

STEREO CASSETTE-CORDER TC-134SD

OWNER'S INSTRUCTION MANUAL
MODE D'EMPLOI
BEDIENUNGSANLEITUNG

The SONY Model TC-134SD is a high quality, high performance stereo cassette deck for quality-conscious stereo enthusiasts.

IMPORTANT FEATURES

Dolby-System :

The Dolby System* is a well-proven method of reducing the noise level (tape "hiss") to the lowest possible level and produces clear, natural sound without background tape hiss in quieter passages of the music.

*** The word Dolby is a trade mark of Dolby Laboratories, Inc.**

SONY Limiter Recording System :

After the recording levels are set, the Limiter Switch may be switched ON to reduce high transient peaks to the 0 VU level, thus preventing tape saturation and distortion without audibly altering dynamic range of the recorder.

Tape Select Switch :

The Model TC-134SD is equipped with a Tape Select Switch. Before you begin recording, set the Tape Select Switch to the CrO₂ position for chromium dioxide cassettes or the NORMAL position for standard cassettes. By using chromium dioxide cassettes, full high fidelity performance may be achieved with extended frequency response and greatly reduced distortion.

F & F (Ferrite & Ferrite) Head :

Best possible record/playback performance attributes to the head. Of primary concern are core materials, gap precision and front-surface smoothness. The Model TC-134SD has a combined record/playback ferrite head with gap width of only 1.5 microns.

TMS (Total Mechanism Shut-off):

TMS stops the tape transport at the end of tape in any mode. Thus, it prevents tape strain and mechanism wear.

For more information, refer to "Dolby System" on page 20, or "Information about Advanced Technology" on page 22.

Read this instruction manual thoroughly and carefully before operating this unit and save it for future reference.

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PRECAUTIONS

- Keep the unit away from extremely high temperature or moisture.
- Do not place the unit on top of a power amplifier which generates heat.
- Do not block the ventilation grille at the bottom of the unit.
- Avoid mechanical shock.
- Operate the unit in the horizontal position or less than 30 degrees from the horizontal position.
- **Always keep the heads clean** to assure optimum performance from the recorder. Accumulation of dirt on heads will cause the loss of high frequency response and sound drop-outs.

For cleaning information, refer to page 18.

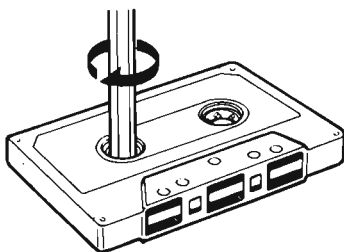
The Record button cannot be depressed in the following cases:

1. No cassette in the Cassette compartment.
 2. Safety tabs have been removed from the cassette.
- Never depress the Record button forcibly.

- Changing the modes directly without the use of Stop button may release the locked button while operating. Therefore, when you wish to change modes (for example: from fast forward to rewind, or from fast forward, rewind to forward) while the tape is still running, depress the Stop button first, then depress the button for the mode you now desire.

At the end of tape in any mode, TMS (Total Mechanism Shut-off) stops the tape transport.

- Before installing a cassette, remove any slack from the tape by inserting a pencil into the hub and winding it until the slack is eliminated.
- If you have any questions concerning your unit, consult your nearest SONY dealer.



ADAPTATION TO THE LOCAL POWER LINE

The Model TC-134SD comes in two types:

Type 1: Available in European countries

Type 2: Available in other countries

Voltage Adaptation

Type 1 operates on AC power line voltage of either 110, 127, 220 or 240 V by resetting the Voltage selector.

The Voltage selector can be reset as follows:

1. Unscrew the fuse-holder-cap in a counterclockwise direction, using a coin and the fuse can be removed.
2. Pull out the round selector cap and reinsert it firmly so that proper voltage figure appears in the cutout of the selector cap.
3. Insert the fuse in the fuse-holder cap and screw them both into the fuse-holder.

Caution

The TC-134SD available in Scandinavian countries is fixed to operate on AC 220 V power line. When changing the setting voltage, be sure to consult your nearest SONY dealer.

The serial number plate is located on the bottom of the tape recorder.

Type 2 operates on AC power line voltage of either 100, 110, 120, 127, 220 or 240 V by resetting the Voltage selector.

The Voltage selector can be reset as follows:

1. Pull out the three-pin Voltage selector.
2. Reinsert it firmly to the selector plate so that proper voltage figure appears in the cutout of the Voltage selector.

Before connecting, be sure to check whether or not the Model TC-134SD is set for operating to the same voltage as your local power line.

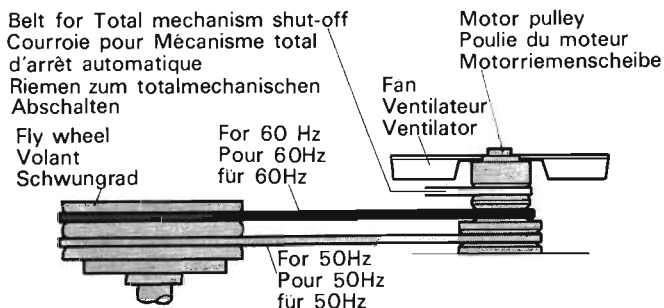
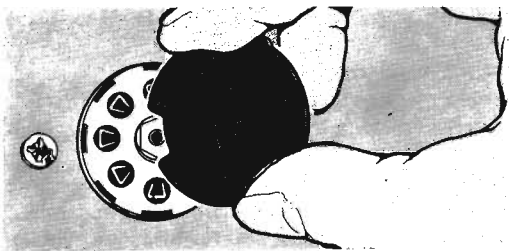
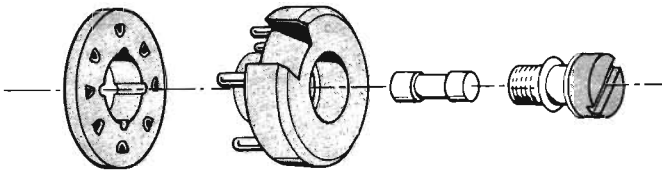
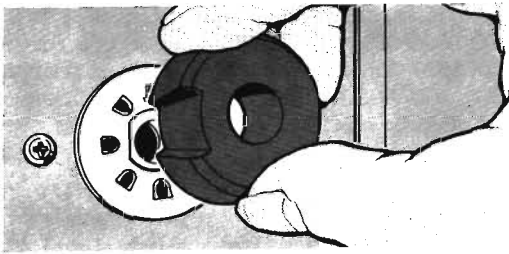
Frequency Adaptation

The operating frequency of the TC-134SD can be set to either 50 or 60 Hz by changing the belt position between motor pulley and fly wheel.

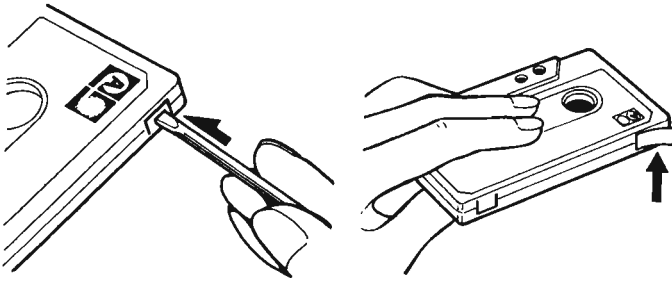
If the line frequency differs from what the TC-134SD is adjusted for, disconnect the AC power cord and follow the next procedures.

1. Remove the six screws located on the plastic rear panel.
2. Remove the wooden frame and plastic rear panel from the unit.
3. Change its belt position according to the line frequency used.

Turning the fly wheel slightly, be sure to check whether the rubber belt has been correctly set.



NOTES ON CASSETTES



The sides of the cassette are marked "A" and "B". When you wish to record or play back side "A", insert a cassette into the cassette compartment with side "A" UP. When you wish to record or play back side "B", insert it with side "B" UP.

