# **ONKYO**®

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# **CD/MD TUNER AMPLIFIER**

FR-V77

**Instruction Manual** 

Thank you for purchasing the Onkyo CD/MD TUNER AMPLIFIER.

Please read this manual thoroughly before making connections and turning on the power.

Following the instructions in this manual will enable you to obtain optimum performance and listening enjoyment from your new CD/MD TUNER AMPLIFIER.

Please retain this manual for future reference.





MDLP

## **WARNING:**

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



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

## **CAUTION:**

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



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



# **Important Safeguards**

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

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

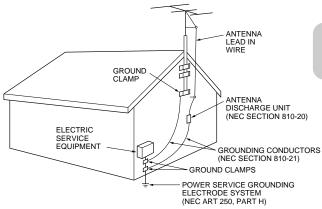


- Wall or Ceiling Mounting The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 8. Ventilation The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or if placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings, there should be free space of at least 20 cm (8 in.) and an opening behind the appliance.
- Heat The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
- Power Sources The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

- Polarization If the appliance is provided with a polarized plug having one blade wider than the other, please read the following information:
  - The polarization of the plug is a safety feature. The polarized plug will only fit the outlet one way. If the plug does not fit fully into the outlet, try reversing it. If there is still trouble, the user should seek the services of a qualified electrician. Under no circumstances should the user attempt to defeat the polarization of the plug.
- 12. Power-Cord Protection Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, especially near plugs, convenience receptacles, and the point where they exit from the appliance.
- 13. **Cleaning** The appliance should be cleaned only as recommended by the manufacturer.
- Power Lines An outdoor antenna should be located away from power lines.
- Nonuse Periods The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
- Object and Liquid Entry Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
- 17. **Damage Requiring Service** The appliance should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug has been damaged; or
  - Objects have fallen, or liquid has been spilled into the appliance; or
  - C. The appliance has been exposed to rain; or
  - The appliance does not appear to operate normally or exhibits a marked change in performance; or
  - E. The appliance has been dropped, or the enclosure damaged.
- 18. Servicing The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

19. Outdoor Antenna Grounding - If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.

#### FIGURE 1: EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE, ANSI/NFPA70



NEC - NATIONAL ELECTRICAL CODE

S2898A

# **Precautions**

#### 1. Warranty Claim

You can find the serial number on the rear panel of this unit. In case of warranty claim, please report this number.

#### 2. Recording Copyright

Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

#### 3. AC Fuse

The fuse is located inside the chassis and is not user-serviceable. If power does not come on, contact your Onkyo authorized service station

#### 4. Power

#### **WARNING**

BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.

The voltage of the available power supply differs according to country or region. Be sure that the power supply voltage of the area where this unit will be used meets the required voltage (e.g., AC 230 V, 50 Hz or AC 120 V, 60 Hz) written on the rear panel. Setting the STANDBY button to standby does not shut off the power completely.

## 5. Do not touch this unit with wet hands

Do not handle this unit or power cord when your hands are wet or damp. If water or any other liquid enters the case, take this unit to an authorized service center for inspection.

#### 6. Location of this unit

Place this unit in a well-ventilated location.

Take special care to provide plenty of ventilation on all sides of this unit especially when it is placed in an audio rack. If ventilation is blocked, this unit may overheat and malfunction. Do not expose this unit to direct sunlight or heating units as this unit's internal temperature may rise and shorten the life of the pickup.

Avoid damp and dusty places and places directly affected by vibrations from the speakers. In particular, avoid placing the unit on or above one of the speakers.

Be sure this unit is placed in a horizontal position. Never place it on its side or on a slanted surface as it may malfunction.

Do not place near tuners or TV sets.

If placed next to a TV or tuner, it may cause reception interference resulting in some noise in the TV or tuner output.

#### 7. Care

From time to time you should wipe the front and rear panels and the cabinet with a soft cloth. For heavier dirt, dampen a soft cloth in a weak solution of mild detergent and water, wring it out dry, and wipe off the dirt. Following this, dry immediately with a clean cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since these could damage the finish or remove the panel lettering.

#### 8. Points to remember

If this unit is brought from a cold environment to a warm one or is in a cold room that is quickly heated, condensation may form on the pickup, preventing proper operation. In this case, remove the disc and leave the power ON for about one hour to remove the condensation.

When transporting this unit, be careful not to bump it.

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

This unit contains a semiconductor laser system and is classified as a "CLASS 1 LASER PRODUCT." So, to use this model properly, read this Instruction Manual carefully. In case of any trouble, please contact the store where you purchased the unit. To prevent being exposed to the laser beam, do not try to open the enclosure.

#### DANGER:

INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.

#### CAUTION:

THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

"CLASS 1 LASER PRODUCT"

- This unit is a CLASS 1 LASER PRODUCT and employs a laser inside the cabinet.
- To prevent the laser from being exposed, do not remove the cover. Refer servicing to qualified personnel.



# **Main features**

- Supports MDLP long duration recording mode (that extends recording/playback time twice or four times).
- The DLA Link (Digital Rec Level Adjustment) function automatically adjusts the digital recording level.
- Various CD-to-MD dubbing functions, including double-speed recording
- Digital output for CD-R
- Various external IN/OUT connectors (three analog inputs, two outputs, subwoofer mono output, digital IN/OUT)
- Discreet amplifier configuration using precision parts
- High power of 26W+26W max. output offers a strong, driving performance
- Motor-driven, aluminum volume controls are designed to emphasize tonal quality.
- Energy-save function cuts power consumption in standby mode.
- MD recorder provides high-resolution, 20bit processing.
- MD recording level adjustment function and memory
- Long duration monaural recording on MDs
- Title function facilitates naming an MD
- Sampling rate converter included.
- A tuner enables you to program up to 30FM preset stations into memory.



# Supplied accessories

Check that the following accessories are supplied with this unit.

The number of accessories is indicated in brackets.

 Remote controller – RC-433S [1]



 Batteries (size AA/R6/ UM3) [2]



 Indoor AM antenna (aerial) [1]



 Indoor FM antenna (aerial) [1]



• 75/300 ohm antenna adapter [1]



## **Memory Preservation**

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.

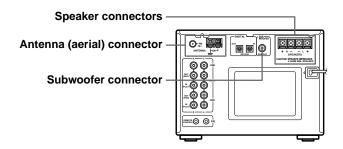
The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

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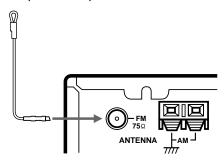
# Antenna (aerial) and speakers

Do not connect the AC power cord (main lead) when you connect the antenna or speakers. You will connect the AC power cord on page 10.



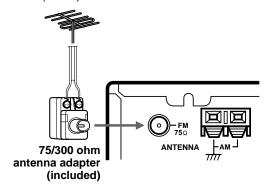
# Connecting the supplied indoor FM antenna (aerial)

While listening to the radio on page 20, move the antenna (aerial) in various directions until the clearest signal is received. Then secure the antenna (aerial) with push pins in the position with the least distortion.



## To connect the outdoor FM antenna (aerial)

If signals received via the indoor FM antenna (aerial) are not clear enough, connect an outdoor FM antenna (aerial).



 To avoid the risk of lightning and electrical shock, grounding is necessary. Follow item 19 of the "Important Safeguards" on page 3 when you install the outdoor antenna.

#### WARNING

Do not install the antenna (aerial) near power lines. This could result in electrical shock.

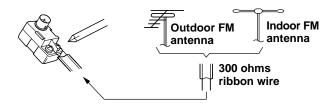
#### Note

Keep the antenna (aerial) away from noise sources, such as neon signs and busy roads.

# Connecting the FM antenna cable to the 75/300 ohm antenna adapter

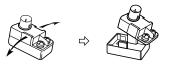
### Connecting the 300 ohm ribbon wire

Loosen the screws and wrap the wire around the screws. Then tighten the screws with a screwdriver.

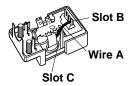


## Connecting the coaxial cable

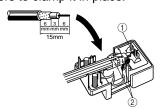
1. With your fingernail or a small screwdriver, press the stoppers outward and remove the cover.



Remove the transformer wire A from slot B and insert it into slot C.



- Prepare the coaxial cable as shown in the diagram. Connect the 75/300 ohm antenna adapter to the coaxial cable.
  - 1) Insert the end of the cable.
  - ② Use pliers to clamp it in place.



4. Re-install the cover.

# Directional linkage

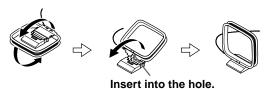
Do not use the same antenna for both FM and TV (or VCR) reception since these signals may interfere with each other. If you must use a common FM/TV (or VCR) antenna, use a directional linkage type splitter.



# ◆ Connecting the AM antenna

## Assembling the AM loop antenna

Assemble the loop antenna as shown in the following illustration.



# Connecting the AM antenna cable

- 1. Press down the lever.
- 2. Insert the wire into the hole.
- 3. Release the lever to lock the wire in place.

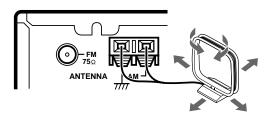






## Connecting the AM loop antenna

The AM loop antenna is for indoor use only. Set it in the direction and position in which you receive the clearest sound. Locate it as far as possible away from this unit, televisions, speaker cables, and power cords.

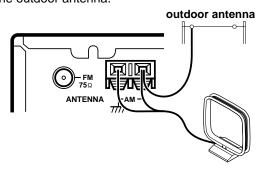


# Connecting an AM outdoor antenna

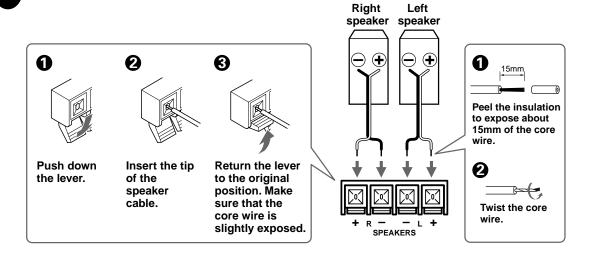
When reception is not satisfactory with the supplied AM loop antenna alone, an outdoor antenna is recommended.

The outdoor antenna will be more effective if it is stretched horizontally above or outside a window.

- Do not remove the AM loop antenna.
- To avoid the risk of lightning and electrical shock, grounding is necessary. Follow item 19 of the "Important Safeguards" on page 3 when you install the outdoor antenna.

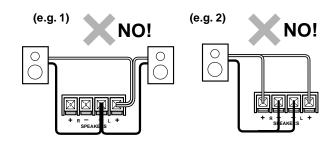


# Antenna (aerial) and speakers (continued)



#### **Notes**

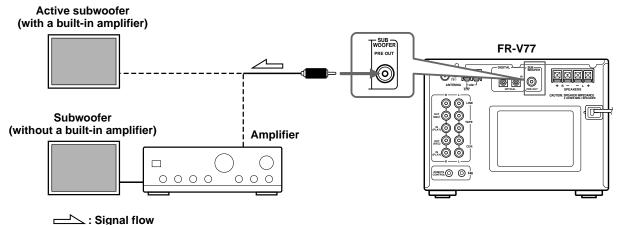
- · Connecting the left and right speakers reversely or with wrong polarities can cause unnatural or distorted sound.
- The load impedance of each speaker must be between 4 and 16 ohms. Connecting speakers with less than 4 ohms impedance could damage the amplifier.
- To prevent damage to circuits, never short-circuit the positive (+) and negative (-) speaker wires.
- Do not connect the speaker cord to the L and R connectors at the same time (e.g. 1). Do not connect more than two speaker connectors to the same speaker (e.g. 2).



# ◆ C

# Connecting a subwoofer

The FR-V77 has a SUBWOOFER PRE OUT jack. Connect an active subwoofer (a subwoofer that contains an amplifier), or connect an amplifier to the FR-V77, then connect a non-active subwoofer to the amplifier.



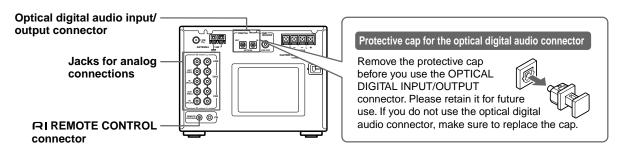
Signal fic

# **Audio/video equipment**

Connect the white plugs of the audio cables to the L jacks and connect the red plugs of the audio cables to the R jacks.

### Tip

The source names appearing in the display can be customized for the connected component. (See page 49.)



#### **Notes**

O Do not place objects on the unit as they may interfere with proper ventilation.

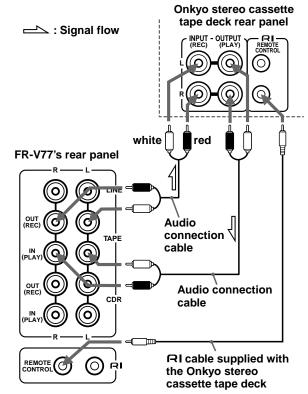
- Follow the rules for digital recording (see page 53).
- Audio plugs must be connected securely. Incomplete connection will not reproduce sound.
- Do not bundle the audio connection cables with the speaker cords. This may impair the sound quality.
- If the TV screen and the unit interfere with each other, put more distance between the speakers and the TV set.
- When connecting the digital audio output of a DVD player to the DIGITAL IN jack of the unit, set the DVD player to PCM output. Some DVD players cannot be set to PCM, in this case, audio output is not possible, even when the two units are connected.

# Improper connection Insert completely

# Connecting an Onkyo stereo cassette tape deck

The illustration below describes the connections to an Onkyo stereo cassette tape deck.

To connect to another cassette tape deck, connect the TAPE OUT (REC) and IN (PLAY) jacks of the unit to the INPUT (REC) and OUTPUT (PLAY) jacks of the cassette tape deck, respectively.



# What can you do with an Onkyo stereo cassette tape deck by connecting with an RI cable?

- An Onkyo stereo cassette tape deck can be operated with the supplied remote controller.
- When you start playing a tape, the unit input selector will automatically switch to the stereo cassette tape deck (TAPF).
- Synchro recording operations (see page 33).

# Connecting a DVD player

In addition to the optical digital audio connections, you must also make analog connections. To connect to the Onkyo DVD player, be sure to connect to the LINE jacks with the audio connection cable.

#### **DVD Player** Analog Digital DIGITAL audio output audio output R (O ∭ |□= FR-V77's rear panel Optical fiber audio cable red LINE **Audio connection** white cable ☐ : Signal flow

## Audio/video equipment (continued)

#### About the OPTICAL DIGITAL IN connector

You may connect an optical digital audio outputequipped CD player, satellite tuner, or DAT instead of a DVD player and use an optical fiber audio cable to digitally record the output.

#### About the OPTICAL DIGITAL OUT connector

You can connect a CD or DAT recorder that has an optical digital audio input, instead of a DVD player, to the FR-V77 for digital recording. Use a standard optical fiber audio cable for connection. Digital recording is allowed only for the first generation. (See "Guide to the serial copy management system" on page 53.) If OTHER INPUTS is set to CD-R, this connector does not output digital signals.

