SONY

3-75

Digital Audio Tape-corder

TCD-D7

Operating Instructions

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

DAT
Digital Audio Tape

WALKMAN

RØDE Exhibit 1070
RØDE Microphones, LLC, et al. v. Zaxcom, Inc.
IPR2025-00232

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OWNER'S RECORD

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

Model No. TCD-D7 Serial No. _____

WARNING

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment dose 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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

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Features

Easy operation with excellent sound quality of DAT
Superb quality recording and playback with excellent frequency response, remarkably low noise and lack of distortion can be made. High speed fast-forwarding/rewinding and cuing/reviewing for easy tape access.

Long play (LP) mode recording
A maximum of four-hour continuous recording is possible using four size AA (LR6) alkaline batteries which is ideal for recording a meeting or a conference etc.

Adjustable (automatic/manual) recording level
The recording level can be adjusted either manually or automatically to suit every recording situation.

Date function
The date and time are automatically registered at the time of the recording and can be displayed during playback, fast-forwarding/ rewinding and cuing/reviewing.

LCD display
LCD display window for indicating the current operational mode and the battery power status etc.

Compact design
A compact mechanism and design for portability.

Recording compatibility
Recording can be made from various digital audio equipment such as a CD (compact disc)/MiniDisc player or a BS (broadcasting satellite)/CS (communication satellite) tuner etc.

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Precautions

On Safety

- Should any solid object of liquid fall into the unit, unplug the unit and have it checked by qualified personnel before operating it any further.
- After operating the unit with the AC power adaptor, unplug the AC power adaptor from the wall outlet if it is not to be used for an extended period of time. To unplug the cord, pull it out by grasping the plug. Never pull the cord itself.
- Do not put any foreign object into the DC IN 6V (external power input) jack.

On Power Sources

- For AC operation: Use only the recommended AC power adaptor (not supplied).
  Do not use any other AC power adaptor as it may damage the unit.
  For the car battery operation: Use the car battery cord DCC-E160L (not supplied).
- When the unit is not to be used for an extended period of time, be sure to disconnect the power source (batteries, AC power adaptor, car battery cord etc.) from the unit.

On 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 top of the cabinet.

On Moisture Condensation

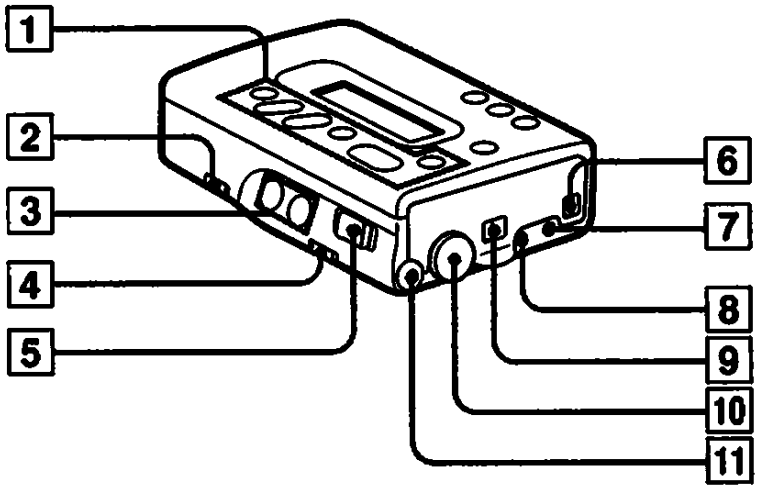
If the unit is brought directly from a cold to a warm location, moisture may condense inside the unit. In such a condition, the tape may adhere to the head drum and can be damaged, or the unit may not operate properly (the ⚿ indicator has come on). Always remove the DAT cassette from the unit when the unit is not to be used for an extended period of time.

If moisture is present...

- Operation buttons and controls may not function properly.
- The unit may shut off.

This unit is not designed for business or commercial use. Never attempt to modify or tamper the unit so that it can be connected to other business or commercial equipment. Do not use this unit for recording computer data etc. either.

Location and Function of Controls



Refer to the pages in ● for details.

1 Tape operation buttons:
I◄◄/◄◄ (rewind/review • AMS) button ⓳
■ STOP button ⓯⓲
► PLAY button ⓲
►►/►►I (fast-forward/cue • AMS) button ⓳
REC (record)/ID WRITE (start ID write) button ⓯㉑
II PAUSE button ⓯⓲

2 SP/LP (standard play/long play mode select) button ⓮

3 VOLUME buttons ⓲

4 PHONES, AVLS/LINE OUT (headphones, automatic volume limiter system/line out select) switch ⓯⓴

5 HOLD/PUSH OPEN switch ⓫

To open the cassette compartment door:	press and hold down the small button and slide the switch to the OPEN position.
To avoid any accidental operation (Hold function):	slide the switch to the HOLD position without pressing the small button.

Slide this switch to the HOLD position to avoid any accidental operation while the unit is set in a particular operational mode. The use of this switch is recommended whenever you record or play back a tape. However, the display modes can still be changed by pressing the CLOCK/SET button, the COUNTER/– button or the RESET/+ button even when the unit is in the hold mode. (Except for the low-power consumption mode)

6 MIC SENS (microphone sensitivity) switch ⓭

7 MIC (microphone) jack ⓬

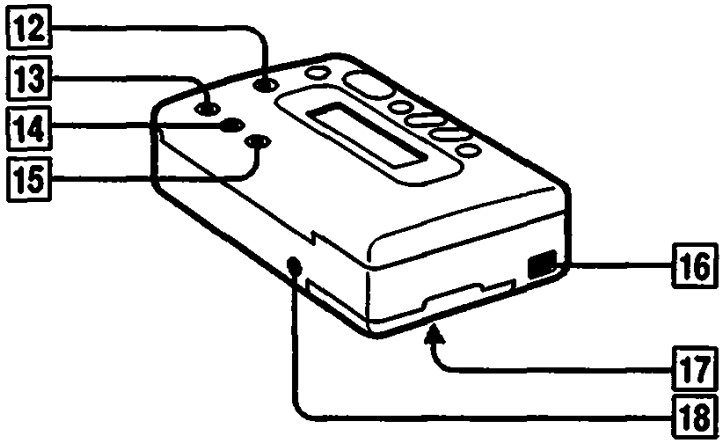
8 LINE IN (line input) jack ⓬

9 REC MODE (recording mode) switch ⓮

10 REC LEVEL (recording level) knob ⓯

11 PHONES/LINE OUT (headphones/line output) jack ⓱

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12 LIGHT button
Press to illuminate the display window when using the unit in the dark.

13 RESET/+ button ⑩㉔

14 COUNTER/– button ⑩㉔

15 CLOCK/SET button ⑩㉔

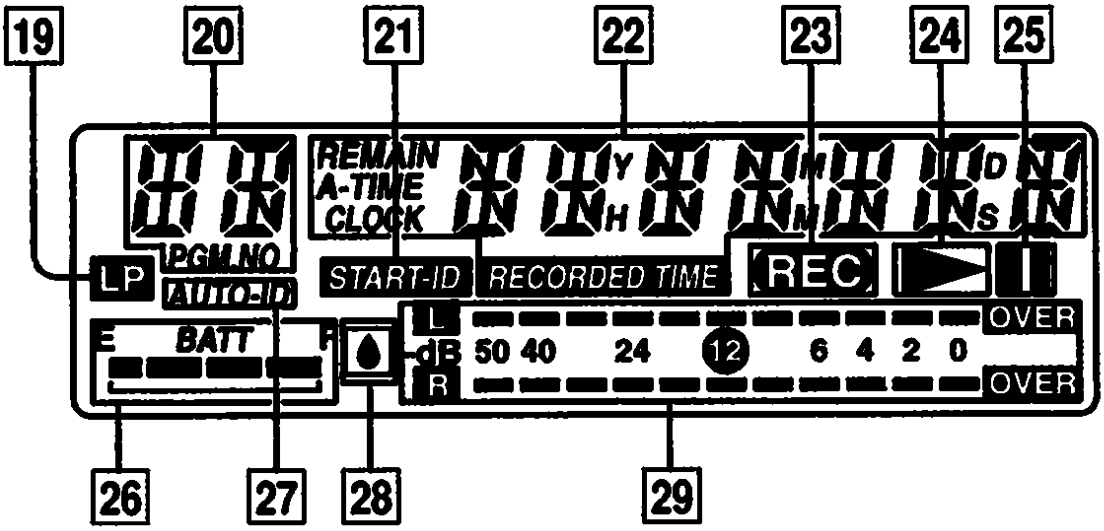
16 DIGITAL I/O • REMOTE (digital input/output • remote) jack ⑫⑮
Connect equipment with digital inputs/outputs using the connecting cord POC-DA12 or RK-DA10 (not supplied), the adaptor kit RM-D3K, or the remote controller RMT-D7 etc.

