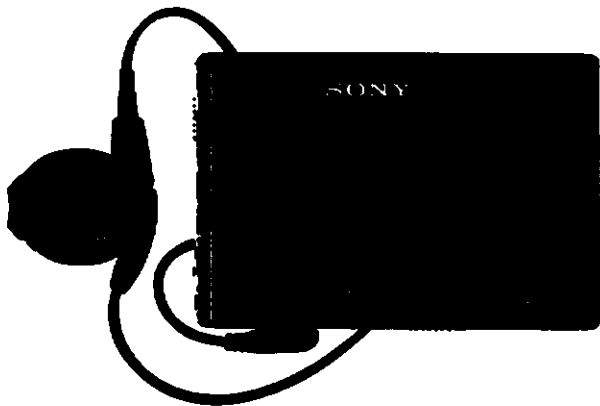


# SONY

3-758-091-21

# MD WALKMAN™



**Portable MiniDisc Player**

# MZ-E2

---

**Operating Instructions**

---

# **WARNING**

**To prevent fire or shock hazard, do not expose the unit to rain or moisture.**

**To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.**

## **Caution**

The use of optical instruments with this product will increase eye hazard.

## **Information**

### **For Customers in the USA**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

## **DISPOSAL OF LITHIUM ION BATTERY.**

### **LITHIUM ION BATTERY. DISPOSE OF PROPERLY.**

You can return your unwanted lithium ion batteries to your nearest Sony Service Center or Factory Service Center.

**Note:** In some areas the disposal of lithium ion batteries in household or business trash may be prohibited.

For the Sony Service Center nearest you call 1-800-222-SONY  
(United States only)

For the Sony Factory Service Center nearest you call 416-499-SONY  
(Canada only)

**Caution:** Do not handle damaged or leaking lithium ion battery.

### **For Customers in the United Kingdom**



This MiniDisc Player is classified as a CLASS 1 LASER product

The CLASS 1 LASER PRODUCT label is located on the bottom exterior.

### **For Customers in Australia**

If the supply cord of AC power adaptor is damaged the AC power adaptor must be returned to the manufacturer or his agent for the cord to be replaced.

## **Owner's Record**

The model and serial numbers are located on the reverse side of the lid. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. MZ-E2

Serial No. \_\_\_\_\_

"MD WALKMAN" is a trademark of Sony Corporation

---

# Welcome!

Welcome to the world of the MiniDisc! The Sony MiniDisc Player is the result of Sony's on-going commitment to leadership in audio-video technology. Here are some of the capabilities and features you'll discover with the new MiniDisc Player.

## **Compact Size MiniDisc Player**

The 2.5-inch MiniDisc (MD) makes this compact size possible. You can play an MD anywhere you go.

## **Quick Random Access**

MDs offer quick random access to any music track or phrase without waiting for reeling time. This is one of the remarkable features of optical discs.

## **Remote Controller**

You can play an MD using the remote controller equipped with the stereo headphones.

## **Title Function**

You can see disc and track titles in the liquid crystal display (LCD) on the remote controller while you are playing an MD.

---

# Table of contents

---

**Let's start!** 6

---

## **Setting up**

---

- Choosing power sources 9
    - Using on AC power 9
    - Using on the rechargeable battery 10
    - Using on dry batteries 12
- 

## **Listening to an MD**

---

- Playing an MD 13
  - Playing tracks repeatedly 16
  - Useful tips on playing an MD 17
  - Using in a car 20
- 

## **For your information**

---

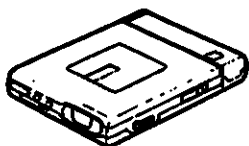
- Precautions 21
- Troubleshooting 23
- Specifications 25
- What is the MD? 27
- Looking at the controls 29

# Let's Start!

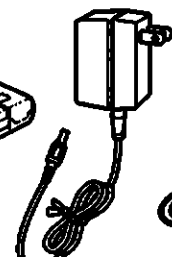
Start playing a MiniDisc (MD) using your MD player and the supplied accessories.

## Unpacking

Use the following accessories to start the operation on the next two pages.



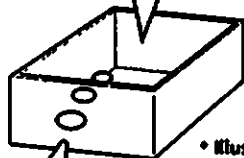
MD player MZ-E2



AC Power Adaptor\*



Headphones\* with a Remote Controller



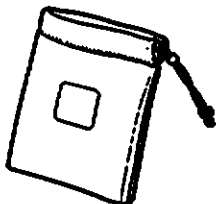
\* Illustrations conform to US model.