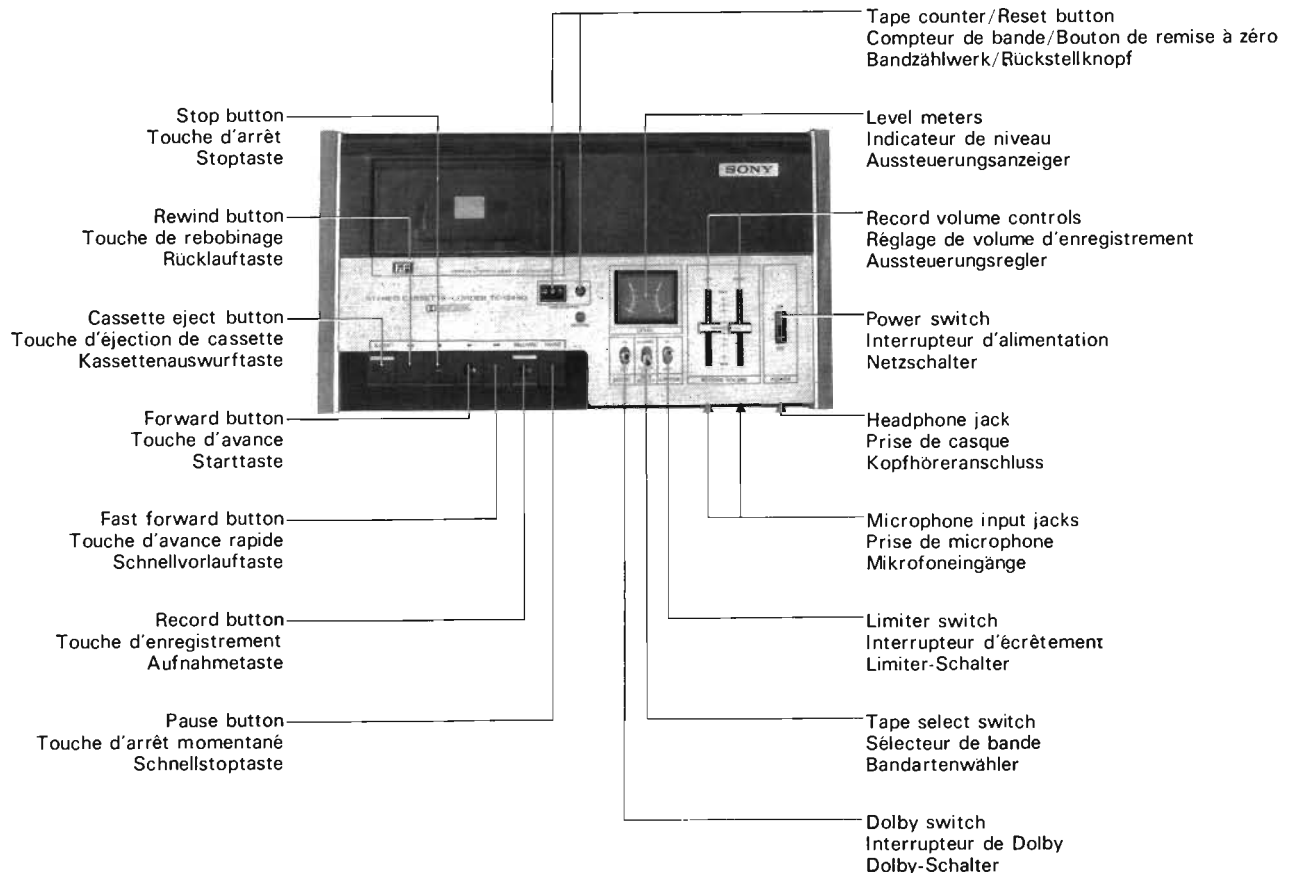
To protect recording from accidental erasure

Cassettes are provided with convenient safety tabs. These safety tabs are located on the back of the cassette. To protect side "A" recording, remove the tab above the letter A using a screwdriver or similar device. To protect side "B" recording, remove the tab above the letter "B". When the tabs are removed, the Record button cannot be depressed.

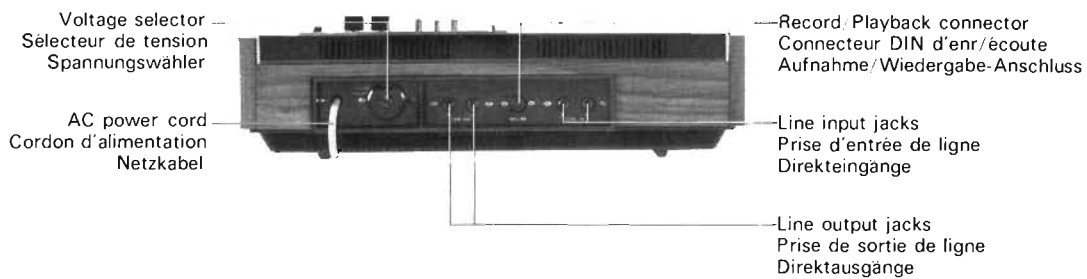
Should you wish to record on a cassette whose tabs have been removed, simply cover the slot with cellophane or vinyl tape.

• In case of SONY cassettes, the letter "A" is embossed, helping you distinguish the side of the cassette in the dark.

LOCATION OF CONTROLS AND CONNECTORS



Type 1 : Available in European countries
Type 1 : disponible dans les pays européens
Ausführung 1 : in Europa erhältlich



Type 2 : Available in other countries
Type 2 : disponible dans les autres pays
Ausführung 2 : in anderen Ländern erhältlich



CONNECTING DIAGRAM

Connection with Stereo Component System

For recording :

Connect the **LINE INPUT** jacks of the Model TC-134SD to the recording output jacks of the preamplifier, integrated stereo amplifier or stereo receiver, using the supplied Connecting Cord RK-74.

For playback :

Connect the **LINE OUTPUT** jacks of the Model TC-134SD to the tape input jacks or auxiliary input jacks of the preamplifier, integrated stereo amplifier or stereo receiver, using the supplied Connecting Cord RK-74.

Note :

- The red pin of the supplied Connecting Cord RK-74 should be connected to the right channel and gray pin, to the left channel.
- Be sure to unplug any input source from the **MICROPHONE** input jacks when you use the **LINE INPUT** jacks.
- For quickest and smoothest recording and playback, **SONY Record/Playback Connector Cable RC-2** (optional) is recommended. When the RC-2 is used, disconnect the other connecting cords from the **LINE INPUT** jacks and **LINE OUTPUT** jacks.

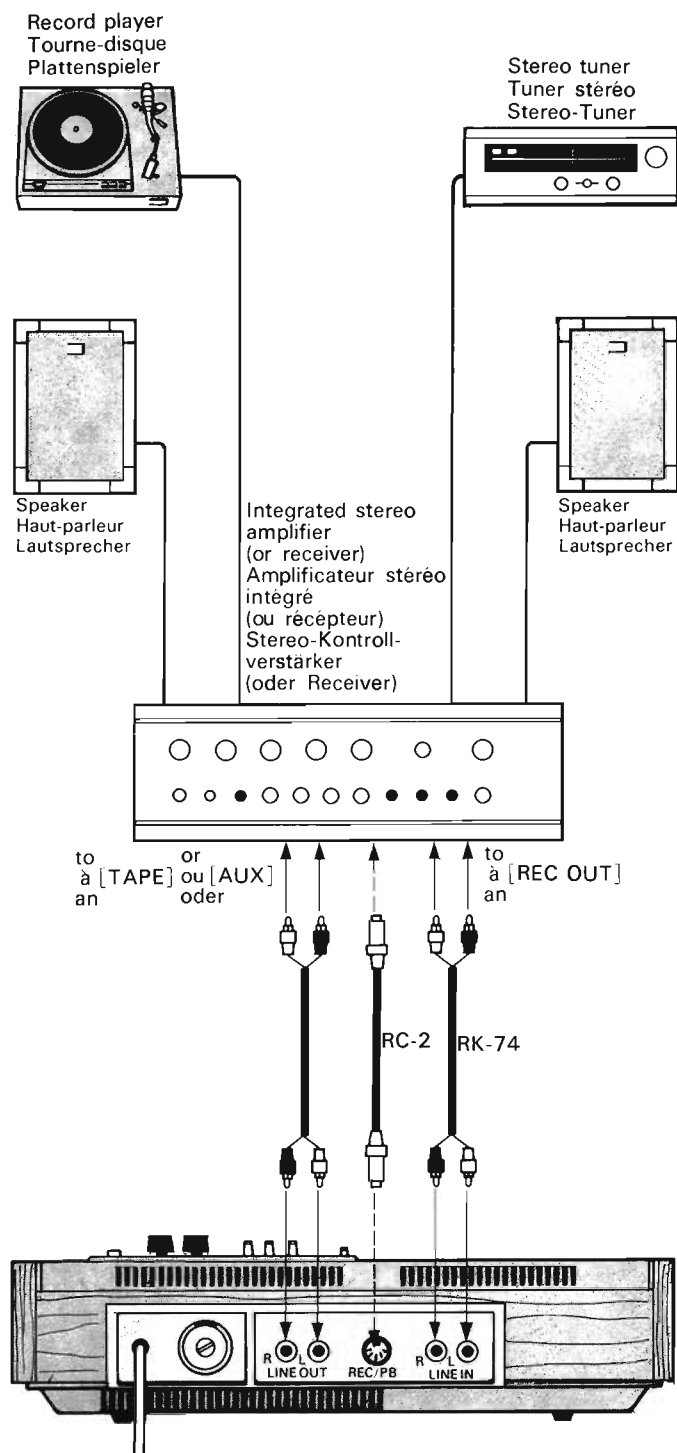
Caution . . . Connection with an amplifier**Amplifier without tape monitor switch :**

