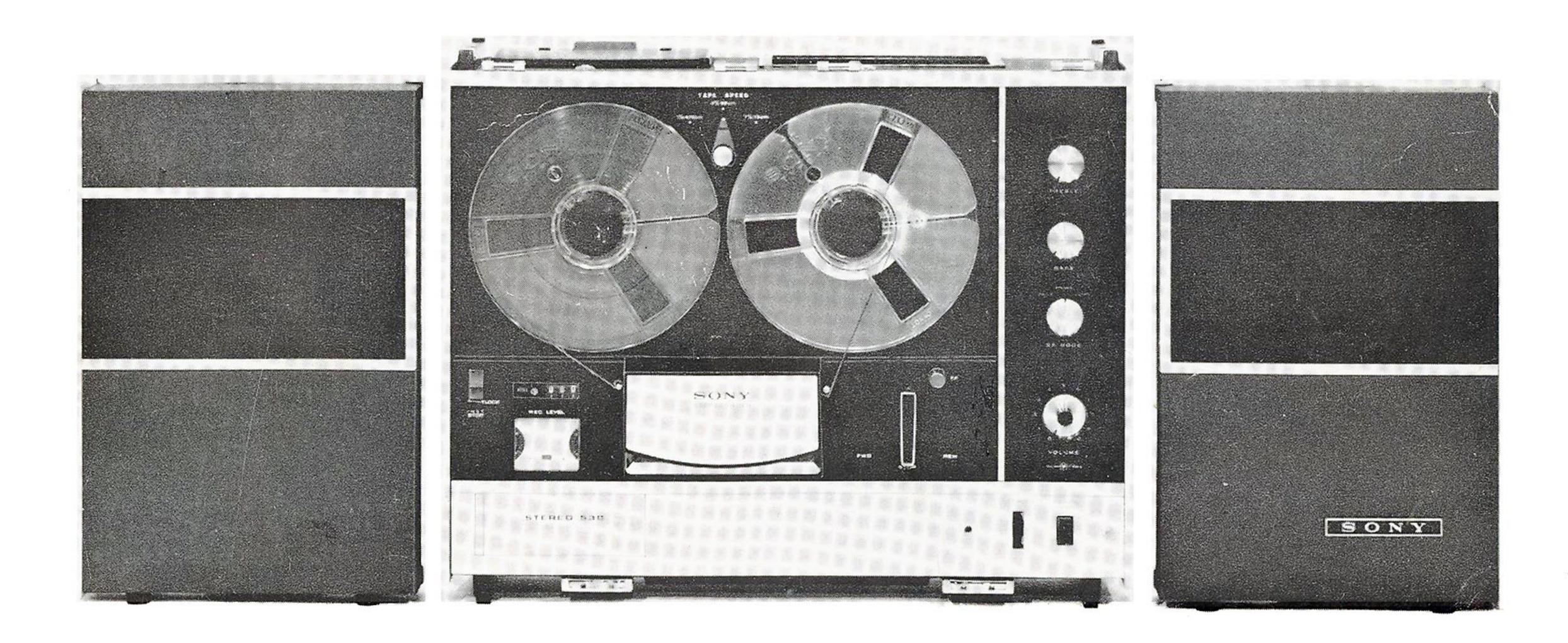


SONY STEREO TAPECORDER TC-530

OWNER'S INSTRUCTION MANUAL



SONY Model 530 is a precision solid state 4-track stereo tape recorder developed by advanced SONY electronic engineering.

This superb instrument features the amazing SONY XL-4 Quadradial Sound System* and operates with maximum performance in either vertical or horizontal position.

Special features of Model 530 are:

*XL-4 Quadradial Sound System

The exclusive 4 way loudspeaker system consists of two self-contained high compliance woofers and two lid-integrated satellite speakers for middle and high tones, thereby faithfully reproducing the entire frequency range while providing a surrounding stereo effect. Solid state stereo amplifiers produce 20 watts total music power. Retractable pinch roller allows remarkably easy tape threading. The recording facilities are located inside the small compartment on the front panel and concealed by a sliding cover.

Other features...

Three speed operation, Automatic Sentinel Shut-Off Switch, Professional VU Meters, Separate Bass and Treble Controls, Digital Tape Counter, Dynamically Balanced Capstan Flywheel.

Read this manual carefully before operating and save the manual for future reference.

Technical Specifications

Power requirements: 65 watts, AC 117 volts, 60 cycles

Tape speed: 7½ ips., 3¾ ips. or 1¾ ips. (19, 9.5 or 4.75 cen-

timeters per second), instantaneous switch-

ing with automatic equalization change

Reels: 7 inches or smaller

Recording system: 4-track stereophonic or monophonic

Frequency response: $30\sim20,000\,\mathrm{c/s}$ at 7% ips.

 $\pm 3 \, \text{db} \, 50 \sim 15,000 \, \text{c/s} \, \text{at} \, 7\% \, \text{ips.}$

 $30\sim13,000\,\text{c/s}$ at 3% ips. $30\sim10,000\,\text{c/s}$ at 1% ips.

Flutter and wow: Less than 0.10% at 7½ ips.

Less than 0.12% at 3% ips. Less than 0.16% at 1% ips.

Signal-to-noise ratio: Better than 48db (at peak record level to

unweighted noise)

Harmonic distortion: Less than 3% at 0db line output

Level indication: VU Meters calibrated to NAB standard

Tone controls: Two separate controls for bass and treble

Inputs: Low impedance Microphone inputs: tran-

sistorized (will accommodate any microphone from 250 ohms to 1 K ohm

impedance)

Sensitivity -72 db (0.19 mV)

High impedance Auxiliary inputs:

Sensitivity -22 db (0.06 V)

Outputs: Line outputs: Odb (0.775 V)

load impedance 100 K ohms

Speaker outputs: load impedance 8 ohms Binaural monitor output: will accommodate stereo headset model DR-3C (high

impedance)

Recording time: 4 track stereo 4 track monophonic

(1,800' tape) 1 hr. 30 min. 3 hrs. at 7½ ips

3 hrs. 6 hrs. at 3% ips 6 hrs. 12 hrs. at 1% ips

Transistors: $2SC401 \times 4$, $2SC402 \times 6$, $2SC318 \times 4$,

2SC298 × 4, 2SB383 × 2

Diodes: SW-05-02 \times 4, SW-05-01 \times 4, 1T22 \times 4

Record/Playback head: PP30-4202N1

Erase head: EF18-2902H

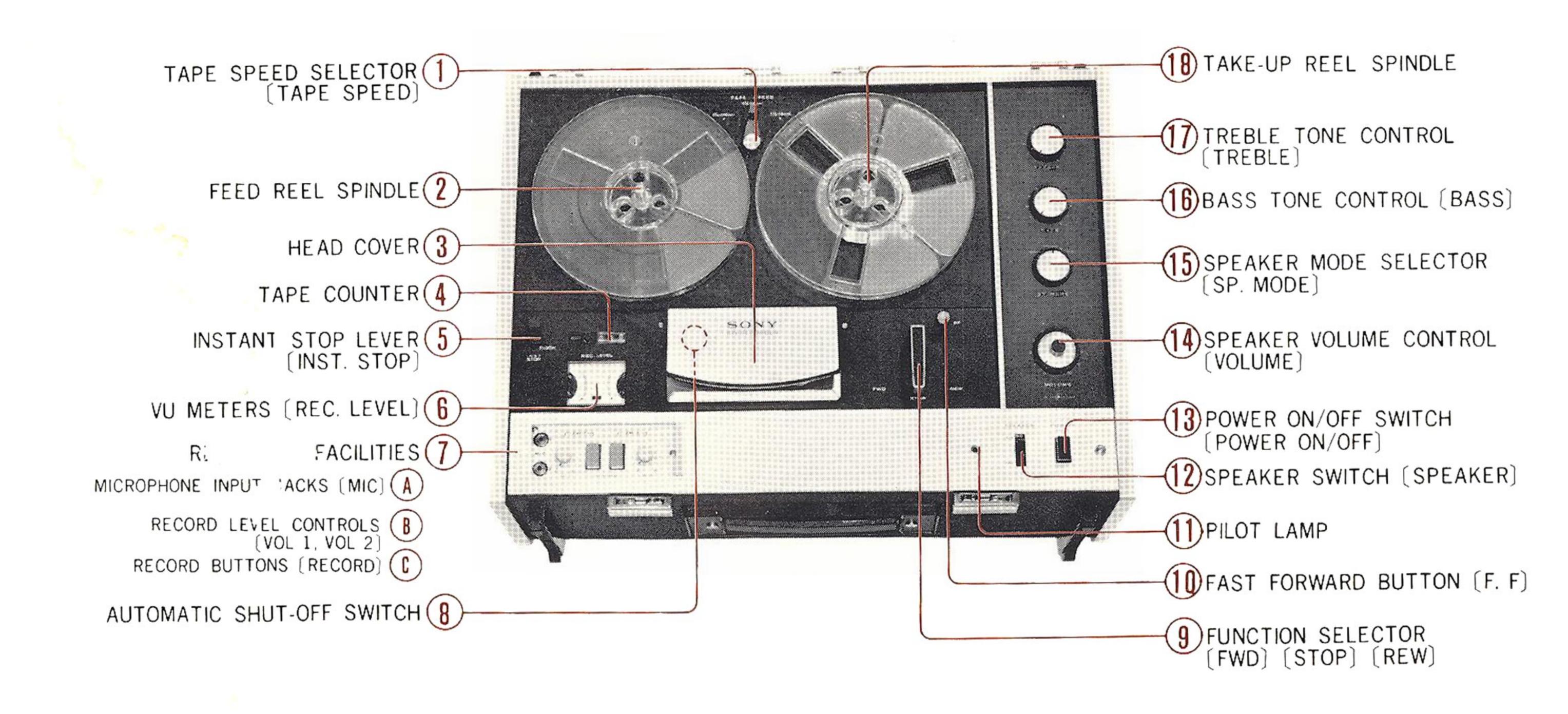
Dimensions: $19^{1}\% (w) \times 9^{1}\% (h) \times 15\% (d)^{\prime\prime}$

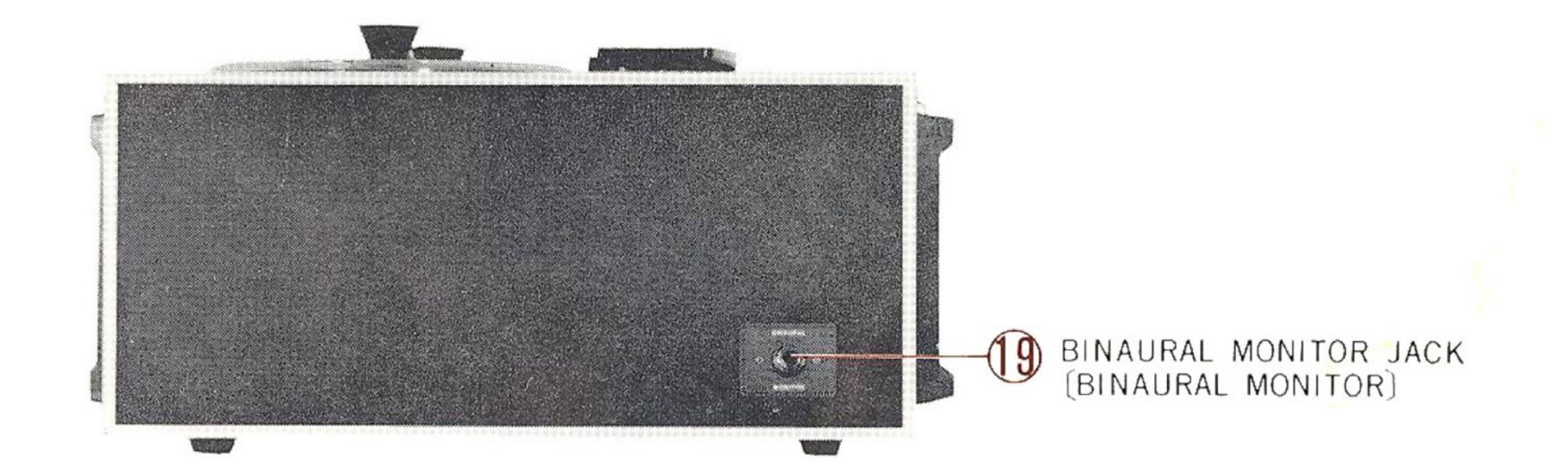
Weight: 41 lb. 10 oz.

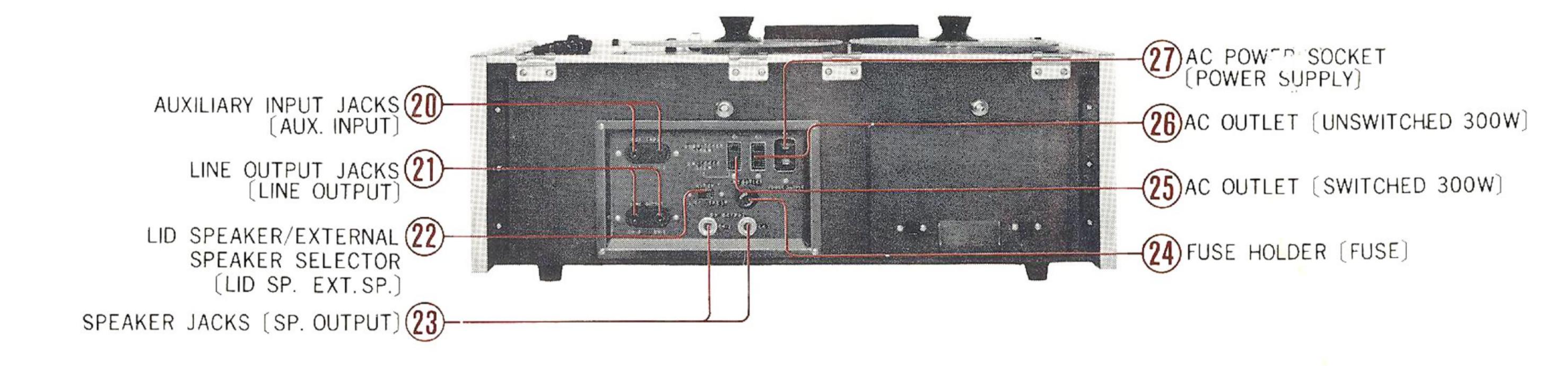
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Location of Controls and Connectors







Operation of Controls

The numbers of the following paragraphs correspond to the numbers on the illustration on page 3.

1 TAPE SPEED SELECTOR [TAPE SPEED]

This knob selects the desired tape speed of 7½ ips., 3½ ips. or 1½ ips. and automatically sets the proper recording and playback characteristics for each speed.

7½ ips. and 3½ ips. are ideal when recordings of the best sound quality are desired.

1% ips. is ideal when longer recording time is desired.

In playback mode, set the tape speed to the recommended speed of the pre-recorded tape.

NOTE: Change tape speed only when the FUNCTION SELECTOR 9 is in [STOP] position.