Rechargeable Battery (Lithium-ion Battery Pack) LIP-10

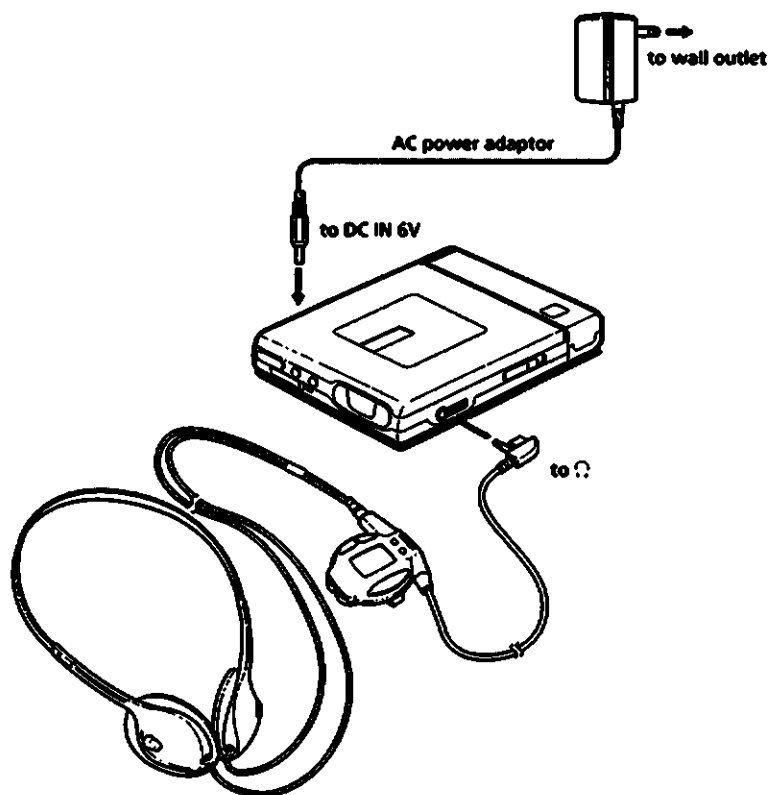


Battery Case



Carrying Case

# Getting started



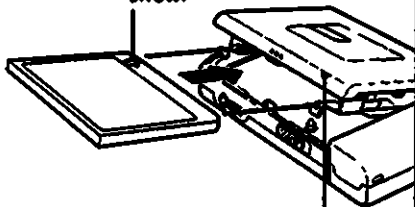


# Listening to an MD

## 1 Insert the MD.



③ Insert the MD in the direction of the arrow.



④ Close the lid.

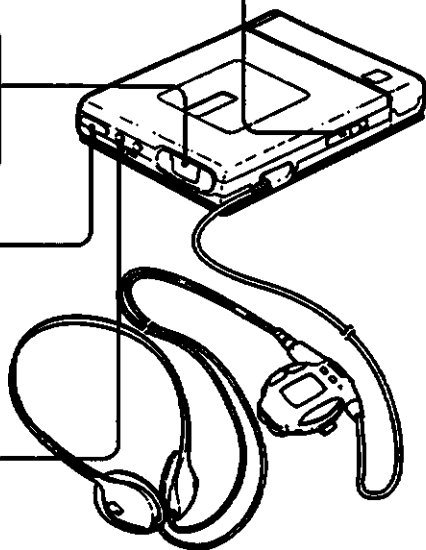
## 2 Play the MD.



## 3 Adjust the volume.



## 4 Stop playing.



- When you have stopped playing the MD partway through, press ► to resume playing from the point where the MD stopped
- If you have opened the lid after you stopped playing it partway, the player will play from the first track when you press ►



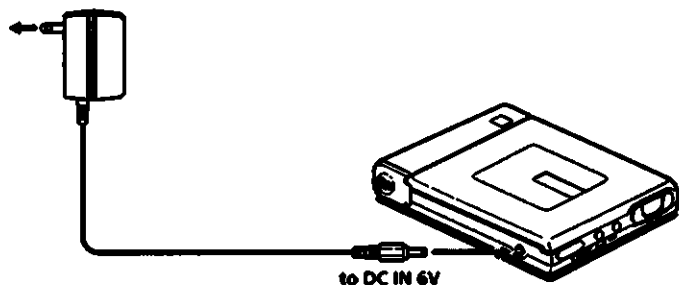
# Choosing power sources

The player is operable on AC, rechargeable battery, and dry battery power.

## Using on AC power

Connect the supplied AC power adaptor to the DC IN 6V jack of the player and the wall outlet.

to wall outlet



### Note on the AC power adaptor

Use the supplied AC power adaptor only. Do not use any other AC power adaptor.

