

KENWOOD

STEREO CASSETTE TAPE DECK

KX-5010

INSTRUCTION MANUAL

KENWOOD CORPORATION

Introduction

Your choice of this product indicates that you are a devotee to excellence in sound reproduction.

We appreciate your patronage and take pride in the long tradition of quality components, that our company represents.

So that you can get the most out of your unit, we suggest that you take the time to read through this manual before you hook up and operate your system. This will acquaint you with operating features, and system-connection considerations, so that your listening pleasure will be enhanced right from the start. You will notice that in all aspects of planning, engineering, styling, operating convenience and adaptability, we have sought to anticipate your needs and desires.

Keep this manual handy for future reference.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.

Model KX-5010 Serial Number _____

Unpacking

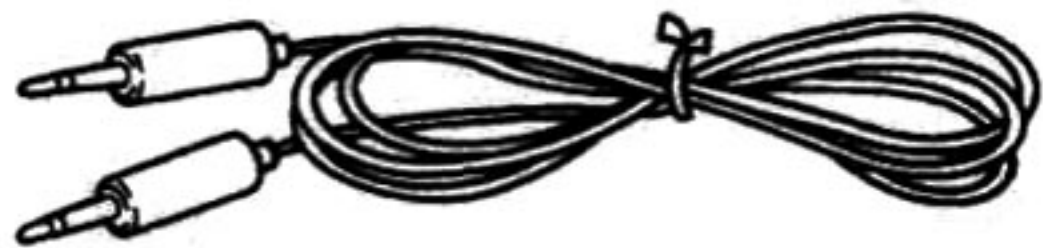
Unpack the unit carefully and make sure that all accessories are put aside so they will not be lost.

Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

Accessories

- Audio cord 2
- System control cord 1



Contents

Caution: Read the following pages marked in ⚠ carefully to keep your safety.

⚠ Before applying power	3	Operating instructions	8
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Before applying power

Important!

U.S.A., Canada, Australia, U.K. and Europe

Units shipped to the U.S.A. and Canada are designed for operation on 120 V AC only.

Units shipped to Australia and U.K. are designed for operation on 240 V AC only.

Units shipped to Europe are designed for operation on 220 V AC only.

These units are not equipped with an AC voltage selector switch and the discussion of such a switch that follows, should be disregarded.

All other countries

Units shipped to countries other than the above countries are equipped with an AC voltage selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

AC voltage selection

This unit operates on 120 volts or 220-240 volts AC. The AC voltage selector switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

Note:

Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.

For United Kingdom

The mains plug must be removed from the wall socket prior to any internal examination.

Important

The wires in this mains lead are coloured in accordance with the following code:

Blue Neutral

Brown Live

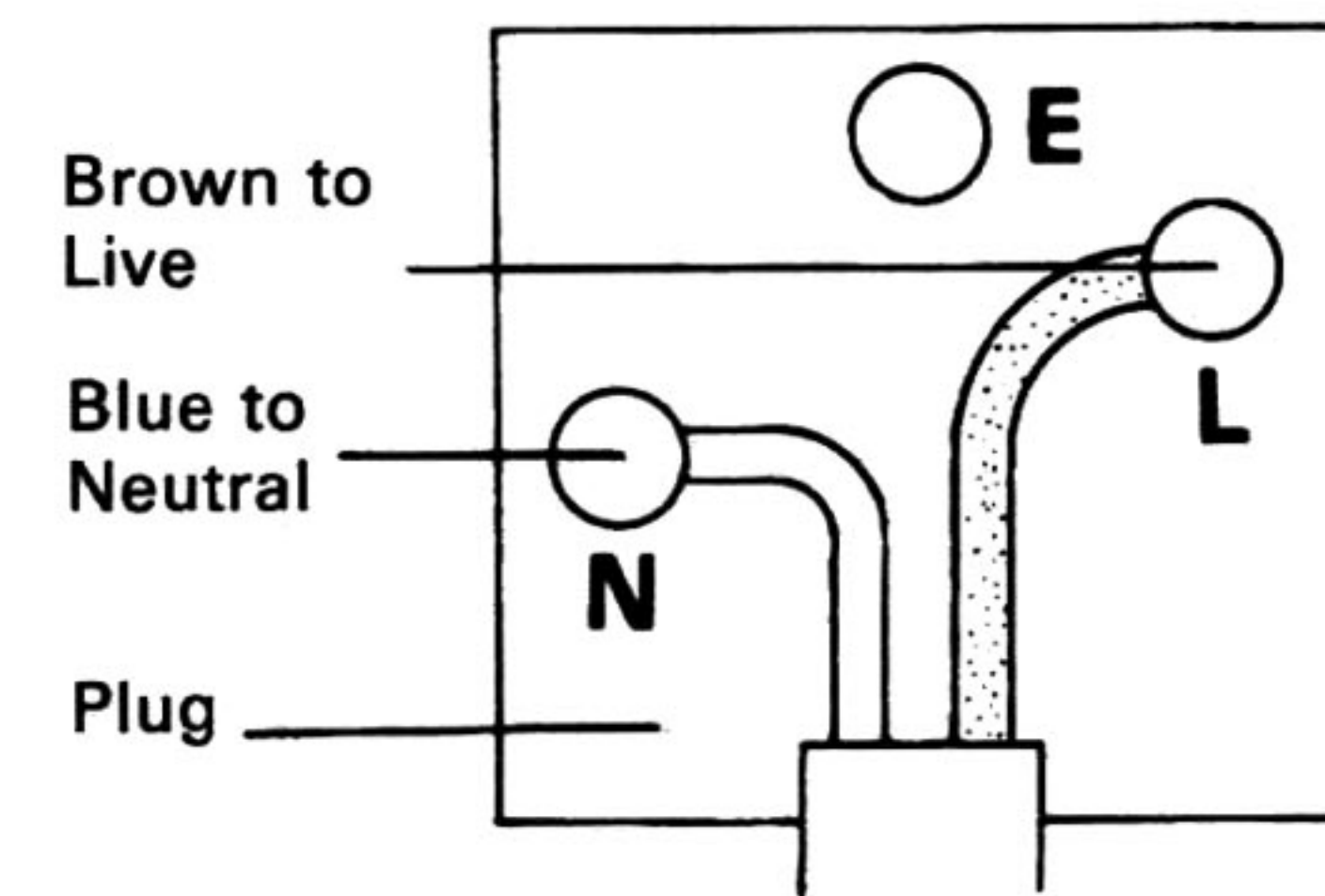
The wires in this mains lead must be connected to the terminals in the plug as follows:

Wire colour

Plug terminal marking

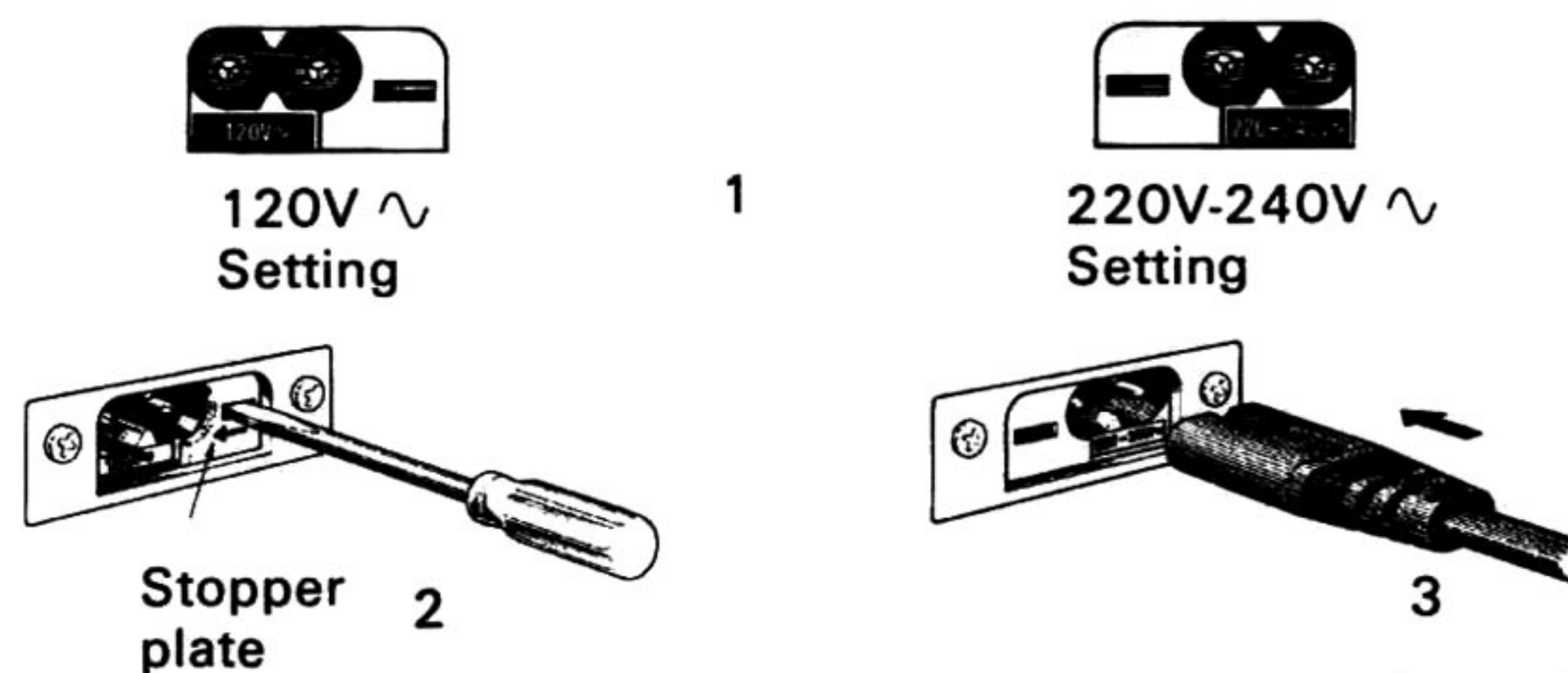
Blue N or Black

Brown L or Red



Notes:

1. If a 13-amp plug is used, this must be fitted with a 5-amp fuse.
2. If a 3-pin plug with earthing contact is used, no wire must be connected to the E terminal.



1. Before plugging in this unit, make sure that the position of the AC Voltage Selector conforms to your line (mains) voltage. If not, it must be reset. See Figure 1.
2. To reset the selector, slide the stopper plate to the opposite side with a screwdriver or other pointed tool. See Figure 2.
3. Insert the power cord securely. See Figure 3.

Safety precautions

WARNING

TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



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



THE 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.

Important safeguards

Please read all of the safety and operating instructions before operating this unit. For best results, follow all warnings placed on the unit and adhere to the operating and use instructions. These safety and operating instructions should be retained for future reference.

1. Power sources – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

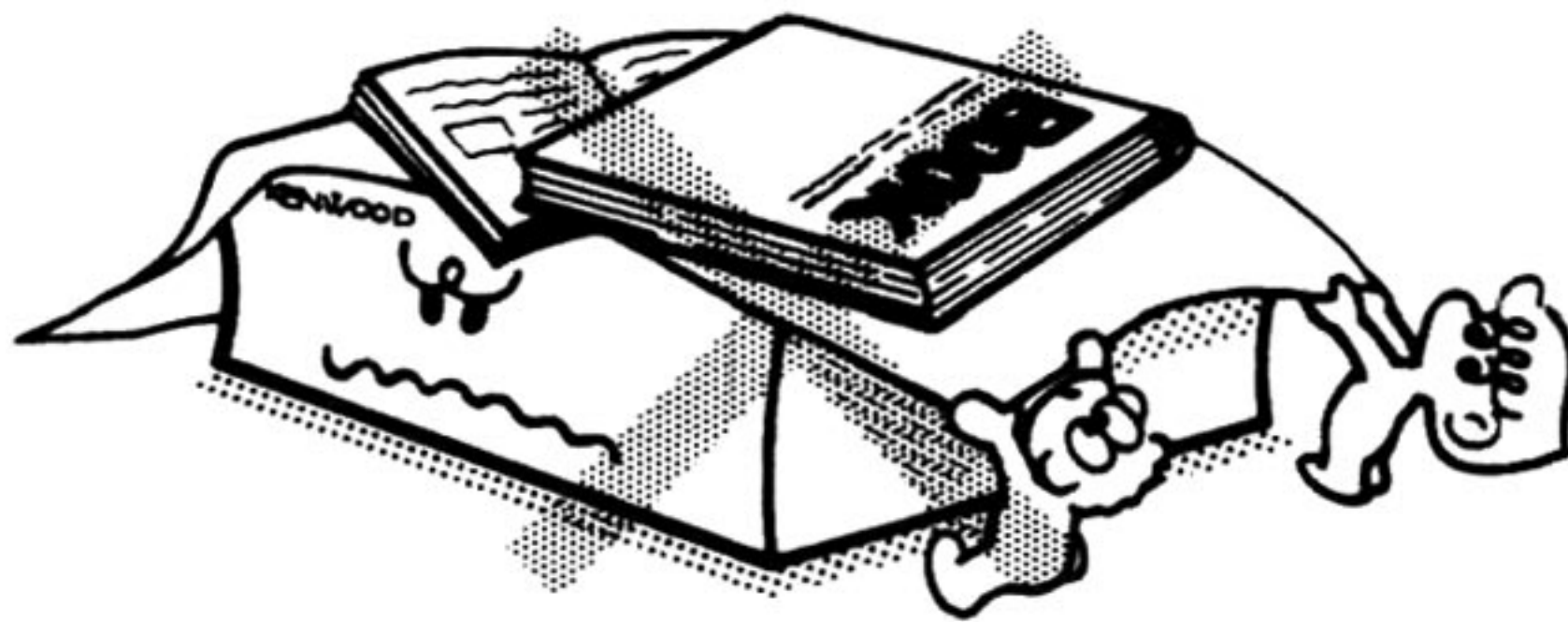
2. Power-cord protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.

Never pull or stretch the cord.

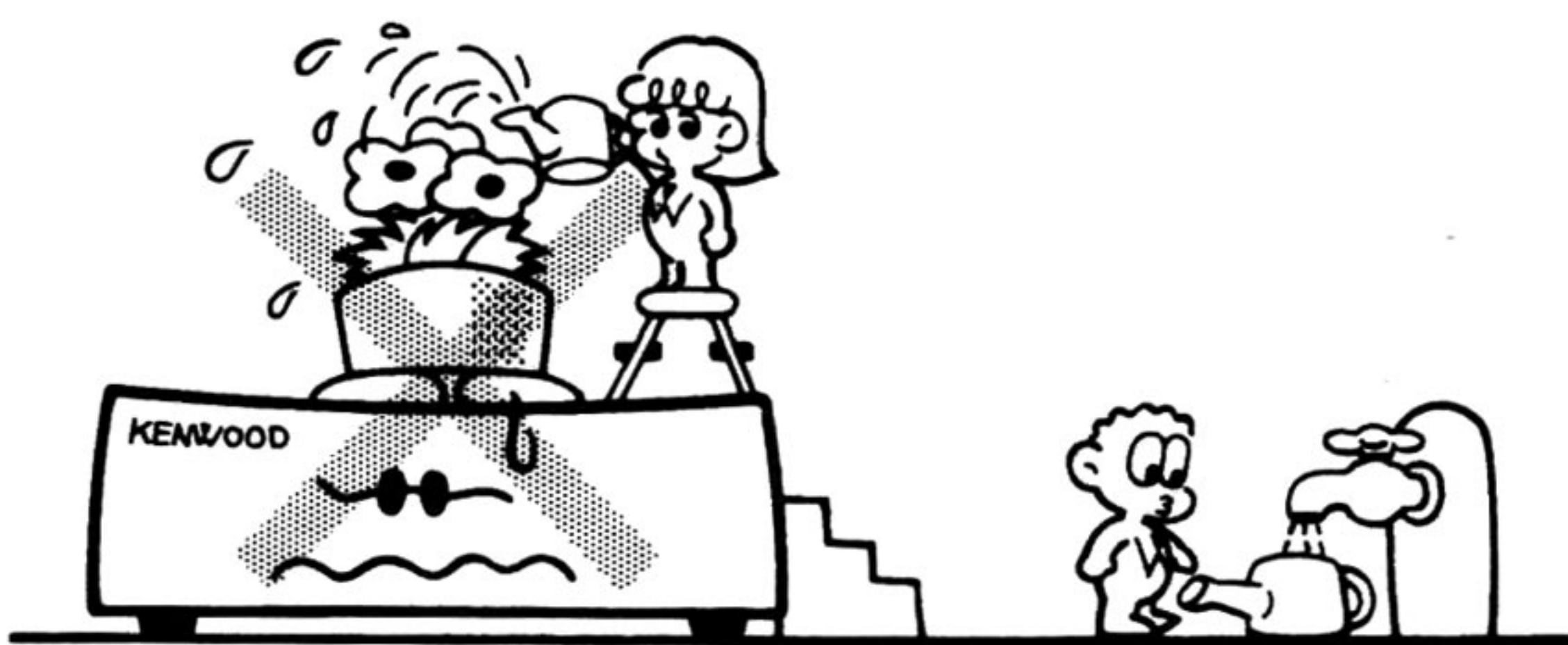


3. Ventilation – The unit should be situated so that its location or position does not interfere with its proper ventilation.

To maintain good ventilation, do not put records or a table-cloth on the unit. Place the unit at least 10 cm away from the walls.

