

Stereo Cassette Tape Deck

with
DOLBY Noise Reducer



SCT-14

OWNER'S MANUAL

PLEASE READ BEFORE
USING THIS EQUIPMENT

REALISTIC®

CUSTOM MANUFACTURED FOR RADIO SHACK  A DIVISION OF TANDY CORPORATION

Cat. No.
14-848

Your **REALISTIC SCT-14** is a high-quality Stereo Cassette Tape Deck. It incorporates the latest technological advances, including the DOLBY* Noise Reduction circuitry (under license from Dolby Laboratories Inc.). Use your SCT-14 to make professional quality recordings right in your home—with results that will challenge even those made on high-quality reel-to-reel recorders.

The SCT-14 comes with deluxe walnut grain vinyl veneer with brushed aluminum panel, accented with a textured black case. So the Deck blends perfectly with your stereo system or room decor.

FEATURES

DOLBY Noise Reduction System

World-famous DOLBY Noise Reduction system reduces tape hiss and tape head noise, resulting in substantially improved signal-to-noise. This gives an added benefit of extending the dynamic range.

Tape Selection Switch (CrO₂)

To achieve optimum results from today's technologically advanced ultra-low noise tapes and Chromium Dioxide tapes, bias and equalization must be matched to the tape being used. The CrO₂ switch provides this necessary matching—resulting in superior signal-to-noise, wider frequency response and greater dynamic range with either tape.

Automatic Tape Shut-off

When a cassette comes to the end of the tape, the mechanism automatically shuts itself off—preventing damage to tape and/or mechanism.

Piano Type Control Keys

Easy-to-operate piano style keys provide complete flexibility and control of the Cassette mechanism.

Dual VU Meters

Separate Right and Left channel Level Meters are illuminated and can be used in conjunction with separate Right and Left Record Level controls to precisely set recording levels.

* "DOLBY NR" and "  " are trademarks of Dolby Laboratories, Inc.

SPECIFICATIONS

- Tape System** : Standard PHILIPS Cassette
4-track stereo
C-30/60/90/120 (number indicates total time for both sides)
- Tape Speed** : 1-7/8 ips. (4.75 cm/sec.)
- Frequency Response (overall)** : Supertape, 40 - 11,000Hz
CrO₂, 40 - 13,000Hz
- Signal to Noise Ratio (overall)** : Supertape, -50 dB (CCIR)
Supertape with Dolby "in" -53 dB (CCIR)
CrO₂ with Dolby "in" -55 dB (CCIR)
- Distortion at 0 VU** : Less than 2 %
- Cross-talk** : Better than -53 dB
- Wow & Flutter** : Less than 0.2%
- Erase Ratio** : Better than 60 dB
- Output Level** : 0.775 volts (adjustable)
- Output Impedance** : Less than 10 K ohms
- Input Sensitivity** : Mic= -70 dB (0.8mV)
AUX= -20 dB (100mV)
- Input Impedance** : Mic, more than 1K ohms
AUX, 100k ohms
- Record Bias** : 85 kHz
- Erase System** : 85 kHz AC erase
- Fast-F/Rewind Time** : Less than 100 seconds with C-60
- Power Requirements** : 120 volts, 60 Hz AC (220/240 volts, 50 Hz for European and Australian models), 7 watts
- Semiconductor Complement** : 2 Intergrated Circuits, 16 Transistors, 6 Diodes, 1 Zener Diode
- Dimensions** : 3-7/16" x 11-9/16" x 9", (8.7 x 30 x 23cm) (HWL)
- Weight** : 5 lbs. (2.27 kg)