When the tape recorder is connected to an amplifier which does not have a tape monitor switch, do not set the input selector of the amplifier to the same input mark which the tape recorder is connected to.

Amplifier with tape monitor switch :

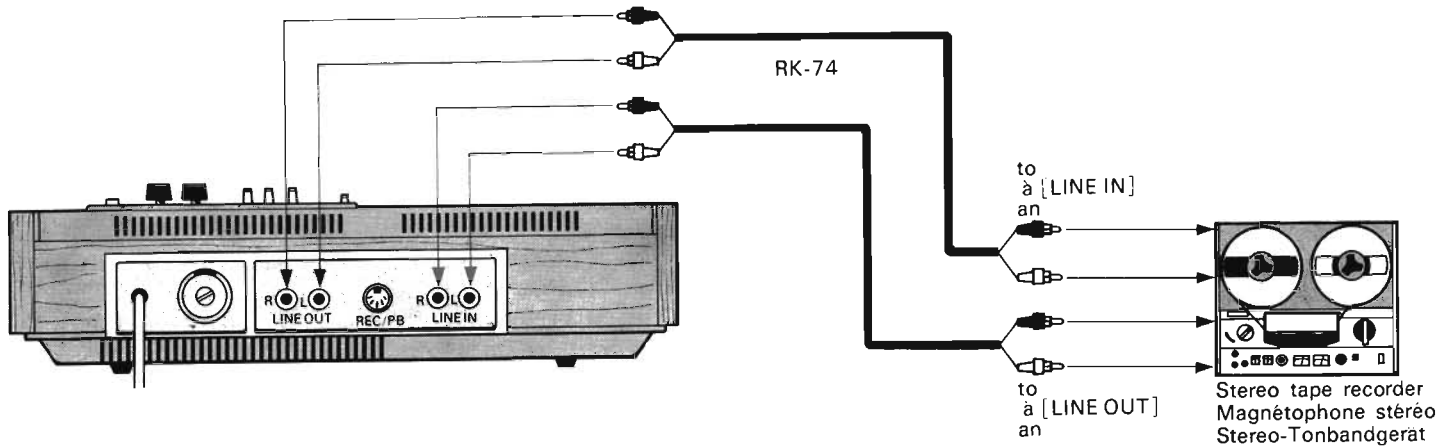
When several tape recorders are connected to an amplifier equipped with a tape monitor switch, only one tape recorder can be used in conjunction with the tape monitor capability. When recording on the other tape recorders connected to the regular auxiliary inputs of the amplifier, do not set the input selector to the auxiliary input position.

If these cautions are not observed, oscillation may occur while recording. The cause of this oscillation is feedback of the output of the recorder to its own input through the input selector of the connected amplifier when that selector is accidentally set to the auxiliary input which this same recorder is connected to. This oscillation could be detrimental to the amplifier and/or speakers. It is recommended that the volume control of the connected amplifier be turned down when changing the position of the input selector switch.



Connection with other program sources

Connect the stereo or monaural source such as microphones, radio, etc. to the appropriate LINE INPUT or MICROPHONE input jacks.



RECORDING

For connection of Model TC-134SD, refer to "Connection with Stereo Component System" or "Connection with Other Program Sources".

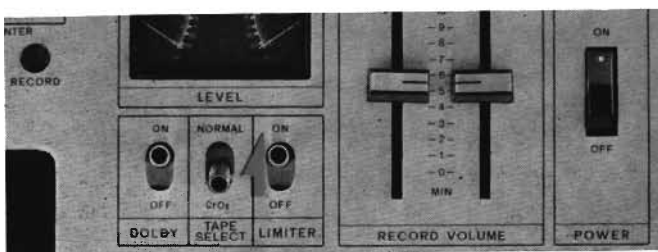
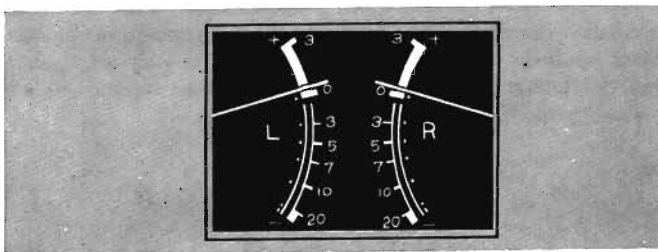
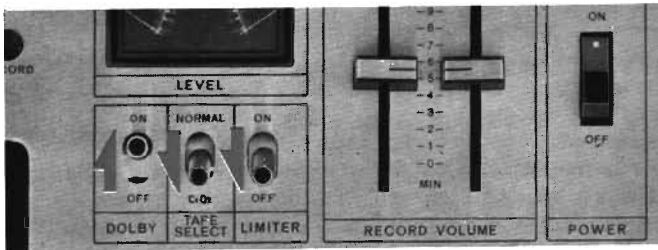
1. Plug the AC power cord into an AC outlet.
2. Set the POWER switch to the ON position.
3. Depress the EJECT button to open the Cassette compartment lid.
4. Insert a cassette into the Cassette compartment with the desired side to be recorded UP and close the lid.
5. Push the Tape counter reset button to quickly locate the starting point of the tape in playback.

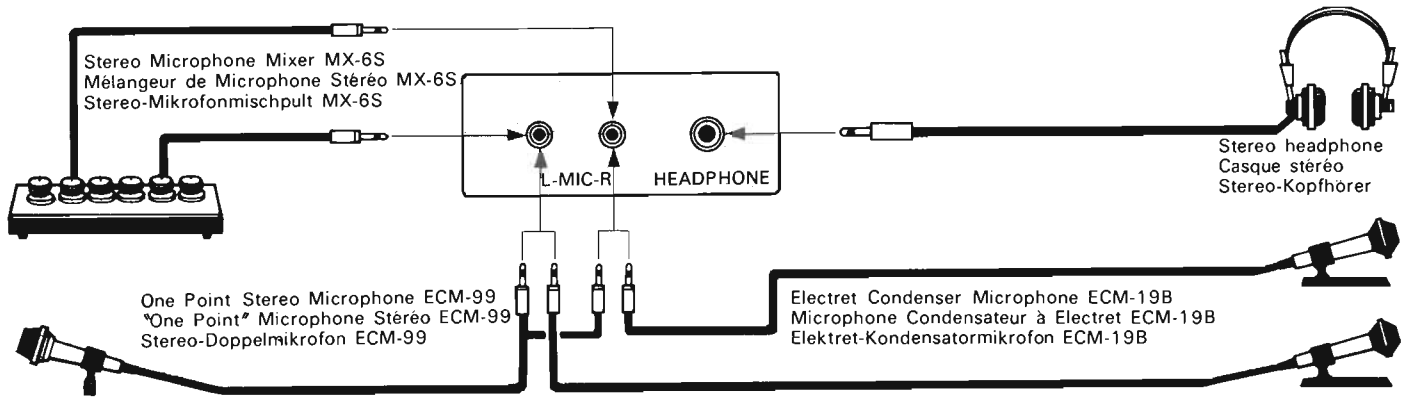
6. Set the DOLBY switch to the ON position. If you wish, you can record on the Model TC-134SD without Dolby process. In that case, turn the DOLBY switch to the OFF position and the Model TC-134SD will function as a conventional cassette recorder.