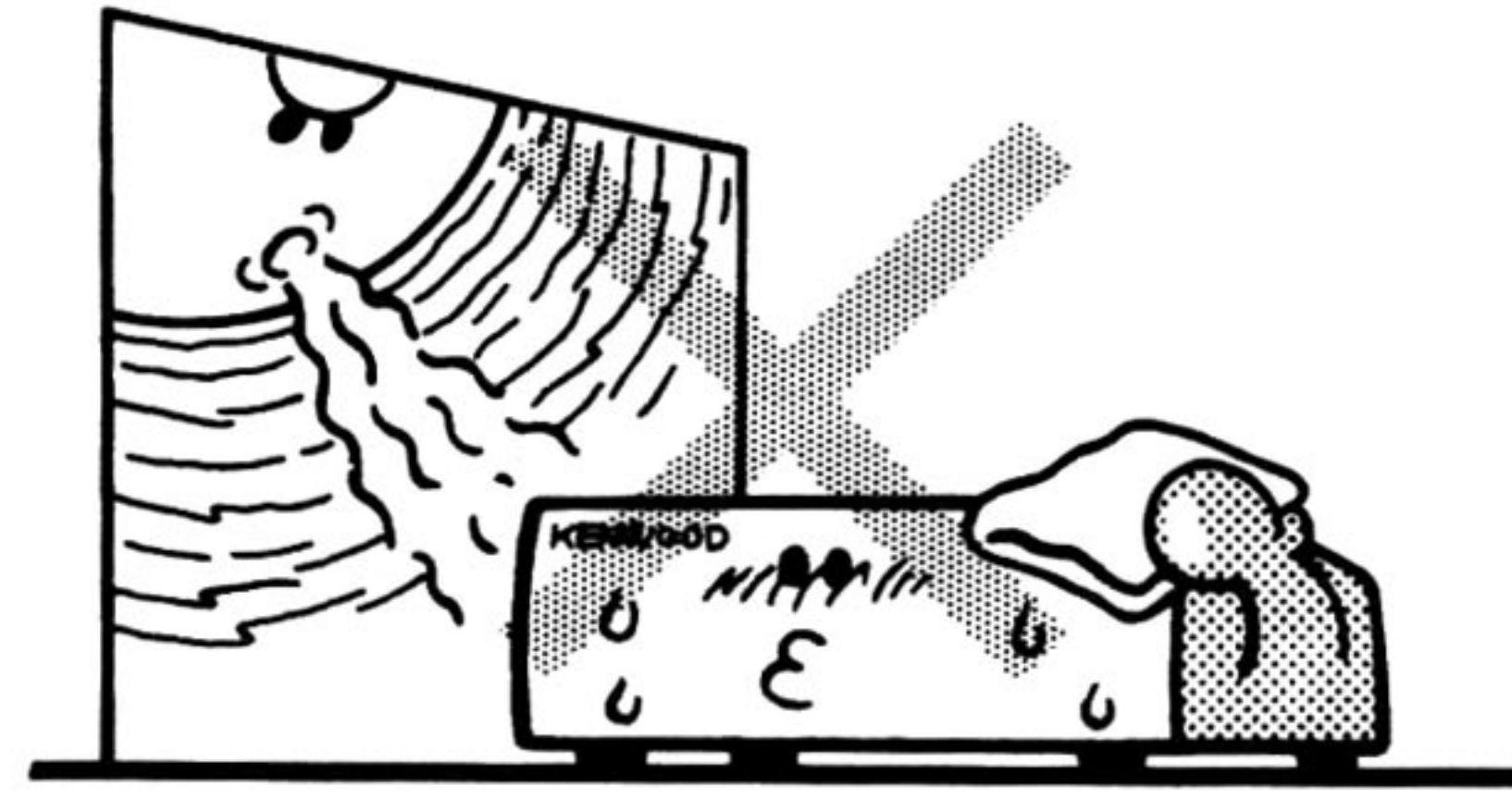


4. Water and moisture – The unit should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

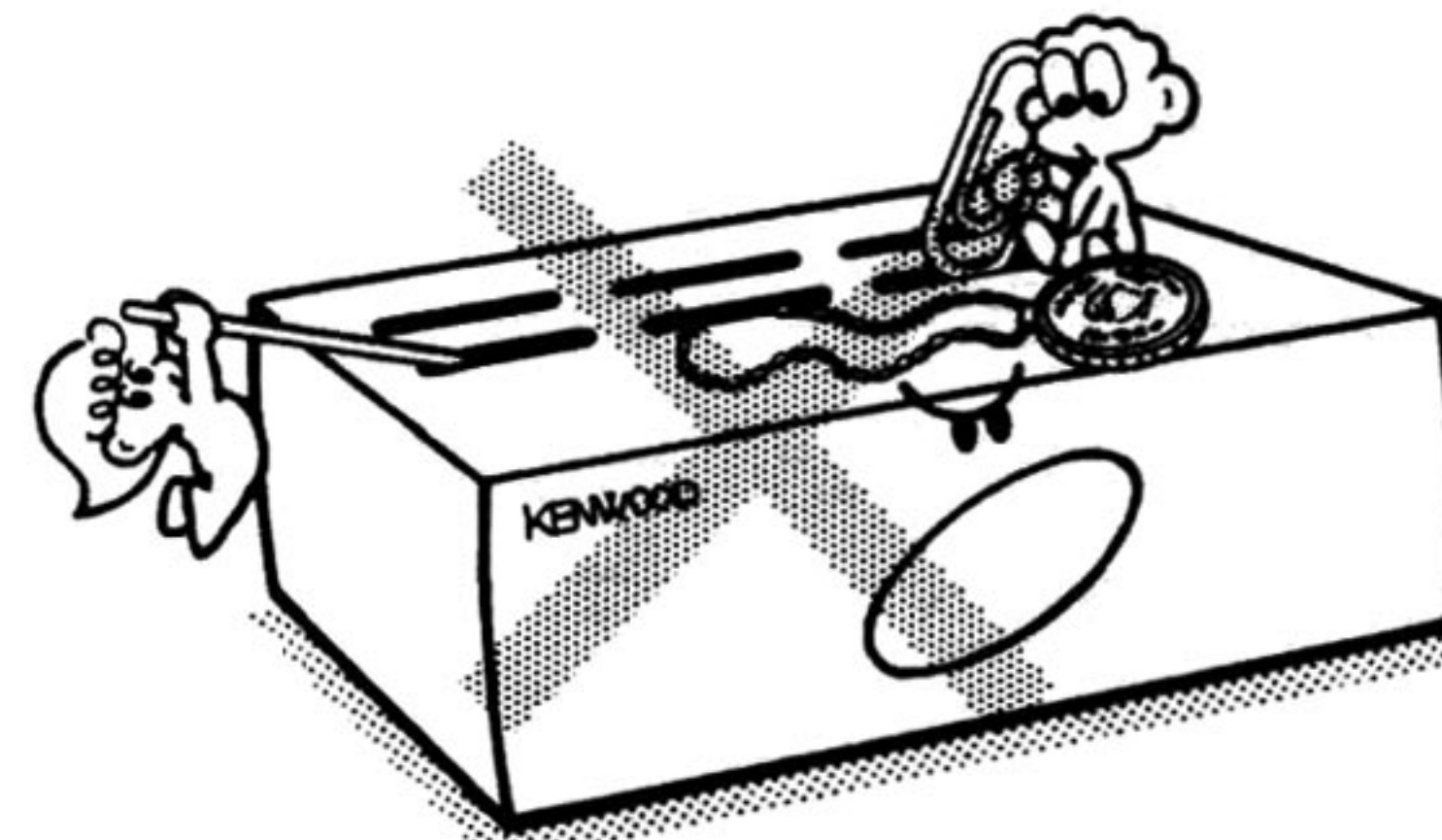


5. Temperature – The unit may not function properly if used at extremely low, or freezing temperatures. The ideal ambient temperature is above +5°C (41°F).

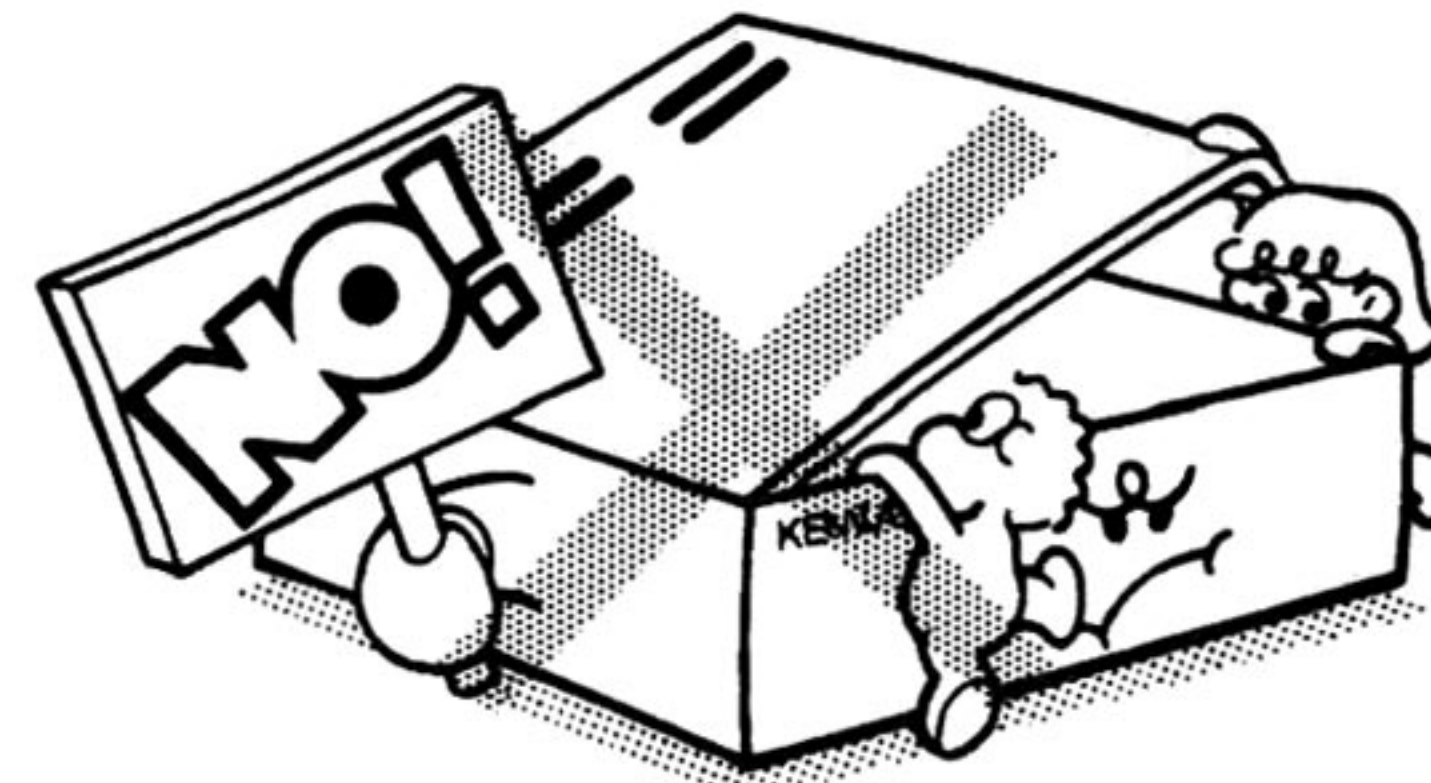
6. Heat – The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.



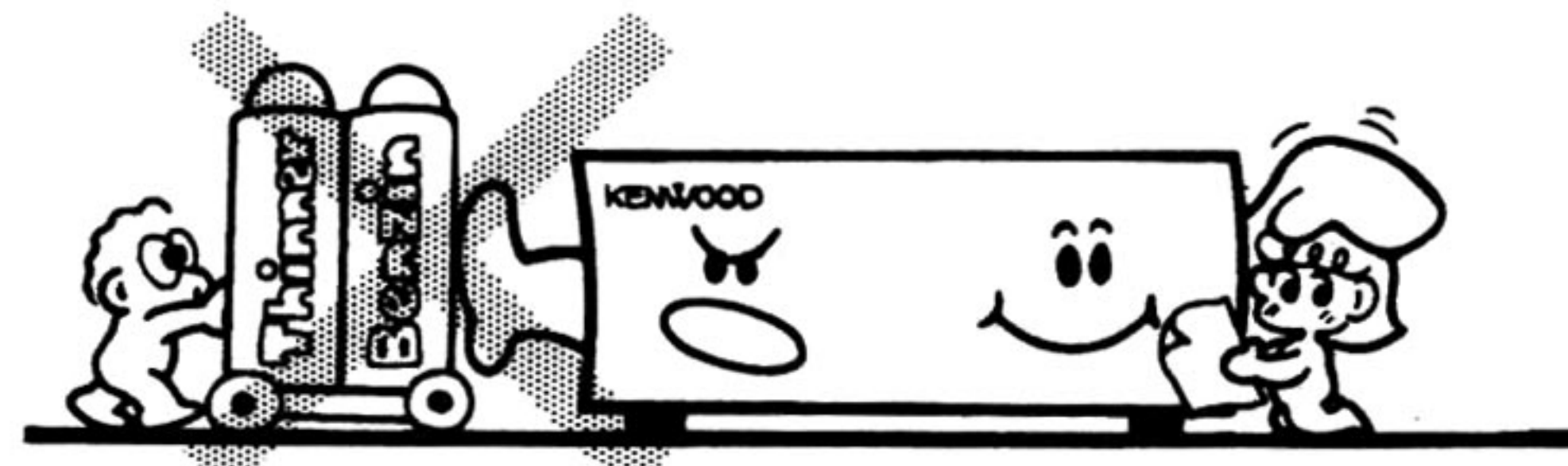
7. Electric shock – If a metal object, such as a hair pin or a needle, comes into contact with the inside of this unit, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this unit.



8. Enclosure removal – Never remove the enclosure. If the internal parts are touched accidentally, a serious electric shock might occur.

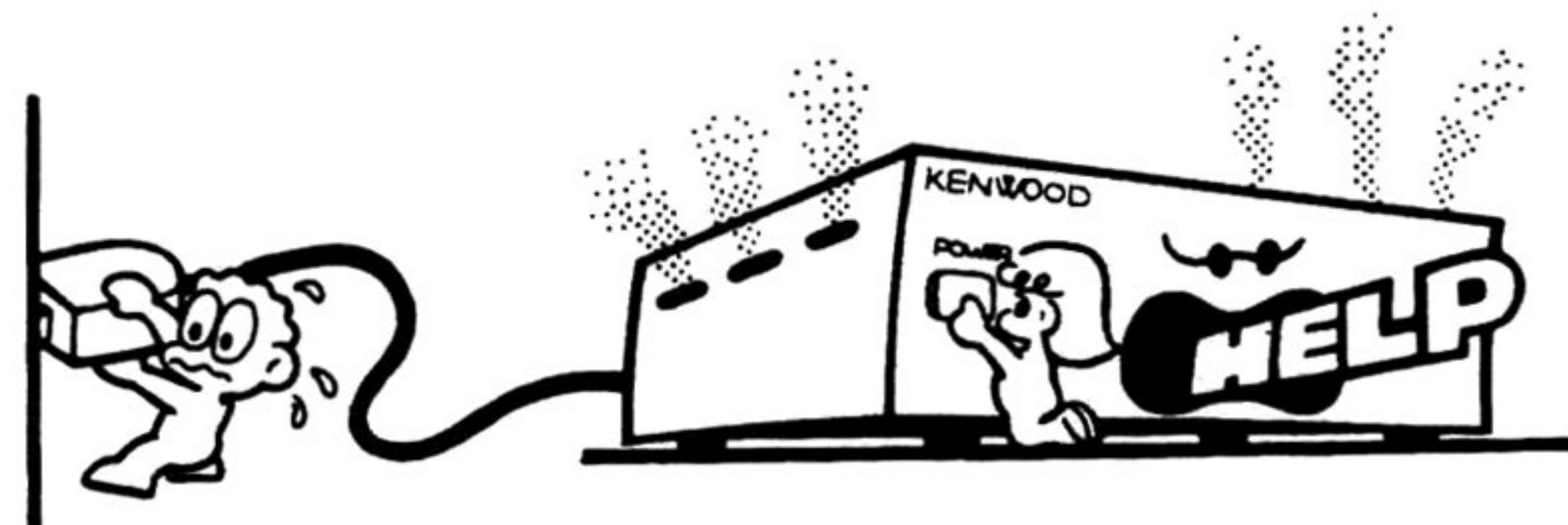


9. Cleaning – Do not use volatile solvents such as alcohol, paint thinner, gasoline, or benzine, etc. to clean the cabinet. Use a clean dry cloth.



10. Abnormal smell – If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest service station.

POWER OFF!