2 FEED REEL SPINDLE

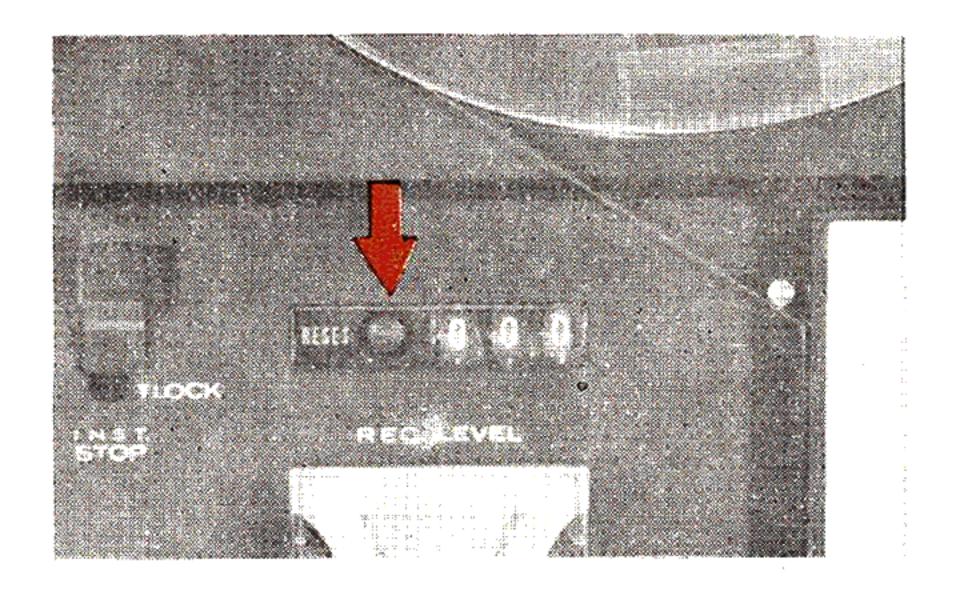
Place a full reel of tape on this spindle.

3 HEAD COVER

This cover protects the heads. When cleaning the tape path, demagnetizing head or lubricating capstan or pinch roller, etc. remove the head cover by loosening the screws located at the rear side of the cover.

4 TAPE COUNTER

The digital counter indexes the tape used in record or playback. At the start of a tape, press the reset button; three zeros [000] will appear in the window.



5 INSTANT STOP LEVER [INST. STOP]

This lever instantly stops tape motion while the recorder is in either record or playback mode.

Pull the lever forward (toward you) until it locks into position. To release, push the lever down, the tape will immediately pick up normal forward speed.

6 VU METERS [REC. LEVEL]

These meters indicate the level of the signal being recorded and are calibrated to NAB standards.

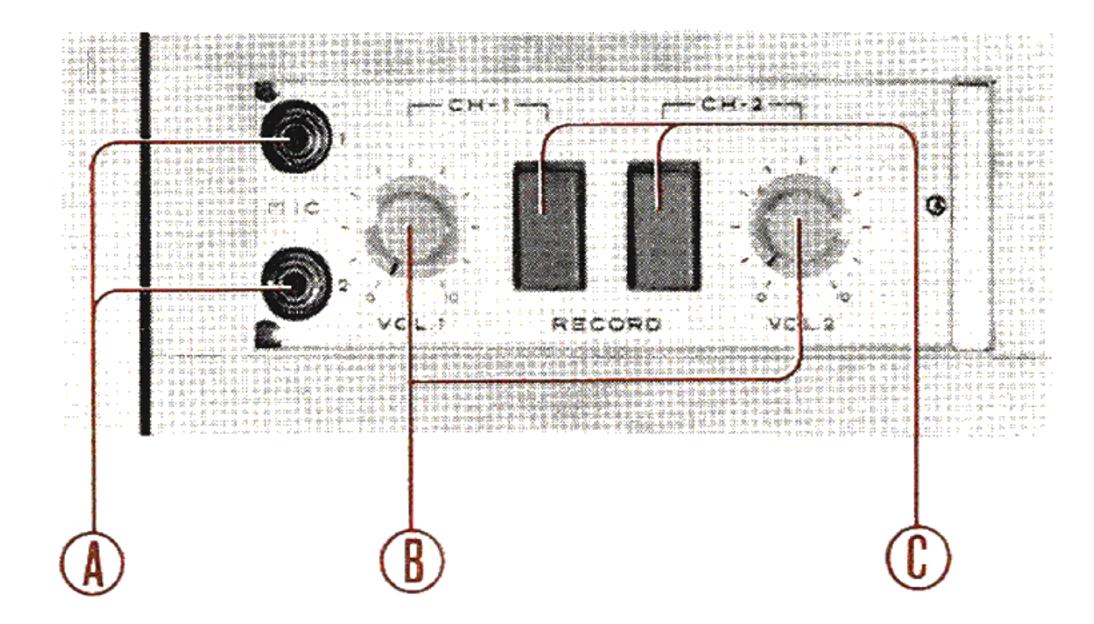
Deflection of the meter needle to the boundary of the red and black zones provides normal recording level. However, occasional transient peaks should swing the needle into the red zone.

The red lamp in the VU METERS will be illuminated when the recorder is in RECORD mode.

NOTE: When recording monaurally at 1% ips the opposite VU METER may show a very slight movement. This is normal and will not affect the recording in any way.

7 RECORDING FACILITIES

The recording facilities: (A) Microphone input jacks, (B) Record level controls, (C) Record buttons are located inside the compartment on the front panel. Slide the lid toward the right to use these facilities.



(A) Microphone Input Jacks (MIC)

See page 10, INPUT AND OUTPUT CONNECTORS.

B Roord Level Controls [VOL. 1 VOL. 2]

These knobs control the record level. Turn clockwise to increase and counterclockwise to decrease recording level. The left knob marked [CH-1] controls channel 1 (left) and the right knob marked [CH-2] controls channel 2 (right). The recording level for both channels is indicated on the VU METERS (6).

C Record Buttons (RECORD)

Two red push buttons activate the RECORD mode switch.

These buttons will be locked in place when they are pressed, and allow record volume adjustment even when the FUNCTION SELECTOR 9 is set in (STOP) position. With this special feature, the recorder is to be used as public address system. See page 21, PUBLIC ADDRESS.

To record, press the desired record button [CH-1] for channel 1 (left), [CH-2] for channel 2 (right), or both for stereophonic recording, and turn FUNCTION SELECTOR to [FWD] position. The record buttons are locked and the red lamps in the VU METERS are illuminated indicating that the recorder is in record mode.

To release locked record buttons:

When one of the buttons is down, slightly press the other button. The depressed button will rise.

When both buttons are down, firmly press the one button down, the other will be released. Then slightly press the released button both buttons are now released.

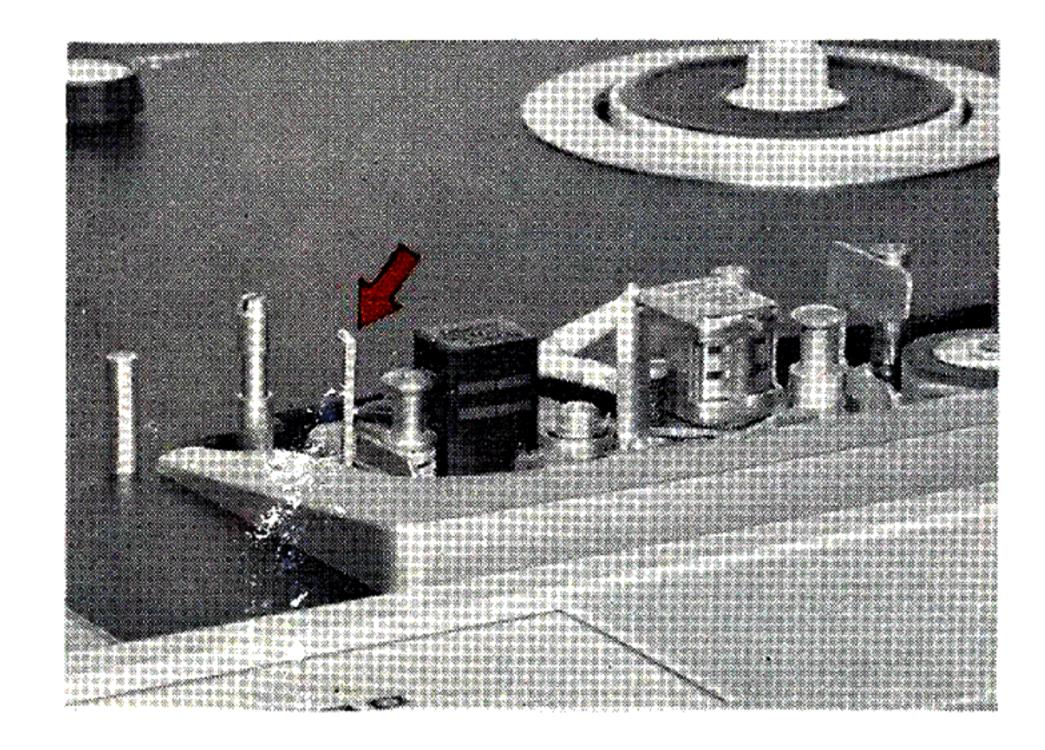
When tape is not threaded on the recorder, turn FUNCTION SELECTOR to either [FWD] or [REW] position to release locked record buttons.

NOTE: If the FUNCTION SELECTOR is turned to [STOP] position while recording, the RECORD BUTTONS will be released and the recorder will automatically switch from record to playback mode.

8 AUTOMATIC SHUT-OFF SWITCH

This switch is controlled by a wire lever located under the HEAD

COVER 3. In [STOP] position, the shut-off lever recedes into a slot to facilitate easy tape threading. After tape is threaded and the mechanism is placed in [FWD], [REW] or [F.F] modes, the shut-off lever contacts the tape and is held in this position. At such time as the tape runs out, the lever will automatically fall forward and activate a micro switch which stops tape motion. However, the amplifiers are still ON.



9 FUNCTION SELECTOR [FWD] [STOP] [REW]

This knob controls all tape motions (FWD) Forward, (STOP) Stop and (REW) Rewind. (F.F) Fast Forward tape motion is also activated by this knob when it is used in conjunction with FAST FORWARD BUTTON marked (F.F).

To play tape, turn FUNCTION SELECTOR to [FWD] position. To stop tape motin, turn FUNCTION SELECTOR to [STOP] position.

NOTE: While the recorder is in record mode, if this selector is turned to [STOP] position, the recorder will automatically switch from record to playback mode.

To rewind tape, turn FUNCTION SELECTOR to [REW] position. For fast forward tape motion, turn FUNCTION SELECTOR to [STOP]. While pressing FAST FORWARD BUTTON (10), turn this selector to [FWD] position.

To stop tape motion in rewind or fast forward, turn FUNCTION SELECTOR to [STOP] position.

(10) FAST FORWARD BUTTON [F.F]

This push button is used for fast forward tape motion.

Turn FUNCTION SELECTOR (9) to (STOP) position. While holding this button in, turn FUNCTION SELECTOR to (FWD) position. This button is locked and the tape will rapidly move forward. To stop tape motion, turn FUNCTION SELECTOR to (STOP) position.

(11) PILOT LAMP

This lamp will be illuminated when the recorder is turned ON.

(12) SPEAKER SWITCH [SPEAKER]

This switch turns the speakers ON or OFF.

It controls the self-contained speakers and lid-speakers or external full range speakers which are connected to SPEAKER JACKS (23), and operates in either record or playback mode.

When monitoring through the BINAURAL MONITOR JACK 19 located at the left side of the recorder, turn SPEAKER SWITCH off.

13 POWER ON/OFF SWITCH [POWER ON/OFF]

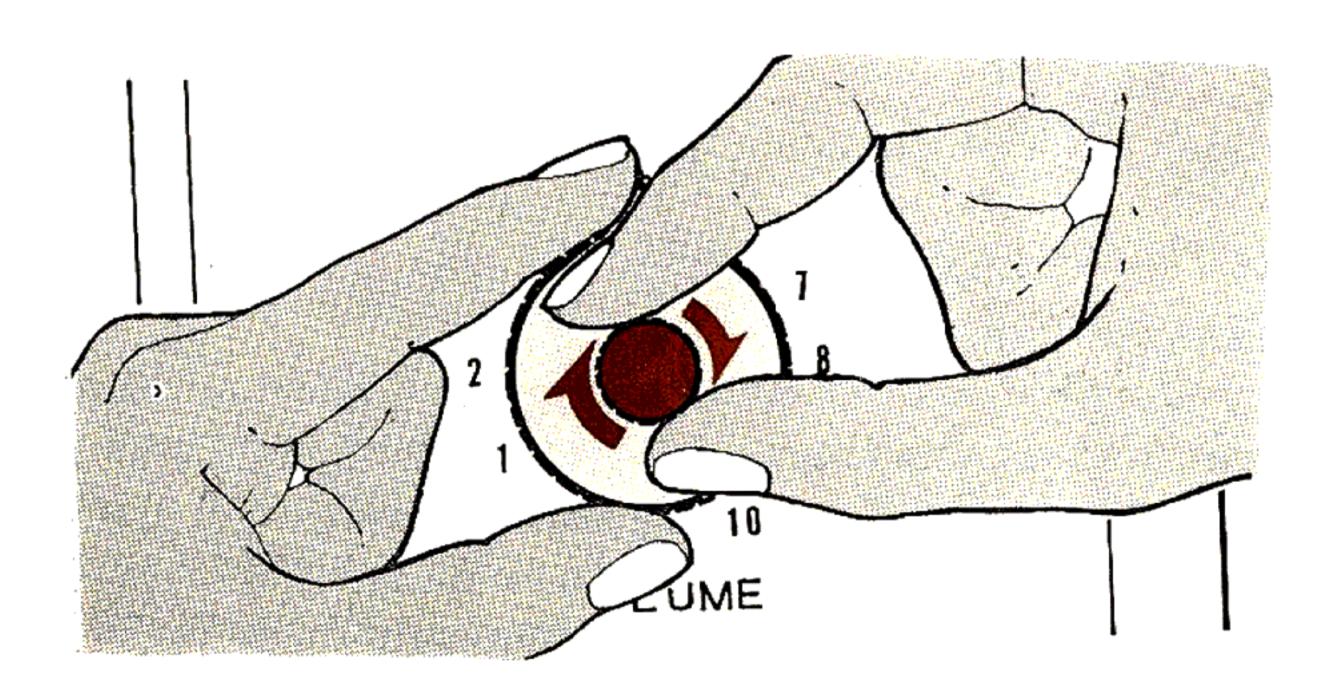
This switch turns the recorder ON or OFF. Press the button to turn ON; press again to turn OFF.

14 SPEAKER VOLUME CONTROL [VOLUME]

These coaxially mounted dual knobs control the volume of both channel 1 (left) and channel 2 (right) through the self-contained speakers and either lid-speakers or external speakers connected to SPEAKER JACKS (23)

These knobs also control the volume of a stereo headset connected to BINAURAL MONITOR JACK (19)

Both knobs will rotate simultaneously when adjusting speaker volume. They can be moved separately to adjust stereo balance by turning one knob while holding the other stationary. The outer knob controls the left channel (CH-1) and the inner controls the right channel (CH-2).



15 SPEAKER MODE SELECTOR [SP. MODE]

This selector has three positions (CH-1), (STEREO) and (CH-2) and will connect the speakers and headset to the selected position.

This selector has no effect upon the recordings being made on the tape.

The [STEREO] position delivers stereo sound from channel 1 (left) and channel 2 (right) speakers or stereo headset.

The [CH-1] position provides channel 1 (left) sound from both left and right speakers or stereo headset.

The [CH-2] position provides channel 2 (right) sound from both left and right speakers or stereo headset.

16 BASS TONE CONTROL (BASS)

This knob simultaneously adjusts bass loudness of both channel 1 (left) and channel 2 (right) through either the speakers or headset.

Turn clockwise to increase the amount of bass tones. Turn counterclockwise to decrease the prominence of bass tones. For flat response both tone control knobs (BASS) and (TREBLE) should be set in the mid-position (FLAT).