17 Battery compartment door

18 DC IN 6V (external power input) jack ⑨

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Display Window



19 LP (long play) mode indicator ⓮

20 PGM.NO (program number) • day • AM/PM indicator ⑩㉑

21 START-ID indicator ㉑

22 Tape counter/clock/message indicator

23 REC (recording) indicator

24 ▶ (playback) indicator

25 II (pause) indicator

26 BATT (remaining battery power status) indicator ❽

27 AUTO-ID (automatic ID signal) indicator ㉑

28 Moisture condensation indicator ❹

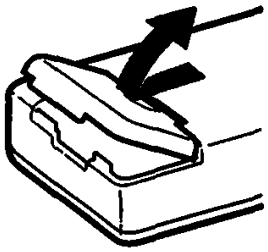
29 Peak level indicators ⓰

Power Sources

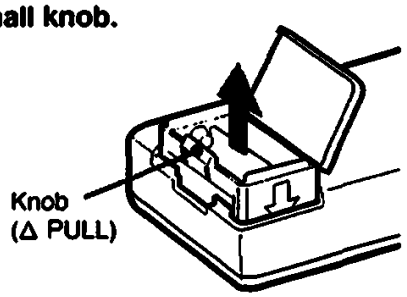
Using with Batteries

Use four size AA (LR6) alkaline batteries.

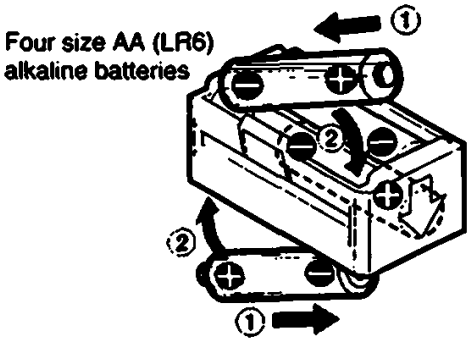
1 **Open the battery compartment door.**



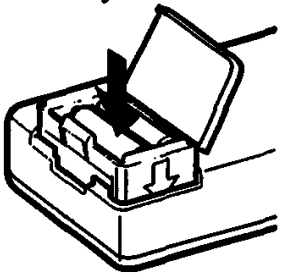
2 **Pull out the battery case by holding the small knob.**



3 **Insert the batteries into the battery case.** Make sure that the – side of a battery is always inserted first.

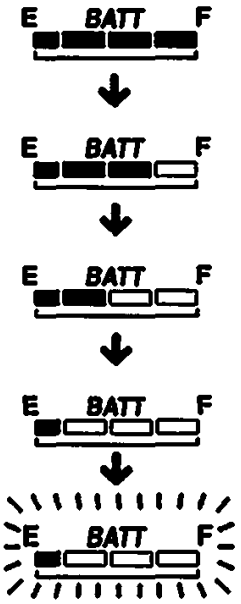


4 **Insert the battery case into the unit.**



Remaining battery power status

The indicator constantly shows the remaining battery power status.
This display comes on while the unit is being used with the batteries. They do not come on when the external power source is used.



Replace the batteries at this point. If you continue to use the unit beyond this point, eventually the "bATTERY" message will come on the display window and the unit will cease to operate.

About low-power consumtion mode

To prevent loss of battery power, if the unit is left in the stop mode for more than three minutes, the tape setting will automatically be released. Then the time display comes on in the display window and the illumination goes off.

Notes

- This unit is not equipped with a power switch. Consequently, as long as the batteries are inserted, the LCD display will always be turned on. However, the consumption of the electric current will be very small and negligible.
- When replacing batteries, remove the used batteries and make sure the display does not come on. Then change the batteries. If you install the batteries before the display disappears, the status of the remaining battery power may not be indicated correctly.

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Notes on batteries

- Insert four size AA (LR6) alkaline batteries by matching the + and – on the batteries to the + and – in the battery case.
- Do not attempt to recharge the batteries.
- Do not use old batteries with new ones or different types of batteries together.
- When the unit is not to be used for an extended period of time, remove the batteries.
- If the electrolyte inside the battery should leak, wipe the contaminated area of the battery case with a cloth and replace the old batteries with new ones.
- Use only the alkaline batteries. Do not use any other type of dry batteries.
- In low temperature the battery capacity decreases and battery life becomes shorter.

Using with the AC power adaptor

Connect either the AC power adaptor AC-E60l (not supplied) or AC-E60AM (world wide) (not supplied) to the DC IN 6V jack of the unit.

Note

Use only the AC-E60L or AC-E60AM AC power adaptor (not supplied). Do not use any other AC power adaptor.



Polarity of the plug

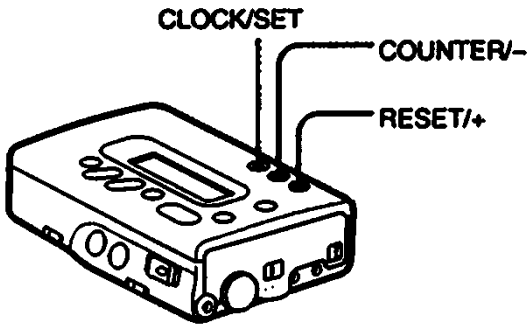
Using the power source of your car

Use the car battery cord DCC-E160L or DCC-E260HG (not supplied).

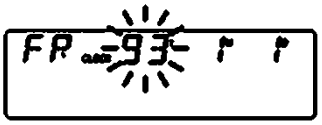
Setting the Clock

The unit automatically registers the date of recording (year/month/date/day/hour/minute/second) at the time of recording. The date of recording can be then displayed on the display window while the unit is playing back, fast-forwarding/rewinding or cueing/reviewing a tape (Date function). **It is essential to set the clock before any recordings are made.** Otherwise, the date function will not work properly and the correct date and time of a recording will not be registered on the tape.

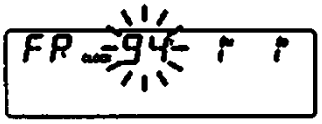
Proceed with the following steps while the unit is in the stop mode.



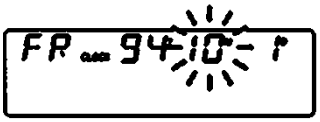
1 **Press the CLOCK/SET button for more than four seconds.**



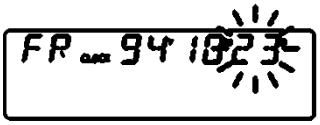
2 **Press the COUNTER/– and RESET/+ buttons to set the year digits, then press the CLOCK/SET button.**



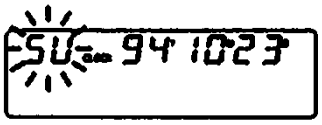
3 **Press the COUNTER/– and RESET/+ buttons to set the month digits, then press the CLOCK/SET button.**



4 **Press the COUNTER/– and RESET/+ buttons to set the date digits, then press the CLOCK/SET button.**



5 **Press the COUNTER/– and RESET/+ buttons to set the day, then press the CLOCK/SET button.**



6 **Repeat steps 2 to 4 to set the correct current time (hour/minute/second).**
The second digits change to "00" when the COUNTER/– or RESET/+ button is pressed. Therefore, synchronize the clock by pressing either – or + button with the radio time-signal etc.



The flashing will stop and the clock will start activating.

To cancel the procedure

Press the ■ STOP button. The clock display will return to the previous time display.
However, if you have proceeded to step 6, the year, month, day and date will be set.

To select either the 12-hour or the 24-hour clock display

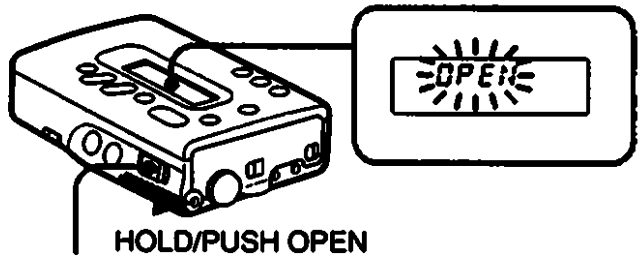
Press the RESET button for more than two seconds.

