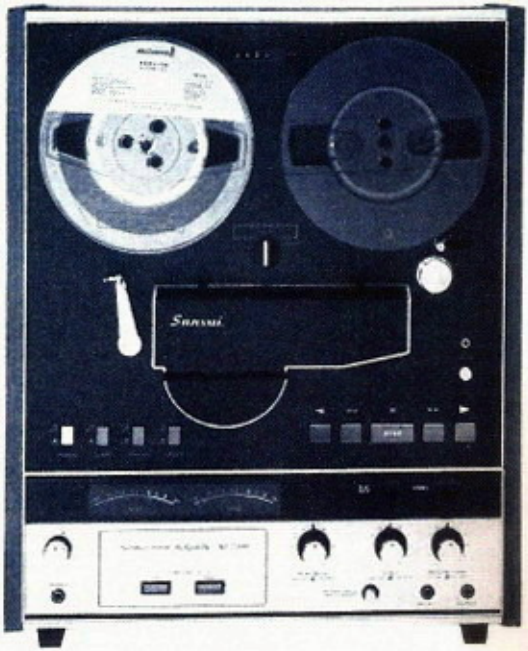
OPERATING INSTRUCTIONS

4-TRACK 2-CHANNEL STEREO TAPE DECK

SANSUI SD-7000



Sansui

SANSUI ELECTRIC COMPANY LIMITED

Thank you for selecting the Sansui SD-7000 4-track 2-channel stereo tape deck.

The end result of three years of intensive research and development work and ten prototype models, the SD-7000 is Sansui's ultimate answer to just what a true high fidelity stereo tape deck should be. As one of the world's foremost audio-only specialists, Sansui has spared no effort in making it one of the most complete, most advanced taping machines ever developed.

A wide dynamic range, wide frequency response range, high signal-to-noise ratio, low distortion and automatic reverse, repeat, rewind and shut-off operations are just a few of the many outstanding features of the SD-7000.

You'll learn to appreciate these and other advanced features quickly once you know how to operate it correctly. Please read carefully the operating instructions contained in this booklet, and your new Sansui SD-7000 will offer you professional recording and playback enjoyment for years to come.

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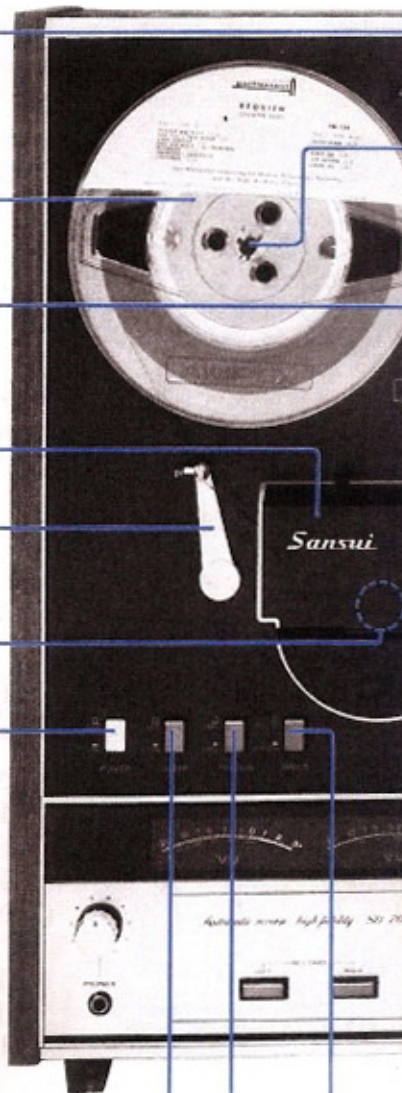
NAMES AND FUNCTIONS OF VARIOUS PARTS

〈FRONT〉



Tape Counter

Helps you locate any given place on a tape. Push the reset button and reset the counter to "0000" before recording or playing back.

Left Reel

Both 5-inch and 7-inch reels are appropriate for use. But, for best results, the use of a 7-inch reel is recommended.

Right Reel

Should be of the same size as the left reel.

Head Housing

Covers the magnetic heads. The heads are, from left to right: erase head, recording head, reverse playback head, and forward playback head.

Left Tension Arm

This arm cancels any slack in the tape when it is started or stopped; it also works to apply constant pressure on the tape as the diameter of the wound tape on the left reel changes. Further, a power switch for the reel motors is linked to this arm. When the tape is taken up completely by the correct reel as programmed and the tension arm drops, it turns off the reel motors automatically to stop the reel motion.

Capstan

Drives the tape at the speed selected. It is ultra precision machined to offer accurate speeds.

Power Switch

Push once to turn on power, and the VU meters will be illuminated. Push once again to turn off.

Sleep Switch

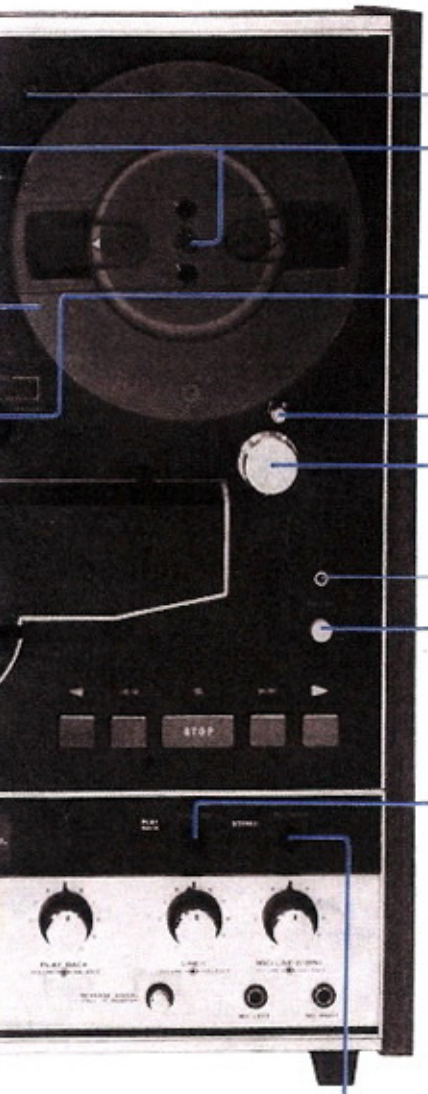
With this switch pushed, the tape deck automatically shuts itself off when the tape has played to the end as programmed by the Automatic Switch. If an amplifier, tuner or other equipment is connected to the AC outlet on the rear, it is turned off at the same time. Enables you to go to sleep while listening to your favorite music.

Tape Tension Switch

Enables changing over the pressure applied by the Tension Arm to suit the thickness of the tape in use. For 1 mil tape, leave the switch as is. Push the switch if you are using ½ mil tape.

Tape Speed Switch

Use to select either of the two available speeds: 7½ ips (19cm/sec.) and 3¾ ips (9.5cm/sec.). Push the switch to select the 3¾ ips (9.5cm/sec.).



Reel Clamps

Secure the reels by pulling the stoppers and turning them about 60 degrees.

Automatic Switch

When 20Hz reverse signals or sensing foil strips are fixed at the desired spots on the tape, use this switch to select any one of the following automatic operation modes. For related instructions, turn to page 21.

AUTO REPEAT: The tape continues to play forward and back until stopped by the operator.

AUTO REVERSE: The tape plays to the end in the forward direction, reverses and plays back to the beginning, then stops.

MANUAL: With the switch in this position, neither the recorded 20Hz signals nor attached sensing strips affect the tape travel, allowing the tape to play to the end in either direction and stop there.

AUTO REWIND: The tape plays in the forward direction to where the reverse signals are located, then is quickly rewound on the left reel.

Right Tension Arm

Helps stabilize the tape travel by eliminating any vibration from the right reel motor and increasing the effectiveness of the Impedance Roller action.

Impedance Roller

Reduces the wow and flutter of the tape by taking advantage of the inertia of the heavy flywheel linked to it in the back. Also, evens the tape tension with the help of the right tension arm.

Pause Switch

Push this switch to stop the tape temporarily during playback, or during recording without canceling the recording mode. The pilot lamp above the switch will glow. Push it again, and the tape will resume travelling and the lamp will go off.

Monitor Switch

Enables hearing the original program source sound and the recorded sound for comparison. Leave it at "PLAYBACK" to hear the recorded sound for playback or monitoring purposes. Push it in for "SOURCE" to hear the original sound.

Recording Mode Switch

Use this switch only before recording. It becomes dead when you record from microphones.

MONO L+R: Push the switch and note this indication to record stereo signals monophonically or to check the balance between the two stereo channels.

STEREO: Leave the switch in this position if you wish to record stereo signals.

NAMES AND FUNCTIONS OF VARIOUS PARTS

〈FRONT〉

Pinch Roller Housing

Hides the pinch roller which presses the tape tight to the capstan.

Tape Travel Direction Lamps

Indicate the direction of the tape travel. ▷ lamp indicates the tape is running or is ready to run from left to right. Tracks 1 and 3 are kept live. ◁ lamp indicates a reverse condition, with tracks 2 and 4 kept live. Instant starting is possible in the direction of the lit lamp.

Operating Buttons

REVERSE BUTTON◁: The tape travels from the right reel to the left reel to achieve reverse playback.

REWIND BUTTON◁◁: The tape is transferred quickly from the right reel to the left reel.

STOP BUTTON: Use this button to stop the tape. To stop the tape during rewinding, it is desirable to push the Fast Forward Button once to slow down the tape, then push the Stop Button. Conversely, to stop the tape during fast forwarding, it is better to push the Rewind Button once, then push the Stop Button. This will minimize the possiblity of damaging the tape.

FAST FORWARD BUTTON▷▷: The tape is quickly transferred from the left reel to the right reel.

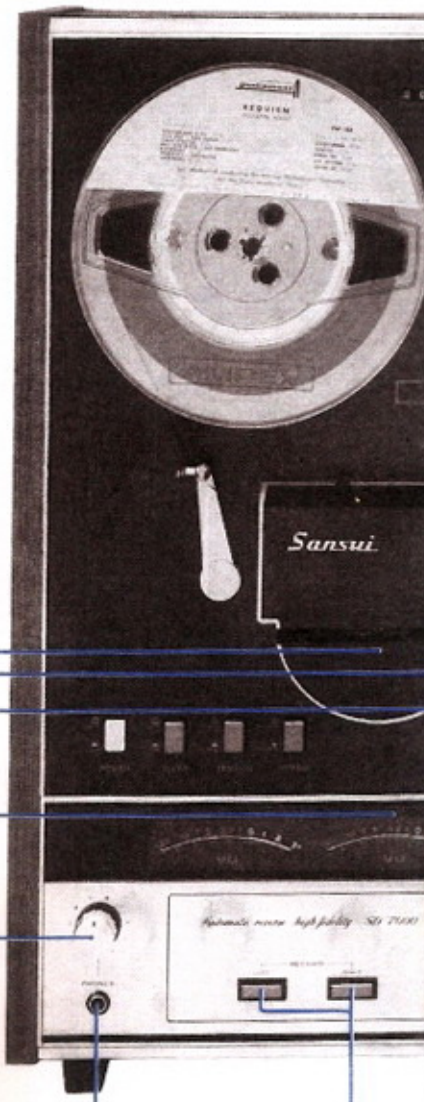
FORWARD BUTTON▷: The tape travels from the left reel to the right reel. This is necessary for either recording or forward playback.

VU Meters

Indicate the recording and playback levels. The left meter is for the left channel, and the right meter for the right channel. Adjust the appropriate volume control so that the meter pointers will swing to the red "1" or "2" mark for the loudest passages.

Headphone Volume Control

Use to adjust the sound volume from the headphones. It is specially designed so that the volume does not become zero even if turned fully counterclockwise.

