DENON

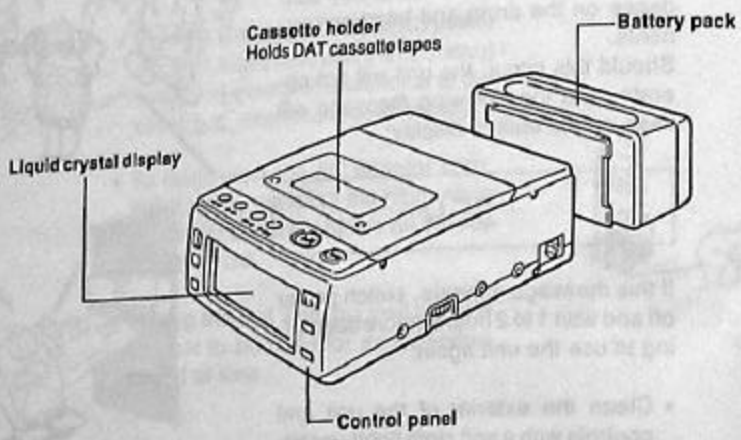
DIGITAL AUDIO TAPE RECORDER

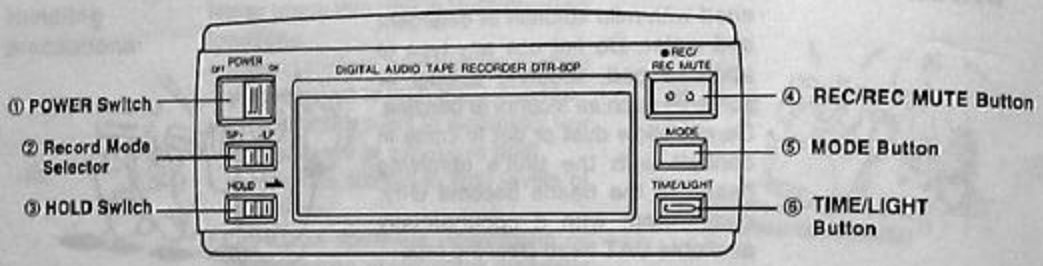
DTR-80P

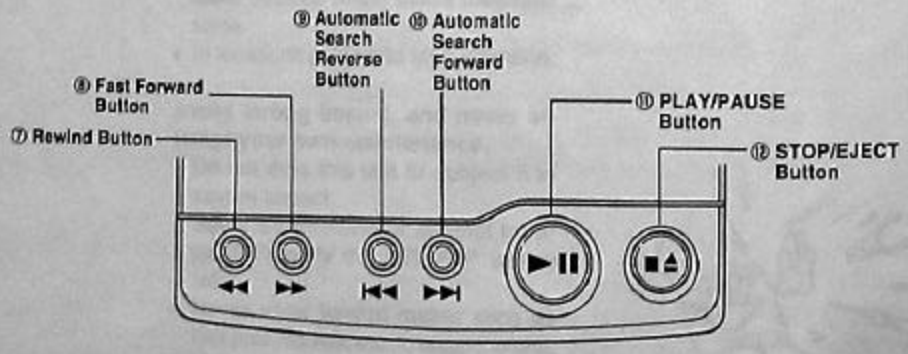
OPERATING INSTRUCTIONS

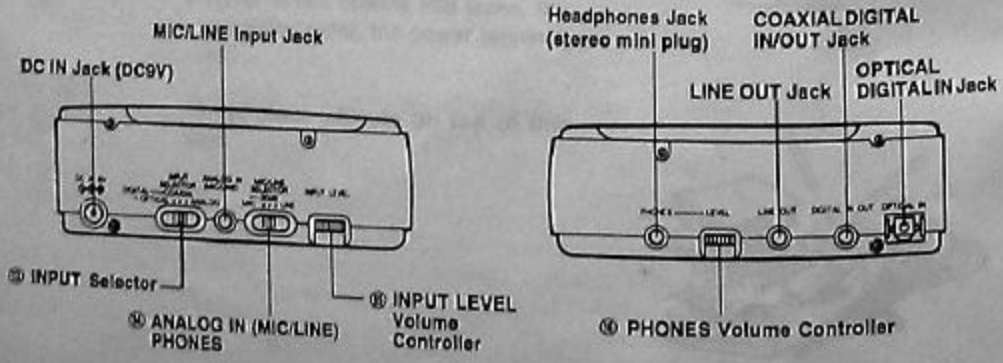
DAT
Digital Audio Tape

General Guide









Controls

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② **Record Mo**
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③ **HOLD Swi**
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④ **REC/REC**
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⑥ **TIME/LIGH**
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Power Source

This set can be used on a household power source, alkali battery pack, rechargeable Ni-cd battery pack (sold separately), or car battery adapter (sold separately).

Using household current

An AC adaptor is required when using household current.

1 With the unit switched OFF, connect the AC adaptor to the DC IN jack.

2 Plug the AC adaptor unit into an AC outlet.

3 Switch power ON.
The liquid crystal display will appear as shown below.
- If a tape is loaded in the unit

- If no tape is loaded

CAUTION

Be sure to use only the AC adaptor that comes with the unit. Using any other adaptor can result in serious damage to the unit or adaptor. Never use any other type of adaptor except the one that comes with this unit. Damage caused by using any other type of adaptor is not covered by your warranty.

IMPORTANT

- The adaptor may become warm when it is being used. This is normal and does not indicate any problem.
- Be sure to unplug the adaptor from the power source when you are not using the unit.
- Whenever connecting or disconnecting the adaptor, be sure that the power of the unit is switched off.
- Never use a power supply that does not match that specified for the unit. Doing so can damage the adaptor or your unit.