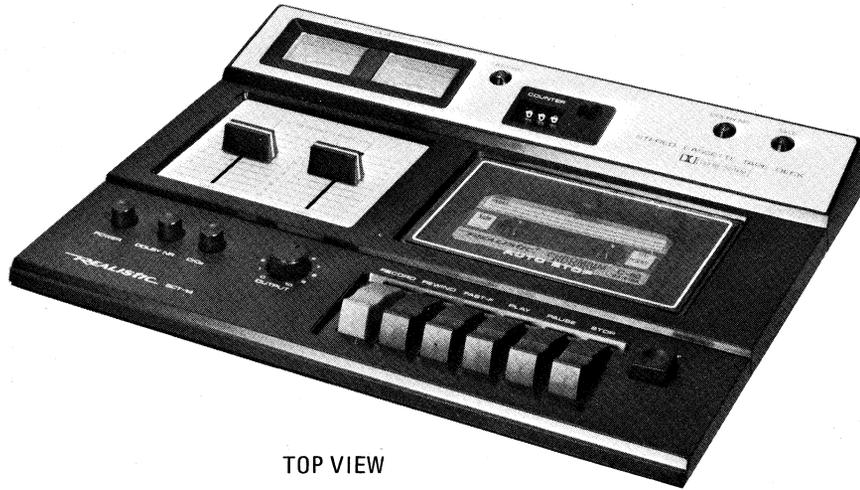
RADIO SHACK LIMITED WARRANTY

This equipment is warranteed against defects for 1 years from date of purchase. Within this period, we will repair it without charge for parts and labor. Simply **bring your sales slip** as proof of purchase date to any Radio Shack store. Warranty does not cover transportation costs. Nor does it cover equipment subjected to misuse or accidental damage.

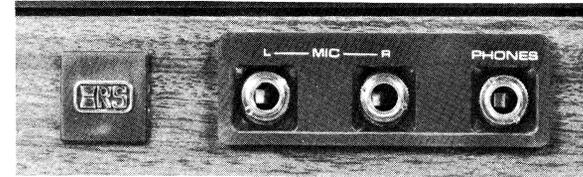
This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

We Service What We Sell

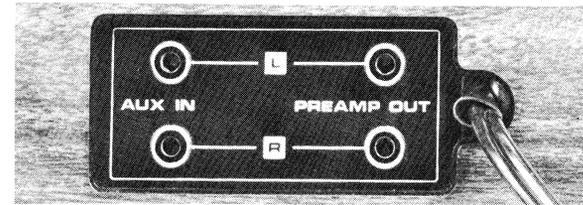
CONTROLS AND FUNCTIONS



TOP VIEW



FRONT VIEW



REAR VIEW

POWER -- press to turn unit on or off.

DOLBY NR -- press in to activate the Dolby circuit (for both Record and Play). Leave out when not using Dolby. The **DOLBY NR LED** will be on when this button is in.

CrO₂ Button -- operates on both Record and Play. Leave out (button up) for ferric-oxide "normal" tapes. Press in for CrO₂ tapes. The **CrO₂ LED** will be on when this button is in.

OUTPUT Level Control -- controls the level of the signal going to the Amplifier/Receiver.

Left and Right RECORD LEVEL Controls -- adjust recording level of each channel.

Left and Right LEVEL Meters -- illuminated to show when power is on. Record below red zone for low distortion.

RECORD LED -- glows red when in the Record mode.

Digital Tape COUNTER -- push button to reset number to "000"; handy for reference of tape lengths and location of passages.

DOLBY NR LED -- lights up when Dolby is on.

CrO₂ LED -- lights up when CrO₂ button is in.

RECORD Key -- turns recording circuitry on.

REWIND Key -- rewind tape rapidly.

FAST-Forward Key -- moves tape rapidly in a forward direction.

PLAY Key -- moves tape forward for Play or Record.

PAUSE Key -- stops tape momentarily in Play and Record modes.

STOP Key -- stops the tape and disengages the mechanism.

EJECT Button -- press in to Eject the Cassette.

Left and Right MIC Jacks -- connect mics directly at the front of the unit.

PHONES Jack -- plug your stereo headphones in here to listen to tapes or to monitor the recording source.