17) TREBLE TONE CONTROL [TREBLE]

This knob simultaneously controls treble loudness of channel 1 (left) and channel 2 (right) through either the speakers or headset.

Turn clockwise to increase treble tones, turn counterclockwise to decrease treble tones.

For flat response both control knobs [BASS] and [TREBLE] should be set in the mid-position [FLAT].

18 TAKE-UP REEL SPINDLE

Place an empty reel on this spindle.

(22) LID SPEAKER/EXTERNAL SPEAKER SELECTOR [LID SP., EXT. SP]

This slide selector has two positions [LID SP.] and [EXT. SP.]. When lid speakers are connected to SPEAKER JACKS 23, set this selector to [LID SP.] position to operate SONY XL-4 Quadradial Sound System.

Connection of the lid-speakers will automatically eliminates high frequencies (approximately 350 cycles and over) from the self-contained speakers allowing them to act as woofers while the lid speakers act as tweeters for reproducing the full frequency range of sound.

When external full range speakers are connected to SPEAKER JACKS, set this selector to [EXT. SP.] position disconnecting the self-contained speakers.

When SPEAKER JACKS are not used, the self-contained speakers act as full range speakers and this selector switch will not function.

Input and Output Connectors

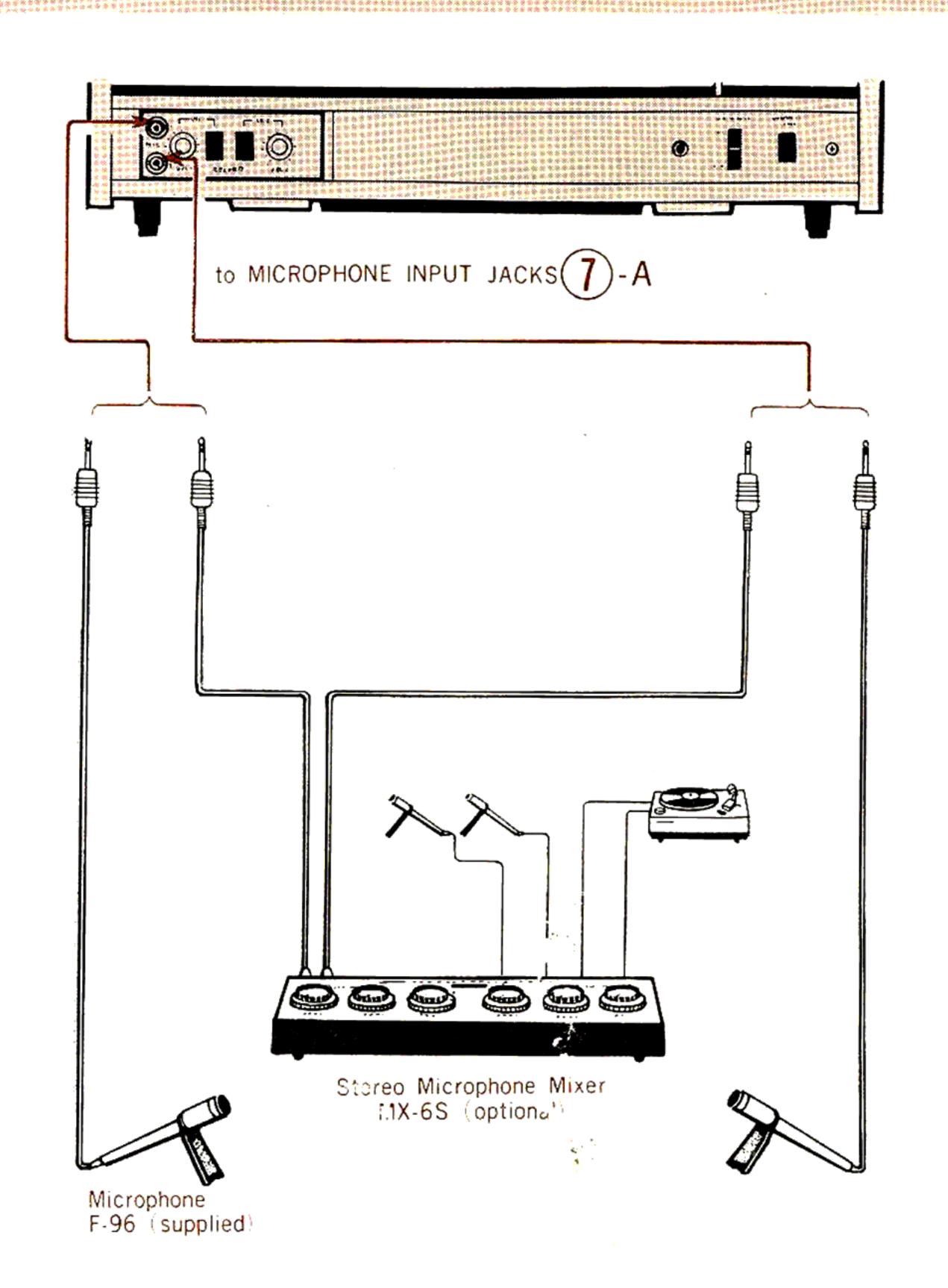
7-A MICROPHONE INPUT JACKS [MIC]

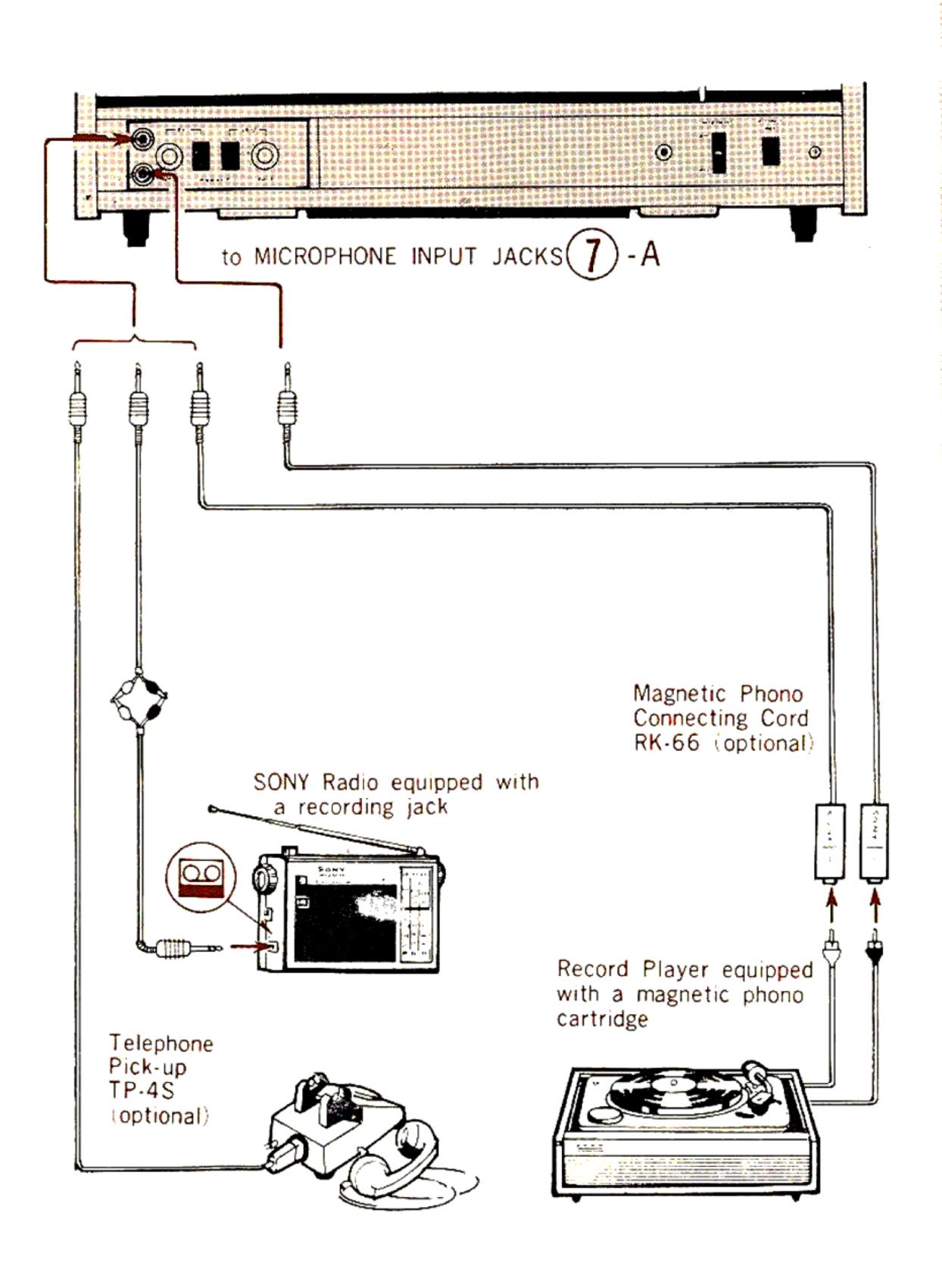
Two mini type jacks are located inside the small compartment on the front panel together with the other recording facilities. These inputs accept dynamic microphones SONY F-96 (supplied) or any high quality low impedance microphone. The jack marked [1] is for channel 1 (left) and the jack marked [2] is for channel 2 (right).

NOTE: When recording with a microphone (or microphones), howling sound (acoustic feedback) may occur if the microphone is too near the speaker. In this case, reduce the speaker volume or turn the SPEAKER SWITCH 12 OFF.

These inputs can also be used with a telephone pick-up SONY TP-4S (optional), stereo microphone mixer SONY MX-6S (optional), SONY radio equipped with a recording jack, and a record player equipped with a magnetic phono cartridge for direct recording from stereo discs*.

*In this case, use the optional accessory SONY Magnetic Phono Connecting Cord RK-66 providing RIAA standard equalization to obtain flat frequency response.



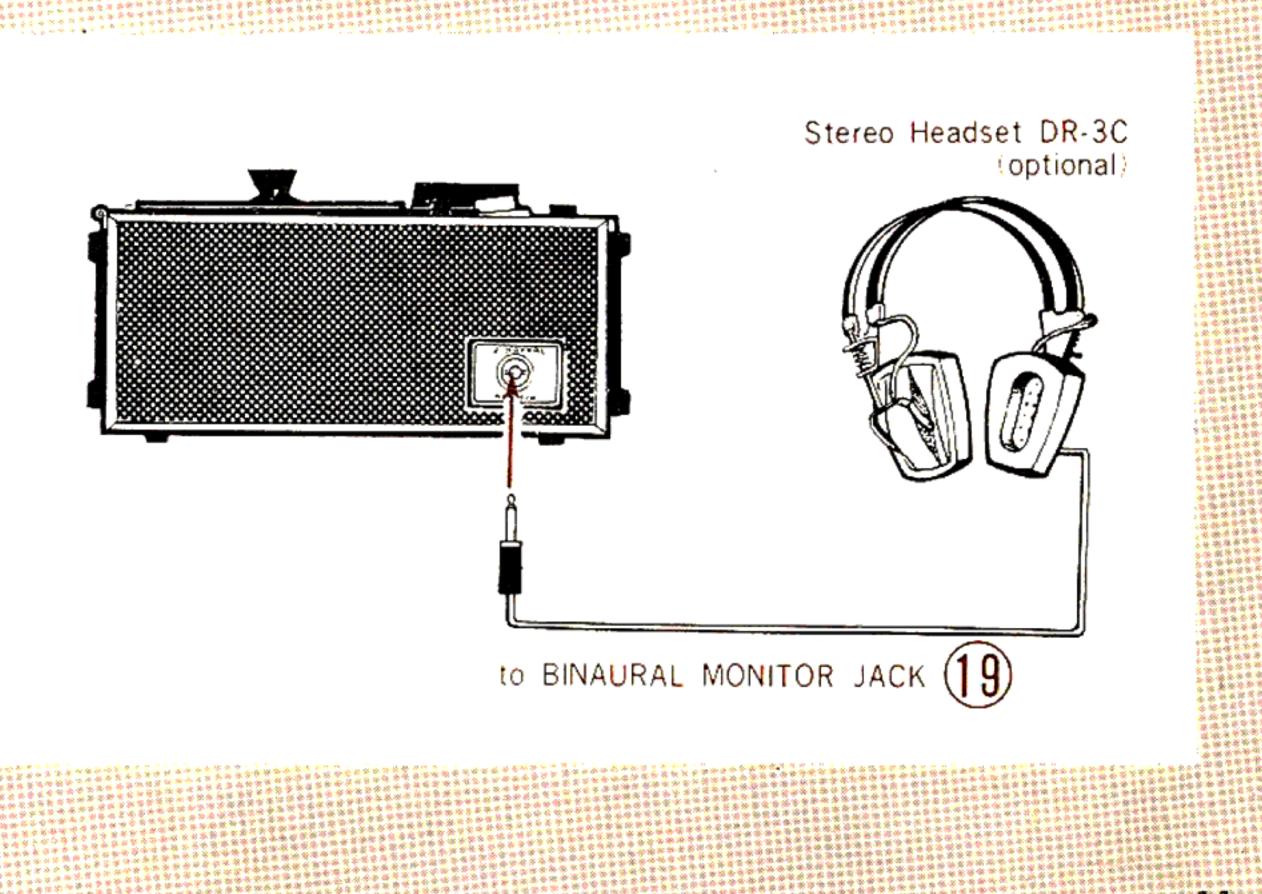


19 BINAURAL MONITOR JACK (BINAURAL MONITOR)

A standard binaural phone jack is located at the left side of the recorder. This output connects to any high impedance, 10 K ohms, stereo headset which is equipped with a standard binaural phone plug.

Recommended headset is the SONY DR-3C which is available as an optional accessory.