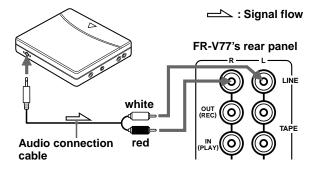
## About the LINE jacks

In addition to the previous examples, a laser disc player, satellite broadcast tuner, or VCR may be also connected. Connect the analog audio output jacks to the unit's LINE using the audio connection cable.

# **♦**

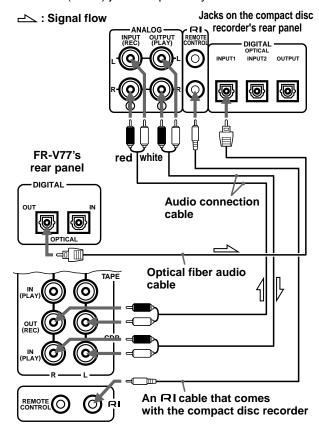
# Connecting a portable MD player

Refer to the portable MD player's Instruction Manual.



# Connecting an Onkyo compact disc recorder

The following diagram shows how to connect an optional Onkyo compact disc recorder to the FR-V77. Connect its CDR OUT (REC) jacks and IN (PLAY) jacks to the disc recorder's INPUT (REC) jacks and OUTPUT (PLAY) jacks respectively.



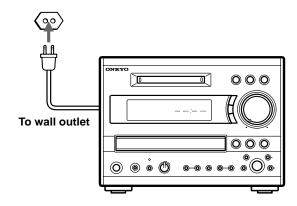
# The RI jack connection enables you to use the following functions:

- You can control a connected Onkyo compact disc recorder from the FR-V77's remote controller.
- When the connected Onkyo compact disc recorder plays back, the Input Selector on the FR-V77 is automatically switched to CD-R.
- To connect both CD recorder and a cassette tape deck to the FR-V77, connect the RI connectors of both devices.



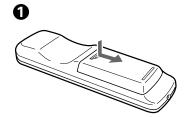
# Connecting the power cord

When the power cord is connected to the AC outlet, the FR-V77 enters stand-by mode. "--:--" appears on the display.

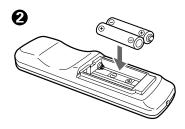


# Preparing the remote controller

# Inserting the batteries

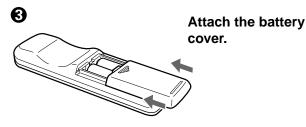


Detach the battery cover.



# Insert the two R6 (size AA) batteries.

Be sure to match the + and – ends of the batteries with the diagram inside the battery compartment.

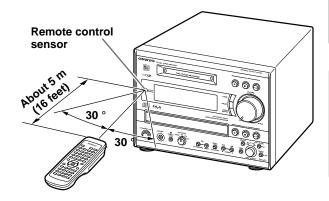


#### **Notes**

- Do not mix new batteries with old batteries or different kinds of batteries.
- To avoid corrosion, remove the batteries if the remote controller is not to be used for a long period of time.
- Remove dead batteries immediately to avoid damage from corrosion. If the remote controller does not operate smoothly, replace both batteries at the same time.
- The life of the batteries supplied is about six months but will vary depending on usage.

# Using the remote controller

Point the remote controller toward the remote control sensor.

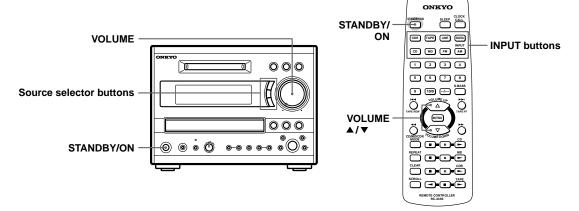


#### **Notes**

- Place the unit away from strong light such as direct sunlight or inverted fluorescent light, which can prevent proper operation of the remote controller.
- Using another remote controller of the same type in the same room or using the unit near equipment which uses infrared rays may cause operational interference.
- Do not put any object, such as a book, on the remote controller. The buttons of the remote controller may accidentally be pressed and drain the batteries.
- Make sure the audio rack doors do not have colored glass.
   Placing the unit behind such doors may prevent proper remote controller operation.
- If there is an obstacle between the remote controller and the remote control sensor, the remote controller will not operate.

# Understanding preparatory and common operations

This section explains the following preparatory and common operations: turning the unit on and off, selecting a source, adjusting the volume, etc.





# Turning the unit on and off

Press STANDBY/ON on the unit or on the remote controller.

If you press the same button again, the unit will turn off and enter standby mode.

### The FR-V77 has the following three power modes.

Standby mode: In this mode, the LCD indicates

the current time. (If the time is not set, "--:-" appears.)

(See page 10.)

Power On mode: The FR-V77 enters this mode

when you press the STANDBY/ ON button on the unit or remote controller while the unit is in Standby mode. The FR-V77 operates normally in this mode.

Energy Save mode: The FR-V77 enters this mode

when you press the ENERGY SAVE button. The ENERGY SAVE indicator lights up. (See

page 52.)

#### Tip!

When you start playing (or turn on the power to) an Onkyo CD recorder or cassette tape deck that is connected to the FR-V77 via an RI cable and audio pin cables, the power to the FR-V77 is automatically turned on. Also, if you turn on or off the power to the FR-V77, the power to such a device is automatically turned on or off (standby).



# Adjusting the volume

## Operating with the unit

Turn VOLUME clockwise to increase the volume and counterclockwise to decrease the volume.

### Using the remote controller

Press VOLUME ▲/▼ on the remote controller.



# Selecting a source

You can select CD, MD, FM, AM, or connected external audio/video equipment (LINE, DIGITAL, CD-R and TAPE) as the audio source.

#### Operating with the unit

Buttons	Usage
CD/MD	Press this button to toggle between CD and MD.
FM/AM	Press this button to toggle between FM and AM.
OTHER INPUTS	Press this button to select LINE, DIGITAL, CD-R or TAPE.

#### Operating with the remote controller

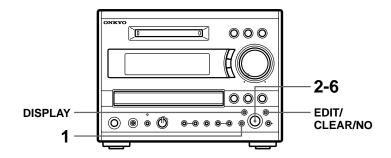
Press the following INPUT buttons: CDR, TAPE, LINE, DIGITAL, CD, MD, FM and AM.

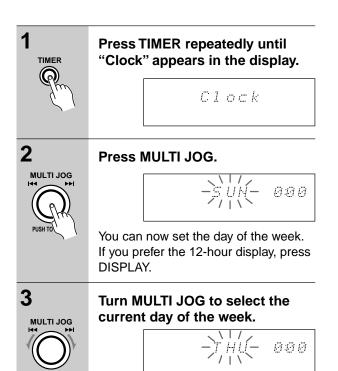
#### Notes

The DIGITAL indicator flashes in the display when you select DIGITAL, but no digital equipment is connected, or when the connected digital component is not turned on.

# Setting the day of the week and the time

You can select either the 12-hour display or 24-hour display. (This section explains how to set the time based on the 24-hour display.)

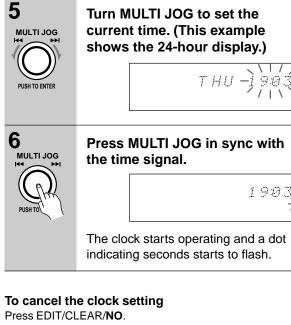


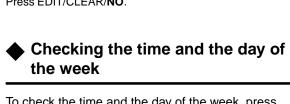


Press MULTI JOG to confirm the

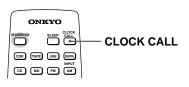
You can now set the time.

setting.





To check the time and the day of the week, press TIMER to display "Clock," then press DISPLAY. The display now indicates the day of the week and the current time. Alternatively, press CLOCK CALL on the remote controller. To switch between the 12-hour and 24-hour displays, press DISPLAY while the current time is indicated on the display.

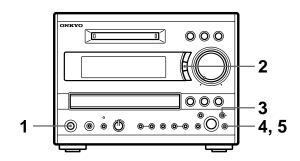


4

**MULTI JOG** 

# **Programming FM stations automatically — Auto Preset**

Auto presets store the frequencies of radio stations into memory so you can select your favorite channels without tuning manually. Radio station signals can be automatically located and stored. This function does not apply to AM stations (see the next page).



# 1 (h STANDBY/ON

Press STANDBY/ON to turn on the unit.

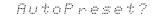


Press FM/AM to display "FM."





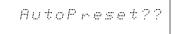
Press **EDIT**/CLEAR/NO to display "AutoPreset?"



4

## Press REPEAT/YES.

The confirmation message "AutoPreset??" appears in the display.



To stop auto presetting, press EDIT/ CLEAR/**NO**.

5

#### Press REPEAT/YES.



Auto presetting starts. It scans for the best signal quality radio stations starting from the lowest frequency and moving to the highest, then presets the selected radio stations to the channels sequentially, starting with 1.

SCHOOLS TO THE PROPERTY OF T

# Before presetting

- You can preset up to 30 channels including both FM and AM stations.
- If any radio stations are preset in the channels before you start auto presetting, all the preset channels will be replaced.

#### Note

Auto presetting may store noise instead of a station with a clear signal to some preset channels, depending on where you live. In such cases, erase the preset manually (see page 50).

## If auto presetting is unsuccessful

Check the antenna (aerial) connection and position (see page 6).

# If you have a power failure or disconnect the AC power cord (mains lead)

Memory will normally be preserved for two days after the power supply has stopped. If the data in memory has been erased, repeat auto presetting.

# **♦**

# **Customizing the preset channels**

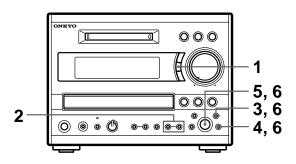
The following additional functions are available:

- Naming the preset channels (see page 37)
- Erasing the preset channels (see page 50)
- Copying the radio station in the selected channel to another (see page 51).

# **Programming AM/FM stations one by one — Preset Write**

You can store the frequencies of AM stations one by one manually into the preset memory channels. (You can store FM stations manually or by using the auto preset function.)

- You can preset up to 30 channels including both FM and AM stations. For example, if you have already stored FM stations to eight channels, you can use 22 channels to store preset AM stations.
- Programmed FM and AM stations are indicated separately. Therefore, one of the preset FM stations and one of the preset AM stations could use the same channel number.
- The Preset Write function enables you to store radio station frequencies to any channel number.
   For example, you could program three AM stations to channels 2, 5, and 9.



1

Press AM/FM to display "AM."

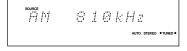


SOURCE

Select "FM" to store an FM station.



Press TUNING **◄/►** to tune in the radio station you wish to preset.



If you hold down either of the buttons, the frequency keeps changing.



Press **EDIT**/CLEAR/NO repeatedly until "Preset Write?" appears in the display.

PresetWrite?



## Press REPEAT/YES.



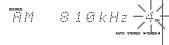
SOURCE FINE STATE AND STORED FINED &

The channel number to be preset flashes.

To cancel presetting, press EDIT/ CLEAR/**NO** instead.



If you wish to change the channel number, turn MULTI JOG.

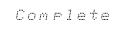




# Press MULTI JOG to confirm.

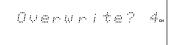
You may press REPEAT/YES instead of MULTI JOG to get the same result.





The radio station is registered to the preset channel.

If "Overwrite?" appears





The channel you've selected is registered already.

 To register the new radio station by deleting the existing radio station

Press REPEAT/YES.

- To cancel presetting Press EDIT/CLEAR/NO.
- If "Memory Full" appears

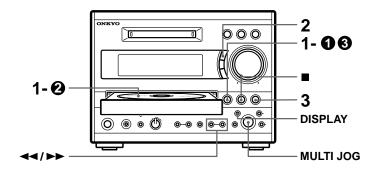
Memory Full

The FM/AM stations have already been programmed into all 30 channels. Delete unnecessary stations (page 50) and try again.

7

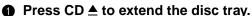
Repeat steps 2 to 6 to preset the next channel.

# Playing a CD



1

# Insert a CD (Compact Disc).



- Place the CD in the tray with the label side facing up.
  - If you play a CD single, place it in the center circle of the tray.
- Press CD 

   to retract the tray.

Tip

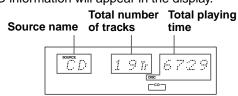
If the unit is in standby mode, it turns on automatically when you press CD ≜.

2

# Press CD/MD repeatedly until "CD" appears in the display.

Each press toggles the source to CD or MD.

The following CD information will appear in the display.



Tip

You can change the display information. See the next page.

3

# Press CD ►/II to start playback.

The playback (►) indicator lights up in the display.

**MULTI JOG** 

**MULTI JOG** 

Playing track number

The elapsed playing time

# To stop playback

Playback automatically stops afer the last track is played. Alternatively, press CD ■ to stop playback any time.

#### To take out the CD

Press CD <u>has</u> to extend the disc tray.

#### To pause

Press CD ►/II. "II" lights up in the display. To resume playback, press CD ►/II again.

# ◆ Selecting the track to play

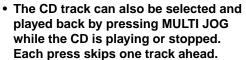
 To locate the beginning of the playing track, turn MULTI JOG counterclockwise slightly.
 If you turn it further, you can select the previous tracks in reverse order.

To select the next track in order, turn MULTI JOG clockwise.

If you select the track while the CD is stopped, press MULTI JOG to start playback.

#### Note

It may take a while to start playing back CDs that contain many tracks.







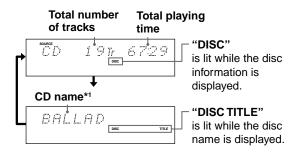
# Locating a particular point in a track

Press and hold ▶► to fast forward, and ◄◄ to fast reverse during playback or pause until you locate the desired point.



#### Press DISPLAY on the unit repeatedly to change the display as follows:

## While the CD is stopped

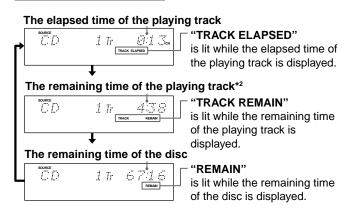


\*1 If you have not named the CD, "No Name" appears in the display. (See "Naming a CD, an MD and its tracks, and preset channels" on page 37.)

#### If the disc name is long:

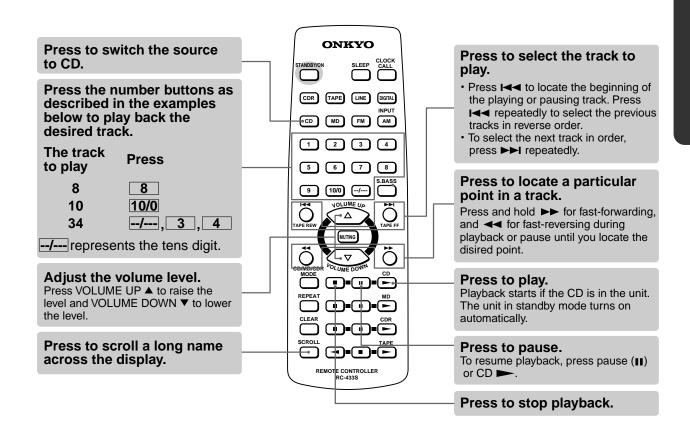
You can scroll long names across the display by pressing SCROLL on the remote controller. (See below.)