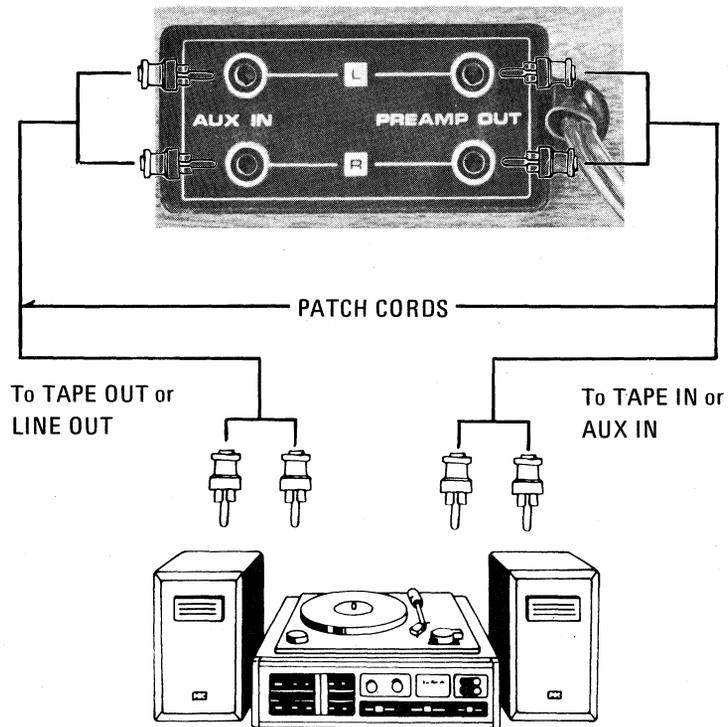
PREAMP OUT Jacks -- connect to your Amplifier/Receiver's Tape In jacks.

AUX IN Jacks -- connect to your Amplifier/Receiver's Tape Out jacks.

INSTALLATION

Using the patch cord provided, connect the Left and Right PREAMP OUT jacks to the corresponding Tape Input jacks of your stereo Amplifier/Receiver. Plug the line cord into any 120 volts, 60 Hz AC outlet (220/240 volts, 50 Hz for European and Australian models as indicated on the rear of the unit).

Use another patch cord (not provided) to connect the AUX IN jacks to the Tape Out (or Record Out) jacks on your Amplifier/Receiver.



OPERATION

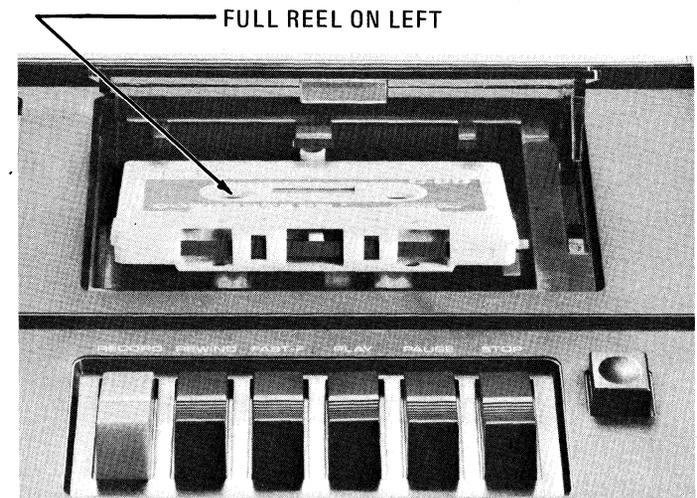
TURNING UNIT ON:

The SCT-14 offers the convenience of a separate on/off control. To turn the unit on, press **POWER** in to turn "on".

To turn the unit off, simply press **POWER** again.

INSERTING A CASSETTE:

If all tape function keys are not in the "up" position, press the **STOP** key. To open the Cassette Lid, press the **EJECT** button. Insert a cassette and be sure that it is properly seated and that the full reel of tape is on the left. Close the Cassette Lid. To remove a cassette, the tape transport mechanism must be stopped (either automatically or manually by pressing the **STOP** key). Press the **EJECT** button and the Cassette Lid will open and the cassette will pop out.



REMOVING A CASSETTE

1. Press **STOP** key.
2. Press **EJECT**; the cover will open and the cassette will pop up.

PLAYBACK

DOLBY NR Button:

To play a cassette that was recorded with a DOLBY Noise Reduction System, press **DOLBY NR** down. Leave the DOLBY NR button up for playing back cassettes not recorded on a DOLBY System.

PLAYBACK PROCEDURE:

To be sure the cassette will start playing at the beginning of the first program, press **REWIND**. When the tape finishes rewinding, press the **STOP** key.

Press **PLAY** key and the tape will begin moving. Adjust Volume, Tone and Balance controls on your Amplifier/Receiver for desired sound.

You may find it necessary to adjust the **OUTPUT** Control to match the input requirements of your Amplifier/Receiver. Do this as follows. Set up your Amplifier/Receiver for some other sound source, then switch back to Tape. If the sound levels are not almost the same, adjust the **OUTPUT** Control until you do obtain almost equal sound levels as you switch between Tape and another sound source. Remember this setting so you can easily return to it.