Notes

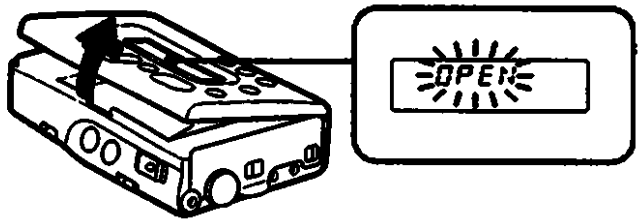
- **If the HOLD/PUSH OPEN switch is set to the HOLD position, you cannot set the clock.**
- **If you leave the unit for more than an hour without any batteries installed, the clock display will return to any original factory-set setting(93 1 1 AM 12:00:00). In this case, reset the clock after inserting the batteries.**

Inserting a Cassette

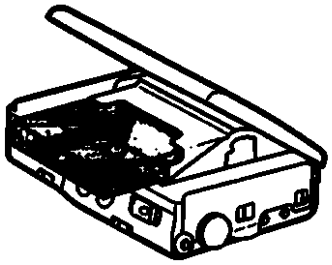
1 **Press and hold down the small button and slide the HOLD/PUSH OPEN switch to the OPEN position.**



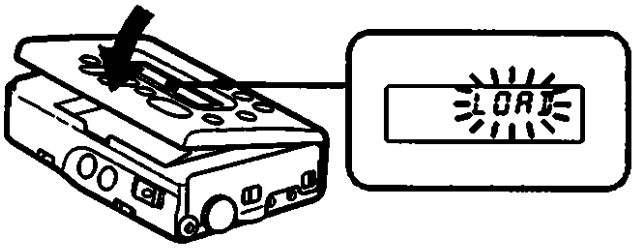
2 **Open the cassette compartment door.**



3 **Insert a cassette with the window facing upward.**



4 **Close the cassette compartment door.**



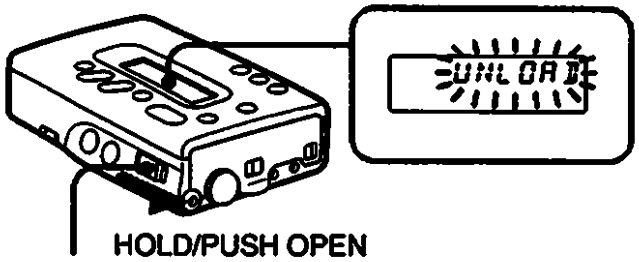
The cassette will be loaded automatically.

Notes

- When disconnecting the unit from the power source, make sure that the cassette compartment door is closed. Otherwise, you may not be able to close it afterward. If this happens, re-connect the power source.
- When inserting a cassette, make sure that the side with which the tape is visible inside is facing upward. If you inset the cassette upside down, you may not be able to take the cassette out.

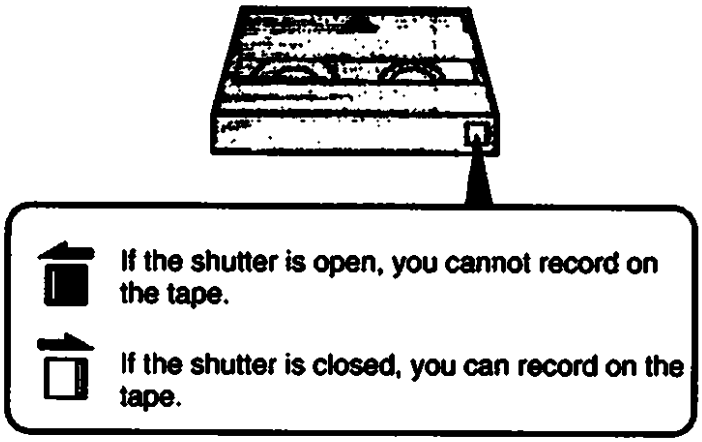
To eject the cassette

While the unit is in the stop mode, press and hold down the small button and slide the HOLD/PUSH OPEN switch to the OPEN position.



Record-protect shutter

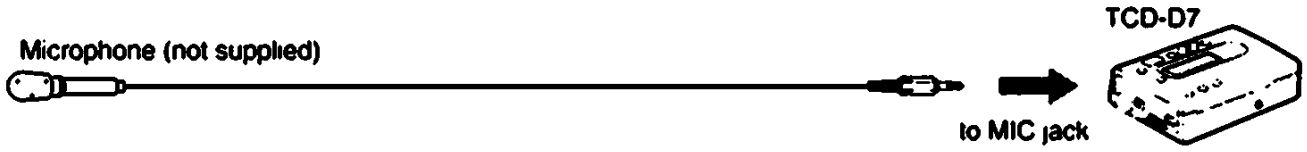
Slide the record-protect shutter to the left to protect a recorded tape from being accidentally erased by recording on the tape for the second time.



Recording

Connection with Other Equipments

Recording with a microphone

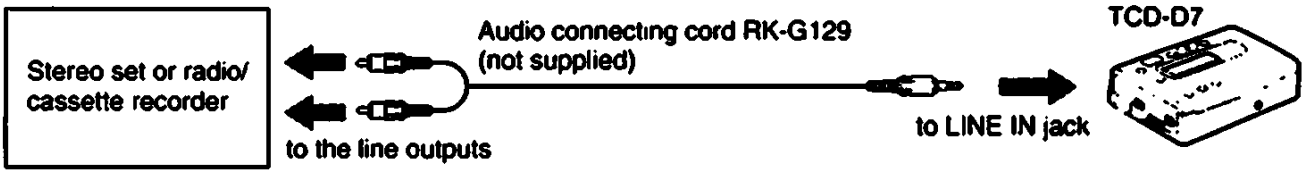


The PLUG-IN POWER type microphones can be used as well.

Notes

- In this connection example, you need to set the MIC SENS and REC MODE switches for the source sound. See page14 for details.
- You cannot use an auto-power-supply type microphone such as the electret condenser stereo microphone ECM-S220 etc. with this unit

Recording from a stereo set or a radio/cassette recorder etc. (analog connection)

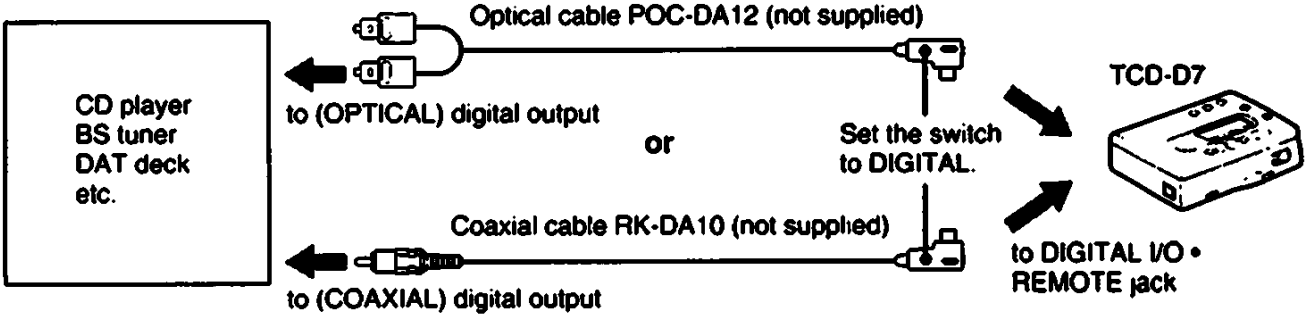


Notes

- In this connection example, you need to set the REC MODE switch for the source sound. See page 14 for details.
- If a microphone is connected as well, the microphone connection will override the line connection.

Recording from equipment with digital outputs (digital connection)

There are two types of digital output connectors: the optical type and the coaxial type.

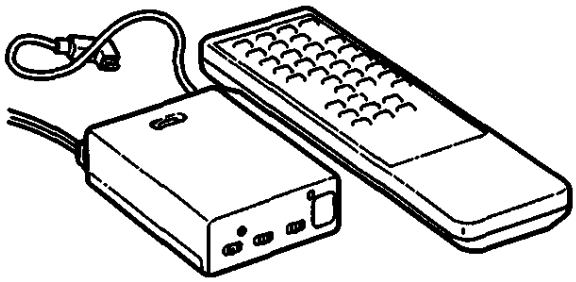


Notes

- In this connection example, you cannot adjust the recording level. The recording will be carried out at the same level as the source sound.
- Make sure that the switch on the connecting cable is set to the DIGITAL position before you start recording.