Polarity of the plug



### Notes on the batteries

Incorrect battery usage may lead to leakage of battery fluid or bursting batteries. To prevent such accidents, observe the following precautions:

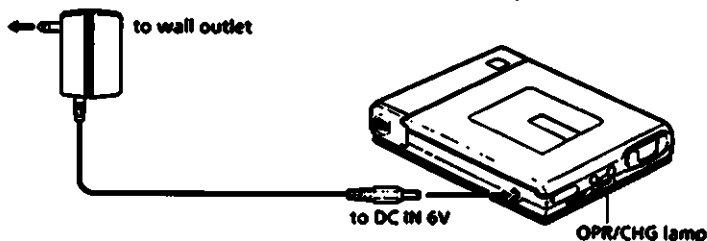
- Install the ⊕ and ⊖ poles of the batteries correctly.
- Do not install new and used batteries or different kinds of batteries together.
- Do not try to recharge the batteries.
- When the player is not to be used for a long time, be sure to remove the batteries.
- If a battery leak should develop, carefully and thoroughly wipe away battery fluid from the battery compartment before inserting new ones.

## ⇒ Choosing power sources

### Using on the rechargeable battery

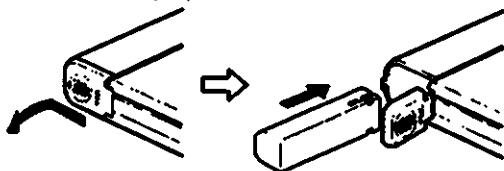
Before using the supplied rechargeable battery for the first time, you must charge it. The battery can be recharged about 300 times.

#### 1 Connect the supplied AC power adaptor.



#### 2 Open the battery compartment lid and insert the battery.

When you insert the battery, place its end with a groove in the direction of the player.



The OPR/CHG lamp flashes and charging begins. When charging is over, the lamp goes out.

Charging a completely discharged battery takes:

about 3 hours for 80% charging, or

about 5 hours for 100% charging.

Charging goes on while you are using the player.

#### 3 Disconnect the AC power adaptor.

As long as the player is connected to the AC power, the power will be supplied from AC.

## Notes on recharging

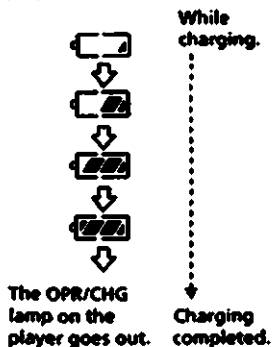
- Be sure to use the supplied AC power adaptor.
- When you use the battery for the first time or after a long period of disuse, the battery life may be diminished. In this case, charge and discharge the battery several times. The battery life will be restored.

## Notes on the rechargeable battery

- To charge the battery, use only the player or the specified charger.
- Do not disassemble or short-circuit the battery.
- Do not leave the battery at high temperature for an extended period of time.
- Keep the battery away from the fire.
- Do not expose the battery to water.
- Do not drop the battery or subject it to mechanical shock.

### ☞ You can check the charging condition in the display on a remote controller.

Connect the remote controller to the player. While charging, the battery indication appears in the display as follows:



### ☞ Battery charging tips

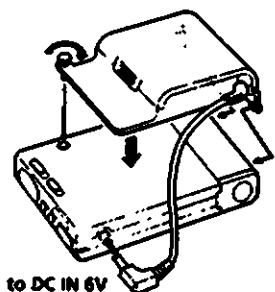
- You can charge the battery at any time.  
The rechargeable battery does not need discharging before recharging. You can recharge a half-charged battery. However, the rechargeable battery discharges little by little even while it is not in use. We recommend that you charge it before every use.
- Keep a few spare batteries.  
To avoid power shortage, prepare a few rechargeable batteries LIP-10 (not supplied).
- To ensure the maximum number of chargings and dischargings, we recommend storing the battery in a cool place and charging it under temperatures ranging from 50° to 86°F (10° to 30°C).  
When the battery is not to be used for a long time, be sure to remove it from the player.

## ⇒ Choosing power sources

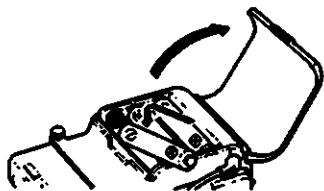
### Using on dry batteries

#### 1 Mount the battery case.

Fitting the hooks of the battery case to the side of the player, attach the case with a screw (supplied). Then, connect the plug to the DC IN 6V jack.

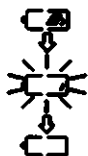


#### 2 Install three size AA (R6) alkaline batteries.



#### ⚡ When to replace the batteries

You can check the battery condition with the battery indication displayed while using the player.



Used batteries

Weak batteries. Replace all the batteries.

The batteries have gone out. "LoBATT" flashes in the display, and the power goes off.