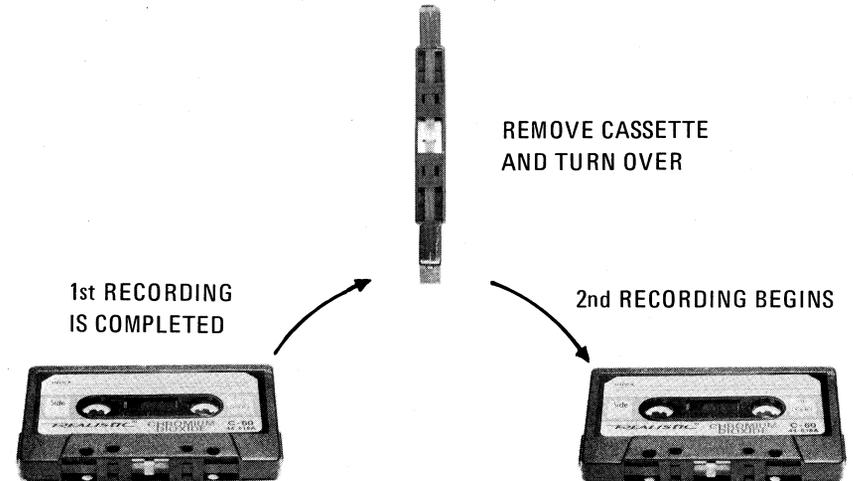
When the tape has finished playing that side, the Auto Stop function will automatically disengage the mechanism. Eject the cassette, turn it over and play the other side.

PRIVATE LISTENING:

PHONES jack accepts any pair of low impedance stereo headphones. So you can listen to a tape being played or to the recording sound source via this jack. The jack is always "live".

FOUR TRACK RECORDING AND PLAYBACK

The SCT-14 uses the four track, two channel system which permits recordings to be made on both the upper and lower tracks. When the right hand reel of the cassette is completely full and the transport mechanism has stopped, turn the cassette over and reinsert it so that the full reel is again on the left. Now continue to play or record.



RECORDING

NOTE: We strongly urge you to use only the finest tape with your SCT-14. Only with the finest tape will you realize the fullest capabilities of this Tape Deck. Use either Realistic's **Supertape®** or our Chromium Dioxide tape.

CrO₂ Button

If you are using chromium dioxide tape, press CrO₂ button down, press again to release to the "standard" position (should be used for all other types of tape). When CrO₂ button is pressed in, the CrO₂ light will be "on".

DOLBY NR Button:

To make a recording utilizing the DOLBY Noise Reduction System, press the DOLBY NR Button down. Press again to release the Dolby function. Use the "out" position (button up) only for playing back cassettes not recorded on a DOLBY unit.

When DOLBY NR button is in (the Dolby circuit is active), the DOLBY NR light will be on.

FAST-Forward and REWIND:

To advance a tape rapidly to any desired point, depress the **FAST-Forward** key until that point is reached. If you inadvertently advance the tape beyond the desired point, release pressure on the **FAST-Forward** key and depress the **REWIND** key half way to a non-locking position. This way the tape can be shuttled back and forth until the exact starting point is located.

MICROPHONE RECORDING:

To obtain optimum results with "live" recordings, we recommend that you use high-quality microphones. We suggest Radio Shack's Electret Microphones, Catalog Number 33-1044 or 33-1045.

1. Connect a microphone to both the Left and Right MIC jacks. Insert a cassette and push **PAUSE**.
2. Press **RECORD** and **PLAY** simultaneously. The tape will not start and recording will not take place because the **PAUSE** key is depressed. Speak into the microphones and adjust the **RECORD LEVEL** controls so that the level meter pointers enter into the red zone **only on the loudest peaks**. This procedure allows you to preset recording levels prior to starting the tape.
3. Set the **Digital Tape Counter** to "000" by pressing the **Counter Reset** button.
4. Release **PAUSE** by pressing it again—the tape will start and you are recording.
5. If you want to temporarily stop recording, push **PAUSE**.
6. When recording is completed, press the **STOP** key.

RECORDING FROM RADIO OR PHONO:

With connections made as previously noted, you can record "off-the-air" or put your records on tape—or record any other source being played through your Amplifier/Receiver.