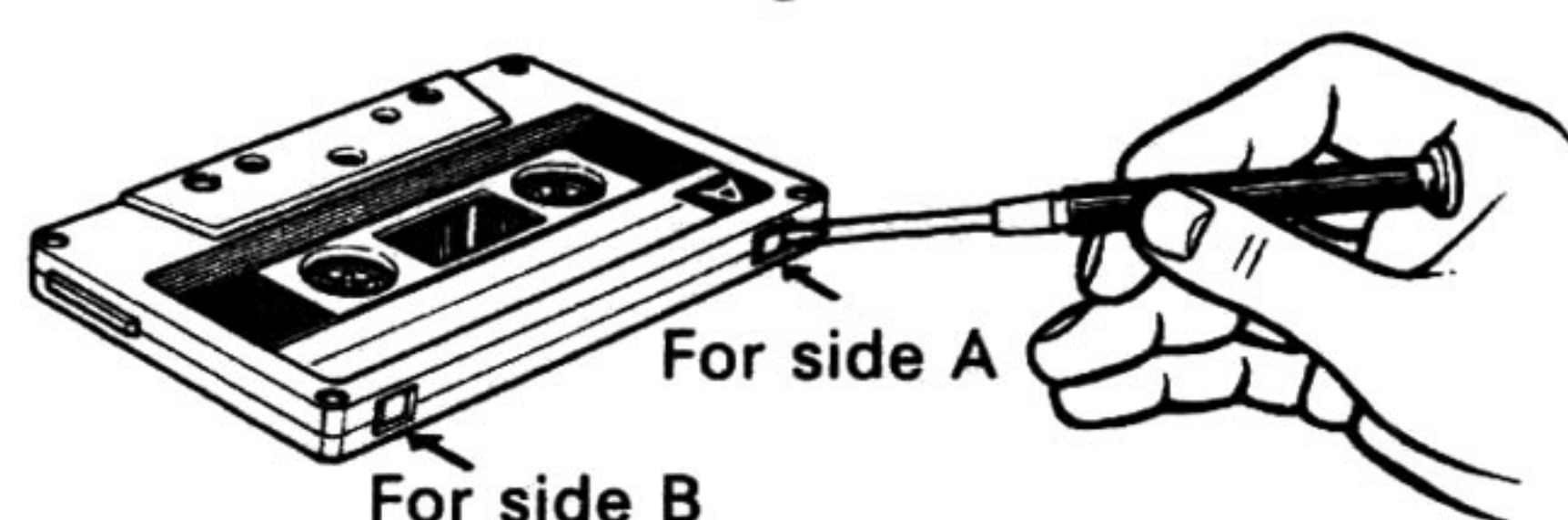


Before operation

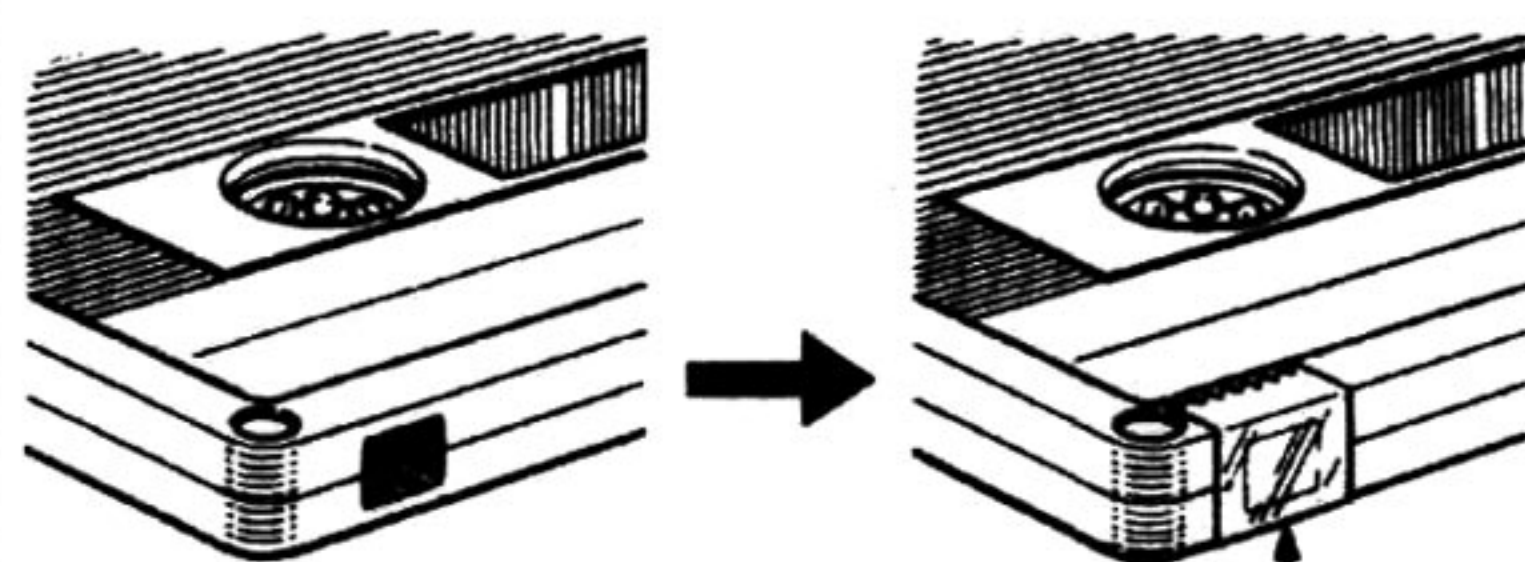
■ Notes on cassette tape

- **Safety tab** (accidental erasure prevention tab):
After an important recording has been finished, break the safety tab, to prevent the recorded contents from being erased or recorded on accidentally.

After an important recording, break the tab using a screwdriver, etc.



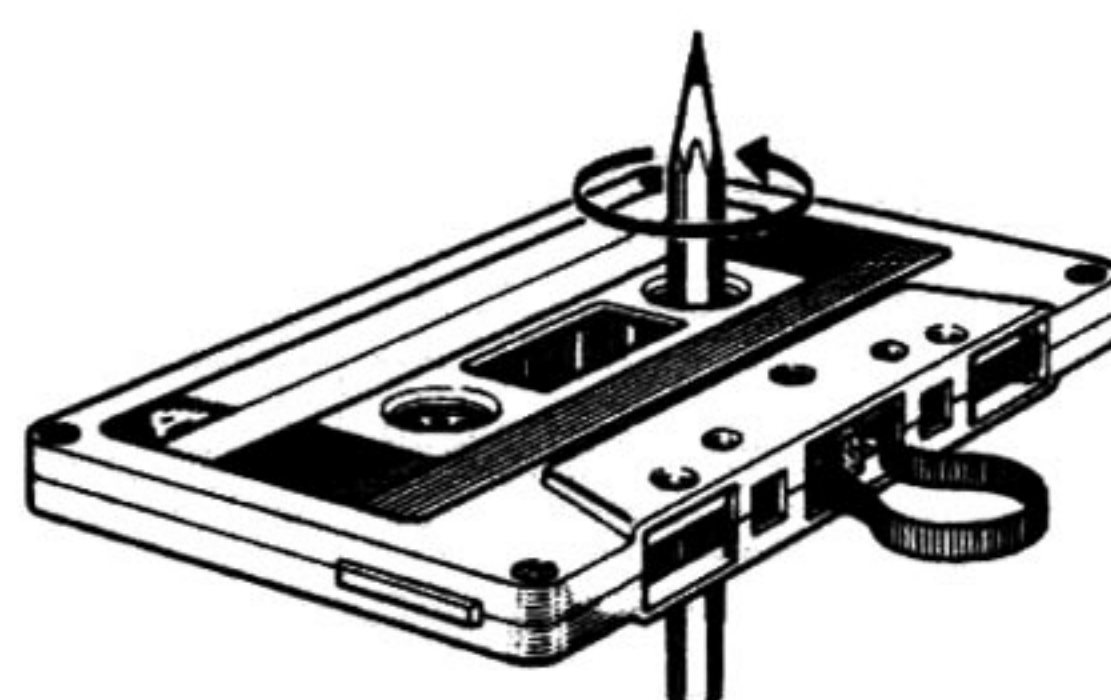
Safety tab



To use for recording again

- **When there is slack in the tape:**
In such a case, insert a pencil into the reel hole and wind the reel hub to remove the slack.

Insert a pencil into the reel hub and wind it.



When there is slack in the tape

- **120-minute cassette tape:**
Since a cassette tape with a recording time of 120 minutes on both sides is very thin, the tape could adhere to the pinch roller or be easily cut. It is recommended that these tapes not be used with this unit to prevent possible damage.

- **To store cassette tapes:**
Do not store the tapes in a place which is subject to direct sunlight, or near equipment that generates heat. Keep the cassette tapes away from any magnetic field.



To prevent an important recording from being erased

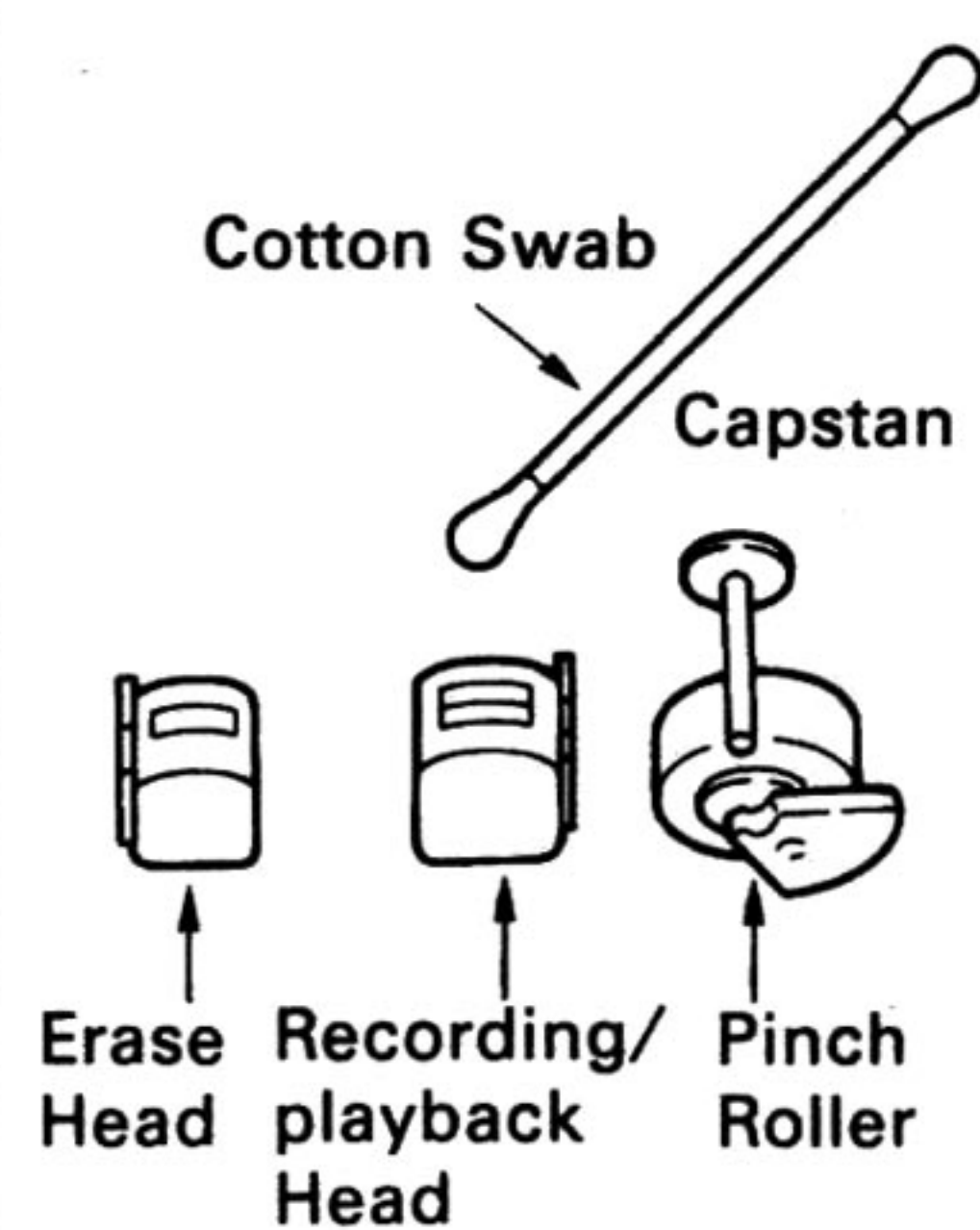
- **Endless tapes:**
Do not use an endless tape, as this could damage the mechanism of the unit.

■ Maintenance

Cleaning the heads and peripheral components:

For maintaining the best condition of the deck and for longer service life, always keep the erase head, recording/playback head, capstan and pinch roller clean. To clean them, perform the following:

1. Press the Eject key to open the cassette holder.
2. Using a cotton swab dipped in alcohol, clean the erase head, recording/playback head, capstan and pinch roller carefully. Then wipe them with a soft dry cloth.



Demagnetizing the head

When the recording/playback head is magnetized, noise will increase in the playback sound. In such a case, demagnetize the head using a commercially available demagnetizer (head eraser).

Note:

There are precisely aligned parts around the heads, including the tape guides. When cleaning, pay special attention so as not to apply shock to them.

■ Beware of condensation

When vapor comes into contact with the surface of cold material, water drops are produced.

For example, when a cold bottle is taken from the refrigerator, water drops form on the surface of the bottle. This phenomenon is called "condensation".

If condensation occurs, correct operation may not be possible, or the unit may not function at all.

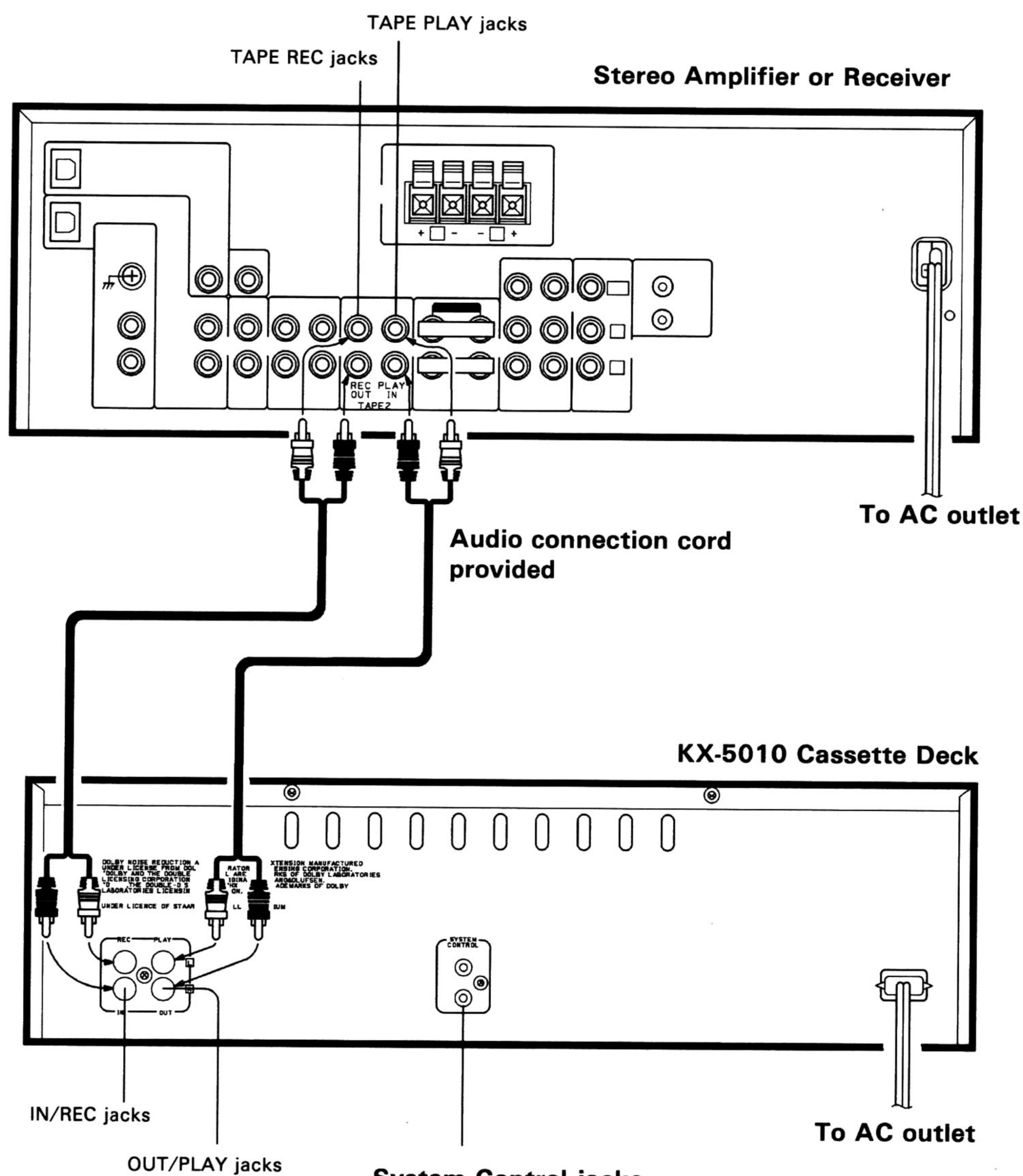
This is not a malfunction, however, and the unit should be dried. (To do this, turn the POWER switch ON and leave the unit as it is for several hours.)

Be especially careful in the following conditions:

- When the unit is brought from a cold place to a warm place, and there is a large temperature difference.
- When a heater starts operating.
- When the unit is brought from an air-conditioned place to a place of high temperature with high humidity.
- When there is a large difference between the internal temperature of the unit and the ambient temperature, or in conditions where condensation occurs easily.

Connections

Do not plug in the power cords until all connections have been completed.
Connect the KX-5010 to the amplifier (or receiver) as shown in the figure below.



System Control jacks

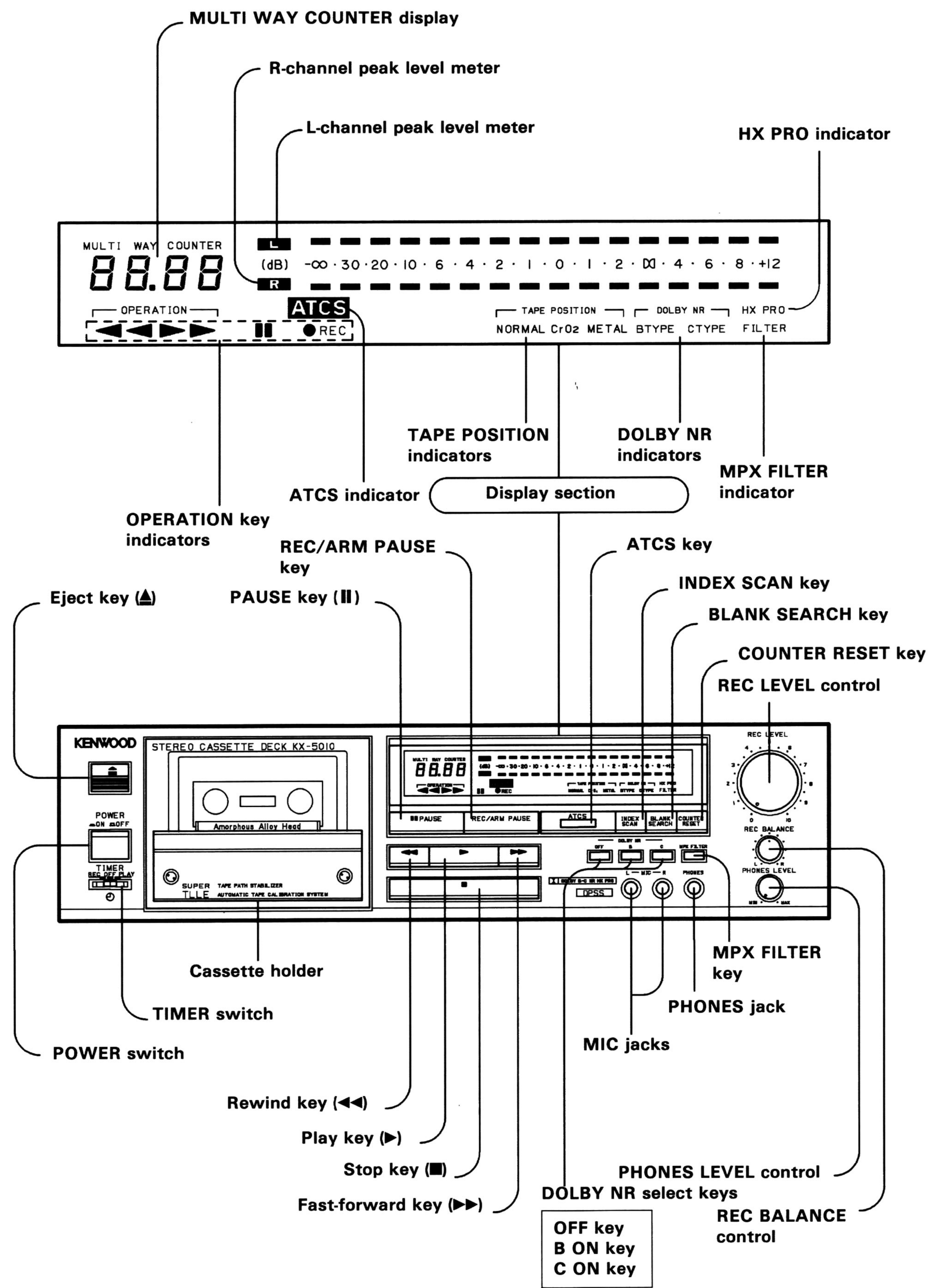
Provided for system-controllable equipment to be released in future.

