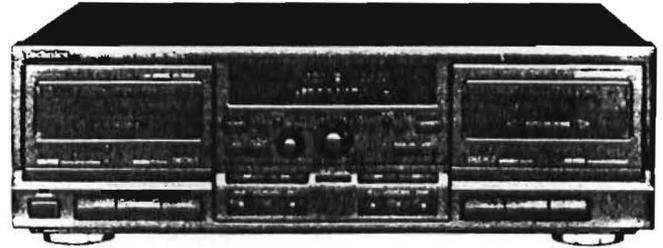


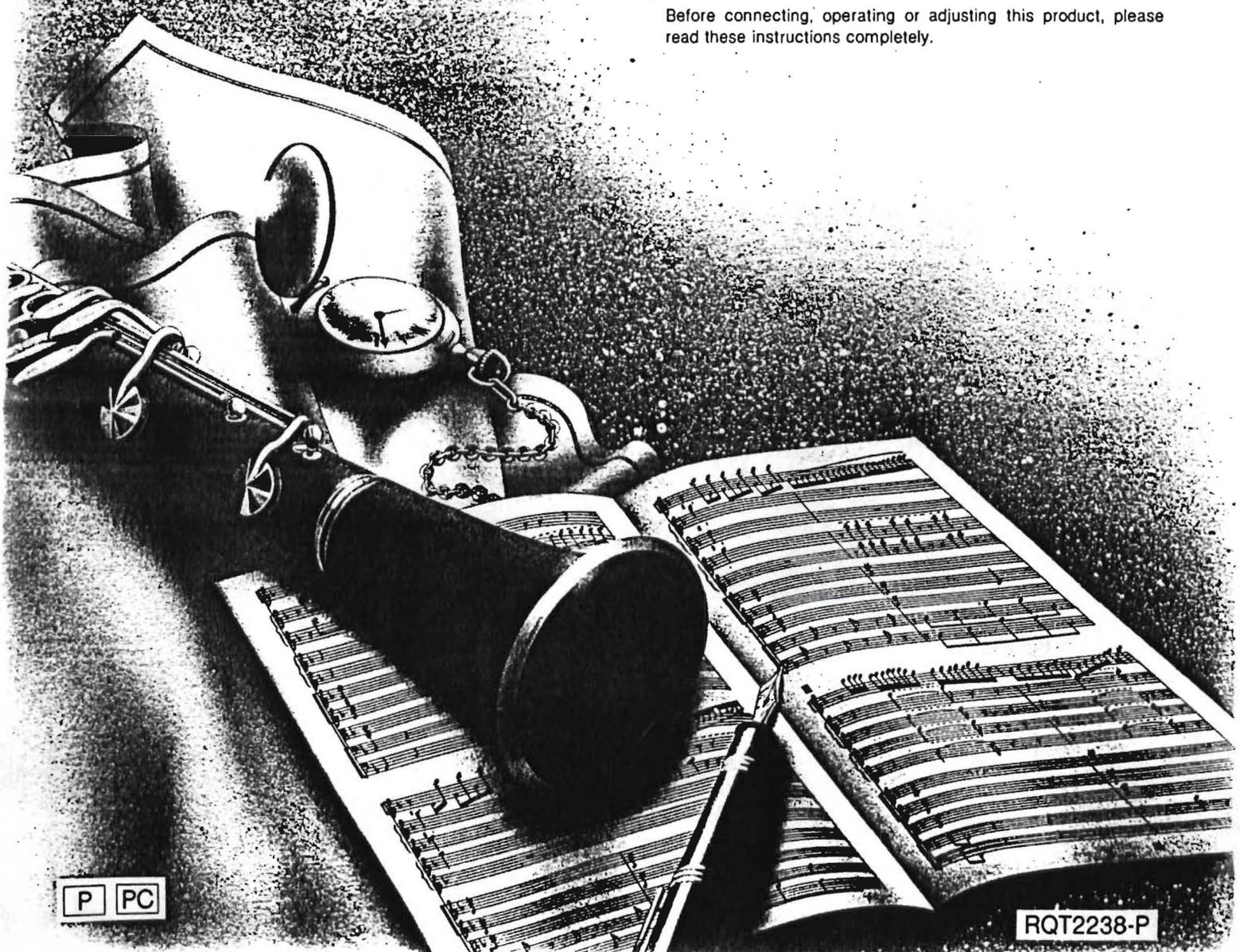
Technics

Stereo cassette deck RS-TR575

Operating Instructions



Before connecting, operating or adjusting this product, please read these instructions completely.



P PC

RQT2238-P

Dear Customer

Thank you for purchasing this Technics product. For optimum performance and safety, please read these instructions carefully.

The model number and serial number of this product can be found on either the back or the bottom of the unit. Please note them in the space provided below and retain them for future reference.

MODEL NUMBER RS-TR575

SERIAL NUMBER _____

Table of contents

Before use

Precautions	4
Front panel controls	5
Connections	6

Playback

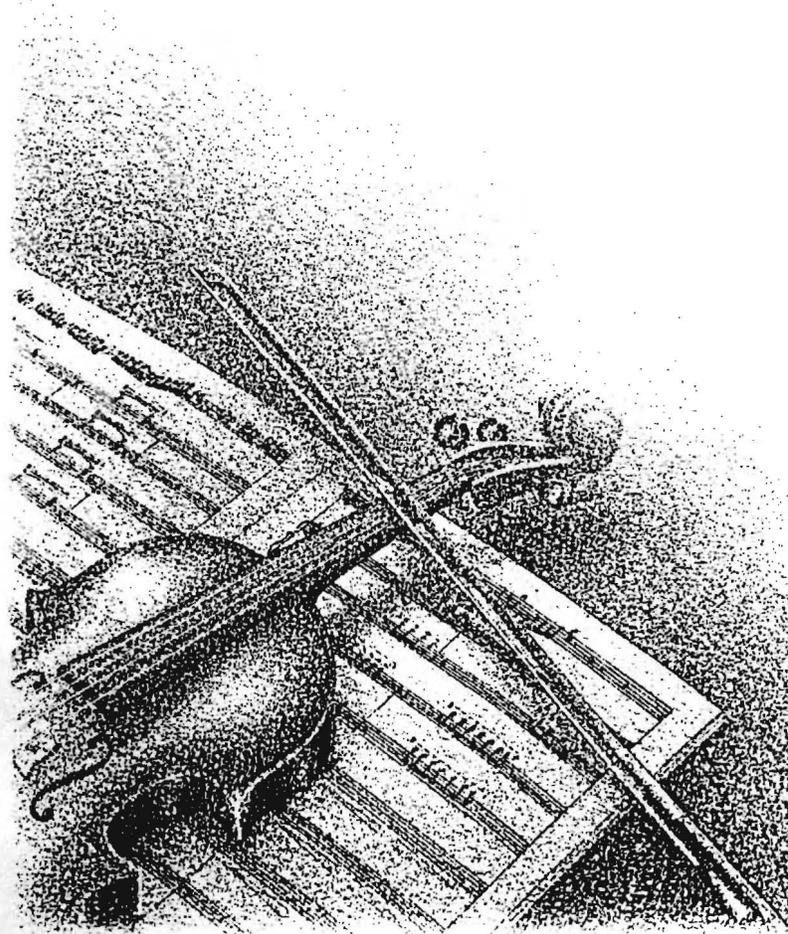
Playback Basic play	7
Reverse function	8
About the automatic-tape-select function	8
About the remote control function	8
About the Dolby noise-reduction system	8
About the Dolby HX-Pro headroom extension system	8
Series playback	9
Linear counter	10
To reset the linear counter	10
To fast-forward or rewind the tape	10
To find the beginning of a program (TPS function)	11

Recording

Recording	12
About the ATC function	14
Series recording	15
Parallel recordings	16
To make a silent interval	17
To make a 4-second silent interval	17
To make a silent interval more than 4 seconds	17
To erase recorded sound	17
Tape-to-tape recording	18
To record selected tracks	19
To cut unwanted parts during recording	19

Reference

Concerning cassette tapes	20
Maintenance	21
Technical specifications	21
Troubleshooting guide	22
Product service	23



(For USA only)

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.

CAUTION:

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

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

WARNING:

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

CAUTION:

TO PREVENT ELECTRIC SHOCK MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		



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



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

Precautions

Before using this unit please read these operating instructions carefully. Take special care to follow the warnings indicated on the unit itself as well as the safety suggestions listed below. Afterwards keep them handy for future reference.