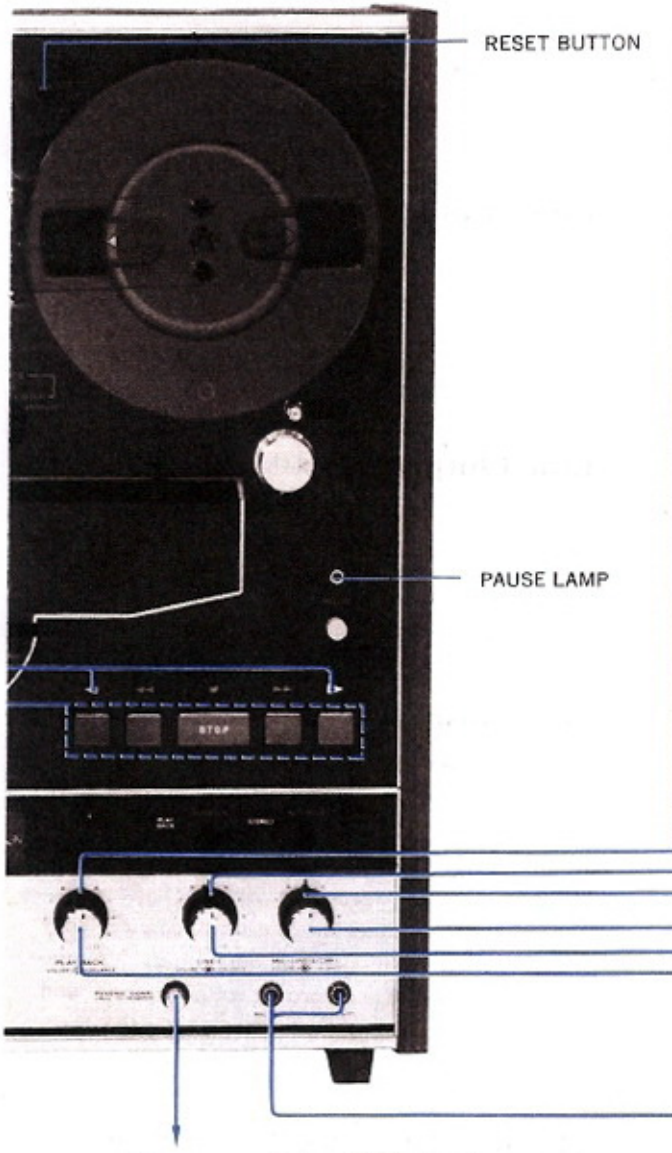


Headphone Jack

To monitor the signals being reproduced by either playback head, plug in a stereo headphone set with impedance of 8Ω, such as the Sansui SS-20 and SS-2.

Record Buttons

To start recording, press the Forward Button while pushing these buttons. The buttons are illuminated during use. Monophonic recording can be made by pushing only one of the buttons.



Playback Balance Control

Use to adjust the balance between the two stereo channels when playing back a recorded tape.

Line Input Balance Control (LINE-1)

Use to balance the sound volume in the right and left channels when recording from the LINE-1 input terminal on the side.

Microphone Input Balance Control (MIC/LINE-2/DIN)

Use in the same manner as the Line Input Balance Control when recording from microphones, the LINE-2 input terminal or DIN connector.

Microphone Input Volume Control (MIC/LINE-2/DIN)

Use to adjust the recording level when recording from microphones, the LINE-2 input terminal or DIN connector. Adjust it so that the VU meter pointers will swing to the red "1" or "2" mark for the loudest passages of the material to be recorded. Make the adjustment only after setting the Monitor Switch to "SOURCE."

Line Input Volume Control (LINE-1)

Use in the same manner as the Microphone Input Volume Control when recording from the LINE-1 input terminal on the side.

Playback Volume Control

Use to adjust the sound volume when playing back a recorded tape. Be sure that the Monitor Switch is set for "PLAYBACK." Adjust the control so that the VU meter pointers will swing to the red "1" or "2" mark for the loudest passages.

Microphone Jacks

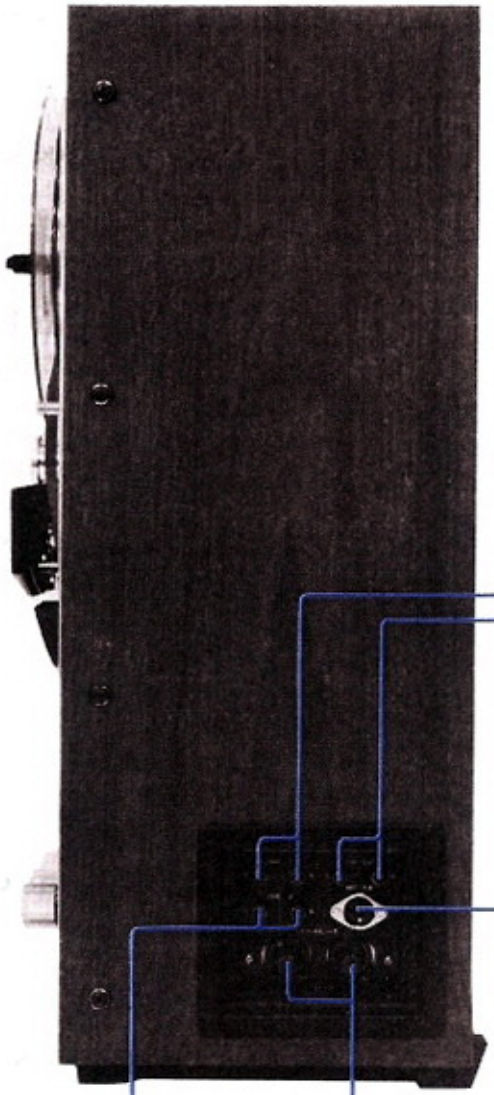
To record from microphones, insert here the plugs of a pair of high impedance (10kΩ to 50kΩ) microphones. To use professional 600Ω microphones, refer to the instructions on page 7. The Sansui SDM-1 microphone, which is available at option, is 50kΩ/600Ω compatible.

Reverse Signal Switch

Use to record the 20Hz reverse signals needed to trigger the built-in automatic operation mechanism. To use, pull it and push the Forward Button simultaneously. Release the switch in about one second and push the Stop Button to stop the tape motion. For more details, refer to the instructions about the Automatic Switch on page 21.

NAMES AND FUNCTIONS OF VARIOUS PARTS

〈SIDE〉



Line Input Jacks (LINE-1)

Connect the recording outputs of a stereo amplifier or tuner to these jacks. The one marked "L" is for the left channel, and the one marked "R" the right channel. Use the supplied pin plug cords to make the connections.

Line Output Jacks (LINE OUT)

To reproduce a recorded tape and hear it from loudspeaker systems, connect these jacks with the tape monitor jacks of your stereo amplifier. Do not forget to turn on the tape monitor switch of the amplifier.

DIN connector

(Integrated record/playback connector)

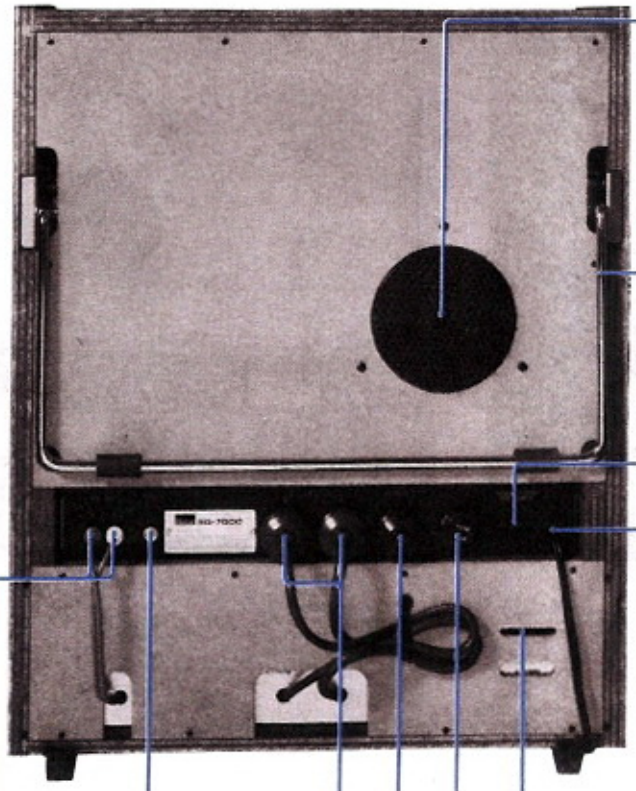
Manufactured to the German DIN standards, this connector enables a single cord with a 5-pin plug on each end to connect a tape deck and a stereo amplifier for both recording and playback operations. If this connector is used to connect your amplifier, use the Microphone Input Volume Control to adjust the recording sound volume, and the Playback Volume Control to adjust the playback sound volume.

Dummy Plugs for Microphone Transformers

Leave these plugs in if you wish to use high impedance (10kΩ to 50kΩ) microphones. To use low impedance (600Ω) microphones, however, remove these plugs and insert a pair of the Sansui A-603 microphone transformers instead. The dummy plug marked "L" is for the left channel, and the one marked "R" for the right channel.

Line Input Jacks (LINE-2)

If you wish to mix the LINE-1 input with another input and record them, couple the other input here.



Ventilation Opening

Designed to permit room air inside. Should be left free of any obstruction.

Reclining Stand

Permits leaning the tape deck at about a 30-degree angle for easier operation.

* Use the tape deck either in an upright position or in a tilted position using the reclining stand. Avoid placing it flat on its back; such a position will hinder dissipation of heat and truly even tape travel.

AC Outlet (Unswitched)

Connect the power supply plug of your stereo amplifier or tuner here. Maximum capacity is 300 watts. If the Sleep Switch is used, whatever equipment plugged in here is shut off at the same time as the tape deck itself.

Power Cord

After making certain the voltage and frequency settings are correct, insert this cord into an AC outlet in your room.

Output Voltage Attenuator Switch

If the output voltage of the tape deck is too high and the sound from the speakers is distorted, set this switch to "LOW."

Power Fuse and Voltage Selector Plug

See pp. 27, 28.

Remote Control Connector

By removing the dummy plug inserted and connecting the Sansui SRC-1 remote controller unit (available at option), you can remotely control the tape deck for forward, reverse, fast forward, rewind and pause operations.

Grounding Terminal

If loud hum is heard, connect this terminal with the grounding terminal of your stereo amplifier, utilizing PVC cable.

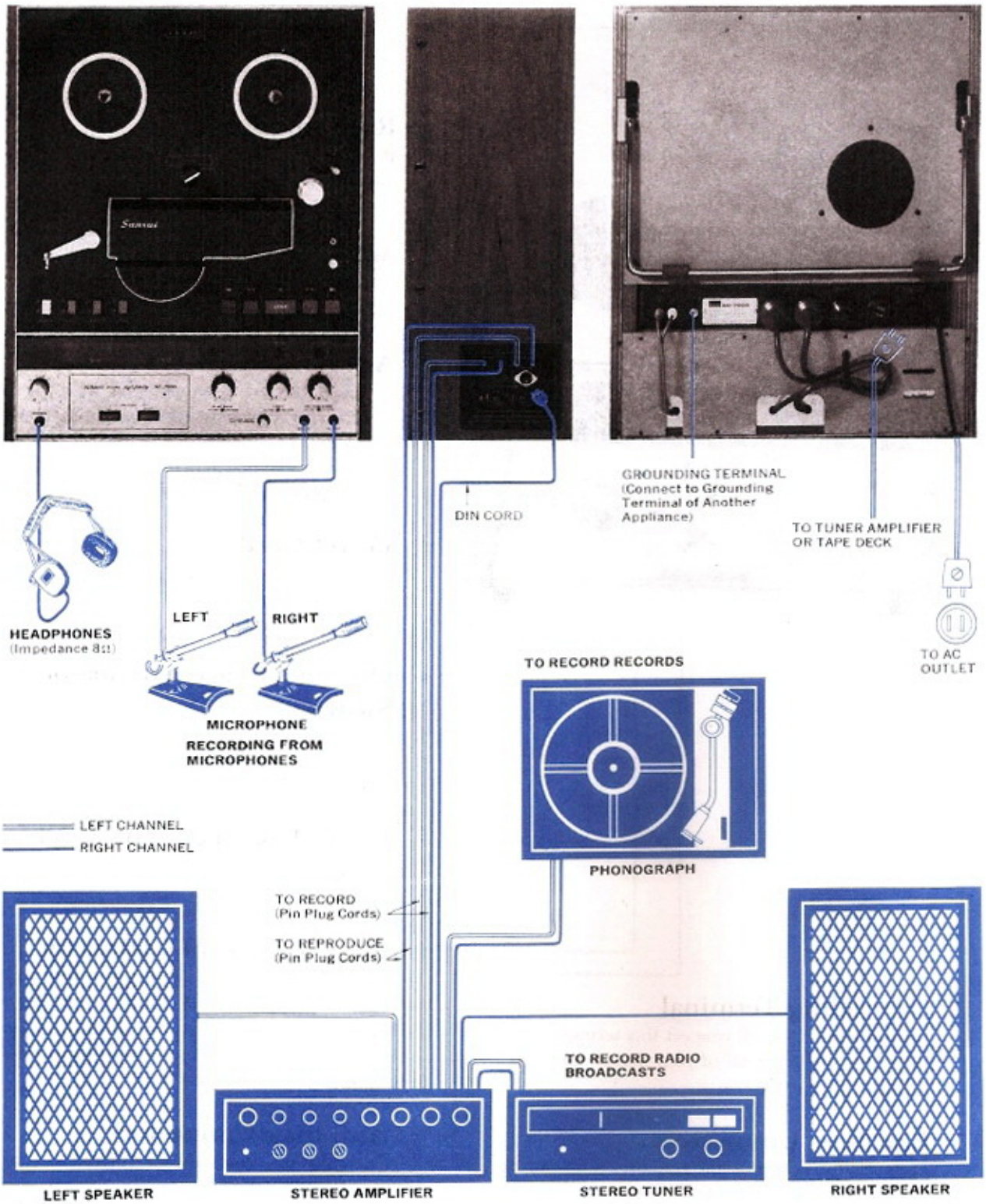
Equalizer Connectors

Connects the output of the equalizer amplifier to the line amplifier. Please do not touch.