To Use an Alkali Battery

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Inserting the batteries

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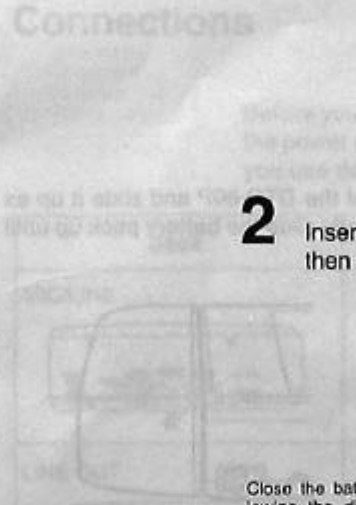

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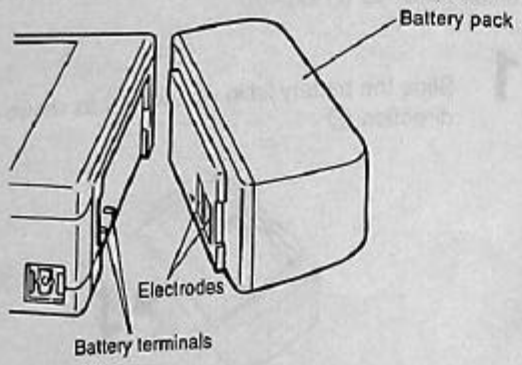
IMPORTANT

Other precautions
- Never short circuit the elect
- Never allow the battery pac
- Never try to disassembly or

To attach the battery pack to the DTR-80P

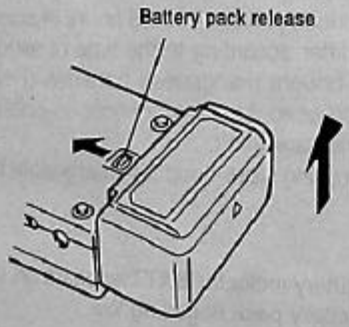
1 Align the battery pack's electrodes with the battery terminals of the DTR-80P.



2 Position the battery pack on the end of the DTR-80P and slide it up as shown in the illustration. Firmly but gently slide the battery pack up until it clicks into place.

To detach the battery pack from the DTR-80P

Holding the battery pack release in the direction shown in the illustration, slide the battery pack off the DTR-80P.



Auto power off function

The DTR-80P features an "auto power off" function which automatically turns OFF power 6 minutes after the last operation of the unit. To return to normal operation, simply press ⏻ button. If you want to cancel the Auto Power OFF function for continuous power, hold down ⏻ (or ⏻) when you switch the power ON.

When you hold down ⏻ to cancel the Auto power off function, the sampling frequency of analog input recording is set to 44.1 kHz (page 19).

To Use a Rechargeable

Use the separately sold AP-18 re
operating instructions of the AP-

To Use a Car Battery A

Use the separately sold AP-19
instructions of the AP-19.

Connections

Before you
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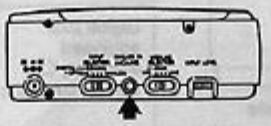
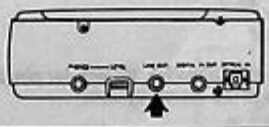
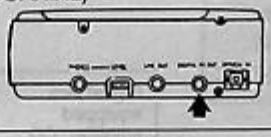
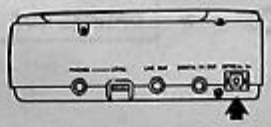
Jack	
MIC/LINE	
LINE OUT	
DIGITAL IN/OUT (COAXIAL)	
DIGITAL IN (OPTICAL)	

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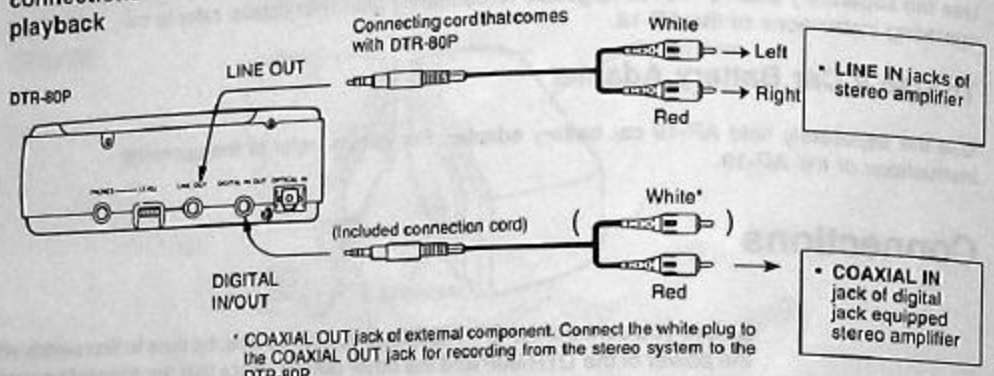
Sample connections for playback

To play the DTR-80P through the speakers of a stereo system, connect it to the system's amplifier.

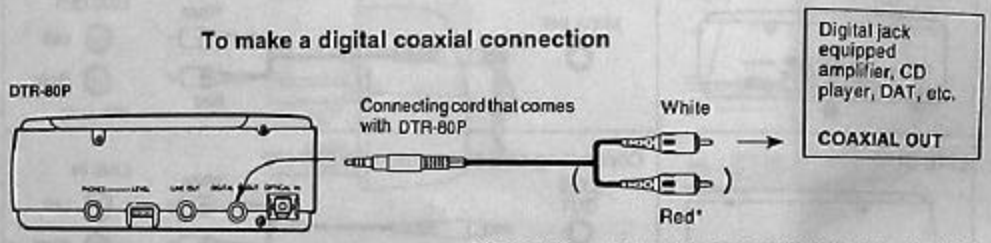


* COAXIAL OUT jack of external component. Connect the white plug to the COAXIAL OUT jack for recording from the stereo system to the DTR-80P.