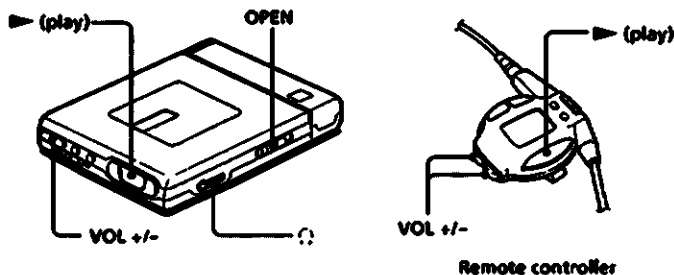
#### ⌚ Battery life\*

Batteries	Playback
Rechargeable batteries**	Approx 2 hours
Size AA (R6) alkaline batteries	Approx 4 hours
Rechargeable and size AA (R6) batteries	Approx 7.5 hours

- \* The battery life may be diminished due to operating condition and the temperature of the location
- \*\* If the rechargeable battery capacity becomes half the normal life, replace it with a new one

## 2 | Setting up

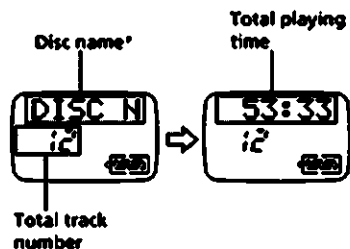
# Playing an MD



## 1 Connect the headphones at .

## 2 Insert an MD.

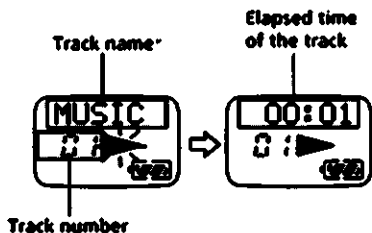
Slide OPEN to open the lid, insert an MD with the label side up and the arrow pointing toward the opening, and close the lid. Once you open the lid, the player will start playing from the beginning of the first track.



\* No indication appears with MDs that have not been electronically labeled.

## 3 Press .

The player will play from the beginning of the first track.



\* No indication appears with MDs that have not been electronically labeled.

## ⇒ Playing an MD

- 4 Adjust the volume by pressing the + side or the - side of VOL +/- button.**

Min. ← → Max.



### Note

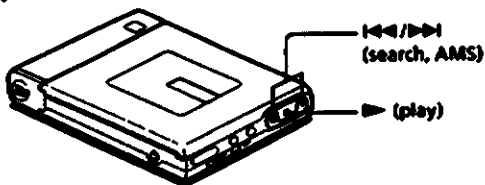
If you cannot increase the volume, the AVLS switch on the player is set to ON. Set the switch to OFF. When you try to increase the volume while the switch is set to ON, the volume indication flashes and you cannot increase the volume to the maximum. (See *Useful tips on playing an MD* on page 18.)

To	Press	Beep on the headphones (when operating on the remote controller)
pause/release pause	⏸	..... (continuous short beep)
stop	■	— (one long beep)
search while listening	keep pressing ⏮ / ⏭	(none)
quickly search without listening	⏸ (pause) and keep pressing ⏮ / ⏭	(none)
find the beginning of the current or preceding tracks (AMS)	slightly press ⏮	... (three short beeps)
find the beginning of the next or succeeding tracks (AMS)	slightly press ⏭	-- (two short beeps)
eject the MD	after ■ (stop), slide OPEN and open the lid	(none)

## Playing specific tracks

You can find a specific track before playing an MD and start playing from that track. For this operation, only the controls on the player can be used.

- 1 Press **▶▶** or **◀◀** on the player to find a specific track.



- 2 Press **▶** on the player.



### Notes

- This player has a shock-resistant memory. However, if it is subject to continuous vibration, the sound may skip or mute while playing an MD. In this case, use the player in a stable place.
- Tracks that are very short, such as a brief narration or introduction, may cause the sound to skip while being played.

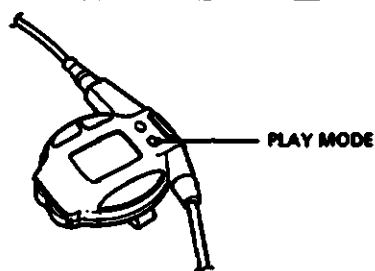
### ☞ You can resume playing from the point the MD stopped (Resume function).

If you stop playing partway and do not eject the MD nor open the lid, the player will resume playing from the point where the MD stopped.

Once you open the lid, the player will start playing from the beginning of the first track when you press **▶**.

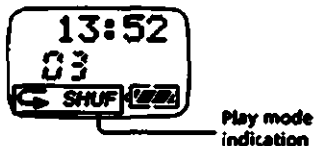
# Playing tracks repeatedly

You can play tracks repeatedly in three ways—all repeat, single repeat, and shuffle repeat.



Press **PLAY MODE** on the remote controller while the MD is playing.