Amplifier Connectors

Connects the tape transport section with the amplifier section. Please do not touch.

CONNECTION TO A STEREO AMPLIFIER/ HOW TO THREAD THE TAPE



Connections

Connections must be made between the SD-7000 and an integrated stereo amplifier both for recording and playback. Connect your SD-7000 and such amplifier by the use of the pin plug cords supplied, as indicated in the illustration at left. If a tuner or phonograph is coupled to the amplifier, you can hear AM/FM broadcasts or records and simultaneously record them into the tape deck. And, of course, reproduce them immediately from the speaker systems.

Note:

1) Be sure that power supply is turned off for all appliances before interconnecting them.

2) Depending on the quality of the amplifier used, the volume and tone quality may be somewhat impaired if the DIN connector is used to connect the tape deck and amplifier. For better results, connect the tape deck's line input and output jacks with appropriate jacks on the amplifier, using the pin plug cords supplied.

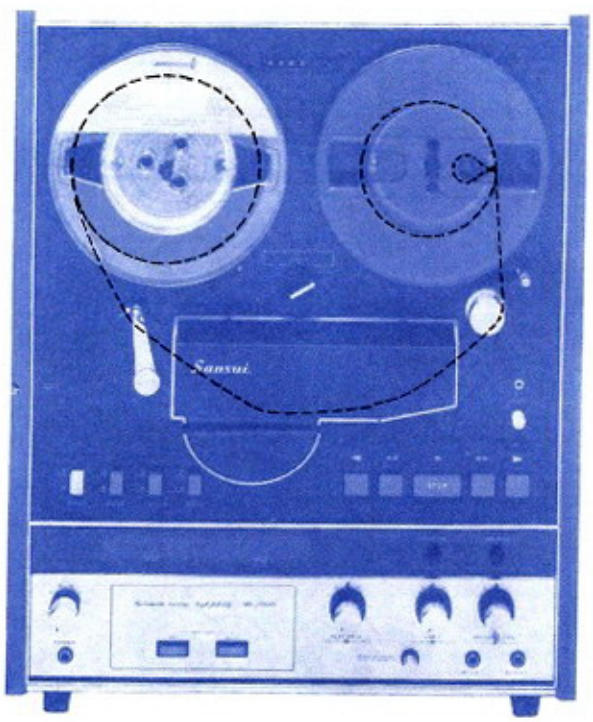
How to Thread the Tape

1. Place an empty reel on the right turntable, and secure it by pulling the reel clamp stopper and turning it about 60 degrees.
2. Place the tape-loaded reel on the left turntable and secure it in the same manner.
3. Pull out about two feet of tape from the reel on the left turntable, and thread it as shown in the illustration—i.e., along the outside of the left tension arm, between the head cover and pinch roller housing, around the impedance roller and along the inside of the right tension arm.
4. Finally secure the tape to the right reel by inserting the tape end in the tape lock hole, holding the end with a finger and turning the reel counterclockwise roughly two full turns.
5. Be sure that the tape is properly tense and the left tension arm is raised.

Note:

1) The empty reel should be of the same size as the tape-loaded reel.

2) Be sure to mount the tape-loaded reel so that the dull side of the tape contacts the heads.



FIXING REEL
Secure reel by pulling reel clamp stopper and turning it about 60°.

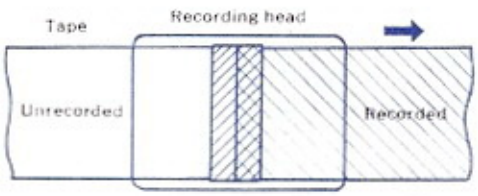
FIXING TAPE ONTO REEL
Insert tape end into tape lock hole, hold end with finger, and turn reel counterclockwise about two full turns.

4-TRACK RECORDING AND PLAYBACK

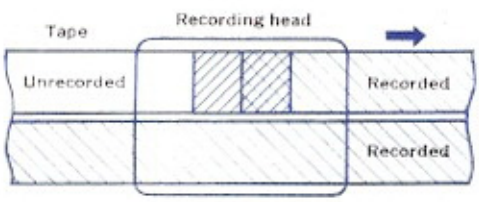
What Are Tracks?

A recording is made by the recording head on the dull side of the tape. Since the tape travels along the head, a strip of recorded signals is produced along the length of the tape. This strip is called a track. Depending on the number of tracks produced, a recording is said to be either a full-track, double-track, or 4-track recording. This in turn is decided by the kind of head utilized on a tape recorder.

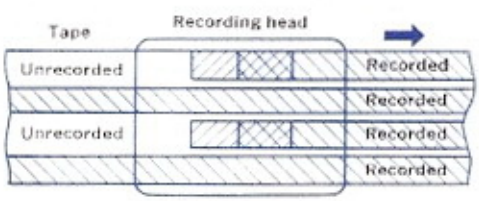
FULL-TRACK RECORDING



DOUBLE-TRACK (MONOPHONIC) RECORDING



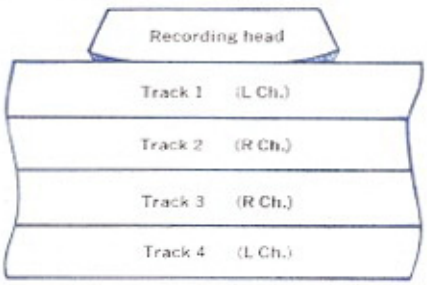
4-TRACK (STEREO) RECORDING



How Are Tracks Numbered?

Your SD-7000 is equipped with such heads that, when the tape travels from left to right, two tracks are recorded simultaneously—one for the right stereo channel, and one for the left. When the tape is turned over, another set of two tracks are recorded, for a total of four tracks on one tape.

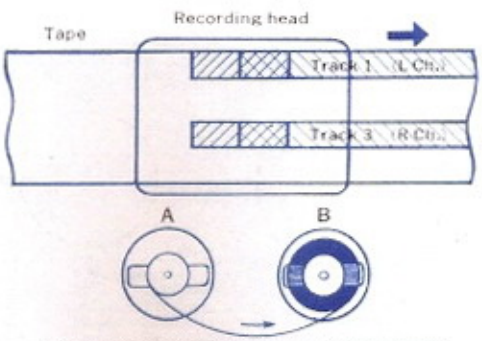
The four tracks, when viewed from the shiny side of the tape, are numbered 1, 2, 3 and 4 from the top to the bottom. Tracks 1 and 4 accommodate the left channel signals, and tracks 2 and 3 the right channel signals.



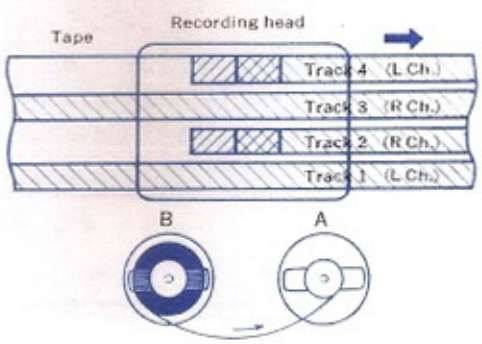
Track allocation on tape (as viewed from shiny side)

4-Track Stereo Recording

As the tape travels from left to right in the recording mode, left channel sound is recorded in track 1, and right channel sound in track 3. When the tape is fully taken up by the right reel, move that reel over to the left turntable and resume recording. Now the left channel sound is recorded in track 4 and the right channel sound in track 2. Be sure that the dull side of the tape faces the recording head.



Switch right and left reels when tape has been transferred to right reel.

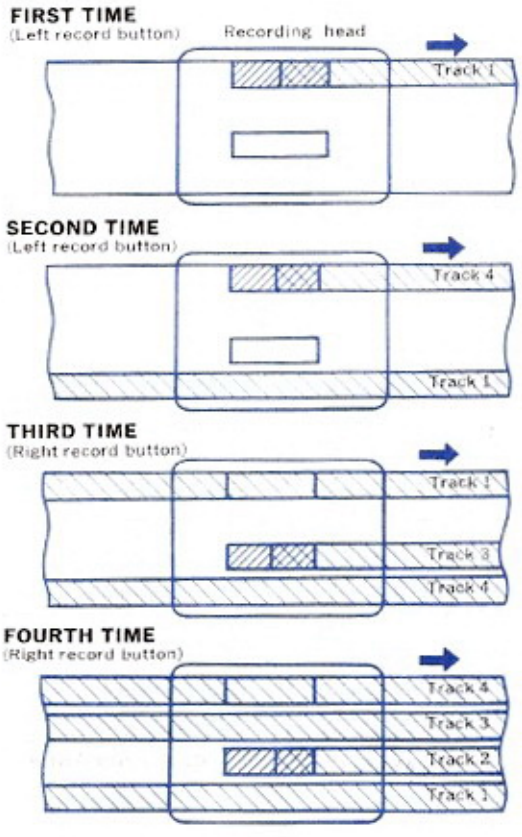


4-track Monophonic Recording

A 4-track monophonic recording can be made by pushing either the right or left Record Button only at a time.

First, record into track 1 by pushing only the left Record Button. When the tape has reached its end, move the right reel over to the left turntable and the left reel to the right turntable. Then, pushing the left Record Button again, record into track 4. Switch the reels again. Then, pushing the right Record Button this time, record into track 3. Switch the reels once more, repeat the process to record into track 2, and you will have made a 4-track monophonic recording.

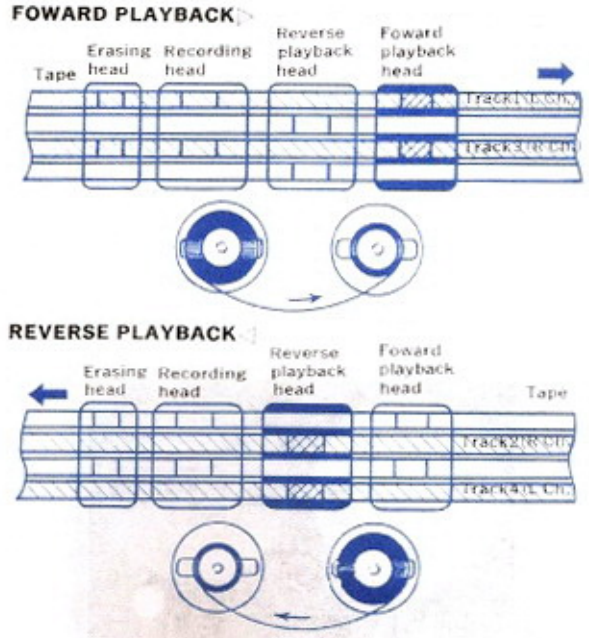
A 4-track monophonic recording can be made either by feeding monophonic signals to the right or left channel input terminal alone, or by feeding stereo signals to the right and left channel input terminals as usual and then setting the Recording Mode Switch for MONO L+R. For more detailed instructions, turn to page 18.