The adaptor kit RM-D3K (not supplied)

This kit is equipped with the input/output connectors for both the optical cable and the coaxial cable. Therefore, you can use this kit as a relay between the TCD-D7 and another digital equipment. You can also remote control the TCD-D7 with the remote controller supplied to the RM-D3K. The timer operated recording or playback can be performed by adding an optional audio timer. See the operating instructions of the RM-D3K for details.



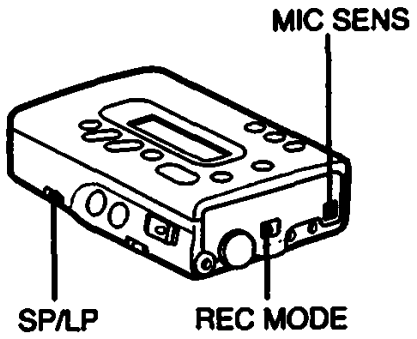
RM-D3K

Note

If you intend to use the RM-D3K, use the AC power adaptor (not supplied) for the power source of the TCD-D7. If you use batteries, the remote controller will not be activated or correct digital input/output may be impossible.

Before Recording

Use the following switches according to your needs.



◆ SP/LP switch

SP: When the recording is to be made in the standard play mode. (The recording quality will be better with this mode.)

LP: When the recording is to be made in the long play mode.

LP mode

The recording time varies with the type of DAT cassette you use. See the chart below.

	SP mode	LP mode
DT-120	2 hours	4 hours
DT-90	1.5 hours	3 hours
DT-60	1 hour	2 hours

Notes

- If the sampling frequency (see page 20) of the digital input is either 44.1 kHz or 48 kHz while recording via the digital connection, the LP mode recording cannot be made even if you select the LP position with the SP/LP switch.
- You cannot play back a tape recorded in the LP mode on another DAT deck which is not equipped with the LP mode function.
- If you play back a tape, whose recording speed has been changed halfway from the SP mode to the LP mode, on a DAT deck which is not equipped with the LP mode function, you may experience some loud noise where the recording speed changes. In such a case, turn down the volume.

The tape counter display while the LP mode is used

The absolute time (see page 16) and the remaining tape time are based on the SP mode. Therefore, the actual time will be twice the amount of what is being shown on the display window.

◆ MIC SENS switch (for recording with a microphone)

H: Normally set the switch to this position.

L: When recording relatively loud sound (the built-in 20 dB attenuator will be activated).

◆ REC MODE switch

(When another device such as a microphone or a stereo set is connected to either the MIC or the LINE IN jack of the unit.)

MANUAL: When adjusting the recording level manually.
The recorded sound will become more faithful to the source sound.
See page 16 for more details about adjusting the recording level.

MUSIC: When recording music.(The adjustment of the recording level will be made automatically.)

SPEECH: When recording a meeting or a conference etc. (The adjustment of the recording level will be made automatically.)

To confirm the source of input

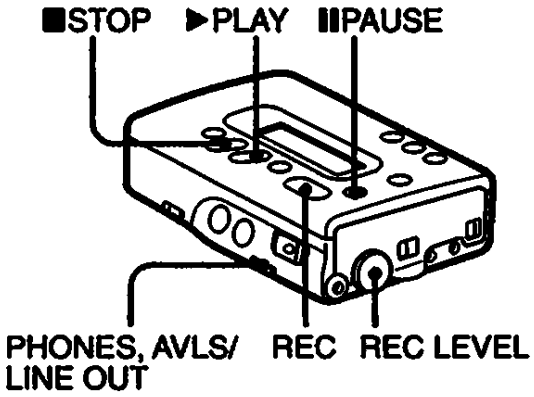
Press the REC button twice while the unit is in the stop mode, or if the unit is in the recording or pause mode, press the REC button once. One of the following indications will come on for approx. one second:

MIC in, LINE in, DIGITAL.

These indications come on when the source of input has been changed as well.

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To Record



1 **Insert a DAT cassette. (See page 11.)**

2 **Press the REC button and the ❚❚ PAUSE button.**

The unit enters the pause mode.

- When recording via a microphone or the analog connection, adjust the recording level with the REC LEVEL knob (Recording monitor mode) (see page 16).
- When recording from another equipment, engage the source equipment in the playback mode.

3 **Press either the ▶PLAY or the ❚❚ PAUSE button.**

The recording starts.

Notes

- **The recording cannot be started by just pressing the REC button,** instead, the unit enters the recording monitor mode. The unit can enter the recording monitor mode whether the record-protect shutter of the cassette is open or not. Recording is possible only when the shutter is open.
- You cannot adjust the output level of the LINE OUT jack of this unit.
- Care must be taken if disconnecting a plug from the PHONES/LINE OUT jack while recording, as doing so may cause some noise to be recorded.

To stop recording

Press the ■ STOP button.

To pause recording momentarily

Press the ❚❚ PAUSE button.

To cancel the pause mode, press the ❚❚ PAUSE button again or press the ▶PLAY button.

Notes

- If the unit is left in the pause mode for more than five minutes, the unit will automatically enter the stop mode in order to protect its head and the tape.
- If the unit is left in the stop mode for more than three minutes, the unit will automatically enter the low-power consumption mode (See page 8). However, when the unit is in the recording monitor mode, it will not enter the low-power consumption mode.

To monitor the sound while recording

Plug in the headphones (not supplied) or an active speaker system (not supplied) to the PHONES/LINE OUT jack of the unit.

If the headphones are to be used, set the PHONES, AVLS/LINE OUT switch to either the AVLS ON or AVLS OFF position.

If the active speakers are to be used, set the PHONES, AVLS/LINE OUT switch to the LINE OUT position. (You cannot control the volume with the unit.)

Notes

- If headphones are connected to the PHONES/LINE OUT jack of the unit and the unit is in recording/playback, you cannot change the position of the PHONES, AVLS/LINE OUT switch. (If you wish to do so, stop recording/playback or unplug the headphones first.)
- There may be cases where you experience some noise while monitoring the sound while recording via the digital connection.

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Notes on Recording

Do not leave any unrecorded parts on a DAT tape

If there is a blank (unrecorded) part left on a DAT tape, the absolute time* will not be written thereafter. Also, when the tape is being fast-forwarded or rewound, it will stop at that point. In order not to leave any unrecorded parts on a tape while recording, observe the following:

— If you intend to continue to record on a tape which is partially recorded, make sure that you find the end of the previous recording first, then start the new recording from that point without leaving any unrecorded gap. (If you fast-forward the tape, it should automatically stop where the previous recording has ended.)

— If you wish to leave some blank parts, do not forward the tape with the ▶PLAY button or the ▶▶/▶▶I button. Keep the unit in the recording mode but without any input sound.

* The absolute time indicates the elapsed time from the beginning of the tape and the current position of the tape which is written digitally. The absolute time will be automatically written when you record a DAT tape for the very first time and cannot be erased once written.

Note

In some cases, the absolute time may not be written if you re-record on the tape on which the absolute time has not been written originally.

When you record to the end of a DAT tape

The tape automatically rewinds to the beginning and will stop there. (Auto-rewind function)

To avoid any accidental operation (Hold function)

Slide this switch to the HOLD position to avoid any accidental operation while the unit is set in a particular operational mode.

Note

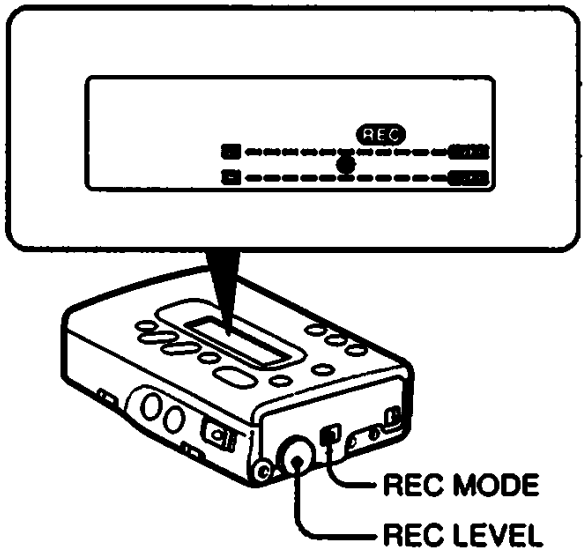
Slide the HOLD/PUSH OPEN switch without pressing the small button. If you forcibly press the button, the switch may be damaged.