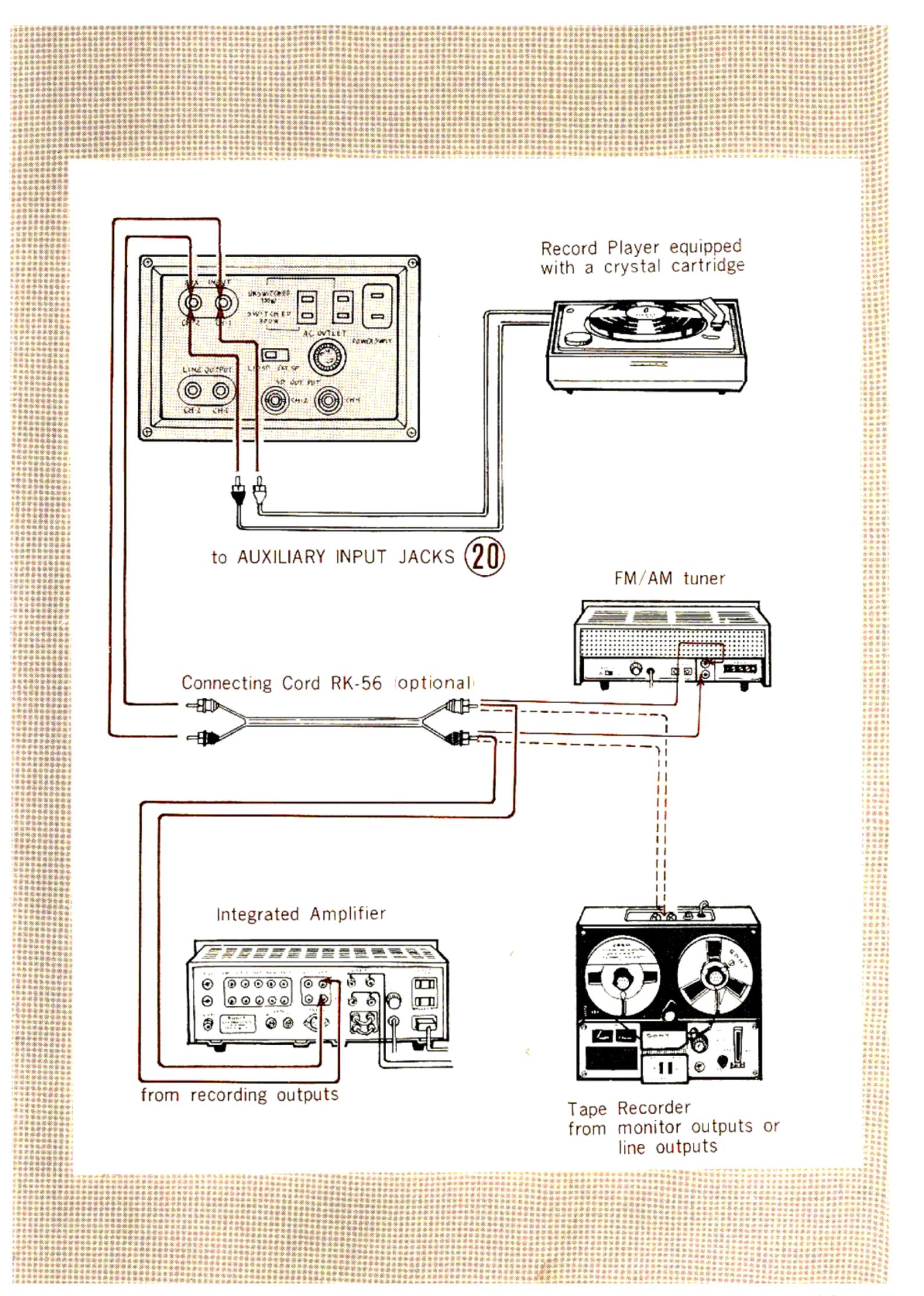
When monitoring, turn the SPEAKER SWITCH 12 OFF. Set the SPEAKER MODE SELECTOR 15 to the desired position and adjust SPEAKER VOLUME CONTROL 14, BASS 16 and TREBLE 17 tone controls as to obtain the desired sound quality.



(20) AUXILIARY INPUT JACKS [AUX. INPUT]

These phono jack inputs accept outputs of an integrated amplifier (recording outputs) FM/AM tuner, tape recorder (monitor outputs or line outputs), record player equipped with a crystal cartridge, etc. for recording programs directly from the connected component.

These inputs have an impedance of 100 K ohms and sensitivity of 0.06 volts.



(21) LINE OUTPUT JACKS (LINE OUTPUT)

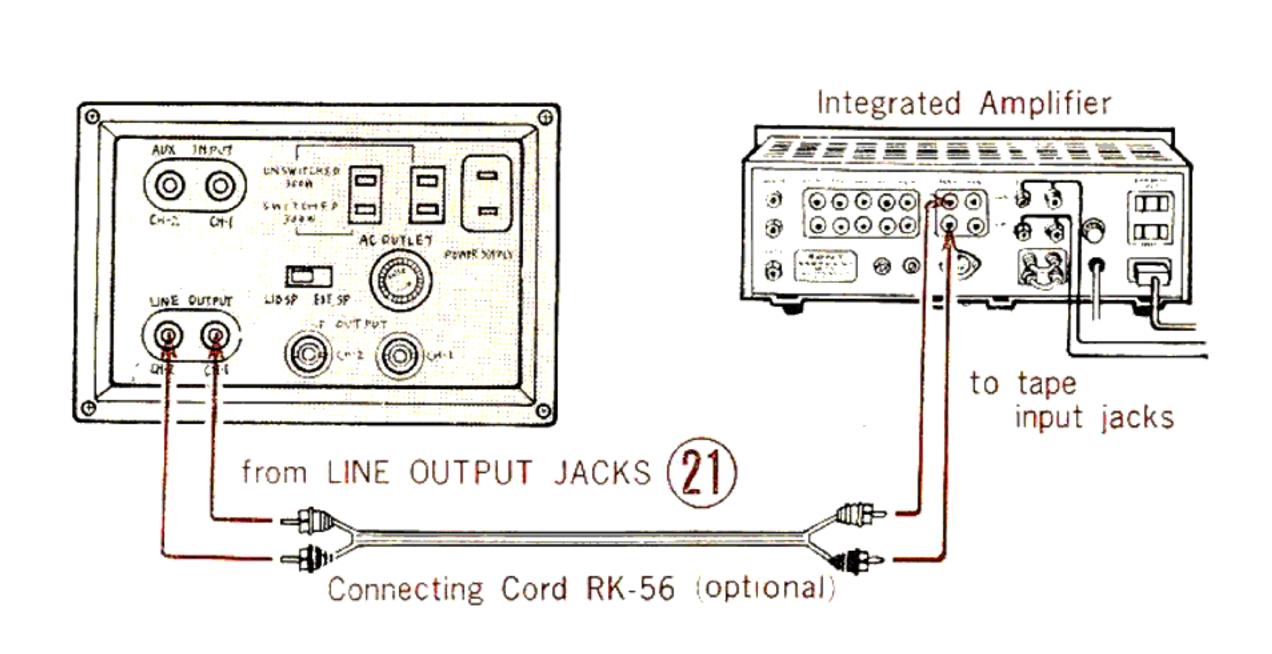
These phono jack outputs connect to tape recorder inputs (or auxiliary inputs or line inputs) of an integrated amplifier or pre-amplifier having an input sensitivity of 0.775 volts or higher and impedance of more than 100 K ohms.

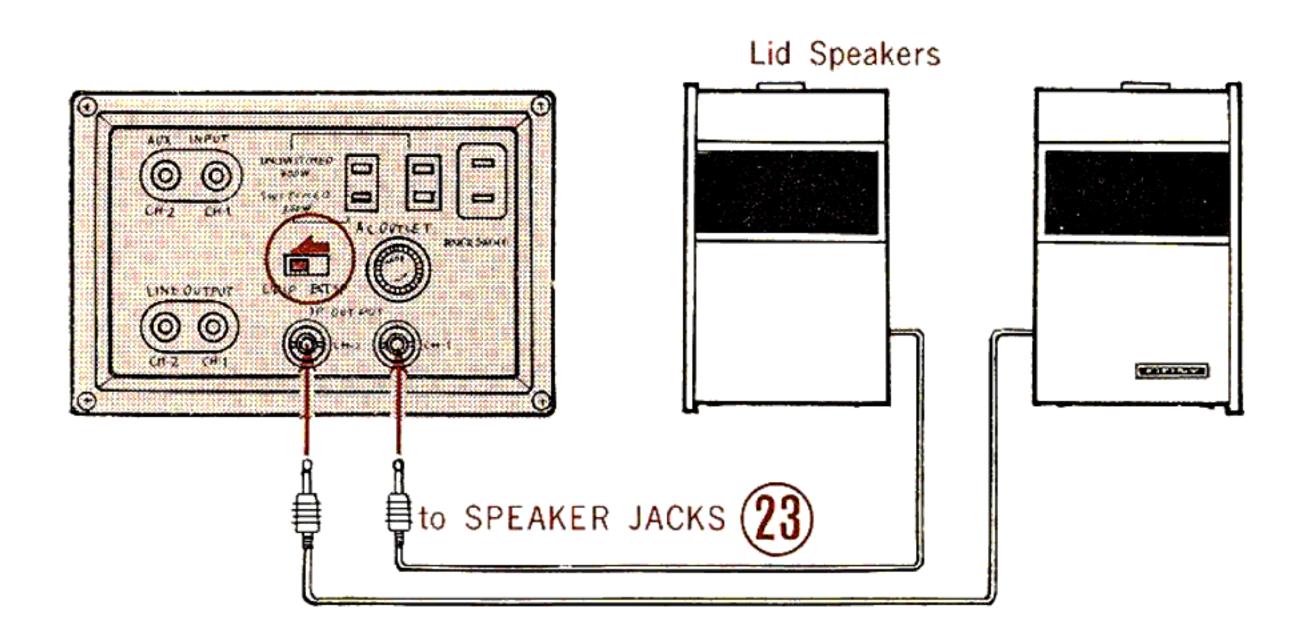
23 SPEAKER JACKS [SP. OUTPUT]

These phone jack outputs are for connection of the lid integrating recorder speakers or any 8 ohm external full range speakers.

Connect channel 1 (left) speaker to [CH-1] jack and channel 2 (right) speaker to [CH-2] jack, respectively.

The lid speakers can be separated up to 15 feet for optimum stereo effect.





(24) FUSE HOLDER [FUSE]

The fuse holder contains a 2 ampere fuse.

To replace the fuse turn the holder counterclockwise.

Replace with a 2 ampere fuse only.

(25) AC OUTLET [SWITCHED 300 W]

This outlet supplies 117V AC power at a maximum of 300 watts to other components. The outlet operates only when the POWER ON/OFF SWITCH (13) is ON.

(26) AC OUTLET [UNSWITCHED 300 W]

This outlet supplies 117 V AC power at a maximum of 300 watts to other components. The outlet is not switched off by the POWER ON/OFF SWITCH 13.

(27) AC POWER SOCKET [POWER SUPPLY]

This socket is for connection to 117 V AC from a household power line. Insert the AC Power Cord (supplied) into the socket and plug the other end of the cord into the 117 V AC outlet.

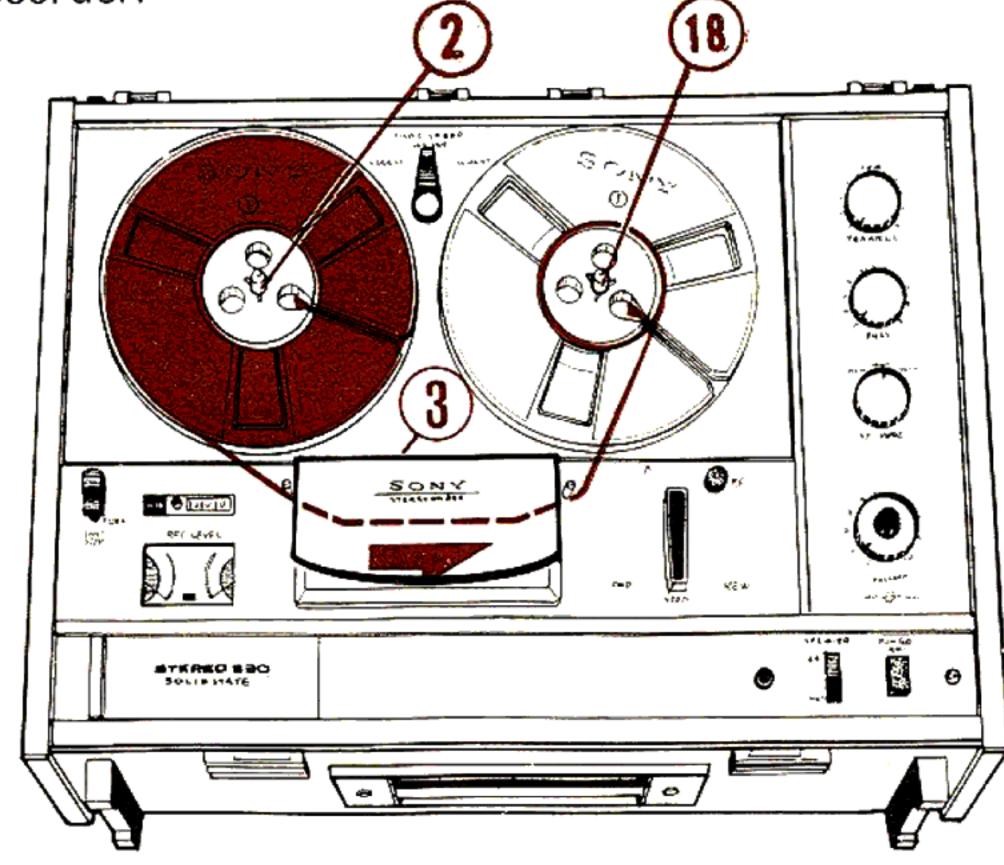
Threading Tape

Reel sizes from 3 to 7 inches diameter are accommodated. Threading procedure is the same for all reel sizes.

- 1. Place a full reel of tape on the FEED REEL SPINDLE (2) (left). Rotate until the slot of the reel engages the spindle.
- 2. Place an empty reel on the TAKE-UP REEL SPINDLE (18) (right) and engage as described in Step 1.
- Unwind approximately 18 inches of tape or leader from the full reel of tape.
- Keep unwound portion of tape or reader slightly taut with shiny surface to the outside.
 - Bring leader from left to right through the tape path under HEAD COVER 3. The retractable pinch roller allows an easy tape threading.
- Wrap it around hub of the emputy reel, or insert the end into the slot of the reel.

Tape is now ready for playing or recording.

*Use rubber reel caps (supplied) to retain reels on the recorder.

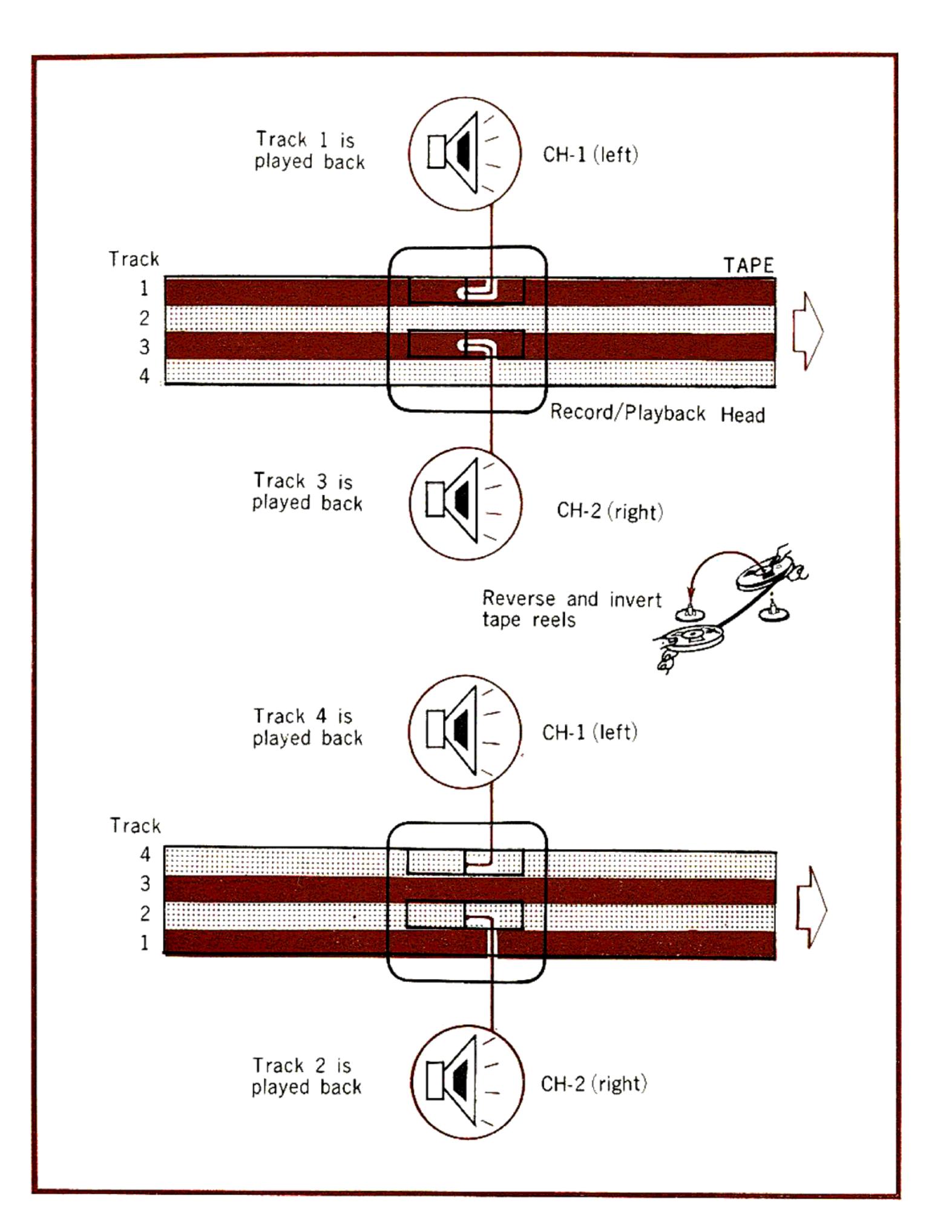


Playing Tapes

When playing tapes, refer to OPERATION OF CONTROLS (page 5) and INPUT AND OUTPUT CONNECTORS (page 10) for your proper operation of the recorder controls.