4-track Stereo Playback

When the tape travels from left to right in the playback mode, the forward playback head reproduces tracks 1 and 3. This is called forward playback.

When the tape travels from right to left in the playback mode, the reverse playback head reproduces tracks 2 and 4. This is called reverse playback.



4-track Monophonic Playback

A 4-track monophonic recorded tape can be reproduced by silencing the unwanted channel by turning the Playback Balance Control fully clockwise or counterclockwise.

First, reproduce track 1 by turning the Playback Balance Control fully counterclockwise and pushing the Forward Button. Then reproduce track 4 by pushing the Reverse Button.

Now reproduce track 3 by turning the Playback Balance Control fully clockwise and pushing the Forward Button. Finally reproduce track 2 by pushing the Reverse Button.

The Forward and Reverse Buttons need not be touched if reverse signals are recorded or sensing foil strips are attached on the tape and the Automatic Switch is set to "REPEAT."

PREPARING FOR PLAYBACK

Requirements for a Tape to Be Reproducible

1. The tape must be either a 4-track stereo recorded tape, 4-track monophonic recorded tape, double-track stereo recorded tape, double-track monophonic recorded tape, or a full-track recorded tape.
2. The tape must be recorded at the speed of either 7½ ips (19cm/sec.) or 3¾ ips (9.5cm/sec.).

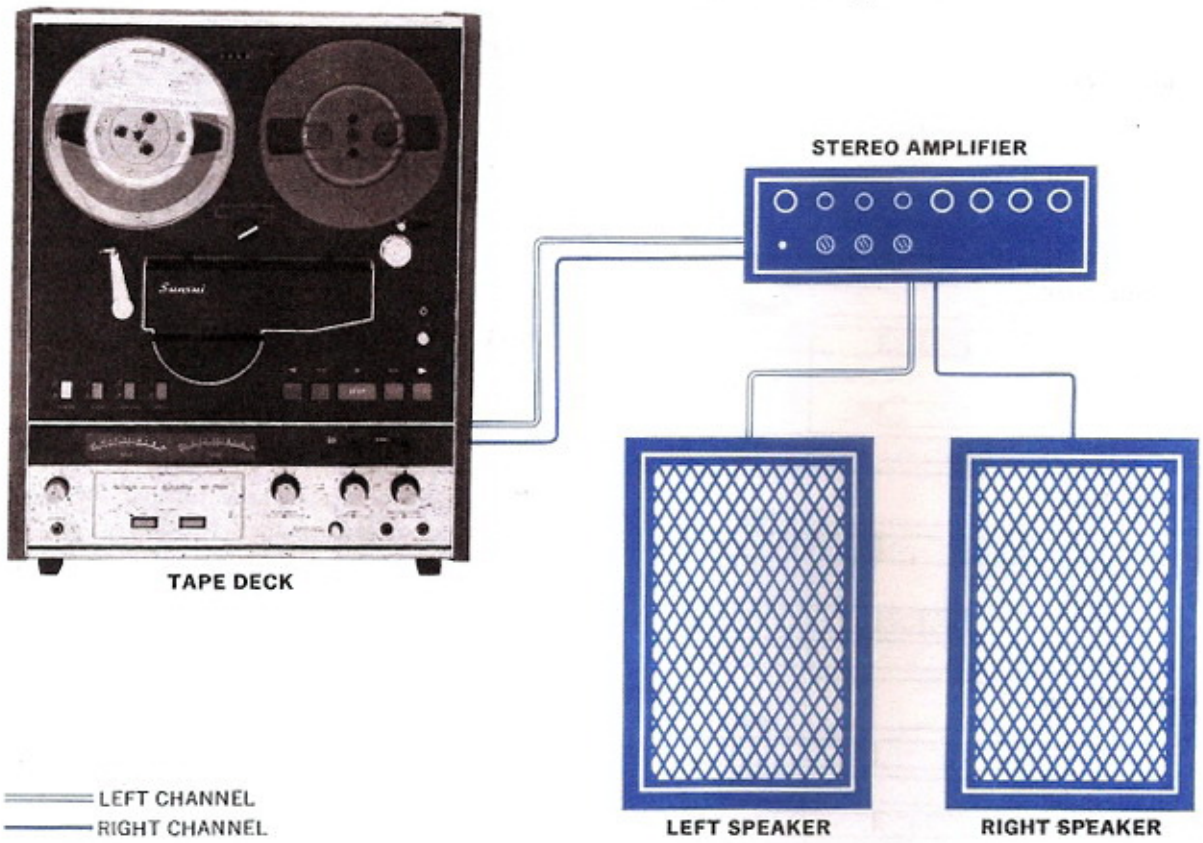
Connection to a Stereo Amplifier

Referring to the illustration on page 9, connect your SD-7000 to an integrated stereo amplifier. But be sure to turn off the power switches of both appliances first. After they are properly connected, turn on the tape monitor switch of the amplifier and turn down its volume control completely.

Preparing Switches and Controls for Playback

1. Referring to "HOW TO THREAD THE TAPE" on page 10, thread the tape properly.
2. Select the correct tape speed by the use of the Tape Speed Switch.
3. Select the correct tape tension by the use of the Tape Tension Switch.
4. Set the Automatic Switch to "MANUAL."
5. Turn the Playback Volume Control fully counter-clockwise.
6. Push the Power Switch to turn on power, and the VU meters will be illuminated.
7. Set the Monitor Switch for "PLAYBACK."

When the above preparations are finished, proceed as instructed on the next page, depending on the kind of recording to be reproduced. For detailed information about individual controls and switches, refer back to pp. 3—8.



HOW TO PLAY BACK A 4-TRACK STEREO RECORDED TAPE

How to Play back a 4-track Stereo Recorded Tape

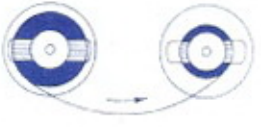
When all the preceeding preparations are completed, proceed as follows to reproduce a 4-track stereo recorded tape:

1. Push the Forward Button, and the tape will start moving from left to right.
2. Turn the Playback Volume Control clockwise until the VU meter pointers indicate the red "1" or "2" mark for the loudest passages of the material recorded on the tape.
3. Adjust the volume control and tone controls on the stereo amplifier to obtain the desired volume and tone quality in the sound from the speaker systems.
4. Balance the volume of the sounds from the right and left speaker systems by turning the Playback Balance Control.

When the Tape is Wound up by the Right Reel:

Before the tape end slips off the left reel, push the Reverse Button to reverse the direction of the tape travel, and remaining two tracks will be reproduced. The reversal of the tape can be automatically activated by the use of the Automatic Switch, if desired. For detailed instructions about the usage of this switch, turn to page 21.

FOWARD PLAYBACK▷

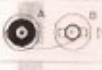


REVERSE PLAYBACK◁

How to Play back a 4-track Monophonic Recorded Tape

1. Turn the Playback Balance Control fully counter-clockwise.
2. Push the Forward Button, and track 1 will be reproduced.
3. Adjust the Playback Volume Control so that the VU meter pointers will swing to the red "1" or "2" mark for the loudest passages of the material recorded on the tape.
4. Adjust the volume control and tone controls on the stereo amplifier to obtain the desired volume and tone quality in the sound from the speaker systems.
5. When the tape has played to the end, push the Reverse Button. Track 4 will now be reproduced.
6. When the tape has played to the end in the reverse direction, press the Stop Button once, turn the Playback Balance Control fully clockwise, then press the Forward Button. Track 3 will be reproduced.
7. When the tape has played to the end, reverse the tape motion by pressing the Reverse Button. Track 2 will now be reproduced.
8. The reversal of the tape motion can be automatically activated, if desired, by the use of the Automatic Switch. For detailed instructions about the operation of this switch, turn to page 21.

PLAYBACK PROCEDURE FOR 4-TRACK MONOPHONIC RECORDED TAPE

Playback Sequence	1st Time	2nd Time	3rd Time	4th Time
Track Played	1	4	3	2
Operating Button Used	Forward	Reverse	Forward	Reverse
Direction of Tape Travel				
Position of Playback Balance Control	0	0	10	10
VU Meter	Left	Left	Right	Right
Line Ontput Jack	Left	Left	Right	Right

PREPARING FOR RECORDING

Kinds of Tape

Depending upon the length, thickness and the kind of base material, recording tape is classified into several kinds. For making a 4-track stereo recording where tone quality is a very important consideration, it is desirable to use type 100 or type 150 tape. As the SD-7000 is designed from the outset for using Scotch, type 150 tape, it is preferrable to use this tape for the best results.

(*Note: However, units with labels as shown at left, are aligned utilizing the low-noise Scotch* ♯*203 tape. On those units, it is advisable to use the same low-noise Scotch* ♯*203 tape for recording.*)

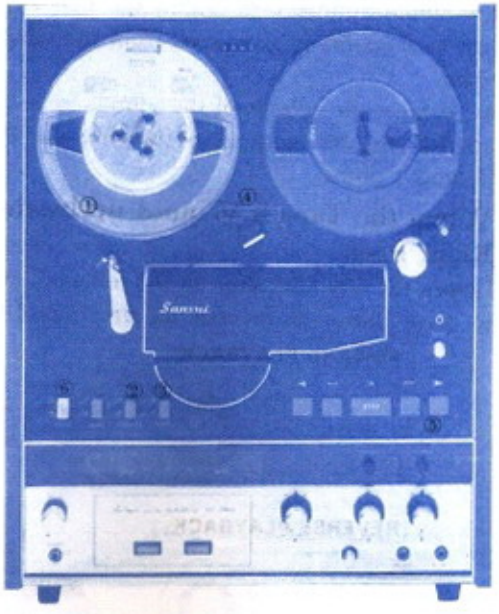
When actually deciding which tape to buy, consult the table below and look up the desired length of recording time. The time length indicated in the table is for one-way recording, so the overall recording time available is double the indicated figure for a 4-track stereo recording, and 4 times the figure for a 4-track monophonic recording

Selecting the Correct Recording Speed

On your SD-7000, the tape speed can be switched over between 7½ ips (19cm/sec.) and 3¾ ips (9.5 cm/sec.). If you are recording music or other hi-fi materials, the 7½ ips (19cm/sec.) speed is more appropriate. For recording conversations or background music, however, the 3¾ ips (9.5cm/sec.) speed is sufficient and gives a longer recording time.

Preparing Controls and Switches for Recording

1. Place the tape-loaded reel on the left turntable, and thread the tape as instructed under "HOW TO THREAD THE TAPE" on page 10.
2. Operate the Tape Tension Switch to match the thickness of the tape in use.
3. Select the desired tape speed by operating the Tape Speed Switch.
4. Set the Automatic Switch for "MANUAL."
5. Set the Recording Mode Switch for "STEREO."
6. Push the Power Switch to turn on power.



Type of Tape	Base	Position of Tape Tension Switch	7-inch Reel			5-inch Reel		
			One-way Recording Time		Length of Tape	One-way Recording Time		Length of Tape
			9.5cm/sec. (3¾ ips)	19cm/sec. (7½ ips)		9.5cm/sec. (3¾ ips)	19cm/sec. (7½ ips)	
Type 100	1½ MIL		60 min.	30 min.	370m (1,200 feet)	30 min.	15 min.	185m (600 feet)
Type 150	1 MIL		90 min.	45 min.	550m (1,800 feet)	45 min.	23 min.	275m (900 feet)
Type 200	½ MIL		120 min.	60 min.	740m (2,400 feet)	60 min.	30 min.	370m (1,200 feet)
Type 300	½ MIL		180 min.	90 min.	1,100m (3,600 feet)	90 min.	45 min.	550m (1,800 feet)

4-TRACK STEREO RECORDING:

Making Necessary Connections

To Record from Microphones:

Insert a pair of microphones into the microphone jacks on the front panel. Insert the one placed on the left side into the jack marked MIC LEFT, and the one placed on the right side into the jack marked MIC RIGHT. For best results, use a pair of the Sansui SDM-1 unidirectional 50kΩ/600Ω compatible microphones (available at option).