#### During playback or pause

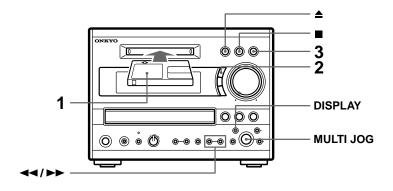


\*2 "--:--" appears for the remaining time of the 21st and subsequent tracks.

# Using the remote controller



# Playing an MD



1 Insert an MD (Mini Disc).

The MD must be pre-recorded.

The arrow on the MD must face up and point to the unit.

Push gently to load the MD into the unit.

Tip

If the unit is in standby mode, it turns on automatically when you insert the MD.

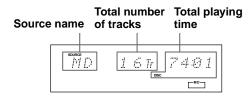
2



Press CD/MD repeatedly until "MD" appears in the display.

Each press toggles the source to MD or CD. The following MD information appears in the display. Tip

You can change the display information. See the next page.



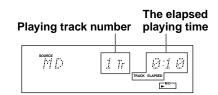
3



Press MD ▶/II to start playback.

The playback (►) indicator lights in the display.

**MULTI JOG** 



To stop playback

Press MD ■.

Playback automatically stops when the last track has been played.

To take out the MD

Press MD ≜ to eject.

To pause

Press MD ►/II. "II" lights in the display. To resume playback, press MD ►/II again.

# **♦** Selecting the track to play

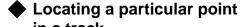
 To locate the beginning of the playing track, turn MULTI JOG counterclockwise slightly.
 If you turn it further, you can select the previous tracks in reverse order.

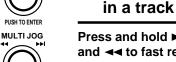
To select the next track, turn MULTI JOG clockwise.

If you select a track while the MD is stopped, press MULTI JOG to start playback.

 The MD track can also be selected and played back by pressing MULTI JOG while the MD is playing or stopped. Each press skips one track ahead.







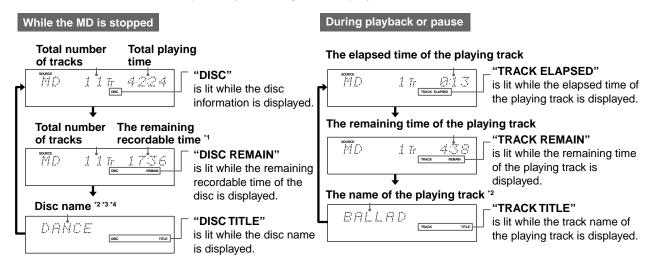
Press and hold ▶► to fast forward, and ◄◄ to fast reverse during playback or pause until you locate the desired point.



#### Note

If you operate this function while the unit is paused, no sound will be reproduced. Check the elapsed time in the display to locate the point.

## Press DISPLAY on the unit repeatedly to change the display as follows:



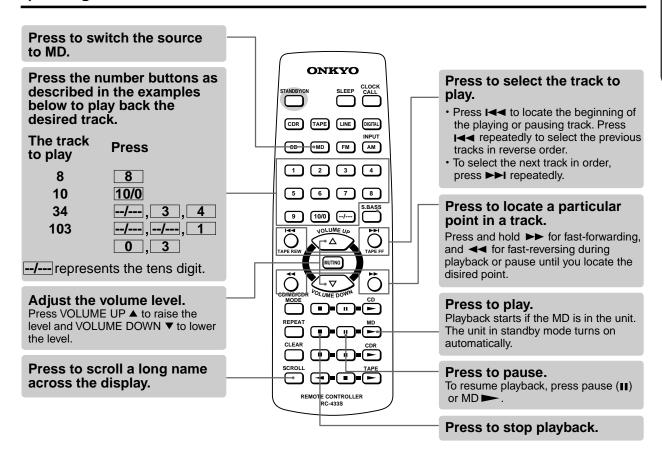
- <sup>\*1</sup> If you insert an MD produced only for playback use, this information will not appear.
- <sup>\*2</sup> If there is no name on the disc, only the track number appears.

  See "Naming a CD, an MD and its tracks, and preset channels" on page 37.
- \*3 If the MD is not recorded, "MD BlankDisc" appears.
- <sup>14</sup> If the MD has a disc name but does not contain any recordings, "MD No Track" appears.

#### If the disc or song title is long:

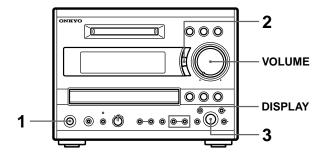
You can scroll long names across the display by pressing SCROLL on the remote controller. (See below.)

# ◆ Using the remote controller



# Listening to an FM/AM station

First, program the stations into preset channels. (See pages 14 and 15.)





Turn on the power to the FR-V77.

2

## Select FM or AM.

Pressing FM/AM toggles between FM and AM. The channel selected most recently will be recalled.



MULTI JOG
PUSH TO ENTER

MULTI JOG
HM
PH

# Turn MULTI JOG or press the dial repeatedly to select the desired preset channel.

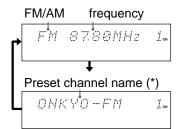
Turn the dial counterclockwise to select a lower channel number, and turn it clockwise to select a higher channel number.

FM 87.99MH2 Some

Adjusting the volume level Turn the volume control to adjust the level.

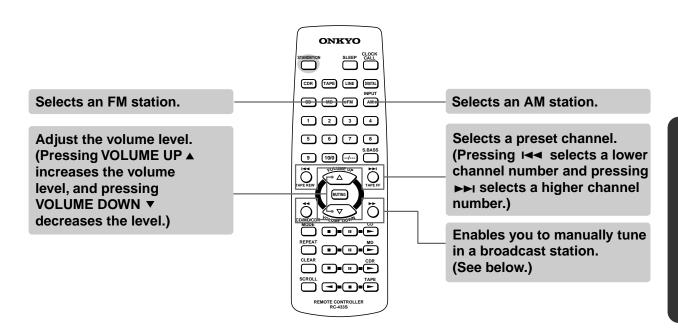
# Switching the display information

Pressing DISPLAY on the main unit repeatedly toggles between two types of information display.



\* If a given preset channel is not named, "No Name" appears on the display. See "Naming a CD, an MD, and its tracks, and preset channels" on page 37.

# Using the remote controller



# **♦** Manually tuning a broadcast station

You can also tune in radio stations manually.

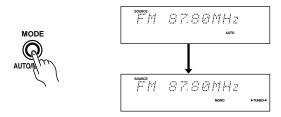
- 1 Turn on the power to the FR-V77.
- Select FM or AM.
- Press TUNING 
   or 
   repeatedly while observing the display to tune in the desired frequency.

Each press of the button changes the frequency by 50kHz for FM and 9kHz for AM. Pressing and holding down the button for more than one second will change the frequency continuously. While FM is selected, pressing and holding ◀ or ► down a while, then releasing it, will automatically raise (or lower) the frequency. To stop scanning, press ◀ or ► again.

FM S7.88MHz

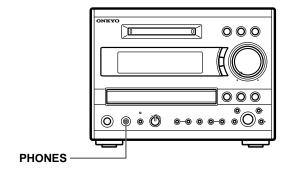
## If FM reception is not good

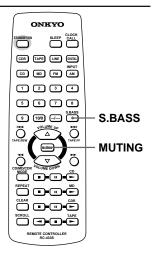
When an FM stereo broadcast is being received, "STEREO" lights up on the display. However, if the signal is weak or too much noise interferes, it will not light up. In this case, press MODE/AUTO/MONO to switch to monaural reception. This could reduce noise and intermittent cut-outs.



To return to AUTO tuning, press MODE/AUTO/MONO again.

# Adjusting the tone





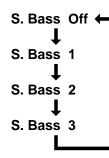
 Emphasizing the low end (only available from the remote controller)



#### Press S.BASS.

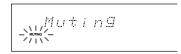
Pressing the button repeatedly will change the indication as follows. The higher numbers emphasize the low end.





# Muting the sound (only available from the remote controller)

Press MUTING on the remote controller. The MUTING indicator lights in the display.



To restore the sound, press MUTING again.

## Tip

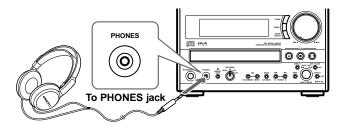
During muting:

- If you press VOLUME ▲/▼ on the remote controller, the sound will be restored.
- If you turn the unit off and then on again, the sound will be restored.

# **♦** Listening through the headphones

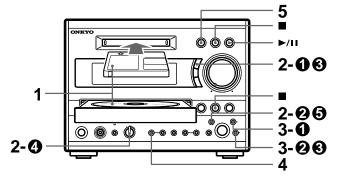
Decrease the volume, then connect the stereo headphones mini plug to the PHONES jack. You can adjust the volume and mute the sound as described above.

The speakers will reproduce no sound while the headphones are connected.



# **Dubbing CD to MD (CD dubbing)**

- This operation is a digital recording.
- If some data has already been recorded in the MD, the additional songs will be recorded and numbered sequentially following the existing data in the MD.



1

#### Insert a CD and MD.

See Step 1 of "Playing a CD" on page 16. See Step 1 of "Playing an MD" on page 18. Use a recordable MD.

2





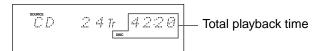






Check the necessary recording time.

- Press CD/MD repeatedly to select "CD."
- 2 Check the CD's total playback time. If the display does not indicate the total playback time, press DISPLAY repeatedly.



- Press CD/MD to select "MD."
- **4** Select a recording mode.

Use the REC MODE switch to select the desired recording mode.

- **MONO**: Monaural recording mode. The available recording time is twice as much as that for "SP"
- SP : Normal stereo recording mode. The recording time is the same as the time length indicated on the CD.
- LP2 : Normal stereo recording time is compressed to half. The available recording time is twice that for "SP."
- LP4 : Normal stereo recording time is compressed to a quarter. The available recording time is four times that for "SP."
- **6** Check the available recording time on the MD. If the display does not indicate the available recording time, press DISPLAY repeatedly.

# Note

A disc recorded in LP2 or LP4 mode can be played only on MD players that support LP2 or LP4 mode. If you play such a disc on another MD player, "LP:" may appear on the display.

#### Tip!

When Level Sync is on, the Signal Wait function is enabled. (See page 33.) If you do not wish to enable the Signal Wait function, turn Level Sync off. (See page 31.)



# Dubbing a CD to an MD (CD dubbing) (continued)



## Select a CD Dubbing mode.



Album Mode

- Press EDIT/CLEAR/NO repeatedly to select "CD Dub Mode?."
- Press REPEAT/YES.

A message appears asking if you wish to change the current setting.

(In this example, the "Fade  $\rightarrow$  Album?" message asks you if you wish to change from Fade out to Album dubbing.) Album dubbing:

If the entire last song being recorded does not fit on the MD, that song will be deleted.

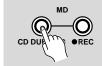
### Fade out dubbing:

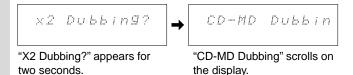
If the entire last song being recorded does not fit on the MD, that song fades out at the end.

To select Album mode, press REPEAT/YES. To accept the current setting, press EDIT/CLEAR/NO.



# Press CD DUBBING to start dubbing.





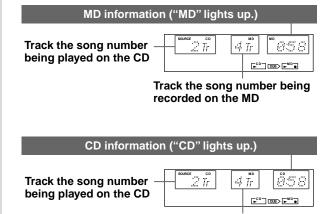
The FR-V77 searches for the peak level in the CD and sets the optimum recording level. (DLA LINK)

Note:

If you change the REC MODE switch setting after recording starts, the recorded sound will be interrupted.

#### Switching the display information during dubbing

 Pressing CD/MD repeatedly toggles between the CD and MD information display.



Track the song number being recorded on the MD

# Canceling the dubbing operation

When playback of a CD is complete, or an MD is recorded up to the end, recording automatically stops. To cancel the operation during recording, press MD ■ or CD ■.

#### Can't dub?

 "Cannot Rec" appears on the display.

The current MD is for playback only. Use a recordable MD.

"Protected" appears on the display.

The MD is write-protected. See "Precautions for handling the MiniDisc (MD)" on page 55.

"Disc Full" appears on the display.

The MD has no space available for recording. Use a new MD.

• "CD Dub Fail" appears on the display.

The MD mechanism is still operating. Wait a while, then press CD DUBBING.

The CD is in RANDOM mode. Press MODE/AUTO/MONO to cancel RANDOM mode.

 The display changes as follows when you press DISPLAY:

## **Displayed MD information**

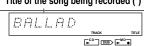
#### **Displayed CD information**

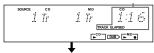
#### Elapsed time of the current song Elapsed time of the current song



1 Tr

Title of the song being recorded (\*)





Remaining time of the current song



Remaining playback time on the CD



\* Nothing appears if the song has no name. See "Naming a CD, an MD and its tracks, and preset channels" on page 37.

#### Tip!

Recorded songs are automatically numbered during double-speed CD-to-MD dubbing.

#### Notes on CD dubbing

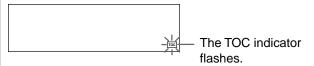
- You cannot change the input source.
- The ►/II (play/pause) and ▲ (eject) are disabled.

5

## MD



# When recording is complete, press MD ≜ (eject).



The MD is ejected.

#### **TOC** indicator

Information, such as track numbers, is written into the table of contents (TOC) on the MD before you eject the MD, before the recorder enters standby mode, or before recording is stopped. Do not disconnect or move the power cord under the following situations. Otherwise, the data will not be written correctly. (Also, refer to the "When the power is down" section on the right.)

• When the TOC indicator is lit

The information to be written into the TOC is currently stored in memory on the FR-V77.

When the TOC indicator is flashing

The information is being written to the MD.

## If the remaining time on the MD expires and song recording stops half way

- If only one song is being dubbed in Album dubbing mode, the song will be recorded until the available time expired.
- If multiple songs are being dubbed in Album dubbing mode, the partially-recorded song will be deleted automatically.

## Checking the recording result

After recording is complete or you press to stop recording, press MD ►/II on the FR-V77 or ▶ on the remote controller. Playback starts from the top of the recording.

## When the power is down

If the power is down or if you disconnect the power cord accidentally while the TOC indicator is lit or flashing, the data recorded prior to power down will be erased.

## When "Retry Error" appears

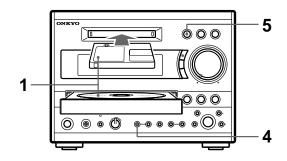
Eject the MD, insert it again, then try recording again.

# Copying a CD name

- If a CD has a name (see page 37), the name is copied to the MD during the CD-to-MD dubbing operation. (This applies only when you are using a brand new unnamed MD.)
- If you select 1 Tr mode for CD dubbing (see page 35), the CD name is copied to an MD as the song title.
- You can check the disc and song titles by switching the display information. (See pages 17 and 19.)