Do not connect the unit in other system configuration than specified by us.

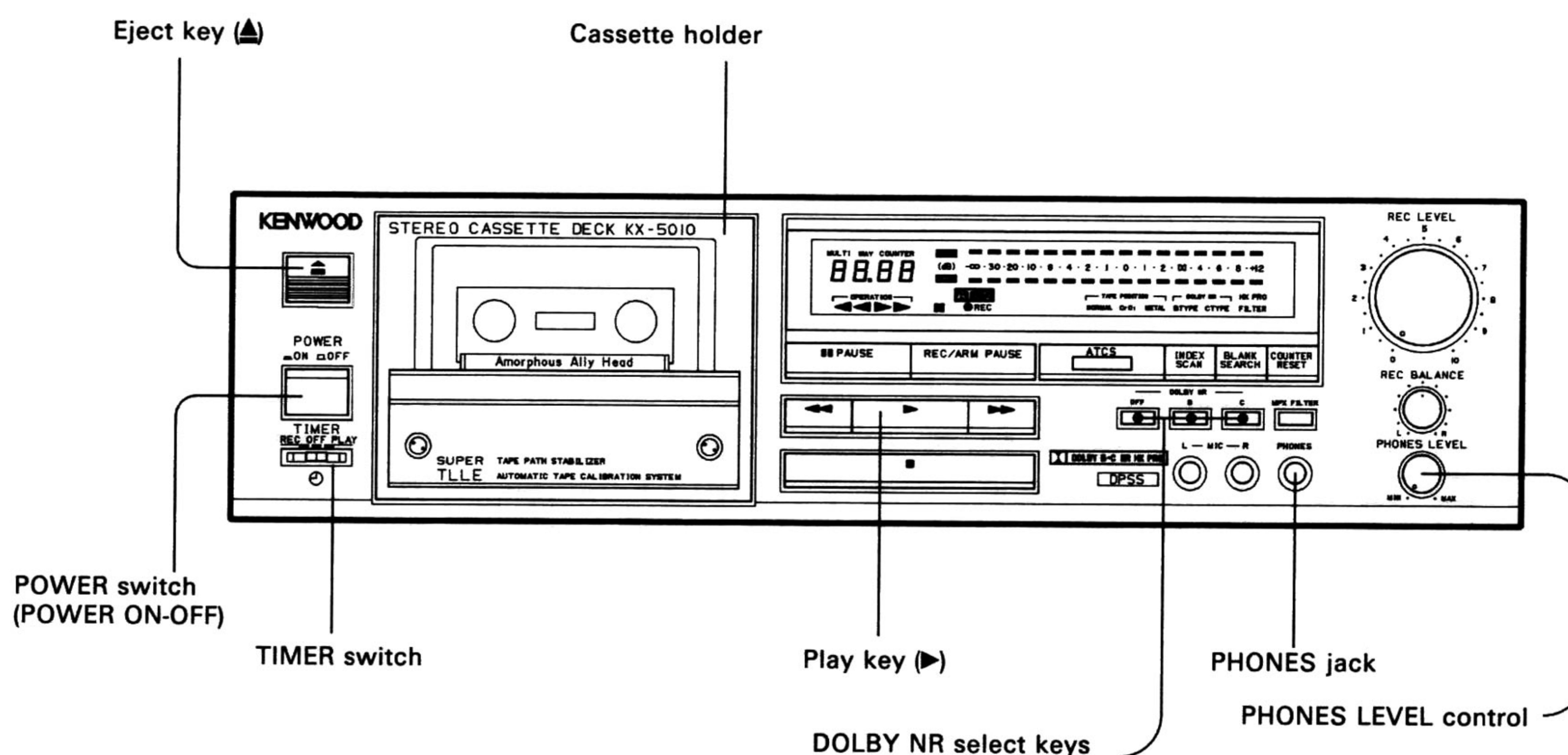
Note:

Make sure that the pin-plug jacks of the audio connection cords are inserted firmly. A loose connection may generate noise or cause no sound.

Names of controls



Operating instructions



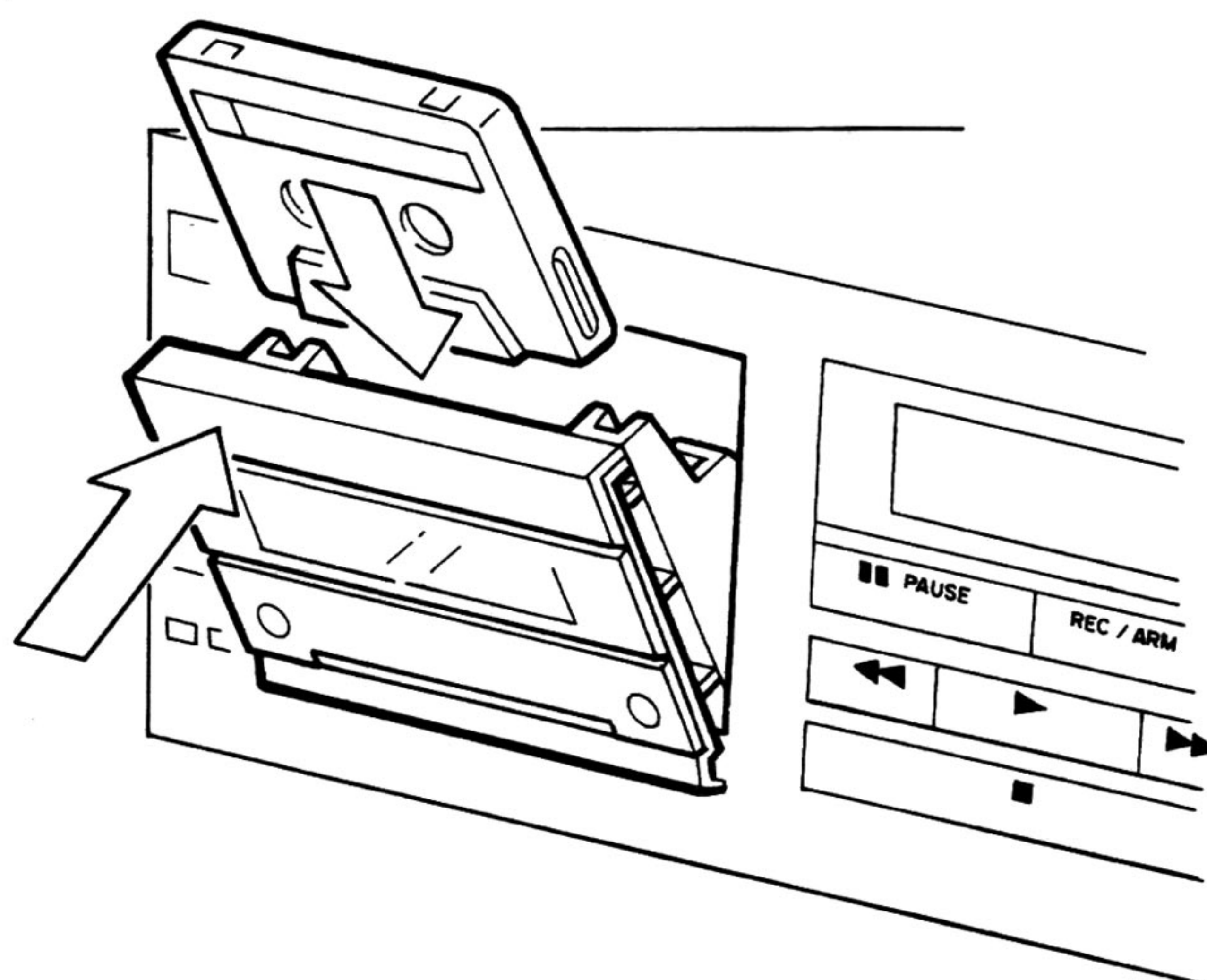
■ Cassette tape playback

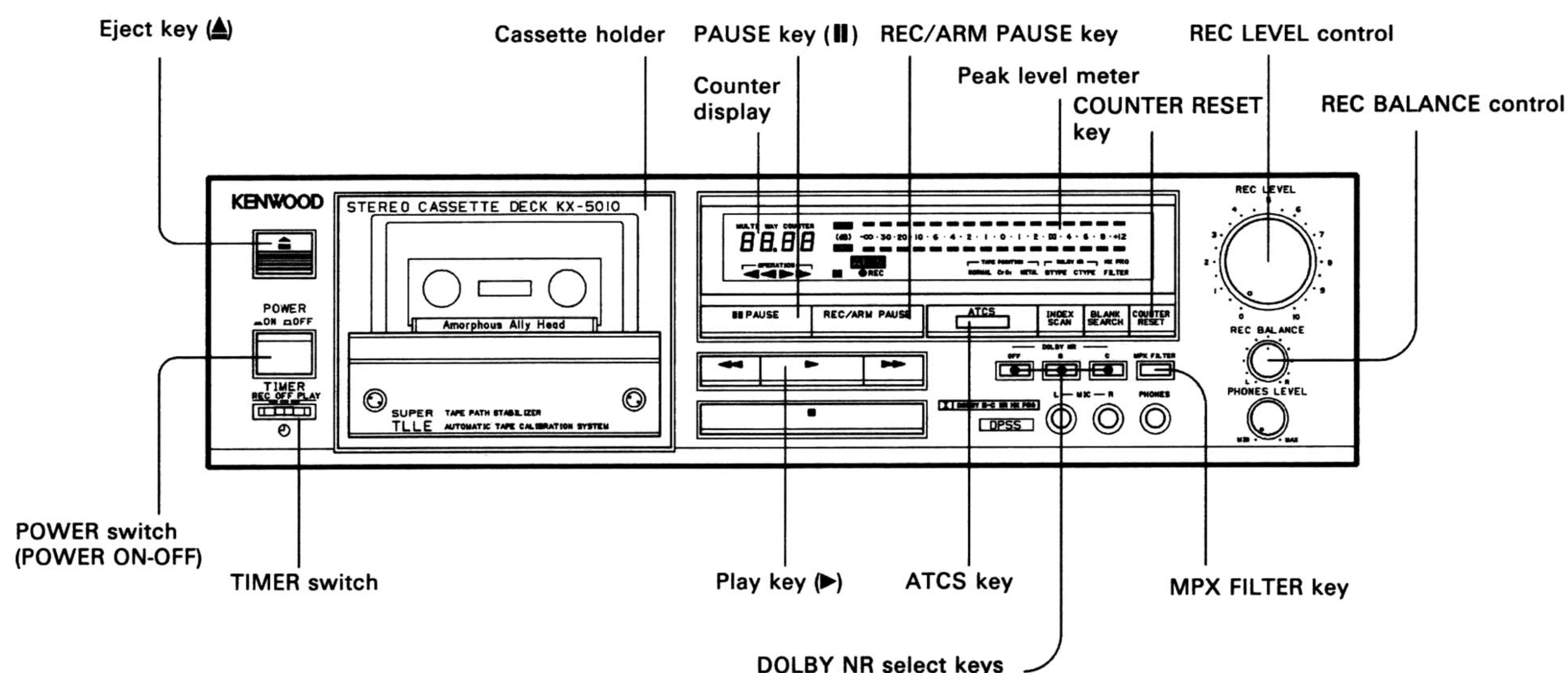
1. Set the TIMER switch of the KX-5010 to OFF and turn the POWER switch ON.
2. Press the Eject (▲) key to open the cassette holder, and load a (recorded) cassette tape with its tape exposure side downward, then close the cassette holder.
 - The type of the cassette tape loaded is detected automatically and corresponding TAPE POSITION indicator lights up.
3. Select the DOLBY NR system with the DOLBY NR select keys according to the recorded condition.
 - Press the "B" key when playing a cassette tape recorded with Dolby B-type NR, and press the "C"

key when playing a cassette tape recorded with Dolby C-type NR. When playing a cassette tape recorded with no noise reduction system, press the "OFF" key.

4. Press the play (▶) key.
 - When listening through headphones, use stereo headphones.
 - Insert the headphone plug into the PHONES jack of the unit, and adjust the volume with the PHONES LEVEL control. The volume is minimized by setting the PHONES LEVEL control to the "MIN" position.
 - When the PHONES LEVEL control is set to the MIN position, the lowest level sound will be heard.

Press the left top corner of the cassette holder to close





■ Cassette tape recording

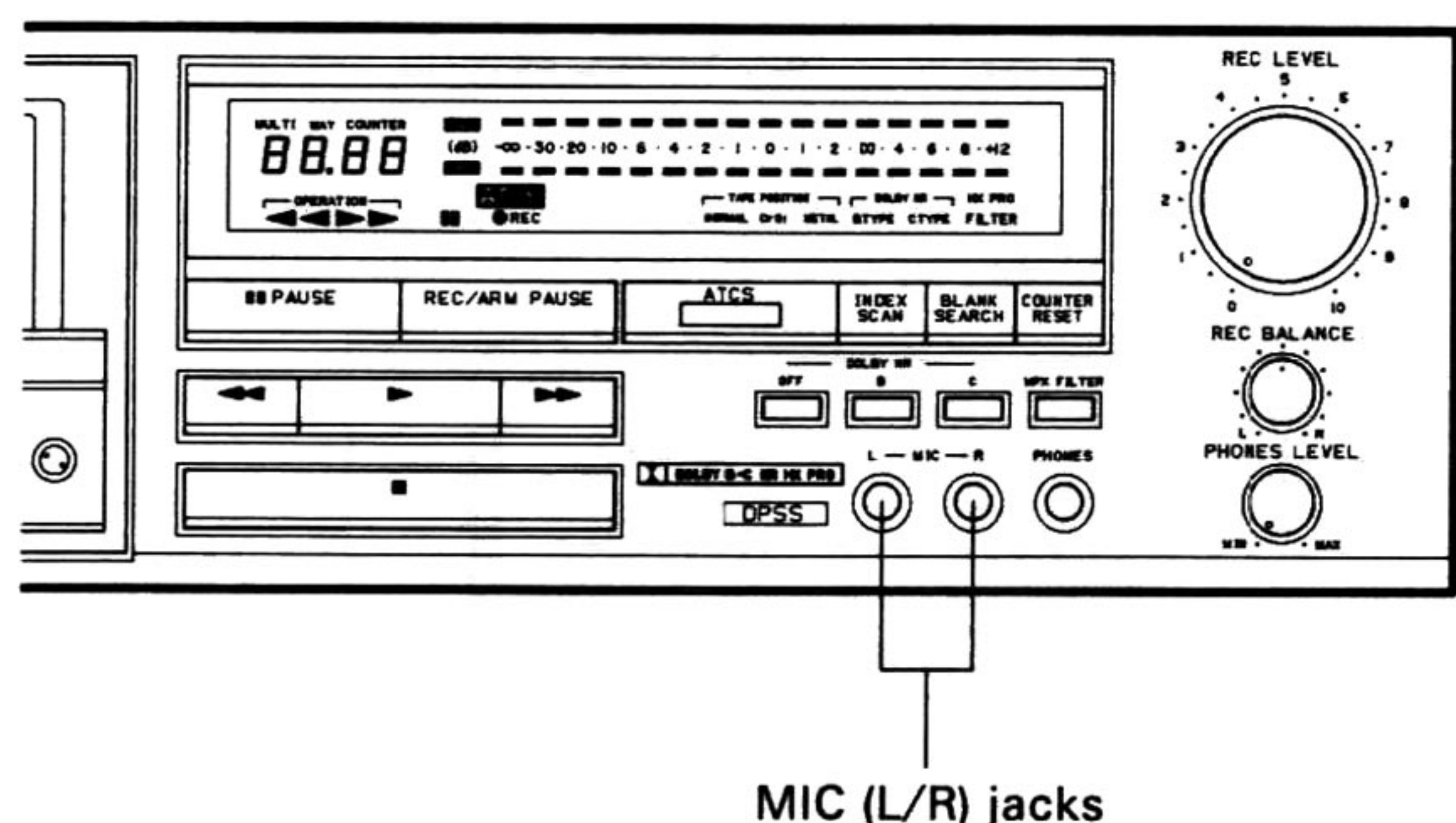
1. Set the TIMER switch to OFF and turn the POWER switch ON.
2. Select the source to be recorded on the amplifier or receiver, and load a recordable cassette tape with its tape exposure side downward, then close the cassette holder. Adjust the tape calibration with the ATCS function.
3. Select the DOLBY NR system with the DOLBY NR select keys as desired ("B", "C" or "OFF").
 - When recording an FM broadcast with DOLBY NR, press the MPX FILTER key. At this time, the "MPX FILTER" indicator will light in the display section.
 - Press the COUNTER RESET key to reset the tape counter to "00".
4. Press the PAUSE (||) key and the REC/ARM PAUSE key simultaneously to set the deck to record-standby mode.
 - At this time, the "▶", "||", and "● REC" indicators will light in the display.
 - When the REC/ARM PAUSE key is pressed twice, the unit enters record-pause (Auto Rec Mute Pause) mode after leaving a non-record blank of 4 seconds on tape. (Refer to "DPSS operations" on page 11.)
5. Adjust the REC LEVEL control while checking the input signals on the peak level meter.
 - When there is a difference between the L-channel and the R-channel levels, adjust the balance with the REC BALANCE control.
6. Press the REC/ARM PAUSE key to start recording.
 - At this time, the "▶" and "● REC" indicators remain lit in the display, and the counter starts counting.