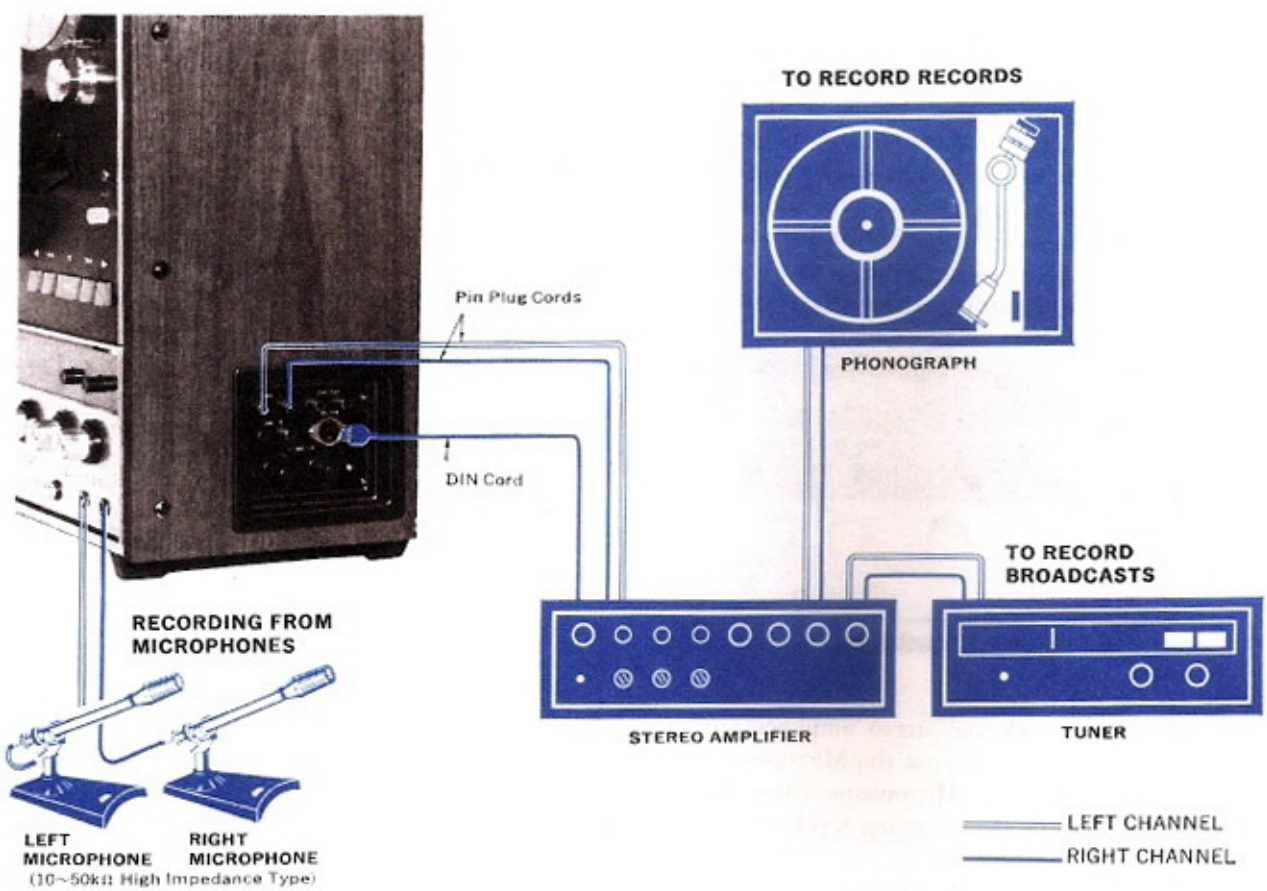
If the use of professional 600Ω microphones is desired, remove the dummy plugs on the side panel, and plug in a pair of Sansui A-603 microphone transformers instead.

To Record Broadcasts or Phonograph Records:

Connect your SD-7000 to an integrated stereo amplifier, referring to the illustration on page 9. Use the pin plug cords supplied and connect the line input 1 terminals (marked LINE-1) of the tape deck to the recording output terminals of the amplifier. And, of course, a tuner and/or a phonograph needs to be coupled to the amplifier.

Note:

1) If you wish to connect the tape deck and a stereo amplifier with a DIN cord, plug one end of it into the DIN connector on the tape deck and the other end into the DIN connector on the amplifier.
2) Be sure to cut off power supply for all appliances before making any interconnections.
3) Turn down the volume control of the amplifier completely before making any interconnections.
4) Turn on the tape monitor switch of the amplifier.
5) If the tuner is equipped with recording output terminals of its own, they may be connected directly to the LINE-1 input jacks, bypassing the amplifier, if desired.



4-TRACK STREO RECORDING:

Presetting Recording Levels and Entering the Recording Mode

1. Set the Monitor Switch for "SOURCE."
2. Set the Recording Mode Switch for "MONO L+R."
3. Turn up the Line Input Volume Control (LINE-1) and note that the VU meter pointers swing to indicate input signal strengths. If recording from microphones, LINE-2 input terminals or DIN connector, turn up the Microphone Input Volume Control (MIC/LINE-2/DIN).
4. Adjust the Line Input Balance Control (LINE-1) so that both the right and left VU meter pointers swing about the same distance. If recording from microphones, LINE-2 input terminals or DIN connector, adjust the Microphone Input Balance Cotrol (MIC/LINE-2/DIN).
5. This time, adjust the Line Input Volume Control (LINE-1) so that the VU meter pointers will not swing farther than the red "1" or "2" mark for the loudest passages of the material to be recorded. Adjust the Microphone Input Volume Control if recording from microphones, LINE-2 input terminals or DIN connector (MIC/LINE-2/DIN).
6. Reset the Recording Mode Switch for "STEREO" now. Stereo recording levels are properly preset.
7. Now go into the recording mode by pushing the right and left Record Buttons and the Forward Button simultaneously. The Record Buttons will be illuminated and the tape begins to run in the forward direction to start recording whatever program is fed in from the amplifier or microphones.

Note:

1) If the tape deck and stereo amplifier are connected with a DIN cord, use the Microphone Input Volume Control and Microphone Input Balance Control to adjust the recording levels and channel balance.

2) To adjust the sound volume from the speaker systems, use the volume control on the amplifier.

3) To reproduce a recorded tape, turn down the Line Input Volume Control completely before going into the playback mode.

4) The original sound and the recorded sound can be heard alternately for the purpose of comparison by operating the MonitorSwitch. Refer to page 6 for instructions about the use of this switch.

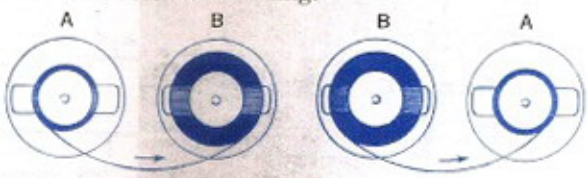
5) If you are recording from microphones and have not coupled an amplifier to the tape deck, the sound being recorded can be monitored by inserting a stereo headphone set into the headphone jack.

6) If you are recording from microphones and have already coupled an amplifier, place the microphones a sufficient distance away from the speaker systems or turn down the volume control of the amplifier completely in order to prevent howling.

7) When recording human voices with microphones, place the microphones about a foot away from the speaker.

When the Tape Has Been Recorded to the End

When the tape has been recorded to the end in the forward direction, push the Stop Button, move the right reel over to the left turntable and the empty left reel to the right turntable, then push the Record Buttons and Forward Button again. The tape deck will resume recording.



Switch right and left reels

A Note about Microphone Recording

Your SD-7000 is capable of recording very low frequencies. If vibration is given to the microphone(s) during recording, such as by moving it, low-frequency noise around 20Hz is produced and recorded, and may later function as an automatic reverse signal. It is therefore strongly recommended that the Automatic Switch be set to the MANUAL position when recording into the left channel or reproducing it.

4-TRACK MONOPHONIC RECORDING

Recording from Microphones

Insert a microphone into the MIC LEFT jack first, and record into track 1 monophonically. When the tape has reached its end, move the right reel over to the left turntable and the empty left reel to the right turntable. Now record into track 4.

When the tape has been recorded to the end, switch the reels again, and insert the microphone into the MIC RIGHT jack this time. This enables you to record into track 3 monophonically. Switch the reels once more when the tape has reached its end, and record into track 2.

Recording from a Tuner or Phonograph through an Amplifier

Connect the tuner and/or phonograph to an amplifier. If the amplifier is monophonic, couple its recording output to the left line input jack (LINE-1) of the tape deck first. Leave the volume control of the amplifier at the usual listening level, but turn on its tape monitor switch. If the tuner has its own recording output terminals, they may be coupled directly to the line input jacks (LINE-1) of the tape deck, bypassing the amplifier. But be sure to set the Recording Mode Switch for "MONO L+R."

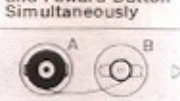
If the amplifier is stereophonic, however, set the mode switch on it to a "Monophonic" position, then feed its output to the left line input jack (LINE-1) of the tape deck first.

Note: Be sure to cut off power supply for all appliances before making any interconnections.

Presetting the Recording Level Entering the Recording Mode

1. Set the Recording Mode Switch for "STEREO," then turn the Line Input Balance Control (LINE-1) fully counterclockwise. (If recording from a microphone, turn the Microphone Input Balance Control.) Now note the left VU meter pointer swings as you adjust the Line Input Volume Control (LINE-1). Adjust this control so that the pointer will swing to the red "1" or "2" mark for the loudest passages. The recording level is now properly preset.
2. Making certain the pin plug cord from the amplifier is plugged into the left line input jack (LINE-1) (or that a microphone is properly plugged into the left microphone jack), enter the recording mode by pushing the left Record Button and the Forward Button.
3. When the tape is wound up by the right reel, track 1 is recorded. Switch the right and left reels, and enter the recording mode again to record into track 4. There is no need to re-adjust the recording level unless you are recording entirely different material. When the tape is wound up by the right reel again, switch the reels, move the input to the right input jack, turn the Line Input Balance Control completely clockwise, and enter the recording mode. Track 3 will now be recorded. When the tape has reached its end a third time, exchange the reels once more and record into the remaining track 2.
4. Confirm the recording procedure explained above in the table below.