# **Dubbing CD to MD at double speed**

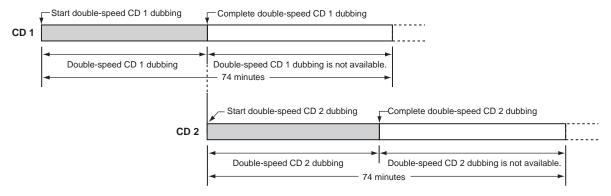
- You can copy a CD to an MD at double speed.
- This is a digital recording.
- Data is recorded in Album mode.
- If some data has already been recorded on the MD, the additional songs will be recorded and numbered sequentially following the existing data.



1	Insert a CD and an MD. See Step 1 of "Playing a CD" on page 16. See Step 1 of "Playing an MD" on page 18. Use a recordable MD.	Tip! • The quality of data recorded via double-speed CD dubbing may be adversely affected by a dirty disc. If skipping or	
2	Check the necessary recording time. Refer to Step 2 on page 23.	noise occurs, dub at normal speed.  • You cannot dub CDs at double speed when the CD is in REPEAT play, MEMORY, or RANDOM play mode.	
3	Select a recording mode. Refer to Step 2-4 on page 23.		
4  CD DUA REC	Press CD DUBBING twice to start double-speed CD dubbing.  Press the button twice within a two-second interval.  CD-MD × 2 Dubbing scrolls on the display.  Switching the display during double-speed CD dubbing Refer to Step 4 "Switching the display information during dubbing" on page 24.	Tip!  DLA LINK is disabled during double-speed CD dubbing.  You do not have to adjust the recording level. (See page 29.)  Recorded songs are automatically numbered during double-speed CD-to-MD dubbing.  Notes on double-speed CD dubbing  You cannot change the input	
5	When recording is complete, press MD ≜ (eject). Refer to Step 5 on page 25.	source. • The ►/II (play/pause) and ≜ (eject) are disabled.	

# Limitations of double-speed CD dubbing

Due to limitations established for copyright protection, you cannot repeat double-speed CD dubbing using the same CD until the first 74 minutes of double-speed CD dubbing is completed. That is, double-speed CD dubbing using the same CD is enabled 74 minutes after the start time of the first dubbing. If you try to continue the operation, the FR-V77 displays the "Time Protect" message and the waiting time required until the same CD can be used for double-speed CD dubbing (e.g., "Wait 42min"). (However, you can continue double-speed CD dubbing with a different CD.) Also, you cannot perform double-speed CD dubbing continuously using twenty-one or more CDs within 74 minutes.



# Recording from the top of a song you are listening to (specified track dubbing)

You cannot use double-speed CD dubbing for this operation.

- **1** Insert a CD and an MD and press the CD ►/II to start playback. Be sure to insert a recordable MD with the write-protection off.
- 2 Select a recording mode. Refer to Step 2-4 on page 23.
- If you wish to record a song you are currently listening to, press CD DUBBING during playback.

Playback resumes from the top of the song and dubbing starts. When dubbing of the song is complete, the MD stops. The CD continues playing.

# Dubbing a CD in a different playback mode to an MD

- 1 Insert a CD and an MD, select CD as the input source, then select a different playback mode.
  - Be sure to insert a recordable MD with the write-protection off.
  - Set up MEMORY playback (see page 34), 1TR playback (see page 35), or REPEAT playback (see page 36). (Set up a playback mode and select a song(s). Do not play back the song(s).)
- 2 Select a recording mode.

CD-to-MD dubbing starts.

Refer to Step 2-4 on page 23.

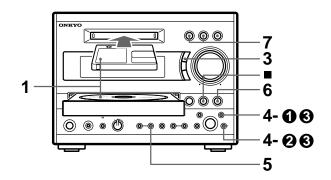
**3** Press CD DUBBING.

### Notes

- Double-speed CD dubbing is disabled in MEMORY playback, REPEAT playback, and RANDOM playback mode.
- If only one song is being dubbed, the song will be recorded until the available time is expired.
- If you have set up 1TR playback mode, you can dub only the first song on the CD even if you select multiple songs to be recorded.
- If you record only one song on the CD in REPEAT playback mode, the recorded song on the MD may not be numbered.

# Recording CD to MD (Synchro recording)

- After you select songs, this function enables you to edit and record the songs.
- You can select either digital or analog recording.
- If some data has already been recorded on the MD, the additional songs will be recorded and numbered sequentially following the existing data on the MD.



1 Insert a CD and an MD.

See Step 1 of "Playing a CD" on page 16. See Step 1 of "Playing an MD" on page 18. Use a recordable MD. Tip!

If "MD Reading" appears on the MD information display, you cannot perform Synchro recording.

2 Check the necessary recording time.

Refer to Step 2 on page 23.



Press CD/MD repeatedly to display "CD."

4



Select digital or analog recording.

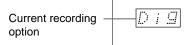
Press EDIT/CLEAR/NO repeatedly to display "Rec Signal?."



2 Press REPEAT/YES.

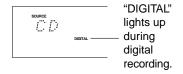
The FR-V77 displays the current setting ("Dig→Ana?" or "Ana→Dig?").

Ana?

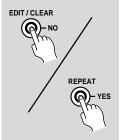


Tip!

The "DIGITAL" indicator lights up on the CD information display if digital recording has been selected. The indicator does not light up if analog recording has been selected.



If the desired recording option has been selected, proceed to Step 5.



If you do not wish to change the current setting, press EDIT/CLEAR/NO. If you wish to change the setting, press REPEAT/YES.

When you press REPEAT/**YES** after the FR-V77 displays "Dig–Ana?," it starts analog recording. When you press REPEAT/**YES** after the FR-V77 displays "Ana→Dig?," it starts digital recording. The FR-V77 displays "Complete," and the settings are complete.





Press ● REC to set the FR-V77 in recording standby mode.

If the FR-V77 does not enter recording standby mode See "Can't dub?" on page 24.

Adjusting the recording level. See the next page.

Turning Level Sync on or

See "Numbering the songs — Level Sync" on page 31.

# 6



## Play the CD.



## Numbering the desired song(s)

Press ● REC during recording of the desired song. If you do not hold down ● REC long enough (about four seconds or less), the song may not be numbered.

### **Dubbing another CD**

Press CD ■ to stop playback, and replace the CD with another one. The MD recorder enters recording standby mode.

# 7



# When recording is complete, press MD $\blacksquare$ (stop), then $\triangleq$ (eject).

Press MD ■ to stop recording. The CD continues playback.

The TOC indicator flashes and the FR-V77 writes the TOC, then ejects the MD.

#### Tip!

During recording, you can check the elapsed time and remaining time on the MD using DISPLAY.

# Selecting a song after pausing the CD

The MD also enters recording stand-by mode.

Use I◄◄/▶►I on the remote controller or MULTI JOG on the main unit to select a song on the CD, then press CD ►/II or the remote controller's ►. The MD resumes recording.

# When the TOC indicator is lit or flashing

See page 25.

Checking the recording result See page 25.

# **♦**

# Adjusting the recording level

Press CD/MD to select the MD information display while the FR-V77 is recording or in recording standby mode, and follow the steps below to adjust the recording level.

## • Digital input recording



Press **EDIT**/CLEAR/NO repeatedly to display "Rec Level?" (recording level).

# Analog input recording



Press **EDIT/CLEAR/NO** repeatedly to display "Rec Level?" (recording level).

# REPEAT YES

Press REPEAT/YES.

# 2 REPEAT YES

**MULTI JOG** 

3

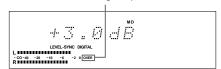
# Press REPEAT/YES.

# 3

# Turn MULTI JOG to adjust the recording level.



Adjust the level so that the "OVER" indicator will not light up.

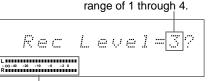


You can adjust the level between -10.0dB and +10.0dB, by 0.5dB steps within the range of -5.0dB and +5.0dB, and by 1.0dB steps outside this range.

# 4 MULTI JOG

# recording level. You can adjust in the

Turn MULTI JOG to adjust the



Adjust the level so that the level meter reaches –6 to –2 dB with the loudest sound.

# MULTI JOG

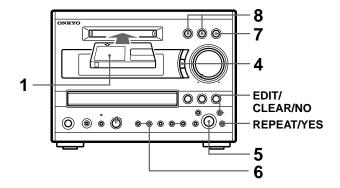
## Press MULTI JOG.

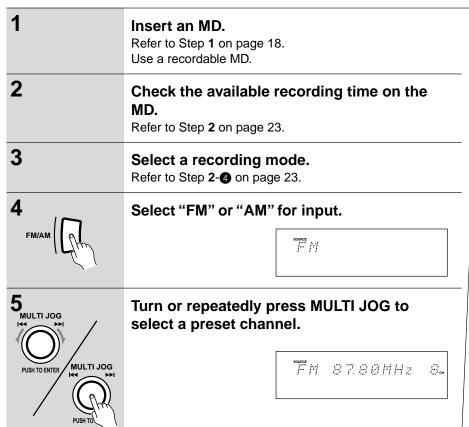
"Complete" appears on the display. Alternatively, press REPEAT/**YES**.

# Press MULTI JOG. "Complete" appears on the display. Alternatively, press REPEAT/YES.

# Recording an FM/AM broadcast program to an MD

To record a very long program, switch the recording mode. (Refer to Step 2-4 on page 23.)





# If the FR-V77 does not enter record stand-by mode

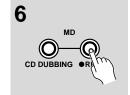
See "Can't dub?" on page 24.

# Adjusting the recording level

See page 29.

# Turning Level Sync on or off

See "Numbering the songs — Level Sync" on page 31.



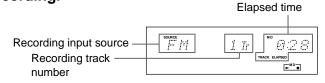
Press ● REC to set the FR-V77 into recording standby mode.



7



Press MD ►/II (play/pause) to start recording.



### Numbering the desired song(s)

Press ● REC during recording of the desired song. If you do not hold down ● REC long enough (about four seconds or less), the song may not be numbered.

## Tip!

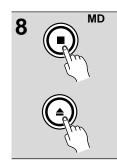
During recording, you can check the elapsed time and remaining time on the MD using the DISPLAY button (See page 25).

#### Stopping recording

When the MD is recorded up to the end, recording automatically stops. To stop recording half way, press MD ■.

#### To pause recording

Press MD ►/II. The II indicator lights up on the display.
Press the button again to resume recording from the stopped point. At this time, the track number increases by one.



# When recording is complete, press MD (stop), then ≜ (eject).

The TOC indicator flashes and the FR-V77 writes the TOC, then ejects the MD.

When the TOC indicator is lit or flashing

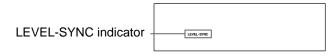
See page 25.

Checking the recording result

See page 25.

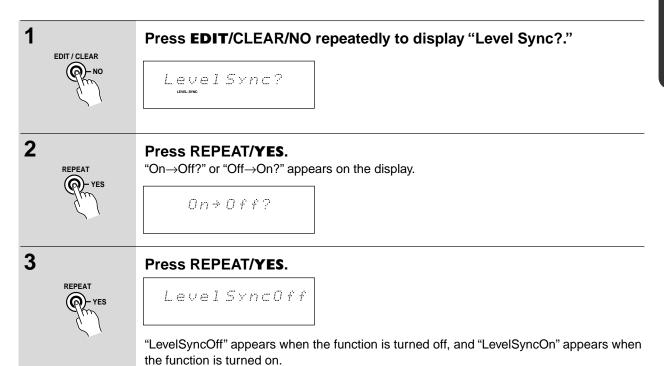
# ♦ Numbering the songs — Level Sync

- The Level Sync function of the FR-V77 automatically numbers the song at the beginning of the signal input. Turn on this function to automatically number the songs during recording. (The songs may not be numbered if the gap (silence) between songs is too short.)
- To number the songs, turn off the Level Sync function and follow Step **7** "Numbering the desired song(s)" on page 30.
- When the LEVEL-SYNC indicator is lit, the Level Sync function is turned on. (When you turn off the function, this indicator disappears.)



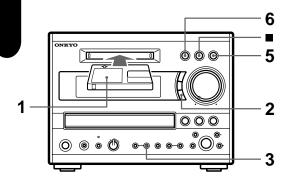
To turn the Level Sync function on or off, follow the steps  $\underline{\text{during recording or in recording standby mode}}$ . (To cancel this operation, press EDIT/CLEAR/**NO**.)

You can also turn the function on or off before inserting a disc.



# Recording data from a connected external device to an MD

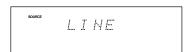
You can record data from an external device (that you have connected following the explanation on page 9) to an MD. Recording will be either analog or digital, depending on the connected device.



Insert an MD.

Be sure to insert a recordable MD with the write-protection turned off.

**Press OTHER INPUTS repeatedly** to select the desired external sound source.



#### Note

- If you have changed the title of the device, the new title appears. (See page
- If you select "DIGITAL" while a digital source is not connected or the connected external device is not turned on, the "DIGITAL" indicator flashes.



Press 
REC to set the recorder in recording standby mode.

# • If a digital source is not connected or the

connected external device is not turned on, the "DIGITAL" indicator flashes.

If the FR-V77 does not enter recording standby mode See "Can't dub?" on page 24.

4

Start playing the external device.

Adjusting the recording input level on the FR-V77 will change the monitoring volume level.

5

Press MD ►/II to start recording.





Turning Level Sync on or off

See "Numbering the songs — Level Sync" on page 31.

Numbering the desired song(s)

Press 

REC during recording of the desired song. If you do not hold down ● REC long enough (about four seconds or less), the song may not be numbered.

To pause recording

Press MD ►/II. Press the button again to resume recording.

Stopping the MD

When an MD is recorded up to the end, the MD automatically stops. To cancel recording half way, press MD ■.

Adjusting the recording level See page 29.

Checking the recording result See page 25.



When recording is complete, press MD ▲.

See "When the TOC indicator is lit or flashing" on page 25.

#### About digital recording

The FR-V77 is equipped with a sampling frequency converter, which enables you to record digital signals (32 kHz and 48 kHz) transmitted from external digital devices (DAT, satellite broadcast, etc.), as well as CDs (44.1 kHz).

# Signal Synchro Recording

Signal Synchro Recording starts recording onto an MD when a signal is received from a source connected to the input jacks.

# Execute Steps 1 to 3 on the previous page.

The MD is set to recording pause.

### ② Press ● REC.

"Signal Rec" appears in the display, then the MD switches to Signal Synchro Recording pause.

Signal Rec

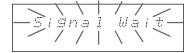
## 3 Start playing the selected source.

When a sound signal is received from the source, the MD will automatically start recording. (You do not need to press MD ►/II to start recording in Step 5 on the previous page.)

**4** Execute Step 6 on the previous page.

## **About Signal Wait**

If the incoming signal stops for four seconds or longer during recording (or eight seconds or longer when REC mode is set to LP4), the MD recorder automatically enters record stand-by mode. "Signal Wait" flashes in the display and the track numbers are updated.



If the signal starts coming in within about 25 seconds, the MD starts recording. (If more than 26 seconds have elapsed without an incoming signal, the MD will switch back to normal recording pause.)

During CD dubbing or double-speed CD dubbing, howerver, the MD recorder waits for the next incoming signal.

