

Digital Audio Tape Deck

Operating Instructions

DAT
Digital Audio Tape

DTC-070

WARNING

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Owner's Record

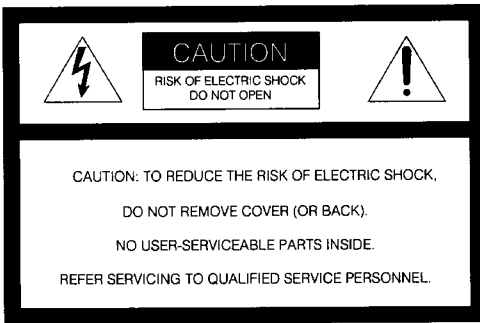
The model number is located on the rear exterior and serial number is on the rear. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. DTC-670

Serial No. _____

WARNING

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



This symbol 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.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION

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

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

CAUTION

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

Precautions

Safety

- Before operating the unit, be sure that the operating voltage of your unit is identical with that of your local power supply.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

Operation

Before making program source connections, be sure to unplug the unit.

Installation

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Do not place anything on the top of the cabinet. The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

Moisture Condensation

If the unit is brought directly from a cold to a warm location, moisture may condense inside the unit. In this condition, the tape may adhere to the head drum and be damaged, or the unit may not operate correctly. Always remove the cassette when the unit will not be used.

If moisture is present...

- Function controls will not operate.
- All operations will stop.

When the CAUTION indicator lights and the unit will not operate

Leave the unit turned on for about an hour.

NOTE

When closing the cassette compartment, do not push the cassette lid forcibly by hand, but perform with the OPEN/CLOSE button.

If you have any question or problem concerning your unit, please consult your nearest Sony dealer.

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Digital Audio Tape

DAT (Digital Audio Tape) is a new recording system which digitalizes the audio signal and records it on a DAT cassette tape.

DAT records the audio signal by converting the analog sound into a digital signal. This converting system is called the PCM (Pulse Code Modulation), and its accurate processing of the audio signal allows recording/playback with lower wow and flutter, wider dynamic range, lower distortion rate, and superb signal-to-noise ratio.

In addition, various control codes called sub codes can be written on the DAT cassette separately from the audio signal. They are written for a variety of convenient playback/tape editing operations, and except for the absolute time, can be rewritten after audio signal recording has been completed.

Overview of the Digital Audio Tape Deck

Serial copy management system

This unit utilizes the serial copy management system that permits digital-to-digital recording for one generation. You can record CD sound or other digital formats through a digital-to-digital connection. (See page 36.)

Three sampling frequencies

Recording/playback can be done with three sampling frequencies (48 kHz, 44.1 kHz and 32 kHz).

48 kHz: For analog and digital input signals in a standard mode.

44.1 kHz: For compact disc and pre-recorded DAT tape.

32 kHz: For analog input signals in a long-play mode.

Long play mode

This unit can operate in a long-play mode. Analog input signals can be recorded or playback for up to four consecutive hours when the DT-120 DAT cassette tape is used. The sampling frequency will be 32 kHz in the long play mode.

Visible cassette loading

You can view the tape operation through the lid of the cassette compartment. Due to a revolutionary new transport mechanism, cassette loading time has been significantly reduced.

Excellent sound quality

• 1-bit A/D converter

For the A/D converter section which converts analog input signals to digital signals, the unit employs a 1-bit A/D converter which theoretically generates no zero-cross distortion for a clear, elegant sound quality.

• Pulse D/A converter

Superior playback performance is achieved with a 1-bit D/A converter.

Rich variety of subcode information

This unit can record subcode information such as Start IDs, program numbers, Skip IDs, and absolute time data, enabling you to quickly locate tunes and display the playback time in the same manner as when playing compact discs.

Post edit recording of sub codes

You can record or rewrite the following sub codes after the audio signal recording has been completed.

Start ID: Signifies the beginning of a selection.

Program number: Gives a number to the selection.

Skip ID: Signifies the beginning of a portion to be skipped.

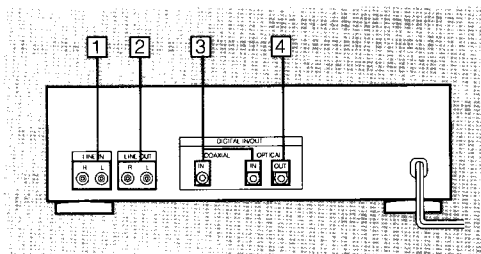
End ID: Signifies the end position of recording/playback.

Since sub codes are written on the tape separately from audio signals, the audio signals are not affected.

Connections

This section describes about the connecting cords and the analog and digital connections. Select the connection depending on your equipment connected with this unit.

Rear Panel Jacks



1 LINE IN (line input) jacks (phono jack)

Connect to the recording outputs of an amplifier. Signals supplied by the amplifier can be recorded using the sampling frequency of 48 kHz in the standard play mode or 32 kHz in the long play mode.

2 LINE OUT (line output) jacks (phono jack)

Connect to the DAT or tape inputs of an amplifier. The playback signal of this deck will be output.

3 COAXIAL/OPTICAL DIGITAL IN (digital input) jacks (coaxial phono jack/optical jack)

Connect to the digital outputs of an amplifier having a built-in D/A converter or other digital source, such as a CD player for digital-to-digital recording.

4 OPTICAL DIGITAL OUT (digital output) jack (optical jack)

Connect to the digital inputs of an amplifier having a built-in D/A converter or another DAT deck, for playback of a DAT cassette or digital-to-digital recording.

Notes on connection

- Use the connecting cords specified in the illustrations.
- Turn off the power for all equipments before making connections.
- Be sure to insert the plugs firmly into the jacks. Loose connections may cause hum and noise. When unplugging, grasp the plug and not the cord.

Notes on the optical cable

- Do not bend the cord. When the cord is not used, curl it with a diameter of more than 15 cm (5 7/8 inches).
- Do not use it under high temperatures.
- When the optical cable is not connected, cover the OPTICAL IN/OUT jacks with the supplied caps.