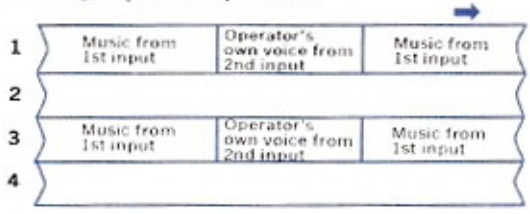
PROCEDURE FOR MAKING A 4-TRACK MONOPHONIC RECORDING

Recording Sequence		1st Time (Track 1)	2nd Time (Track 4)	3rd Time (Track 3)	4th Time (Track 2)
Mike or Line Input Jack		Left	Left	Right	Right
Mike or Line Input Balance Control		0	0	10	10
To Enter Recording Mode		Push Left Record Button and Foward Button Simultaneously	Push Left Record Button and Foward Button Simultaneously	Push Right Record Button and Foward Button Simultaneously	Push Right Record Button and Foward Button Simultaneously
Direction of Tape Travel					
To Preset Recording Level	Monitor Switch	SOURCE	SOURCE	SOURCE	SOURCE
	Input Volume Control	Mike/Line Input Volume Control	Mike/Line Input Volume Control	Mike/Line Input Volume Control	Mike/Line Input Volume Control
	VU Meter	Left	Left	Right	Right

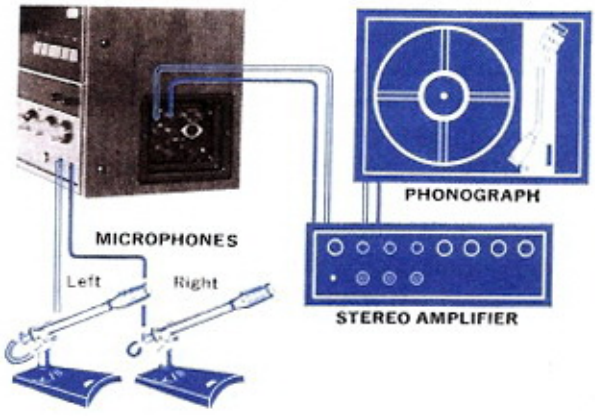
HOW TO MAKE A SPECIAL-EFFECT RECORDING

MIXING RECORDING

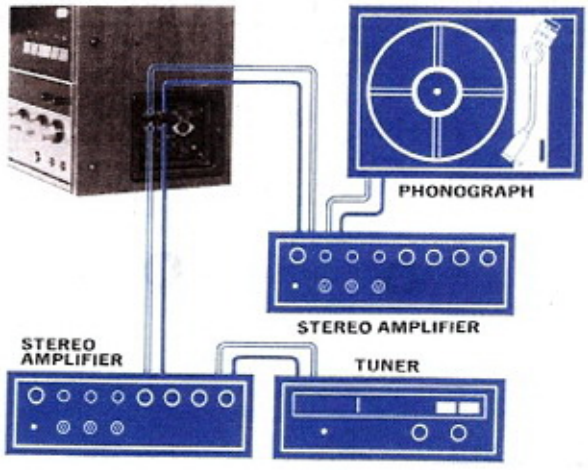
Your SD-7000 permits mixing two kinds of input and recording them. For instance, you may record a selection from your favorite disc and, when the selection is ended, reduce the line input volume and simultaneously raise the microphone input volume to record your own voice as a disc jockey, then record another selection. The following three ways of mixing inputs are possible:



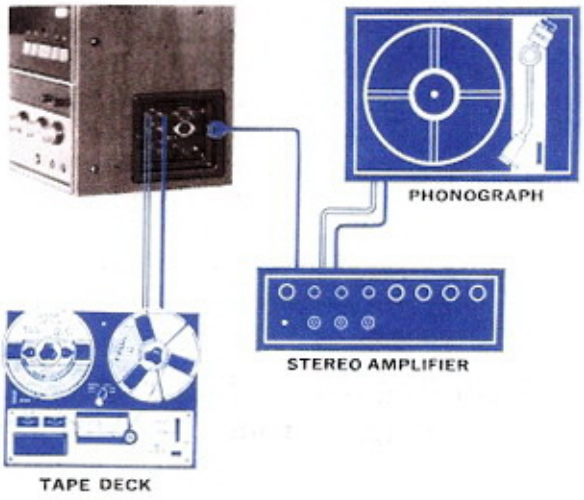
1) Microphones and line input 1 (LINE-1).



2) Line input 1 (LINE-1) and line input 2 (LINE-2).



3) Line input 1 (LINE-1) and DIN connector input.



How to Record Mixed Inputs

The procedure for recording mixed inputs is the same as for 4-track stereo recording. But, of course, two different inputs must be coupled to the tape deck, and their recording levels must be independently preset.

Presetting Recording Levels for Two Inputs

1. Preset the recording levels for one input first. This is accomplished by setting the Recording Mode Switch for "STEREO," setting the Monitor Switch for "SOURCE," and adjusting the input volume and balance controls while watching the VU meters.
2. When the recording levels are properly preset for the first input, take note of the positions of the input volume and balance controls, then return the controls to their zero positions.
3. Preset the recording levels for the other input in the same way as for the first input.
4. When the recording levels are properly preset for the second input, return the input volume and balance controls for the first input to the positions memorized, and you will have preset the recording levels for both inputs. Now you can go into the recording mode by pushing the right and left Record Buttons and the Forward Button simultaneously.

SOUND-ON-SOUND RECORDING

Your SD-7000 also enables you to record different materials monophonically into each of the two stereo channels and reproduce them simultaneously. This is called 'sound-on-sound' recording. For example, you may record the pronunciation of your foreign language teacher in one channel and your own pronunciation in the other, reproducing them together for comparison. This technique is useful for other kinds of lessons and various other purposes.

SOUND-ON-SOUND RECORDING/ PLAYBACK PROCEDURE

Operation Sequence			1	2	3
Operation			Mono Recording of L. Ch	Mono Playback of L. Ch. & Mono Recording of R. Ch.	Stereo Playback
Connection			Connect Mike to L. Mike Jack or Amp. to L. LINE-1 or LINE-2 Input Jack.	Connect Mike to R. Mike Jack or Amp. to R. LINE-1 or LINE-2 Input Jack/Connect Amp. to L. LINE OUT Output Jack	Connect Stereo Amp to R. & L. LINE OUT Jacks
Track			Track 1 Recorded	Track 1 Played, Track 3 Recorded	Tracks 1 & 3 Played
Direction of Tape Travel					
To Adjust of Playback Volume	1	Monitor Switch		PLAYBACK	PLAYBACK
	2	Playback Balance Control		0	5
	3	Playback Volume Control		Proper Level as Indicated on L. VU Meter	Proper Levels as Indicated on R. & L. VU Meters
To Preset Recording Levels	1	Monitor Switch	SOURCE	SOURCE after Playback Level is Adjusted	
	2	Mike/Line Input Balance Control	0	10	
	3	Mike/Line Input Volume Control	Proper Level as Indicated on L. VU Meter	Propsr Leve as Indicated on R. VU Meter	
Required Action			Push L. Record Button and Foward Button Simultaneously	Set Monitor SW. to PLAYBACK, then Push R. Record Button and Foward Button Simultaneously; Track 3 Will Be Recorded and Track 1 Played	Push Foward Button to Play Tracks 1 & 3

How to Record Sound-on-Sound

1. Supposing you are using this technique for learning a foreign language, record your teacher's pronunciation monophonically into track 1 (left channel).
2. Reproduce track 1 and as you monitor the reproduced sound either with a stereo headphone set or the left speaker system, record your own pronunciation into track 3 (right channel), using a microphone plugged into the right microphone jack.
3. Reproduce the two channels simultaneously in the same manner as for reproducing a 4-track stereo recorded tape. You will be able to hear your teacher's and your own pronunciations simultaneously for comparison.

Dubbing a Record Tape

If another stereo tape deck is available, you can copy a recorded tape into a blank tape.

To do this, first connect the right and left line output jacks of the second tape deck to the right and left line input jacks of your SD-7000, using pin plug cords.

Load the recorded tape to be copied on the second tape deck and play it back, feeding and recording the tape deck's outputs into your SD-7000. Recording procedure is the same as for making a 4-track stereo recording (see page 17).

When tracks 1 and 3 are recorded (i.e., when forward recording is finished), switch the right and left reels and record into tracks 2 and 4.

It is of course possible to play back the recorded tape on your SD-7000 and record it into the second tape deck. To do this, you only need reverse the connections between the two tape decks.

HOW TO USE THE AUTOMATIC SWITCH

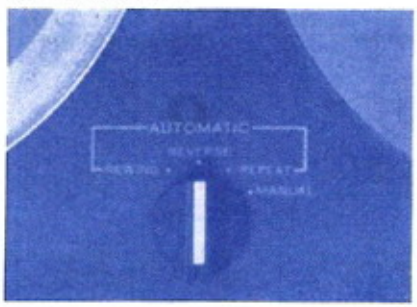
Automatic repeat, reverse and rewind operations can be triggered either by fixing strips of the sensing foil supplied at the ends of a tape or recording the 20Hz reverse signals, and setting the Automatic Switch to the appropriate position.

Set the switch to "REPEAT," and the tape will keep playing forward and back until you stop it by pushing the Stop Button. Set it to "REVERSE," and the tape will automatically reverse itself when it has played to the end in the forward direction, play to the end in the reverse direction, then stop.

With the switch set to "REWIND," the tape plays to the end in the forward direction, then is quickly rewound back on the left reel.

Note:

Automatic operations cannot be activated for the first ten seconds after a tape is started, so it is useless to attach sensing foil or record 20Hz reverse signals within the distance which is reached in the first ten seconds.



How to Attach Sensing Foil

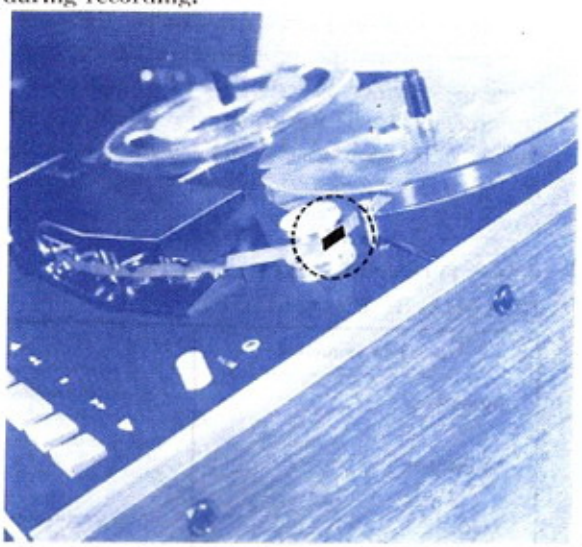
Attach a strip of sensing foil (supplied) at the place on the tape where you wish to trigger automatic operations; attach it on the shiny side of the tape. Automatic operations are triggered as the sensing foil contacts the right tension arm.

To obtain the automatic REPEAT operation, attach a sensing foil strip at a point about three feet from the beginning of the tape, winding the tape on the right turntable until the strip is above the right tension arm. Play or record into the tape in the forward direction, and when it has reached its end, attach another strip at a point about four feet from the tape end.

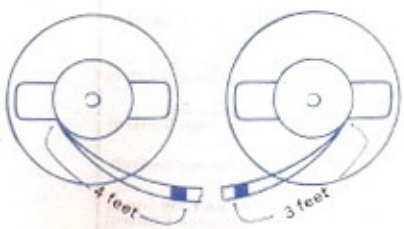
However, if only the automatic REVERSE and REWIND operations are desired, just fix a strip at a point about four feet from the tape end only.

Note:

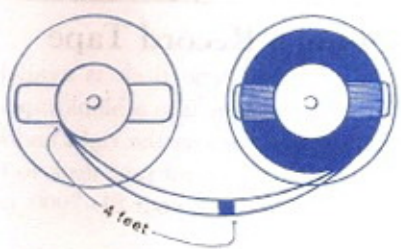
If sensing foil strips are attached, automatic operations are activated even during recording. If 20Hz reverse signals are used, however, automatic operations are set off only during playback, and not during recording.



For AUTO REPEAT



For AUTO REVERSE, AUTO REWIND



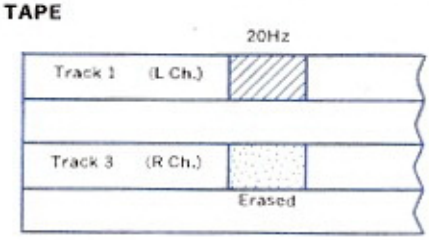
How to Record 20Hz Reverse Signals

Run the tape from left to right, either in the recording or playback mode. When the tape has reached its end, record the 20Hz reverse signals, then exchange the right and left reels and resume the recording or playback mode. When the tape has reached its end again, record the 20Hz signals once more.

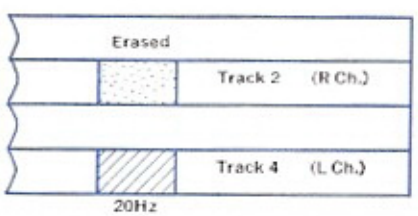
To record the 20Hz signals, pull the Reverse Signal Switch with your left hand, and push the Forward Button with your right hand at the same time. Both the right and left Record Buttons will be illuminated. About one second after the tape starts moving, release the Reverse Signal Switch and push the Stop Button. You have now recorded 20Hz reverse signals.

The Reverse Signal Switch, when pulled, records 20Hz reverse signals into the left channel (tracks 1 and 4), but erases the right channel (tracks 2 and 3) at the same time.

END OF TAPE



BEGINNING OF TAPE



Note:

1) Be sure to set the Automatic Switch to the MANUAL position before you set out to record the 20Hz reverse signals. If the switch is set to other positions, the direction of tape travel will be reversed as you record the signals.