### Notes

- This function always operates when the Level Sync function is On. If you set the Level Sync function to Off (see page 31), Signal Wait will not operate.
- The Level Sync function is turned on after Signal Synchro recording.
- For track numbers to be marked automatically, a signature code included in the digital signal at the beginning and end of each track is required. Some equipment and broadcasts do not include this signal, and in such a cases track numbers are not marked automatically.

# Synchro Recording operation with an Onkyo stereo cassette tape deck

The following types of recording are possible when you connect an Onkyo stereo cassette tape deck (see page 9).

- Synchro Recording from the unit CD to the stereo cassette tape deck
- Synchro Recording from the unit MD to the stereo cassette tape deck
- Synchro Recording from the stereo cassette tape deck to the MD unit.

For Synchro Recording from a CD or MD to the stereo cassette tape deck, please refer to the instruction manual for the stereo cassette tape deck.

Synchro Recording from a stereo cassette tape deck to the MD unit is described below.

# Synchro Recording from a stereo cassette tape deck to the MD

While the MD unit is in recording pause mode, start playing the stereo cassette tape deck. The source will automatically switch to TAPE. Recording from the stereo cassette tape deck to the MD starts simultaneously.

Synchro Rec

#### To stop Synchro Recording

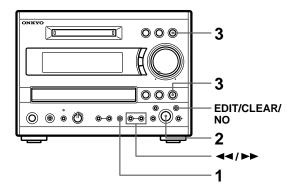
Press  $\blacksquare$  on the stereo cassette tape deck. The MD switches to recording pause mode.

# Various ways to play CDs and MDs

Five different playback modes are available in addition to normal playback. Insert the CD or MD before you operate (see page 16 and 18).

# **♦** MEMORY playback

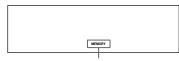
You can select and store track numbers (up to 25) in a desired playback order.



While the source is CD or MD, and in stop mode

MODE AUTOM

# Press **MODE**/AUTO/MONO repeatedly until the MEMORY indicator lights in the display.



The MEMORY indicator lights.

2

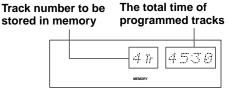


# MULTI JOG

# Turn MULTI JOG to select the first track you want to play back, then press MULTI JOG.

The selected track is stored in memory. To select the next track to be played, repeat this step.

; } )



# To cancel a track number stored in memory

Press EDIT/**CLEAR**/NO. Each press erases the last track number stored in memory.

#### Note

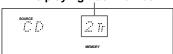
If the total playing time of the programmed tracks exceeds the following time length, the FR-V77 does not display the total time. However, this does not affect MEMORY playback.

CD: "--:--" appears when the total time meets or exceeds 99 minutes 59 seconds. MD: "---:-" appears when the total time meets or exceeds 511 minutes 59 seconds. "--:--" appears when you program 21 or more tracks of a CD.



# Press ►/II on the selected source to start MEMORY playback.

The playing track number



When the unit finishes playing the track number you stored last, playback stops. The track numbers stored in memory are be retained.

### To select a track number in memory

Turn MULTI JOG or press it repeatedly during MEMORY playback.

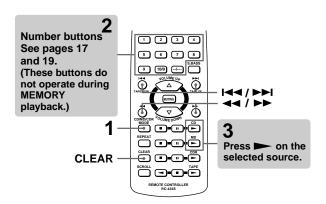
## To check the track numbers in memory

Press  $\blacktriangleleft \blacktriangleleft / \blacktriangleright \blacktriangleright$  while the CD/MD is stopped.

### To erase a track number from memory

- While in MEMORY playback mode, and the CD/MD is stopped, press EDIT/CLEAR/NO. Each press erases the last track number stored in memory.
- If you change the playback mode, all data stored in MEMORY playback will be erased.

Operating with the remote controller



## To select a track number in memory

Press I◄◄/▶►I repeatedly during MEMORY playback.

#### To check the track numbers in memory

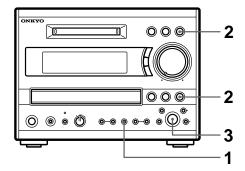
Press ◀◀/▶▶ while the CD/MD is stopped.

## To erase a track number from memory

- While the unit is in MEMORY playback mode, and the CD/ MD is stopped, press CLEAR. Each press erases the last track stored in memory.
- If you change the playback mode, all data stored in MEMORY playback will be erased.

# 1 TR (one track) playback

You can play back only a single track using this mode.



## While playing or pausing the CD or MD

Press **MODE**/AUTO/MONO repeatedly until the 1TR indicator lights in the display.

The playing or pausing track will be played back.

### While the source is CD or MD, and in stop mode



Press **MODE**/AUTO/MONO repeatedly until the 1TR indicator lights in the display.



The 1TR indicator lights.



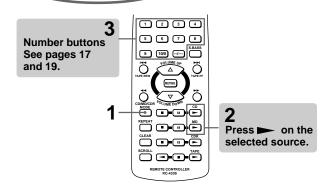
Press ►/II on the selected source.

1 TR (one track) playback starts.



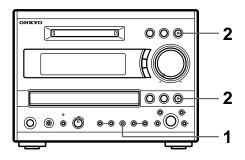
If you wish to select another track, turn MULTI JOG.

# Operating with the remote controller



# **◆** RANDOM playback

All tracks on the disc will be shuffled, then played back.



#### While the source is CD or MD, and in stop mode



Press **MODE**/AUTO/MONO repeatedly until the RANDOM indicator lights in the display.



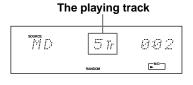
The RANDOM indicator lights.

2

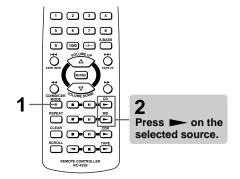
Press ►/II on the selected source.



RANDOM playback starts.



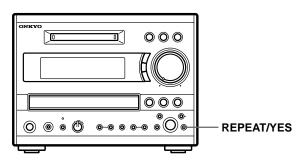
## Operating with the remote controller



# Various ways of play CDs and MDs (continued)

# ◆ REPEAT/CHAIN REPEAT playback

- The REPEAT mode plays back a CD or MD repeatedly, and the CHAIN REPEAT mode plays back both the CD and MD in turn.
- You can set this mode regardless of the CD or MD operation (in playback, pause, or stop mode) as long as the selected source is CD or MD.
- You can combine either REPEAT or CHAIN REPEAT mode with MEMORY, 1 TR, or RANDOM mode. In CHAIN REPEAT mode, you can set the other combination mode separately for CD and MD.





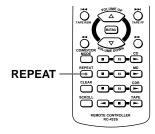
Press **REPEAT**/YES repeatedly until the REPEAT or CHAIN REPEAT indicator lights in the display.

The REPEAT or CHAIN REPEAT playback mode is set.

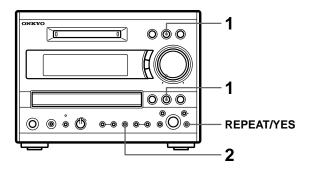


The REPEAT or CHAIN REPEAT indicator lights.

# Operating with the remote controller



# ◆ Cancelling the playback mode



# Cancelling 1TR, MEMORY, and RANDOM mode



Press on the selected source to stop playback.



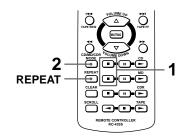
Press **MODE**/AUTO/MONO repeatedly until neither the MEMORY, 1TR, or RANDOM indicator lights in the display.

# Cancelling REPEAT and CHAIN REPEAT mode



Press REPEAT/YES repeatedly until neither the REPEAT or CHAIN REPEAT indicator lights in the display.

# Operating with the remote controller



### Naming a CD, an MD and its tracks, and preset channels



### Naming a CD

After you insert the CD and select CD for the source, execute "Entering a name" as described in the right column.

- You can enter up to 28 letters per name.
- You can name up to 16 CDs. The names will be stored in memory. If you insert the same CD after removing it, the unit will recognize the CD and display its name.

#### Note

You can name CDs only in normal playback mode.

### Naming an MD disc or track

- You can enter up to 100 alphabetical characters per name.
- As the name will be stored onto the MD disc, there is no limit to the number of MDs.
- Use a recordable MD with the record-protect window closed.
- Insert the MD, then select MD as the source.
- 2 To name the disc, go straight to Step 3. To name a track, select the track.
- 3 Execute "Entering a name" as described in the right column.

#### **Notes**

- If the MD is record-protected or a playback-only disc, you cannot name the disc. (See page 55.)
- Before naming the disc, check that no particular track is selected. If a track is selected, press MD ■.
- You can name a track during recording or playback. Press CD/MD to switch to the "MD" information display. Input the track name before the track recording or playback is ended. If recording or playback of the next track starts before you finish naming the track, the input name will be invalid.



- You can name the disc only in normal playback mode.
- Information such as names will be recorded to the TOC of the MD when you eject the MD, turn off the unit, or stop recording. Therefore, do not disconnect the AC power cord (mains lead) or vibrate the unit when the TOC indicator is lit or flashing. (See page 25.)



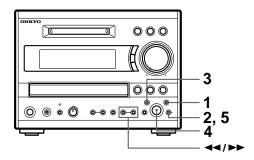
### Naming a preset channel

After you select the preset channel to name, execute "Entering a name" as described in the right column.

You can enter up to 8 characters per name.

### **♦**

### Entering a name



1

EDIT / CLEAR

Press **EDIT**/CLEAR/NO repeatedly until "Name In?" appears in the display.



2 REPEAT

### Press REPEAT/YES.

Whenever you wish to quit naming, press and hold EDIT/CLEAR/**NO**, then press REPEAT/**YES**.

3



Press DISPLAY repeatedly until the character type you wish to enter appears in the display.

You can select one of the following character entry modes:

- "A" for capital letters
- "a" for small letters
- "1" for numbers and symbols
- "♪" for Easy Title\* (see next page).
- \* This mode cannot be selected when naming a preset channel.

The character type appears.



4

MULTI JOG

PUSH TO ENTER

MULTI JOG



Turn MULTI JOG to select the character (or title when in Easy Title mode), then press it to enter.

Repeat this step for the next character. If you wish to change the type of characters, repeat Step **3**, then proceed with this step.



# Naming a CD, an MD and its tracks, and preset channels (continued)

If you entered a wrong character
See "Correcting and erasing a character."

To add a new character between
characters

See "Inserting a character."



Press REPEAT/**YES** after you enter all the characters.

Complete

Whenever you wish to quit naming, press and hold EDIT/CLEAR/**NO**, then press REPEAT/**YES**.

### What characters can be entered?

You can enter the following characters:

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789 > < ) (;:\_\$ % & + - \* / = ?!'" \_ (space) # (insert)

### What's Easy Title?

The following music related words are prepared for easy entry:

Anthology Heavy BALLAD LIVE African BLUES **POPS** American Best of ∟\* Hit Songs CLASSIC REGGAE Asian Collection Omnibus DANCE ROCK British Favorite Selection FUSION SOUL Euro Нарру Special JAZZ TECHNO German Super VOCAL Japanese \_\*

\*\_ represents a space.

### **◆** Correcting and erasing a character

If the unit is not in "Name In" mode, execute Steps 1 and 2 in "Entering a name," then follow the steps below.

- Press ✓ or ►► repeatedly until the character you wish to correct or erase flashes.
- When correcting

Enter the desired character (or title) following Steps 3 and 4 in "Entering a name" on the previous page.

When erasing

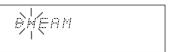
Press EDIT/CLEAR/NO on the unit or CLEAR on the remote controller.

To continue entering characters, follow Step 3 on the previous page. To complete the operation, follow Step 5 on this page.

### Inserting a character

If the unit is not in "Name In" mode, execute steps 1 and 2 in "Entering a name," then follow the steps below.

- Press ◄ or ▶ repeatedly until the character following the desired point of insertion flashes.
- 2 Turn MULTI JOG until "₩" appears, then press MULTI JOG.



Senter the desired character (or title) as per Steps 3 and 4 in "Entering a name."

DREAM

To continue entering characters, follow Step **3** on the previous page. To complete the operation, follow Step **5** on this page.

### ◆ Erasing the name assigned to a CD or MD

This will erase both the disc name and all the track names from an MD.

- Select CD or MD as the source.
- **2** Press **EDIT**/CLEAR/NO until "Name Erase?" appears in the display.
- **3** Press REPEAT/**YES**.

"Complete" is displayed and the name is erased.

You may erase the name of a CD may be erased without the CD being inserted.

Select CD as the source, then press EDIT/ CLEAR/NO.

"Name Erase?" appears in the display.

Press REPEAT/YES.

After scrolling the disc names, the display will flash.

- Turn MULTI JOG to select the disc name you wish to erase.
- Press REPEAT/YES.

"Complete" is displayed and the name is erased.

- Erasing the name assigned to a preset channel
- Select AM or FM as the source.
- 2 Turn MULTI JOG to select the preset channel name you wish to erase.
- **3** Press **EDIT**/CLEAR/NO until "Name Erase?" appears in the display.
- Press REPEAT/YES.

"Complete" appears and the name is erased.

### Moving, dividing, combining, and erasing MD tracks

### **◆** F

### Five basic functions

#### All Erase

This function erases all the tracks and names to initialize the MD. ("Blank Disc" is displayed.)

#### Erase

This function erases the selected track.

#### Move

This function moves the selected track to the desired position.

#### • Divide

This function divides the selected track.

#### Combine

This function combines the selected track and the immediately preceding track.

### **Combining basic functions**

### Erasing part of a track – Divide and Erase

Divide the track at the end or beginning of the portion you wish to erase. If necessary, repeat this operation to separate the unwanted portion.

Then, erase the separated track.

### Combining separately positioned tracks – Move and Combine

If the tracks you want to combine are in different locations, move the track to be merged to a position behind the other track, then combine them.

#### Notes on combining tracks

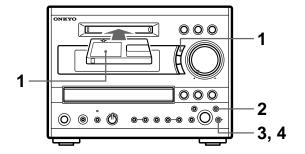
- You cannot combine a digital recording track and an analog recording track. (If you try, "Impossible" will appear on the display.)
- You cannot combine tracks recorded in different recording modes. You can combine only tracks recorded in the same recording mode. (For example, a track recorded in MONO mode cannot be combined with a track recorded in LP2 mode.)

#### **Notes**

- Information about the edited or erased contents is recorded to the TOC of the MD when you eject the MD, turn off the unit, or stop recording. Therefore, do not disconnect the AC power cord (mains lead) or vibrate the unit when the TOC indicator lit or flashing. (See page 25.)
- If the MEMORY, RANDOM, or 1TR indicator is lit in the display, you cannot edit or erase any tracks. In such cases, cancel the MEMORY, RANDOM, and 1TR playback mode (see page 36) before starting the operation.

# Erasing all tracks on an MDAll Erase

- This can be done only when an MD is stopped.
- To cancel the operation, press MD ■.





## Insert the MD, then select MD as the source.

Use a recordable MD with the record-protect window closed.



# Press **EDIT**/CLEAR/NO repeatedly until "All Erase?" appears in the display.

All Erase?



#### Press REPEAT/YES.

The confirmation message "All Erase??" appears.