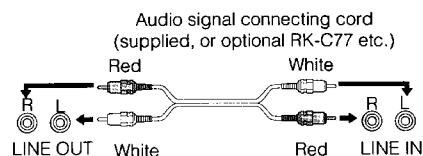
Note on sound signals

When connecting an optical cable to the DIGITAL IN/ DIGITAL OUT jacks, sound signals (L/R) are transmitted together through the cable.

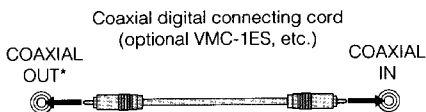
Connecting Cords

There are following three types of connecting jacks at the rear of the deck. Each type of jack requires a different type of connecting cord.

The LINE IN/OUT (analog input/output) jacks

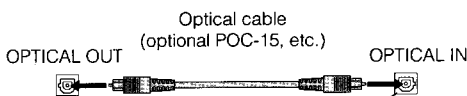


The COAXIAL IN (digital input) jack

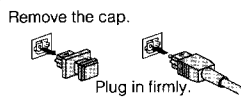


* This unit is not equipped with the COAXIAL OUT jack.

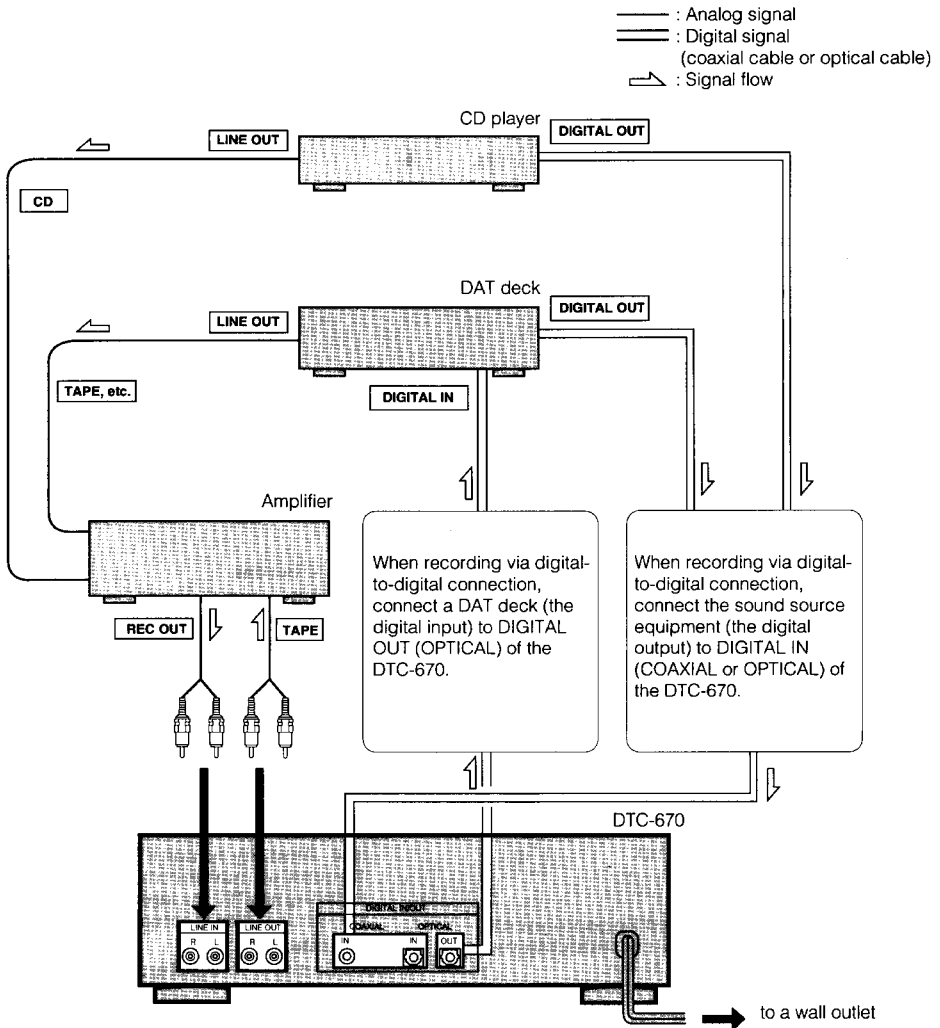
The OPTICAL IN/OUT (optical transmission digital input/output) jacks



How to connect the optical cable



Connection Examples



When connecting a microphone

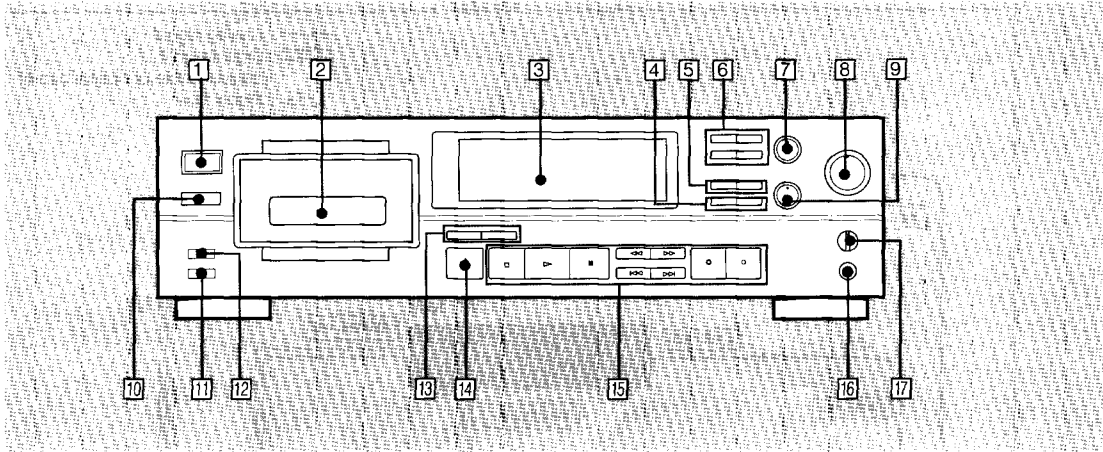
Connect the analog output of a stereo microphone amplifier to LINE IN of the DTC-670.

Note

If "COPY PROHIBIT" appears in the display window, recording via digital-to-digital connection cannot be performed. In this case, connect the sound source equipment using LINE IN and OUT jacks.