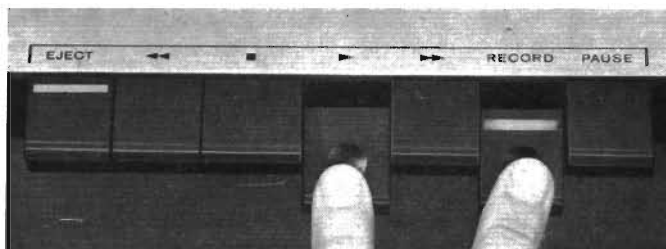
7. Set the TAPE SELECT switch to either the CrO₂ or NORMAL position according to the type of tape used.

CrO₂ position: for use with chromium dioxide cassette
 NORMAL position: for use with ordinary cassette (including SONY HF cassette)

8. Set the LIMITRE switch to the OFF position.
9. Depress and lock the RECORD button. The Record lamp will illuminate.
10. Adjust the RECORD VOLUME controls so that the needle of each meter deflects to the boundary of red and yellow zones.
11. Set the LIMITER switch to the ON position: Limiter circuits operate to avoid distortion on program peaks. For manual recording, leave the LIMITER switch at the OFF position.







12. While depressing the RECORD button, depress and lock the ► (forward) button. Recording will begin.
13. To stop the tape at any desired point, depress the ■ (stop) button.

To record on the opposite side of the cassette

1. Depress the EJECT button: The cassette tape will snap up.
2. Then, reinsert it into the compartment with the opposite side up and close the lid.
3. Repeat above steps 5-12.

To **rewind the tape**, depress the ■ (stop) button, then depress and lock the ◀◀ (rewind) button. (Total Mechanism Shut-off will not work at the end of tape if the PAUSE button is accidentally depressed.)

TMS (Total Mechanism Shut-off)

At the end of tape, the TMS stops the tape transport automatically in any operating mode of the tape: record, playback, rewind, fast forward. TMS occurs within 15 seconds after the end of tape and returns the locked buttons to their original positions. In fast forward or rewind, this shut-off time may be longer.

Headphone monitoring while recording

Insert a low impedance (8Ω) stereo headphone such as SONY DR-4A or DR-5A (optional) into the HEADPHONE jack. You can monitor the program being recorded and also check the balance of L- and R-channel recording levels.

How to use the Pause button

To momentarily pause during the recording to eliminate unwanted program material, depress and lock the PAUSE button. To re-start, depress the button once again. When you must pause for an extended time, use the ■ (stop) button.

Monaural recording

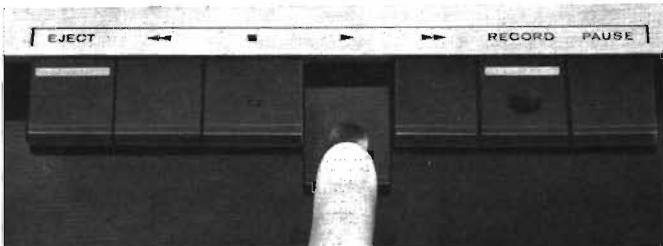
Monaural recording is also possible on the Model TC-134SD. Insert the monaural program source such as radio or TV to either the L- or R-channel of LINE IN or MICROPHONE input jack. The use of R-channel is desirable from the signal-to-noise point of view.

Note: Recording level adjustments are difficult if the LIMITER switch is in the ON position. Always adjust the RECORD VOLUME controls with the LIMITER switch in the OFF position.

PLAYBACK

For connection of Model TC-134SD, refer to "Connection with Stereo Component System".

1. Plug the AC power cord into an AC outlet.
2. Set the Power switch to the ON position.
3. Depress the EJECT button to open the Cassette compartment lid.
4. Insert a recorded cassette into the compartment with the desired side UP and close the lid.
5. Set the DOLBY switch at the same position as recording.
ON position: for a tape recorded with the Dolby process.
OFF position: for a tape recorded without the Dolby process
6. Depress and lock the ► (forward) button.
7. Adjust the volume and tone controls of the connected stereo amplifier.
8. To stop the tape at any desired point, depress the ■ (stop) button.



To play back the opposite side of the cassette

1. Depress the EJECT button.
2. Then, reinsert the cassette into the compartment with the opposite side UP and close the lid.
3. Depress and lock the ► (forward) button.
For fast forward, depress the ■ (stop) button, then depress and lock the ►► (fast forward) button. (Total Mechanism Shut-off will not work at the end of tape if the PAUSE button is accidentally depressed.)

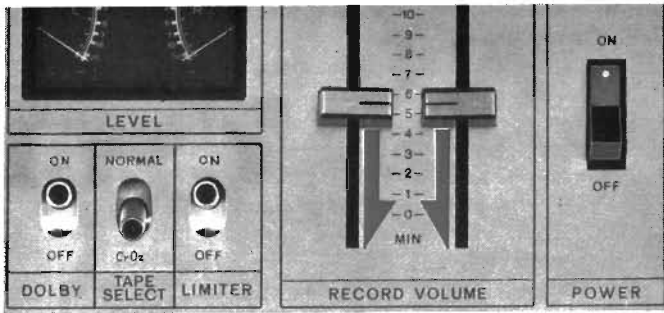
Private listening

Connect a SONY Stereo Headphone DR-4A, DR-5A or any 8-ohm stereo headphone into the HEADPHONE jack.

Notes:

- TAPE SELECT switch and LIMITER switch are both inoperative in playback.
- It is recommended that the Dolby-ized cassette be played back with the DOLBY switch in the ON position to assure optimum performance. If the Dolby-ized cassette is played back with the DOLBY switch at the OFF position, the sound reproduced will be somewhat "brighter" than normal.

ERASING



When the Model TC-134SD is in the record mode, the erase head operates and erases previous recordings automatically. To erase the tape without adding a new recording, slide the RECORD VOLUME controls to the "0" position. Depress and lock the RECORD and ► (forward) buttons. Erasing will begin.

- For quick and easy erasing, SONY Cassette Eraser Model BE-7 (optional) is recommended. Use of the BE-7 will reduce wear on heads and mechanism.

MAINTENANCE

Before proceeding, disconnect the AC power cord.

Head Cleaning

The Model TC-134SD requires very little maintenance. Essential routine maintenance consists of cleaning heads, pinch roller, and capstan over which the tape travels. Accumulation of dirt on these parts will cause the degradation of sound quality and sensitivity of the recorder. Cleaning should be done with the supplied head cleaning tip or a soft cloth moistened with denatured alcohol. Gently wipe these parts until all dirt is removed. For easier access, depress and lock the ► (forward) button.