All Erase??



# REPEAT - YES

# Press REPEAT/**YES** to erase all tracks.

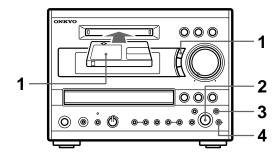
"Complete" appears. All tracks on the MD have been erased.

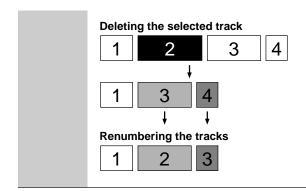
Complete

### Moving, dividing, combining, and erasing MD tracks (continued)

### ◆ Erasing a selected track – Erase

- This can be done only when an MD is stopped or paused.
- To cancel the operation, press MD ■.







# Insert the MD, then select MD as the source.

Use a recordable MD with the record-protect window closed.

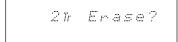
MULTI JOG

Turn MULTI JOG to select a track to erase.



EDIT/CLEAR

Press **EDIT**/CLEAR/NO repeatedly until "Erase?" appears in the display.

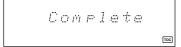


REPEAT - YE

# Press REPEAT/**YES** to erase the track.

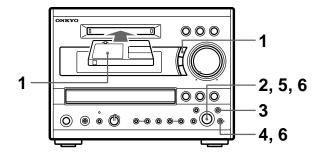
"Complete" appears.

The selected track is erased and all the other remaining tracks are renumbered from the top.



### Moving the selected track – Move

- This can be done only when an MD is stopped or paused.
- To cancel the operation, press MD ■.





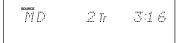
Insert the MD, then select MD as the source.

Use a recordable MD with the record-protect window closed.

2



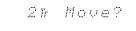
Turn MULTI JOG to select a track to move.



3



Press **EDIT/CLEAR/NO** repeatedly until "Move?" appears in the display.

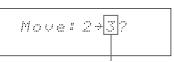


4

### Press REPEAT/YES.



The destination track number appears, pointed to by an arrow.



**Destination track number** 

5



If necessary, turn MULTI JOG to change the destination track number.



The selected number will become this number.

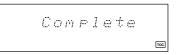


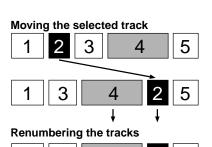
## Press REPEAT/**YES** or MULTI JOG to move.

"Complete" appears.

2

The selected track is moved and all the tracks are renumbered from the top.



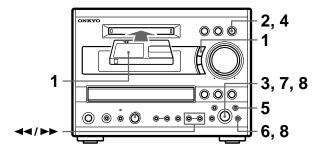


3

### Moving, dividing, combining, and erasing MD tracks (continued)

# Dividing a selected trackDivide

- This can be done only when an MD is playing or paused.
- When the selected track is named (see page 37), the first part receives the name.
- To cancel the operation, press MD ■.





## Insert the MD, then select MD as the source.

Use a recordable MD with the record-protect window closed.



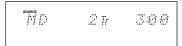
### Press MD ▶/II.

Playback starts.



# Turn MULTI JOG to select the track to divide.

You may press ▶► to fast forward or ◄ to fast reverse to locate the point in the selected track.





# Press MD ►/II at the point you wish to divide.

The MD pauses.



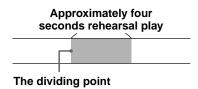
# Press **EDIT**/CLEAR/NO repeatedly until "Divide?" appears in the display.

21 Divide?



#### Press REPEAT/YES.

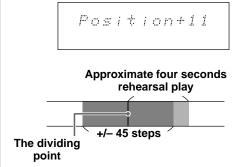
"Rehearsal" and "Position OK?" appear alternatively and an approximately four-second section around the dividing point will be played repeatedly.



MULTI JOG

# If necessary, turn MULTI JOG to fine tune the dividing point.

You may adjust the dividing point between the values of -45 and +45 (or approx. +/-3 seconds in SP mode) within the selected track.



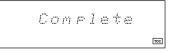


# Press REPEAT/**YES** or MULTI JOG to divide.

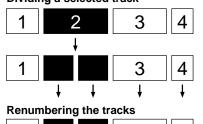
"Complete" appears.

The selected track is divided and all the tracks are renumbered from the top.



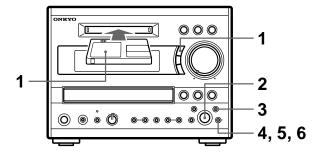






# Combining selected tracksCombine

- This can be done only when an MD is playing, paused, or stopped.
- When the preceding track has a name, this name will be used as the name of the combined track.
- To cancel the operation, press MD ■.





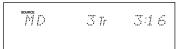
## Insert the MD, then select MD as the source.

Use a recordable MD with the record-protect window closed.

MULTI JOG

# Turn MULTI JOG to select the track to be combined.

The selected track will be combined with the preceding track, so it is impossible to select the first track.





# Press **EDIT**/CLEAR/NO repeatedly until "Combine?" appears in the display.

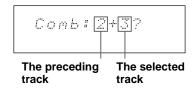
3%Combine?

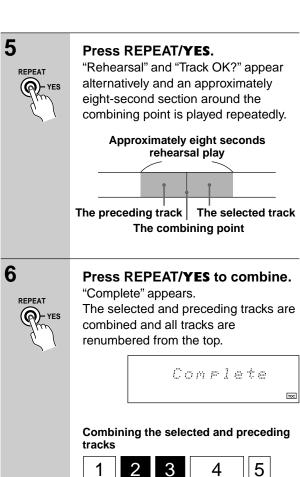
4

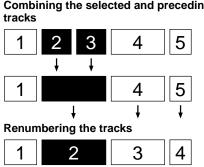
REPEAT

## Press REPEAT/YES. The selected and preceded

The selected and preceding tracks are displayed.







### Using the timer functions

The FR-V77 provides five timer functions: Sleep, Once, Weekday, Weekend, and Rec timer.

### **\**

#### Five basic functions

### Sleep timer

This timer turns off the unit automatically when the set remaining time reaches zero. It is convenient, for example, when you fall asleep to music or a radio program.

#### Once, Weekday, and Weekend timer

- These timers turn on the unit when the set start time is reached, then the source (CD, MD, FM, AM, CD-R\*, TAPE\*, LINE\*, or DIGITAL\*) set in the timer is selected.
  - If you set the source in the timer to a CD\*, MD\*, or TAPE\* that is connected to an Onkyo stereo cassette tape deck, playback starts automatically.
  - If you set the source in the timer to FM or AM, the set preset channel will turn on.
    - \* If you changed the name, the changed name will appear (see page 49).
- The unit turns off when the set end time is reached.
- The Once timer operates only once.
- The Weekday timer operates every Monday to Friday (initial setting).
  - You can customize the Weekday timer to match your schedule.
- The Weekend timer operates every Saturday and Sunday (initial setting).
  - You can customize the Weekend timer to match your weekends.

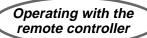
#### Rec timer

- This timer turns on the unit when the set start time is reached, then starts recording the set source to the following set recorders:
  - MD
  - Onkyo stereo cassette tape deck
  - both of the above.
- It turns off the unit when the set end time is reached.
- · Rec timer operates only once.

#### Tips

While Rec timer is operating, the sound is muted. To check the sound during timer recording, press MUTING or VOLUME ▲/▼ on the remote controller to turn off the muting function.

### Using the Sleep timer



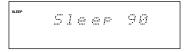
The Sleep timer can be set between 90 and 10 minutes, in intervals of 10 minutes.





# Press SLEEP while you are listening to music or a radio program.

"Sleep 90" appears in the display. The unit will turn off in 90 minutes. Each press of the same button reduces the remaining time by 10 minutes.



#### Checking the remaining time

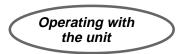
Press SLEEP while the Sleep timer is on. If you press SLEEP while the remaining time is displayed, the remaining time is reduced by 10 minutes.

#### Canceling Sleep timer

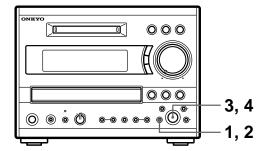
Press SLEEP repeatedly until "Sleep off" appears in the display.

## Turning off the unit automatically after completing CD Dubbing

If you set the Sleep timer while you are carrying out CD Dubbing to CD, MD, Onkyo stereo cassette tape deck, or CD-R, the unit will turn off after completing CD dubbing regardless of the remaining time you set. This is convenient for starting CD Dubbing before going to bed or going out.



The Sleep timer can be set between 90 and 10 minutes, in intervals of 10 minutes. Setting the timer from 1 to 99 in one-minute increments is also possible using MULTI JOG.





Press TIMER while you are listening to music or a radio program.

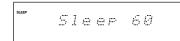
"Sleep 90" appears in the display window. The unit will turn off in 90 minutes.

2



Press TIMER if you wish to reduce the remaining time.

Each press reduces the remaining time by ten minutes:  $90 \rightarrow 80 \rightarrow ... \rightarrow 10 \rightarrow off.$ 

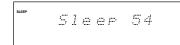


3



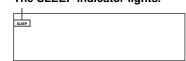
Turn MULTI JOG if you wish to set the remaining time in oneminute increments.

Turn MULTI JOG clockwise to increase the remaining time by up to 99 minutes, or counterclockwise to decrease the remaining time down to one minute.

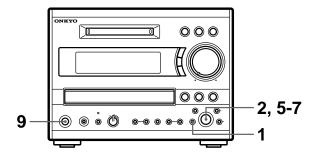


#### Press MULTI JOG.

The Sleep timer starts operating. The SLEEP indicator lights.



### Setting Once, Weekday, Weekend, and Rec timer



1



Press TIMER repeatedly until the timer menu you wish to set appears.

Once Timer

 $\rightarrow$  Once Timer  $\rightarrow$  Weekday Timer  $\rightarrow$ Weekend Timer  $\rightarrow$  Rec Timer  $\rightarrow$ Clock\* → normal display

\* Select "Clock" to set the clock (see pages 12 and 13).

2



MULTI JOG

Press MULTI JOG, then turn it to select the source.

When setting Once, Weekday, and Weekend timers

The following playing sources appear in turn:

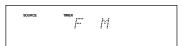
$$\begin{array}{c} \mathsf{CD} \leftrightarrow \mathsf{MD} \leftrightarrow \mathsf{FM} \leftrightarrow \mathsf{AM} \leftrightarrow \mathsf{CD}\text{-}\mathsf{R}^* \\ \updownarrow & \updownarrow \\ \mathsf{DIGITAL}^* \leftrightarrow \mathsf{LINE}^* \leftrightarrow \mathsf{TAPE}^* \end{array}$$

### When setting Rec timer

The following playing sources to be recorded appear in turn:

 $FM \leftrightarrow AM \leftrightarrow LINE^* \leftrightarrow DIGITAL^*$ 

\* If you changed the name, the new name appears (see page 49). Connect the timer-equipped source.



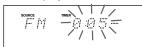
### Using the timer functions (continued)



# MULTI JOG

## Press MULTI JOG, then turn it to select the start time.

24-hour display



12-hour display



### 4



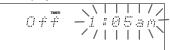
# Press MULTI JOG, then turn it to select the end time.

After you press MULTI JOG in this step, the end time is automatically set to one hour after the start time.

24-hour display



12-hour display

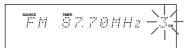


### 5



### If you selected FM or AM in step 2

Press MULTI JOG, then turn it to select the desired preset channel.



# MULTI JOG

# If you selected a source other than FM or AM in step 2

Proceed to the next step.

### 6

# When setting Weekday and Weekend timers

Execute "Setting your own weekdays and weekends" on the next page if necessary.

#### When setting Rec timer

Execute "Setting the day and selecting the recorder for Rec timer" on the next page.

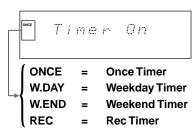
#### When setting Once timer

Proceed to the next step.

### 7 MULTI JOG

### Press MULTI JOG.

"Timer On" is displayed and the timer you set turns on.



### 8

# Prepare the source specified in the timer.

# When setting Once, Weekday, or Weekend timers

Prepare the source for playback (e.g., insert a CD).

Even if MEMORY mode or RANDOM mode is selected for playback, an MD will play in normal mode when the timer is triggered.

Adjust the volume before proceeding to the next step. When the timer turns on the unit, the volume will match the volume when you switched off the unit.

### When setting Rec timer

Insert an MD (with the record-protect window closed) into the unit.
Adjust the recording level, or turn the Level Sync function on or off (see page 31) if necessary.

### 9

#### Turn off the unit.

The timer does not operate if the power is on. Make sure to turn off the unit after setting the timer.



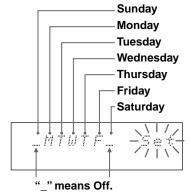


The indicator for the set timer lights in the display.

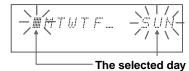
# Setting your weekdays and weekends

#### Press MULTI JOG.

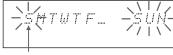
Check the ON or OFF setting for each day. If you do not need to change the setting, skip the following steps, then proceed to step **7** on the previous page.



2 Turn MULTI JOG to select the day setting that you wish to modify.

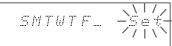


**3** Press MULTI JOG to modify the setting. Each press toggles the day On or Off.



Sunday has become On.

- 4 To change the setting for the other days, repeat steps 2 and 3.
- **5** Turn MULTI JOG until "Set" appears in the display.



6 Go back to Step 7 on the previous page.

# ◆ Setting the date and selecting the recorder for Rec timer

### Press MULTI JOG.

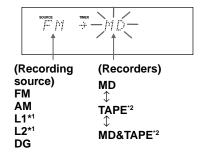
The following display appears.

2 Turn MULTI JOG to change the recording date.

### Selecting "NEXT" instead of the date

If the start time you set in step 3 on the previous page is within 24 hours of the current time, you may select "NEXT" by turning MULTI JOG instead of selecting the date. In this way, you will not confuse the current and next day.

Press MULTI JOG, then turn it to select the recorder.

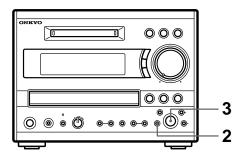


- \*1 If you changed the name, the new name appears (see page 49).
- \*2 Rec timer with TAPE only operates if you connect an Onkyo stereo cassette tape deck (see page 9). You can record the same source to the MD and stereo cassette tape deck simultaneously if you select MD&TAPE.
- 4 Go back to Step 7 on the previous page.

### Using the timer functions (continued)

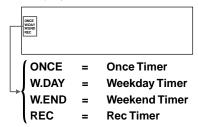
## ◆ Switching the set timer On/Off

You can switch each set timer to Off or On.

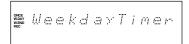


# Check each timer to see whether it is On or Off.

The indicator of the timer set to On is lit in the display.



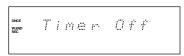
# Press TIMER repeatedly until the desired timer appears in the display.



Turn MULTI JOG.



If the timer was On, it turns Off, and vice-versa.



### Note

If you set the timer to On, be sure to turn off the power to the unit.

Otherwise, the timer will not work.