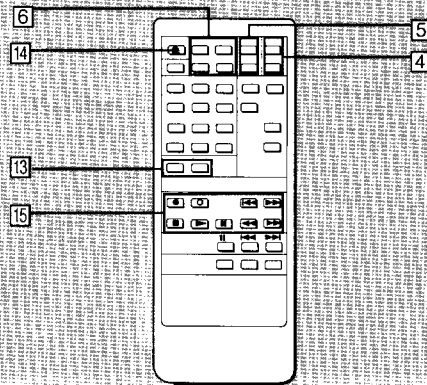
Identifying Parts and Controls

This section describes the names and functions of each parts of this unit. Before operating this unit, please read carefully.



Front Panel/Remote Commander

- 1 POWER switch**
Turns the power on and off.
- 2 Cassette compartment**
Insert a cassette with the window side up and the safety tab facing you.
- 3 Display window**
- 4 END ID buttons**
WRITE: Press to write the ID signifying the end of playback or recording.
ERASE: Press to erase the end ID.
- 5 SKIP ID buttons**
WRITE: Press at the beginning of the portion you may wish to skip later. A skip ID will be written from the point where you pressed this button.
ERASE: Press to erase the nearest skip ID which is before the current position.
- 6 START ID buttons**
AUTO: Press to turn on and off the AUTO indicator. When the AUTO indicator is lit, the start ID will automatically be written during recording. When the AUTO indicator is not lit, press the START ID WRITE button at the point where you want to write a start ID.
WRITE: Press to write the start ID at the desired point during recording or playback.
ERASE: Press to erase a start ID. When a start ID and a program number are written on the tape, both codes are simultaneously erased by pressing this button.
RENUMBER: Press to renumber all programs on the tape. When only the start IDs are written, pressing this button will insert the proper program numbers beginning with "1". The tape will rewind and start from the beginning to accomplish this function.
- 7 INPUT selector**
Set according to the signal to be recorded.
ANALOG: For recording from the equipment connected to the LINE IN jacks.
OPTICAL: For recording from the equipment connected to the DIGITAL IN (OPTICAL) jack.
COAXIAL: For recording from the equipment connected to the DIGITAL IN (COAXIAL) jack.
- 8 REC LEVEL (recording level) control**
Adjust the recording level for the analog input signals. When recording digital signals, it is not necessary to adjust the recording level.



9 BALANCE control

Adjust the recording balance for the analog input signals. When recording digital signals, it is not necessary to adjust the recording balance.

10 Remote sensor

Receives the signal from the remote commander.

11 REC MODE selector

Normally set to the STANDARD position. When this selector is set to the LONG position, you can record analog input signals or digital signals with 32 kHz in the long play mode.

12 TIMER switch

Normally set to the OFF position. When recording or playing back at the desired time using a commercially available audio timer, set to the REC position or the PLAY position respectively.

13 COUNTER buttons

MODE: Selects the counter display in the display window among the linear counter (tape running time), absolute time, elapsed time of the selection, and total remaining time of tape. Each time you press the button, the display changes sequentially.

RESET: Resets the linear counter to "0M 00S".

14 OPEN/CLOSE button

Press to open or close the cassette compartment.

15 Tape operating buttons

■ **(stop):** Press to stop recording or playback.

▶ **(play):** Press to play back the tape.

● **REC (recording):** Press to enter the record-pause mode. To start recording, press the II PAUSE or ▶ button.

II **PAUSE (pause):** Press to stop for a moment during recording or playback. To restart recording or playback, press this button again or press the ▶ button.

If the unit is left in the pause mode for about 10 minutes, it will automatically be released and the deck will enter the stop mode. To restart recording or playback from the stop mode, press the ● REC or ▶ button respectively.

○ **REC MUTE (record muting):** Press to insert a sound-muted portion (space).

◀◀▶▶ (AMS): Press to locate the beginning of the selection during the playback.

◀◀▶▶ (rewind/review, fast-forward/cue): In the stop mode, press to rewind/fast-forward the tape. During playback, press to rewind or fast-forward the tape while listening to the sound.

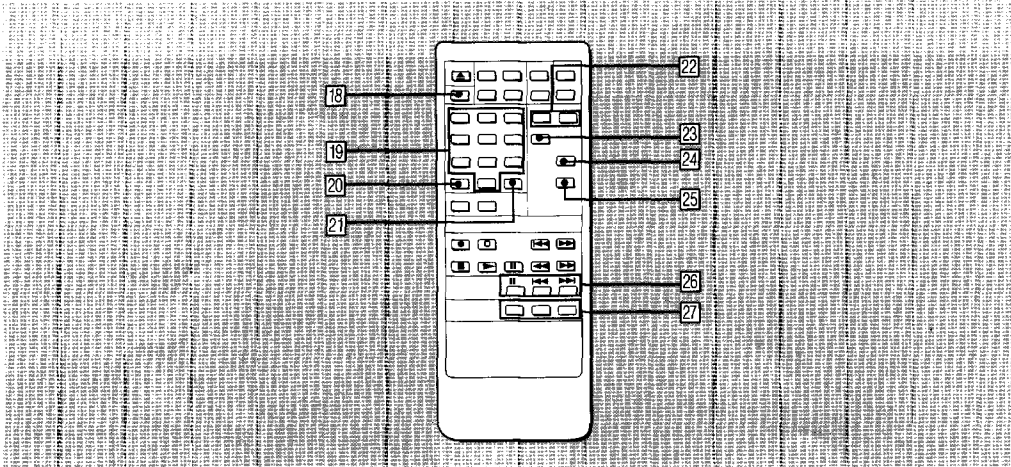
16 Headphones jack

Insert the headphones plug to this jack.

17 PHONE LEVEL control

The PHONE LEVEL control adjusts the headphones volume level.