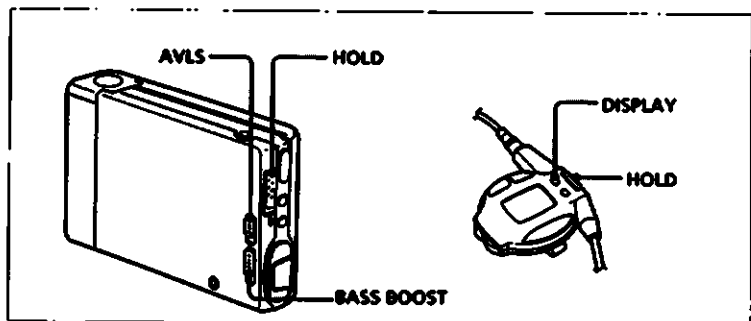
Each time you press **PLAY MODE**, the play mode indication changes as follows.



To play	Indication
all the tracks once (normal play)	(none) ←
all the tracks repeatedly (all repeat)	↻
a single track repeatedly (single repeat)	↻ 1
all the tracks in random order repeatedly (shuffle repeat)	↻ SHUF



# Useful tips on playing an MD



## Locking the controls (Hold function)

To prevent the buttons from being accidentally operated while you are walking, use the Hold function.

### Slide **HOLD** in the direction of the arrow.

On the player, slide **HOLD** to lock the controls of the player.

On the remote controller, slide **HOLD** to lock the controls of the remote controller.

## Emphasizing the bass (Bass Boost feature)

The Bass Boost feature intensifies low frequency sound for richer bass reproduction.

### While the MD is playing, set **BASS BOOST** to **MID** (middle) or **MAX** (maximum).

To emphasize the bass slightly, set to **MID**. To emphasize the bass strongly, set to **MAX**. For normal play, set to **NORM**.

#### **Note**

If the volume is too high, the sound may crack or distort. If this happens, turn down the volume.

---

## ⇒ Useful tips on playing an MD

### **Adjusting the sound to an appropriate level (AVLS function)**

The AVLS (Automatic Volume Limiter System) function allows you to limit the maximum volume of the player without degrading the sound quality.

Hearing experts advise against continuous, loud and extended play. Use the AVLS function to avoid excessive pressure to your ears.

#### **Set AVLS on the player to ON.**

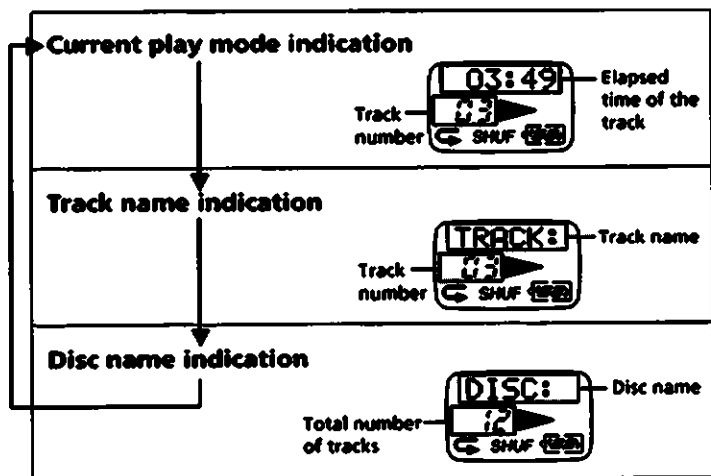
The volume is kept at a moderate level without degradation of the sound quality, even if you attempt to turn the volume up higher.

### **Displaying disc and track names**

If you are playing a premastered or recorded MD that has been electronically labeled, you can display information on the MD while it is playing.

#### **While the MD is playing, press DISPLAY.**

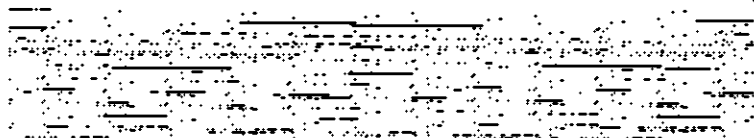
Each time you press the button, the display changes as follows.



#### ■ Notes

- No character information appears with MDs that have not been electronically labeled.
- This player does not label or copy any character information such as disc names and track names

**Listening to an MD**



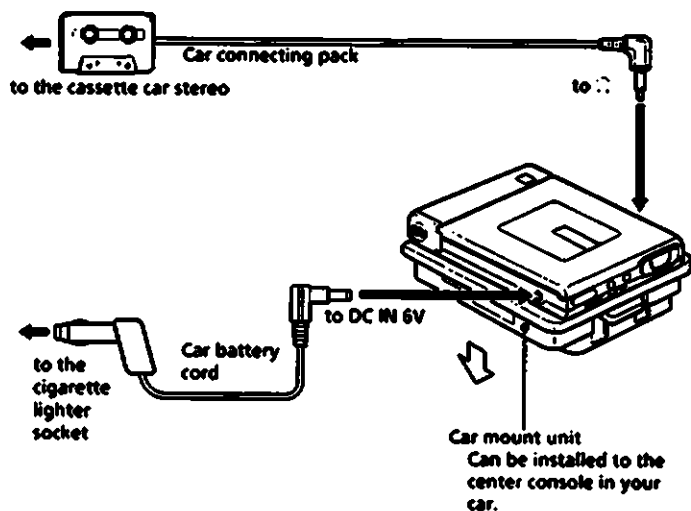
# Using in a car

## Hooking up a car stereo system

You can listen to MDs with your car stereo system using the following equipment.