To Play 4-Track Stereo Tape

- 1. Connect the recorder to an AC 117 V outlet and press the POWER ON/OFF SWITCH (13) to turn the recorder ON.
- 2. Connect the lid speakers to SPEAKER JACKS (23) and set the LID SPEAKER/EXTERNAL SPEAKER SELECTOR (22) to [LID SP.] position.
- 3. Place a 4-track stereo recorded tape with side 1 of the tape (tracks 1 and 3) up on the FEED REEL SPINDLE (left) and thread the tape.
- 4. Select tape speed by tuning TAPE SPEED SELECTOR 1.
- 5. Set SPEAKER MODE SELECTOR (15) to [STEREO] position.
- Turn SPEAKER SWITCH (12) ON.
 *For listening through the headset connected to BINAURAL MONITOR JACK (19), turn SPEAKER SWITCH OFF.
- 7. Turn FUNCTION SELECTOR (9) to [FWD] position.
- 8. Adjust SPEAKER VOLUME CONTROL 14, BASS 16 and TREBLE 17 tone controls for the desired volume and sound quality.
- 9. When tracks 1 and 3 are complete, turn FUNCTION SELE-CTOR to [STOP] position.
- 10. To play tracks 4 and 2, do not rewind the tape, simply reverse and invert the tape reels: place the full reel on the FEED REEL SPINDLE (left) and the empty reel on the TAKE-UP REEL SPINDLE (right). Repeat Steps 7 and 8.
- 11. When tracks 4 and 2 are complete, the recorder will automatically shut off. Turn FUNCTION SELECTOR to [STOP] position.



To Play 4-Track Monophonic Tape

The following playback procedure is recommended for a monophonic tape whose sequence of recording is: track 1—track 4—track 3—track 2.

- 1. Connect the recorder to an AC 117 V outlet and press the POWER ON/OFF SWITCH 13 to turn the recorder ON.
- 2. Connect the lid speakers to SPEAKER JACKS 23 and set the LID SPEAKER/EXTERNAL SPEAKER SELECTOR 22 to [LID SP.] position.
- 3. Place a 4-track monophonic tape with side 1 up on the FEED REEL SPINDLE (left) and thread the tape.
- 4. Select tape speed by turning TAPE SPEED SELECTOR 1.
- 5. Set SPEAKER MODE SELECTOR (15) to [CH-1] position.
- Turn SPEAKER SWITCH 12 ON.
 *For listening through the headset connected to BINAURAL MONITOR JACK 19, turn SPEAKER SWITCH 12 OFF.
- 7. Turn FUNCTION SELECTOR (9) to (FWD) position.
- 8. Adjust CH-1 SPEAKER VOLUME CONTROL 14, BASS 16 and TREBLE 17 tone controls to the desired volume and sound quality.
- 9. When track 1 is complet, turn FUNCTION SELECTOR to [STOP] position.
- 10. To play track 4, do not rewind tape, simply reverse and invert the tape reels: place the full reel on the FEED REEL SPINDLE (left) and the empty reel on the TAKE-UP REEL SPINDLE (right). Repeat Steps 7 and 8.
- 11. When track 4 is complete, do not rewind the tape, simply reverse and invert the tape reels.

- 12. To play tracks 3 and 2, set SPEAKER MODE SELECTOR to [CH-2] position. Adjust CH-2 SPEAKER VOLUME CONT-ROL, BASS and TREBLE tone controls.
- 13. When track 3 is complete, reverse and invert the tape reels to play track 2.
- 14. When the end of tape is reached the recorder will automatically shut off. Turn FUNCTION SELECTOR to [STOP] position.

Note on Connecting Speakers

1. Self-contained speakers:

- a) SPEAKER JACKS 23 are not used.
- b) LID SPEAKER/EXTERNAL SPEAKER SELECTOR 22 does not function. The setting of this selector in either [LID SP.] or [EXT. SP.] has no effect when the self-contained full range speakers are used.
- c) Turn SPEAKER SWITCH (12) ON.

2. XL-4 Quadradial Sound System:

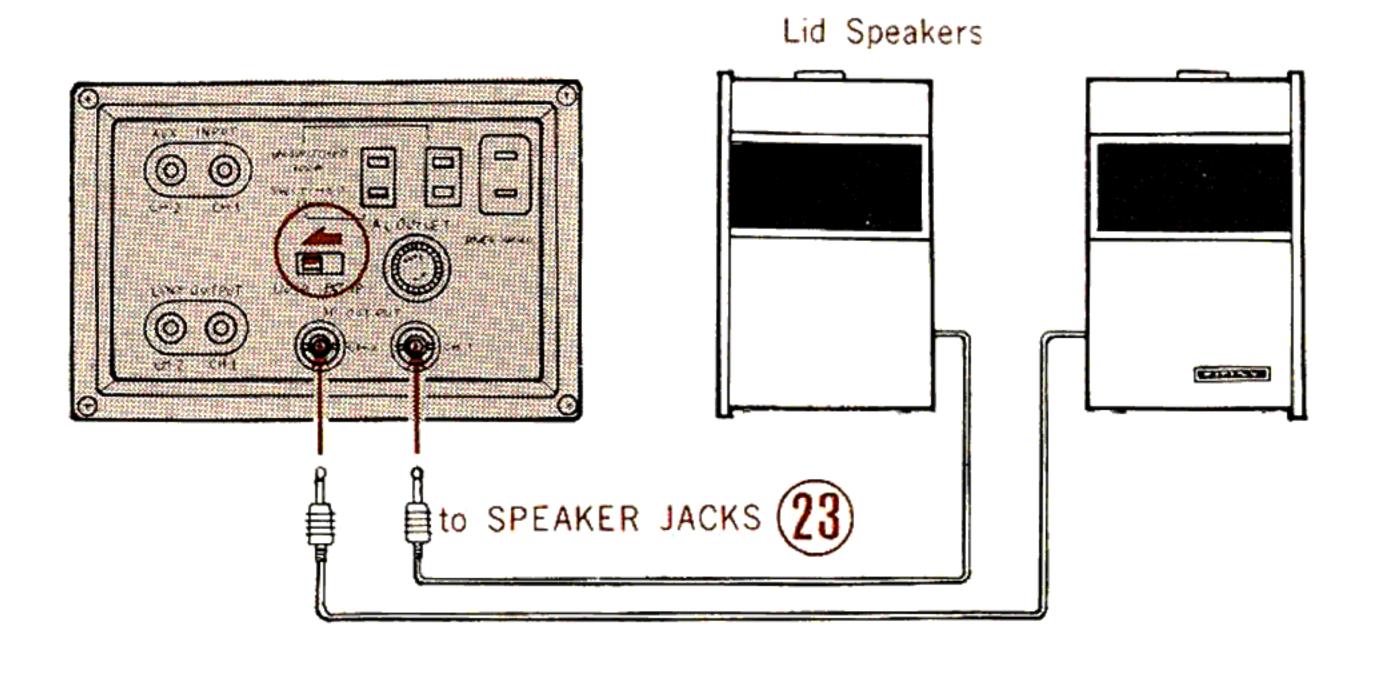
- a) Connect lid speakers to SPEAKER JACKS 23.
- b) Set LID SPEAKER/EXTERNAL SPEAKER SELECTOR 22 to [LID SP.] position. The [LID SP.] position setting will automatically eliminate high frequencies (approximately 350 cycles and higher) from the self-contained speakers allowing them to act as woofers while the lid speakers act as tweeters for reproducing the full frequency range of sound.
- c) Turn SPEAKER SWITCH 12 ON.

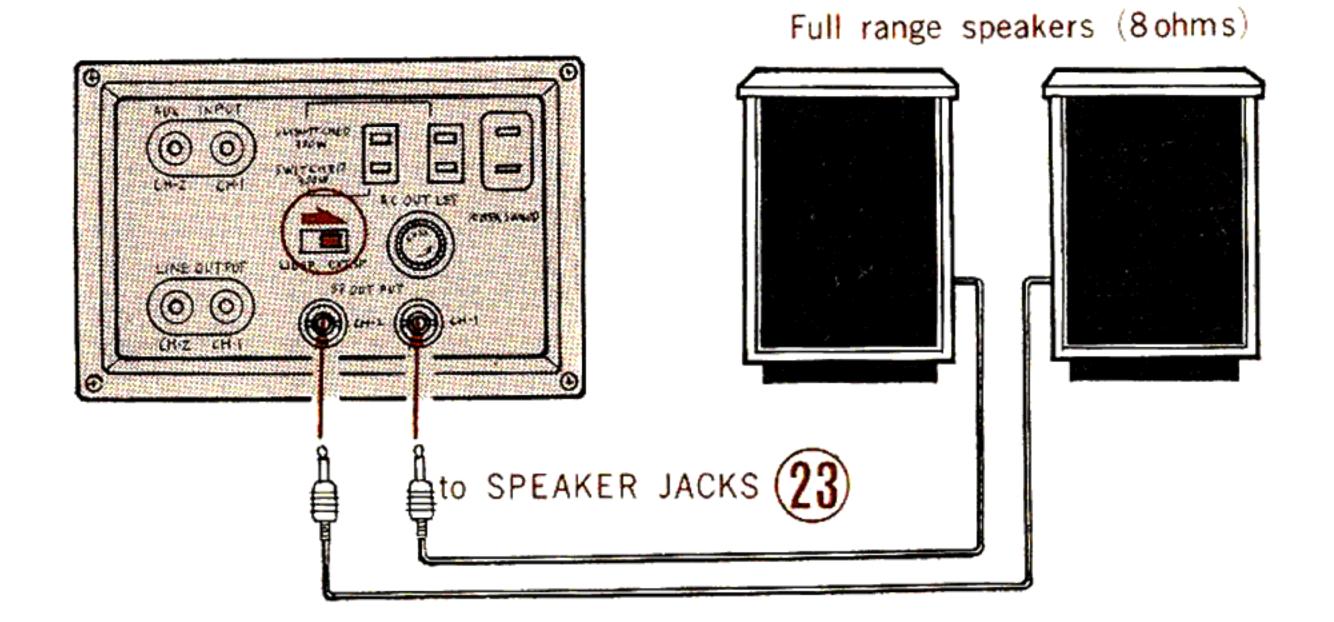
3. External full range speakers:

- a) Connect external full range speakers to SPEAKER JACKS
 23.
- b) Set LID SPEAKER/EXTERNAL SPEAKER SELECTOR (22) to [EXT. SP.] position.
- c) Turn SPEAKER SWITCH 1 ON.

* Stereo headset:

- a) Connect a high impedance stereo headset to the BINAURAL MONITOR JACK 19.
- b) The setting of LID SPEAKER/EXTERNAL SPEAKER SELECTOR has no effect upon BINAURAL MONITOR JACK.
- c) Turn SPEAKER SWITCH 12 OFF.





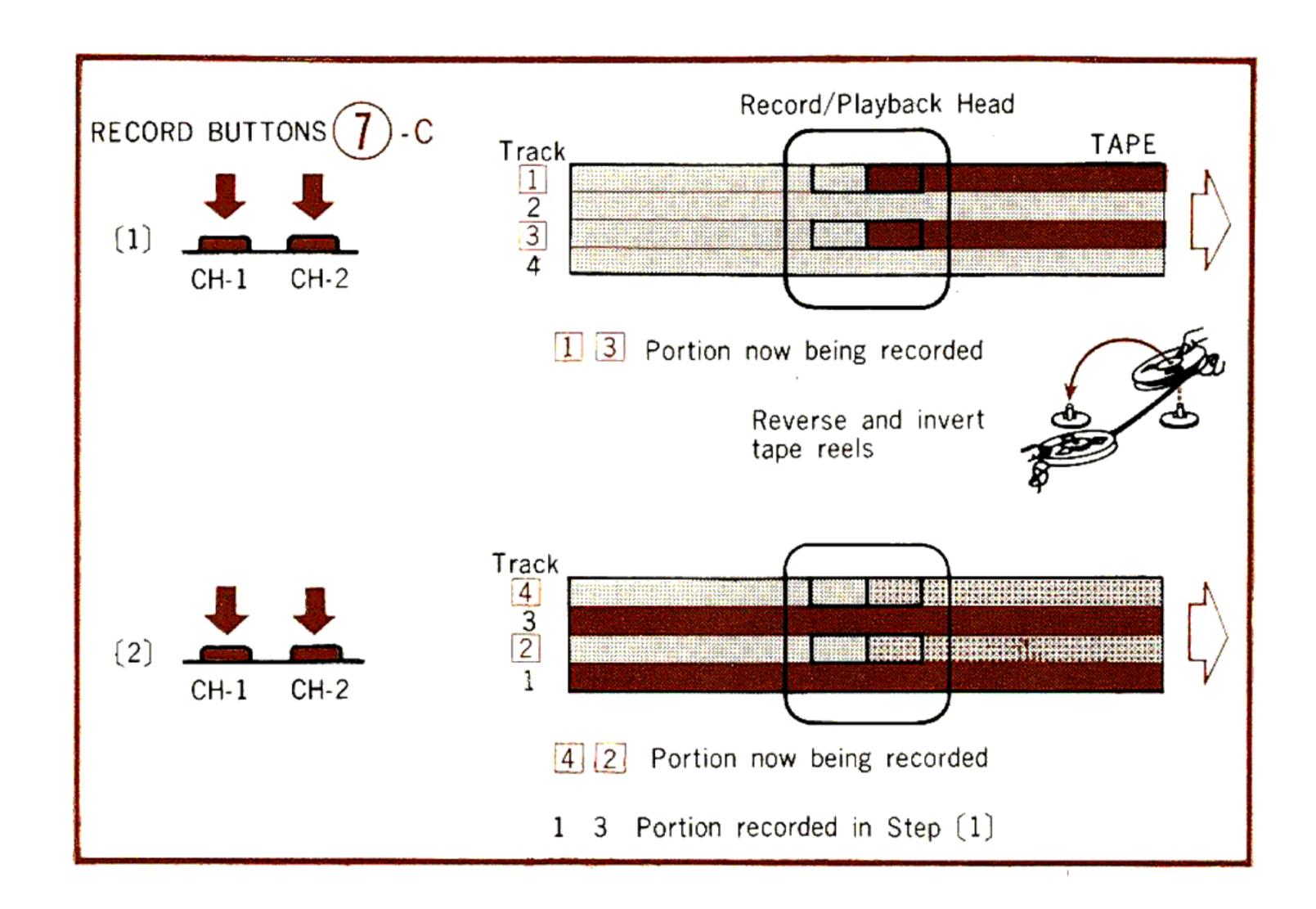
Recording

Before recording, try to estimate the input program's playing time and provide more tape on the recorder than you think you will actually need.