Safety

1. **Power Source** -- The unit should be connected to power supply only of the type described in the operating instructions or as marked on the unit.
2. **Polarization** -- If the unit is equipped with a polarized AC power plug (a plug having one blade wider than the other), that plug will fit into the AC outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
3. **Power Cord Protection** -- AC power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Never take hold of the plug or cord if your hand is wet, and always grasp the plug body when connecting or disconnecting it.
4. **Nonuse Periods** -- When the unit is not used, turn the power off. When left unused for a long period of time, the unit should be unplugged from the household AC outlet.

Installation

Environment

1. **Water and Moisture** -- Do not use this unit near water -- for example, near a bathtub, washbowl, swimming pool, or the like. Damp basements should also be avoided.
2. **Heat** -- The unit should be situated away from heat sources such as radiators and the like. It also should not be placed in temperatures less than 5°C (41°F) or greater than 35°C (95°F).

Placement

1. **Ventilation** -- The unit should be situated so that its location or position does not interfere with its proper ventilation. Allow 10 cm (4") clearance from the rear of the unit.
2. **Foreign Material** -- Care should be taken so that objects do not fall into and liquids are not spilled into the unit. Do not subject this unit to excessive smoke, dust, mechanical vibration, or shock.
3. **Magnetism** -- The unit should be situated away from equipment or devices that generate strong magnetism.
4. **Stacking** -- Do not place heavy objects, other than system components, on top of the unit.
5. **Surface** -- Place the unit on a flat, level surface.
6. **Carts and Stands** -- The unit should be used only with a cart or stand that is recommended by the manufacturer. The unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn.
7. **Wall or Ceiling Mounting** -- The unit should not be mounted to a wall or ceiling, unless specified in this operating instructions.



Maintenance

 (See page 21.)

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

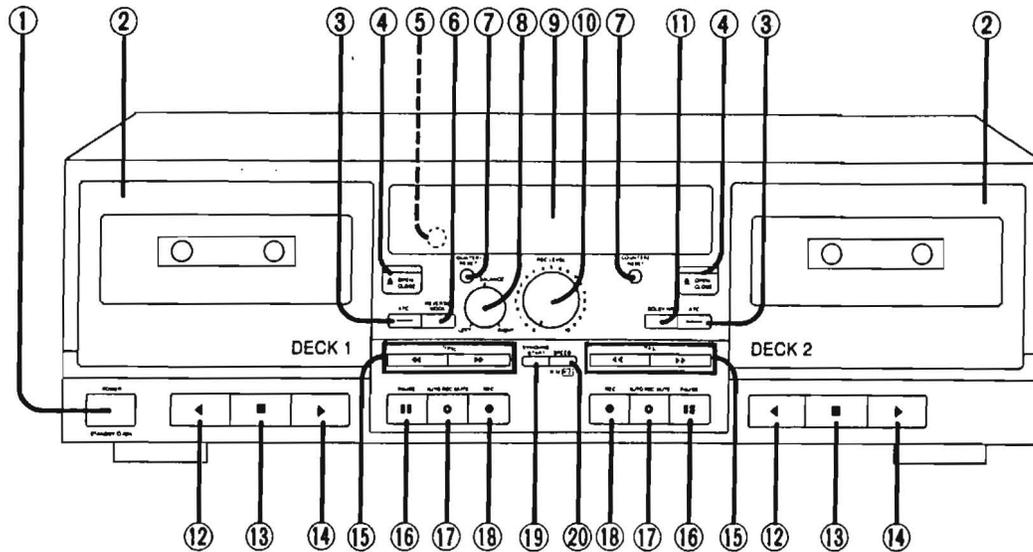
Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

Service

1. **Damage Requiring Service** -- The unit should be serviced by qualified service personnel when:
 - (a) The AC power supply cord or the plug has been damaged; or
 - (b) Objects have fallen or liquid has been spilled into the unit; or
 - (c) The unit has been exposed to rain; or
 - (d) The unit does not appear to operate normally or exhibits a marked change in performance; or
 - (e) The unit has been dropped, or the enclosure damaged.
2. **Service** -- The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Front panel controls

When any of the numbers indicated below is repeated more than once (for example, ②), the number indicated on the left is the control for Deck 1 and that indicated on the right is for Deck 2.



No.	Name	Ref. page
①	Power "STANDBY \downarrow /ON" switch (POWER, STANDBY \downarrow /ON)	7
	Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.	
②	Cassette holder	—
③	Auto tape calibration button (ATC)	12
④	Open/close button (\triangle OPEN/CLOSE)	7
⑤	Remote control signal receptor	—
	(Refer to "About the remote control function" on page 8.)	
⑥	Reverse-mode select button (REVERSE MODE)	7,8
⑦	Counter reset button (COUNTER RESET)	10
⑧	Recording-balance control (BALANCE)	12
⑨	Display	—
⑩	Recording-level control (REC LEVEL)	13

No.	Name	Ref. page
⑪	Dolby noise-reduction button (DOLBY NR)	7
⑫	Reverse-side playback button (\blacktriangleleft)	7
⑬	Stop button (\blacksquare)	7
⑭	Forward-side playback button (\blacktriangleright)	7
⑮	Rewind/fast-forward search buttons (\blacktriangleleft / \blacktriangleright TPS)	10,11
⑯	Pause button (\blacksquare PAUSE)	7
⑰	Automatic-record-muting button (\bullet AUTO REC MUTE)	17
⑱	Record button (\bullet REC)	12
⑲	Synchro-start button (SYNCHRO START)	18
⑳	Tape-to-tape recording-speed button (SPEED)	18

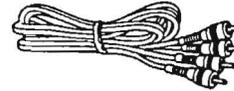
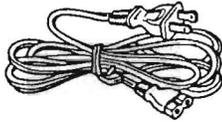
Connections



Please check and identify the supplied accessories

- AC power supply cord 1 ps.
(For USA: SJA175-A or SJA175-1)
(For Canada: SJA175)

- Stereo connection cables 2 pcs.



Before making connections, make sure that the power to this unit and all other system components is turned off first.

Note
Avoid letting the cables touch each other as much as possible, otherwise noise will be generated.