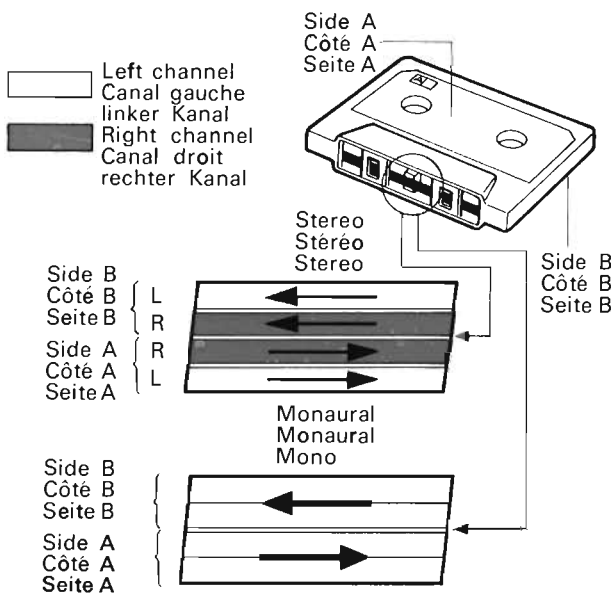
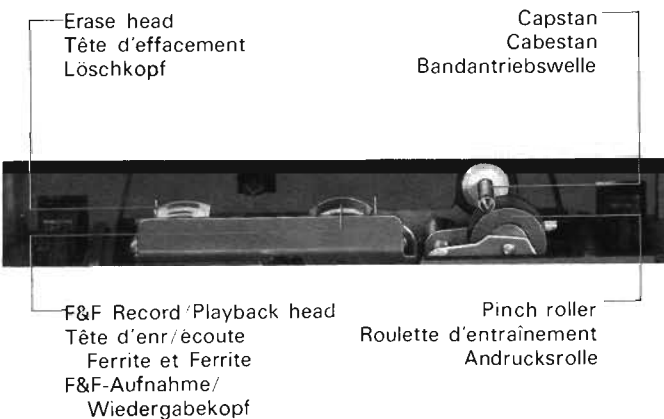
Head Demagnetizing

Continuous use, or the accidental touch of a piece of magnetized steel (screwdriver, scissors, etc.) will magnetize the heads, causing an increase in tape noise. It is recommended that the heads be demagnetized periodically to maintain optimum performance. The SONY Head Demagnetizer Model HE-2 is recommended. When using HE-2, disconnect the AC power cord.

- Lubrication of mechanism is not required for long periods of time.

CASSETTE FORMAT

The cassette system permits 4-track stereophonic and 2-track monophonic recording and playback. As illustrated, the total track width of the left and right channels of a stereo tape cassette are equal to a single monaural channel. When a stereo cassette is played on a monaural recorder, the playback head will play both channels together. When a monaural tape is played on a stereo recorder, the recorded track will be played by the left and right channel heads simultaneously. This means tape recorded on monaural units can be played on a stereo cassette recorder and vice versa without any loss of fidelity. When monaural recordings are made, connect the recording source to either the left or right input jack.



DOLBY SYSTEM

Under License from Dolby Laboratories Inc.
 Sous licence des laboratoires Dolby.
 In Lizenz der Firma Dolby Laboratories.

Whatever high-quality tape recorder you have, various noises such as tape hiss, transistor noise, etc. will occur during recording. Of these, tape hiss is most prevalent in any tape recording system and is audibly offensive to the ear, especially in the quieter parts of the music.

The slower the tape speed, the narrower the recording track, and the more often tape is copied, the more the tape hiss increases. The Dolby System reduces this unwanted noise for cassette tape recording.

There are two types of Dolby Systems :

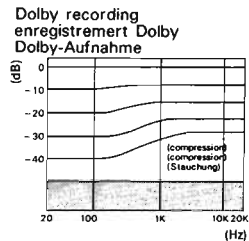
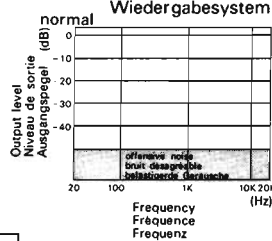
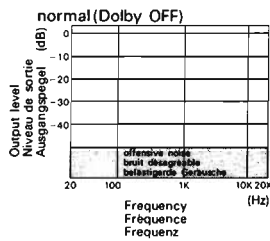
Type A For studio use or professional use. The program signal is divided into four bandwidths where it operates in each frequency area independently. But this type is costly, complicated, and also difficult to treat.

Type B This type is a simplified version of type A, preserving the fundamental effects of type A. It operates only in the high frequency area of the audio spectrum.

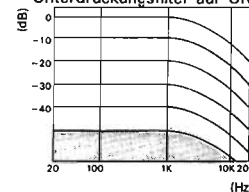
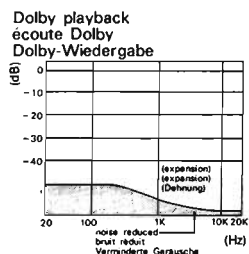
This type, therefore, is beneficial from cost and performance points of view. Most of Dolby-ized cassette tape recorders now appearing on the market employ type B.

Dolby System
 Système Dolby
 Dolby-System

Conventional Record/Playback System
 Système d'enregistrement/écoute
 conventionnel
 Herkömmliches Aufnahme/
 Wiedergabesystem



Playback with the high-cut filter ON
 Ecoute avec réduction du filtre de haute fréquence à la position [ON]
 Wiedergabe mit dem Unterdrückungsfilter auf ON



How the Dolby System works

During recording, the Dolby System automatically boosts low-level high-frequency signals so that the quietest parts of the music (input signal program) are recorded louder than normal. This maintains the recording level as far as possible from inherent noises such as tape hiss. This process is called "compression". During playback, this system automatically attenuates the same boosted signal in a complementary way and restores the music to its original loudness. This process is called "expansion".

As a result of this Dolby record-playback process, noise level is reduced by the same amount as the boosted level.

- Dolby System changes in accordance with input-signal frequency and its input level. As the diagram shows, the Dolby System will not operate above the normal input level of 0 dB or below the low frequency area.
- Dolby System will not reduce the noises which are involved in the original input signal program from the beginning.

Effects of Dolby System

Signal-to-noise improvement: Through Dolby record-playback process, tape hiss is incredibly reduced and signal-to-noise is remarkably improved by 5 dB at 1 kHz and 10 dB above 5 kHz.

The Dolby System operates by boosting low-level, high-frequency signals in the record mode and attenuating the same signals in the playback mode.

Le Système Dolby accentue les composantes haute fréquence à bas niveau pendant l'enregistrement et atténue les mêmes composantes pendant la reproduction.

Das Dolby-System arbeitet durch Verstärken der Hochfrequenzsignale mit Niederpegel während der Aufnahme und Abschwächen derselben während der Wiedergabe.

High frequency drops.
 La haute fréquence tombe.
 Hochfrequenz fällt ab.

Complete interchangeability

Dolby System is now being used by many tape recorder manufacturers and recording companies all over the world. Any Dolby processed pre-recorded cassette can be played back on any Dolby-ized cassette tape recorder with true fidelity. Furthermore, Dolby processed pre-recorded cassette is compatible. It can be successfully played back on non-Dolby cassette tape recorders, though the sound reproduced will be somewhat "brighter" than normal. This can be corrected by the use of treble attenuation in playback.

Choice of types of cassette

Any type of cassette can be used on Dolby-ized cassette tape recorders. The Dolby record-playback process may change by the sensitivity and the frequency response of the tape used. SONY recommend you use high-quality cassettes such as SONY HF cassette or newly developed SONY chromium dioxide cassette C-60CR, C-90CR to assure optimum performance from the Dolbyized cassette tape recorders.

MORE INFORMATION ABOUT ADVANCED TECHNOLOGY

SONY Limiter Recording System

Conventionally, there have been two recording level settings :

1. Automatic level setting

This method automatically adjusts and monitors recording level and maintains proper operation. Therefore, it is very convenient for beginners. But it may be unsatisfactory to recordists in the absence of full dynamics of sound.

2. Manual level setting

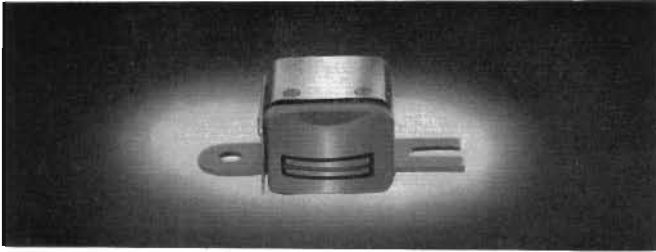
This method allows the recordist to adjust the levels at his own discretion. Therefore, it is desirable for hi-fi stereo recordings. But it may have distortion when an unexpected high input signal is introduced.