To Record Successfully

To adjust the recording level

Slide the REC MODE switch to the MANUAL position.

Rotate the REC LEVEL knob so that the peak level indicators on the display window flicker at around level ⓬. However, make sure that the level indicators do not go over the 0 dB mark when the peak sound level is recorded.



When the OVER indicator(s) flicker(s)

The recording level is set too high. Lower the level in order to avoid the recorded sound from becoming distorted.

When recording relatively low sound

Lower the recording level and move the microphone as close as possible to the source. You should be able to make a clear recording with the least amount of noise.

Selecting a microphone best suited to the recording situation

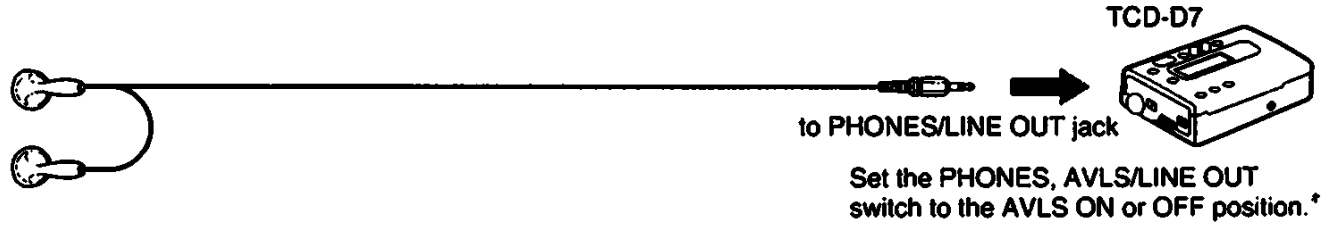
The recording characteristics are affected by the type of microphone you use. For a high quality recording, use the ECM-959A (not supplied) or the ECM-737 (not supplied).

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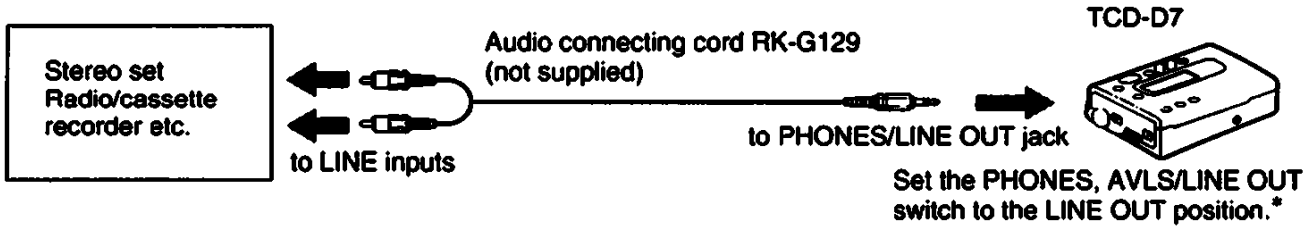
Playback

Connection with Other Equipments

Playback with stereo earphones

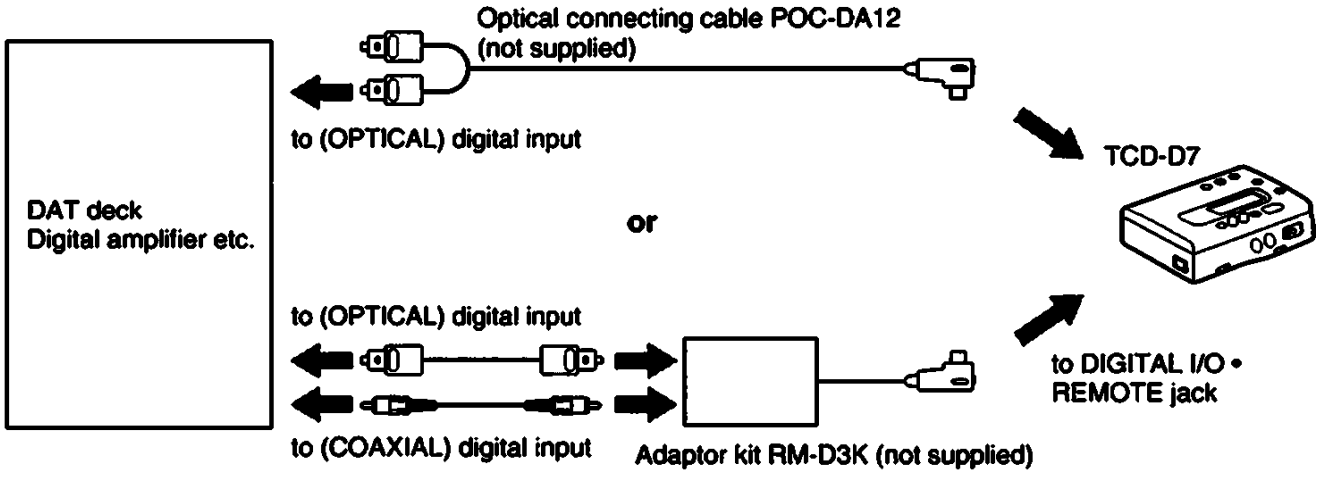


Playback with a connected stereo set or radio/cassette recorder etc. (analog connection)



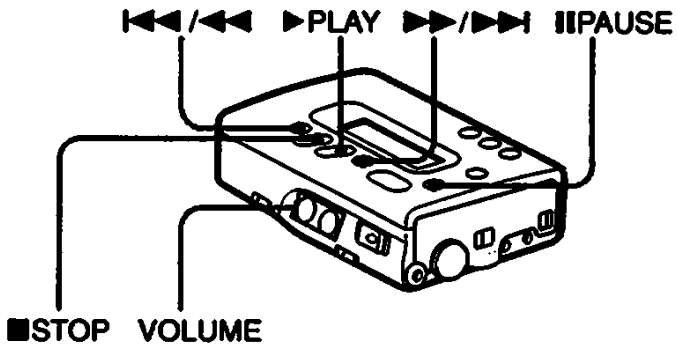
Playback with a connected equipment with digital input connectors (digital connection)

There are two types of digital input terminals: the optical type and the coaxial type.



* When changing the position of the switch, stop playing or unplug the headphones/connecting cord. To confirm the switch setting, press VOLUME. If it is set to LINE OUT, LINE OUT will come on in the display window.

To Play back



1 **Insert a DAT cassette. (See page 11.)**

2 **Press the ▶ PLAY button.**
Playback starts. The SP mode or the LP mode will be detected automatically, therefore, you do not have to adjust the SP/LP switch.

3 **Adjust the volume with the VOLUME buttons.**



Note
You cannot adjust the output level of the LINE OUT jack of this unit.

To stop playback
Press the ■STOP button.

To pause playback momentarily
Press the II PAUSE button.
To cancel the mode, press either the II PAUSE button or the ▶PLAY button.

Notes
- If the unit is left in the pause mode for more than five minutes, the unit will automatically enter the stop mode in order to protect its head and the tape.
- If the unit is left in the stop mode for more than three minutes, the unit will automatically enter the low-power consumption mode (See page 8).

To fast-forward the tape
Press the ▶▶/▶▶I button when the unit is in the stop mode.

To rewind the tape
Press the I◀◀/◀◀ button when the unit is in the stop mode.

When a tape is played back to the end
The tape will be rewound to the beginning automatically and the unit enters the stop mode. (Auto-rewind function)

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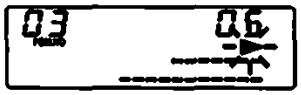
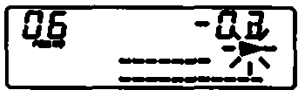
To fast-forward or rewind while monitoring the sound — cue/review

To cue	Keep ▶▶/▶▶I pressed during playback.	The tape is fast-forwarded/rewound while the button is held pressed. When you release the button, the unit goes back the normal playback mode.
To review	Keep I◀◀/◀◀ pressed during playback.	