2) If signals around 20Hz exist in the left channel alone, and the right channel contains no signal, automatic reversal will be activated. This should be kept in mind when reproducing the left channel monophonically.

3) If you set the Monitor Switch for "PLAYBACK" and turn up the Line Input Volume Control to the maximum position, the left VU meter pointer will swing when 20Hz reverse signals are recorded by the procedure explained above. You can thus confirm the recording visually.

4) Automatic operations are triggered when the recorded 20Hz signals pass the left channel gap of the forward or reverse playback head.

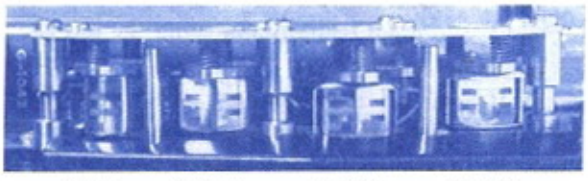
5) Even if 20Hz reverse signals are recorded in the left channel (tracks 1 and 4), automatic operations are not triggered if loud noise is recorded in the right channel (tracks 2 and 3). In this case, record the signals at the same place again.

6) On Ampex's recorded tapes, 20Hz reverse signals are already recorded. So these tapes can be played back on your SD-7000 and be made to provide automatic operations without recording any reverse signals anew.

HOW TO ERASE

Recording New Material over Old Material

As the erasing head is situated before the recording head as can be seen in the photograph, it erases any old material on a tape as it travels from left to right in the recording mode. Subsequently, the recording head records a new material into the clean tape.



Erasing a Recorded Tape Completely

Load the tape to be erased on the left turntable, turn down the Line Input Volume Control (and the Microphone Input Volume Control as well, if a microphone is plugged in) to the zero level, and go into the recording mode at the speed of 7-1/2 ips (19cm/sec.) by pushing the right and left Record Buttons and the Forward Button. Tracks 1 and 3 will be erased. When the tape has reached its end, exchange the right and left reels and enter the recording mode again. Tracks 2 and 4 will be erased.

Note: Although this is not recommended, a recorded tape can be erased quickly, if desired, by using a tape demagnetizer or bulk demagnetizer.

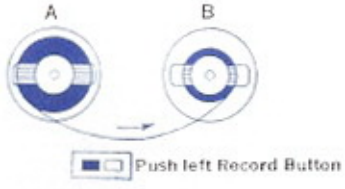
Erasing Part of a Recorded Tape

1. Play back the recorded tape in the forward direction.
2. When you come to the beginning of the portion you want to erase, push the reset button of the tape counter to reset it to "0000."
3. Continue playing back the tape, and when you reach the end of the portion you want to erase, stop the tape and take note of the counter reading. Now rewind the tape back to where the counter indicates "0000."
4. Turn down the Line Input Volume Control (and the Microphone Input Volume Control as well, if a microphone is plugged in) completely, and erase the portion by entering the recording mode and retaining it until the tape comes to where the tape counter indicates the reading memorized.

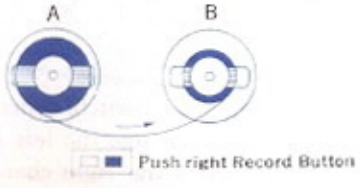
Erasing Only One Track

Load the recorded tape on the left turntable if you wish to erase track 1 or 3; load it on the right turntable and rewind it on the empty left reel if you wish to erase track 2 or 4. Then proceed in the same way as to make a monophonic recording, as instructed on page 18. The Line Input Volume Control and Microphone Input Volume Control should, of course, be turned down to the zero level.

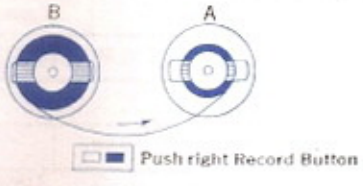
ERASING ONLY TRACK 1



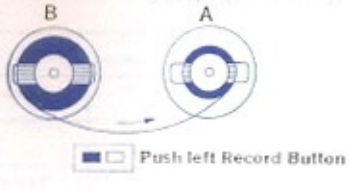
ERASING ONLY TRACK 3



ERASING ONLY TRACK 2



ERASING ONLY TRACK 4



CONDITIONS NOT INDICATIVE OF A FAULTY DECK

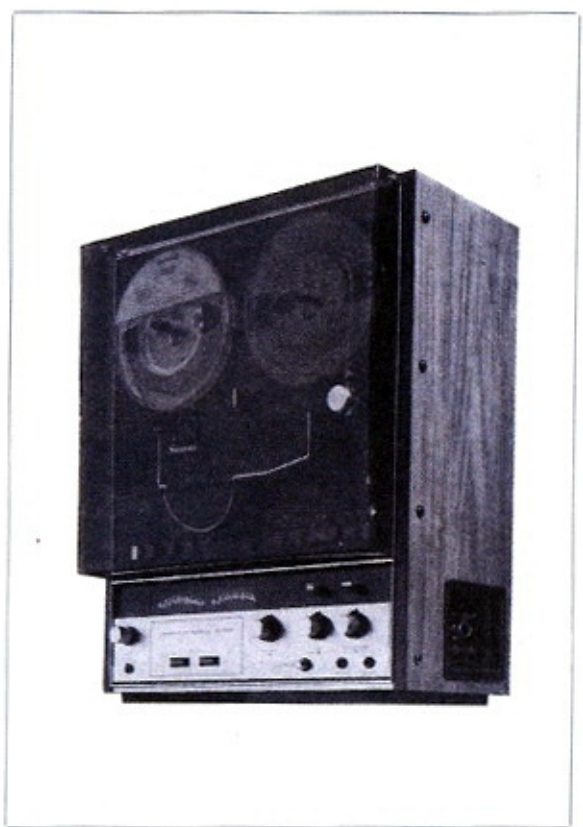
The conditions listed in the table at right are often mistaken as troubles due to flaws in the tape deck. If you meet with these difficulties, look them up in the table once and see if they can be remedied very easily.

SERVICE HANDBOOK
Available for your SD-7000

Illustrated Service Book is now available for your SD-7000 stereo tape deck. Please mail your order directly to Sansui Electric Company Limited, 14-1, 2-chome, Izumi, Suginami-ku, Tokyo, Japan.

Price: $ 7.50

Note: Since the SD-7000 is a precision machine, special knowledge, measuring instruments and tools are required for the repair of the SD-7000. If you have none of them, never attempt to repair it. For service, consult the nearest Sansui Service Station.



CONDITION	PROBABLE CAUSE
Tape does not move. Tape sounds funny.	Pause Switch has locked to stop tape. Tape is hanging slack, allowing tension arm to fall and cut off power for motors. Dummy plug of Remote Control Connector on rear panel is unplugged. Tape is being played back at wrong speed.
No sound is heard. Sound is weak. (No sound or only very weak sound is heard from headphones.)	Monitor Switch is set for "SOURCE." Line input and playback volume controls and balance controls are not properly adjusted. Pin plug cords are not properly plugged in. Or they are plugged into wrong jacks. Head surfaces are unclean. (Headphone Volume Control is not properly adjusted.)
Old recording is not completely erased when recording anew.	Surface of erasing head is unclean.
Microphones do not function.	Dummy plugs for microphone transformers are loose. Impedance of microphones is wrong.
Tape Travel Direction Lamps indicate direction opposite to tape travel during fast forwarding or rewinding.	Normal condition, as these lamps only indicate playback head in arrow direction is live and capstan is revolving in arrow direction, ready to play tape any moment.
Automatic operations are not obtained.	They cannot be activated during first ten seconds or so after tape starts. 20Hz reverse signals are not adequately recorded. Record them again.
Pushing Power Switch does not turn on power.	Sleep Switch is pushed. Left Tension Arm is hanging down.

How to Splice a Tape

As your SD-7000 has been designed from the outset with the protection of tape in mind, the tape is very unlikely to break. However, should it ever break, or if you cut a tape for the purpose of editing, splice it as instructed below.

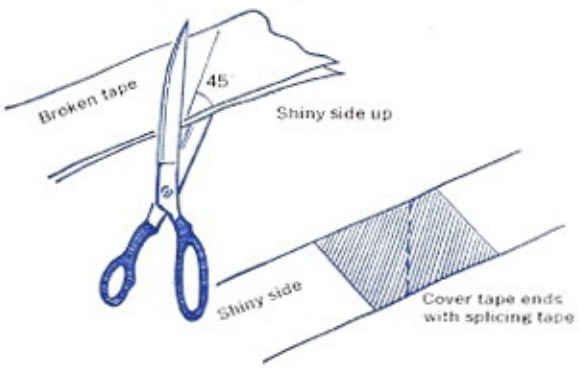
Necessary Equipment

Scissors: Demagnetize them before use, using either a head demagnetizer or bulk demagnetizer.

Splicing tape: Use either the splicing tape supplied or commercially available splicing tape for magnetic tape. Do not use vinyl tape or Scotch tape, as they may cause the tape to be sticky and contaminate the heads.

Splicing

1. Completely overlap the two tape ends to be spliced, the shiny side up; then cut them at an angle of about 45 degrees.
2. Place the tape ends so cut on a flat surface, still the shiny side up. Place them so that one end joins the other precisely. Then cover the joint with splicing tape. Be sure to press the splicing tape tightly.
3. If the splicing tape runs wider than the tape spliced, trim it neatly along the edge of the tape.



Maintenance of the Heads

The oxide and binder from recording tape may gradually accumulate on the erasing, recording and playback heads of your SD-7000, deteriorating the erasing efficiency, recording and playback sensitivity or tone quality of reproduced sound. They may also accumulate on the capstan, pinch roller and tape guides, making the tape travel unsmooth and causing wow and flutter.

These parts should be cleaned periodically, using a "Q-Tip" or cotton swab moistened with the Sansui SHC-1 head cleaner supplied. When cleaning the heads, take extra care not to damage their surfaces. Never use any abrasive or metallic object to clean the heads, as they may nick or scratch the heads. If the contamination is serious, soak an ample amount of the cleaner in a piece of clean, lintless cloth and wipe the heads and other parts with it thoroughly. It is safe to use the cleaner to clean rubber parts such as the pinch roller.

Demagnetizing the Heads

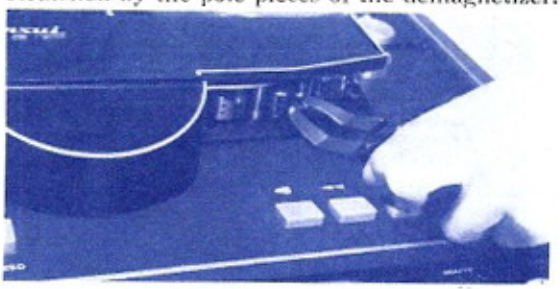
The magnetic heads in your SD-7000 are gradually magnetized after many hours of use. This will not only impair their high-frequency response but cause them to record noise into the tape. So demagnetize the heads about every 30 hours of use, using the Sansui SHE-1 head demagnetizer. Bring the pole pieces of the demagnetizer close to the surfaces of the recording, forward and reverse playback heads, capstan, tension arms and all other parts that contact the tape. Move the demagnetizer up and down several times, then withdraw it very slowly. Cut off the power supply for the demagnetizer only when it is over a foot away from the tape deck.

Note:

1) Be sure that the Power Switch of the tape deck is turned off before starting the demagnetizing procedure.

2) When demagnetizing the heads, do not let the demagnetizer actually touch the heads; the head

surfaces are very sensitive and can be easily scratched by the pole pieces of the demagnetizer.

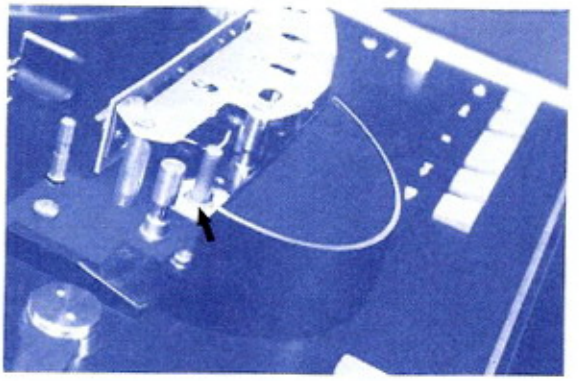


Lubrication

Lubricate the capstan bearing and pinch roller approximately every 2,000 hours of use, using the Mobile DTE-24 oil supplied. Please do not use other kinds of oil. The reel motors need no lubrication because they are oil-less motors.