-Car Mount Kit CPM-MZE2K (not supplied, contents: Car mount unit, Car connecting pack, Car battery cord)

Refer to the operating manual of the equipment for more details.



### Note

Do not put the player on a dashboard or leave it in a car parked in direct sunlight since the temperature may rise excessively.

---

# Precautions

## On safety

- Since the laser beam used in this MD player is harmful to the eyes, do not attempt to disassemble the casing. Refer servicing to qualified personnel only.
- Do not put any foreign objects in the DC IN 6 V jack.

## On power sources

- Use the house current, rechargeable battery pack (supplied), three size AA (R6) batteries, or car battery.
- For use in your house: Use the AC power adaptor supplied with this player. Do not use any other AC power adaptor since it may cause the player to malfunction.
- The player is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the player itself has been turned off.
- If you are not going to use this player for a long time, be sure to disconnect the power supply (AC power adaptor, rechargeable battery pack, size AA (R6) batteries, or car battery cord). To remove the AC power adaptor from the wall outlet, grasp the adaptor plug itself; never pull the cord.
- For use in the car: Use the CPA-8 car connecting pack (not supplied).

## On heat build-up

- Heat may build up in the player if it is used for an extended period of time. In this case, leave the player to cool down.

## On installation

- Never use the player where it will be subject to extremes of light, temperature, moisture or vibration.
- Never wrap the player in anything when it is being used with the AC power adaptor. Heat build-up in the player may cause malfunction or injury.

## ⇒ Precautions

### On the headphones

#### • Road safety

Do not use headphones while driving, cycling, or operating any motorized vehicle. It may create a traffic hazard and is illegal in many areas. It can also be potentially dangerous to play your player at high volume while walking, especially at pedestrian crossings. You should exercise extreme caution or discontinue use in potentially hazardous situations.

#### • Preventing hearing damage

Avoid using headphones at high volume. Hearing experts advise against continuous, loud and extended play. If you experience a ringing in your ears, reduce the volume or discontinue use. Use the AVLS function to avoid excessive pressure to your ears.

#### • Caring for others

Keep the volume at a moderate level. This will allow you to hear outside sounds and to be considerate of the people around you.

### On the MiniDisc cartridge

#### • Do not break open the shutter.

#### • Do not place the cartridge where it will be subject to light, temperature, moisture or dust.

### On cleaning

#### • Clean the player casing with a soft cloth slightly moistened with water or a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene as it may mar the finish of the casing.



#### • Wipe the disc cartridge with a dry cloth to remove dirt.

#### • Dust on the lens may prevent the unit from operating properly. Be sure to close the disc compartment lid after inserting and ejecting an MD.

If you have any questions or problems concerning your player, please consult your nearest Sony dealer.

# Troubleshooting

If you experience any of the following difficulties while using your player, use this troubleshooting guide to help you remedy the problem.

Symptom	Cause and/or Solution
The player does not operate or operates poorly.	<ul style="list-style-type: none"><li>• Moisture has condensed inside the player. → Take the MD out and leave the player in a warm place for several hours until the moisture evaporates.</li><li>• The rechargeable battery or dry batteries are weak (  or "LoBATT" flashes).</li><li>• The dry batteries have been installed incorrectly. → Install the batteries correctly.</li><li>• The AC adaptor was unplugged during playing or a power outage occurred.</li><li>• While operating, the player received a mechanical shock, too much static, or abnormal power voltage caused by lightning, etc. → Restart the operation as follows.<ol style="list-style-type: none"><li>1. Remove all the power source.</li><li>2. Leave the player disconnected for about 30 seconds.</li><li>3. Connect the power source.</li></ol></li></ul>
No sound comes through the headphones.	<ul style="list-style-type: none"><li>• The headphones plug is not firmly connected to .</li><li>• Adjust the volume by pressing VOL +/-.</li><li>• Slide AVLS to OFF.</li></ul>

## ⇒ Troubleshooting

Symptom	Cause and/or Solution
An MD is not played from the first track	Disc playing stopped before it came to the last track. → Press <b>⏮</b> repeatedly or open and close the lid once to go back to the beginning of the MD, and restart playing after checking the track number in the display.
Sound has a lot of static.	• Strong magnetism from a television or such device is interfering with operation. → Move away from the source of strong magnetism.
Charging the rechargeable battery does not start.	• The AC power adaptor has been connected incorrectly. → Connect the AC power adaptor correctly.