How to use the ATCS function

The ATCS stands for Automatic Tape Calibration System, and functions to fully exploit the characteristics of the tape used for recording. The ATCS setting operation takes about 40 seconds. When the ATCS key is pressed, the unit repeats recording and playback twice, and the ATCS indicator blinks during these operations. When the setting has been made, the indicator lights steadily, the tape is returned to the position where the key was pressed, and the unit enters the stop mode. To cancel the ATCS setting, press the ATCS key again. In case the tape is changed after the ATCS has been set cancel the setting and set it again.

Notes:

1. During play or recording, the cassette holder cannot be opened, even when the Eject (▲) key is pressed.
2. If the power is cut while a tape is running, turn the POWER switch ON and then press the Eject (▲) key.
3. Recording of copyright material may be unlawful without the consent of the copyright owner.
4. Noise may sometimes be generated at the seam between the leader tape and magnetic tape sections. This is due to the change of thickness at the seam between different types of tapes, and not a malfunction.



■ How to use the microphone (MIC L/R) jacks

When recording with microphones, insert the plugs of the two microphones into these MIC jacks. The "L" jack is used for the left channel and the "R" jack for the right channel.

Use low-impedance (600 ohms) microphones for recording with this unit.

Note:

When the microphones are plugged into the MIC jacks, the signal input to the LINE IN jacks on the rear panel will be automatically cut off. When recording the signal from the LINE IN jacks, be sure to remove the microphones from the MIC jacks.

■ Recording level adjustment

The setting of the recording level will greatly affect the characteristics, distortion, signal-to-noise ratio, and frequency response, etc. of the recorded sound.

Normally, when the recording level is set too high, the signal-to-noise ratio is improved, while the frequency response and the distortion are degraded. When the recording level is set too low, the reversed characteristics will be obtained.

To remedy this, set the recording level to an appropriate

level while checking the reading on the peak level meter. Since FM broadcast programs and phonograph records (or compact discs) are recorded by suppressing the peak components, the optimum recording level will be obtained easily.

However, when copying recordings from a reel-to-reel (open reel) deck, pay special attention, because they include sound with a wider dynamic range. Refer to the recording level setting tips as follows.

〈Examples〉

L — — — — —
(dB) -∞ · 30 · 20 · 10 · 6 · 4 · 2 · 1 · 0 · 1 · 2 · ∞ · 4 · 6 · 8 · +12
R — — — — —

L — — — — —
(dB) -∞ · 30 · 20 · 10 · 6 · 4 · 2 · 1 · 0 · 1 · 2 · ∞ · 4 · 6 · 8 · +12
R — — — — —

L — — — — —
(dB) -∞ · 30 · 20 · 10 · 6 · 4 · 2 · 1 · 0 · 1 · 2 · ∞ · 4 · 6 · 8 · +12
R — — — — —

L — — — — —
(dB) -∞ · 30 · 20 · 10 · 6 · 4 · 2 · 1 · 0 · 1 · 2 · ∞ · 4 · 6 · 8 · +12
R — — — — —

Optimum recording level for metal tapes:

Adjust the REC LEVEL control so that the peak value reaches about +6 dB on the peak level meter when the loudest signal is input.

Optimum recording level for tapes other than metal:

Adjust the REC LEVEL control so that the peak value reaches about +4 dB on the peak level meter when the loudest signal is input.

When the recording level is set too low:

When the peak value reaches the range between -20 and -10 dB, the output level is too low, and tape hiss noise will be apparent.

When the recording level is set too high:

When the peak value reaches the range between +8 and +12 dB continuously, the output sound will be broken and distorted.

- The peak level meter will show slightly different values between recording and playback. This is due to the sensitivity of the cassette tape used, and is no problem.

DPSS operations

DPSS (Direct Program Search System)

With this function, the following convenient operations are made possible by pressing the tape control keys.

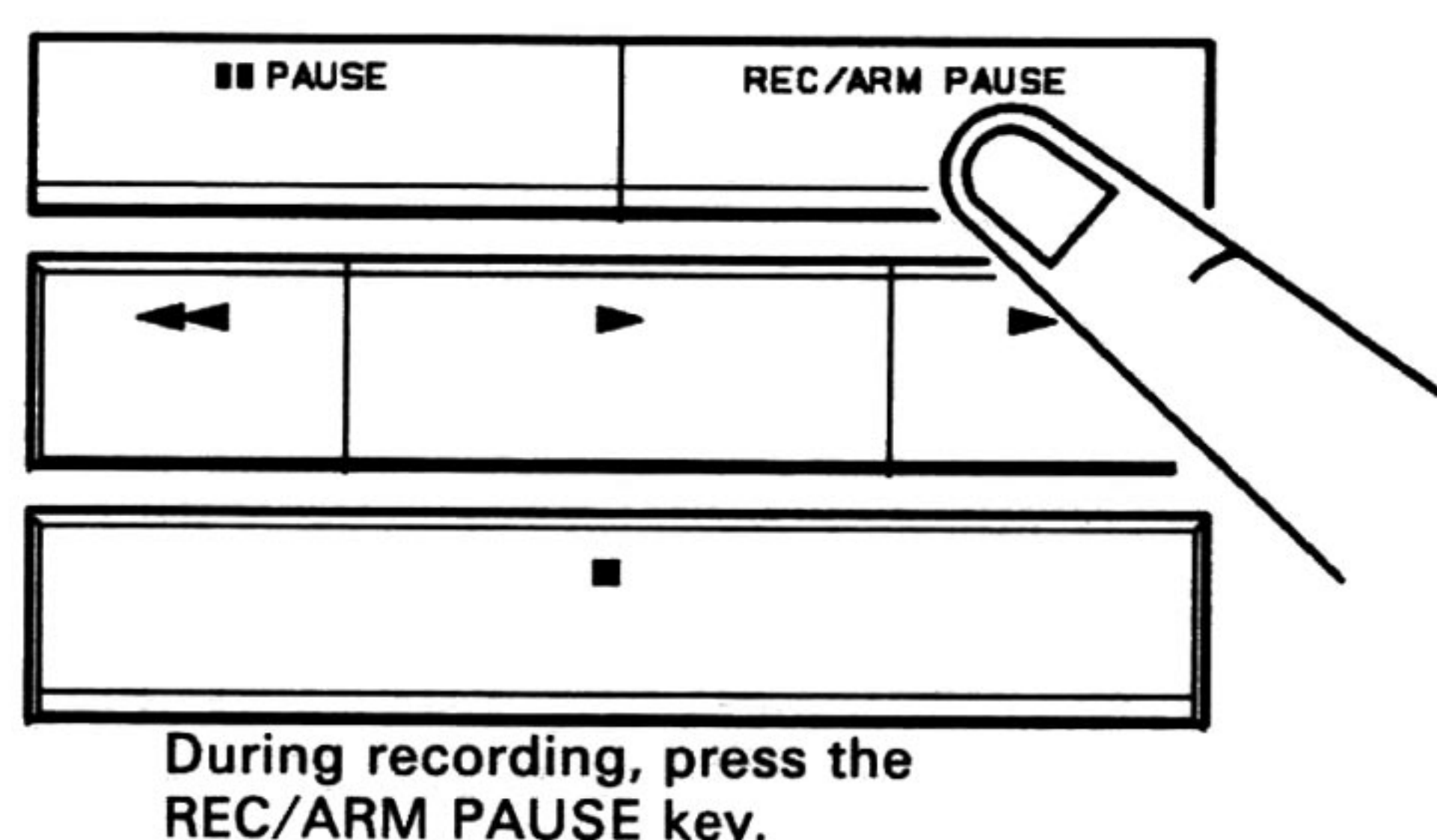
- Program skip play (forward/backward)
- Single-tune repeat play
- "Dash & Play"
- Rewind & play
- Re-rec standby function (To record again from the beginning)
- Index Scan
- Blank Search
- Counter "Zero-Stop"

The DPSS (Direct Program Search System) function operates by detecting gaps between tunes of more than 4 seconds.

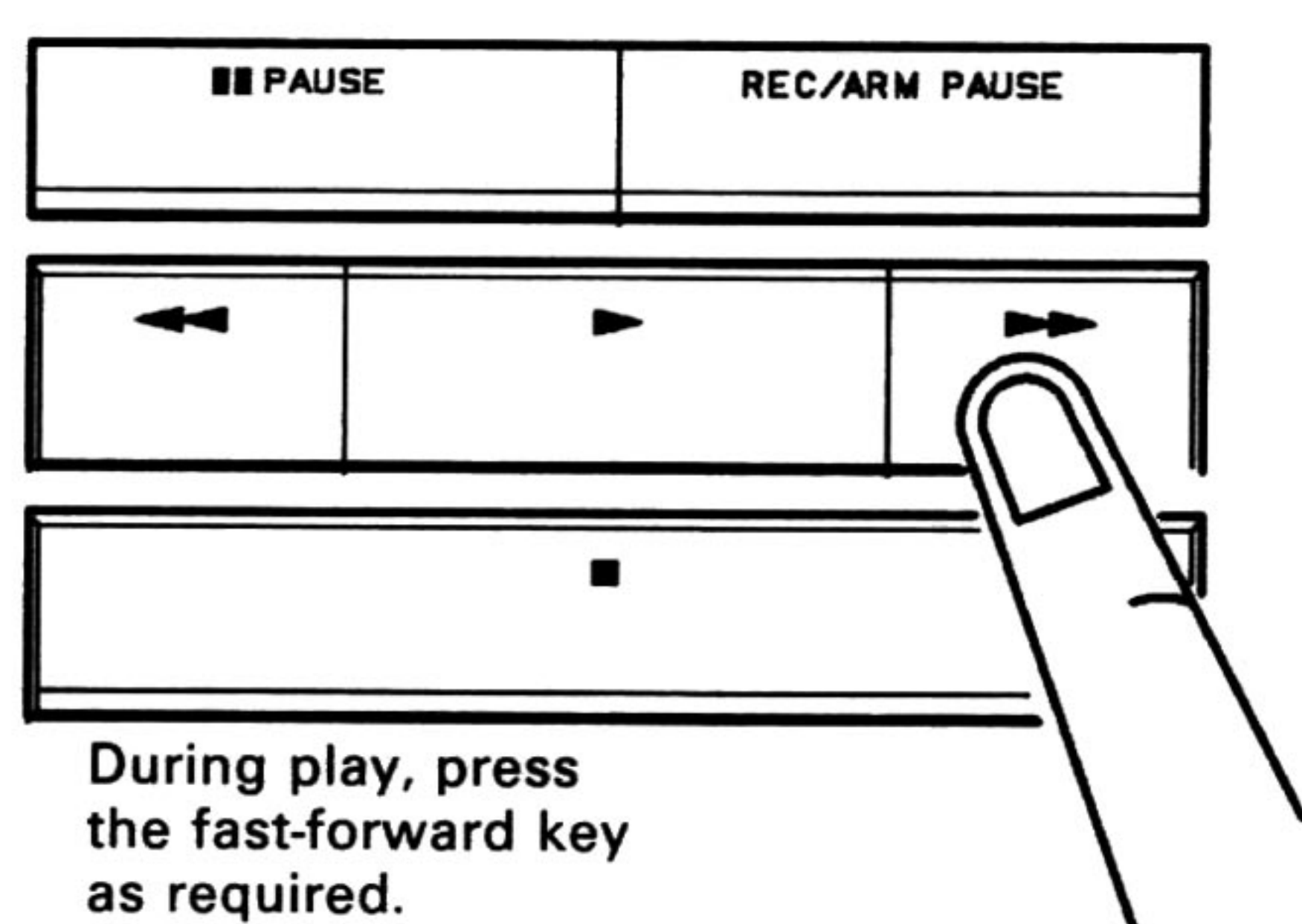
Therefore, it does not work correctly with the following tapes.

- Cassette tapes in which the sound is interrupted frequently for about 4 seconds, such as conversation or a talk program.
- Cassette tapes which include a portion where the recording level is too low or a non-recorded section during a single tune, such as classical music.
- Cassette tapes having too noisy section recorded between tunes.
- Cassette tapes having a gap of less than 4 seconds.
- Cassette tapes recorded at an excessively low level.

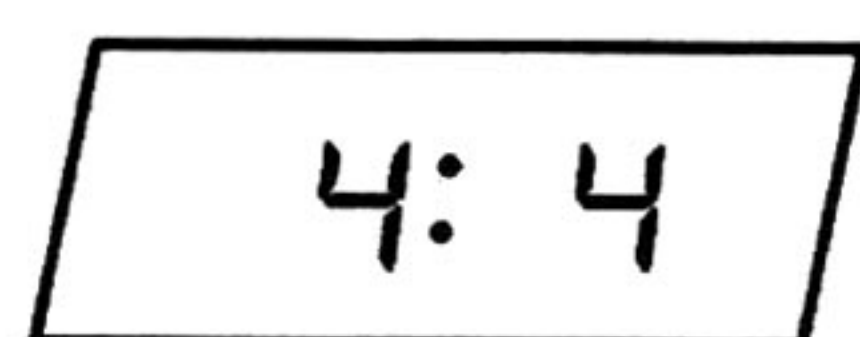
To leave a gap (blank) between tunes:



To skip ahead to the beginning of the forward tune:



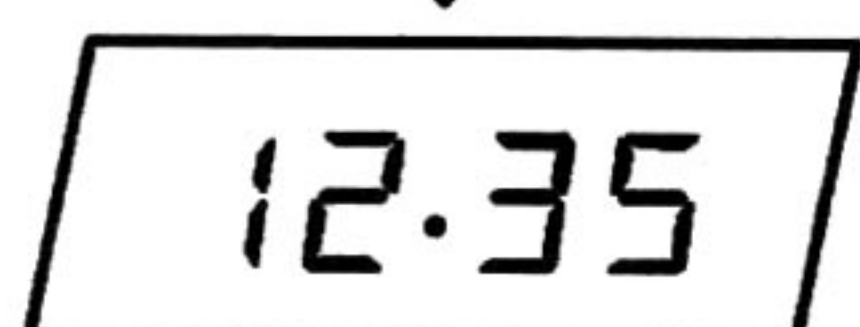
Set the number shown in the display to the desired one.



<Example>
To select the fourth
tune ahead of the cur-
rent tune being played



The number shown in the right column is
counted down one by one.



After the designated
tune is detected, the
linear tape counter dis-
play resumes.

■ How to make a non-recorded blank between tunes

When the REC/ARM PAUSE key is pressed, a non-recorded blank of 4 seconds is made on the tape.

- To make a blank from the stop mode, press the REC/ARM PAUSE key twice in succession.
- To make a blank from the record mode, press the key once.

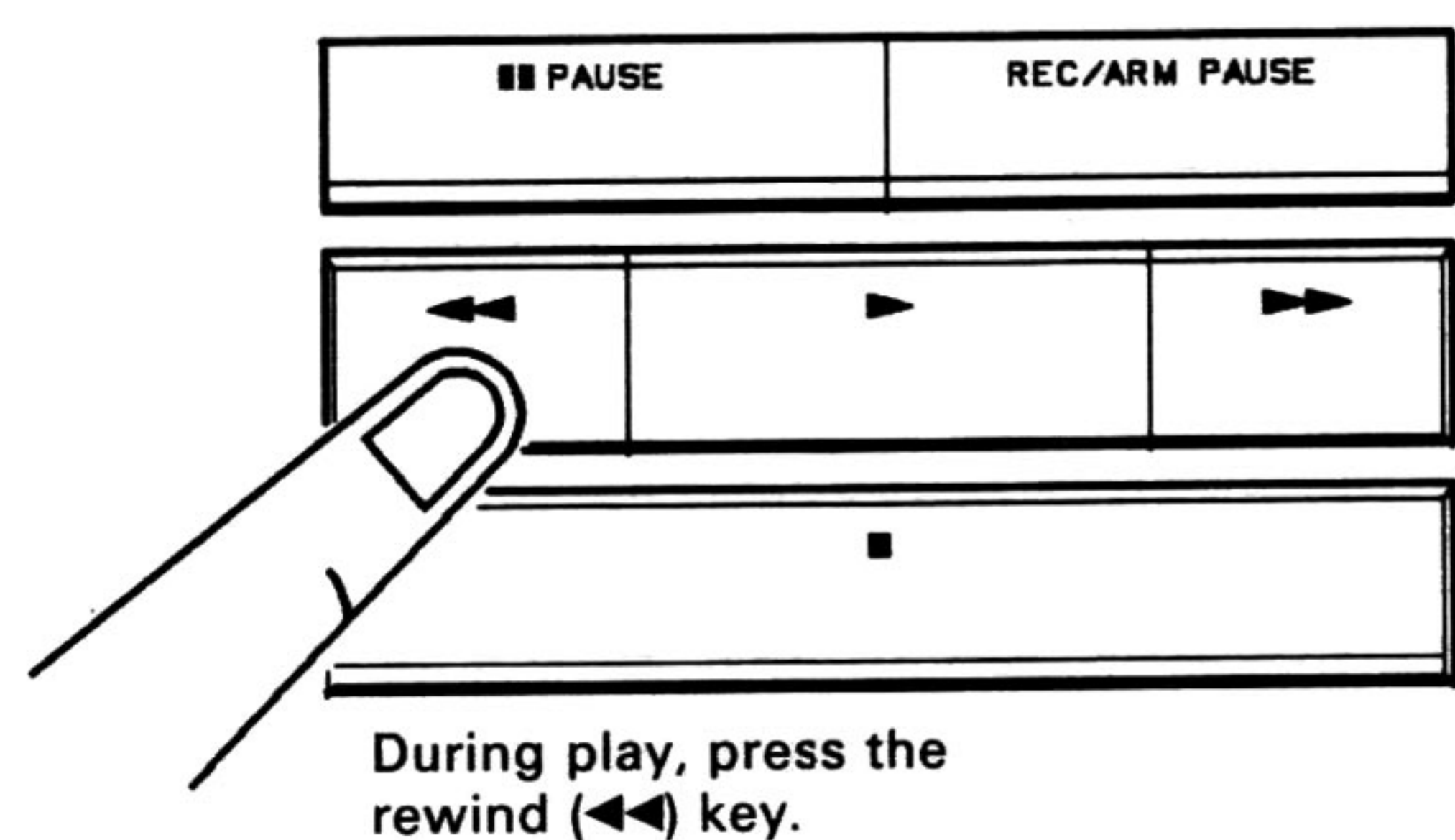
In either case, a non-recorded blank of 4 seconds is made from the tape position where the key is pressed, then the unit enters record-pause (Auto Rec Mute Pause) mode. If you want to extend the length of the blank to more than 4 seconds, press the key twice or more as you like.

