the AC adaptor carefully. Improper handling is dangerous.
  • Do not touch it with wet hands.
  • Do not place heavy objects on top of it.
  • Do not forcibly bend it.
• Be sure to connect only the AC adaptor provided with the unit.
• Disconnect the AC adaptor from the power outlet if the unit is not going to be used for a long time.

Unit

No altering or remodelling
This can cause malfunctioning.

No dropping or strong impacts
This may damage the unit.

Locations to be avoided
Avoid using the unit in the following locations since they can cause malfunctioning.
1. Bathrooms and other moisture-prone places.
2. Warehouses and other dusty places.
3. Very hot places near heating appliances, etc.

Do not leave the unit exposed to direct sunlight for long periods of time
This may deform or discolor the cabinet and may also cause malfunctioning.

Precautions for Listening with the headphones

• Do not play your headset at a high volume. Hearing experts advise against continuous extended play.
• If you experience a ringing in your ears, reduce volume or discontinue use.
• Do not use while operating a motorized vehicle. It may create traffic hazard and is illegal in many areas.
• You should use extreme caution or temporarily discontinue use in potentially hazardous situations.
• Even if your headphones is an open-air type designed to let you hear outside sounds, don't turn up the volume so high that you cannot hear what's around you.

When driving a car

In the interest of traffic safety, do not operate the unit while driving.

Information on MDs (Minidiscs)

This is a new digital audio disc format: it has a diameter of 64 mm and enables up to 80 minutes (SP mode) of playback and recording.

The cartridge

The diameter of the disc itself is 64 mm, smaller than a CD single. The disc sits inside a 68×72 mm cartridge, which also being pocket size, makes minidiscs extremely handy for carrying and storage. Since the disc is protected by the cartridge, dust and dirt cannot easily get into it. And thanks to a shutter which is closed at all times except during use, there is no need to worry about scratches or finger marks, making the handling of minidiscs very simple.

Two types of minidisc

There are two types of minidisc, "recordable MDs" and "playback-only MDs." The playback method for each is the same: a laser irradiates the disc and the signal is read from the beam which comes back. However, the recording method for each type is different.

Playback-only MD

This is the type used for commercially-available pre-recorded MDs, on which recording cannot be done. Like a CD, data is recorded based on the presence or absence of small indentations called pits. A disc recorded with this format is called an "optical disc."

Recordable MDs

These are the so-called "blank" MDs you can use to make your own recordings. Data is recorded by magnetism, which is easily processed, so that recording can be done again and again. By using a laser to heat the disc, the magnetism is erased and the magnetic head records the new data. Discs with this type of recording method are called magneto-optical (MO) discs.

ATRAC (Adaptive TRansform Acoustic Coding)/ ATRAC3 MDLP

The MD provides 80 minute recording and playback time, much more than an audio CD, but in a diameter of only 64mm. This ability to store such a large amount of data is the result of ATRAC, an audio compression technique developed for MD. This technology cuts out faint sounds that would not be heard by the human beings. This technology, based on human sensitivity to sounds, reduces recorded data volume up to about one-fifth of the original data volume.

Furthermore, this unit takes advantage of the latest ATRAC 3 techniques, which can reduce the amount of data to record to one-10th or one-20th of the original data volume. This allows for 2 times or 4 times long-hour stereo recording on this unit.

Sound skip guard memory

With the minidisc, the data of the track being played can be temporarily stored up using a function called "sound skip guard memory". Even when data cannot be collected properly from the disc due to shaking or vibrations, information is stored in the "sound skip guard memory", so that there is no break in the sound which is actually delivered.

UTOC (User Table Of Contents)

In a minidisc, apart from the recorded tracks, there is the "UTOC". In this area, information such as the position where each track is recorded, the track divisions, and track order are listed. When music search is done, the UTOC is consulted, and the tracks are quickly found and played back. When editing is done, only the UTOC is changed, so there is no need to re-record the tracks.

MD (Minidisc) Messages

Message	Meaning/Action
BLANK DISC	A disc has been inserted with nothing recorded on it.
CANNOT JOIN	You have tried to join tracks which cannot be joined.
DISC ERROR	There is a problem (damage) with the disc. (Replace the disc.)
DISC FULL	There is not enough space left on the disc. There are over 254 tracks.
DISC PROTECTED	The disc is in accidental erasure protection mode. (Slide the accidental erasure protection tab so that the hole is covered.)
EMERGENCY STOP	A malfunction occurred during recording. (Stop the disc by pressing the ■ button and redo the operation.)
NO DISC	There is no disc in the unit.
NON AUDIO CANNOT COPY	You have tried to digitally dub a CD-ROM. (Stop recording.)
PLAYBACK DISC	You have tried to record or edit on a playback-only disc.
TRACK PROTECTED	The track is protected. (This unit cannot undo track protection. Undo the protection using the appliance that created it.)
SCMS CANNOT COPY	You have tried to make a copy of a copy by digital dubbing. (Dub using analog input (LINE IN).)
DIGITAL IN UNLOCK	The digital cable is disconnected.
BATT ERROR	The life of battery has ended.
HIGH TEMP LOW TEMP	The temperature of rechargeable battery is out of acceptable range.