4-Track Stereo Recording

- 1. Connect the recorder to an AC 117V outlet and press the POWER ON/OFF SWITCH 13 to turn the recorder ON.
- 2. Thread tape on the recorder and reset TAPE COUNTER 4.
- 3. Select desired tape speed by turning TAPE SPEED SELECTOR 1.
- Connect stereo source to proper inputs.
 See page 10, INPUT AND OUTPUT CONNECTORS.
- 5. Press RECORD BUTTONS 7—Cand adjust RECORD VOLUME CONTROLS 7—B for proper recording level. See VU METERS (6).
- 6. Hold RECORD BUTTONS in, turn FUNCTION SELECTOR to (FWD) position. RECORD BUTTONS are locked and stereo recording (tracks 1 and 3) has started.
- 7. When the end of tape is reached, do not rewind. Turn FUNCTION SELECTOR to [STOP] position.
- 8. Reverse and invert tape reels: place the full reel of tape the FEED REEL SPINDLE 2 (left) and the empty reel on the TAKE-UP SPINDLE (18) (right).
- Repeat Step 6 to record side 2 (tracks 4 and 2) of the tape.
- 10. When recording is complete, turn FUNCTION SELECTOR to [STOP] position.

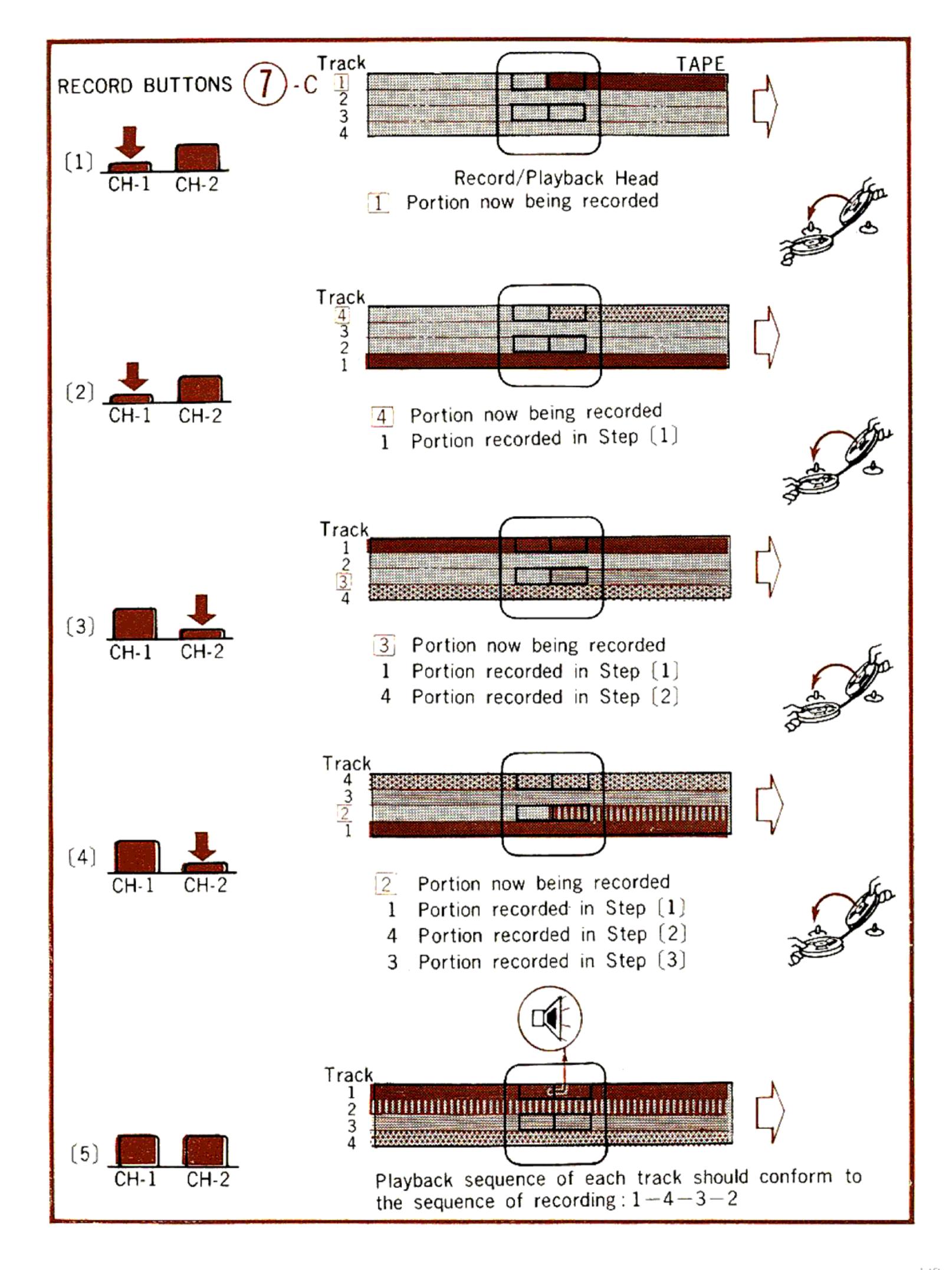
The tape can be immediately played back by reversing and inverting the tape reels. See page 15, TO PLAY 4-TRACK STEREO TAPE.



4-Track Monophonic Recording

- 1. Connect the recorder to an AC 117V outlet and press POWER ON/OFF SWITCH 13 to turn the recorder ON.
- 2. Thread tape on the recorder and reset TAPE COUNTER 4.
- 3. Select desired tape speed by turning TAPE SPEED SELECTOR 1.
- 4. Connect monophonic source to [CH-1] input for source used. See page 10, INPUT AND OUTPUT CONNECTORS.

- 5. Press CH-1 RECORD BUTTON 7—C and adjust CH-1 RECORD VOLUME CONTROL —Bfor proper recording level. See CH-1 VU METER 6.
- 6. Hold CH-1 RECORD BUTTON in, turn FUNCTION SELECTOR g to (FWD) position. CH-1 RECORD BUTTON is locked and recording on track 1 has started.
- 7. When the end of tape is reached, do not rewind. Turn FUNCTION SELECTOR to [STOP] position.
- 8. Reverse and invert tape reels: place the full reel of tape on the FEED REEL SPINDLE (left) and the empty reel on the TAKE-UP REEL SPINDLE (18) (right).
- 9. Repeat Step 6 to record track 4.
- 10. When the end of tape is reached, turn FUNCTION SELECTOR TOR to [STOP] position.
- 11. To record tracks 3 and 2, reverse and invert tape reels.
- 12. Change the connection of input program from [CH-1] to [CH-2] input jack.
- 13. Press CH-2 RECORD BUTTON and adjust CH-2 RECORD VOLUME CONTROL. See CH-2 VU METER.
- 14. Hold CH-2 RECORD BUTTON in, turn FUNCTION SE-LECTOR to (FWD) position. CH-2 RECORD BUTTON is locked and recording on track 3 has started.
- 15. When the end of tape is reached, do not rewind.
- 16. Reverse and invert tape reels to record track 2.
- 17. When the end of track 2 is reached, do not rewind. The tape can be immediately played back following the playback procedure on page 16, TO PLAY 4-TRACK MONO-PHONIC TAPE.



Erasing Tape

To Monitor While Recording

While recording, monitoring through either speakers or stereo headset connected to BINAURAL MONITOR JACK (19) is possible.

Speaker monitoring

- 1. Turn SPEAKER SWITCH 12 ON.
- 2. Set SPEAKER MODE SELECTOR (15) to [STEREO] position or either [CH-1] or [CH-2] position according to the source connected.
- 3. Adjust SPEAKER VOLUME CONTROLS (14), BASS (16) and TREBLE (17) tone controls for your listening perference.

NOTE: While recording with a microphone, howling sound (acoustic feedback) may occur if the microphone is too near the speaker.

If this occurs,

- a) Move the microphone away from the speaker.
- b) Reduce speaker volume by adjusting SPEAKER VOLUME CONTROLS 14.
- c) Turn SPEAKER SWITCH 12 OFF and monitor with a stereo headset.

Stereo headset monitoring

- 1. Connect the stereo headset to BINAURAL MONITOR JACK 19.
- 2. Turn SPEAKER SWITCH (12) OFF.
- 3. Adjust SPEAKER VOLUME CONTROLS 14, BASS 16 and TREBLE 17 tone controls for your listening perference.
- *SPEAKER VOLUME CONTROLS, BASS and TREBLE tone controls can be adjusted independently of recording level.
- *While recording on track 1 or 4 (CH-1 record mode), you can listen to pre-recorded tracks 3 and 2 through speakers or headset by switching SPEAKER MODE SELECTOR from [CH-1] to [CH-2] position.

When the recorder is set in the record mode, the Erase Head will erase the track (or tracks) of the tape for the corresponding traces of the recording head. Therefore, when you start a new recording, any previous recordings are automatically erased as the tape passes the erase head.

You can also erase a tape without adding a new recording. Simply place the recorder in record mode by turning [CH-1] and [CH-2] RECORD VOLUME CONTROLS [7]—B fully counterclockwise to [0], and run the tape through. The tape will be erased more quickly at the tape speed of 7½ ips. or by use a bulk eraser.

Public Address

This recorder can be used as public address system for microphone, phonograph, FM/AM tuner, etc.

This advanced feature is accomplished by the special RECORD BUTTONS which permit the use of the speakers (self-contained and/or lid-speakers or external full range speakers connected to SPEAKER JACKS) independent of tape motion.

- 1. Connect proper input program source to the proper input jack. For stereophonic application, connect both CH-1 (left) and CH-2 (right) jacks.
 - See page 10, INPUT AND OUTPUT CONNECTORS.
- Set the recorder in RECORD mode without threading tape.
 Adjust volume level in the same procedure as recording level adjustments.
 - *The volume should not be increased to the point where VU METER needle goes beyond the red zone.
- 3. Press SPEAKER SWITCH 12 to turn the speakers ON.
- 4. Adjust sound volume by turning SPEAKER VOLUME CONT-ROLS 14.

NOTE: The howling sound (acoustic feedback) may occur when the microphone is too near the speaker. If it occurs, keep the microphone away from the speaker, or use external speakers.

5. When you are finished with the public address facility, release RECORD BUTTONS 7—C. See page 5, OPERATION OF CONTROLS.



Tape Teaching

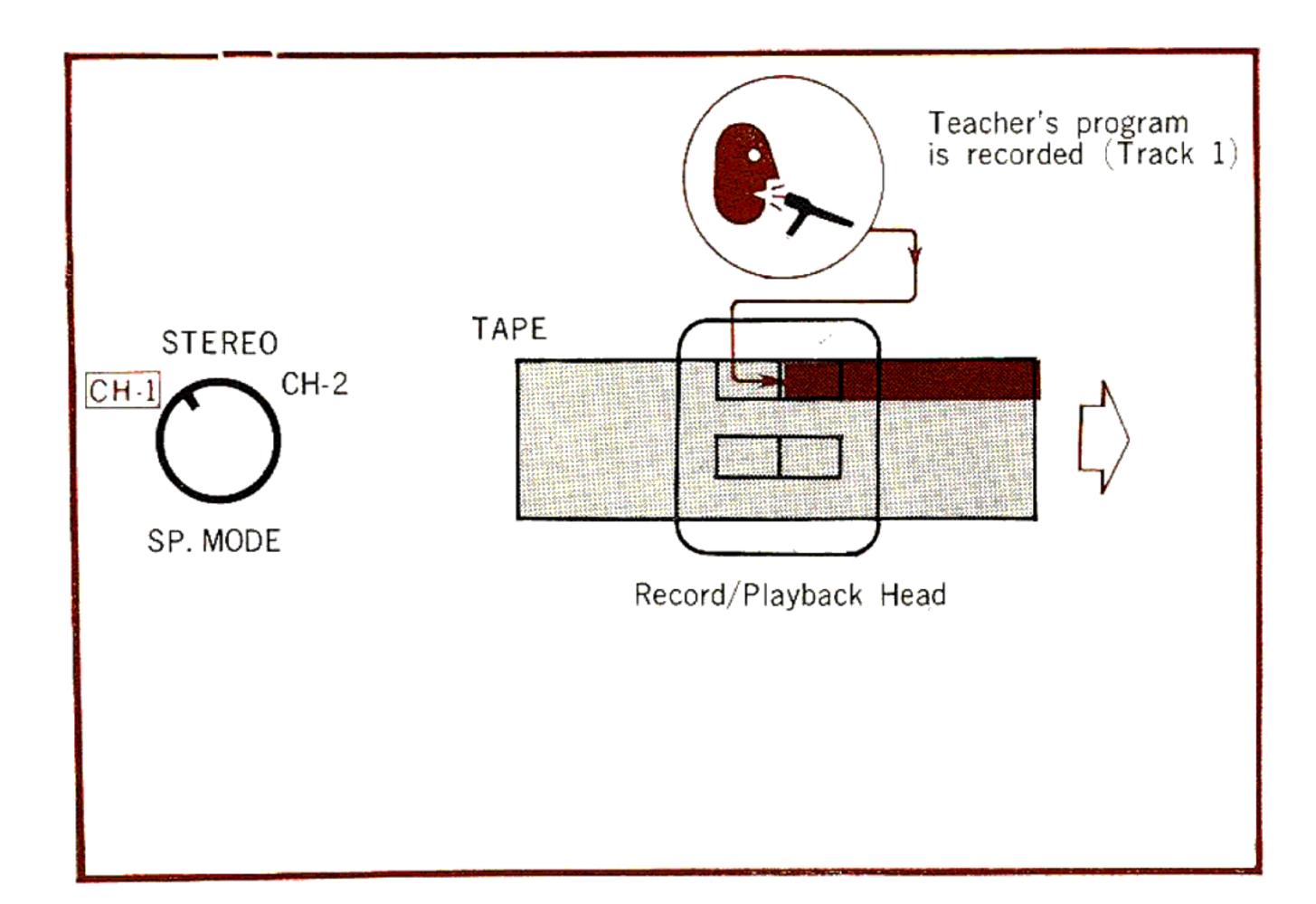
The recorder provides facilities to playback one track while the other track is being recorded. This exclusive feature is ideal for language students who wish to listen to a pre-recorded lesson on one track while recording the answers or repetitions on the other track. Both tracks can later by played back separately or simultaneously for comparison.