### If the start or end time of one timer overlaps another

## If the same start time is set in more than one timer

The priority of the timers is follows: Once, Weekday, Weekend, and Rec.

## If the start time of a timer arrives while another timer is operating

The timer that started first has priority over the overlapped timer. The latter timer will be canceled, including the end time.

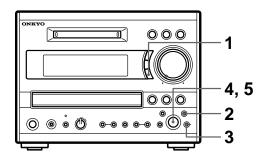
When you set the timer, make sure to keep <u>at least a</u> <u>one minute interval</u> between the end time of the former timer and the start time of the latter timer.

# What happens to a Rec or Once timer if it does not operate because the power was On or overlapped another timer?

The timers will automatically be switched Off.

### **Customizing the source names**

You can change the source name that appears in the display to suit the connected component on page 9.





Press OTHER INPUTS until the source whose name you wish to change appears in the display.

The source names appear in the following order:



Press **EDIT/CLEAR/NO** repeatedly until "Name Select?" appears in the display.



Press REPEAT/YES.



Turn MULTI JOG to select a new name for the source.

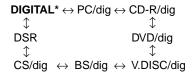
Depending on the source you've selected in step 1, the name changes in the following order:



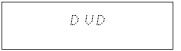
 $\begin{array}{ccc} \textbf{CD-R} \leftrightarrow \textbf{DAT} \\ \updownarrow & \updownarrow \\ \textbf{MD 2} \leftrightarrow \textbf{VCR} \end{array}$ 

$$\begin{array}{c} \textbf{TAPE*} \leftrightarrow \mathsf{DAT} \leftrightarrow \mathsf{VCR} \leftrightarrow \mathsf{MD} \ 2 \\ \uparrow \end{array}$$

$$\begin{array}{l} \textbf{LINE*} \leftrightarrow \mathsf{DVD} \leftrightarrow \mathsf{VIDEO} \ \mathsf{DISC} \\ \updownarrow & \updownarrow \\ \mathsf{T} \ \mathsf{V} \leftrightarrow \mathsf{DSR} \leftrightarrow \mathsf{C} \ \mathsf{S} \leftrightarrow \mathsf{B} \ \mathsf{S} \end{array}$$



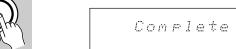
\* The name in bold letters is the initial name.





# Press MULTI JOG to enter the new name.

"Complete" appears.



You may press REPEAT/YES instead of MULTI JOG to get the same result.

To cancel the name change, press EDIT/CLEAR/**NO** instead of pressing MULTI JOG or REPEAT/**YES**.

#### About the shorten source names

The short source names appear in the display depending on the situation. Check the short names in the table below.



### Changing the FM/AM preset channels

Using the delete and copy functions, you can delete unnecessary preset stations, copy a preset station to another channel, and change the channel number.

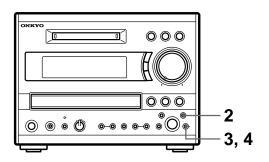
### Tips for changing the preset channels

To change the channel number: Use the copy and delete functions.

For example, if you wish to change channel 3 (that has an FM station programmed) to channel 8 (an empty channel):

- 1 Copy the station in channel 3 to channel 8.
- 2 Delete the station in channel 3.

Erasing a preset channel – Preset Erase



Call the preset channel you wish to erase.

FM 87.80MHz 4.

EDIT/CLEAR

Press **EDIT**/CLEAR/NO repeatedly until "PresetErase?" appears in the display.

PresetErase?

3

Press REPEAT/YES.



The confirming message appears.

Erase OK? 4.

To stop erasing, press EDIT/CLEAR/  ${f NO}.$ 

REPEAT

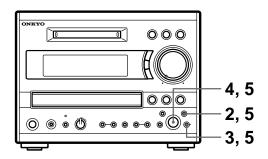
Press REPEAT/YES.

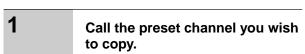
"Complete" appears. The preset channel is erased.

Complete

# Copying a preset channel – Preset Copy

If you copy a preset channel to another channel, the name of the preset channel (see page 37) is also copied to the other channel.





FM 87.80MHz 4.

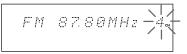
EDIT/CLEAR

Press **EDIT/CLEAR/NO** repeatedly until "PresetCopy?" appears in the display.

PresetCopy?

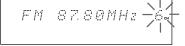
REPEAT

Press REPEAT/YES.



MULTI JOG

Turn MULTI JOG to select the preset channel number to which you wish to copy.



5

MULTI JOG

Press MULTI JOG to confirm.

You may press REPEAT/YES instead of MULTI JOG to get the same result.

If "Complete" appears

Complete

The same radio station is copied to the preset channel.

### If "Overwrite?" appears



station

EDIT / CLEAR



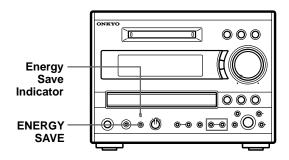
Press REPEAT/YES.



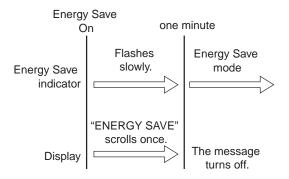


## **Energy Save Function**

This function reduces power consumption while the FR-V77 is in standby mode.



Press ENERGY SAVE while the FR-V77 is in standby mode. The Energy Save indicator flashes and the unit enters Energy Save mode in one minute.



If the Energy Save indicator is lit while the FR-V77 is turned on, pressing STANDBY/ON causes the unit to enter Energy Save mode in one minute. The display is turned off in Energy Save mode, but the timer still functions.

#### Note:

- Even if the Energy Save indicator is lit while the FR-V77 is turned off, the unit will not enter Energy Save mode.
- If you press ENERGY SAVE while the Energy Save indicator is flashing, the unit enters standby mode.
- Only STANDBY/ON and ENERGY SAVE are enabled in Energy Save mode.
- If the FR-V77 is in Energy Save mode and you unplug then re-plug the power cord, the unit will remain in Energy Save mode.



### **Messages**

The following table explains the messages that appear in the display.

	. ,
Message	Meaning
Blank Disc	A recordable MD without disc or track names is inserted.
Cannot Copy	An attempt was made to make a second digital copy from a digitally dubbed MD (see "Rules for digital recording" in the right column).
Cannot Edit	You tried to edit a playback-only disc.
Cannot Rec	You tried to record onto a playback-only disc.
Cannot Set	You tried to set a timer while another timer is operating.
D. In Unlock	The digital equipment (CD player, DAT, etc.) is not connected properly, or else not operating properly.
Disc Error	The disc is abnormal (scratched or missing a TOC).
Disc Full	The disc is full (see "System limitations" on page 54).
Full	You tried to enter a character over the maximum character capacity while naming.
Impossible	You tried to edit a disc using a function not available due to some reason other than the MD system limitation.
MD Writing	The unit is writing the recorded or edited contents to the MD.
Mecha Error	An error occurred in the unit's internal mechanism.
Memory Full	You tried to store a 26th track or a 31st channel.
Name Full	The naming capacity of the disc or unit has reached its limit.
No Change	The name has not been changed.
No Disc	There is no disc in the unit.
No Track	The inserted disc has a disc name but no tracks.
Over	In pause mode (when playing is paused), ►► (Fast Forward) was pressed to the end of the disc.
Protected	The inserted disc is record-protected.
Recording	You tried to switch to another source while recording or perform a CD or tuner operation that is disabled during recording.
Retry Error	The recording attempt failed due to consecutive disturbances from scratches on the MD or from applied vibration.
Sorry	You tried to (a) combine tracks that cannot be combined, (b) divide a track at its beginning, or (c) edit a disc using a function not available due to MD system limitations.
Time Protect	You tried to repeat double-speed dubbing using the same CD.
TOC Error	The reading of the disc or the recording onto the disc failed.

### Rules for digital recording

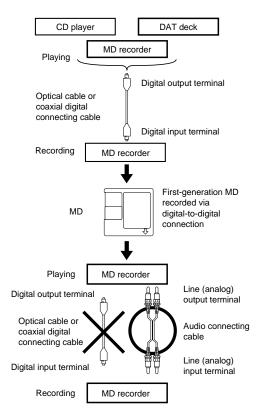
### Guide to the serial copy management system

Since your MD unit uses the Serial Copy Management System (SCMS), MDs recorded through the digital input terminal cannot be used to make subsequent copies to other MDs through the digital output terminal. The following diagram shows a system for making copies through the digital or analog terminals.

### Rule 1

You can record digital source (CD, premastered MD, and DAT equipment with a sampling frequency of 44.1 kHz) to a recordable MD through the digital input terminal.

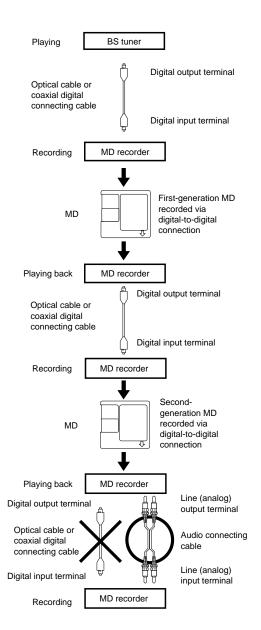
However, you cannot make subsequent copies from the recordable MD to other recordable MDs through the digital output terminal. Subsequent copies can only be made through analog output terminal.



#### Rule 2

You can record a digital satellite broadcast signal onto a recordable MD via the digital input terminals on the MD recorder, which is capable of handling a sampling frequency of 32 kHz or 48 kHz. You can then record the contents of this recorded MD (first-generation) onto another recordable MD via digital input terminals on the MD recorder to create a second-generation digital copy.

Note, however, that with some BS tuners, secondgeneration digital copying may not be possible.





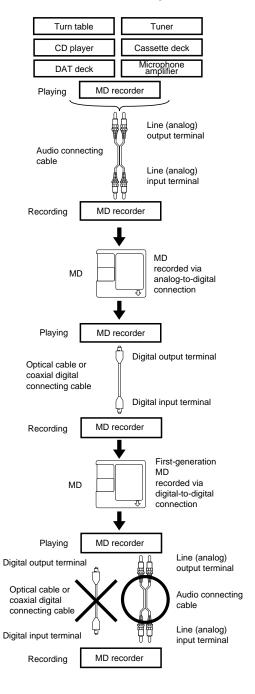
### Rules for digital recording

#### Rule 3

A recordable MD with material recorded from analog sources (analog records or FM programs, etc.) through the line input terminal can be copied to another recordable MD through the digital output terminal.

However, you cannot make subsequent copies from the recordable MD to other recordable MDs through the digital output terminal. Subsequent copies can be made only through the analog output terminal.

When MD recorders are connected using analog terminals, the number of dubbings is unlimited.



# Syst

### **System limitations**

The MD recording system in the unit is significantly different from those used in cassette and DAT decks and is characterized by the limitations described below. Note, however, that these limitations are due to the inherent nature of the MD recording system itself and not to mechanical causes.

 "Disc Full" lights up before the disc has reached the maximum recording time (60, 74, or 80 minutes)

When 255 tracks have been recorded on the disc, "Disc Full" lights up regardless of the total recorded time. More than 255 tracks cannot be recorded on the disc. To record new tracks, erase unnecessary tracks or use another MD.

- "Disc Full" lights up before the maximum number of tracks is reached
  - Fluctuations in emphasis within tracks are sometimes interpreted as track intervals, incrementing the track count and causing the "Disc Full" indication to light up.
- The remaining recordable time on the MD does not increase even after erasing numerous short tracks.
- Some tracks cannot be combined with others
   Track combination may become impossible when
   tracks are edited.
- The remaining recordable time on the MD may decrease by more than the total recorded time, depending on the status of the MD or how you record
- Tracks created through editing may exhibit sound dropout during searching operations.
- Track numbers are not recorded correctly
   Incorrect assignment or recording of track numbers may result (1) when CD tracks are divided into several smaller tracks during digital recording, or (2) when certain CDs are recorded with the Level Sync On for automatic track marking.
- "MD Reading" appears for a long time
  If the inserted recordable disc is brand new, "MD
  Reading" appears on the display longer than those
  that have been used.



# Precautions for handling Compact Discs (CDs)

### Important notes on handling CDs

Carefully lift the disc from the disc case, making sure to hold the disc by its edges or the hole in the middle.



A dry, soft cloth may be used to wipe dust and fingerprints off the surface of CDs.



Do not use volatile agents on discs, such as thinner or benzine. Also, do not use conventional record cleaner or antistatic agents.

- Do not place a CD in direct sunlight or locations subject to high humidity or low temperature.
- Do not store a CD in the unit's disc tray for a long period of time.

#### Playable discs

This unit can play back the following discs.

	Disc mark	Contents	Disc size	Maximum playback time
Audio	COMPACT DIGITAL AUDIO	Audio	12 cm	74 minutes
CDs			8 cm (CD single)	20 minutes

You cannot play back discs other than those listed above.

Do not use discs that are not audio discs (eg. CD-ROMs for use with personal computers), as these could damage the speakers and amplifier.



Avoid using heart-shaped or octagonal discs. Playing irregularly shaped discs may damage the internal mechanism of the unit.

Do not use discs that have residue from adhesive tape, rental discs that have peeling labels, or discs that have custom labels or stickers. Otherwise, you may not be able to eject the discs or the unit may become inoperative.

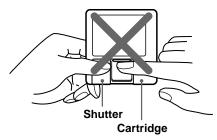


# Precautions for handling the MiniDisc (MD)

The MD is housed in a cartridge, so you can handle it without worrying about dust and fingerprints. Even so, a dirty or warped cartridge may malfunction. Always remember the following precautions so you can enjoy high-quality sound for a long time.

## Do not touch the disc in the cartridge directly with your fingers.

Do not open the shutter by hand. Doing so may damage the disc.



#### Storage location

Avoid storing MDs in a place subject to direct sunlight, high temperature, or high humidity.

## When the unit is not to be used for an extended period

Remove the MD from the unit to prevent dust from entering the MD cartridge. When the MD is in the unit, the shutter of the MD cartridge remains open.

#### Regular care

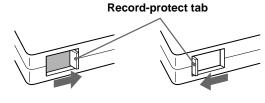
Wipe off dust and dirt that has accumulated on the cartridge surface with a dry cloth.

#### Removing a partially inserted MD

If the "self-lock function" is activated and the MD cannot be removed, push the MD further into the MD disc slot and then press MD ▲ (eject) to remove the MD.

## Protecting recordings from accidental erasure

You can protect your MDs from accidental recording by sliding the record-protect tab on the MDs to open the record-protect window. To make the MDs recordable again, return the record-protect tab.



Record-protect

Recordable

### **Troubleshooting**

Use this troubleshooting guide as an aid to remedy problems.

Problems may be caused by any components connected to this unit. Please check the table below, cross-referencing with the instruction manuals of the other components. If the problem still persists after trying these remedies and referring to the other components' instruction manuals, consult your nearest Onkyo authorized service center, giving your name, address, phone number, product name, and the details of the problems.