# Specifications

## System

### Audio playing system

MiniDisc digital audio system

### Laser diode properties

Material: GaAlAs

Wavelength:  $\lambda = 780 \text{ nm}$

Emission duration: continuous

Laser output: less than  $44.6 \mu\text{W}$

(This output is the value measured at a distance of 200 mm from the lens surface on the optical pick-up block.)

### Revolutions

400 rpm to 900 rpm (CLV)

### Error correction

Advanced Cross Interleave Reed Solomon Code (ACIRC)

### Sampling frequency

44.1 kHz

### Coding Adaptive Transform Acoustic Coding (ATRAC)

### Modulation system

EFM (Eight to Fourteen Modulation)

### Number of channels

2 stereo channels

### Frequency response

20 to 20,000 Hz  $\pm 1/2$  dB

### Wow and Flutter

Below measurable limit

## Output

	Jack Type	Rated Output	Maximum Output Level	Load Impedance
Headphones	Stereo mini-jack	—	5 mW + 5 mW	16 ohm

## ⇒ Specifications

### General

#### Power requirements

- LIP-10 Rechargeable Battery (Lithium-ion Battery Pack, supplied)
- Three size AA (R6) batteries (not supplied)
- Sony AC Power Adaptor (supplied) connected at the DC IN 6V jack.
  - 120 V AC, 60 Hz (US model)
  - 240 V AC, 50 Hz (UK and Australian models)

#### Battery operation time

120 minutes of consecutive playback with fully charged LIP-10

#### Dimensions

Approx. 106.8 × 18.5 × 74 mm (w/h/d) (4 1/8 × 3/8 × 3 in.)

#### Mass

Approx. 205 g (7.2 oz) incl. rechargeable battery

### Accessories

#### Optional

- LIP-10 Lithium-ion Battery Pack
- ACP-MZ60A AC Power Adaptor/Battery Charger
- CPM-MZE2K Car Mount Kit
- CPA-8 Car Connecting Pack
- MDR-D55, MDR-D77 Stereo Headphones
- SRS-58 Sony Active Speakers
- CK-MD4 MiniDisc Carrying Case
- CK-MD10 MiniDisc Filing Box

Your dealer may not handle some of the above listed accessories. Please ask the dealer for detailed information about the accessories in your country.

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

Design and specifications are subject to change without notice.

#### Note

This appliance conforms with EEC Directive 89/336/EEC regarding interference suppression

# What is the MD?

## How MiniDiscs work

MiniDiscs (MD) come in two types: premastered (pre-recorded) and recordable (blank). Premastered MDs, recorded at music studios, can be played back almost endlessly. However, they cannot be recorded on or over like cassette tapes. To record, you must use a "recordable MD".

### Premastered MDs

Premastered MDs are recorded and played like regular CDs. A laser beam focuses on the pits in the surface of the MD and reflects the information back to the lens in the player. The player then decodes the signals and plays them back as music.

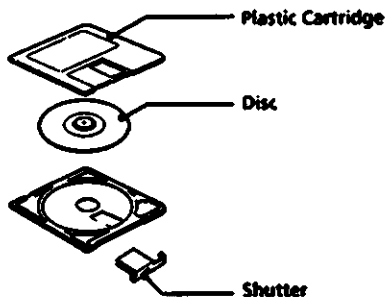
### Recordable MDs

Recordable MDs, which use magneto-optical (MO) technology, can be recorded again and again using an MD recorder. The laser inside the recorder applies heat to the MD, demagnetizing the magnetic layer of the MD. The recorder then applies a magnetic field to the layer. This magnetic field corresponds exactly to the audio signals generated by the connected source. (The north and south polarities equate to digital "1" and "0".) The demagnetized MD adopts the polarity of the magnetic field, resulting in a recorded MD.

## How the MiniDisc got so small

The 2.5-inch MiniDisc, encased in a plastic cartridge that looks like a 3.5-inch diskette (see illustration below), uses a new digital audio compression technology called ATRAC (Adaptive Transform Acoustic Coding). To store more sound in less space, ATRAC extracts and encodes only those frequency components actually audible to the human ear.

### Parts making up a MiniDisc



## ⇒ What is the MD?

### **Quick Random Access**

Like CDs, MDs offer instantaneous random access to the beginning of any music track. Premastered MDs are recorded with location addresses corresponding to each music selection.