Sample connections for recording

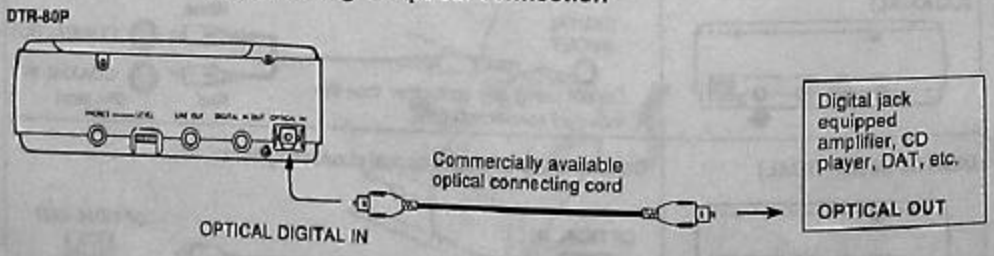
To record the signal from an external device on the DTR-80P, make connections using one of the configurations shown below.

To make a digital coaxial connection

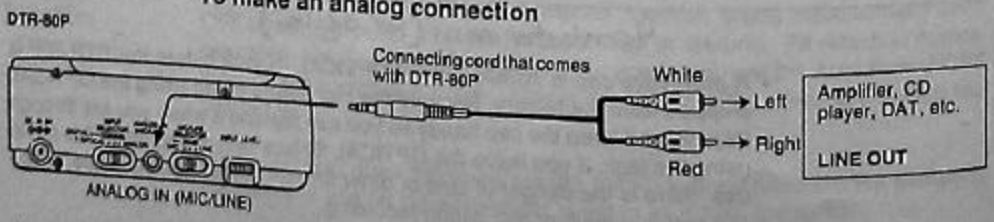


* Connect the red plug to the COAXIAL IN jack for playback from the DTR-80P through the stereo system.

To make a digital optical connection

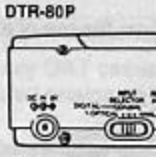


To make an analog connection



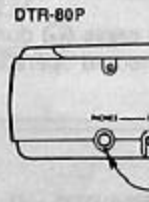
To connect a microphone

You can conn
DTR-80P. To
plug adaptor.



To connect headphones

You can conn
DTR-80P. To
plug adaptor.
output through



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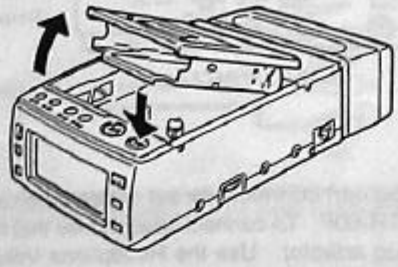
Using DAT Cassette Tapes

Loading a tape

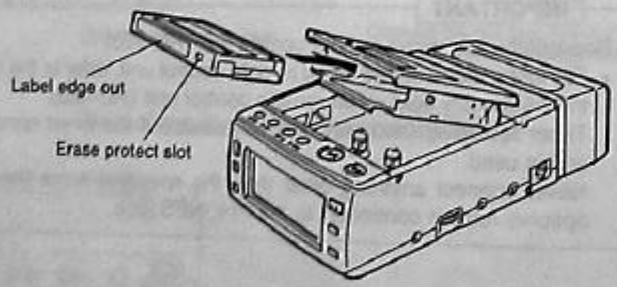
1 With DTR-80P power ON, press ⏏ on the top of the unit. The cassette holder will open.



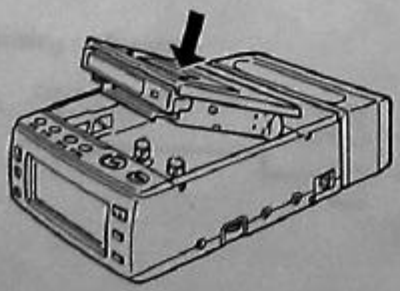
IMPORTANT

The cassette holder will not open if you press ⏏ during playback or recording. Be sure to stop the playback/record operation before trying to open the cassette holder.

2 Load the tape face up into the holder, as illustrated.



3 Close the cassette holder by gently pushing down at the point indicated by the arrow.



To remove cassette tapes

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Tape handling precaution

- Be sure to use only DAT cass
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About tapes and playing time

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Recording Operations

The DTR-80P is capable of recording digital and analog signals. The following describes each operation and the best applications in which you should use it.

Making Analog Recordings

You can make analog recordings from line input or microphone input. When a signal from an analog microphone or the LINE OUT terminal of an audio device enters the ANALOG IN (MIC/LINE) terminal of the DTR-80P, it is converted into a digital signal. If the DTR-80P is in the SP (standard play) mode, the sampling frequency for the conversion is 48 kHz, while the LP (long play) mode provides 32 kHz sampling.

To set up for 48 kHz SP analog recording

1 Switch power on.

2 Set the **INPUT** selector to ANALOG IN (MIC/LINE).

3 Set the **Record Mode** selector to SP.

To set up for 32 kHz LP analog recording

1 Switch power on.

2 Set the **INPUT** selector to ANALOG IN (MIC/LINE).

3 Set the **Record Mode** selector to LP.

To set up for 44.1 kHz SP analog recording

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on.

2 Set the **IN**
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- Never change **INPUT** selecto selector while ress.

About sampling frequencies

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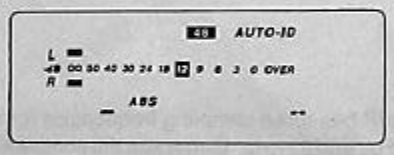
To record analog input

1 Connect the analog source (either a line source or a microphone source) to the DTR-80P.

2 Set up the DTR-80P for the type of recording you want to perform as described on page 14.

3 Slide the **MIC/LINE** selector to LINE for line input, or MIC/–20 dB for microphone input.

4 Load a tape into the DTR-80P and press ⏮ to rewind the tape to its beginning to record the ABS (Absolute time; page 43) sub-code correctly. For details on recording from a point on a partially recorded tape, see page 25.