Turn your stereo system "ON". Load a cassette. Press **PAUSE** key, then press **RECORD** and **PLAY** simultaneously. Adjust the right and left **RECORD LEVEL** controls so that the VU level meter pointers enter into the red zone **only on the loudest peaks**.

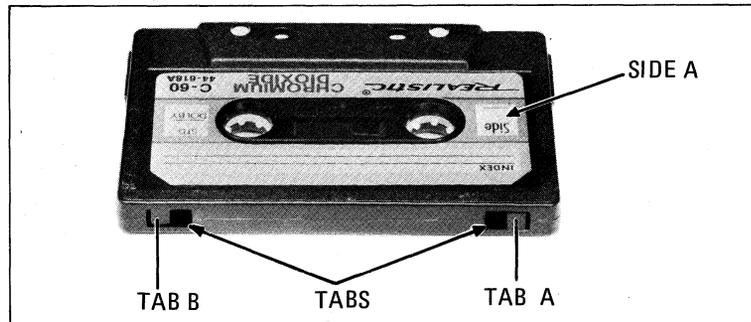
Continue the recording procedure as previously outlined in Steps 3 thru 6 of the MICROPHONE RECORDING section.

NOTE: When both MIC and AUX IN jacks are connected, only the microphones will function (AUX IN jacks are not functional).

NOTES AND APPLICATIONS

Cassettes have a built-in erase protection device. On the back are two small tabs. To prevent accidental erasure, carefully break off the appropriate tab as shown below. With side A/1 up, breaking "tab A" will prevent accidental erasure of the material on side A/1.

When the tab has been broken off, you can not press the RECORD key down (don't try to force it down). If you decide to erase or re-record a cassette which has the tabs broken off, just cover the appropriate opening with tape. Tab B is for side B/2.



To re-record a cassette, it is not necessary to erase previous recordings. Previous recordings are automatically erased when a new recording is made.

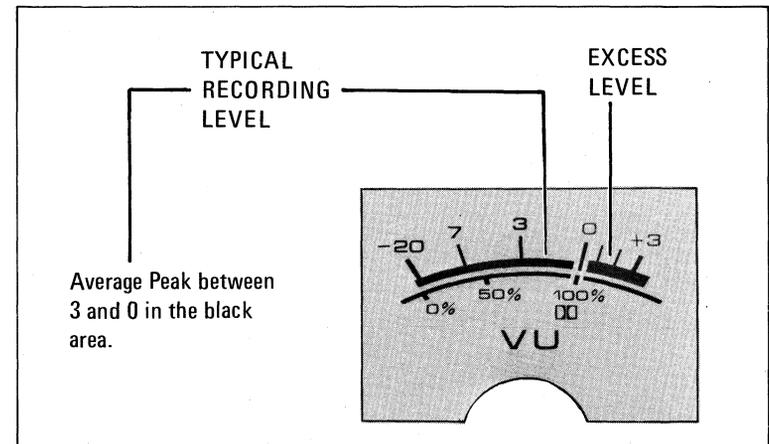
To erase a tape, follow the same procedure as for Recording, but disconnect inputs and reduce RECORD LEVEL controls to minimum. Then run the tape through (press **RECORD** and **PLAY** keys); this automatically erases previous recordings from the tape. Or, you can use a bulk eraser such as Radio Shack Catalog Number 44-210.

Microphone placement and positioning is a vital part of obtaining good stereo recordings. We suggest you experiment a little with distances and positioning before making any final recordings. Making a good recording is an art...it takes experience.

Recording Level is a very important consideration if you are interested in obtaining top-quality recordings. Since we have incorporated individual channel controls you can control each channel individually.

Meter readings should not be too high or too low. Proper recording levels will be achieved when peak meter readings only occasionally touch into the red area. Normal peak levels will produce peak meter swings up to between 3 and 0 in the black area.

Recording levels which consistently peak into the red area will result in distortion. Recording levels which peak only occasionally to 7 (or lower) in the black area will have excessive noise—especially noticeable in the soft passages. Therefore, you must learn to adjust recording levels for a happy medium—to assure lowest noise and widest possible dynamic range.



To achieve optimum Record results, be sure to use the correct **CrO2** switch position and **DOLBY NR** switch position.