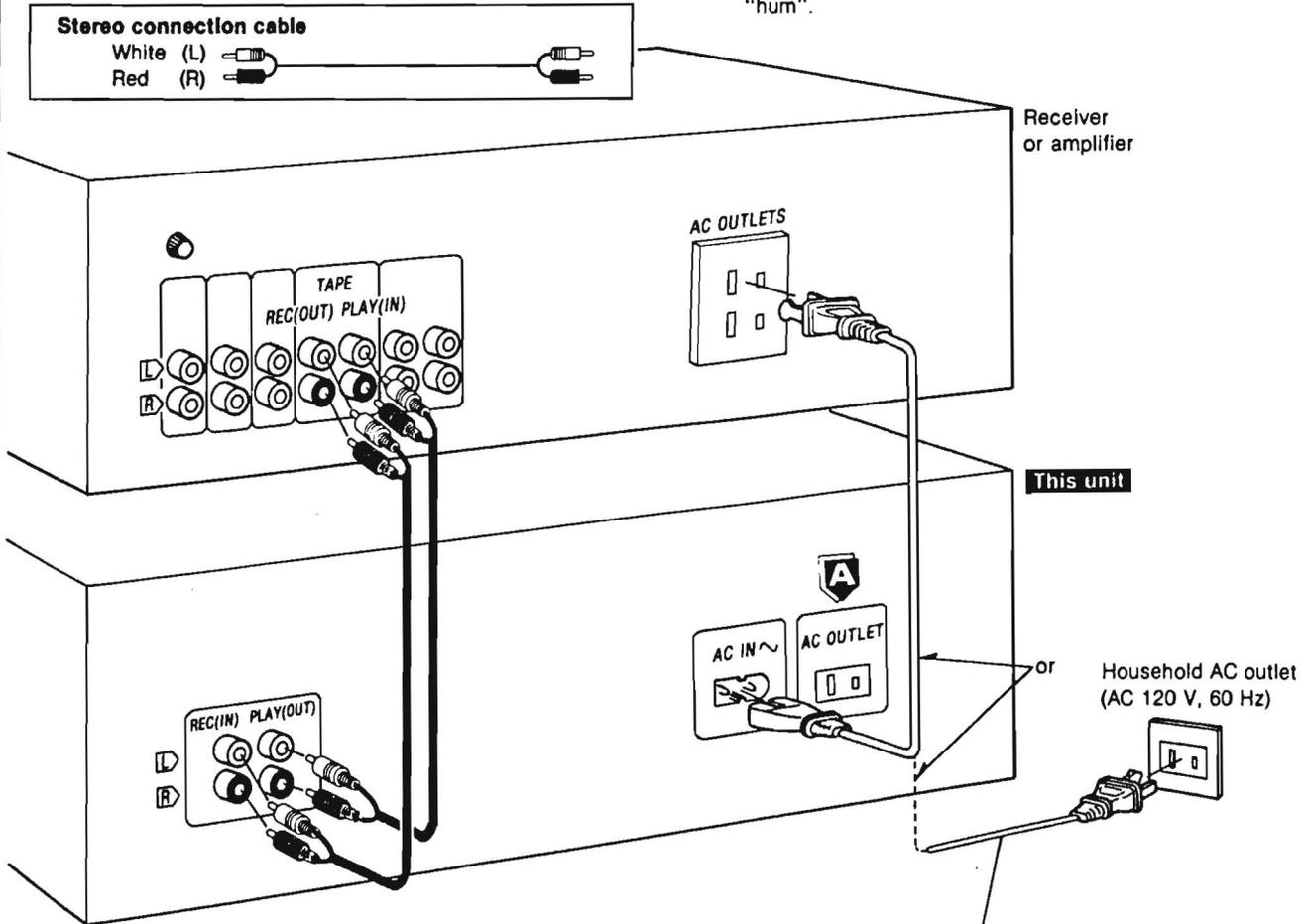
Placements hints

If this unit is placed near a receiver or a tuner, a "hum" noise may be heard during tape playback, recording, or AM reception of the receiver or the tuner.

If this occurs, leave as much space as possible between the units, or place them where there is the least amount of "hum".

Stereo connection cable

White (L) 
Red (R) 



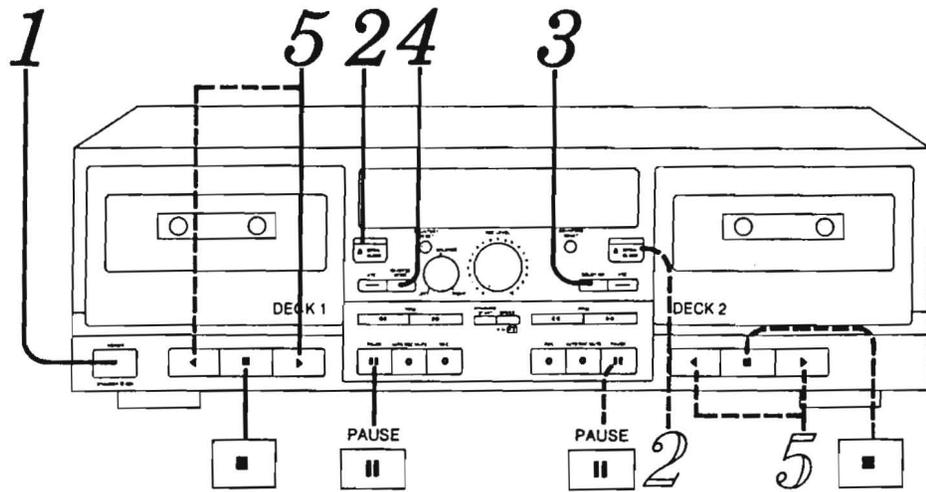
Connect this cord after all other cables and cords are connected.

A "AC OUTLET" (UNSWITCHED)

Power is always available, regardless of the unit's power switch setting.

Audio equipment rated up to 100 W can be connected.

Either normal, CrO₂ or metal type cassettes can be used.



The procedures described below are an example of playback on Deck 1.

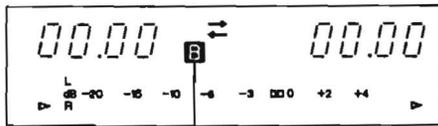
1 **POWER** Press **POWER**.
(The unit will switch on.)

2 Press **OPEN/CLOSE**, and then insert the cassette tape.
Press again to close the cassette holder.

Forward side — Reverse side

Tape opening facing downward.

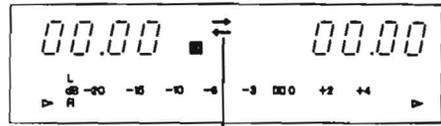
3 **DOLBY NR** Press **DOLBY NR** to select the appropriate noise-reduction system.



Each time the button is pressed, the indicators will change in the order: **B** → **C** → off.

Select the same type as that used for recording. When playing back a tape which was not recorded using a Dolby NR system, press so that the indicators go off.

4 **REVERSE MODE** Press **REVERSE MODE** to select the appropriate reverse mode.

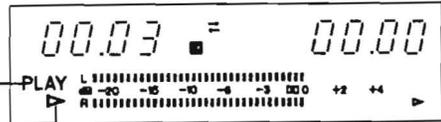


Each time the button is pressed, the indicator will change in the order: .

- : One side only.
 - : Both sides repeatedly (up to 8 times).
 - : Both sides, once only.
- (Refer to page 8.)

5 Press **◀** or **▶**.
(Playback will begin.)

- ▶** : To begin from the forward side.
- ◀** : To begin from the reverse side.



Illuminates Indicates the side being played.

To play back on Deck 2, in steps 2 and 5 above, press the buttons (**2** and **5**) for Deck 2.

To temporarily stop playback

PAUSE Press **|| PAUSE**.
The "PLAY" indicator will flash.

Press once again to resume playback.

To stop playback
Press **■**.

Playback (continued)

Reverse function

The reverse function on this unit has three modes (→, ↺, ↻). Read the descriptions below and select the mode as desired. (Refer to step 4 on page 7.)

Mode	Tape travel
	Only one side of the tape (either the forward side or the reverse side) will be played, and operation will automatically stop when playback has been completed.
	Both sides of the tape will be played repeatedly eight times, and then operation will automatically stop. (If playback is begun from the reverse side, the forward side will be played seven times.)
	When there is a tape in only one of the decks Both sides of the tape will be played once, and then operation will automatically stop. (If playback is begun from the reverse side, the forward side will not be played.) When there is a tape in each of the decks The forward and reverse sides of the tape in Deck 1 will be played, followed by the forward and reverse sides of the tape in Deck 2, and after this operation is repeated eight times, operation will automatically stop. (If playback is begun from Deck 2, the tape in Deck 1 will be played seven times.)

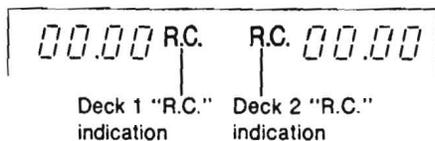
About the automatic-tape-select function

This unit is equipped with the automatic-tape-select feature; it automatically detects the type of tape being used, and then makes the suitable adjustments of the bias and equalization accordingly.

About the remote control function

This cassette deck can be operated by using the remote control provided with a Technics receiver. (For detailed information, refer to the operating instructions of the receiver.)

During operation from the remote control, the "R.C." indicator will light up.



About the Dolby noise-reduction system

The Dolby noise-reduction system is designed to effectively reduce the annoying high-frequency "hissing" noise typical of cassette tapes. During recording, the system functions to increase the high-frequency sound level, the sound, and then, during playback, that same portion is weakened to bring it back to the previous level.

This unit includes two types of Dolby noise-reduction systems, the Dolby B NR-type and C NR-type.

Dolby B-type noise-reduction

Noise is reduced to about one-third.

Use this system when playing back tapes recorded by the Dolby-B noise-reduction system, such as prerecorded music tapes, etc.

Dolby C-type noise-reduction

Noise is reduced to about one-tenth.

Use this system for the recording and playback of sound sources that have a wide dynamic range and good tone quality, such as FM broadcasts of live performances, etc., and for playing back such tapes.

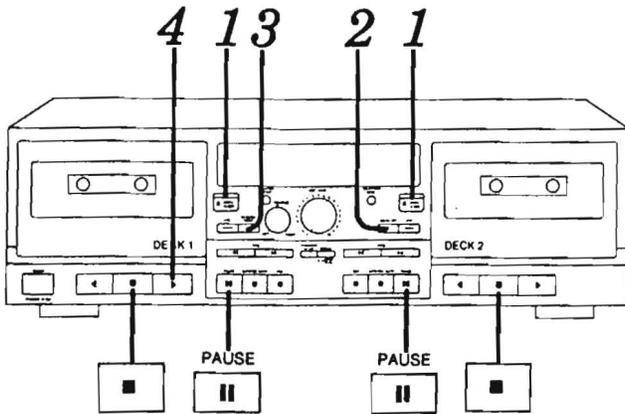
About the Dolby HX-Pro headroom extension system

By functioning to improve the maximum output level of the tape's high-frequency range, this system permits recordings without a reduction in the level of the sound source's high-frequency range. In addition, by using the system in parallel with this unit's noise-reduction system, recording and playback with a greatly extended dynamic range is possible.