Lubricating the Capstan Bearing

1. Tilt the tape deck on the reclining stand.
2. Take off the head housing, then remove the metal cover at the bottom of the capstan by the use of a cross-headed screwdriver.
3. When the metal cover is removed, a felt cap around the capstan is exposed. Remove this felt cap, and let fall a few drops of oil between the capstan shaft and its bearing. Do not drop too much oil, as excess oil will ooze out around the bottom of the capstan.



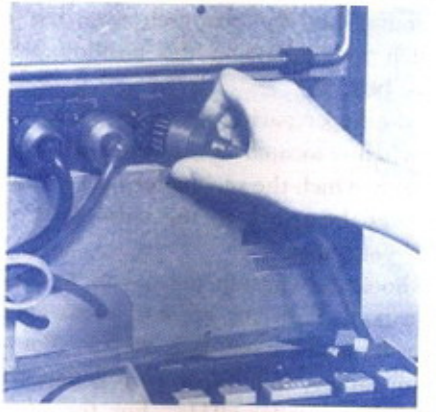
Lubricating the Pinch Roller

1. Remove the pinch roller housing with a cross-headed screwdriver.
2. Pull the pinch roller strongly, and it will come off together with its shaft.
3. Drop one drop of oil at the bottom of the shaft.

Never drop more than one drop of oil, as excess oil will stain the rubber part of the pinch roller, causing the tape to slip, producing wow and flutter or generally damaging the quality of the pinch roller.
Note: If oil has stained the capstan shaft or pinch roller, wipe it off with a piece of cloth moistened with the Sansui SHC-1 cleaner liquid.

Remote Controller

You can remotely operate your SD-7000 from a distance of up to 16 feet by the use of the Sansui SRC-1 Remote Controller, which is available as an optional extra. To do this, remove the dummy plug in the Remote Control Connector on the rear panel and plug in the Remote Controller in its place.



Adjustment of the Line Voltage and Frequency Settings

Your SD-7000 is adjusted to the AC line voltage and frequency of your area prior to shipment. These are indicated on the rear panel. However, if you should move to an area where the line voltage and/or frequency are different, remove the power cord from the AC outlet and then adjust the settings as instructed below.

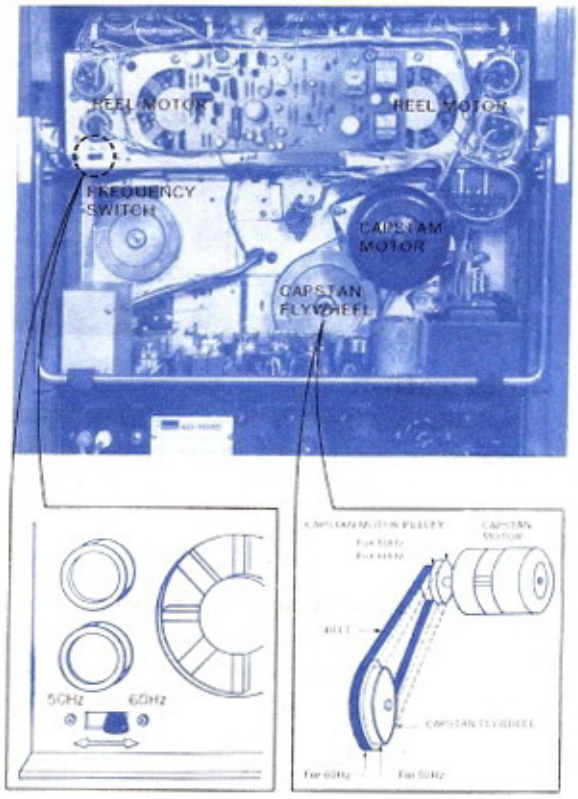
Adjusting the Line Voltage Setting

1. Remove the power fuse cap on the rear panel by turning it in the direction of the arrow.
2. Remove the Voltage Selector Plug once, then reset it so that the correct AC line voltage of your area can be read in the 'window' of the plug.

Adjusting the Line Frequency Setting

This is accomplished by changing over the frequency switch and adjusting the position of the capstan drive belt.

1. Remove the upper part of the rear panel. The frequency switch is located in the lower left corner of the chassis on which the reel motors are mounted.
2. Change over the switch to the correct AC line frequency of your area.
3. Now, re-hook the capstan drive belt as shown in the illustration. Both the capstan motor pulley and capstan flywheel have two steps. For the capstan motor pulley, the larger step is for 50 Hz and the smaller step is for 60 Hz. For the capstan flywheel, however, the larger step is for 60 Hz and the smaller step is for 50 Hz. If the re-hooking of the belt seems too difficult or troublesome for you, get in touch with the authorized Sansui service station nearest you.
4. When the belt is properly re-hooked, turn the pulley by hand and see if the belt moves smoothly.

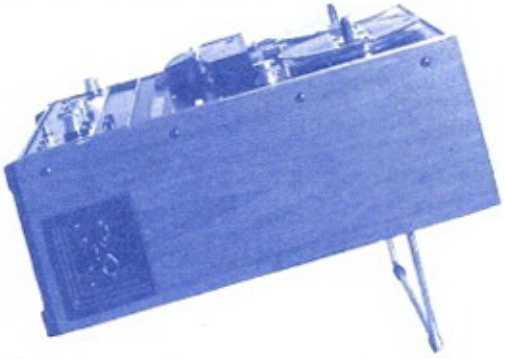


Should the Power Fuse Blow

If pushing the Power Switch fails to turn on the power for the tape deck, check the power fuse on the rear panel. Turn the fuse cap in the direction of the arrow and remove it. Take off the glass-tubed fuse and see if it has blown. If it has, make a simple investigation of your SD-7000 to determine the cause of the blowout, then replace the blown fuse with a new 2-ampere glass-tubed fuse (supplied).

How to Use the Reclining Stand

When set up as shown in the photograph, the reclining stand permits leaning your SD-7000 back at about a 30 degree angle, making it easier to operate. It is especially convenient if you are using the tape deck directly on the floor or on a low rack.



Changing Output Voltage

If the output voltage of your SD-7000 is too high and the sound from the speaker systems is distorted, set the Output Voltage Attenuator Switch on the rear panel to "LOW." If no such condition is noticed, leave it in the "HIGH" position.

Simple Maintenance Hints

1. Avoid installing your SD-7000 in an extremely cold, hot or dusty place or where it may be exposed to direct sunlight. Such environments will do harm to the tape, as well as to the mechanisms and electronics of the tape deck. In a very cold place where water freezes, the lubricating oil on the vital parts hardens to hinder normal operation of the machine. The ideal environmental temperatures are from 0°C to 30°C (32°F to 86°F).
2. Ventilation openings are provided in the top and rear panels. It is advisable to leave at least 4 inches of space between the wall and the rear panel of the tape deck.
3. While your SD-7000 is designed to function well in the face of line voltage fluctuations of up to ±10%, it provides the best performance if installed in a place where these variations are less than ±5%.
4. Your SD-7000 is adjusted to the correct line voltage and frequency of your area prior to shipment; they are indicated on the rear panel. Should they be wrong for some reason, however, change them as instructed on page 27.
5. If the red lamp above the Pause Switch is lit, the tape cannot be started unless the switch is first released.
6. When switching from forward playback to reverse playback, or vice versa, the tape does not instantly start after the appropriate operating button is pushed. It starts after a delay of about 1.5 seconds for the purpose of protecting the tape quality.
7. If the Sleep Switch is pushed and the tape has stopped after playing as programmed, power can not be turned on by pushing the Power Switch. Release the Sleep Switch first.
8. To stop the tape during fast forwarding (or rewinding), stop the Rewind (or Fast Forward) Button first to slow down the tape, then push the Stop Button.
9. To play back a recorded tape, be sure that the Monitor Switch is set for "PLAYBACK." When recording, set the same switch for "SOURCE" and preset the recording levels, then set it back for "PLAYBACK" to monitor the recorded sound.
10. Make certain that all connection plugs are fully plugged in. If they are left halfway, the tape deck may fail to operate normally.

SPECIFICATIONS / ACCESSORIES

TRACK SYSTEM: 4-track 2-channel stereo/mono
REEL SIZE: 7" maximum
TAPE SPEEDS: 19cm/sec. (7½ ips), 9.5cm/sec. (3¾ ips)
TAPE SPEED ACCURACY:
±0.5% at 7½ ips and 3¾ ips
HEADS: Erase 4-track 2-channel
Record 4-track 2-channel
Forward playback 4-track 2-channel
Reverse playback 4-track 2-channel
MOTORS: One 4-pole/8-pole 2-speed hysteresis synchronous motor for capstan drive
Two 6-pole capacitor starting induction motors for reel drive
FAST FORWARD/REWIND TIME:
Approx. 100 sec. for 1,800-foot tape
WOW AND FLUTTER:
0.06% WRMS at 7½ ips
0.1% WRMS at 3¾ ips
FREQUENCY RESPONSE:
15–25,000Hz (20–20,000Hz within ±2dB) at 7½ ips
15–15,000Hz (30–10,000Hz within ±2dB) at 3¾ ips
S/N RATIO: Better than 60dB (at total distortion factor of 3%)
CROSSTALK: Better than 45dB between channels at 1,000Hz
Better than 60dB between tracks at 1,000Hz
DISTORTION FACTOR:
Playback preamp distortion less than 0.1% (at 1,000Hz and output of 1.2V)
Tape record/playback distortion less than 1.2% (at 1,000Hz and 0 VU), less than 3% (at 1,000Hz and +6 VU)
ERASING EFFICIENCY: Better than 60dB
INPUT SENSITIVITY AND IMPEDANCE:
Mike: 0.5mV min., 50kΩ
0.05mV min., 600Ω (using Sansui A-603 mike transformers)
LINE-1, -2: 70mV min., 100kΩ
DIN: 14mV min., 100kΩ
OUTPUT: LINE, DIN: 1.2V max. (0 VU=0.775V, 0 VU=0.225V selectable with switch)
Headphones: 10mW, 8Ω
BIAS FREQUENCY: 100kHz
MIXING: MIC+LINE-1
LINE-1+LINE-2
LINE-1+DIN
SWITCHES: Operating switches (REVERSE/REWIND/STOP/FAST FORWARD/FORWARD), Pause(OFF/ON/LOCK), Sleep (OFF/ON), Tape Speed (7½ ips/3¾ ips) (19cm/sec./9.5cm/sec.)
Tape Tension (1 mil/½ mil), Recording Mode (STEREO/MONO L+R), Monitor (SOURCE/PLAYBACK), Automatic(AUTO REWIND/AUTO REVERSE/AUTO REPEAT/MANUAL)
POWER REQUIREMENTS:
100/110/120/200/220/240V AC, 50/60Hz
POWER CONSUMPTION: 130W
DIMENSIONS: 435mm (17⅛")W × 535mm (21⅛")H × 260mm (10¼")D
WEIGHT: 27kg (59.5 lbs.)

* Manufacturer reserves right to change design and/or specifications without notice for purpose of improvement.

Accessories Supplied with Your SD-7000

1.	Empty reel (RS-7)	1
2.	Cleaner (SCH-1)	1 set
3.	Oil (Mobile DTE-24)	1
4.	Splicing tape	1
5.	Sensing foil	15 pieces
6.	Pin plug cords	2 sets
7.	Spare fuses (2A)	2
8.	Reel spacers	2
9.	Silicon cloth	1
10.	Operating Instructions	1
11.	Instruction Sheet	1
12.	Dust cover	1

ACCESSORIES AVAILABLE AT OPTIONAL COST

Empty reel RS-7

Microphone (uni-directional, 50kΩ/600Ω compatible) SDM-1

Head demagnetizer SHE-1

Head cleaner SHC-1

Remote controller SRC-1

Microphone transformer A-603

Stereo headphone set SS-2

Stereo headphone set SS-20