SONY Limiter Recording System

Its action is the same as manual recording in normal condition. When a sudden high input signal is introduced, this system limits its peak level to a desirable level by Limiter Recording characteristics and prevents the occurrence of unnecessary distortion. You could say that the SONY Limiter Recording System uses both the functions of manual and automatic recording level settings, while enjoying both advantages.

Why SONY employs the Limiter Recording System in the field of stereo cassette decks

Cassette tape has narrower tape width and thinner coating than reel-to-reel tape. This means tape saturation will occur and distortion will increase by a sudden high input signal... very critical with respect to the requirements of hi-fi recordings. Therefore, SONY employs the Limiter Recording System to make distortion-free recordings every time and reproduce superior sound quality.



----- SONY chromium dioxide cassette
Cassette au bioxyde de chrome SONY
SONY Chromdioxid-Kassette

———— Standard iron oxide cassette
Cassette standard à oxyde de fer
Normale Eisenoxid-Kassette

① Tape select switch at NORMAL
Sélecteur de bande sur [NORMAL]
Bandartenwähler auf NORMAL

② Tape select switch at CrO₂
Sélecteur de bande sur [CrO₂]
Bandartenwähler auf CrO₂

③ Tape select switch at NORMAL
Sélecteur de bande sur [NORMAL]
Bandartenwähler auf NORMAL

F & F (Ferrite & Ferrite) Head

SONY also makes the difference in the field of head construction with advanced mechanical engineering.

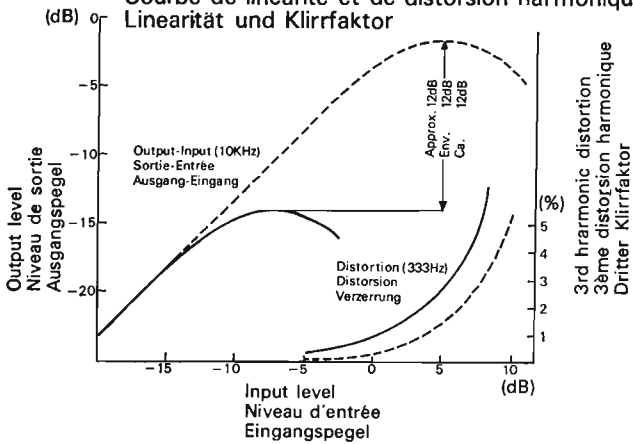
The SONY high performance F & F head has unique properties, such as extreme hardness and durability, and an extremely narrow gap.

As a result, the Model TC-134SD is capable of:

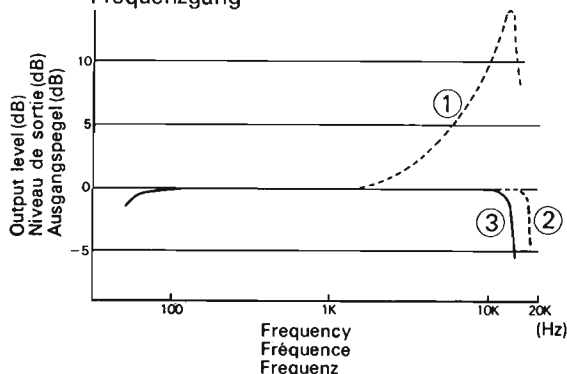
1. Greatly extended frequency response and remarkable reduction of high frequency losses.
2. Higher reliability . . . 1/200 the wear of a conventional head.
3. Its highly polished, mirror-smooth contact surface with the tape is indispensable for clear, distortion-free sound reproduction.

The symbol F & F means the core material plus the guard portion of the heads are all ferrite. This prevents uneven head wear and maintains a precisely parallel head gap for a more extended period.

Linearity and Harmonic Distortion Curve
Courbe de linéarité et de distorsion harmonique
Linearität und Klirrfaktor



Frequency Response Curve
Courbe de réponse en fréquence
Frequenzgang



What Is Chromium Dioxide Cassette?

Chromium dioxide cassette answers the demand for a high performance tape that satisfies every recording situation. It is the most effective tape for recording high frequencies, yet it captures the low ranges with equal effectiveness. SONY chromium dioxide cassette provides far less distortion, smoother frequency response, and a greater dynamic range than standard iron oxide tape. Every aspect of the sound, especially the higher ranges (completely lost with iron oxide tape) comes through with sparkling fidelity.

Chromium dioxide cassette has higher coercivity and retentivity which reduce the effect of "recording demagnetization" which occurs as the tape passes across the record head while recording) and the tape's self demagnetization (which occurs within the tape itself). Since these phenomena are more prevalent in higher frequencies, and cause loss of highs in recording, this reduction of these erasure promises higher output at high frequencies. Therefore, chromium dioxide cassette gives extended high frequency response providing, at the same time, wider dynamic range.

The noise level of chromium dioxide cassette equals that of iron oxide tape. Therefore, chromium dioxide cassette's higher efficiency in higher frequencies provides a higher signal-to-noise ratio due to the fact that it requires less record signal energy in high frequency recording. The result is remarkably clear, noise- and distortion-free sound throughout the audio spectrum.

SPECIFICATIONS

Power requirements: Type 1 (Available in Scandinavian countries) . . . AC 220V, 50 Hz
 (Available in Europe except Scandinavian countries . . .
 AC 110, 127, 220 or 240V, 50/60 Hz
 Type 2 (Available in other countries) . . .
 AC 100, 110, 120, 127, 220, 240V, 50/60 Hz

Power consumption: Type 1 . . . 18 W
 Type 2 . . . 10 W

Tape speed: 1 $\frac{7}{8}$ ips (4.8 cm)

Recording time: 120 min. with C-120, 90 min. with C-90, 60 min. with C-60

Semiconductors: 30 transistors, 15 diodes

Recording system: 4-track stereo, 2-track monaural

Recording bias frequency: 85 kHz

Signal-to-noise ratio: DOLBY OFF 49 dB
 DOLBY ON improved 5 dB at 1 kHz
 improved 10 dB above 5 kHz

THD (Total Harmonic Distortion): 2.5%

Frequency response: With chromium dioxide cassette
 NAB DIN
 30~17,000 Hz 40~13,000 Hz
 With ordinary cassette
 30~15,000 Hz 40~11,000 Hz

Wow and flutter: NAB DIN
 0.2% \pm 0.3%

Inputs: Microphone inputs 2
 Sensitivity -72 dB (0.2 mV)
 Low impedance
 Line inputs 2
 Sensitivity -22 dB (0.06 V)
 Input impedance 560 k Ω

Outputs: Line outputs 2
 Normal output level 0 dB at load impedance of 100 k Ω
 Load impedance more than 10 k Ω
 Headphone output 1
 Load impedance 8 Ω

Record/Playback connector: Input impedance 3.3 k Ω
 Output impedance 8.2 k Ω

Dimensions: 16 $\frac{1}{2}$ (w) \times 4 $\frac{3}{8}$ (h) \times 8 $\frac{13}{16}$ (d)" (412 \times 115 \times 223 mm)

Weight: 11 lb 11 oz (5.3 kg)

Supplied accessories: Connecting Cord RK-74 . . . 2
 Head cleaning tips

Design and specifications subject to change without notice.