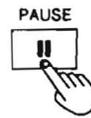
Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

Both sides of the tape in Deck 1 will be played, followed by both sides of the tape in Deck 2. (Repeated up to eight times.)

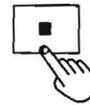


To temporarily stop playback



Press **|| PAUSE** for the deck which is playing.
Press once again to resume playback.

To stop playback



Press **■** for the deck which is playing.

1

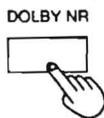


Press **OPEN/CLOSE** on both decks, and then insert the cassette tapes.

Press again to close the cassette holder.

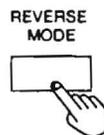
Note that for series playback it is not possible to select different types of Dolby NR for Deck 1 and Deck 2. It is recommended that you use two tapes which were recorded using the same type of Dolby NR (or both recorded without Dolby NR).

2



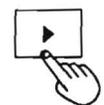
Press **DOLBY NR** to select the appropriate noise-reduction system.

3



Press **REVERSE MODE** to select the "∞" mode.

4



Press **▶** on Deck 1.

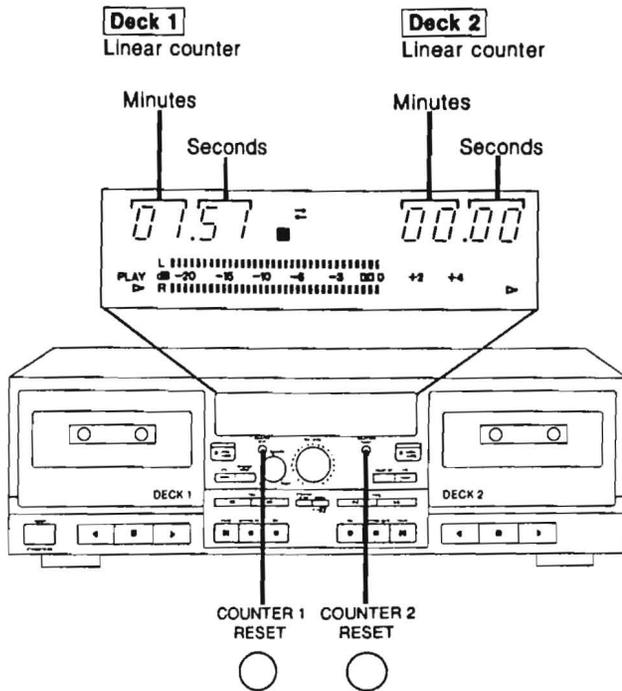
(Series playback will begin from the forward side of the tape in Deck 1.)

For your reference:

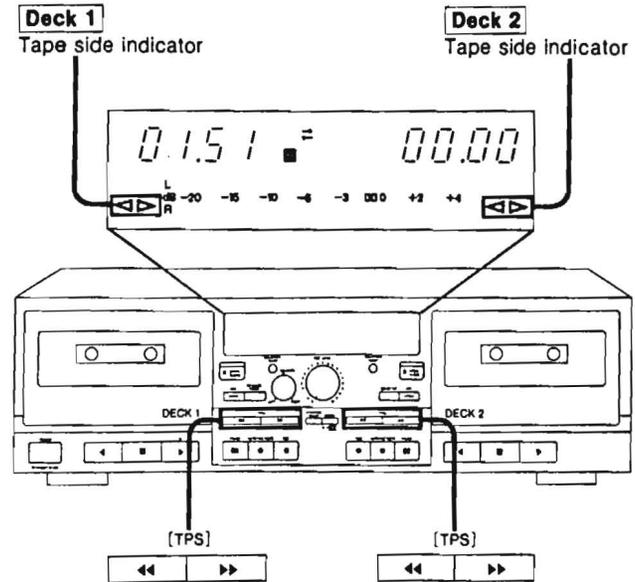
It is also possible to begin series playback from the reverse side of the tape in Deck 1 or from Deck 2. (Refer to the tape travel table on page 8.)

Linear counter

The linear counter indicates the amount of tape travel as the approximate amount of elapsed time.



To fast-forward or rewind the tape



To reset the linear counter

COUNTER 1 RESET Press **COUNTER RESET**.
The linear counter indication will return to "00.00".



For your reference:

When the tape is travelling in the reverse direction, the value displayed on the linear counter will count down. After "00.00" is reached, the value will then start to become greater, but with a minus sign displayed (example: "-00.08").

Note

The linear counter is not a digital clock. The difference between the actual recording and playback time and the counter display may be anything up to several minutes.



Because this unit is capable of playing back both sides of the tape, the operation changes in accordance with the direction of the tape side indicator.

Tape side indicator	Rewind	Fast-forward
▶	◀◀	▶▶
◀	▶▶	◀◀

• Cassette tapes in deck 1 and deck 2 can be advanced or re-wound at the same time.

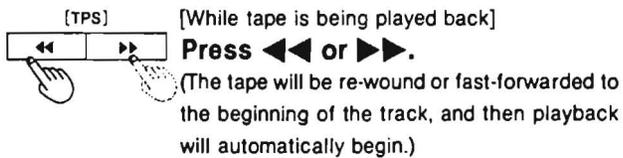
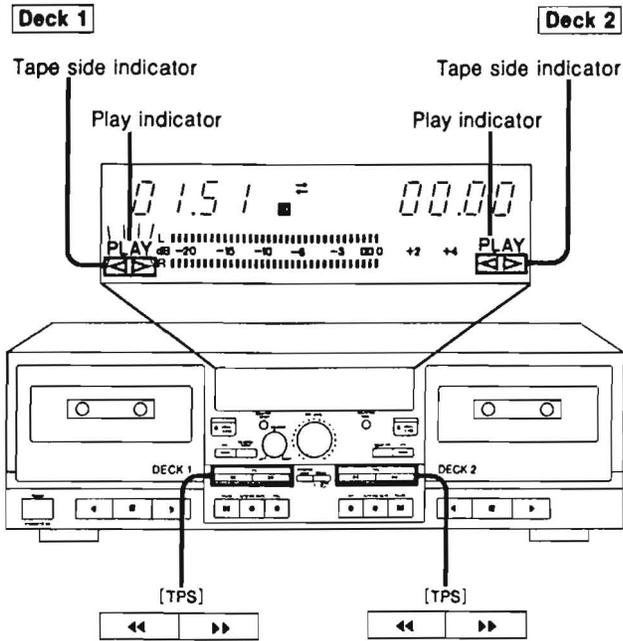
High-speed tape transport

When fast-forwarding from near the beginning of the tape or when rewinding from near the end of the tape, the tape travel speed will be faster than that during normal fast-forwarding or rewind.

(During high-speed tape transport, the **H** indication will light up.)

This high-speed tape transport will also function during TPS.

(TPS: Tape Program Sensor)



Because this unit is capable of playing back both sides of the tape, the operation changes in accordance with the direction of the tape side indicator.

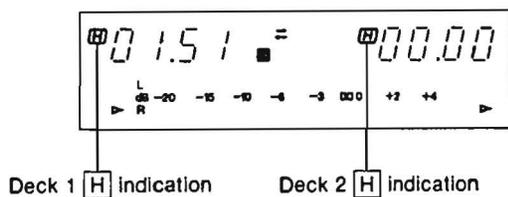
Tape side indicator	Tape returns to the beginning of the track currently being played, and playback begins.	Playback begins from the beginning of the next track.
▶	◀◀	▶▶
◀	▶▶	◀◀

- During operation of the TPS function, the play indicator will flash quickly.
- To find the beginning of a track which is several tracks before or after the track currently being played, repeat the procedure until the desired track is found.
- If the reverse mode is set to "↔" or "↻", when the end of the tape is reached, operation will switch to the other side of the tape and the TPS function will continue to operate.

Note

Because the TPS function utilizes the blank spaces between tracks, it may not be able to function properly under the following conditions:

- When there is less than 4 seconds of silent interval between tracks
- When there are no completely silent intervals (such as when the tape has been recorded using a microphone)
- When there are especially low-level parts or silent parts inside a track (such as sometimes occurs in classical music)
- If the ◀◀ or ▶▶ button is pressed when less than 10 seconds has elapsed from the beginning of the track or there is less than 10 seconds remaining to the beginning of the next track
- If the tracks have been recorded with a fade-in (a gradual increase in the recording level) or a fade-out (a gradual decrease in the recording level)



To return to the normal speed during high-speed tape transport

Press the ◀◀ or ▶▶ button corresponding to the current direction of tape travel.