■ How to skip forward to an advanced tune

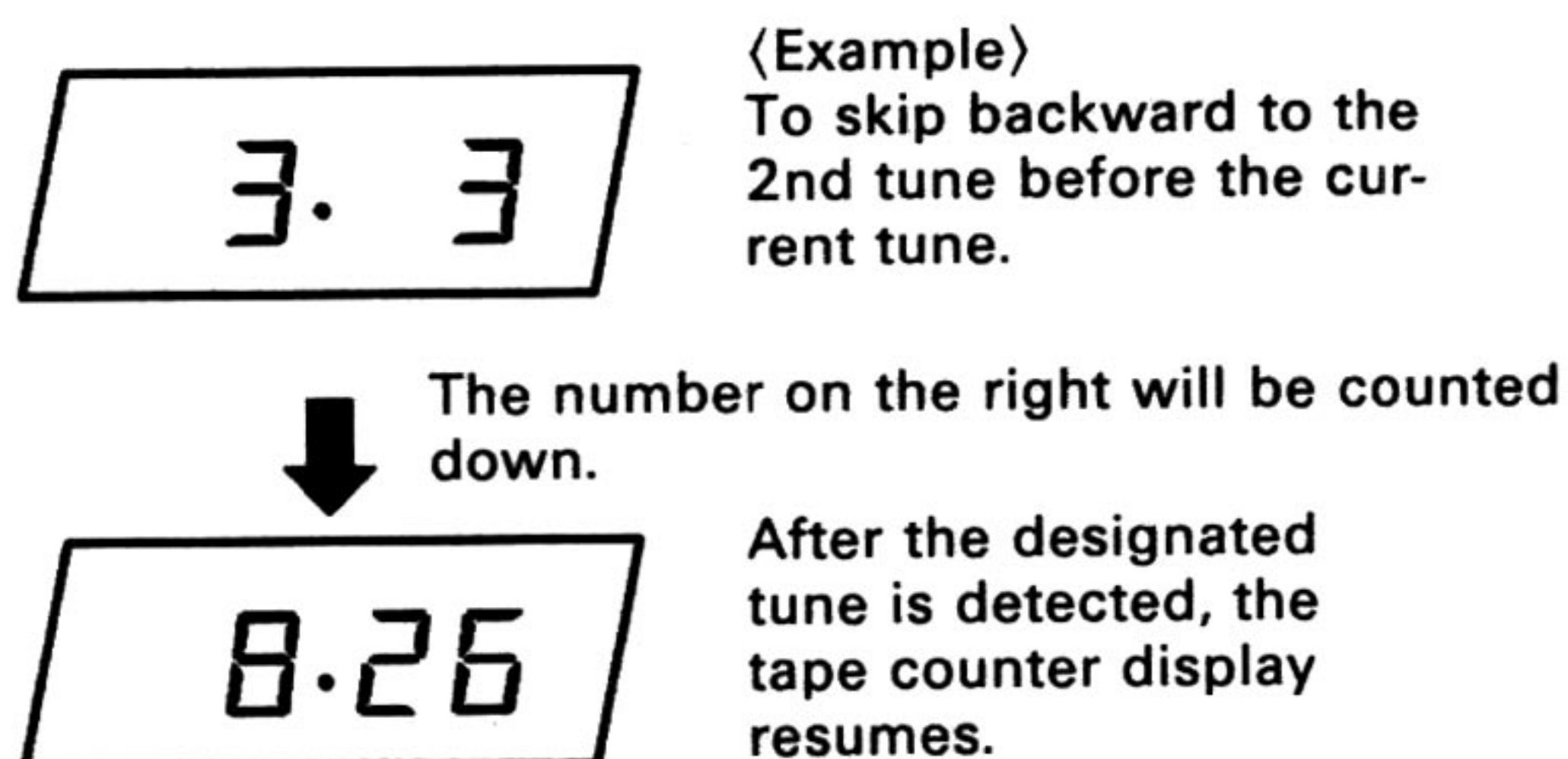
To play a tune ahead of the tune being played (to play one of the tunes which have not been played yet), press the fast-forward (▶▶) key during playback.

- The number of tunes skipped will be the number of times that the key is pressed (up to 16 tunes ahead of the current tune).
The counter display shows the number corresponding to the tunes to be skipped.
- The indicator changes to "▶▶" (white and black triangles), and the white triangle blinks.
- When the designated tune is detected, the linear tape counter display resumes.

To skip backward to a previous tune



The number designated is shown in the display.

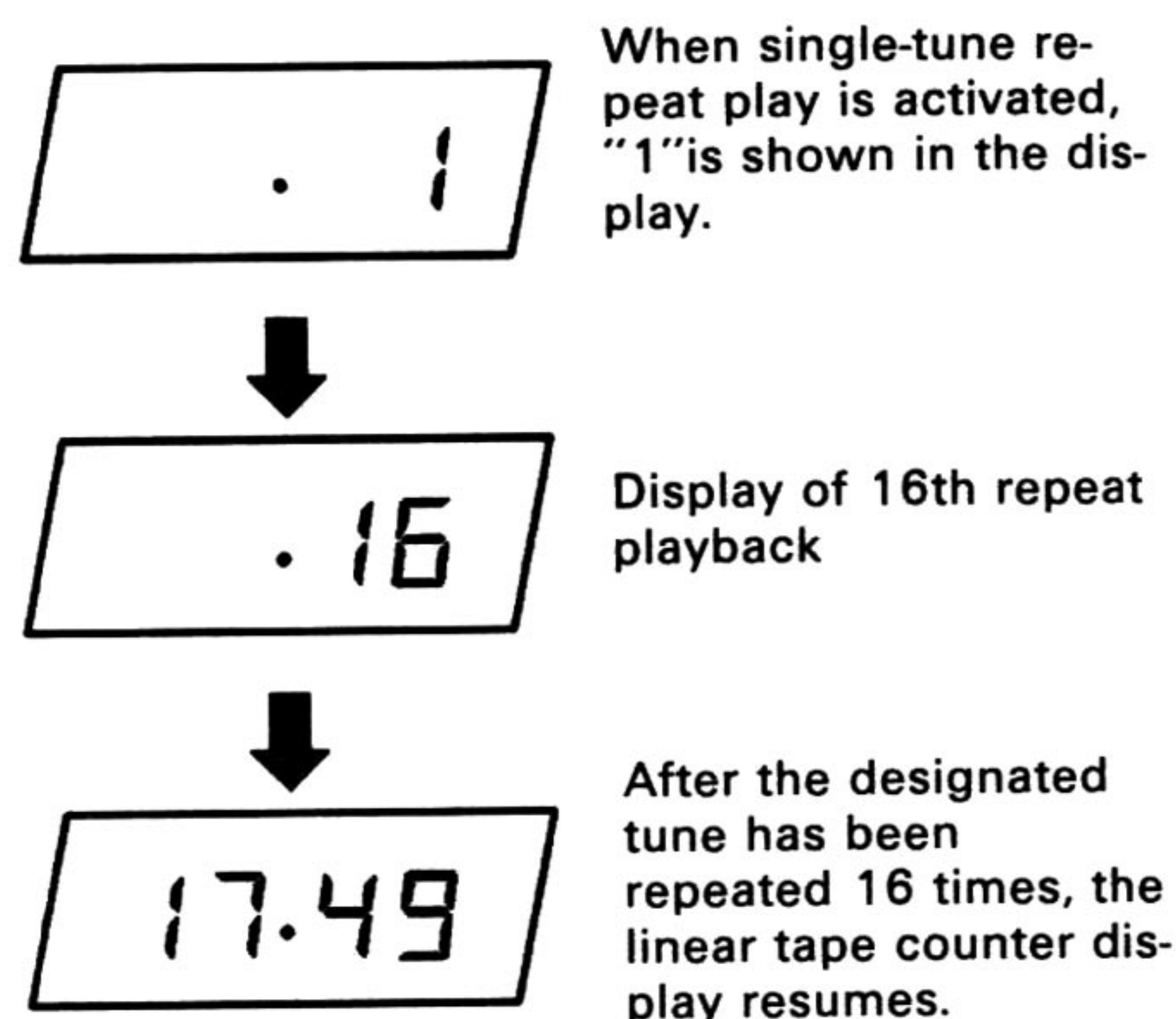
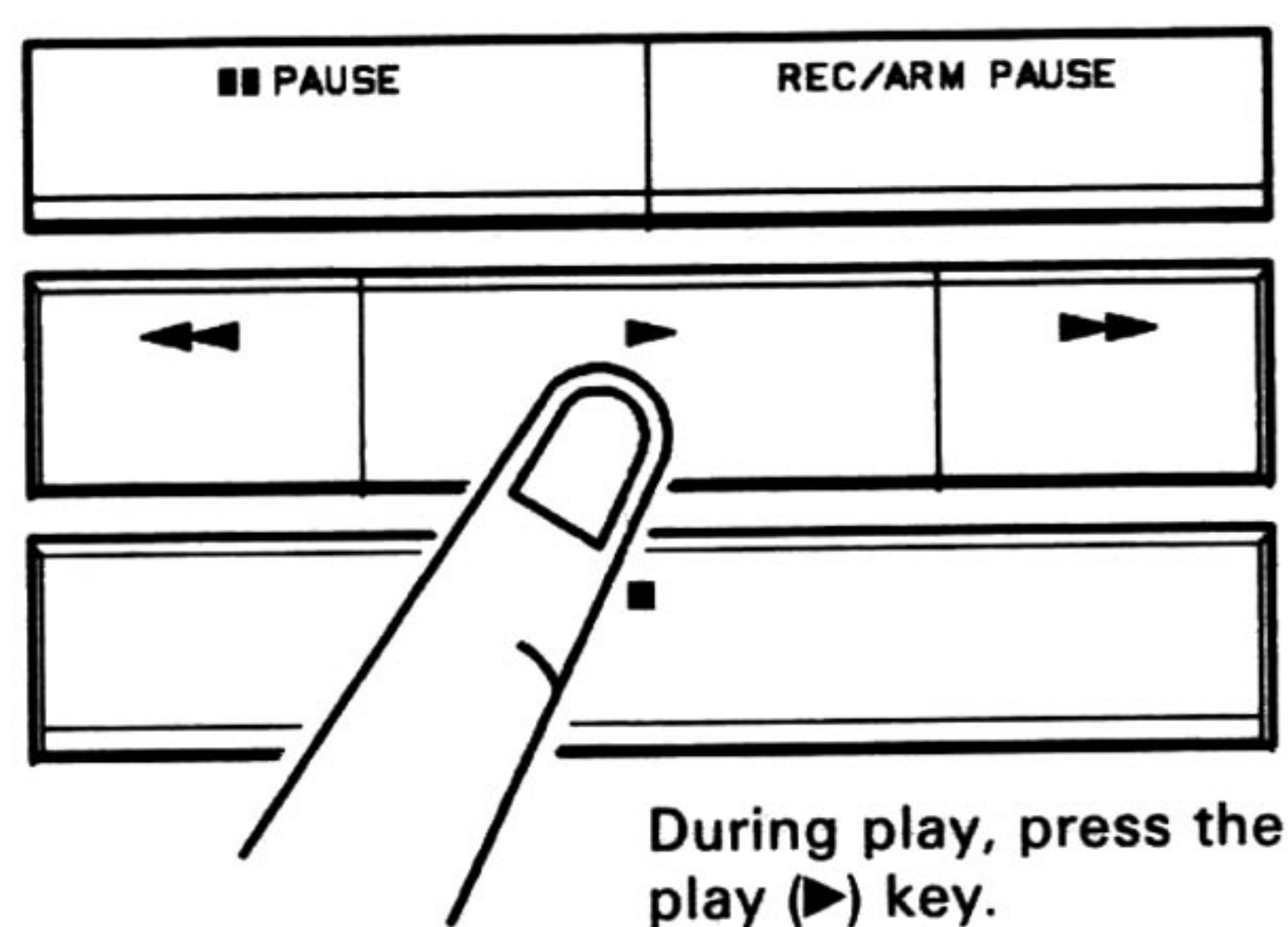


■ How to skip backward to a previous tune

To play a tune before the tune being played (to play one of the tunes which have already been played), press the rewind (◀◀) key during playback.

- The tunes skipped are the number of times the key is pressed (up to 16 tunes).
- The indicator changes to "◀◀ ▷", and the white triangle blinks.
- The counter shows the designated tune number.
- After searching is over, the tape counter display resumes.

Single-tune repeat play



■ Single-tune repeat play

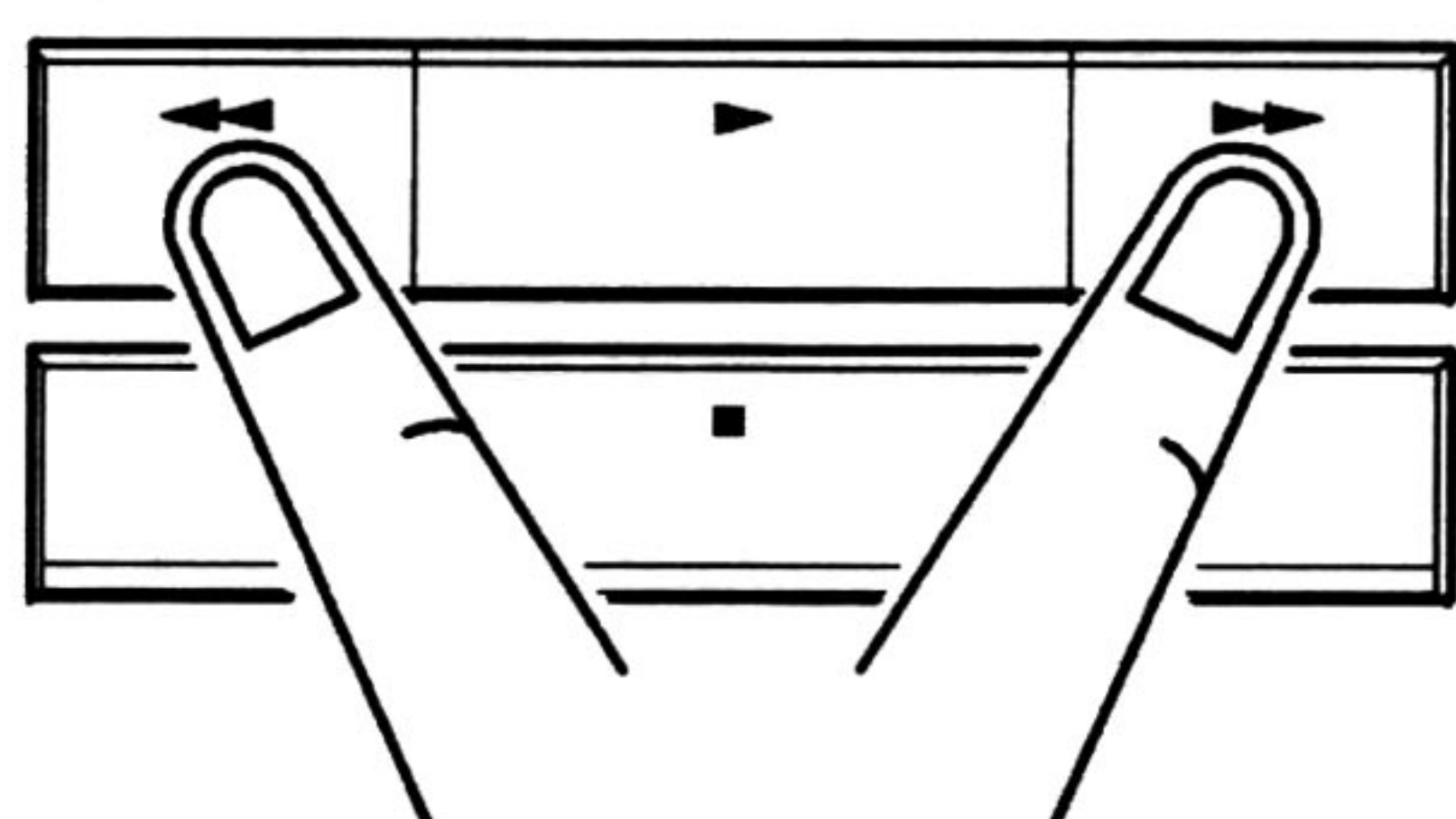
To play the tune being played repeatedly, press the play (▶) key once.

- The current tune will be repeated 16 times, then normal operation resumes.
- The counter shows the count of the present playback.
- To release repeat play, press the stop (■) key.
- To perform single-tune repeat play in stop mode, press the play (▶) key twice.

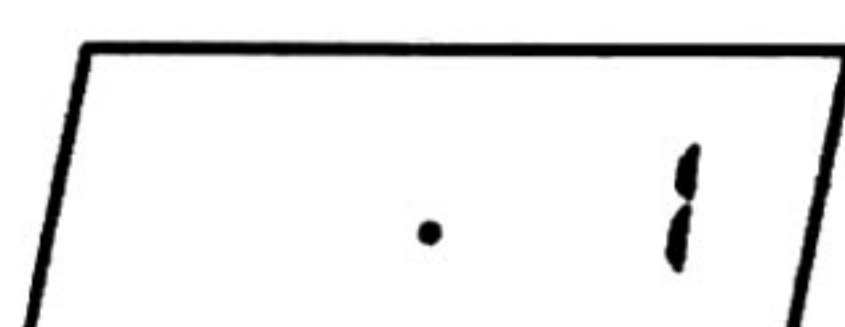
Note:

When the rewind (◀◀) key is pressed immediately after a tune is started, the deck may skip to the next tune.

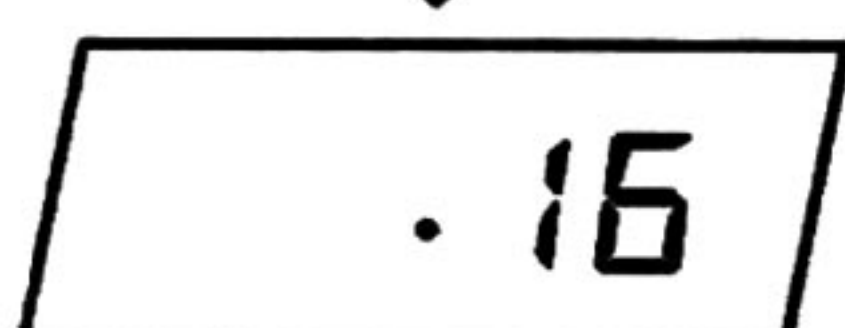
"Dash & Play"



Press the rewind (◀◀) key and fast-forward (▶▶) key simultaneously.