Identifying Parts and Controls



Front Panel/Remote Commander

- 18 DISPLAY MODE button**
Changes the display mode. (Refer to page 12.)
- 19 Numeric buttons (0–9)**
Designate the desired program number to be played back before starting playback.
Designate the desired number in the record-pause mode, the program number is written consecutively from the designated number.
- 20 CLEAR button**
Use to cancel the program number which has been mistakenly entered.
- 21 MUSIC SCAN button**
Use this feature to listen to the beginning of each selection successively.
- 22 RMS play buttons**
ENTER: To program the selections in a desired order, press this button after pressing the numeric buttons.
CHECK: Press to check the programmed contents.
- 23 REPEAT 1/ALL button**
Press to play a desired portion repeatedly. Each time you press the button, the indicator changes as follows:
REPEAT 1 → REPEAT ALL → off
- 24 MARGIN RESET button**
Press to reset the margin of peak level.
- 25 SKIP PLAY button**
Press to activate the skip ID code function. The portion of the tape previously marked will be skipped.
- 26 CD operation buttons**
Operative only for the Sony CD player equipped with a remote commander.
II (pause): Press this button twice to start playback. To enter the pause mode, press this button once.
◀▶ (AMS): Press to locate the desired selection on the Compact Disc during playback or in the stop mode.
- 27 CD SYNCHRO (CD synchronized recording) buttons**
(The playback of the Sony CD player equipped with a remote commander and the recording of the DAT deck can be performed simultaneously.)
STANDBY: Press to set the unit to the record-standby mode.
START: Press to start recording of the DAT deck and then playback of the CD player.
STOP: Press to stop the DAT deck recording and the CD player playback.

Remote Commander Operation

Each button on the remote commander functions in the same way as those having the same name on the front panel.

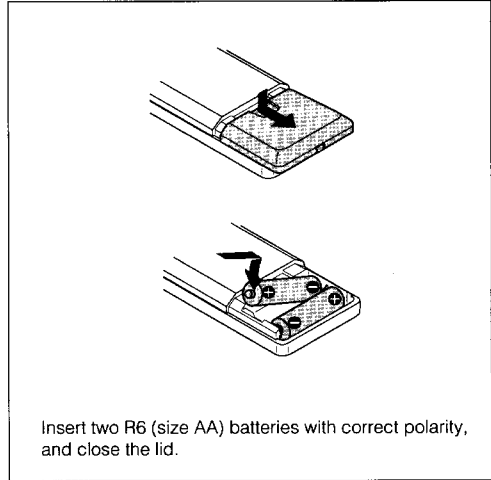
However, the following operations cannot be performed using the remote commander. Use the front panel controls instead.

- Turing the power on and off
- Selecting digital(optical/coaxial)/analog input source
- Adjusting the recording level and balance
- Adjusting the headphones level
- Setting the timer recording/playback
- Selecting the record mode (standard or long)

The following operations can be performed only with the remote commander.

- Activating CD synchronized recording using a Sony CD player and controlling the CD player
- Locating the desired selection on the Compact Disc or setting the CD player in the pause mode (possible only when a Sony CD player is used.)
- Repeat play
- Skip play
- RMS* play
*RMS: Random Music Sensor
- Margin reset
- Music scan
- Designating the number
- Changing the brightness of the display window
- Indicating the sampling frequencies recorded on the tape (Frequencies map)

Installing Batteries



Insert two R6 (size AA) batteries with correct polarity, and close the lid.

Notes on remote control

- Do not expose the remote sensor on the deck to strong light such as direct sunlight, lighting apparatus, etc.
- Do not place any obstructions between the remote commander and the remote sensor, or else operations will not be performed correctly.
- The controllable range is limited. Point the remote commander directly at the remote sensor on the deck.
- When remote control operation distance becomes shorter, the batteries are weak. Replace both batteries with new ones.

To avoid battery leakage

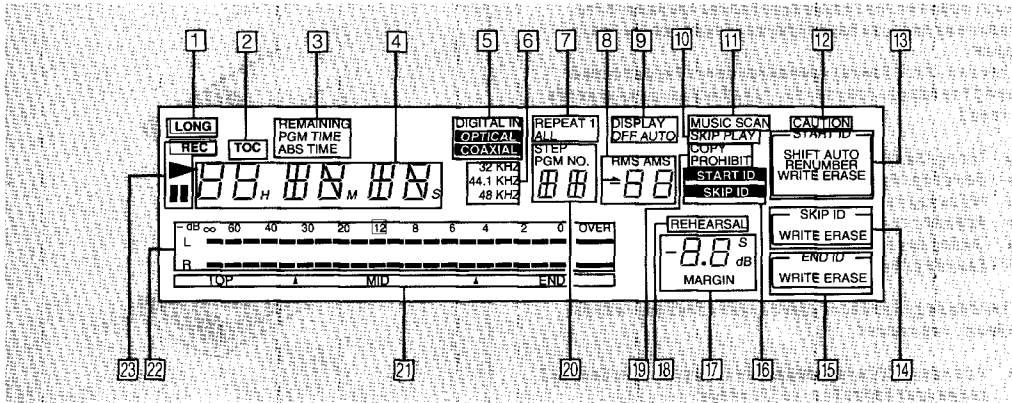
When the commander will not be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

Battery life

About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries.

Identifying Parts and Controls

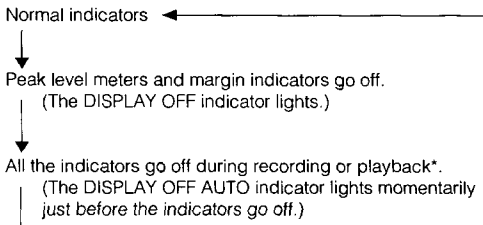
Display Window



The following functions can be performed only with the remote commander.

To turn off the display window

When the power is turned on, the display window is also turned on. During recording or playback, all display or some parts of the display can be turned off. Each time you press the DISPLAY MODE button, the indicators change as follows:



* When pressing the DISPLAY MODE button except during recording or playback, the DISPLAY OFF AUTO indicator lights. In this case, all the indicators go off immediately after recording or playback starts.

To change the brightness of the display window

While pressing the COUNTER MODE button, press one of the numeric buttons 1, 2 and 3. The greater number pressed, the darker the display window becomes.

1 LONG play mode indicator

Lights when recording or playback is being performed in the long play mode.

2 TOC (Table Of Contents) indicator

When a pre-recorded DAT cassette is played back, this indicator will light.