Note

Depending on the amount of tape on the take-up and supply sides, the tape may not be transported at high-speed.

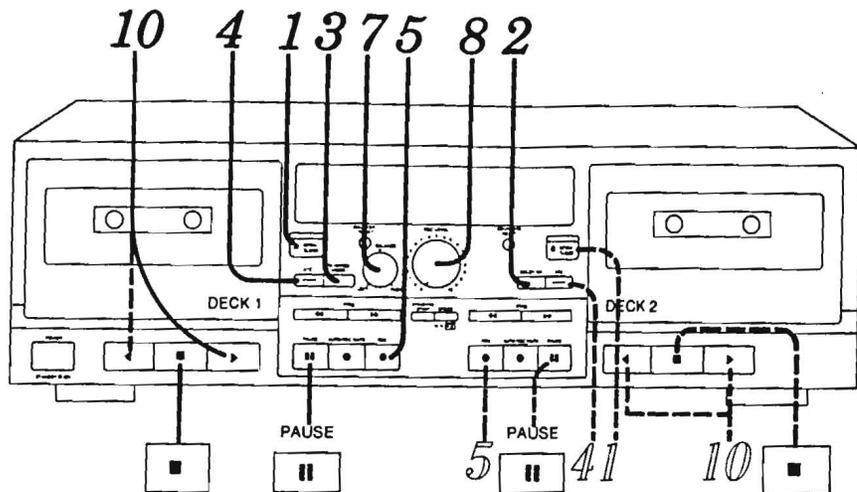
Recording

Either normal, CrO₂ or metal type cassettes can be used.

This unit is equipped with an ATC function (refer to page 14) which automatically sets the optimum recording conditions to match the characteristics of the tape being used. It is recommended that you use this function when recording.

Preparation

Wind the tape past the leader tape section so that recording can begin straight away.



The procedures described below are an example of recording on Deck 1.

1 Press **OPEN/CLOSE**, and then insert the cassette tape to be used for recording. Press again to close the cassette holder.

2 Press **DOLBY NR** to select the desired noise-reduction system. (Refer to the opposite page.)

Each time the button is pressed, the indicator will change in the order:
B → **C** → off.

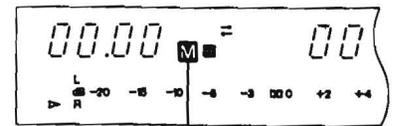
3 Press **REVERSE MODE** to select the desired reverse mode.

Each time the button is pressed, the indicator will change in the order:

→ : Only one side will be recorded, and then operation will automatically stop.
 ↔, ∞ : Both sides (the forward side first, and then the reverse side) will be recorded, and then operation will automatically stop.

4 Press **ATC**.

Setting of the ATC (refer to page 14) will commence, and will be completed after approximately one minute. When the settings are complete, the tape will be returned to the position from which the ATC function began, and then the unit will enter the stop mode.



Indicates that ATC has been set.

[Recording is also possible without performing ATC.]

5 Press **REC**.

(The unit will be in the recording standby mode.)

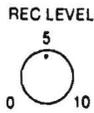
Illuminates

Flashes

6 Play the source in order to adjust the recording sound.

7 **BALANCE** (The **BALANCE** control should normally be set to the center position.)
If necessary, adjust the BALANCE control to adjust the balance.

8

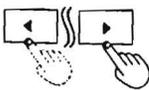


Use the REC LEVEL control to adjust the recording level. (Refer to the right of this page.)

9

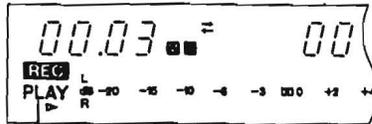
Stop play of the source.

10



Press ◀ or ▶ to begin recording, and play the source to be recorded.

▶: Forward side
◀: Reverse side



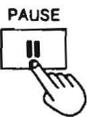
Illuminates

Note

When recording on both sides of the tape, be sure to press the ▶ button.

To record on Deck 2, in steps 1, 4, 5 and 10 above, press the buttons 1, 4, 5 and 10 for Deck 2.

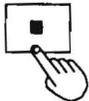
To temporarily stop recording



Press **PAUSE**.

Press once again to resume recording.

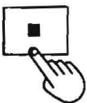
To stop recording



Press **■**.

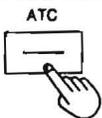
To cancel the ATC settings

[While ATC settings are in progress]



Press **■**.

[After ATC settings have been completed]



Press **ATC**.

If the **M** indicator begins to flash quickly while the ATC settings are in progress, it indicates that the settings cannot be made for one of the following reasons.

About the selection of the Dolby NR type

The Dolby NR effect can be obtained by using the same type of Dolby NR during both recording and playback. Refer to the following table when selecting the type (either B or C).

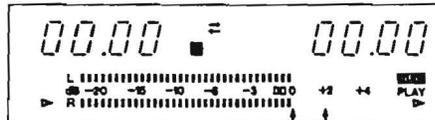
Type B	Use this type when the deck on which the tape will be played back is equipped with only type B Dolby NR.
Type C	Use this type when the deck on which the tape will be played back is equipped with type C Dolby NR. (for example, when this unit is also going to be used to play back the tape.)

(Refer to "About the Dolby noise-reduction system" on page 8.)

About the recording level adjustment

If the recording level is too high, there will be distortion in the recorded sounds, and if it is too low, the hiss noise inherent to recording tapes will become noticeable.

In order to make high-quality recordings, use the REC LEVEL control to adjust so that highest values of the input level indicated by the level meter do not exceed the standard recording level (the number indicated in parentheses) for the tape being used.



Normal or CrO₂ tape (0) Metal tape (+2)

- The tape has reached the leader tape.
- The tape is severely damaged.
- The cassette deck's heads are severely dirty.
- The tape is a non-standard type, such as a metal tape which has no tape type identification hole in the cassette.

Note

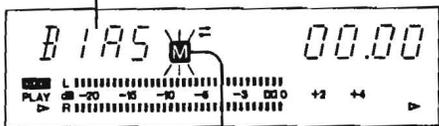
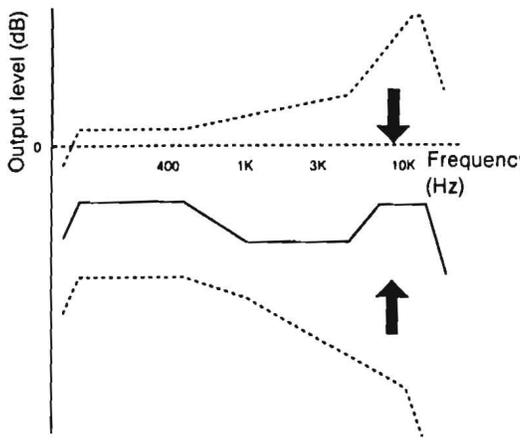
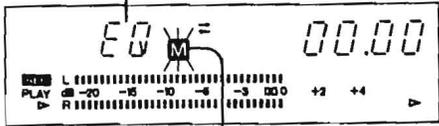
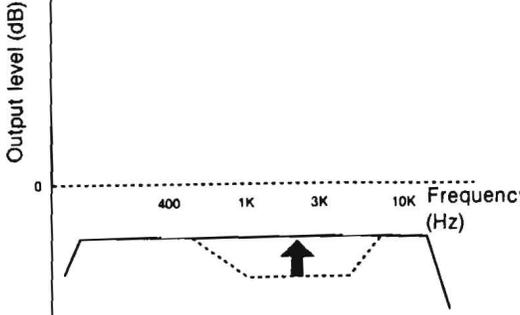
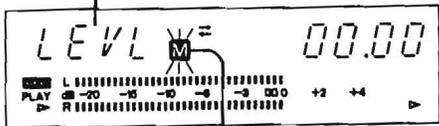
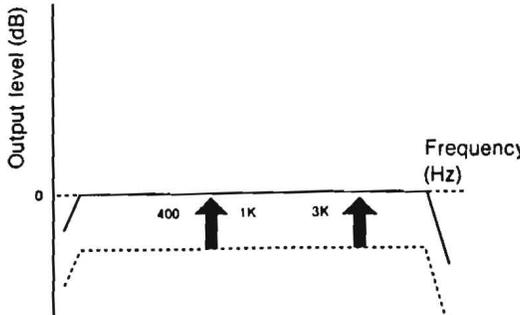
- If the cassette holder is opened after the ATC settings have been completed, the settings will be canceled.
- When making the ATC settings midway along a tape, provide a silent interval at least 2 seconds long after the last track prior to where the settings will begin.