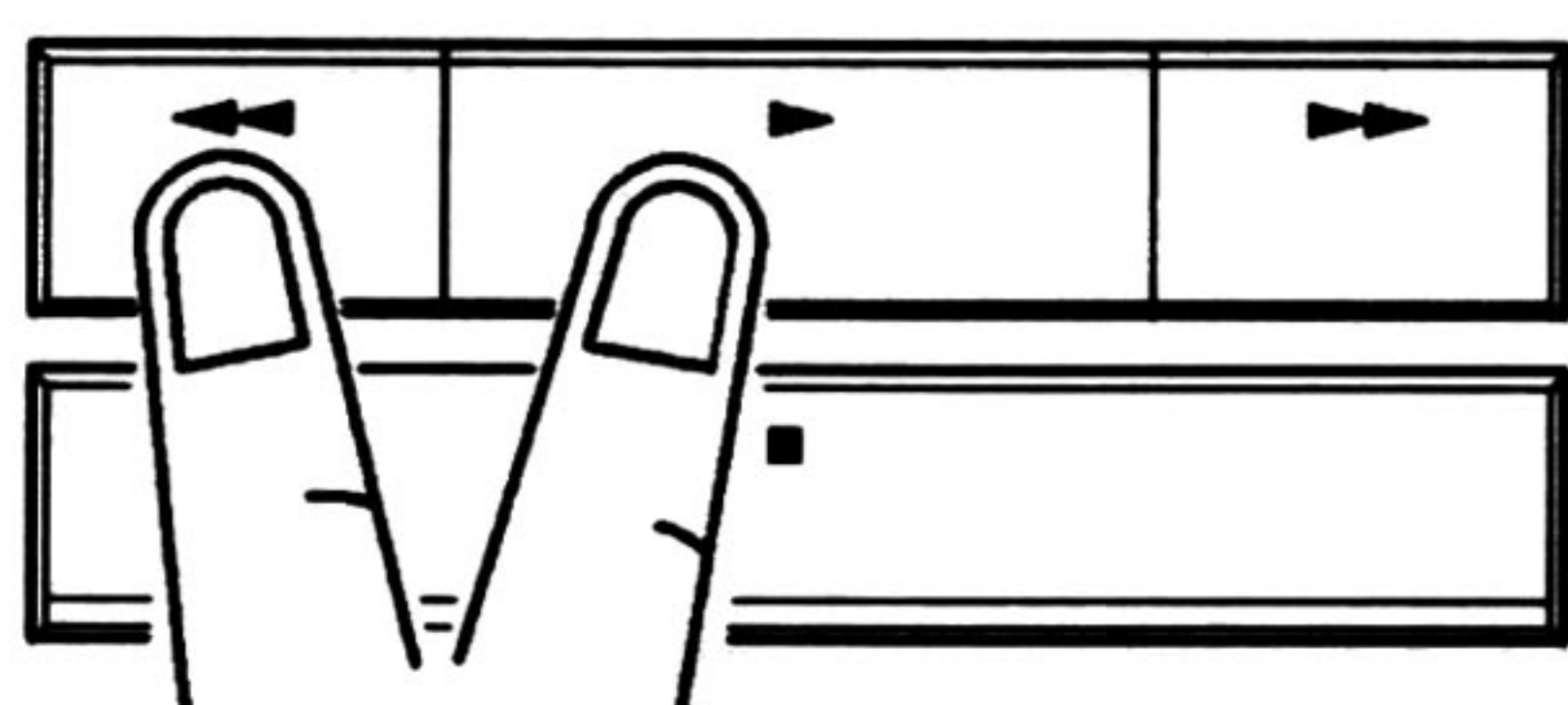


Display during 1st playback in Dash & Play



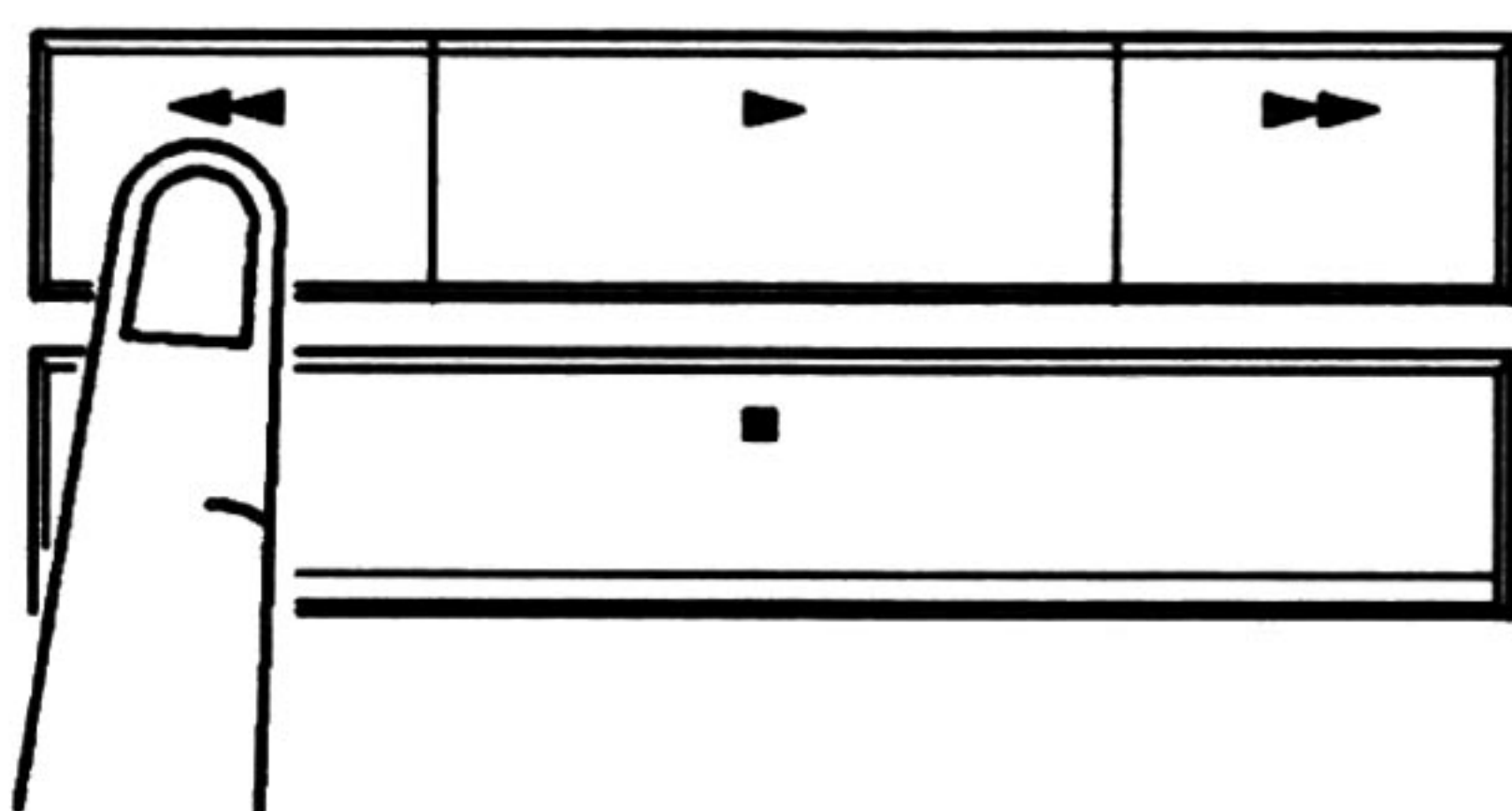
Tape is rewound after the 16th time and stopped.

Rewind & Play



Press the play (▶) key and rewind (◀◀) key simultaneously.

"Re-Rec Standby"



During recording, press the rewind (◀◀) key.

■ "Dash & Play" function (Single-side full repeat play)

When there is a blank (non-recorded section) of more than about 10 seconds, the tape is fast-forwarded to skip the blank.

To perform "Dash & Play", press the fast-forward (▶▶) key and the rewind (◀◀) key simultaneously.

- The "◀◀" and "▶▶" indicators will light in the display.
- Counting the playback of each side as one, the counter displays the count of the present playback.
- To release, press the stop (■) key.
- After the "Dash & Play" operation has been repeated 16 times, the cassette tape is rewound to the beginning and the deck enters stop mode.

■ Rewind & Play function

Press the play (▶) key and rewind (◀◀) key simultaneously.

The cassette tape is rewound to the beginning of it, fast-forwarded to the point where recording was started, then play starts automatically.

- While searching, the "◀◀" indicator blinks and, when play starts, the "▶" indicator lights.

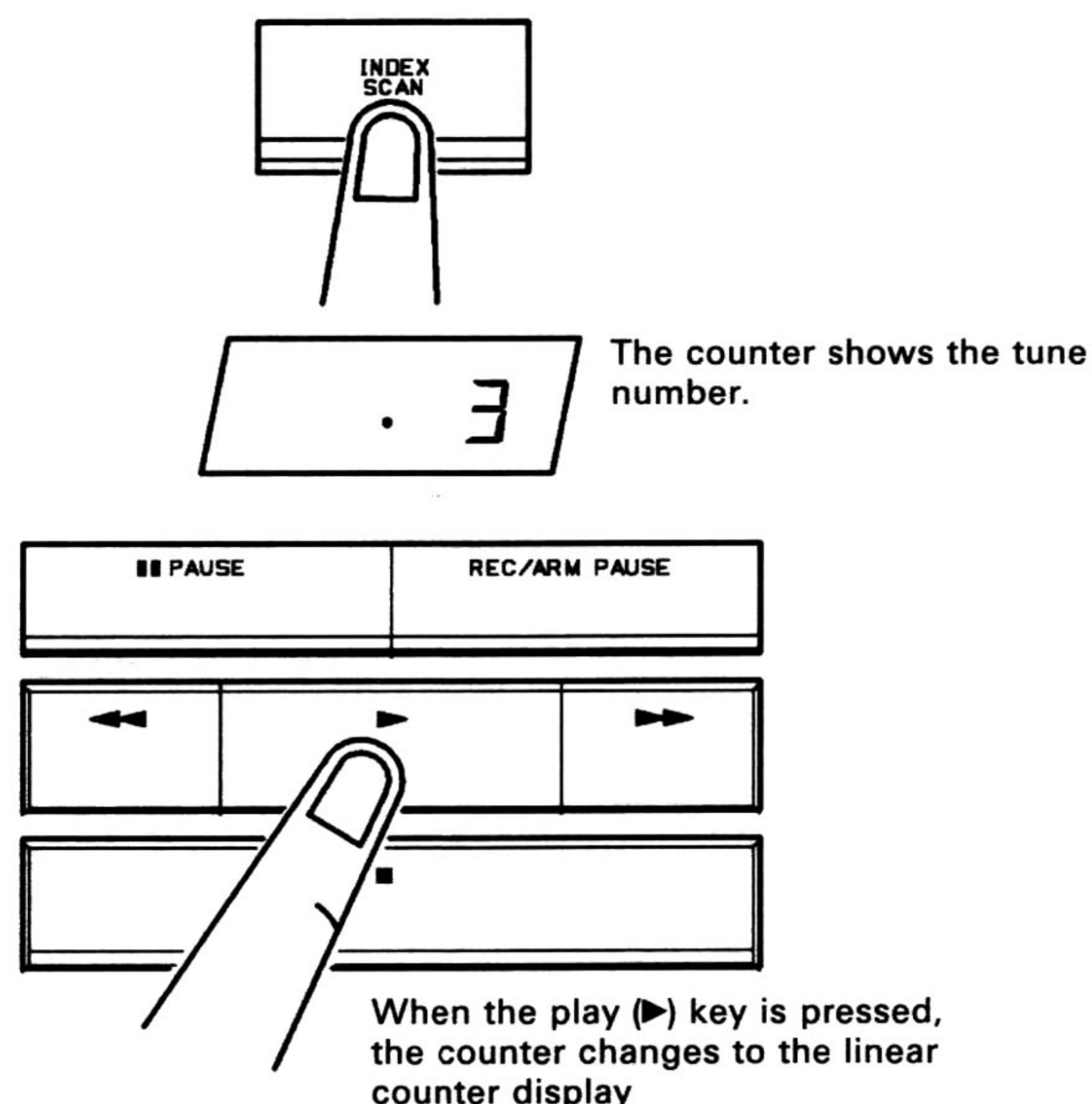
■ "Re-Rec Standby" function

To cancel a recording that has been started by mistake, press the rewind (◀◀) key during the recording.

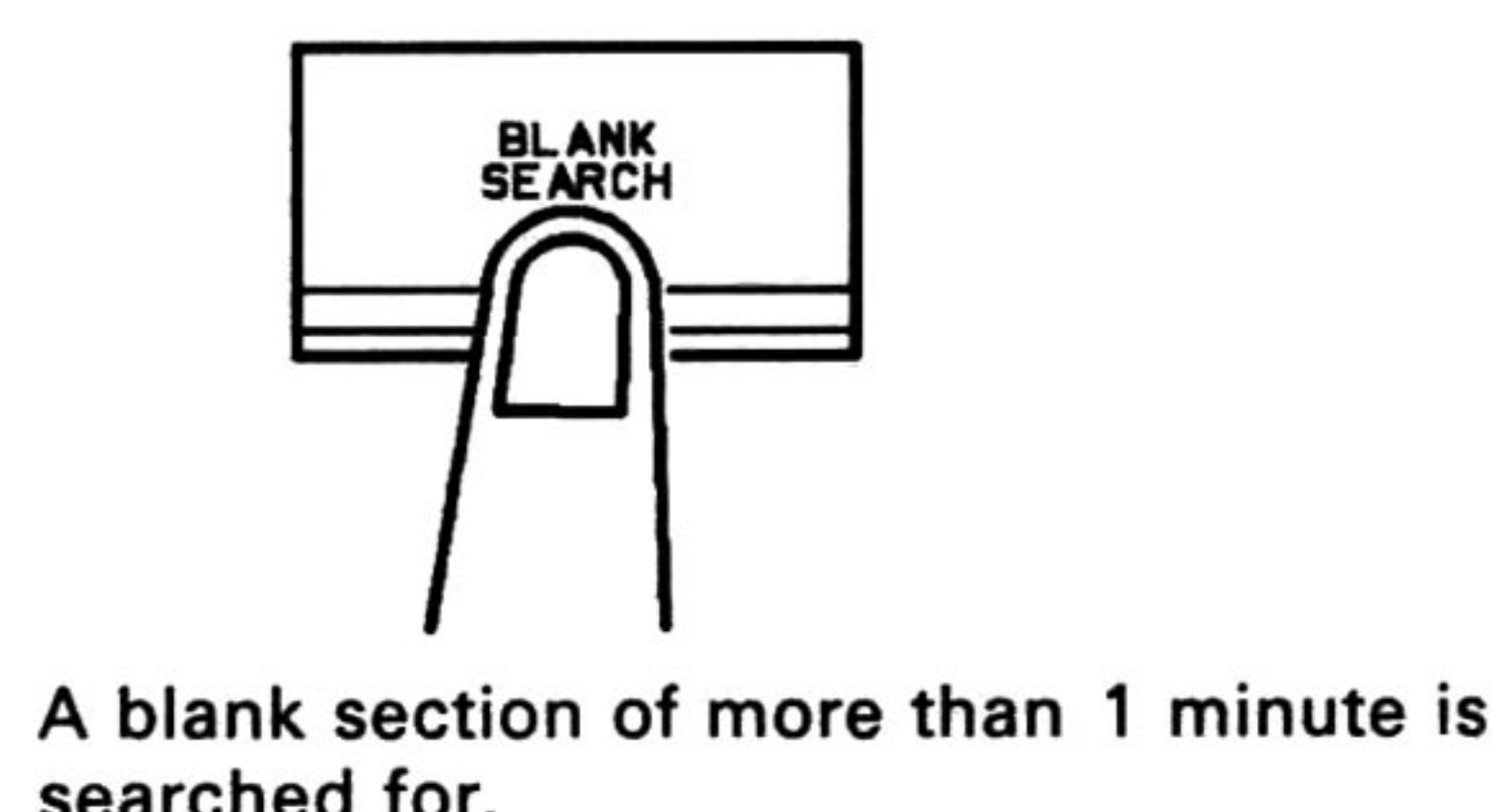
The recording operation stops, and the cassette tape is rewound to the point where recording was started, then the deck enters record-standby (record-pause) mode automatically.

- Recording is interrupted and the cassette tape returns to the point where recording was started, then the deck enters record-standby mode.
- To leave a non-recorded (blank) section on the tape, press the REC key twice continuously.
- Press the REC key again, recording will be started again.