3 REMAINING (remaining time):

Lights when the counter shows the remaining time of the tape.

PGM TIME (program time): Lights when the counter shows the elapsed time of the current selection.

ABS TIME (absolute time) indicator: Lights when the counter shows the elapsed time from the beginning of the tape.

4 Time indicator

Indicates the tape running time, absolute time, elapsed time of the current selection or remaining time. Each time the COUNTER MODE button is pressed, the display is changed.

5 INPUT selector indicators

The OPTICAL or COAXIAL indicator lights according to the position of the INPUT selector. No indicator lights when the INPUT selector is set to the ANALOG position.

6 Sampling frequency indicator

48 kHz: For recording/playback of analog input signals (standard mode)

44.1 kHz: For recording/playback of CD or a pre-recorded DAT cassette

32 kHz: For recording/playback of analog input signals (long-play mode)

7 REPEAT indicators

REPEAT 1: Lights when a desired selection is played back repeatedly.

REPEAT ALL: Lights when all the selections are played back repeatedly.

8 AMS (Automatic Music Sensor)/RMS (Random Music Sensor) indicators

Show the number of selections to be skipped ahead or behind in the AMS operation. When designating a selection directly by the numeric button and the ► button, the display shows the program number of the target selection while the selection is being searched for. When programming the desired selections in the RMS operation (page 33), the display shows the program number of the selection to be programmed.

9 DISPLAY OFF/AUTO indicators

The DISPLAY OFF indicator lights when peak level meters and margin indicators are turned off. The DISPLAY OFF AUTO indicator lights momentarily before all the indicators are turned off.

10 SKIP PLAY indicator

When this indicator is lit during playback, the portion marked by the skip ID is skipped and playback continues from the next start ID.

11 MUSIC SCAN indicator

Lights after pressing the MUSIC SCAN button to listen to the beginning of each selection successively.

12 CAUTION indicator

Lights when moisture condensation occurs. If this happens, the deck stops functioning automatically. (See page 3.)

13 START ID mode indicators

AUTO: Lights when the AUTO button is pressed to write the start ID automatically.

RENUMBER: Lights when the RENUMBER button is pressed to renumber the program numbers.

WRITE: Lights when writing the start ID manually.

ERASE: Lights when erasing the start ID.

AUTO RENUMBER: Lights when renumbering program numbers automatically.

SHIFT RENUMBER: Lights when shifting the start ID and program number position.

14 SKIP ID mode indicator

WRITE: Lights when writing the skip ID.

ERASE: Lights when erasing the skip ID.

15 END ID mode indicator

WRITE: Lights when writing the end ID.

ERASE: Lights when erasing the end ID.

16 START ID indicator: Flashes when writing (for 9 or 18 seconds), erasing a start ID code, and lights when the start ID is detected during playback.

SKIP ID indicator: Lights when writing (for 1 or 2 seconds) or erasing a skip ID code or when the skip ID is detected during playback.

17 MARGIN indicator

Shows how much margin there is between the peak level of input audio signal and 0 dB.

18 REHEARSAL indicator

Lights while the rehearsal function is activated (page 23).

19 COPY PROHIBIT indicator

Lights when recording the digital signal with the copy prohibit code. In this case, record with the LINE IN jacks.

20 STEP/PGM NO. indicator

Shows the program number of the selection being played. When programming the desired selection in the RMS operation (page 33), the display shows the step number of the programmed selection.

21 Frequencies map

When pressing the 4 button while keeping the COUNTER MODE button pressed, bars indicating the sampling frequencies with which the tape was recorded appear on the peak level meters.

22 Peak level meters

Indicate the level of the audio signal being recorded during recording, and the peak values of the audio signal recorded on the tape during playback.

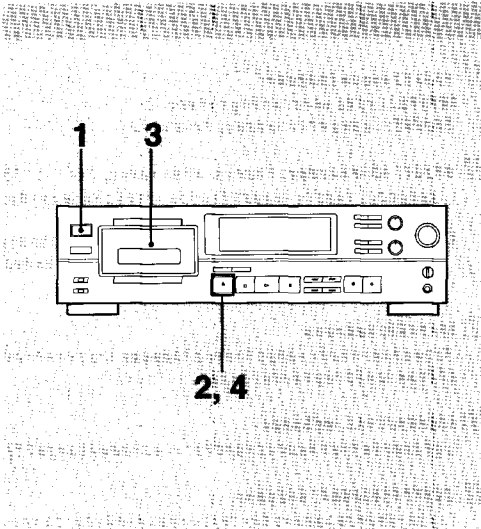
23 Tape operation indicators

REC : Lights during recording or in the record-pause mode.

► : Lights during recording or playback. It also lights in the record-pause mode or in the play-pause mode.

II : Lights in the record-pause mode or in the play-pause mode.

Cassette Loading



1 Turn on the power.

2 Press Δ OPEN/CLOSE.

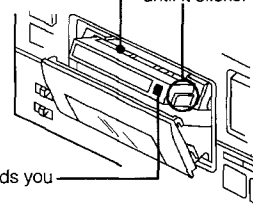
The "OPEN" indicator appears on the display.

3 Insert the cassette.

Window side up

Insert the cassette until it clicks.

Tab facing forwards you



4 Press Δ OPEN/CLOSE.

The "CLOSE" indicator appears on the display.

To remove the cassette

Press Δ OPEN/CLOSE.

On a digital audio tape

Only the digital audio tape made especially for DAT deck is required.

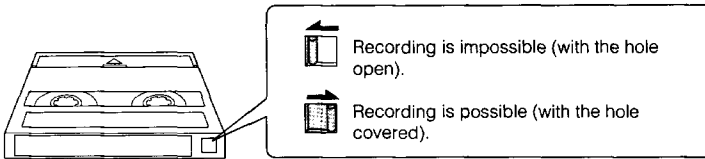
Unlike a conventional analog audio cassette tape, a digital audio tape can be used only one side.

- Digital audio tape is designed to avoid a dust. Do not open the inside of the tape.
- The hole at the back of a tape is a detector slot. Do not cover the slot.

To prevent accidental erasure

When a recording is made, any previously recorded signal will be erased automatically. To prevent accidental erasure, set the safety tab to the position shown in the illustration.