About the ATC function

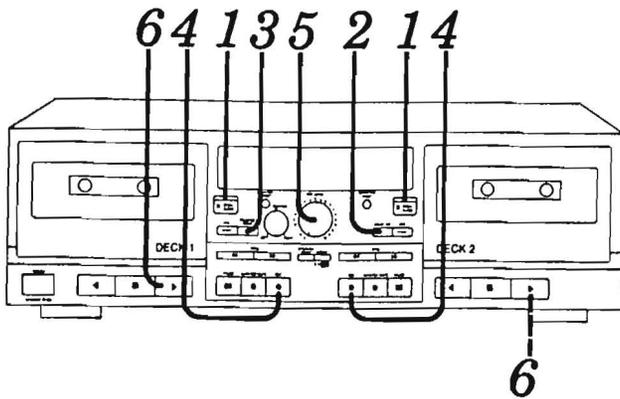
The ATC (auto tape calibration) function records a test signal in order to automatically set the bias, equalizer and recording/playback level to the optimum recording conditions in accordance with the characteristics of the tape being used.

The table below shows the conditions of the display and the operation of the unit while the ATC settings are being made.

Example: Performing ATC on Deck 1

	Display	Unit operation
① Bias adjustment	<p>"BIAS" is displayed.</p>  <p>Flashes</p>	<p>The bias is adjusted so that the output level is the same at 400 Hz and at 10 kHz.</p> 
② Equalizer adjustment	<p>"EQ" is displayed.</p>  <p>Flashes</p>	 <p>The equalizer is adjusted so that the output level is the same at 400 Hz and at 3 kHz.</p>
③ Level adjustment	<p>"LEVL" is displayed.</p>  <p>Flashes</p>	 <p>The tape sensitivity is compensated so that the recording input level and the playback output level are the same.</p>

Recordings can be made first on side "A" and then side "B" of the cassette in either Deck 1 or Deck 2, and then continued to side "A" and side "B" of the cassette in the other Deck. This means, for example, if two 90-minute cassettes are used, that a long recording (total length 3 hours) can be made.

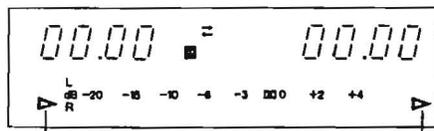


Preparation

- Wind the tape past the leader tape section so that recording can begin straight away.
- Set the BALANCE control to the center position.

1 Press **OPEN/CLOSE** on both decks, and then insert the cassette tapes to be used for recording.

Press again to close the cassette holder.



Be sure that the forward-side indicators (>) of both Decks are illuminated.

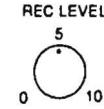
2 Press **DOLBY NR** to select the desired noise-reduction system.

3 Press **REVERSE MODE** so that the "∞" indicator illuminates.

To record using the ATC function, now press the ATC button on Deck 1, and then, after the ATC settings have been completed, press the ATC button on Deck 2.

4 Press **REC** on Deck 1 and Deck 2. Both Decks will then change to the recording stand-by mode.

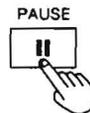
5 Begin playback of the sound source, and then use the **REC LEVEL** control to adjust the recording level.



After that, stop the play being done so as to adjust the recording level.

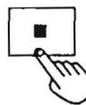
6 Press **▶** on Deck 1 (or Deck 2), and play the source to be recorded.

To temporarily stop recording



Press **|| PAUSE** for the deck which is recording. Press once again to resume recording.

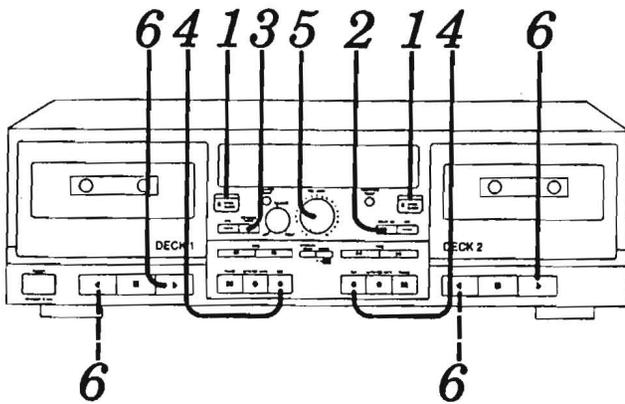
To stop recording



Press **■** for the deck which is recording.

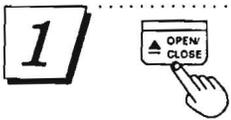
Parallel recordings

The same sound source can be recorded simultaneously to both Deck 1 and Deck 2.



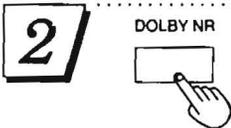
Preparation

- Wind the tape past the leader tape section so that recording can begin straight away.
- Set the BALANCE control to the center position.

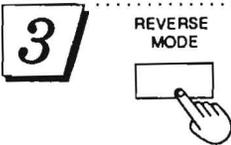


1 Press **OPEN/CLOSE** on both decks, and then insert the cassette tapes to be used for recording.

Press again to close the cassette holder.



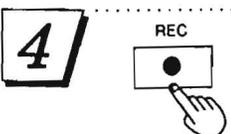
2 Press **DOLBY NR** to select the desired noise-reduction system.



3 Press **REVERSE MODE** so that the "⇄" or "↻" indicator illuminates.

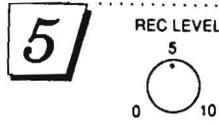
- ⇄ : Only one side will be recorded.
- ↻ : Both sides of the tape will be recorded.

To record using the ATC function, now press the ATC button on Deck 1, and then, after the ATC settings have been completed, press the ATC button on Deck 2.



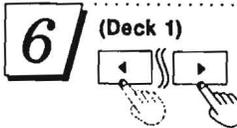
4 Press **REC** on Deck 1 and Deck 2.

Both decks will then change to the recording stand-by mode.



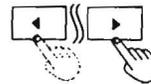
5 Begin playback of the sound source, and then use the **REC LEVEL** control to adjust the recording level.

After that, stop the play being done so as to adjust the recording level.



6 (Deck 1) Press **◀** or **▶** on Deck 1 and Deck 2 at the same time, and play the source to be recorded.

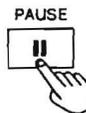
(Deck 2) ▶: Forward side
◀: Reverse side



Note

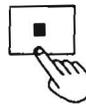
- The same direction of tape movement for recording should be selected for each tape deck.
- When recording on both sides of the tape, be sure to press the ▶ buttons.

To temporarily stop recording



Press **|| PAUSE** on both decks. Press once again to resume recording.

To stop recording

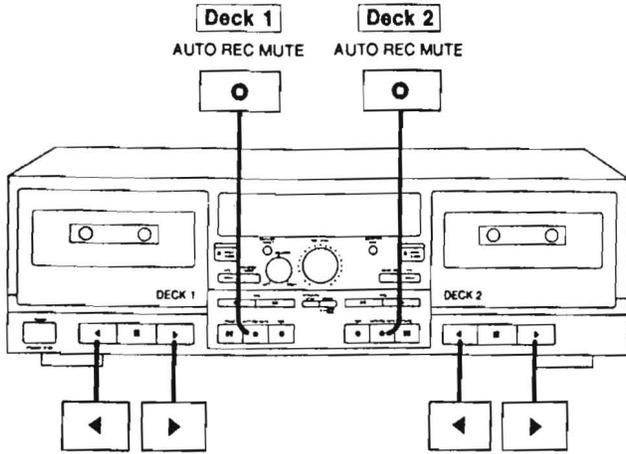


Press **■** on both decks.

Note

Different sound sources cannot be recorded separately on deck 1 and deck 2 at the same time.

A silent interval of 4 seconds or more can be provided between tracks. This function is useful for playing back on decks which can skip to the beginning of tracks, and for cutting unwanted sound from commercials.



To make a 4-second silent interval

AUTO REC MUTE

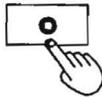


Press **AUTO REC MUTE** momentarily while a recording is being made.

A 4-second silent interval will be recorded, and the unit will automatically be set to the recording standby mode.