Demagnetize the tape heads and clean the tape handling parts periodically...this will insure maximum frequency response and lowest noise. After a few hours of recording or playing, dust lint and tape oxide will begin to build up on the tape heads and guides; this affects record and play quality. To achieve the professional quality this system is capable of, such dust, lint and oxide must be cleaned off. Also, the heads tend to retain residual magnetism after some hours of use...this introduces noise on both record and playback. To clean, we recommend using Radio Shack Catalog Number 44-1160 Cassette Head Cleaner or use cleaning sticks (44-1093) and Recorder Cleaner (44-1010). To remove residual magnetism, use a Tape Head Demagnetizer such as 44-215 or 44-211. Or, easier still, you can clean and demagnetize by one simple play-through of our Cassette Demagnetizer and Cleaner 44-631.

Choice of tape is vital to good recordings. For most voice recordings (dictation, notes, lectures, etc.) either the **CONCERTAPE** or **REALISTIC** Cassettes are appropriate. For average-to-good music and other recordings, we recommend **REALISTIC** Cassettes. For low-noise, wide-range recordings, we recommend **SUPERTAPE**. For the very finest fidelity and lowest noise recordings, use **REALISTIC** CrO₂ Cassettes (in conjunction with CrO₂ switch position).

You can duplicate tapes by recording from another tape deck/player or put 8-track programs on cassettes. Or, you can put your favorite records onto cassettes. Make appropriate connections from another tape player or phonograph to the AUX IN jacks as noted previously.

Storage of tape is no major problem, provided you do not expose it to extreme temperatures or high humidity. Also, do not expose your tapes to magnetic fields (magnets, large transformers, etc.). Avoid dust and dirt. You may find storage containers to be extremely useful accessories; see your local Radio Shack store.

REALISTIC GUIDE TO TAPE RECORDERS is a very helpful publication available at your Radio Shack store. It has a number of interesting chapters covering practical aspects of tapes, recorders and accessories, plus a number of hints to enhance enjoyment of your Realistic Cassette Recording System.

If you are going to use your Cassette Stereo System extensively, we urge you to obtain suitable tape accessories from your local Radio Shack store to insure maximum benefit from your unit. You should consider a Tape Splicer if you intend to do much serious recording.

CAUTIONS

The erase protection tabs on a cassette are a precaution against accidental erasure or re-record. **Do not attempt to force down the RECORD key if the cassette in the unit has these tabs removed.**

Before recording or playing back, be sure the cassette is properly seated in the cassette compartment.

Do not touch the face of the Tape Heads with any magnetic or metallic object.

SERVICE AND MAINTENANCE

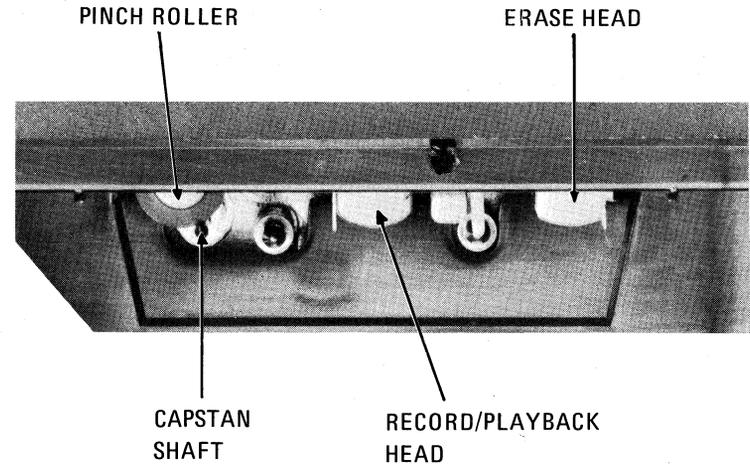
Only the highest quality parts are used in your unit and it should require little or no service as long as you observe a few general rules.

Although the SCT-14 is a ruggedly-built unit, reasonable care should be used to avoid rough handling. Avoid exposure to dirt and dust and areas of high heat and humidity.

Always keep your unit clean—especially the tape heads and tape handling parts—this will insure long life and maximum fidelity. Over a period of time it is normal for a certain amount of dust, lint and powder from the tape to accumulate on these parts. This prevents proper contact of the tape and results in improper tape handling (producing noise, partial "drop-outs" and poor frequency response). Periodically clean the tape heads and tape handling parts with tape head cleaner, cue-tips or a cassette cleaner tape. Your local Radio Shack store carries a complete line of tape care accessories.