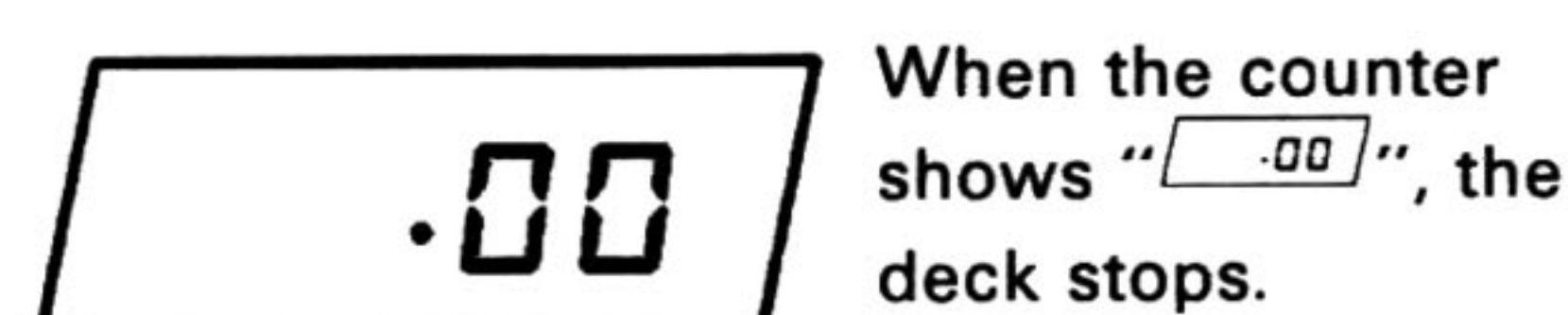
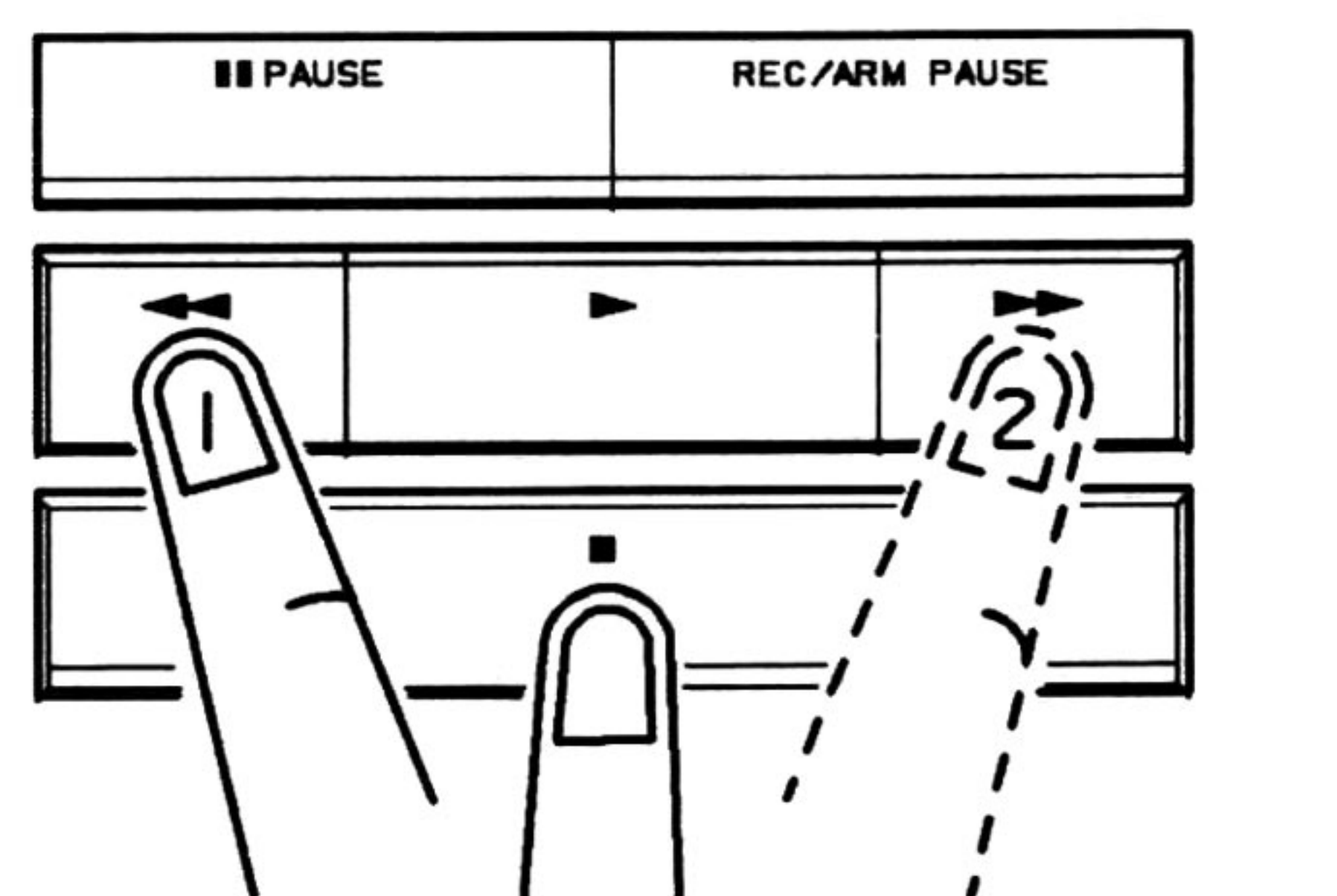
Index Scan



Blank Search



"Zero Stop"



Index Scan

When the INDEX SCAN key is pressed, the cassette tape is fast-forwarded to the beginning of the next tune and played for about 10 seconds, then the cassette tape is fast-forwarded to the beginning of the next tune again and again, so that the first 10 seconds of each tune is played back sequentially.

When the tune desired to be listened to is detected, press the play (▶) key. Normal play resumes.

- During the Index Scan operation, the tune number being played back is shown on the right column of the counter.

Blank Search

This function is used to search for a blank section (non-recorded section) of cassette tape on which recording was made to the middle, or where a gap between tunes of more than about 1 minute has been left.

- When the BLANK SEARCH key is pressed, the cassette tape is fast-forwarded to search for a blank section of more than 1 minute. When a blank section is detected, the cassette tape is fast-forwarded to the end of the blank and then rewound to the beginning of it. The deck then enters record-muting mode for about 4 seconds, then stops.
- The linear tape counter shows the time of the blank section, and when the deck enters recording mode, the counter is counted down to show the remaining recording time.
- When the stop (■) key or another tape operation key, except for the REC/ARM PAUSE key and the PAUSE (||) key, is pressed, the remaining time counter will be released.

Counter "Zero-Stop" function

1. When the rewind (◀◀) key and the stop (■) key are pressed simultaneously, the cassette tape is rewound until the counter reading shows "00".
2. When the fast-forward (▶▶) key and the stop (■) key are pressed simultaneously, the cassette tape is fast-forwarded until the counter reading shows "00".

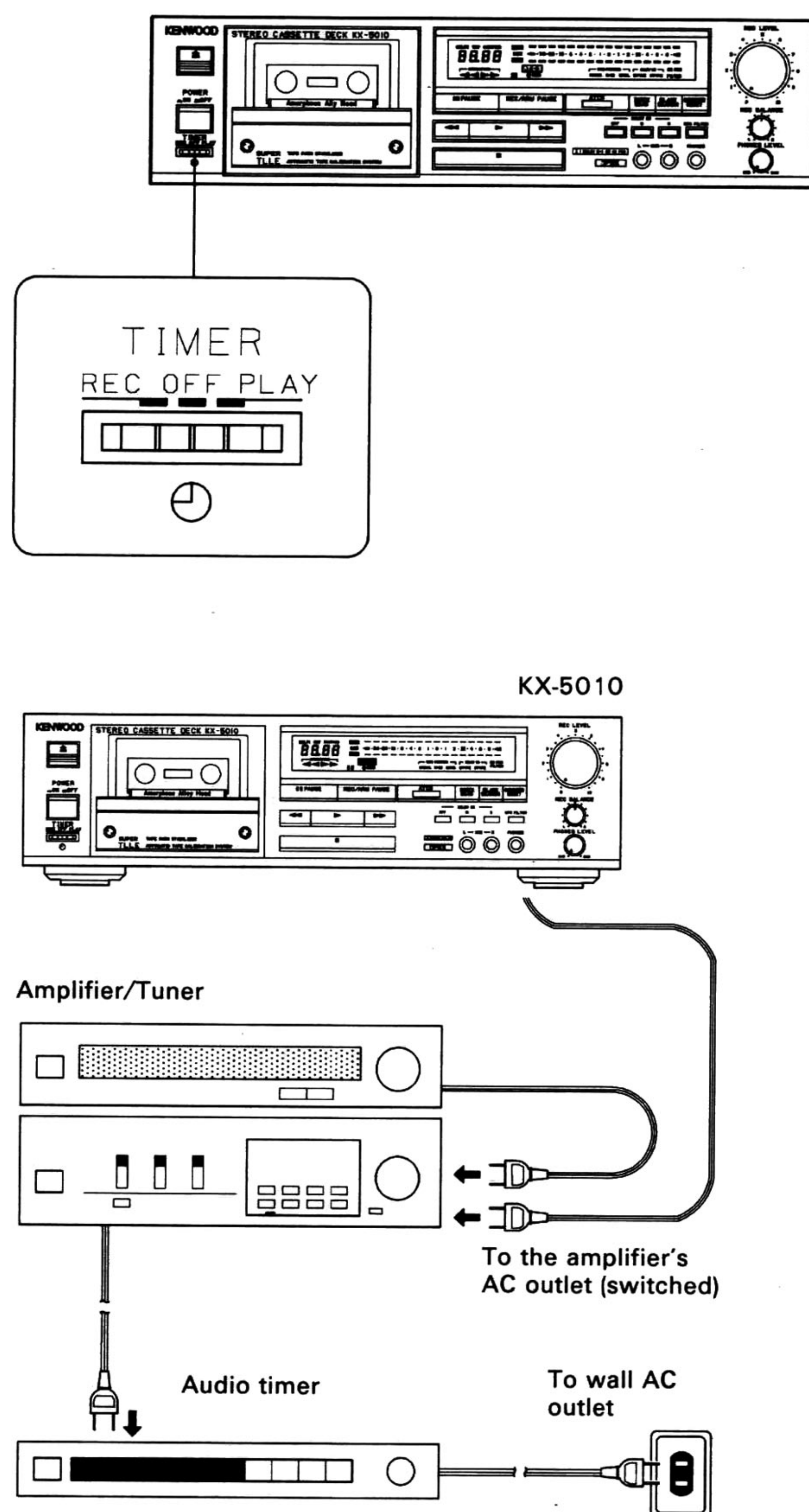
Note:

When the tape stops, the counter reading will be within ± 5 counts of "00" (± 5).

Accuracy of the counter

The linear tape counter provided with the KX-5010 is not as accurate as a clock. The counter reading will be slightly different from the actual recording time. (This is inevitable, since the linear tape counter is designed so that the time display is shown in both fast-forwarding or rewind mode and in normal recording/playback mode.) The time allowance will differ for each tape used.

Timer-controlled operation



When an audio timer is used with the KX-5010, cassette tape recording or playback can be started at the required preset time automatically.

■ Timer-controlled recording

1. Connect the power cords of each component as shown in the figure, so that the power can be supplied to each of them through the audio timer.
2. Turn the power to all components required for timer recording ON.
3. Insert a cassette tape, select the source to be recorded with input selector of the amplifier or receiver. When recording an FM broadcast, tune to the required station with the tuner.
4. Set the volume control of the amplifier or receiver to the MIN position so that no sound is output from the speakers in your absence.
5. Referring to the instructions of the audio timer, set the required start (power-ON) time.
6. Set the TIMER switch of the KX-5010 to the REC position.
7. When the preset start time is reached, power is supplied to each component, and about 4 seconds later, recording starts automatically.
8. When the cassette tape is fully wound, the deck enters stop mode automatically.

■ Timer-controlled playback

1. Connect the components in the same way as for timer recording.
2. Turn the power to all required components ON.
3. Load the tape into the KX-5010, and set the switches and controls as required.
4. Set the volume control of the amplifier or receiver to an appropriate level.
5. Set the tape to the start position. Set the required start (power-ON) time with the audio timer.
6. Set the TIMER switch of the KX-5010 to the PLAY position.
7. When the preset start time is reached, power will be supplied to each component, and about 4 seconds later, the deck starts playback automatically.
8. When the cassette tape is fully wound, the deck enters stop mode automatically.

Notes:

1. Use a timer exclusively designed for use with an audio component. Do not use a kitchen timer (one designed for use with home appliances) for which the supplying power will not be cut off automatically. This is very dangerous.
2. The power ON/OFF operation may differ for the audio timer used. Please read its instructions carefully before use.
3. Set the power-OFF (timer-off) time slightly longer than the recording time of the cassette tape, so that the power supplied to the deck is cut after the auto shut-off mechanism functions completely.

In case of difficulty

What appears to be trouble may not always be serious. Before consulting the dealer or service personnel, first check the following points according to the symptom which appears.

Symptom	Cause	Remedy
When the cassette tape is replaced, the tape counter reading does not match the actual recording/playback time (especially for C-46 or C-90 tapes).	The linear tape counter reading may differ slightly depending on the thickness of the cassette tape or on a difference in the cassette shell (diameter of the reel hub).	This is caused by a difference in the cassette tape used, and is not a malfunction. Referring to "Accuracy of the counter" on page 14.
Recording is impossible, even when the REC/ARM PAUSE key is pressed.	<ol style="list-style-type: none"> 1. The safety tab of the cassette tape is broken. 2. The cassette holder is not closed completely. 3. The REC LEVEL control is set to its MIN position. 4. The signal cords are connected incorrectly. 	<ol style="list-style-type: none"> 1. Replace the cassette tape with one having a safety tab. 2. Close the cassette holder completely. 3. Set the recording level appropriately, referring to "Tape recording" on page 9. 4. Connect the components correctly, referring to "Connections" on page 6.
No sound is output, even when the play (▶) key is pressed.	<ol style="list-style-type: none"> 1. The signal cords are connected incorrectly. 2. The heads are dirty. 3. The cassette tape is wound unevenly, and cannot be forwarded smoothly. 4. Nothing is recorded on the cassette tape. 	<ol style="list-style-type: none"> 1. Connect the components correctly, referring to "Connections" on page 6. 2. Clean the heads, referring to "Cleaning the heads and peripheral components" on page 5. 3. Replace the cassette tape with a normal one. 4. Load a recorded cassette tape.
Sound is interrupted, or high-frequency sound is not output.	<ol style="list-style-type: none"> 1. The heads are dirty. 2. The cassette tape is elongated or damaged. 	<ol style="list-style-type: none"> 1. Clean the heads, referring to "Cleaning the heads and peripheral components" on page 5. 2. Replace the tape with a normal one.
Sound is distorted.	<ol style="list-style-type: none"> 1. The recording level was too high when recording. 2. The source sound was distorted. 	Refer to "Tape recording" on page 9.
Too noisy.	<ol style="list-style-type: none"> 1. The head is magnetized. 2. External noise is induced. 3. The recording level is too low. 4. A cassette tape recorded with the Dolby NR system is played back with the Dolby NR switch set to OFF. 	<ol style="list-style-type: none"> 1. Demagnetize the head with a demagnetizer, referring to "Demagnetizing the head" on page 5. 2. Keep away from other electric or electronic equipment. 3. Refer to "Tape recording" on page 9. 4. Set the Dolby NR switch to B or C. (It is recommended that the Dolby NR switch always be set to B or C.)
Sound fluctuates.	<ol style="list-style-type: none"> 1. The capstan or pinch roller is dirty. 2. The cassette tape is wound unevenly. 	<ol style="list-style-type: none"> 1. Clean the components, referring to "Cleaning the heads and peripheral components" on page 5. 2. Wind the cassette tape again by pressing the rewind key or fast-forward key.
Playback or recording starts when the power is turned ON.	The timer switch is set to PLAY or REC.	Set the timer switch to OFF, except when timer playback or recording is required.
The DPSS function operates incorrectly.	A cassette tape having short gaps between tunes, or one unsuitable for the DPSS function, is used.	Refer to "DPSS operations" on page 11.
The tape control key does not function when pressed.	<ol style="list-style-type: none"> 1. The key is pressed within 4 seconds after pressing the POWER switch. 2. A cassette tape is not loaded in the deck. 3. The cassette tape is wound unevenly and cannot be forwarded smoothly. 	<ol style="list-style-type: none"> 1. Press the key after 4 seconds have elapsed. 2. Load a cassette tape. 3. Replace the cassette tape with a normal one.
During recording, reading values of the peak level meter are different between the L-channel and R-channel.	The REC BALANCE control is not set correctly.	Refer to "Tape recording" on page 9.
Although the ATCS setting was done at the time of recording, the sound quality of playback is poor. The ATCS indicator does not light during ATCS setting.	<ol style="list-style-type: none"> 1. The heads are dirty. 2. The tape is damaged or it is crumpled. 	<ol style="list-style-type: none"> 1. Refer to "Cleaning the heads and peripheral components" on page 5. 2. Use a new cassette tape.

Specifications

Track system:	4-Track, 2-channel stereo
Recording system:	AC Bias System
Heads:	Record/play (amorphous alloy) × 1 Erase (double-gap ferrite) × 1
Motors:	Capstan (FG servo direct-drive motor) × 1 Reel (DC mortor) × 1 Mechanism drive (DC motor) × 1
Wow & flutter:	0.025% (W.R.M.S.) ±0.075% (DIN)
Fast-winding time:	About 80 seconds (C-60)
Frequency response	
Normal tape:	20 – 18,000 Hz ±3 dB
CrO ₂ tape:	20 – 19,000 Hz ±3 dB
Metal tape:	20 – 21,000 Hz ±3 dB
Signal-to-noise ratio	74 dB (Dolby C-type NR ON) 67 dB (Dolby B-type NR ON) 59 dB (Dolby NR OFF)
Harmonic distortion	0.8% (at 1 kHz, 0 VU with metal tape)
Input jacks	
LINE IN:	77.5 mV/50 k ohms
MIC:	0.3 mV/600 ohms
Output jacks	
LINE OUT:	490 mV/3 k ohms
Headphones:	3 mW/8 ohms
General	
Power consumption:	25 W
Dimensions:	W: 440 mm (17-5/16) H: 127 mm (5) D: 321 mm (12-5/8)
Weight:	6.4 kg (14.1 lb) (net)

Note: _____
We follow a policy of continuous advancements in development. For this reason these specifications may be changed without notice.

Dolby noise reduction system

The Dolby noise reduction system was developed to reduce the tape hiss noise generated during play back. The optimum effect of the Dolby NR system is obtained when the same type NR system is used for both recording and playback. If a different type NR system is used, playback is not performed correctly. Make sure that the same type noise reduction system is used for both recording and playback.

Dolby B-type NR:

The most popular noise reduction system used in home audio components. Usually, Dolby NR system corresponds to B-type NR.

Dolby C-type NR:

In Dolby C-type NR, the effect of Dolby B-type NR is greatly improved. It features a superior noise reduction effect. Use Dolby C-type NR to record or playback with this unit.

It is recommended that tapes recorded with the Dolby NR system be marked "B" or "C", so that they can easily be distinguished.

What is Dolby HX Pro

In ordinary recording using high-frequency biasing, the high-frequency bias current, which should be constant, is increased with some recording sources due to the high-frequency component contained in the music, etc. This increase affects the recording characteristics with distorted high frequencies and degraded dynamic range and frequency response.

The Dolby HX Pro circuit detects the high-frequency component contained in the music source being recorded, and reduces excessive bias current to make it constant. As a result, the recording characteristics of high frequencies are drastically improved, and the improved high-frequency reproduction can also be enjoyed even when the tape is played on tape decks which are not equipped with circuit.

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

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