5 Hold down REC/ANALG. The message "ANALG" appears on the display for about 1 second. At this time the DTR-80P starts to create a 3-second recorded blank (see page 30) on the tape, a process that takes about three seconds. Next, the DTR-80P enters REC PAUSE (recording pause).

IMPORTANT

- Right after you switch on power, the DTR-80P takes some time to perform an internal set up routine that prepares its mechanical and electronic components for operation. Because of this, you have to wait about 10 seconds before pressing REC/ANALG to start recording or to activate the monitor function.

- If you leave the DTR-80P in REC PAUSE for longer than about five minutes, it automatically exits REC PAUSE.
- While in REC PAUSE, you can also set up for fade in recording (page 27).

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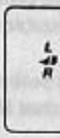

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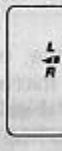

To stop recording

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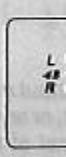

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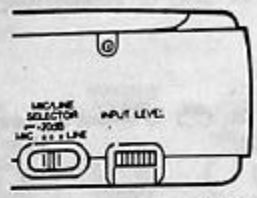
To adjust the recording level

While listening to the sound you want to record (with the unit in REC PAUSE), you can adjust the recording volume level of both channels with the INPUT LEVEL Volume controller. The sound will become distorted during playback if the recording level exceeds 0 dB. The level meter holds the peak level for 1 seconds, so you can adjust the level to record between –12 dB and 0 dB. Try to keep the peak level as close to 0 dB as possible, without exceeding lit.

If you record outdoors, it may be difficult to determine the peak value. In this case, lower the recording level slightly (so that the peak is at about –12 dB).



Adjust so that the level does not enter the "OVER" zone on the meter. Sounds that are recorded with the level staying in the "OVER" zone are distorted when played back.

About the Microphone Attenuator

When you are recording from a standard microphone, set the MIC/LINE selector to "MIC". Note, however, that very loud sounds during microphone recordings can cause distortion in the playback, even if the recording level is set to a relatively low level. If in the "MIC" setting you find it necessary to set the INPUT LEVEL Volume controller dial to 3 or below to keep the record level below the "OVER" zone, change the setting of the MIC/LINE selector to "–20 dB". This automatically attenuates (reduces) the microphone input volume and makes it easier to make a clear recording.

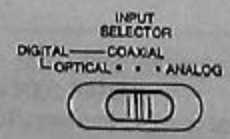
Making Digital Recordings

You can make digital recordings from optical digital input or coaxial digital input. When a signal from compact disc player, another DAT deck, or any other device equipped with a DIGITAL OUT jack enters the DIGITAL IN terminal of the DTR-80P, it is recorded directly as a digital signal. The DTR-80P automatically selects the correct sampling frequency (see page 19) in accordance with the frequency of the signal from the source. When the sampling frequency of the source is 32 kHz, you can select between SP (standard play) and LP (long play) for the DTR-80P using the **Record Mode** selector.

To record digital input

1 Connect the digital source to the DIGITAL IN/OUT jack or OPTICAL IN jack of the DTR-80P.

2 Set the **INPUT** selector to either COAXIAL or OPTICAL, depending on what type of connection you are using.



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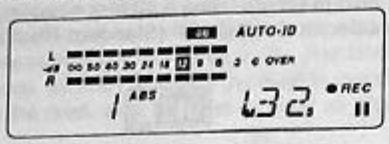
7 To start

To stop recording

To enter REC PAUSE and stop movement of the tape, press ⏯.



While AUTO-ID (page 32) is on, START-IDs are registered automatically. It takes about nine seconds for a START-ID to be registered, and you cannot use ⏯ during that 9-second period.

To stop movement of the tape and exit the recording operation, press ⏹.

Things to Remember While Recording

- If the DTR-80P detects a record prohibit in the digital input while recording, the message "PROHB" appears on the display and the record operation enters a pause (see page 44 for details).
- Whenever all the sampling frequency indicators (32 kHz, 44.1 kHz, 48 kHz) appear flashing on the display while the unit is in REC PAUSE, it means that digital data is not being received or that incompatible data is being received. Even if you press ⏯ in this situation, the DTR-80P stays in REC PAUSE and "▶" flashes on the display until valid digital data is received. Receipt of valid data starts recording automatically. You can stop the "▶" flashing and return to REC PAUSE by pressing the ⏯ button.
- Never change the settings of the INPUT selector or the **Record Mode** selector while a recording is in progress.
- Interruption of valid digital data during digital recording causes the unit to enter REC PAUSE automatically with "▶" flashing on the display.
- The DTR-80P automatically exits REC PAUSE and switches to the monitor function (page 26) if you do not perform any key operation for five minutes during REC PAUSE. At this time, the message "AD/DA" also appears on the display indicating that the unit is monitoring the input signal.
- If the erase protect slot of the tape you are using is open, the message "no REC" appears on the display when you press ⏯ to indicate that you cannot record.

Recording Mid-way Thro

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Other Useful Recording Functions

The features and functions described here are designed to help you make perfect recordings every time.

About the monitor function

Usually, when you press ● with a tape loaded in the DTR-80P, REC PAUSE is entered and you can monitor the signal being input into the DTR-80P. If you leave the DTR-80P in REC PAUSE for about 5 minutes without performing any other operation, however, REC PAUSE is automatically cancelled in order to avoid damaging the tape.
The monitor function lets you monitor input without a tape loaded in the DTR-80P. Because there is no worry of tape damage, the monitor function is not cancelled automatically even if you use it for longer than 5 minutes. You can also use the monitor function to input an analog signal into the DTR-80P and output it through the DTR-80P's digital terminal. Conversely, you can also convert a digital signal to an analog signal.

To use the monitor function

1 Connect a device to the DTR-80P (page 13).

2 Set the **MIC/LINE** selector and **INPUT** selector in accordance with the type of input you are going to monitor (page 18).

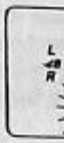
3 Switch DTR-80P power on, and confirm that there is no tape loaded. If a tape is loaded in the DTR-80P, press ⏏ and remove the tape.