	Symptom	Cause	Remedy	Pages	
16	The unit does not turn on.	The AC power cord (mains lead) is not fully inserted into the wall outlet (the mains).	Insert the AC power cord (mains lead) plug to the wall outlet (the mains) securely.	10	
	No sound is reproduced from either the left or	The wire of the speaker cord is touching the	Check the speaker connections.	8	
	right speaker.	other jacks, connectors, or metal parts.  • The volume level is turned down to the minimum.	Adjust the volume level.	12	
Amplifier		The sound is muted with the muting function.	Press MUTING on the remote control to restore the sound.	12	
Am		The headphones are connected to the	Turn down the volume level first, then	12	
		PHONES jack.  • The audio cables are not inserted firmly.	disconnect the headphones.  • Check the connections and insert the audio connection cable plugs firmly.	9, 10	
	Noise is heard.	Strong magnetism from a television or a similar device is interfering with operations.	Turn off any television or similar devices or move them away from the unit.	_	
0	The disc skips.	Vibrations are being transmitted to the unit. The disc is severely scratched. The disc is extremely dirty. – CD	<ul> <li>Place the unit in a vibration-free location.</li> <li>Replace the disc with a new one.</li> <li>Clean the disc.</li> </ul>	- 55 55	
	Track numbers cannot be stored when setting MEMORY playback.	No disc is inserted in the unit.     A track number not on the disc is being input.	Insert a disc into the unit.     Input only the track numbers on the disc.	16, 18 34	
CD/MD	The disc is loaded in the disc tray, but playback	The disc is inserted with the wrong side facing upward. – CD	Insert the disc with the label side facing upward.	16, 55	
	will not begin.	The disc is extremely dirty. – CD  The disc is dirty or damaged. ("Disc Error"	Clean the disc. Replace the disc with a new one.	55 52, 55	
		appears in the display.) – MD	The disc may be reused after erasing all the data.	39	
		The disc inserted is not recorded. – MD Moisture has formed inside the unit.	Replace the disc with a recorded one. Take the disc out and leave the unit for several hours until the moisture evaporates.	18 3	
СО	Search time (when moving to a specific track) is extremely long.	The disc is dirty. The disc is scratched.	Clean the disc.     Replace the disc with a new one.	55 55	
	Disc cannot be loaded.	The wrong side of the disc is being inserted.	Insert the disc in the direction of the arrow printed on the disc.	18	
	The unit does not	The disc is record-protected. ("Protected"	Close the record-protect window on the disc.	55	
	record.	appears in the display.)  The unit is not connected properly to the	Check the connections and insert the audio	9, 10	
		<ul> <li>sound source.</li> <li>The analog recording level is too low.</li> </ul>	connection cable plugs firmly.  • Adjust the recording level properly.	29	
		A playback-only disc is inserted. ("Cannot Rec" appears in the display.)  The state of the display.	Replace the disc with a recordable one.	52, 55	
		There is not enough time left on the disc.	Replace the disc with another recordable disc with enough recording time, or delete	40	
MD		The optical digital audio cable is not connected properly. ("D. In Unlock" appears in the display.)	<ul> <li>unnecessary tracks from the disc.</li> <li>Connect the optical digital audio cable properly.</li> </ul>	10, 52	
		There has been a power failure or the AC power cord (mains lead) has been disconnected.	The recorded contents in the unit memory will be erased and will not be recorded onto the MD.	25	
		"Retry Error" appears in the display.	Eject the MD, then insert it again and retry recording.	25, 52	
	The disc name or track name cannot be	The disc is record-protected. ("Protected" appears.)	Close the record-protect window on the disc.	52, 55	
	entered.	A playback-only disc is inserted. ("Cannot Rec" appears.)	Replace the disc with a recordable one.	37, 52	
If the unit does not operate properly even after attempting the prescribed remedies, unplug and then plug in the pov					

	Symptom	Cause	Remedy	Pages
Tuner	Too much noise is heard or sound is interrupted occasionally. ("STEREO" indicator does not light steadily.)	FM stereo wave may produce a hiss noise when a certain level is reached.      The position or direction of the antenna (aerial) is incorrect.      Station is too weak.	Switch the frequency receiving mode to MONO. Adjust the position, height, and direction of the antenna (aerial). Connect an outdoor FM antenna (aerial). Try to use an antenna (aerial) having more elements. [For installation of the outdoor antenna (aerial), consult your nearest dealer as it requires a special technique and experience.]	21 6 6
	Sound is distorted or sound volume decreases.	The radio wave is distorted. Cars are running or airplanes are flying near the house.		_
	Sound is excessively distorted.	There is a tall building or a mountain nearby. [The waves transmitted from transmission center (direct waves) and the waves diffracted by buildings or mountains (diffraction waves) interfere with each other causing multi bass distortion.]		-
	Noise interferes with the AM reception.	An electric or electronic device with the power turned on is in close proximity to the FR-V77.	Locate the AM indoor antenna far from the electric or electronic device.     Turn off the power to the electric or electronic device.	1
	Repetitive or cyclical noise is recorded along with an AM broadcasting program.	The AM indoor antenna is located close to the FR-V77.	Locate the AM indoor antenna far from the FR-V77.	-
	The timer did not operate.	The unit was on when the start time arrived.  The timer overlapped another timer.	The timer does not operate if the unit has been turned on. To set the timer, turn off the unit.  Set the timer to a different time.	46, 48 48
Timer	No sound was reproduced when the timer is activated.	While the Rec timer is operating, the sound will be muted.  When the playback timer (Once, Weekday, or Weekend timer) is operating, the volume will become the same as the volume when you last switched the unit off.	If you wish to check the recording sound, press MUTING on the remote control to turn off the muting function. Adjust the volume. Adjust the volume properly before you turn off the unit to set the timer.	46 46, 48
Remote control	The remote control does not operate.	The batteries in the remote control are dead. Your position is too far from the unit's remote control sensor or outside the sensor's detection angle. There is some obstruction between the	<ul> <li>Replace the batteries with new ones.</li> <li>Check the effective range of the remote control.</li> <li>Try to operate the remote control from a</li> </ul>	11 11
	The remote control operates the unit but does not operate the Onkyo stereo cassette	There is some dustruction between the remote control and the unit.      The RI cable is not connected.	Connect the system correctly cross- referencing to the Onkyo stereo cassette tape deck instruction manual.     Connect the unit and stereo cassette tape	9 9, 10
	tape deck.		deck using the RI cable supplied with the stereo cassette tape deck.	

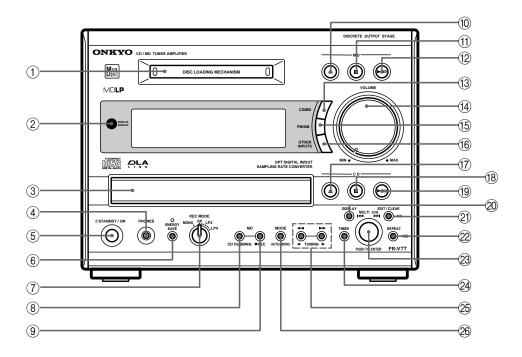
This unit contains a sensitive microcomputer, which under certain circumstances might fail to operate due to excessive noise interference. In such cases, disconnect the AC power from the electrical outlet, wait five seconds and replace.

### Index to parts and controls

For operational instructions, refer to the page indicated in brackets.

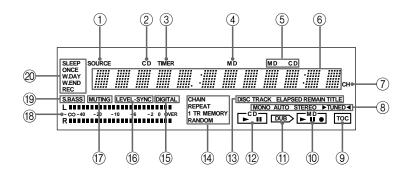
### **♦**

### Front panel



- 1 MD disc slot [18]
- 2 Remote control sensor [11]
- 3 CD disc tray [16]
- 4 PHONES jack [22]
- **⑤ STANDBY/ON button [12, 14, 20, 46]**
- 6 ENERGY SAVE button/indicator [52]
- 7 REC MODE switch [23, 26~28, 30]
- **8 CD DUBBING button [24, 26, 27]**
- ⑨ MD REC button [28, 30, 32, 33]
- MD ≜ button [18, 25, 26, 29, 31, 32]
- (1) MD **button** [18, 29, 31, 36]
- MD ►/II button [18, 30, 32, 34, 35, 42]
- (3) CD/MD button [12, 16, 18, 23, 28, 39~43]
- (4) VOLUME control [12]
- (5) FM/AM button [12, 14, 15, 20, 21, 30]
- (6) OTHER INPUTS button [12, 32, 49]

- ⑦ CD ≜ button [16]
- (8) CD button [16, 29, 36]
- (9) CD ►/II button [16, 27, 29, 34, 35]
- @ DISPLAY button [13, 17, 19, 21, 23, 25, 37]
- ② EDIT/CLEAR/NO button [13~15, 24, 28, 29, 31, 34, 37~43, 49~51]
- REPEAT/YES button [14, 15, 24, 28, 29, 31, 36~43, 49~51]
- MULTI JOG dial [13, 15, 16, 18, 20, 29, 30, 34, 35, 37, 38, 40~43, 45~47, 49~51]
- **24** TIMER button [13, 45, 48]
- ② **◄/>** buttons [16, 18, 34, 48] TUNING **◄**/**>** buttons [15, 21]
- MODE button [34~36] AUTO/MONO button [21]



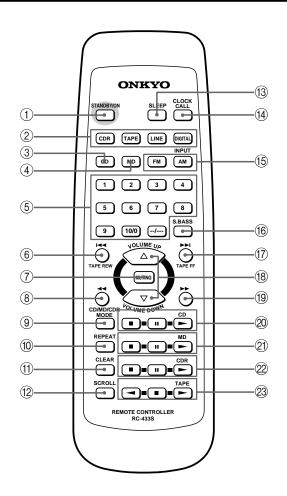
When lit, the ① to ⑤ indicators show what the muli-purpose display (⑥) under them is currently displaying.

- **(1)** SOURCE indicator [14, 16, 18]
- 2 CD indicator [24]
- ③ TIMER indicator [45]
- (4) MD indicator [26]
- (5) MD/CD setting indicators [24]
- ⑥ Multi-purpose display

- 7 CH (channel) indicator [14, 15, 20]
- When lit, the indicators show what the mulit-purpose display (⑤) above them is currently displaying. [17, 19, 24]
- Indicators for radio frequency information [14, 21]
- 10 TOC indicator [25]
- (1) MD operation indicators [18, 24, 25]

- (2) DUB indicator [24, 25]
- © CD operation indicators [20, 24, 25]
- Playback mode indicators [34~36]
- (5) DIGITAL indicator [12, 32]
- 6 LEVEL-SYNC indicator [31]
- **MUTING indicator [22]**
- ® Recording level indicator [29]
- (9) S.BASS indicator [22]
- ② Timer indicators [44~48]

### **◆** Remote controller



- 1 STANDBY/ON button [12, 14, 20, 46]
- 2 CDR/TAPE/LINE/DIGITAL buttons [12, 32, 49]
- ③ CD button [12, 16, 18, 23, 28, 39~43]
- 4 MD button [12, 16, 18, 23, 28, 39~43]
- **⑤ Number buttons [17, 19]**
- ⑥ I◄◄/TAPE REW button [15, 16, 18, 20, 29, 30, 34, 35, 37, 38, 40~43, 45~47, 49~51]
- 7 MUTING button [22]
- 8 **44** button [16, 18, 34, 38]
- 9 MODE button [34~36]
- ® REPEAT button [27]
- (1) CLEAR button [26, 31, 34]
- (2) SCROLL button [17, 19]
- (3) SLEEP button [44]
- (4) CLOCK CALL button [13]
- (5) FM/AM button [12, 14, 15, 20, 21, 30]
- (6) S.BASS button [22]
- (8) VOLUME ▲/▼ buttons [12]
- ⊕ button [16, 18, 34, 38]
- **②** CD operation buttons [16, 27, 34~36]
- (2) MD operation buttons [18, 29~32, 34~36, 42]
- ② Operation buttons for an Onkyo CDR
- ② Operation buttons for an Onkyo stereo cassette tape deck

# **Specifications**

#### General

Power supply AC 220-230 V. 50/60 Hz AC 120 V, 60 Hz Power consumption 63 W (220-230 V, 50/60 Hz) 82 W (120 V, 60 Hz) (Standby) 7 W (Energy Save) 1.5 W Clock precision monthly error: +/-30 seconds (at 25 degrees Celsius) Dimensions (W  $\times$  H  $\times$  D)  $205\times154\times356~mm$  $8-1/16" \times 6-1/16" \times 14"$ Weight 5.5 kg, 12.1 lbs

**Amplifier** 

 $2 \times 26$  W at 4  $\Omega$  EIAJ Power output  $2 \times 21$  W at  $6 \Omega$  EIAJ Rated Power  $2\times19$  W min, RMS at 4  $\Omega$ 1 kHz no more than 0.2 % THD Dynamic power  $2\times23$  W at 4  $\Omega$ **Total harmonic distortion** 0.4 % at rated power 0.2 % at rated power

25 at 8  $\Omega$ 

(IHF-A)

50 dB

LINE, TAPE:

150 mV, 50 k $\Omega$ 

CDR: 150 mV, 50 k $\Omega$ 

10 to 50,000 Hz: +0/-3 dB

S.BASS1: +4 dB at 40 Hz

S.BASS2: +8 dB at 50 Hz

LINE, CDR, TAPE: 100dB

S.BASS3: +4 dB at 10 kHz/

+8 dB at 50 Hz

**IM** distortion **Damping factor** Sensitivity and impedance

Frequency response **Tone Control** 

Signal to noise ratio

Muting

CD player

Signal readout system Frequency response Wow and flutter

Optical non-contact 10 Hz to 20 kHz (± 3 dB) Below threshold of measurability

#### MD recorder

Signal readout system Optical non-contact Recording time 320 minutes maximum (at LP4 mode) Frequency response 10 Hz to 20 kHz (± 3 dB) Wow and flutter Below threshold of measurability

Tuner

Tuning range FM: 87.50 to 108.00 MHz (50 kHz steps) AM: 522 to 1611 kHz (9 kHz steps) Usable sensitivity

FM Mono: 11.2 dBf,  $1.0 \,\mu\text{V} (75 \,\Omega \,\text{IHF})$ Stereo:17.2 dBf,  $2.0 \,\mu\text{V} (75 \,\Omega \text{ IHF})$ 

AM: 30 μV 50 dB quieting sensitivity

FM Mono:17.2 dBf,  $2.0\mu V (75 \Omega)$ Stereo:37.2 dBf, 20.0 μV (75 Ω)

Stereo: 67 dB IHF

Capture ratio 2.0 dB FM: 85 dB Image rejection ratio AM: 40 dB IF rejection ratio FM: 90 dB

AM: 40 dB Signal to noise ratio FM Mono: 73 dB IHF

AM: 40 dB Selectivity FM: 50 dB

(±300 kHz at 40 kHz devi.)

Harmonic distortion FM: Mono: 0.7 % Stereo: 0.3 %

AM: 0.7 %

Frequency response FM: 30 to 15,000 Hz (±1.5 dB) Stereo separation FM: 40 dB at 1,000 Hz FM: 30 dB at 100 to 10,000 Hz

Specifications and features are subject to change without noitce.

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