If you press the ▶ PLAY button and the ▶▶/▶▶I button or the I◀◀/◀◀ button during playback, the unit enters the high speed cue/review.

Locating the beginning of a program (track) — AMS* function

Press either the ▶▶/▶▶I or I◀◀/◀◀ button **quickly** once during playback. If the unit is in the fast-forward/rewind mode, press either the ▶▶/▶▶I or I◀◀/◀◀ button once. Or if the unit is in the stop mode, press either the ▶▶/▶▶I or I◀◀/◀◀ button twice.

To locate the beginning of the succeeding program (track)	Press ▶▶/▶▶I the same number of times as the programs (tracks) to be skipped.	 E.g.: to locate the beginning of the fifth program (track)
To locate the beginning of the previous program (track)	Press I◀◀/◀◀ the same number of times as the programs (tracks) (including the currently played one) to be skipped.	 E.g.: to locate the beginning of the fourth program (track) including the currently played one

* Automatic Music Sensor

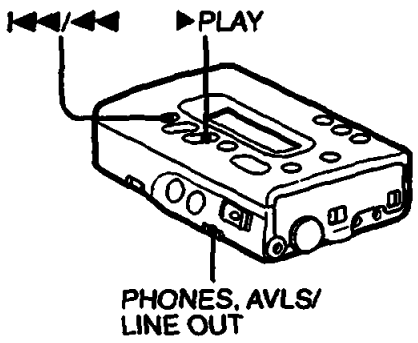
Note

The AMS function may not work properly if the start IDs are not registered on the tape or if the tape is recorded on another DAT deck. (See page 21.)

The AMS indication during fast-forward or rewind

The peak level indicators (L/R) show the tape transport direction and the remaining amount of tape to be wound.
L indicator: tape transport direction
R indicator: remaining amount of tape to be wound

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To listen to a tape with headphones with a more comfortable sound pressure level — AVLS* function

When playing back a tape, set the switch to either the AVLS ON or the AVLS OFF position.

AVLS ON: Controls the sound pressure without degrading the sound quality when the volume is turned up. (Only when the headphones are used)

AVLS OFF: Normal sound reproduction

* The AVLS (Automatic Volume Limiter System) function automatically limits the sound pressure so that it will not exceed a certain level without degrading the sound quality, even if you attempt to turn the volume up higher. It also helps to reduce the sound leakage from your headphones.

Note

The reproduced sound may be distorted or unstable due to the type of music (with enhanced bass) being played back. If this happens, turn the volume down.

To avoid any accidental operation (Hold function)

Slide this switch to the HOLD position to avoid any accidental operation while the unit is set in a particular operational mode.

Note

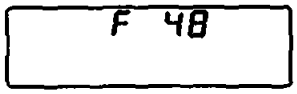
Slide the HOLD/PUSH OPEN switch without pressing the small button. If you forcibly press the button, the switch may be damaged.

To listen to a tape from the beginning after it has been rewound — Auto-play function

While pressing down the I◀◀/◀◀ button, press the ▶PLAY button. When the tape is rewound to the beginning, the playback starts automatically.

To get the sampling frequency displayed during recording/playback

Press and hold the ▶PLAY button during recording/playback. The sampling frequency will be displayed while the button is held pressed.



There are three types of sampling frequencies.

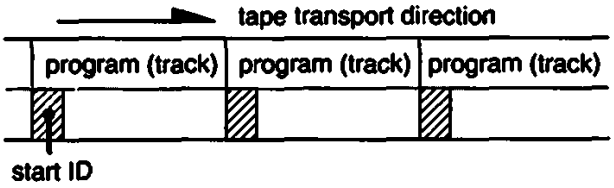
48 kHz	DAT SP (standard play) recording mode
44.1 kHz	CD and MD
32 kHz	DAT LP (long play) recording mode

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Useful Function

Start ID

This signal indicates the beginning of a recorded program (track). By reading these start ID signals, the unit can cue the beginnings of the recorded programs (tracks) automatically.



To write the start IDs

◆ To write the start IDs automatically while recording

The way in which these IDs are written depends on whether the ***AUTO-ID*** indicator is appearing on the display window or not.
The ***AUTO-ID*** indicator can be switched on and off by pressing the REC button while pressing down the ■ STOP button.

When the *AUTO-ID* indicator is off

The way in which the start IDs are written depends on the way the recording has been done. See the chart below.

Recording via MIC input Recording via LINE input	Only when the recording has started (including when the pause mode is released)
Recording from a CD player via digital input	At the beginnings of programs (tracks)*
Recording from a DAT player via digital input	All the start ID signals written on the original DAT tape will be registered.

* There may be cases where the start IDs may not be written by some CD players.

When the *AUTO-ID* indicator is on

The start IDs will be written if there is a section with a very low recording level or no sound at all lasting for more than three seconds is present on a program (track).

Note
There may be cases where the start IDs are not written properly if there is some noise present in the sound source.

◆ To write the start IDs manually while recording

While recording, press the REC button at the point where you wish to write the start ID.

Note
While writing the start IDs, the WRITE indication comes on and the START ID indicator flashes for about nine seconds (18 seconds if the unit is in the LP mode). While the unit is set in this mode, no operational buttons other than the ■ STOP button will function.

PGM (program) numbers

These signals are used to identify the program (track) numbers.
Examples in which the PGM numbers are registered are as follows:

To record a tape from the beginning
The PGM numbers will be registered simultaneously from PGM number 1 onward while the start IDs are being registered.

To record on a partially recorded tape
Locate the desired position on the tape by fast-forwarding or rewinding the tape using either the ▶▶/▶▶I or I◀◀/◀◀ button and have the PGM number displayed. Then start the new recording. While the new start IDs are being registered, the PGM numbers will be registered in sequence.

When the optional adaptor kit RM-D3K or the wired remote controller RMT-D7 is used with this unit, you will be able to do the following:

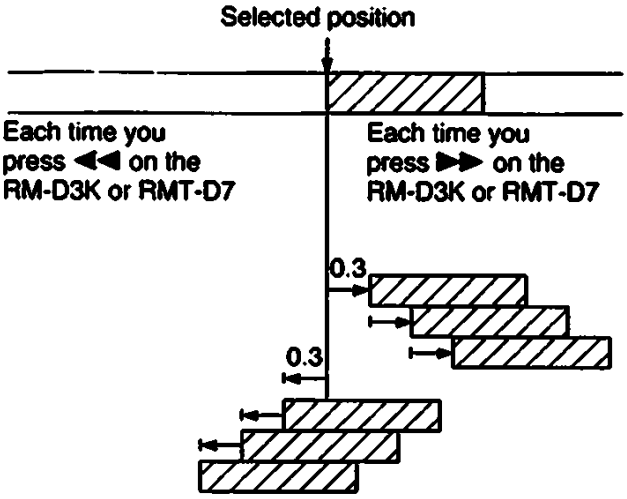
To write the start IDs during playback

You can write the start IDs in the desired positions without erasing the contents of the recording.

When the desired position on the tape is located, the section of the tape lasting three seconds from that position will be played back repeatedly. (Rehearsal function)



If the located position is not where you desired the start ID to be written, you can move that position in either direction by 0.3 second increments by the following method:



- The rehearsal function can only be repeated up to 16 times. After that, the unit shuts off automatically.
- You can move the position of a start ID forward or backward to the maximum of approx. 10 seconds.

Notes

- You cannot move the start IDs which have already been written manually, or if they have been written automatically during recording. If you wish to move start IDs, erase the existing IDs first. Then select the desired sections before rewrite the IDs.
- You cannot write the start IDs while the rehearsal function is in operation or if the "START ID" indicator and "WRITE" indication are flashing rapidly.

To erase the start IDs

You can erase the start IDs without erasing the contents of the recording on the tape. (Only when the unit is in the stop or playback mode.)



Note

If a start ID is erased, the PGM number which has been written at the same position will be erased as well.

To re-number the PGM numbers (Re-number function)

You may need to renumber the PGM numbers in the following cases:

— When the start IDs are written during playback.
— When the recording has been resumed from the middle of the tape so that the same PGM numbers co-exist on one tape.
— When the start IDs have been erased together with the PGM numbers so that some PGM numbers are missing.



When the re-numbering is over, the tape will rewind to the beginning automatically and stop there.