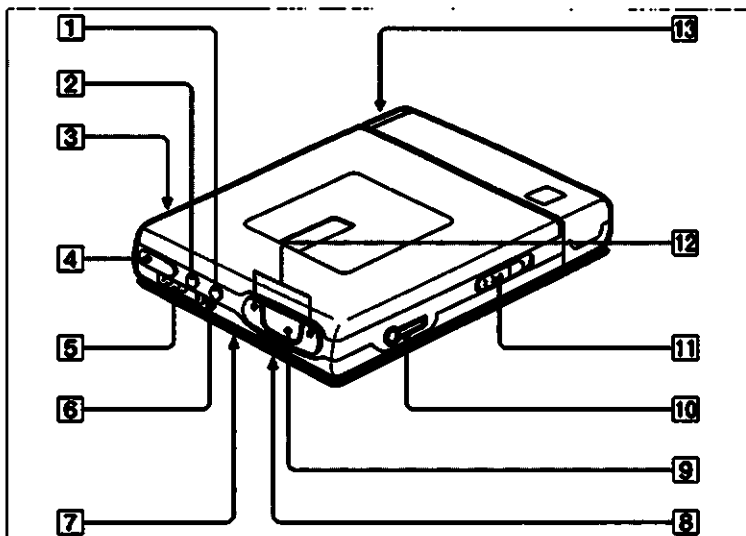
### **Shock-Resistant Memory**

One major drawback of optical read systems is that they can skip or mute when subject to vibration. The MD system resolves this problem by using a buffer memory that stores audio data.

# Looking at the controls

See pages in ( ) for more details.

## The player

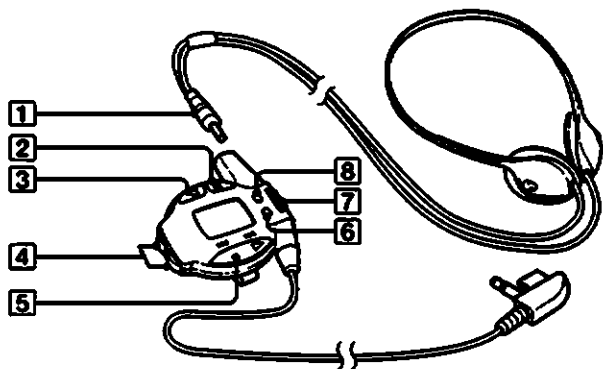


- 1** **||** (pause) button (14)
- 2** **■** (stop) button (8, 14)
- 3** **DC IN 6 V** jack (7, 9, 10, 12, 20)  
Connect the supplied AC power adaptor here.
- 4** **VOL (volume) +/-** button (8, 13)
- 5** **HOLD** (17)  
Slide to lock the controls of the player.
- 6** **OPR (operate)/CHG (charge) lamp** (10)  
Lights up while the player is operating or flashes while charging the rechargeable battery.

- 7** **AVLS (Automatic Volume Limiter System)** (18)  
Slide to ON to limit the maximum volume.
- 8** **BASS BOOST** (17)  
Select to emphasize low frequency (bass) sounds.
- 9** **▶** (play) button (8, 13)
- 10** **⌚** (headphones, remote) jack (8, 13)
- 11** **OPEN** (8, 13)  
Slide here to open the lid and insert or remove an MD.
- 12** **⏮/⏭** (search, AMS) buttons (14)
- 13** **Rechargeable battery compartment** (10)

For your information **2!**

## The remote controller



**1** Microplug (6)

**2** II (pause) button (14)

**3** ■ (stop) button (8, 14)

**4** VOL(volume) +/- buttons (8, 13)

**5** ▶ (play)/◀/▶ (search, AMS) button (14)

While the player isn't operating, press ▶ to play. While playing, press the ◀ side to find the beginning of the current or preceding tracks or search backward, or press the ▶ side to find the beginning of the succeeding tracks or search forward.

**6** PLAY MODE (16)

Each time you press here the player plays the MD in different play modes: normal play, all repeat, single repeat, or shuffle repeat.

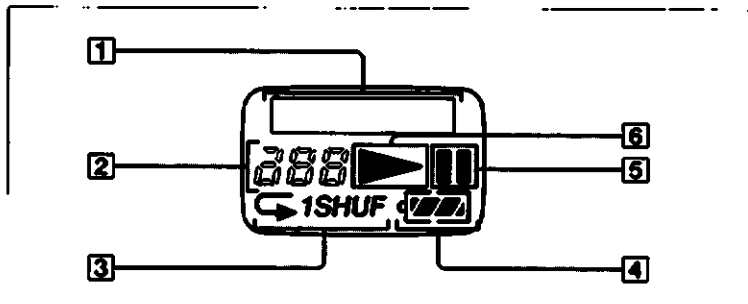
**7** HOLD (17)

Slide to lock the controls of the remote controller.

**8** DISPLAY (18)

Press to display the current play mode, the track name, or the disc name.

## The display window



**1 Character information display (13, 19)**

Displays the disc and track names, elapsed time of the track, etc.

**2 Track number indication (13, 19)**

**3 Play mode indication (16)**  
Shows the play modes of the MD.

**4 Battery indication (11, 12)**  
Shows battery condition.

**5 Pause indication**

**6 Operation indication (13)**  
Lights up while playing the MD. Flashes while searching or finding the beginning of a track.

**Portable MiniDisc Player**

---

**MZ-E2**