Master Recording

1. Record teacher's program on track 1 (CH-1) as outlined under 4-TRACK MONOPHONIC RECORDING on page 18.

Practice Recording

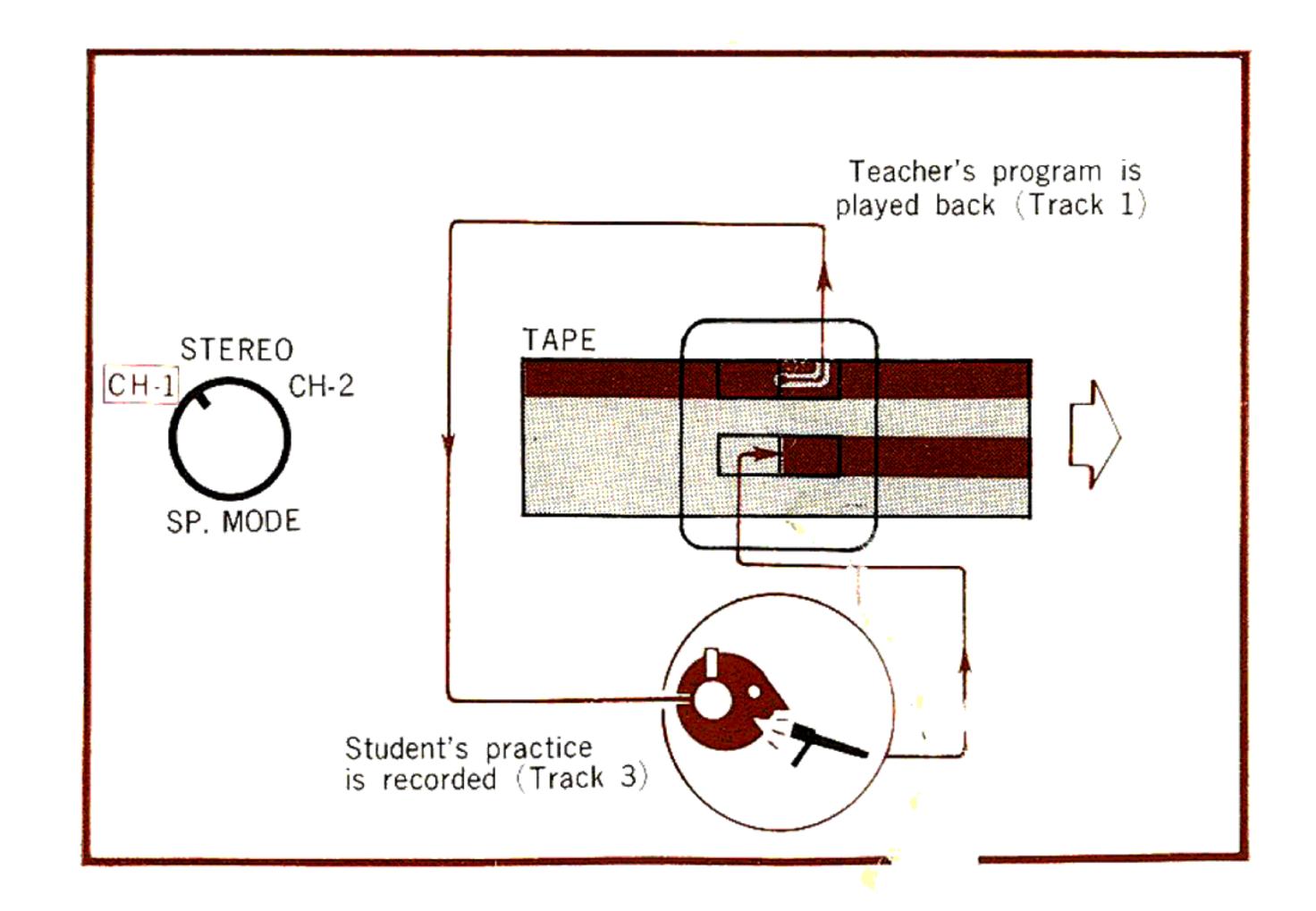
- 2. Rewind the tape back to the beginning of the master recording.
- Plug stereo headset into BINAURAL MONITOR JACK 19.
 * Turn SPEAKER SWITCH 12 OFF.



- 4. Plug microphone into [CH-2] MICROPHONE INPUT JACK
- 5. Using CH-2 RECORD BUTTON \mathfrak{J}_{-C} , record your practice on track 3 (CH-2) by repeating or answering the master recording which is heard through the headset.

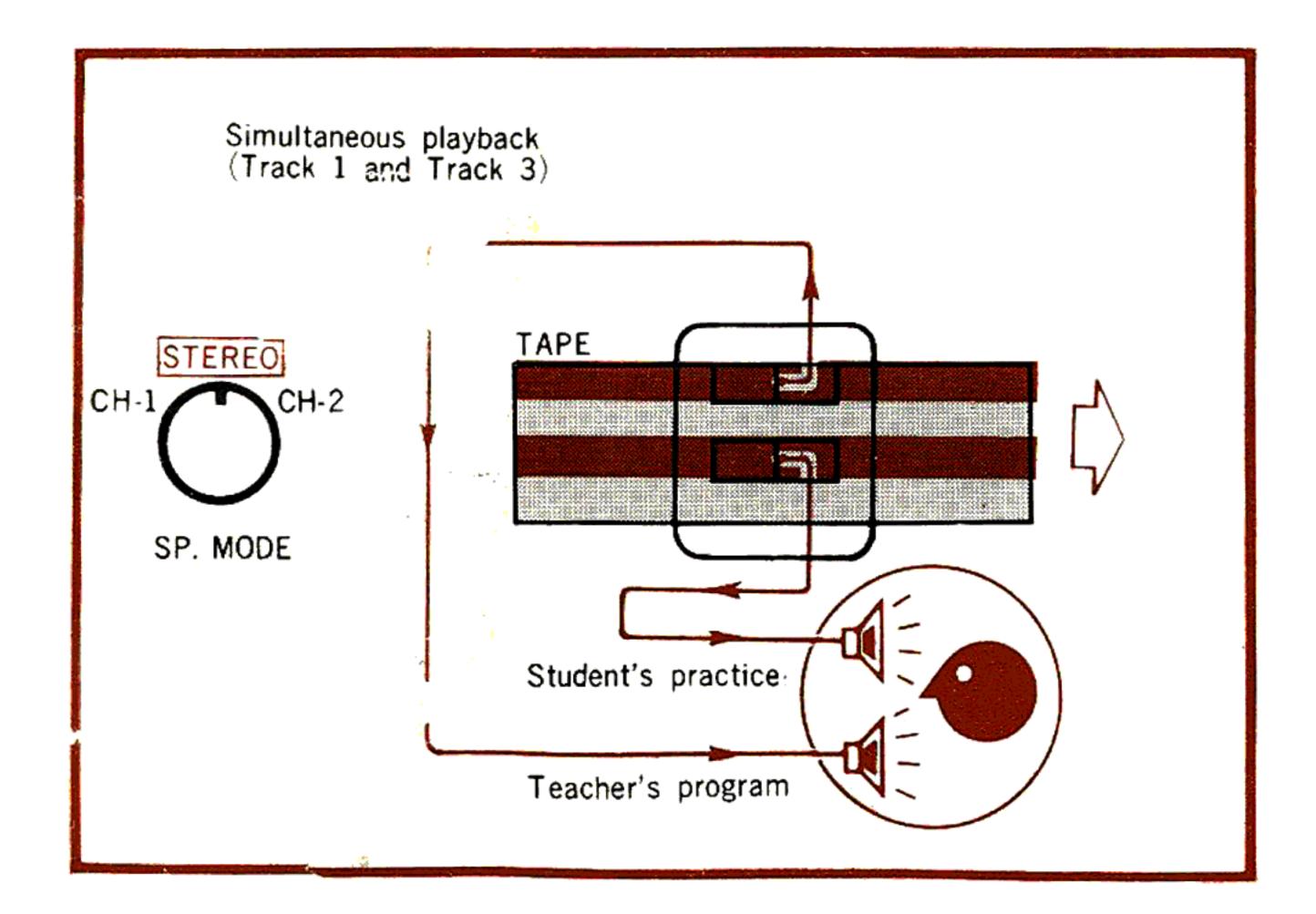
Simultaneous playback

6. Rewind the tape back to the beginning and playback the tape in the same manner as a stereo tape: then the master track and the practice track are simultaneously reproduced. When you wish to hear the master recording only, set SPEAKER MODE SELECTOR 15 to [CH-1] position and to hear the practice recording only, set SPEAKER MODE SELECTOR to [CH-2] position.

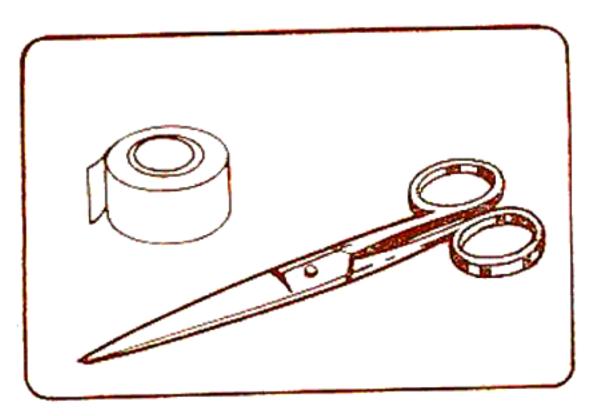


In the above method, master and the practice recordings are made separately on different channels, so that the practice track can be repeatedly recorded without erasing the master

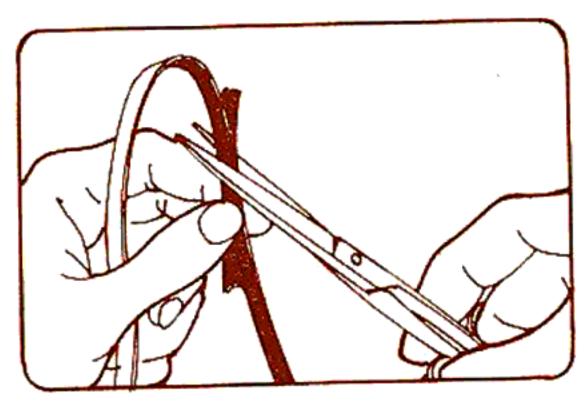
track.



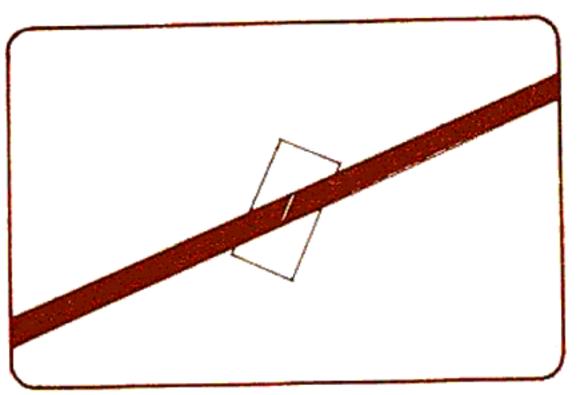
Splicing Tape



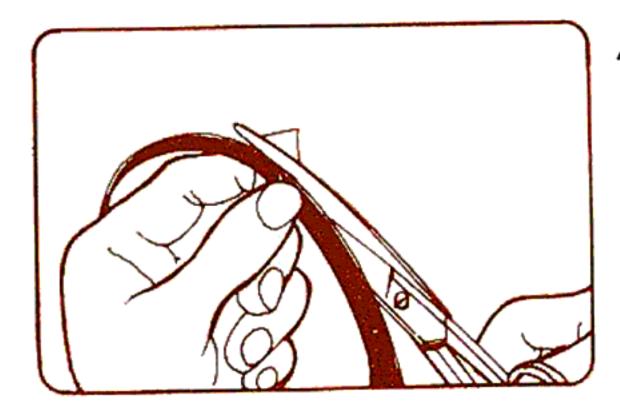
1. Use splicing tape and a pair of scissors.



Overlap the recording tapes and make a diagonal cut across both tapes.



3. Carefully align and butt the cut ends together. Keep the ends in contact, firmly press a piece of splicing tape over the shiny side of the tape to make a firm joint.



4. Trim off the excess splicing tape.

Maintenance

Intimate contact between heads and tape is important for optimum performance: dirty and contaminated heads will impair head contact.

Therefore, clean heads after every ten hours of use or when necessary.

Also clean the capstan, pinch roller surface and tape guide pins. This prevents oxide deposits from causing flutter and wow.

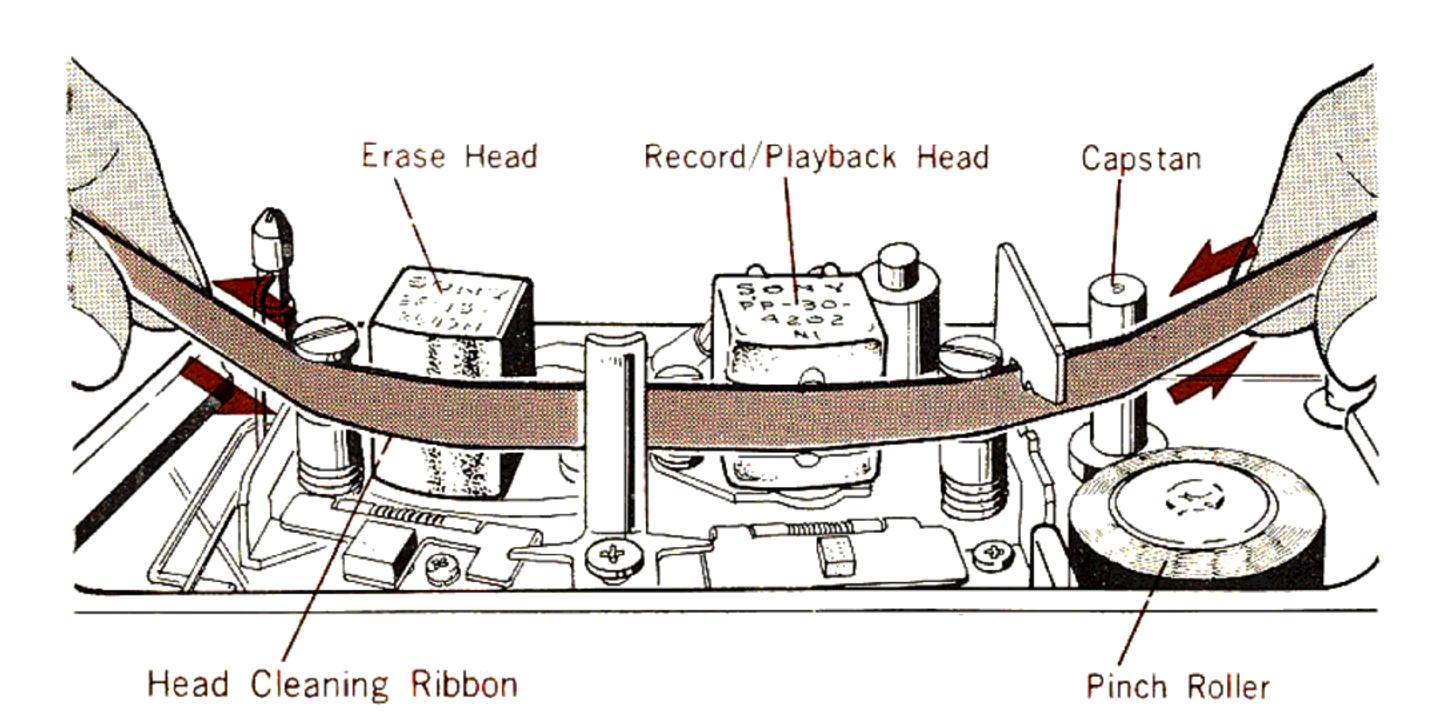
To clean

Remove the HEAD COVER (3) by loosening the screws located at the back of the head cover with a small screw driver.

Use the head cleaning ribbon (supplied) or a piece of soft cloth and carefully wipe the portion of the heads over which the tape travels.

*In the case the deposits on the head cannot be removed, dampen the ribbon or cloth with denatured alcohol.

NOTE: Do not place magnet or piece of steel near the heads to prevent head magnetizing.