With the hole open, rewriting sub codes cannot be performed.



Notes

- When you turn on the power, the \mathbb{I} indicator flashes for a moment in the display window. During this period, no buttons other than the Δ OPEN/CLOSE and \blacktriangleright buttons are operative. Wait until blinking stops and the \mathbb{I} indicator goes off.
- When inserting the cassette, do not push the cassette compartment closed. Be sure to use the Δ OPEN/CLOSE button.

On the sampling frequency

When a cassette is inserted and a source program is played back, the sampling frequency (48 kHz, 44.1 kHz or 32 kHz) of the source program appears in the display window.

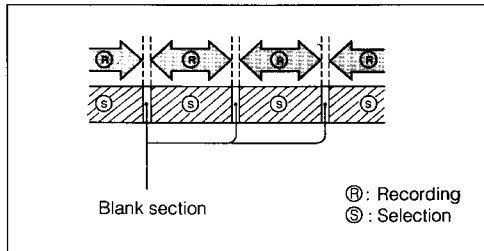
Blank Section and Sound Muted Portion

With conventional analog audio tapes, the tape portion on which no recording ever has been made and the portion on which a recording has been made but the sound is muted are treated the same, since no sound can be heard from these portions.

However, with DAT cassette, you should know that the two kinds of "no sound" portions must definitely be distinguished one from the other.

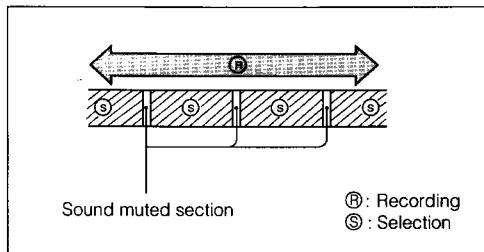
Blank section

Means the portion on which no recording ever has been applied.



Sound portion

Means the portion on which a recording has been applied but that no audible sound is recorded.



Important

When recording, be certain that no blank section is left on the tape. If blank sections remain on the tape, search operations using the AMS buttons, for example, may take quite a long time or the absolute time is not written correctly.

Difference between the blank section and sound-muted portion

When you record, a track format is constructed on the recorded area, even if the sound is muted during recording. On the blank section, since no recording is applied, there is no track format.

Absolute Time Codes

The absolute time indicates the position of the tape, giving the time elapsed from the beginning. The absolute time codes correctly written on the tape can be used in various convenient ways during playback.

Recording absolute time codes

When you record, the absolute time codes are also written automatically from the beginning of the tape.

Once the absolute time codes are recorded, it cannot be re-written. With the absolute time, you can check the elapsed time from the beginning of the tape or designate the position of the tape to be played back precisely.

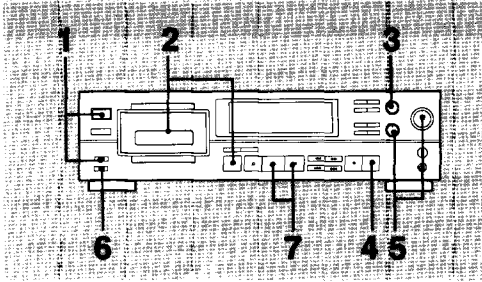
Note, however, that the absolute time codes are not written if you start recording from the middle of blank section. No blank sections should be left on the tape when recording.

Tips for recording:

- To insert silence between selections, use the record muting function (page 18). Do not advance the tape with the ►► or ► button.
- To start recording from the middle of the tape, use the end search function (page 18) to locate the beginning of the blank section. This will avoid leaving a blank section.
- When loading the tape written the absolute time codes, the ABS TIME indicator is displayed, otherwise, the counter indicator is displayed.

If a blank section is left on the tape

If you start recording from the middle of a blank section, or when the beginning of the new tape is advanced with the ►► or ► button, the absolute time codes are not recorded, since the DAT deck can no longer count the absolute time from the beginning of the tape.



1 Make sure that the **TIMER** switch is set to the **OFF** position, and turn on the power.

2 Open the cassette compartment, insert a cassette and press the **△OPEN/CLOSE** button to load the cassette. (See page 14.) Then locate the position at which you want to start recording.

To start recording from the beginning of the tape, press the **◀◀** button. (Press the **◀◀** button again, the "TOP" indicator will appear at the beginning of the tape.) To start from the middle of the tape, locate the point immediately before the blank section with the end search function. (See page 18).

3 Set the **INPUT** selector to **ANALOG**, **OPTICAL** or **COAXIAL** depending upon the connections of your sound source.

4 Press the **●REC** button. **REC**, **▶** and **||** indicators light on the display, and the deck enters the record-pause mode. The sampling frequency to be applied for recording appears. If the digital copy prohibit signal is written on the codes of the sound source, the **COPY PROHIBIT** indicator appears in the display window and signifies that you cannot record that source with the digital-to-digital connection. In this case, use the analog-to-analog connection.

5 When recording the analog input signal, adjust the recording level and balance with the **REC LEVEL** and **BALANCE** controls respectively. (See page 17.) No recording level adjustment is required when recording the digital input signal.

6 To record in the long-play mode, set the **REC MODE** selector to the **LONG** position. (See page 17.)

7 Press the **||PAUSE** or **▶** (play) button. The **||** indicator goes off, and recording starts.

To write start ID automatically during recording

Make sure that the **AUTO** indicator is lit. If not, press the **START ID AUTO** button. (See page 22.)

To designate the program number

Press the desired numeric button on the remote commander. (See page 24.)

When recording from the beginning of the tape, the program number will be assigned automatically from 1.

To insert sound muted portion at the beginning of the tape

Do not advance the tape with the **▶▶** or **▶** button. This will leave a blank section at the beginning. Be sure to proceed with the record muting function. (See page 18.)

To stop recording

Press the **■** button.

To stop recording for a moment

Press the **||PAUSE** button.

When you press the **●REC MUTE** button, the deck will also enter the record-pause mode.

To release pause and restart recording

Press the **||PAUSE** or **▶** button.

To remove the cassette

Press the **△OPEN/CLOSE** button.