4 Press ●.

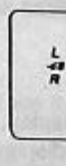
- When the **INPUT** selector is set to MIC/LINE, the message "AD/DA" appears on the display about one second after the "ANALG" message. This indicates that the monitor function is activated, and that you can adjust the recording level (page 22.).
- When the **INPUT** selector is set to OPTICAL or COAXIAL, the message "AD/DA" appears on the display about one second after the "DGITL" message. the sampling frequency of the digital signal is also shown on the display.

To fade in on a recording

1 While



2 Press



3 Press

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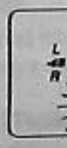
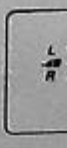
- If you wa This comp into the re

To fade out from a recording

1 While



2 Press



3 Press ⏯, and the DTR-80P will automatically fade out from the recording.

- The display counts down from 9 to 0 indicating the fade out.
- If you want to cancel the fade out operation while it is in progress, press ⏯. This completes the fade out at very high speed and causes the DTR-80P to exit the record operation.

To change the fade time

While either "FA IN" or "FAOUT" is on the display, press ⏮ or ⏭, and the current fade time in seconds appears on the display. Use ⏭ to increase, ⏮ to decrease the fade time within the range of 1 to 10 seconds.

- When you use the fade recording functions of the DTR-80P, the volume of the sound being recorded is sequentially increased (fade in) or decreased (fade out). Depending on recording conditions, this change in volume may be noticeable.

Sub-codes

How the DTR-80P records data

A digital audio
separate from th
of ABS time, pr
registered and

About DTR-80P sub-codes

There are 5 typ

ABS Time

ABS sub-codes
ABS sub-codes
noted.

- When using a beginning be
- When record avoid creatin

Start ID

Start ID sub-co
can be included
be added later.

Program Num

Program Numb
a number to a
assign number
See page 34 fo

End ID

The End ID ind
is always regis

TOC (Table o

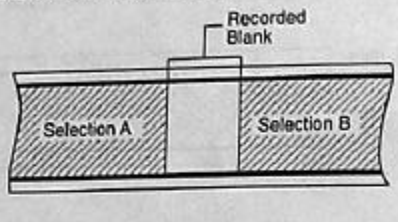
The TOC conta
length of each
for details.

About recorded blanks and non-recorded blanks

Since the sub-code data is independent of the audio data, a DAT recorder can produce two types of blank spaces: ***recorded blanks*** (sub-code data only) and ***non-recorded blanks*** (no data).

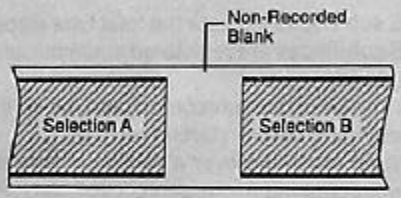
Recorded Blank

A ***recorded blank*** is one that contains sub-code data but no sound data.



Non-Recorded Blank

A ***non-recorded blank*** is one that contains neither sub-code data nor sound data.



As you can see, the non-recorded blank has a break in the sub-code data, so the DAT recorder cannot keep track of the ABS time correctly. Because of this, you should always avoid creating non-recorded blanks on your tapes.

How to avoid non-recorded blanks

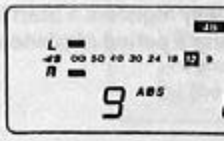
- Use the procedures described below to create recorded blank trailers at the end of recordings. To continue recording on such a tape, go to the recorded blank trailer and start the new recording from there. Before you start recording, check to see that the ABS time is displayed. If it is, the unit is picking up the sub-code data from the previous recording and will automatically continue the sub-code track without a break.
- An End ID at the end of the recorded portion of a tape is also useful for avoiding non-recorded blanks (see page 35).

To create a recorded blank (REC/ REC MUTE)

By using [REC], you can create a recorded blank space in any portion of the tape.

To create a 4-second blank between selections

While a reco
[REC] to creat
the blank, it



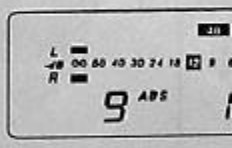
- The ● REC i
- You cann

To create a shorter blank between selections and go into recording

While a reco
[REC] once to
The DTR-8

To create a longer blank between selections

While a reco
down [REC] to
[REC]. After t



Registering Start IDs

Start IDs are used to
DTR-80P's high-spe

- Registration of a
registering or play
display.
- The Program Num
during recording.

To register a Start ID during recording with AUTO-ID

A Start ID is registered automatically whenever you start recording of a new selection. You can switch the AUTO-ID function on and off by pressing MODE while the DTR-80P is in REC PAUSE. The "AUTO-ID" indicator is shown on the display while the AUTO-ID function is on.

While AUTO-ID is on, the DTR-80P automatically registers a Start ID whenever it picks up a sound louder than –40 dB following a period of silence (below –40 dB) at least 3 seconds long.

To register a Start ID during recording without AUTO-ID

You can register Start IDs manually while AUTO-ID is switched off (no AUTO-ID indicator on the display). A Start ID is registered whenever you press ⏺.

- When you record a digital signal directly from another DAT recorder, the Start ID sub-codes on the original tape are also recorded.
- When the AUTO-ID indicator is not displayed, you can register a Start ID for any selection that is longer than 12 seconds (24 seconds in the case of LP mode). For best results, however, we highly recommend that you allow at least 20 seconds (40 seconds in the case of LP mode) of tape between the starting points of any two Start IDs.

To register a Start ID during playback

You can also register Start IDs during playback. Start IDs can be registered anywhere on the tape except inside of other Start IDs.

1 During playback, press MODE to enter the START ID WRT (write) mode.

2 When playback reaches the point where you want to register a Start ID, press ⏯ to register the ID. After registering the ID, the DTR-80P returns to normal playback.