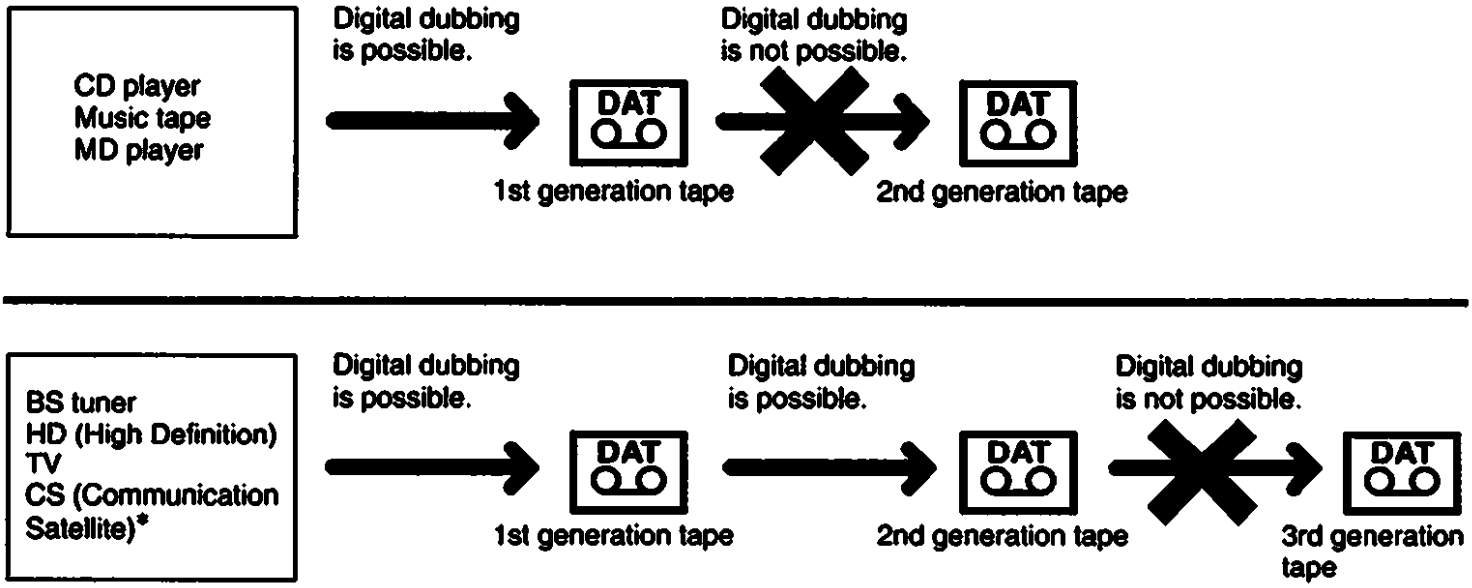
Note

If a tape is used which has been recorded on another DAT deck and has a start ID written at the beginning of that tape, writing or re-numbering the PGM numbers on that tape may not be done properly.

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Serial Copy Management System

The Serial Copy Management System which is incorporated in the domestic DAT equipment prevents repeated digital dubbing from one equipment to another. However, this system lets you record at least one generation of digital prerecorded software via digital connections.

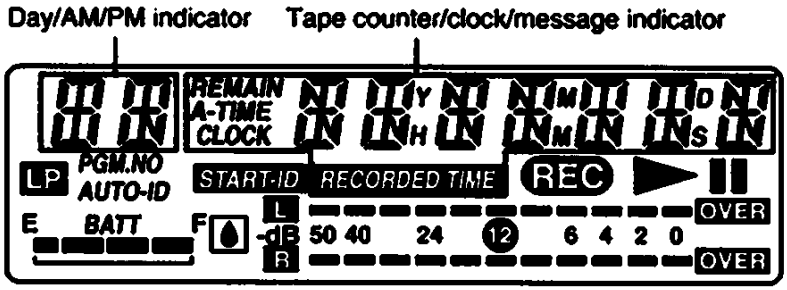


Notes

- There may be cases where the Serial Copy Management System rules are not applicable when an equipment which is not protected with the Serial Copy Management System is used in recording.
- Even if digital dubbing is impossible, you can still dub tape via analog connections.
- When digital dubbing is not possible, the message "COPY/PROHIbT" will come on the display window.

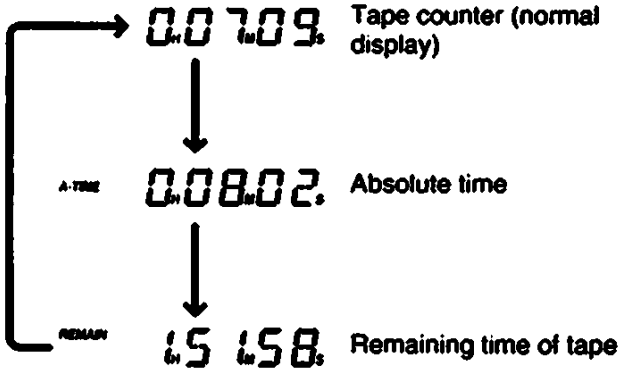
- These source examples may not apply to some countries.

Display Window



◆ The tape counter indications

Each time you press the COUNTER button, the display changes cyclically as follows:



To reset the tape counter (normal display) to "0:00:00"

Press the RESET button.

Remaining time of the tape

The remaining time left on the tape will normally come on after about 16 seconds of commencing playback in the SP mode. However, there may be some aberration in the amount of time displayed which depends upon the tape you use.

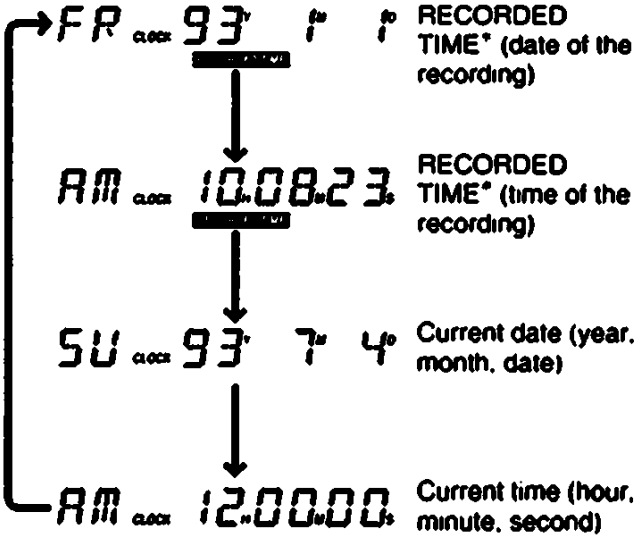
Note

The tape counter should not be used as a clock

What is being displayed on the tape counter is not completely accurate in terms of displaying the actual time. Therefore, do not use the tape counter as a clock.

◆ Clock display

Each time you press the CLOCK button, the display changes cyclically as follows:



* The RECORDED TIME will not be displayed while the unit is in the recording, recording monitor, or pause mode.

◆ Message Displays

The following messages will be displayed while operating this unit.

ERROR	Comes on when the unit is malfunctioning due to a fault. → Disconnect the power source and re-connecti it. If this does not improve the situation, disconnect the power source and take the unit to the nearest Sony dealer.
HOLD	Flashes when the HOLD/PUSH OPEN switch is set to the HOLD position.
NO TAPE	Flashes when there is no tape inside the unit.
TAPE. PROTECT	TAPE and PROTECT indications come on alternately when the REC button is pressed using a tape whose record-protect shutter is open.
No INPUT	Flashes when the digital input signal is not received.
COPY. PROHIbT	COPY and PROHIbT indications come on alternately when the SCMS signal is received.
OPEN	Flashes when the cassette door is open.
LOAD	Flashes while loading a tape.
UNLOAD	Flashes while un-loading a tape.
TOP	Flashes when the beginning of a tape*1 is reached.
END	Comes on when the end of a tape is reached.
LINEoUT	Flashes when the PHONES, AVLS/LINEOUT switch is set to LINE OUT and the VOLUME button is pressed.
bATTERY	Flashes when the batteries are weak.
EE END	Comes on when the end ID*2 is detected. (except for the tape playback)
bLANK	Flashes when the unrecorded part of a tape is detected during playback or fast-forwarding.
WRITE	Comes on while the start IDs are being written.
MIC in	Comes on when the REC button is pressed twice while a microphone is connected. Or if the recording source is changed to that of microphone from another source.
LINE in	Comes on when the REC button is pressed twice while another equipment is connected via the analog connection. Or if the recording source is changed from another source to the equipment with analog connection.
DIGITAL	Comes on when the REC button is pressed twice while another equipment is connected via the digital connection.