If recording cannot be made

Check the following:

- The safety tab of the cassette is set to the record-inhibit position. (See page 14.)
- No cassette is loaded.
- The **INPUT** selector is set to the incorrect position.
- Tape is fully rewound to the end.
- The output level of the playback equipment is too low.
- The digital copy prohibit signal is written in the codes of the sound source you want to record. (The **COPY PROHIBIT** indicator appears in the display window.)
- The **REC LEVEL** control is set to the 0 position. (Only when recording the analog input signal.)

Note on the INPUT selector and the REC MODE selector

Do not change the position of these selectors after recording starts.

If the cassette is ejected after it has been loaded

Check to see if the cassette is inserted correctly. (See page 14.)

When the tape is recorded to the end (Auto rewind function)

The tape is rewound to the beginning and stops automatically.

The auto rewind function is not applied when the **TIMER** switch is set to the **REC** position.

Accuracy of the electronic linear time counter

The linear time counter provided with this unit is not a clock. The time indicated by the counter may differ slightly from the actual recording/playback time.

Recording level adjustment (for analog input signals only)

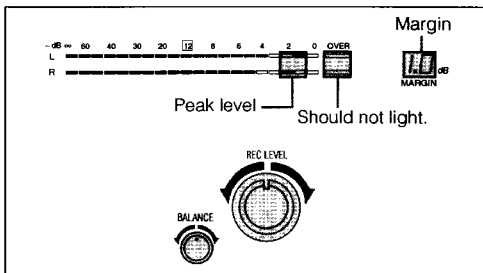
The peak level meters show the peak level of the analog input signal held momentarily. The MARGIN indicator shows how much margin there is between the peak level of the input audio signal and 0 dB. Whenever a signal having a higher level than the displayed one is input, the new level replaces the lower one on the MARGIN indicator. Turn the REC LEVEL control so that the "OVER" segments do not light, even at the highest level.

To reset the margin

Press MARGIN RESET on the remote commander. The margin will become "-".

If the level exceeds 0 dB

The "OVER" segments light in red, and "0.0 dB" flashes. If "OVER" lights steadily, lower the recording level so that the peak level meters light between -12 dB (12) and 0 dB to avoid sound distortion.



If you keep adjusting the recording level with the unit in the record-pause mode

If the unit is left in the record-pause mode for more than 10 minutes, the record-pause mode will be released automatically, and the unit will enter the stop mode. The levels of the input audio signals appear even in the stop mode, and you can continue to adjust the recording level. (The "AD-DA" indicator appears on the display.) In the above case, press the ●REC button again to set the unit to record-pause mode.

If the unit is left in the record-pause mode for more than 10 minutes during digital recording

The record-pause mode will be released automatically, and the unit will enter the stop mode. (The "DA" indicator appears on the display.) In this case, press the ●REC to set the unit to record-pause mode.

If the cable is disconnected or the program source is intermitted, the digital input signal will be interrupted during digital recording

The OPTICAL or COAXIAL indicator flashes and the unit will enter record-pause mode. (For about 10 minutes) If the digital signal is input again in this period, the unit will enter recording mode automatically.

Long play mode

According to the input signal, recording/playback in the long play mode can be performed as follows.

| Input signal | Recording mode (position of the REC MODE selector) | |
|---------------------------------------|----------------------------------------------------|------------------------------------------|
| | STANDARD | LONG |
| Analog input signal | standard play (48 kHz) | long play (32 kHz) |
| Digital input signal 32 kHz* | standard play (32 kHz) | long play (32 kHz) |
| Digital input signal 44.1 kHz, 48 kHz | standard play (the same as input signal) | standard play (the same as input signal) |

() : sampling frequency

The digital input signal of 44.1 kHz or 48 kHz cannot be recorded/played back in the long play mode, even if the REC MODE selector is set to the LONG position.

* When analog input signal of 32 kHz or 48 kHz is recorded via digital-to-digital connection.

The longest recording period at each mode

| Cassette / Mode | The longest recording period | |
|-----------------|------------------------------|-------|
| | standard | long |
| DT-120 | 2h | 4h |
| DT-90 | 1h30m | 3h |
| DT-60 | 1h | 2h |
| DT-46 | 46m | 1h32m |

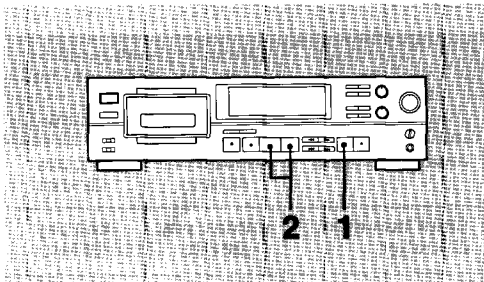
(h: hour, m: minute)

The timer counter in the long-play mode

Tape running time, absolute time and total remaining of the tape appears, based on those in the standard mode. To obtain the actual time, double each value.

Recording

Creating a Sound Muted Portion (Record Muting)



1 During recording or record-pause mode, press the **OREC MUTE** button where a sound muted portion is required.

The [REC] indicator flashes and the record muting is activated. After about 4 seconds, the [REC] indicator shows a steady light, and the || indicator lights. The deck enters the record-pause mode.

2 To resume recording, press the ||PAUSE or ► (play) button.

Recording resumes.

Using sound muted portion

If you intend to dub the DAT cassette onto an analog cassette tape, we recommend that you insert sound muted portions between selections on the DAT cassette. This will ensure that the AMS function of the analog cassette deck works correctly for the recorded tape.

Note

With DAT deck, the AMS function is realized by using the start ID code. (See page 21.)

Caution

To place a space on a DAT cassette, you must not advance the tape with the ►► or ► button. If a space is created this way, no absolute time code will be recorded on the succeeding area, and you cannot check the elapsed time of the tape.

To create a sound muted portion of more than 4 seconds

Keep the **OREC MUTE** button pressed for as long as you want to make a recorded portion with no signals. After about 4 seconds, the [REC] indicator flashes rapidly. When you release the **OREC MUTE** button, the deck enters the record-pause mode. The interval between selections is indicated in the MARGIN display.