To delete a Start ID

1 Us… to … any

2 Pre…

3 Pre… retu…

NO…

- Once … ID fo…
- The … durin…
- Whe… prog… by th…

NO…

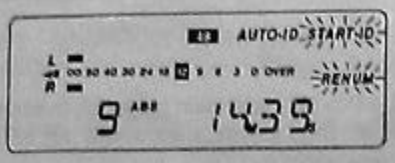
- The … durin…
- Whe… will … renu…
- If the … in th…
- You … shor… In su… Start…
- If no … the ta…
- Do n…

Renumbering Program Numbers

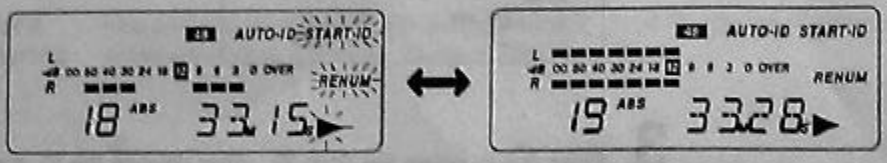
Registering new Start IDs and deleting existing Start IDs cause the program number sequence to be disrupted. Use the renumbering procedure described below to correct the sequence.

To renumber the program numbers

1 Press RENUM to enter the START ID RENUM (renumber) mode.



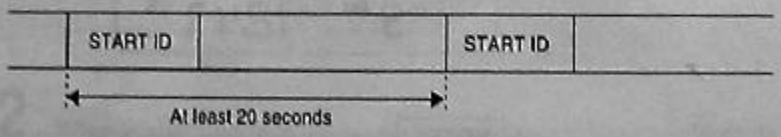
2 Press ⏭ and the DTR-80P automatically returns to the beginning of the tape and then fast forwards through the tape, putting the program numbers into the correct sequence. When the tape reaches the end, it rewinds back to the beginning.



Display during serching

Display during registration

- If there is less than 20 seconds between the start points of Start IDs, the renumbering operation may not work correctly.



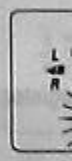
Registering End IDs

The End ID indicates
recording you make,

To register an End ID

1 When y

2 Hold d



3 Press
includ
before

Creation of recorded blan

To delete an End ID

The End ID s
the point ma

Registering Table of Contents (TOC) Data

The TOC contains such data as the total number of selections on a tape, the length of each selection, and the total recording time on the tape. There are two types of TOCs.

R-TOC

This type of TOC is found on pre-recorded DAT tapes and consists of the data recorded throughout the sub-code area on the tape. The DTR-80P automatically reads this data whenever you play back a pre-recorded tape. You cannot register R-TOC sub-codes using the DTR-80P.

U-TOC

This type of TOC can be registered using the DTR-80P. The DTR-80P automatically registers the TOC at the first selection on the tape when you perform the operation described below.

When a tape includes a TOC, you can search for specific selections using their program numbers (see page 41).

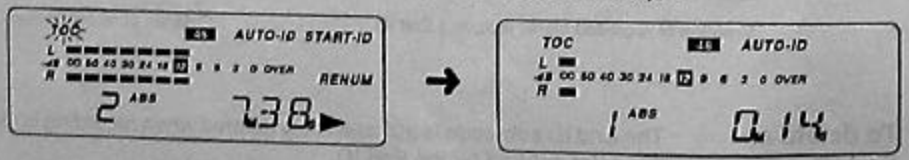
To register TOC data

1 Load the tape on which you want to register TOC data. Make sure that its protect slot is closed.

2 Register an End ID as described on page 35.

- If the tape already has an End ID, press ⏩ to fast forward to the End ID.

3 Perform the renumbering operation described on page 34. Once the renumbering operation is complete, the DTR-80P registers a U-TOC within the Start ID of the first selection on the tape.



- Note that the above operation must start from the End ID of the tape.

Playback Operation

The DTR-80
number of d
to adapt to

To start playback

1 Switc

2 Load

3 Press

To stop playback

Playback s

You can al
⏯ (PAUS

To resume

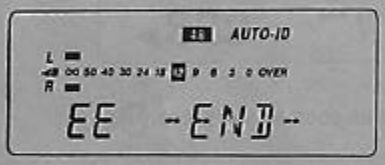
- If the pa
automati

To use fast forward and rewind

While the tape is stopped, press ⏭ to start the fast forward operation and ⏮ for rewind. The fast forward or rewind operation will stop whenever either end of the tape is reached. To manually stop fast forward or rewind, press ⏏.

- The display shows the program number of the selection being passed during the fast forward and rewind operations.
- If a 9-second (or longer) non-recorded blank is encountered during fast-forward, the DTR-80P judges that the recorded part has ended. An "-END-" message appears on the display and the tape will be automatically rewound to the last recorded point.

- If an End ID is encountered during fast forward operation, the message "EE -END-" appears on the display, and the tape is returned to the point immediately preceding the End ID.



To use cue and review

Pressing ⏭ during playback cues forward on the tape, while pressing ⏮ reviews back. During the first five seconds these keys are held down plays the tape back at three times normal speed (double in the LP mode). After five seconds, the speed increases even more.

During cue and review, you can hear the contents of the tape played back at about one fourth normal volume.

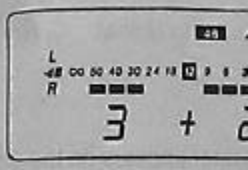
Playback Variations

Using the Automatic Searc

During playback, stop
pressing ⏭ or ⏮.

To skip from selection 3 to selection 5

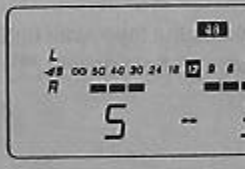
While selectio
beginning of s



You can skip

To skip from selection 5 to selection 3

While selectio
beginning of s



- The first tim
presently in
- Note that yo
playback is
selection 5,
resumed wh
5 to selectio
a pause afte

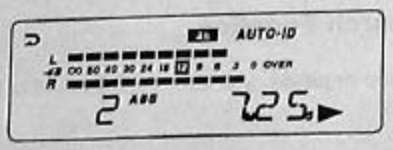
Using Repeat Play

The repeat play capab
or any single selectio

To repeat all selections on the tape

1 Press
selectio

2 Hold down MODE until the repeat indicator appears on the display (about one second).



- The above operation causes the entire area from the beginning of the tape up to the end of recording (page 35) to be repeated up to 15 times.