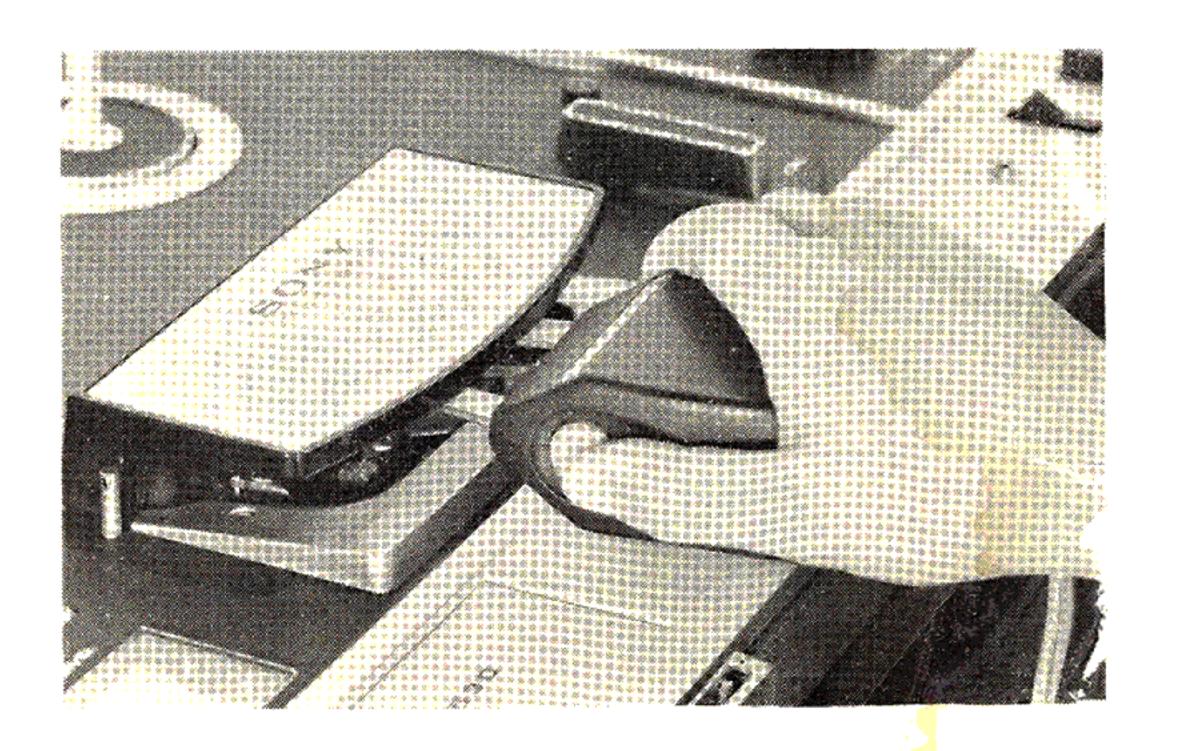


Through continuous use, residual magnetism will be gradually built up on the head and this excessive residual magnetism will produce noise while the tape is being played. Therefore, periodic use of the SONY Head Demagnetizer HE-2 or equivalent is recommended for best possible performance.

To use Demagnetizer

Turn the recorder OFF and remove the HEAD COVER (3) by loosening screws lodated at the rear side of the head cover. Plug the Demagnetizer into an AC outlet (117V). Pressing On/Off Switch of the Demagnetizer to turn on and bring its tips close to the playback head. Don't touch the surface of the head with tips of the Demagnetizer. Run the tips up and down the head several times and slowly remove the Demagnetizer from the head.

NOTE: Demagnetizing is not required for erase head.



Use light machine oil and lubricate (1) Capstan, (2) Pinch Roller and (3) Idler Shafts once for 6 months. Avoid excessive lubrication. It may cause slippage in the mechanism and contamination of your tape.

(1) Capstan bearing

Remove the HEAD COVER (3) by loosening the screws located at the rear side of the head cover. Lubricate with 3 drops of light machine oil.

Don't stain capstan surface.

(2) Pinch Roller bearing

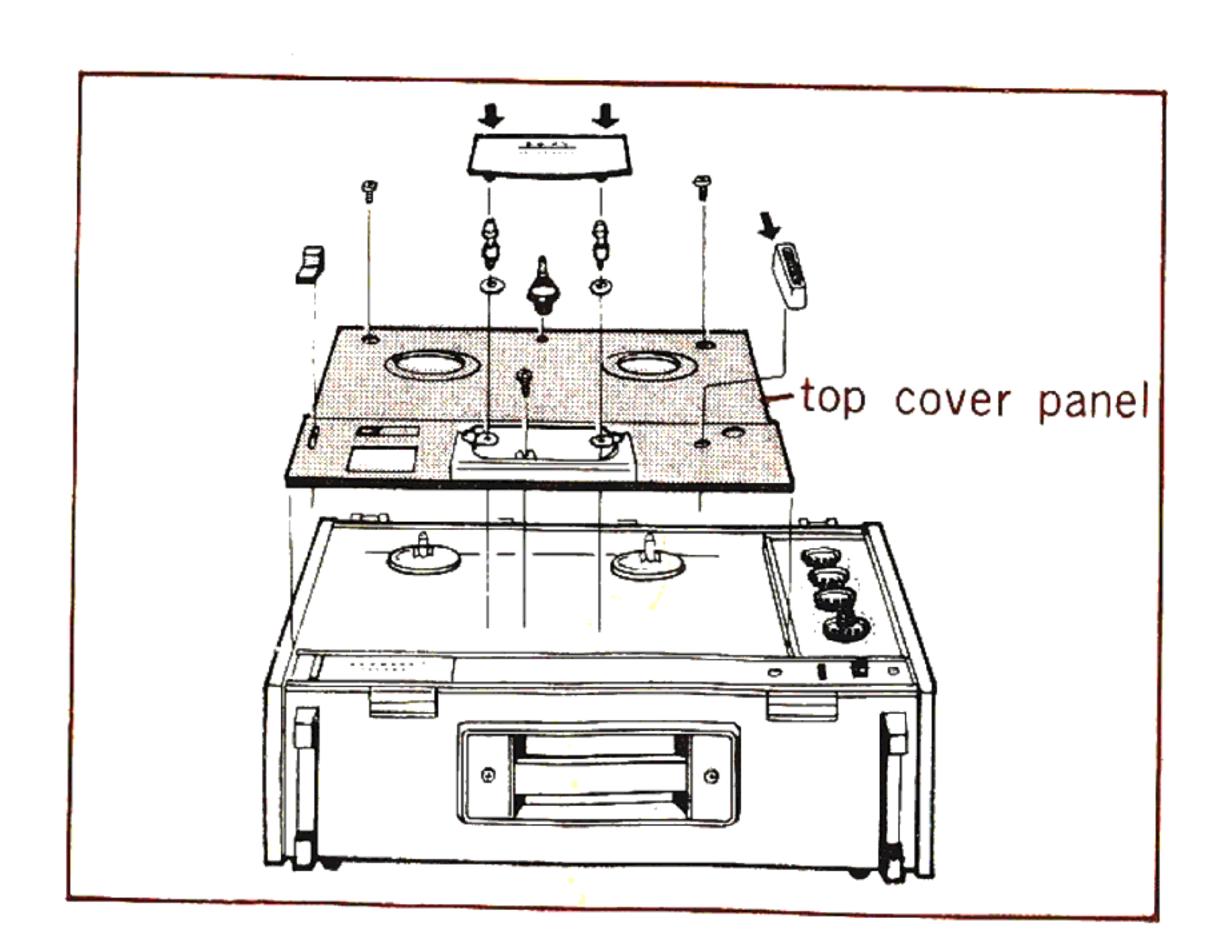
Remove the HEAD COVER by loosening the screws located at the rear side of the head cover. Lubricate with 1 drop of light machine oil.

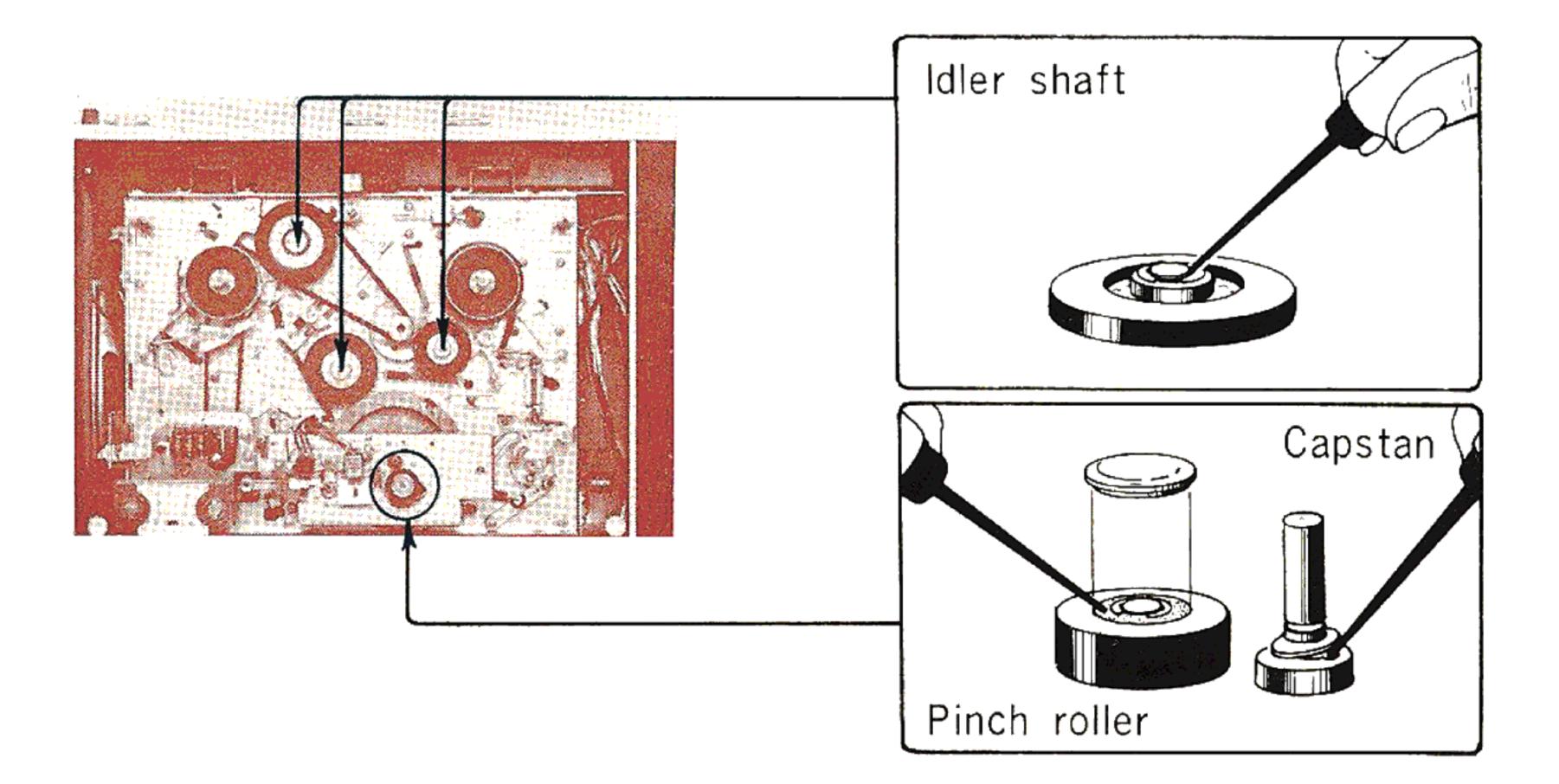
Dont's stain rubber surface.

(3) Idler Shafts

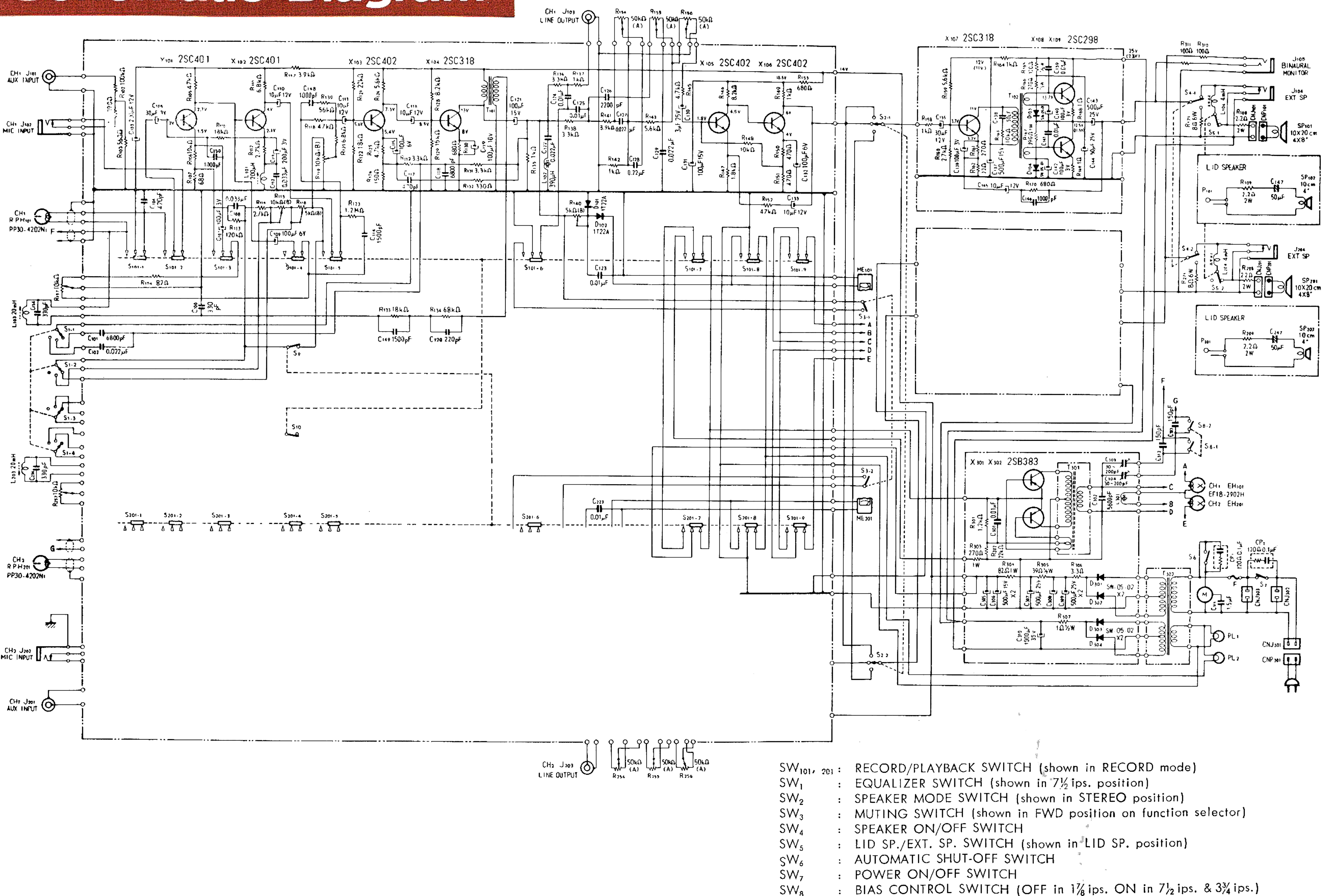
Remove the HEAD COVER, TAPE SPEED SELECTOR knob, INSTANT STOP LEVER, FUNCTION SELECTOR knob by loosening retaining screws. Then remove the top cover panel by loosening 5 screws as illustrated. Lift the top cover panel raising the rear side first.

Lubricate 3 idler shafts with one drop each of light machine oil. Remove shaft covers for lubricating two shafts.





Schematic Diagram



\$W₉, 10 : MONAURAL RECORD \$WITCH