Minidisc Limitations

The minidisc records information in an original format that differs from that of conventional cassette tapes or DATs. Since there are some limitations with this recording format, the following types of conditions may arise. These conditions are not malfunctions.

| Condition	Cause
"DISC FULL" is displayed, even though the possible recording time is not used up.	With the minidisc, there is a maximum number of tracks which can be recorded, regardless of time. More than 254 tracks cannot be recorded on a disc.
"DISC FULL" is displayed, even though the number of tracks and recording time are not at the limit.	When parts of the disc are erased and re-recorded, blank spots are created on the disc. When recording to such a disc, one track of data is divided and recorded in the blank areas. During recording, when these divided parts become numerous, the "DISC FULL" message may be displayed. When a part of 8 seconds or less (SP mode) is created by division, that track cannot be joined by the JOIN function, and even if it is erased, the remaining usable time on the disc does not increase. Tracks divided into small pieces may skip when fast forward or fast rewind is done.
The JOIN function sometimes does not work.	
The remaining usable time on the disc does not increase even when tracks are erased.	
The sound skip during fast forward or fast rewind.	
The amount of recorded time on the disc added to the amount of remaining time falls shout of the disc's total possible recording time.	Minidiscs must have at least 2 seconds (SP mode) of continuous space in order to record. For this reason, the actual recording time of discs with a lot of short blank areas becomes shorter.

Rules of Digital Dubbing

The following rules regarding copyright exist for dubbing to MDs from CDs or DATs through digital terminals.

SCMS (Serial Copy Management System)

Minidiscs can record clear sound with low loss of quality from CDs or DATs through each component's digital input/output terminal. However, minidiscs are set up so that a disc recorded in this way cannot be recorded onto another minidisc through digital input/output terminals. In other words, you can not make a copy of a copy. This rule is called SCMS (Serial Copy Management System).

The recorder is designed in compliance with this rule. If you try to make a copy of a copy the error message "SCMS CANNOT COPY" is displayed, and dubbing can not be done.
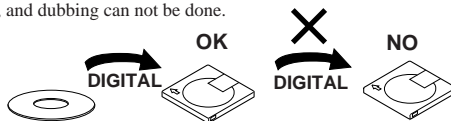
It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.

Maintenance

Unit:
Wipe the unit and remote control with a soft cloth. Remove stubborn dirt using a cloth which has been dipped in water or soapy water and wrung out, and then wipe dry.
• If you intend to use a chemically treated cleaning cloth, read its directions first.
• Do not use alcohol or paint thinners.

MDs:
If the MD cartridge is dirty, wipe it with a damp cloth and then wipe dry.

When storing MDs, avoid locations which are
• Exposed to direct sunlight.
• Susceptible to high levels of humidity or dust.
• Directly exposed to heat from a heating appliance.
• On top of a car dashboard or near the rear window.

Handling the MDs
• Do not open the shutter. The shutter is usually locked to prevent opening. Do not force to open it or the disc may be destroyed.
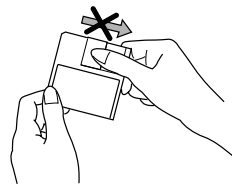
Troubleshooting Guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

Problem	Check this
Cannot operate.	Is the MD loaded? If not loaded, "NO DISC" will appear.
Cannot play the MD.	• Is the HOLD switch released? • Is the battery low? • Is the MD faulty? (Play other MD.) • Is there moisture condensation on the lens? (Wait for about an hour and then try again.)
Tracks on MD do not play in order.	Is the Repeat Play or Random Play selected?
Recording cannot be made on MD.	Is the accidental erasure prevention knob of the MD set to the open position? (Set it to the close position.)
Cannot hear music—too noisy.	• Is the headphones plug inserted all the way? • Is the plug dirty? (Wipe away dirt on the plug.) • Is music recorded on the MD? If not, "BLANK DISC" will appear.
TV picture is distorted.	Is the unit too near a TV or tuner? (If the TV or tuner is connected to a simple indoor antenna, connect it to an outdoor antenna.)
Power is not turned on.	Was the power source removed from the unit with the HOLD switches activated? (Release both HOLD switches and try to operate again.)
Discs recorded in long-hour stereo recording mode (LP2 or LP4) with this unit cannot be played back with the other MD recorders and MD players.	If the MD recorder or MD player has not MDLP logo on it, you cannot reproduce the track recorded using the LP mode. No sound comes out for that track, but this is not a malfunction.

Specifications

Portable minidisc recorder

Type : Minidisc digital audio system
Sampling frequency : 44.1 kHz
Audio compression system : ATRAC (Adaptive TRansform Acoustic Coding)/ATRAC3 M**DLP**
Number of channels: : 2 channels (stereo) / 1 channel (mono)
Frequency response : 20 Hz to 20 000 Hz
Wow & flutter : Unmeasurable
Input : LINE IN: 100 mV / 47 kohms,
    OPTICAL: –23 to –14 dBm,
    (*Same jack is used for LINE IN and OPTICAL)
    MIC: 1.3 mV / 200 ohms to 2 kohms
Output : Headphones (3.5 mm dia. stereo × 1)
    3 mW / ch at 10% THD / 16 ohms to 47 kohms
Duration of battery :

	When Playing back			When recording		
	SP	LP2	LP4	SP	LP2	LP4
Rechargeable battery (BN-R3610)	13 hours	16 hours	18 hours	6 hours	8.5 hours	11 hours
Alkaline batteries (LR6 DURACELL ULTRA)	37 hours	46 hours	51 hours	14 hours	19 hours	25 hours
Rechargeable battery + Alkaline batteries	55 hours	67 hours	75 hours	22 hours	31 hours	41 hours

* Above duration may differ depending on the ambient temperature and conditions.
* A rechargeable battery (BN-R3610) is charged for 2 hours.

Power requirements : DC 3.6 V (rechargeable battery),
    DC 4.5 V (R6 size battery × 3),
    DC IN 6 V
Dimensions (W×H×D) : 81.7 × 19.5 × 88.9 mm (excluding buttons and controls)
Mass : Approx. 155 g (without battery)

AC adaptor (AA-R557)

Input power source : AC 230 V, 50 Hz
Output voltage : DC 6 V, 600 mA

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JVC

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