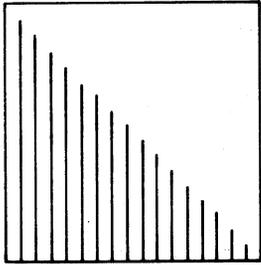
Over long periods of constant use, the tape heads will tend to retain some magnetism. A magnetized head will produce noise. Thus, it is important that the heads be demagnetized periodically. We recommend using either Radio Shack Catalog Number 44-215 or 44-211. Or, just use our 44-631 to clean and demagnetize by simply playing this Cleaner Demagnetizer Cassette.

Periodic lubrication will insure proper operation of all moving parts. At least once a year you should bring your unit into your local Radio Shack store for standard lubrication and simple preventative maintenance by our service technicians.

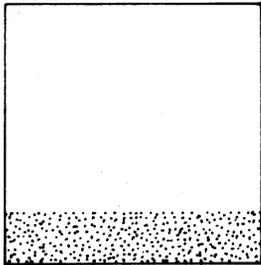


NOTE: Clean heads and tape handling parts is an absolute necessity when you use the longer tapes... such as C-90, C-120, etc. If you experience tape wrap-ups or poor re-wind/fast-forward or erratic auto-stop action... make sure you have cleaned all parts properly. Also, be sure to use a prime grade of tape. And, periodically rap the side of these longer cassettes against a table two or three times (that will loosen up excessively tight tape windings).

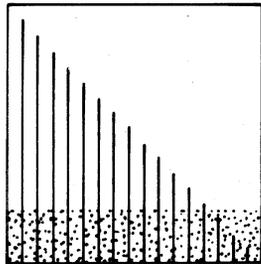
MAKING AN ORDINARY RECORDING



1. **Music.** Music is made of sounds of different loudness separated by intervals of silence. Loud and soft sounds are shown here as long and short lines. The music represented by this diagram starts loud and gradually becomes very quiet.



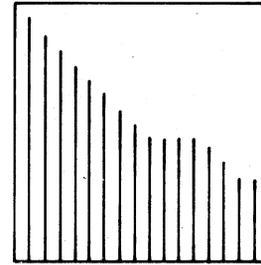
2. **Noise.** Any recording tape, even the best kind, makes a constant hissing noise when played. At the very slow speeds and narrow track-widths used in tape cassettes, tape noise is much more noticeable than it is in professional tape recordings, although even there it is a problem.



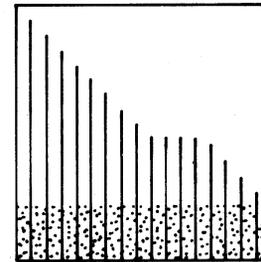
3. **Music and Noise.** When a tape recording is played, the noise of the tape conceals the quietest musical sounds and fills the silence when no sound should be heard at all. Only when the music is loud will the noise be masked and usually not heard.

However, tape noise is so different from musical sounds that it sometimes can be heard even then.

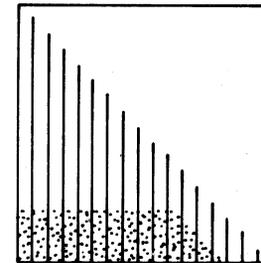
MAKING A DOLBY SYSTEM RECORDING



1. **What the Dolby® System does first.** Before the recording is made, the Dolby System "listens" to the music to find the places where a listener might later be able to hear the noise of the tape. This happens mainly during the quietest parts of the music. When it finds such a place, the Dolby System automatically increases the volume so that the music is recorded louder than it would be normally.