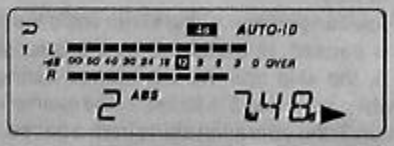
To repeat a specific selection

1 Start playback of the selection you want to repeat.

2 Hold down MODE until the repeat indicator appears on the display (about one second).

- If you want to repeat play the first selection on the tape, wait until the START ID indicator appears on the display before you hold down MODE button.

3 Press MODE again and the single selection repeat indicator appears on the display. The selection can be repeated up to 15 times.



To cancel repeat play

While repeat play is being performed, press MODE. The repeat indicator (if you are repeating the entire tape) or the single selection repeat indicator (if you are repeating a specific selection) clears from the display, indicating that the corresponding repeat operation is cancelled.

NOTES

- You can al
- The repeat results, ho seconds o points of a
- You canno

Auto Rewind

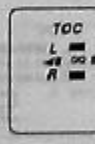
Whenever the DTR-80 long (18 seconds in the operations, it automatic Rewind function does

Using Program Number S

You can use the followi program numbers. You a Table of Contents (T

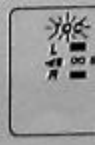
To perform program number search

1 Check th rewind th see the "



- At this point y described on

2 While th gins to fl



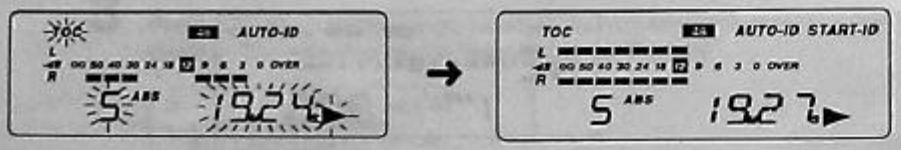
3 Specify the program number of the selection you want. Press ⏭ to increase the currently selected program number or ⏮ to decrease it.

- Now the "ABS" indicator appears on the display, along with the location of the selection whose program number is displayed. The location is indicated as the amount of time (TOC ABS time) from the beginning of the tape.

- If you press MUSIC ⏭ once, the "PGM" indicator to appear along with the total playing time (TOC PGM time) of the selection whose program number is shown on the display.

- The TOC PGM time is always displayed for the SP mode. You should double this value to convert playing times in the LP mode.

4 After you display the program number of the selection you want, press ⏯ to search for and start playback of the selection.



- The entire display flashes during the search operation.

Changing the Time

Each time y
below. The
power of th

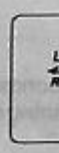
ABS (Ab
This displa
time from
tape.

PGM (Pr
This displa
time from t
lection.

REM (R
This displa
maining or

TOC (Ta
This displ
number of
along with

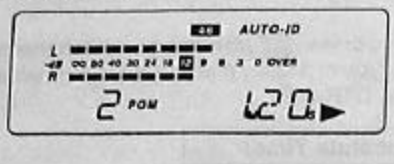
ABS (Absolute time)
Press MUSIC ⏭
In this case
since the b



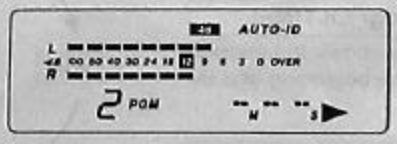
ABS indica
a new tape
If the tape

PGM (Program time)

Press [DISPLAY] so that PGM is selected. This indicates that 1 minute and 20 seconds have elapsed in the presently selected program (selection).



Note that program time is displayed when a program is played back from its beginning (Start ID). PGM time is not displayed if the Cue/Review, FF or rewind functions are used to start playback in the middle of a selection.



REM (Remaining time)

(display mode: stop, play, pause, recording)

Press [DISPLAY] so that REM is selected. In this case, the display shows that 1 hour and 53 minutes remain on the tape.

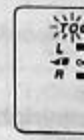
Note that the REM value can be displayed only during playback and recording, or while the tape is stopped or paused during playback or recording.

Display appears approximately 10 or 15 seconds after beginning of play/recording, as time is required for calculation. During calculation time, a flashing "– –" mark appears in the display.

The REM time on the TOC display shows hours, minutes, and seconds remaining.

TOC (Table of contents)

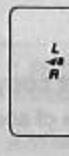
Press [DISPLAY] c
appear, show
the tape. Aft
ABS display
This function
TOC registe



Total
of pro

NOTE

When ABS
below if a



About Digital Recording Restrictions

This unit adopts the Serial Copy Management System (SCMS). Unlike previous systems, the SCMS standard limits direct recording from most digital sources to first generation copies (1-time recording only).

The following shows the restrictions on digital recording that are imposed by the SCMS standard of the DTR-80P.

Recording from digital sources with copyright protection codes

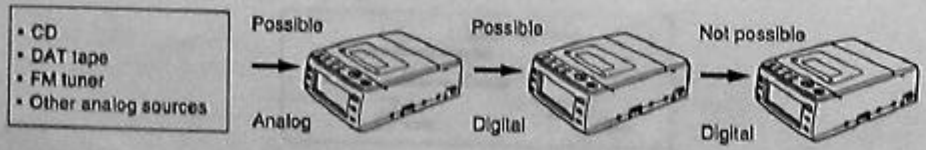
First-generation copies only are possible from this type of source, and the tape created cannot be used as the source for direct digital recording. Trying to copy such a tape causes the message "PROHB" to appear on the display, indicating that further direct digital copying is prohibited.