*1 It flashes when a new (virgin) tape is used for the first time.

*2 The end ID is a signal to indicate the position of a tape where the recording has ended. You cannot register the end IDs with this unit, however the unit can play back the tapes which are registered with the end IDs and detect them. When the unit detects an end ID during fast forward, it stops there. You can only forwanrd the tape by recording from that point. When the unit detects an end ID during playback, it enters auto-rewind mode.

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Maintenance

Cleaning the Cabinet

Clean the cabinet, and controls with a soft cloth slightly moistened with a mild detergent solution.

Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

Cleaning the Head

Prolonged operation may cause contamination of the head. To make the best possible recording and playback, we recommend you to clean the head every ten hours of recording/playback, using the cleaning cassette DT-10CLA (not supplied).
Likewise when the unit has not been used for a long period of time, clean the head with the cleaning cassette before use. If the head is left dirty, it may cause sound dropouts during playback.

How to use the cleaning cassette

1 Insert the cleaning cassette as you would a normal DAT cassette.
2 Press the ▶PLAY button, then press the ■ STOP button after about 10 seconds.
3 Remove the cleaning cassette without rewinding it.
4 Proceed with recording and playback with a normal DAT cassette and check the sound quality.

Notes on the cleaning cassette

- The cleaning cassette cannot be used for recording or playback.
- Do not clean the head with the cleaning cassette more than five times in succession. Cleaning the head continuously for a long period of time may cause wear to the head.
- Do not rewind the cleaning cassette each time you use it. When the cleaning cassette tape is taken up (wound) completely, rewind it to the beginning and reuse it. The cleaning cassette can be used approximately 200 times, with 10 seconds of cleaning each time.

Specifications

Tape	Digital audio tape
Recording time	Standard: 120 minutes Long-play mode: 240 minutes (with DT-120)
Sampling frequency	48 kHz, 44.1 kHz, 32 kHz
Frequency response	Standard: Fs 48 kHz 20 – 22,000 Hz (±1.0 dB) Fs 44.1 kHz 20 – 20,000 Hz (±1.0 dB) Fs 32 kHz 20 – 14,500 Hz (±1.0 dB) Long-play mode: Fs 32 kHz 20 – 14,500 Hz (±1.0 dB)
Signal to noise ratio	Standard: more than 87 dB Long-play mode: more than 87 dB (1 kHz IHF-A, 22 kHz LPF, LINE IN)
Dynamic range	Standard: more than 87 dB Long-play mode: more than 87 dB (1 kHz IHF-A, 22 kHz LPF, LINE IN)
Total harmonic distortion	Standard: less than 0.008% (1 kHz, 22 kHz LPF, LINE IN) Long-play mode: less than 0.09% (1 kHz, 22 kHz LPF, LINE IN)
Wow and flutter	Below measurable limit (less than ±0.001% W.PEAK)

Input

	Jack type	Impedance	Rated input level	Minimum input level
MIC	stereo minijack	4.7 kilohms	–	0.4 mV
LINE IN	stereo minijack	47 kilohms	500 mV	80 mV

Output

	Jack type	Impedance	Rated output	Maximum output level	Load impedance
PHONES/ LINE OUT	stereo minijack	27 ohms	LINE OUT 500 mV	PHONES 5 mW + 5 mW	LINE OUT more than 10 kilohms PHONES 32 ohms

Input/output

DIGITAL I/O • REMOTE jack (special jack)

Digital input/output, remote control operation and timer-activated operation is possible by connection with an adaptor kit to this jack.

Power requirements	• DC 6 V four size AA (LR6) batteries • DC IN 6V jack accepts: the Sony AC power adaptor AC-E60AM or AC-E60L (not supplied) for use on 120 V AC, 60 Hz the car battery cord DCC-E160L (not supplied) for use with 12 V car battery or DCC-E260HG (not supplied) for use with 12V/24V car battery.
Battery life (when the illumination for display window is off)*	Playback: approx. 3.5 hours Recording: approx. 3 (4**) hours * measured at 20°C ** when the headphones or active speaker system is unplugged from the PHONES/LINE OUT jack
Power consumption	1.2 W
Dimension	Approx. 132.6 × 36.7 × 88.2 mm (5 1/4 × 1 1/2 × 3 1/2 in.) (w/h/d) not incl. projecting parts and controls
Mass	Approx. 500 g (1 lb. 1oz.) incl. batteries

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Specifications

Accessories supplied

Carrying case (1)
Operating instructions (1)

Design and specifications are subject to change without notice.

Accessories not supplied

AC power adaptor AC-E60AM (world wide model), AC-E60L
Car battery cord DCC-E160L, DCC-E260HG
Car connecting pack CPA-4, CPA-8
Wired remote commander RMT-D7
System adaptor kit RM-D3K
Digital cable POC-DA12 (rectangular-shaped optical plug), POC-DA12M (optical miniplug input), RK-DA10 (coaxial)
Audio connecting cord RK-G129
Stereo microphone ECM-959A, ECM-737, ECM-727P (plug-in power system)
Stereo earphones MDR-E484, MDR-E575
Stereo headphones MDR-D77, MDR-D55
Active speaker system SRS-88
Cleaning cassette DT-10CLA

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

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Troubleshooting Guide

Problem	Cause	Solution
• **Operation buttons do not function.** • **The unit does not operate.**	HOLD/PUSH OPEN switch is set to HOLD position.	Slide the switch to the center position.
	The batteries are dead. (bATTERY indication has come on.)	Replace the batteries with new ones.
	The AC power adaptor is connected incorrectly.	Connect the AC power adaptor correctly.
	The safety system is activated due to moisture condensation. (⚿ indicator has come on.)	Leave the unit for a while and restart the unit by turning on the power.
	Some other cause	Disconnect the power source from the unit, then connect it again.
The tape does not move.	⏸ PAUSE button is activated. (⏸ indicator has come on the display window.)	Press ⏸ PAUSE button or ▶PLAY button to release pause mode. (See page 15 or 18.)
	The tape is wound completely.	• Rewind the tape with ⏮/◀◀ button. • Replace the cassette.
No sound	The volume is turned down completely.	Adjust the volume.
	Incorrect operation of the connected equipment.	Operate the connected equipment as instructed in this operating instructions.
	The head may be contaminated.	Clean the head with the optional cleaning cassette. (See page 26.)
Recording cannot be made.	The record-protect shutter on the cassette is open.	Close the shutter on the cassette. (See page 11.)
	An incorrect operation of the connected equipment.	See "Connection with Other Equipment" on page 12 or refer to the operating instructions of the connected equipment.
	SCMS signal is detected.	Record via the analog connection. (See page 12.)
Sound is not recorded on the tape.	Recording level control is set to the minimum when recording via the analog input.	Adjust the control correctly. (See page 16.)
The volume cannot be adjusted.	PHONES, AVLS/LINE OUT switch is set to LINE OUT position.	Set the switch to AVLS position.
	HOLD/PUSH OPEN switch is set to HOLD position.	Slide the switch to the center position.

Troubleshooting Guide

Problem	Cause	Solution
Neither start ID nor PGM number can be written.	The record-protect shutter on the cassette is open.	Close the shutter on the cassette. (See page 11.)
Operation buttons do not function while the start ID is being written.	While the start ID is being written, none of the buttons except ■ STOP button can be used.	Press the buttons after the [redacted] indicator has stopped flashing.
Absolute time cannot be written.	Recording has been started from a blank part on the tape.	Rewind the tape to the beginning, locate the very last point of the previous recording and start recording from that point. (See page 16.)
The sound picked up by the microphone is distorted.	The sound source is too loud.	Set MIC SENS switch to L position.
Noise occurs during recording.	When monitoring the recording sound with headphones or external speakers, they are placed too close to the microphone.	Keep the microphone away from them.
The tape stops suddenly during playback.	There is a blank (unrecorded) part on the tape.	—
Increase of noise or deterioration of sound.	*The head may be contaminated.*	*Clean the head with the cleaning cassette.*
The cassette compartment door cannot be closed.	Power source is disconnected from the unit just after opening the cassette compartment door.	Connect the power source and close the door.

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