To make a silent interval more than 4 seconds

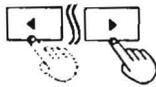
AUTO REC MUTE



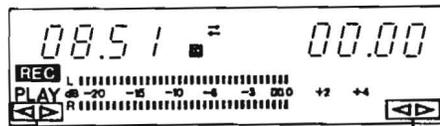
Press and hold **AUTO REC MUTE** for the necessary number of seconds while a recording is being made.

The unit will change to the recording stand-by mode when the button is released.

To resume recording



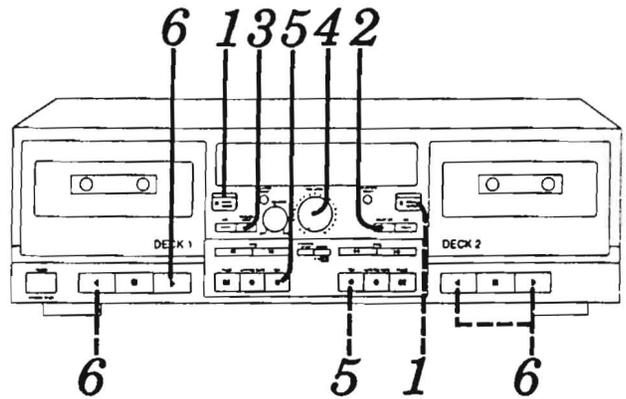
Press either **◀** or **▶**, corresponding to the side of the tape side indicator which is lit.



Tape side indicator

To erase recorded sound

When new recordings are made on a pre-recorded tape, all sounds recorded on that portion of the tape are automatically erased. To erase a tape without making a new recording, follow the steps below.



1

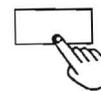


Press **OPEN/CLOSE** on Deck 1 (or Deck 2), and then insert the recorded cassette tape.

Press again to close the cassette holder.

2

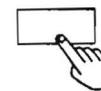
DOLBY NR



Press **DOLBY NR** so that the Dolby NR Indicators ("B" and "C") are off.

3

REVERSE MODE



Press **REVERSE MODE** to select the desired reverse mode.

↔ : To erase one side of the tape.
↔ ↔ : To erase both sides of the tape.

4

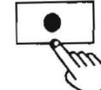
REC LEVEL



Set the **REC LEVEL** control to "0".

5

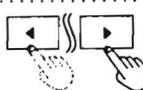
REC



Press **REC**.

(The unit will be in the recording stand-by-mode.)

6



Press **◀** or **▶** to begin erasing the tape.

▶ : Forward side
◀ : Reverse side

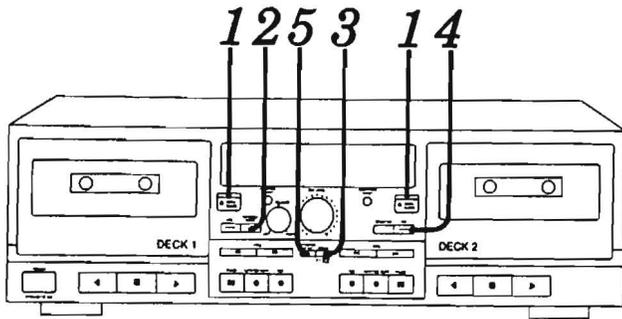
Note

To erase both sides of the tape, be sure to press the **▶** button.

Tape-to-tape recording

Either normal, CrO₂ or metal type cassettes can be used.

Use Deck 2 to record the sound being played back on Deck 1.



Preparation

Wind the tape past the leader tape section so that recording can begin straight away.

1 Press **OPEN/CLOSE** on both decks, and then insert the cassette tapes.
Deck 1: For playback
Deck 2: For recording
 Press again to close the cassette holder.

2 Press **REVERSE MODE** to select the desired reverse mode.

Each time the button is pressed, the indicator will change in the order:



→ : Only one side of the tape will be recorded, and then operation will automatically stop.

↔ : Both sides of the tape (first the forward side and then the reverse side) will be recorded, and then operation will automatically stop.

If the recording tape is longer than the playback tape, the playback tape will be played repeatedly as many as eight times until the recording tape is finished.

∞ : Both sides of the tape (first the forward side and then the reverse side) will be recorded once, and then operation will automatically stop.

Note

To record on only one side of the tape, set the tape side indicators (< or >) on Deck 1 and Deck 2 in accordance with the tape sides to be played back and recorded.

To record on both sides of the tape, set the tape side indicators on both Deck 1 and Deck 2 to the forward side (>).

3 Press **SPEED** to select the recording speed.

Each time the button is pressed, the indicators will change in the order:
 x1 → x2 → off.
 x1: Normal speed
 x2: Double speed

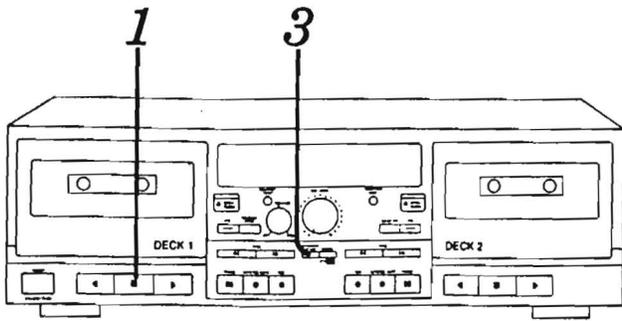
4 Press **ATC** on Deck 2.
 (The ATC function will enter the stand-by mode.)

[Recording is also possible without performing ATC.]

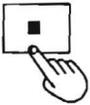
5 Press **SYNCHRO START**.
 (ATC will begin, and when it is completed, recording will begin.)

Note

In order to avoid operation errors later, be sure to switch OFF the SPEED button (the "x1" and "x2" indicator will go out) after the tape-to-tape recording has finished.



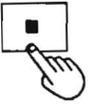
To record selected tracks

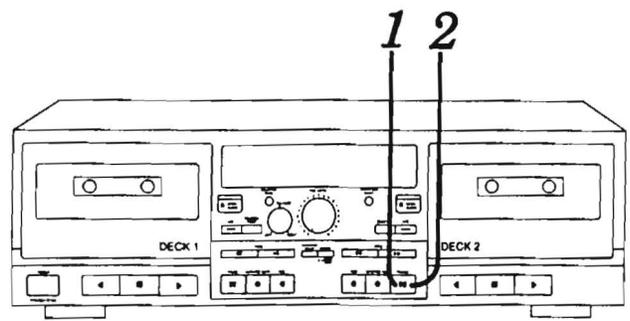
1  **During recording, press ■ on Deck 1.**
 (Deck 1 will stop, and Deck 2 will record a 4-second silent interval and then enter the recording standby mode.)

2 **Operate Deck 1 to find the track you wish to record.**
 It is also possible to change the playback tape at this time.
For your reference:
 The TPS function is useful for finding the beginning of the track. (Refer to page 11.)

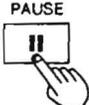
3  **Press SYNCHRO START.**
 (Recording will resume.)

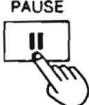
To stop recording

 **Press ■ on Deck 2.**
 (On Deck 2)



To cut unwanted parts during recording

1  **Press || PAUSE on Deck 2 during recording.**
 (Deck 2, which was recording, will enter the pause mode, and Deck 1 will continue playback.)

2  [When Deck 1 reaches a part you wish to record]
Press || PAUSE on Deck 2.
 (Deck 2 will resume recording.)

For your reference:

- The recording level and the Dolby effect will be recorded as they are on the tape being played back.
- Because the signal being recorded from Deck 1 onto Deck 2 does not pass through the receiver, it is possible to change the setting of the receiver's input selector during recording in order to listen to some other sound source.

Note

When recording with the recording speed set to double speed, noise interference may be recorded onto the tape if there is a television set nearby, so make the recording in a location separated from the television set or switch off the television set during recording.

Concerning cassette tapes

Selection of cassette tapes

Cassette tapes exceeding 90 minutes

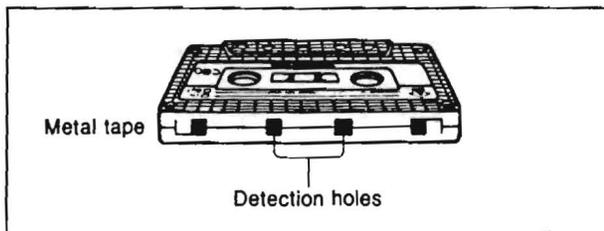
These tapes are handy for their long playback and recording time but be careful about repeatedly stopping and starting, rewinding and fast forwarding these tapes in short intervals as they are thin, tend to stretch and may become entangled in the machine.