OPTIONAL ACCESSORIES

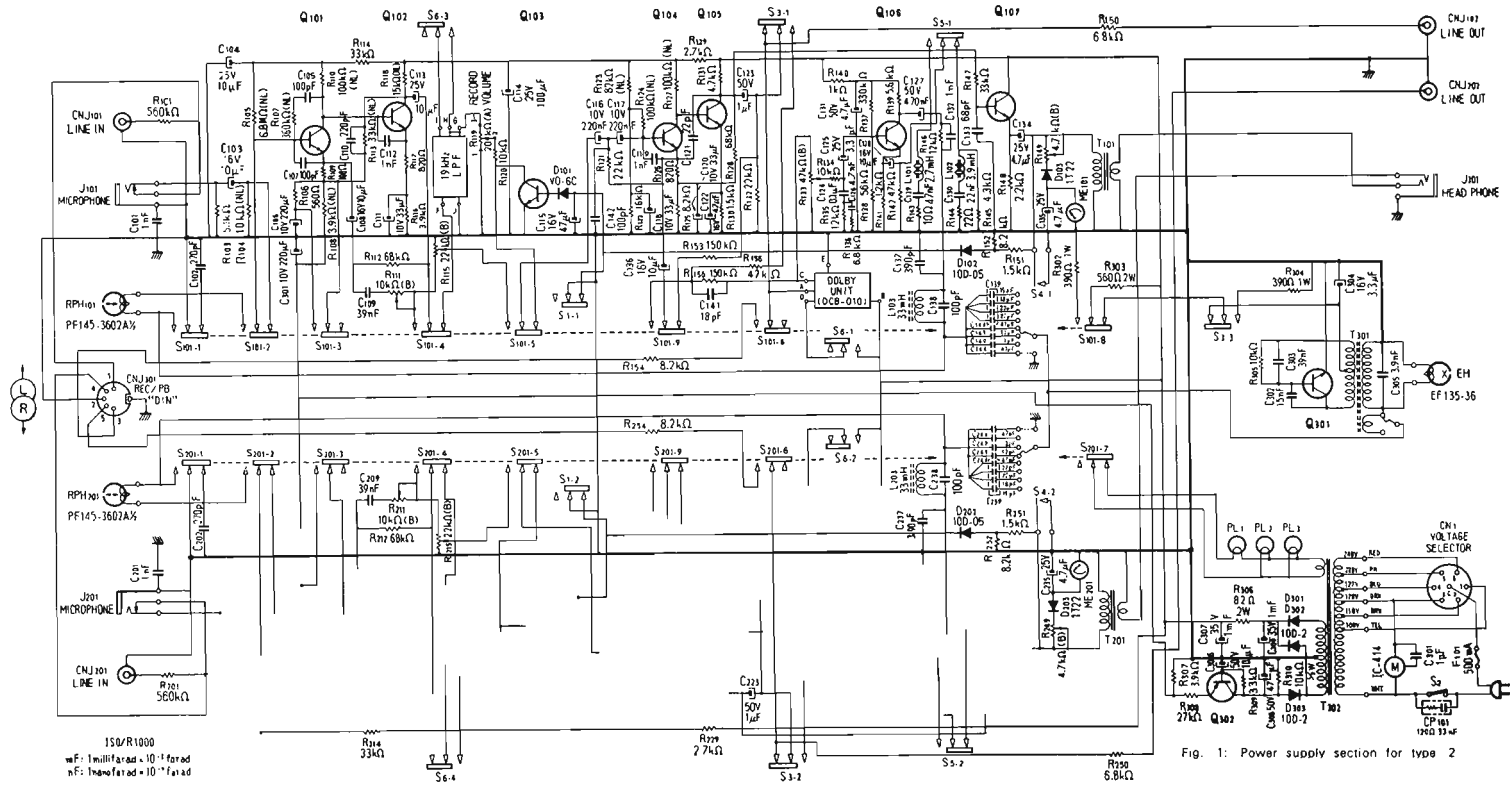
Stereo Headphone DR-4A, DR-5A
 One Point Stereo Microphone ECM-99
 Electret Condenser Microphone ECM-19B, ECM-21
 Microphone Mixer MX-6S, MX-12 M
 Head Demagnetizer HE-2
 Cassette Eraser BE-7
 Head Cleaning Kit KK-1
 SONY Cassette C-60, C-90, C-120, C-60HF, C-90HF, C-120HF, C-60CR

SONY tape for best recording

TROUBLE SHOOTING CHART

The following chart is designed to help correct any problem which may occur with the Model TC-134SD. If you have any difficulties which cannot be rectified by this check list, consult your SONY dealer.

TROUBLES	CAUSES	WHAT TO DO
The RECORD button cannot be depressed.	<ul style="list-style-type: none"> • No cassette in the cassette compartment. • The cassette in the compartment has the safety tabs removed. 	Cover the slot with cellophane tape.
The tape doesn't move.	<ul style="list-style-type: none"> • The power cord is not connected or the power switch is not turned ON. • The PAUSE button is locked in down position. • Slack in the tape or tape is entangled 	<p>Connect the power cord or depress the dot-side of the power switch.</p> <p>Depress the PAUSE button again to release it.</p> <p>Insert a pencil into the hub of the cassette and wind the pencil a few times.</p>
Noise	<ul style="list-style-type: none"> • Magnetism on the heads. • Contamination of the heads. 	<p>Demagnetize the heads. (See page 18.)</p> <p>Clean the heads. (See page 18.)</p>
Too much wow and flutter or dropout	<ul style="list-style-type: none"> • Contamination of the heads, capstan and pinch roller. 	Clean the heads, capstan and pinch roller. (See page 18.)
A rise in the high frequencies	<ul style="list-style-type: none"> • The DOLBY switch is inadvertently set to OFF. • Chromium dioxide cassette was recorded with the TAPE SELECT switch at NORMAL position. 	<p>The Dolby-ized cassette should be played back with the DOLBY switch in ON position.</p> <p>Adjust the tone control on the connected amplifier or receiver to drop the high frequencies.</p>
Distortion	<ul style="list-style-type: none"> • High recording level. 	<p>0 reading of the level meter at maximum input signal is recommended.</p> <p>The LIMITER switch may be set to ON for sudden high input signal.</p>
Insufficient erasure	<ul style="list-style-type: none"> • Contamination of the erase head. 	Clean the erase head.
Recording cannot be made.	<ul style="list-style-type: none"> • Improper connections. • Contamination of record/playback head. 	<p>Check connections. (See page 10.)</p> <p>Clean record/playback head.</p>
No sound from recorded tape.	<ul style="list-style-type: none"> • Improper connections • Malfunction of the amplifier or receiver connected. 	<p>Check connections. (See page 10.)</p> <p>Check whether the related controls of the amplifier or receiver are correctly set.</p>
Automatic shut-off cannot be activated in rewind or fast forward mode.	<ul style="list-style-type: none"> • The PAUSE button is depressed. 	Depress the PAUSE button to release it.



ISB/R1000
 μF: 1 microfarad • 10⁻⁶ Farad
 nF: 1 nanofarad • 10⁻⁹ Farad

Letter symbol	Switches Description	Position
S ₁₀₁₋₂₀₁	REC/PB	REC
S ₁₀₁₋₁	LIMITER	MANUAL
S ₂	POWER	ON
S ₃	TIMING	FORWARD
S ₄	MUTING	OFF
S ₅	TAPE SELECT	CrO ₂
S ₆	DOLBY	ON

Letter symbol	Transistors Description
Q ₁₀₁₋₂₀₁	2SC831A
Q ₁₀₂₋₂₀₂	2SC831A
Q ₁₀₃₋₂₀₃	2SC833A
Q ₁₀₄₋₂₀₄	2SC831A
Q ₁₀₅₋₂₀₅	2SC834A
Q ₁₀₆₋₂₀₆	2SC834A
Q ₁₀₇₋₂₀₇	2SC834A
Q ₂₀₁	2SC1384
Q ₂₀₂	2SA678