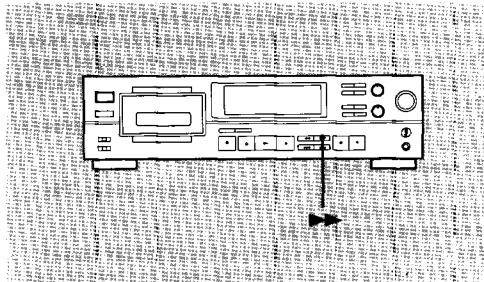
To create a sound muted portion of less than 4 seconds

Press the **OREC MUTE** button, and then the ||PAUSE button while the REC indicator is flashing.

To start recording in the rec mute mode

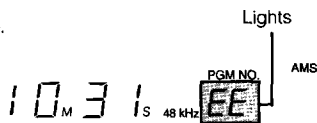
Press the **OREC** button while the [REC] indicator is flashing.

End Search



If the previous recording was applied to the middle of the tape, you must locate exactly the last point of the recorded area, and start the new recording from this point. This will prevent leaving a blank section on the tape. If you want space between the last recording and the new recording, use the **OREC MUTE** button to mute the sound.

Press ►►.



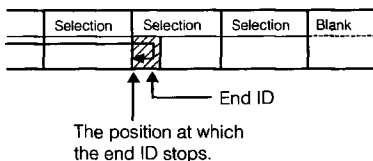
The last point of the previous recording (the beginning of the blank section or the beginning of the end ID*) is located, and the tape stops. When the end ID is detected, the "EE" indicator lights at the PGM. NO display.

Note

If the point where you pressed the ►► button is blank, the end search operation will not function.

When the end ID is written before a blank section

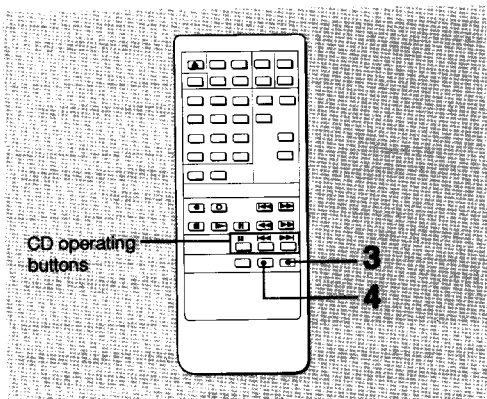
* The end search operation stops at the beginning of this end ID as illustrated below.



Note on the duration of a blank section

The blank section must last for more than 9 seconds for the end search operation to function correctly.

CD Synchronized Recording



If a Sony compact disc player with a remote commander is available, you can start playback of the CD player and the recording of the DAT deck simultaneously, with the remote commander of the DAT deck.

Position the remote commander so that the signal reaches the remote sensor of both the DAT deck and the CD player.

To start recording

This function can be performed only with the remote commander.

- 1 Insert a cassette.**
- 2 Insert the disc in the CD player.**
- 3 Press the CD SYNCHRO STANDBY button on the remote commander of the DAT deck.**
Make sure that the DAT deck enters the record-pause mode and the CD player enters the pause mode.
- 4 Press the CD SYNCHRO START button on the remote commander of the DAT deck.**
Recording on the DAT deck starts, and about 1 second later, playback of the CD player starts.

To stop recording

Press the CD SYNCHRO STOP button on the remote commander of the DAT deck.

Notes

- To momentarily stop recording of the DAT deck and playback of the CD player simultaneously, press the **||PAUSE** buttons on both the DAT deck and the CD player.
- With the CD synchronized recording, the recording of the DAT deck and the playback of the CD player should be started simultaneously. Therefore, to perform the CD synchronized recording, point the remote commander to the remote sensor and press the appropriate buttons correctly.

To control the CD player with the remote commander of the DAT deck

The following operations are possible:

Playback: Press the **||** button twice.

Pause: Press the **||** button once.

AMS: Press the **◀◀** or **▶▶** button.

When a desired selection is located using the above operation, you can start CD synchronized recording.

Sub Codes

In addition to the ordinary audio signals, various control codes called sub codes can be recorded on the DAT cassette tapes to ease recording and reproducing operation.

A desired selection can be called up or time information can be displayed using the sub codes, for example.

The sub codes such as start ID, program number, skip ID, end ID and program time and absolute time are available on this unit.

- Sub codes are written on the tape separately from the audio signals, so the audio signals are not affected.
- Sub codes, except the absolute time, can be rewritten after the audio signal recording has been completed. The recorded audio signals are not affected by the rewritten sub codes.

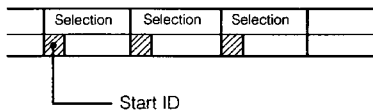
- When you record the tape with sub codes written onto a new tape via digital-to-digital connection, the sub codes to be written on the new tape are following:

| | |
|------------------------|-------------------------------------------------------------|
| Start IDs | The same as the codes written on the original tape. |
| Skip IDs | The same as the codes written on the original tape. |
| Program Numbers | New ones will be written according to the DAT deck you use. |
| Absolute time | New ones will be written. |
| End ID | The one written on the original tape will not be written. |

When you use analog-to-analog connection, no sub codes on the original tape will be written onto a new tape. New codes will be written according to the DAT deck you use.

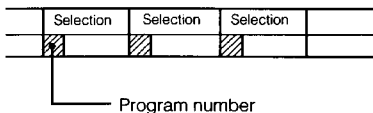
Start ID

This signal indicates the start of a music selection. You can locate the position of the start ID precisely. This signal should be written at the beginning of the selection.



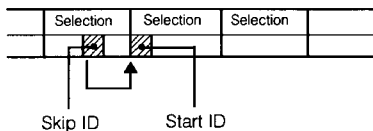
Program number

This signal gives a number to selection. You can record it where the start ID is written. By designating this number with the remote commander, you can choose the desired selection directly or program selections in a desired order.



Skip ID

This signal can be marked on the selection wherever you wish. When the SKIP PLAY indicator is lit during playback, the deck will skip at high speed from where the skip ID is marked to the next start ID, and then playback will start again. Record this skip ID at the beginning of portion you want to skip.



Note

In the following cases, the sub code function may not be performed correctly:

- The blank section is left on the tape.
- The beginning of the new tape is advanced with the ►► or ► button.