Fe-Cr tapes (TYPE III)

The high frequency range will be emphasized, and it will not be possible to obtain a flat frequency response.

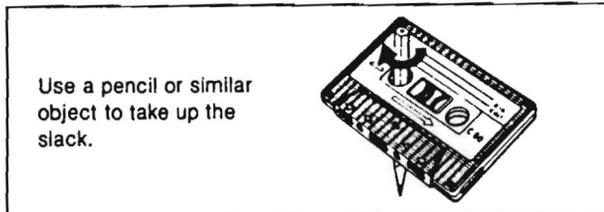
Metal tape without detection holes in the cassette

Recordings will be very distorted. (However, there will be no problem with playback.)



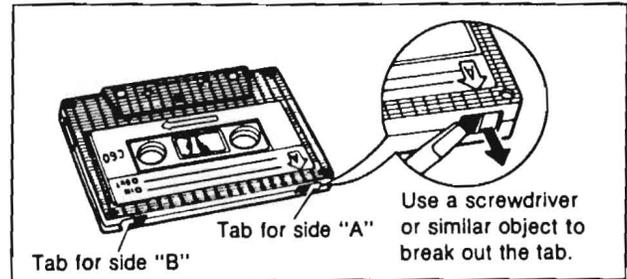
Tape slack

Tape slack may cause the tape to break.



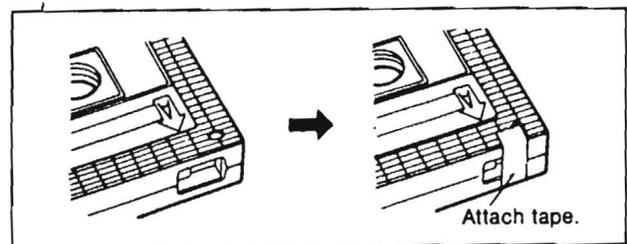
Erasure prevention

Remove the tab(s).



To re-record on a protected cassette

Cover the slot with adhesive tape.



Tape storage

Tapes can be damaged if stored in places such as those described below.

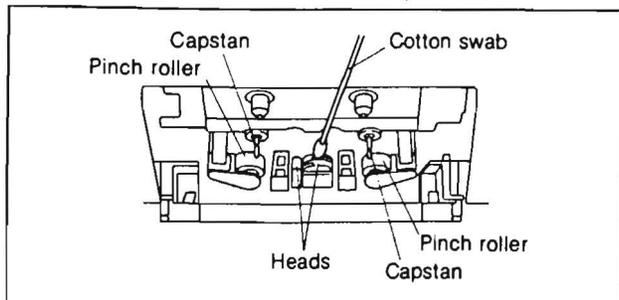
- Where the temperature is high (95° F/35° C or higher) or where the humidity is high (80% or higher)
- Where there is a strong magnetic field (near a speaker, on top of a TV, etc.). Recording may become erased.
- In direct sunlight

Head care

To assure sound quality for recording and playback, be sure to clean the heads after approximately every 10 hours of use.

- 1) Press the open/close button to open the cassette holder.
- 2) **Disconnect the AC power supply cord from the AC outlet.**
- 3) Clean the heads, pinch roller and the capstan shaft with a cotton swab (or with a soft, lint-free cloth) slightly moistened with isopropyl alcohol.

Do not use any solution other than alcohol for head cleaning.



Head demagnetization

In order to maintain good sound quality during recording and playback, it is recommended that the head assembly be demagnetized if distortion or poor sound quality persists after cleaning the heads.

If the head assembly becomes magnetized, it could create noise in the recordings, loss of high-frequency response or erasure of valuable recordings.

Several types of head demagnetizers are available and may be purchased separately at local electronics supply stores. Follow the instructions that are supplied with the device.

Do not bring any type of metal objects or tools such as magnetic screwdrivers in contact with the head assembly.

Maintenance of external surfaces

To clean this unit, use a soft, dry cloth.

If the surfaces are extremely dirty, use a soft cloth, dipped into a soap-and-water solution or a weak detergent solution.

Wring the cloth well before wiping the unit.

Wipe once again with a soft, dry cloth.

Never use alcohol, paint thinner, benzene, nor a chemically treated cloth to clean this unit.

Such chemicals may damage the finish of your unit.

CASSETTE DECK SECTION

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC erase

Heads	
DECK 1	Recording/Playback head (Permalloy) × 1 Erasing head (Double-gap ferrite) × 1
DECK 2	Recording/Playback head (Permalloy) × 1 Erasing head (Double-gap ferrite) × 1

Motors	
DECK 1	Capstan drive (DC servo motor) × 1 Reel table drive (DC motor) × 1
DECK 2	Capstan drive (DC servo motor) × 1 Reel table drive (DC motor) × 1

Tape speed	4.8 cm/sec. (1-7/8 ips)
Wow and flutter	0.1% (WRMS)

Fast forward and rewind times	Approx. 50 seconds with C-60 cassette tape
--------------------------------------	--

Frequency response (Dolby NR off)	
NORMAL	40 Hz - 15 kHz, ± 3 dB 20 Hz - 17 kHz
CrO₂	40 Hz - 15 kHz, ± 3 dB 20 Hz - 17 kHz
METAL	40 Hz - 16 kHz, ± 3 dB 20 Hz - 18 kHz

S/N (Signal level = max recording level, CrO ₂ type tape)	
NR off	56 dB (A weighted)
Dolby B NR on	66 dB (A weighted)
Dolby C NR on	74 dB (A weighted)

Input sensitivity and impedance	
REC (IN)	100 mV/47 kΩ
Output voltage and impedance	
PLAY (OUT)	500 mV/500 Ω

GENERAL

Power consumption	28 W
Power supply	AC 60 Hz, 120 V
Dimensions (W × H × D)	
430 × 136 × 285 mm (16-15/16" × 5-5/16" × 11-7/32")	
Weight	4.4 kg (9.7 lb.)

Note:

Specifications are subject to change without notice. Weight and dimensions are approximate.

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to

the directory of authorized service centers (enclosed with this unit) to locate a convenient service center, or consult your Technics dealer for instructions.

(In U.S.A. consult MSC Authorized Servicenters for detailed instructions.)

Problem	Probable cause(s)	Suggested remedy
Tape moves but no sound is heard.	The volume control of the receiver is set to its minimum position.	• Adjust the volume control to the desired level.
	The input selector of the receiver is not set to the "TAPE" position.	• Set to the "TAPE" position.
Distorted sound.	The recording level is too high.	• Select the appropriate recording level.
Previously recorded sound has not been erased.	Erase head is dirty.	• Clean the head.
Sound output is hoarse or unsteady.	Heads are dirty.	• Clean the heads.
	Tape is damaged.	• Try operation with a new cassette; if there is no problem with the new cassette, discard the damaged cassette.
Poor sound quality (especially in the high treble and low bass ranges).	The correct Dolby noise-reduction button is not set.	• Set it to the correct position.
Sound is low, poor tone, intermittent sound noise.	Heads, capstan and/or pinch roller are dirty or tape is damaged.	• Clean the heads, capstan and/or pinch roller, or try a new cassette.
A "hum" noise is heard during tape playback or recording.	This unit is placed too close to a receiver, amplifier or tuner.	• Leave as much space as possible between the units, or place them where there is the least amount of "hum".
Recording is not possible.	The recording level control is at the "0" position.	• Select the appropriate recording level.
	One of the tape-to-tape recording-speed indicators ("×1" or "×2") is illuminated.	• Switch OFF whichever tape-to-tape recording speed indicator is illuminated (by pressing the SPEED button).
TV noise is accidentally recorded.	This unit is placed near a TV.	• Try placing this unit further away from a TV.

Product Service

Do not attempt to remove the cover(s) or repair the unit yourself.
Refer servicing to qualified personnel only.

Product information

For product service, product information or assistance in product operation, refer to the servicenter directory.

**Panasonic Company, Division of
Matsushita Electric Corporation of America**
One Panasonic Way
Secaucus, New Jersey 07094

**Panasonic Sales Company, Division of
Matsushita Electric of Puerto Rico, Inc.**
San Gabriel Industrial Park
65th Infantry Ave. Km. 9.5
Carolina, P.R. 00630

**Panasonic Company (West) of America, Division of
Matsushita Electric Corporation of America**
6550 Katella Ave.
Cypress, CA 90630

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario L4W 2T3