Recording from digital sources without copyright protection codes

Unlimited copies are possible from this type of source.

Source tape recorded from analog input

Tapes recorded from analog input (including privately recorded tapes) are treated as digital sources with copyright protection codes. This means that copying is limited to the first generation.



If the "PROHB" message appears on the display telling you that direct digital recording is impossible, you can still record by switching to analog input.

Troubleshooting

Problem	
No power	1. 2.
Controls do not operate.	1. 2. 3. 4.
• Recording impossible. • "NO REC" message on display while REC/REC MUTE button is depressed. • Pressing [MODE] does not enter sub-code editing mode.	1. 2.
No sound recorded by record operation.	1. 2. 3.
All sampling frequencies (32 kHz, 44.1 kHz, 48 kHz) flashing on display. Cannot record digital signal.	1. 2. 3.
"PROHB" displayed. Cannot record digital signal.	D "r
• Program number does not change with change of selection. • Incorrect program number displayed.	1. 2.

Problem	Probable cause	Remedy
ABS time not displayed.	ABS time not registered.	ABS time cannot be registered after recording. Use tape which has ABS time registration.
Tape skips	1. Tape is old. 2. Heads dirty or worn.	1. Use new tape. 2. Clean unit with head cleaning tape.

If problem persists, contact your authorized DENON representative.

Display Messages

The following messages flash (or light) on the display when the corresponding condition exists.

Display	Cause	Remedy
"-- DEW --"	Condensation	Wait 1 hour or 2 hours before using the unit again (see page 7).
"BATT"	Batteries in alkali battery pack are worn. Rechargeable Ni-cd battery pack (AP-18) insufficiently charged.	Replace all the batteries with new ones. Recharge the AP-18. For instructions on recharging, refer to the operating instructions of the AP-18.
"HOLD"	HOLD function switched on, which deactivates all operation buttons.	Slide HOLD switch to left (HOLD off).
"RD/DA"	Monitor function switched on (page 26).	Press ⏏ to switch monitor function off.

Specifications

Note

While playback is stopped or pa
can press ⏮ once to skip back
ginning of the current selection
skip back more than one select
ing ⏮ more than once), first p
start playback.

Nota

Mientras la reproducción está p
pausada, puede presionar ⏮
omitir saltando hacia atrás al in
selección corriente solamente.
saltando hacia atrás más de un
(presionando ⏮ más de una v
presione ⏯ para iniciar la rep

Hinweis

Während der Wiedergabe-Stop
-Pausefunktion können Sie dur
ges Drücken der ⏮ Taste nur a
Beginn des derzeitigen Titels z
gen. Um mehr als einen Titel
zurückzuspringen (Drücken de
mehr als einmal), zuerst die ⏯
drücken, um die Wiedergabe z

Note

Lorsque la lecture est arrêtée o
vous pouvez appuyer une fois
revenir au début de la sélection
seulement. Pour revenir à plus
sélection en arrière, appuyez le
fois nécessaire sur ⏮, en app
d'abord sur ⏯ avant pour com
lecture.

Specifications

Tape:	DAT cassette tape
Tape speed:	SP : 8.15 mm/s Wide-track playback: 12.23 mm/s LP : 4.075 mm/s
Recording time:	SP : 120 minutes continuous LP : 240 minutes continuous (with 120-minute tape)
Head:	Dual rotary
Drum speed:	SP : 2,000 rpm LP : 1,000 rpm (recording) 2,000 rpm (playback)
Track pitch:	13.6 μm (20.4 μm for wide-track)
Sampling frequencies:	48 kHz, 44.1 kHz, 32 kHz
Quantization:	SP : 16-bit linear LP : 12-bit non-linear
Modulation:	8 – 10
Number of channels:	2-channel stereo
Frequency responses:	fs 48 kHz: 10 Hz to 22,000 Hz (±1 dB) fs 44.1 kHz: 10 Hz to 20,000 Hz (±1 dB) fs 32 kHz: 10 Hz to 14,500 Hz (±1 dB)
SN ratio:	SP : 90 dB LP : 88 dB
Dynamic range:	SP : 90 dB LP : 88 dB
Total harmonic distortion:	SP : 0.008% (1 kHz) LP : 0.06% (1 kHz)
Wow and flutter:	Less than measurable range (±0.001% W.PEAK)
Emphasis:	Recording : OFF Playback : ON/OFF auto switching (time constant 15/50 μs)
Rewind time:	Approximately 70 seconds (120-minute tape)
Auto Power Off:	Approximately 6 minutes after last operation.
Terminals:	
ANALOG IN (MIC/LINE)	LINE: 200 mV (0 dB) Input impedance: 47 kΩ MIC: 3 mV (0 dB) Input impedance: 10 kΩ, stereo mini-jack

PHONES	0 to 20 mW Load impedance: 32Ω, stereo mini-jack
DIGITAL IN/OUT	0.5Vp-p Load impedance: 75 Ω, stereo mini-jack
OPTICAL IN	Optical connector
Power supply:	Four power supplies: AC adapter: AA-9 (included) Alkali battery pack: AP-20 (included) Rechargeable Ni-cd battery pack: AP-18 (sold separately) Car battery adapter: AP-19 (sold separately)
Power consumption:	3.8 W on alkali battery pack: Approximately 4 hours playback, approximately 3.5 hours recording
Dimensions:	3-1/2"(W)×4-11/16"(D)×1-9/16"(H) (main un 90(W) × 119(D) × 39.5(H) mm 3-1/2"(W)×6-19/32"(D)×1-9/16"(H) (with bat 90(W) × 167.5(D) × 39.5(H) mm
Weight:	Approximately 13.8 oz (390 g) (main unit on Approximately 20.8 oz (590 g) (With six alkali batteries set in alkali battery pack)
Accessories:	AC adaptor, 2 connecting cords Alkali battery pack Six alkali batteries

Designs and specifications are subject to change without notice.