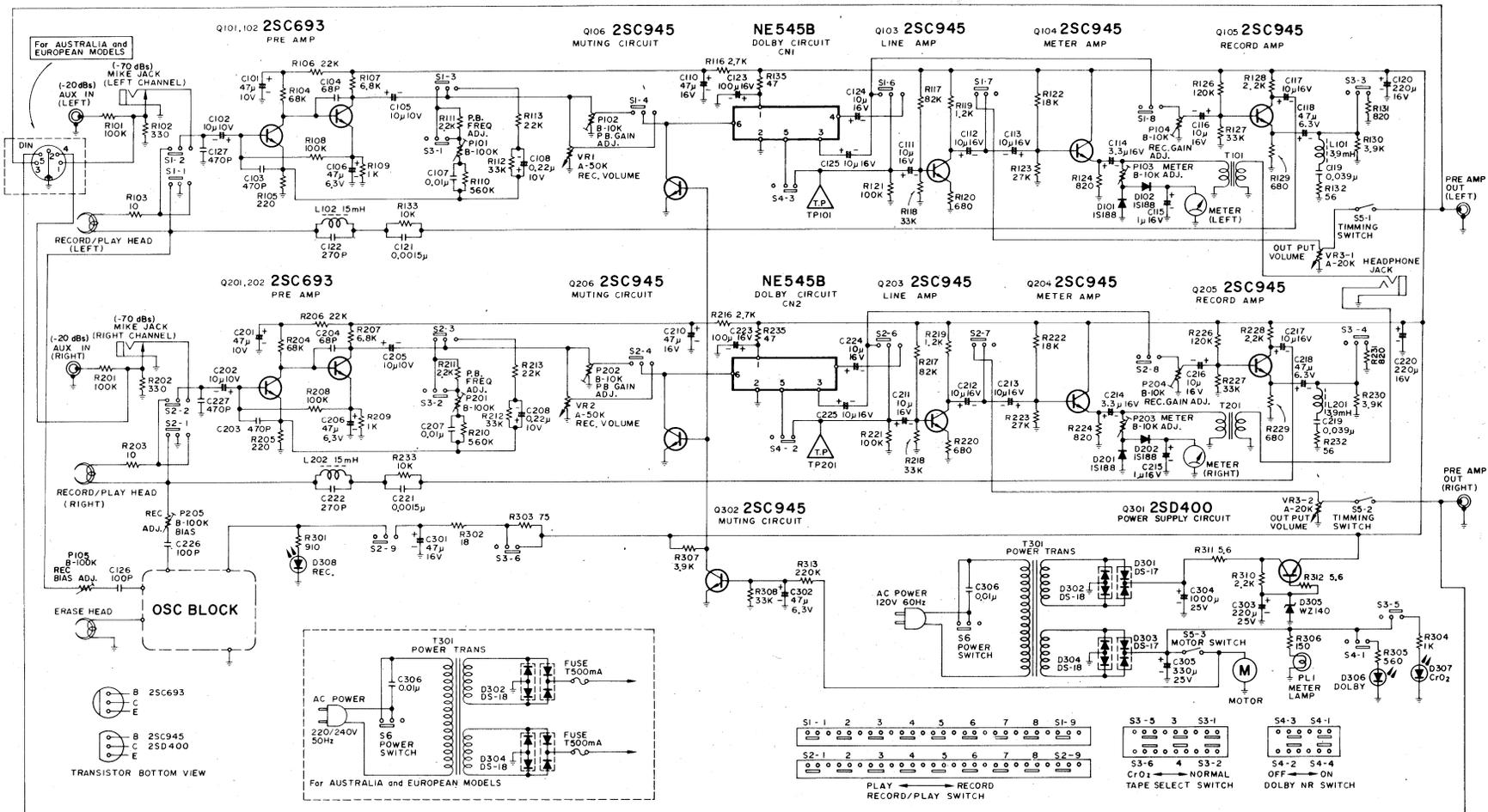


2. **The Recording.** In a Dolby System recording, the parts of the music which have been made louder stand out clearly from the noise. As a result, Dolby System recordings sound brilliant and unusually clear even when played back without the special Dolby System circuit.



3. **What the Dolby® System does during playback.** When the tapes are played on a high fidelity tape recorder equipped with the Dolby System circuit, the loudness is automatically reduced in all of the places at which it was increased before recording. This restores the music to its original loudness again. At the same time, the noise which has been mixed with the music is reduced in loudness by the same amount—usually enough to make it inaudible.

SCHEMATIC DIAGRAM



NOTES:

1. Resistance values are indicated in ohms unless otherwise specified (K = 1,000 ohms).
2. Capacitance values are shown in microfarads unless otherwise noted (p = micro-microfarads).

RADIO SHACK  **A DIVISION OF TANDY CORPORATION**
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