Fig. 1: Power supply section for type 2

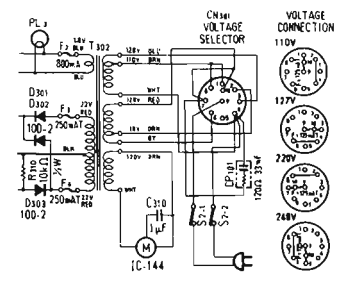
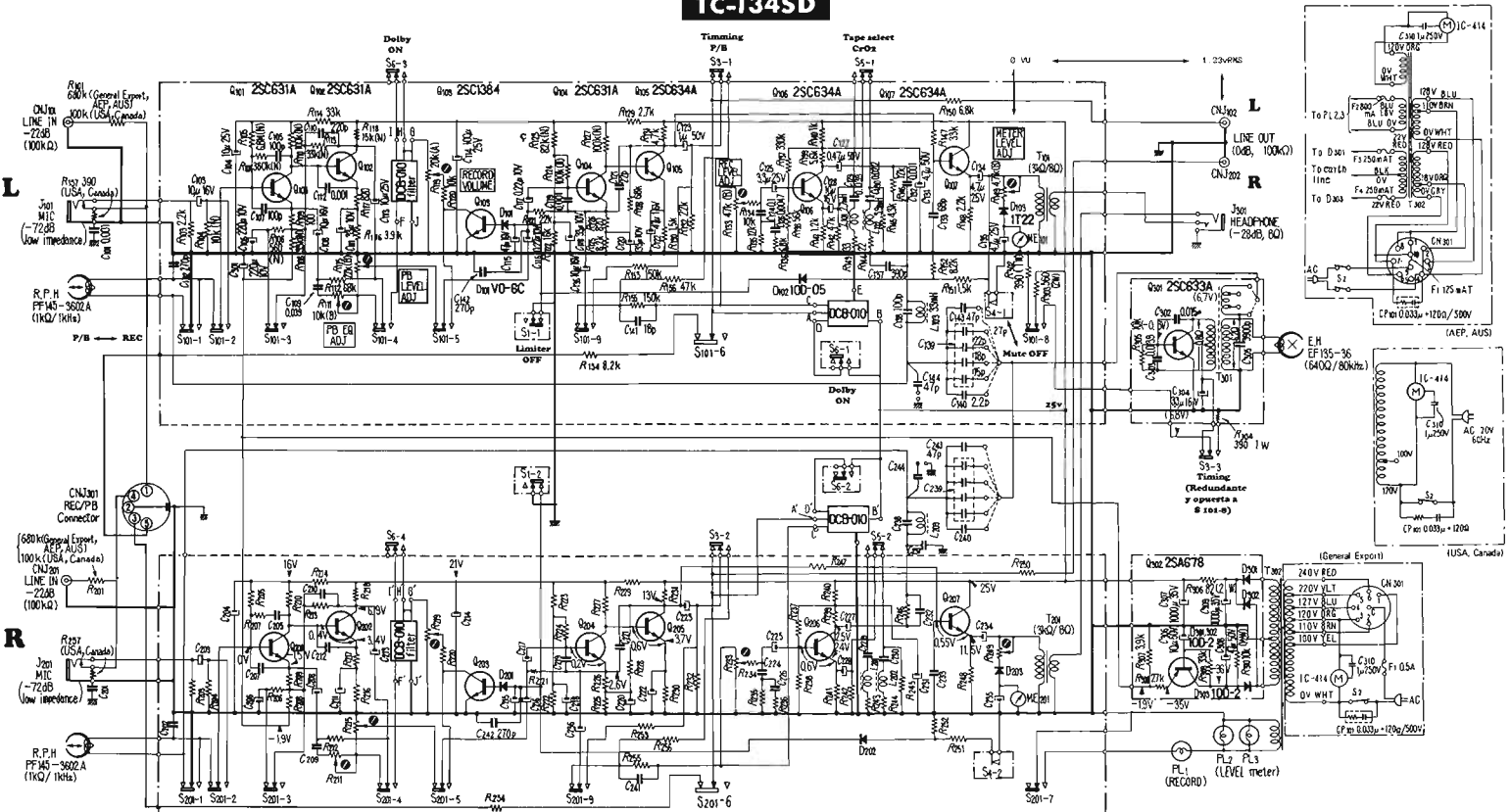


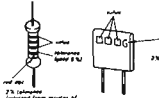
Fig. 2: Power supply section for type 1

TC-134SD

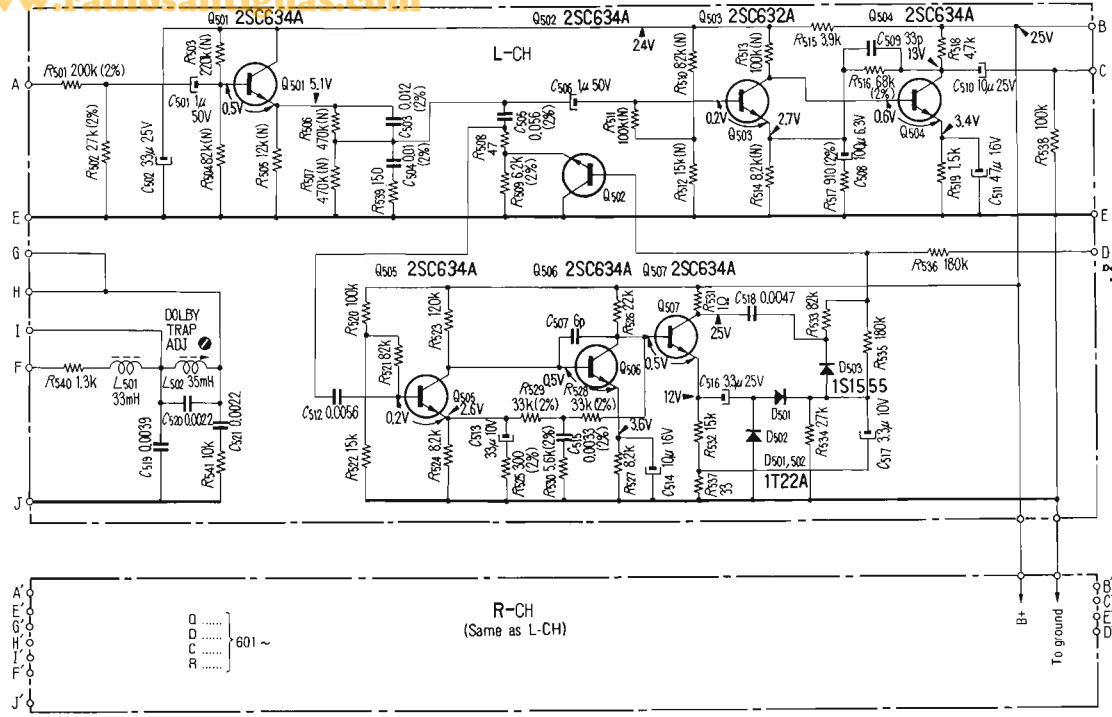


Green line circuit : General Export, AEP, AUS

- 1. All resistors and capacitors are rated as Ω and all units submicro indicated.
- 2. All submicro ground to chassis.
- 3. The letters (A) and (B) prefixed to rating value of variable resistor indicate its characteristic.
- 4. The letter (M) which is prefixed to rating values above the nominal value.
- 5. Voltage values shown are measured with a voltmeter (100 Ω/V) in playback mode. Voltage values in parentheses are for record mode. Voltage values may be varied because of normal production tolerances.
- 6. Voltage values for LCH is the same as for RCH.
- 7. Components for RCH are the same value as for LCH.
- 8. When replacing transistors and capacitors specified with the submicro, use the specified ones, since DOLBY system requires precise return operation.
- 9. Reference identification.
- 10. Switch mode



Part No.	Design	Mode
S101, 201	record/playback	playback
S11, 12	LIMITER	OFF
S3	POWER	ON
S31 - 33	TUNING	playback
S41, 42	muting	OFF
S51, 52	TAPE SELECT	SPECIAL
S61 - 64	DOLBY	ON



- Note:**
1. All resistors and capacitors are rated in Ω and μF unless otherwise indicated.
 2. ω indicates grounded to chassis.
 3. The letters (A) and (B) prefixed to rating value of variable resistor indicate its characteristics.
 4. The letter (N) which is suffixed to rating values shows a non-linear resistor.
 5. Voltage values shown are measured with a voltmeter (100kΩ/V) in playback mode. Voltage values at parentheses are for record mode. Variations may be noted because of normal production tolerances. Voltage values for L-CH is the same as for R-CH.
 6. Ⓢ adjustable
 7. Components for R-CH use the same value as for L-CH.
 8. When replacing resistors and capacitors specified with 2% tolerance, use the specified ones, since DOLBY system requires precise circuit operation. 2% Tolerance Identification.

