

Stereo Cassette Deck

Operating Instructions

TC-FX110

Owner's Record

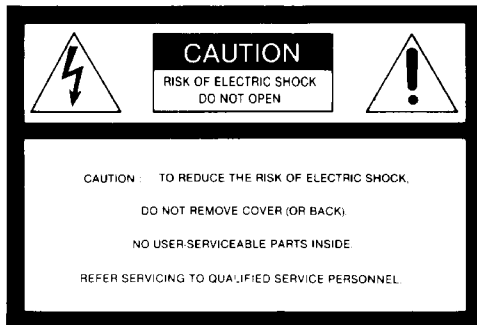
The model and serial numbers are located at the rear.
Record the serial number in the space provided below.
Refer to these numbers whenever you call upon your
Sony dealer regarding this product.

Model No. TC-FX110

Serial No. _____

WARNING

**To prevent fire or shock hazard, do not
expose the unit to rain or moisture.**



NOTICE FOR THE CUSTOMERS IN THE UNITED KINGDOM

IMPORTANT

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

Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

* The graphical symbols are on the rear enclosure.

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Precautions

On safety

- Before operating the unit, check that the operating voltage of your unit is identical with the voltage of your local power supply.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it will not be used for a long time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- The nameplate indicating operating voltage, power consumption, etc. is located on the rear.

On operation

- When the unit is not being used, turn the power off to conserve energy and to extend the useful life of your unit.
- Because of a safety mechanism, the function buttons will not operate if the cassette holder is not completely closed, if there is no cassette, or if a cassette has been incorrectly inserted into the cassette holder.

On head cleaning

The heads and tape path should be cleaned after 10 hours of operation. Dirty heads and a dirty tape path may cause:

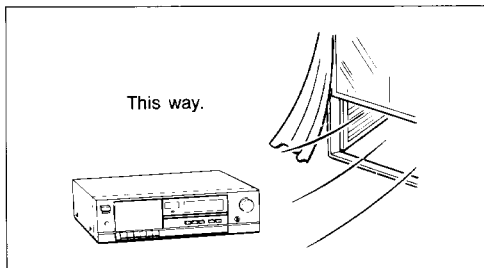
- Loss of high-frequency response
- Loss of sound volume
- Sound drop-out

If you have any questions or problems concerning your unit, please contact your nearest Sony dealer.

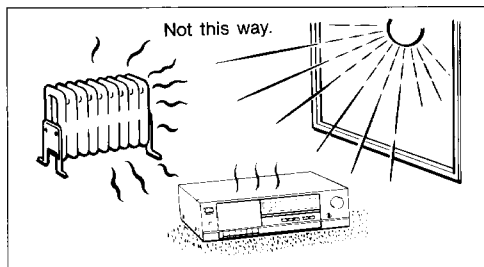
Installation

Notes on installation

Place the unit in a location with adequate air circulation to prevent internal heat build-up in the unit.



Do not place the unit on a soft surface, such as a rug, that would block the ventilation holes on the bottom.



Install the unit with the front panel facing toward you.

Do not install the unit:

- near heat sources such as radiators or air ducts.
- in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- in an inclined position.

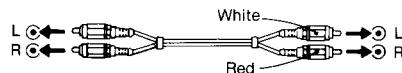
Do not throw away the carton and the packing material!

They will come in handy when transporting the unit or shipping it for servicing.

Connections

Notes on Connections

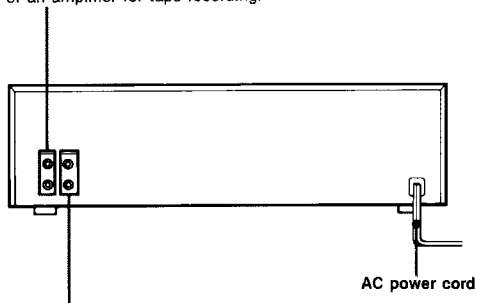
- Turn off the power to all equipment before making any connection.
- Note that the red plug of the supplied connecting cord is for right-channel (R) connection and the white plug for left-channel (L) connection.



- The connecting cords should be fully inserted into the jacks. A loose connection may cause hum pick-up.

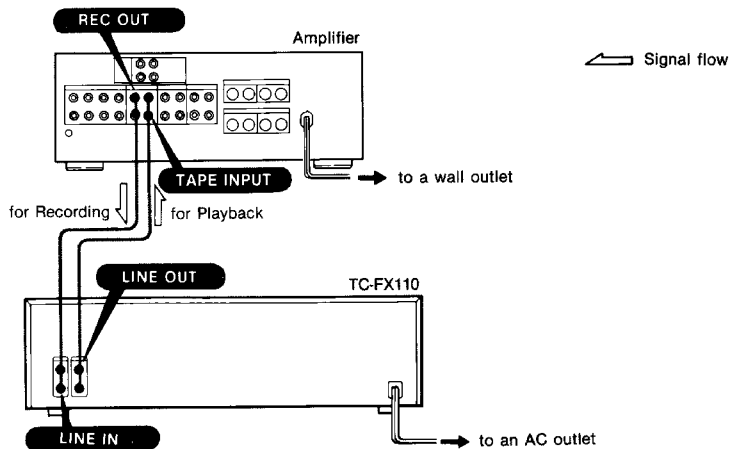
Identification of Rear Panel Parts

LINE IN (line input) jacks (phono jacks)
Connect to the tape outputs (recording outputs) of an amplifier for tape recording.

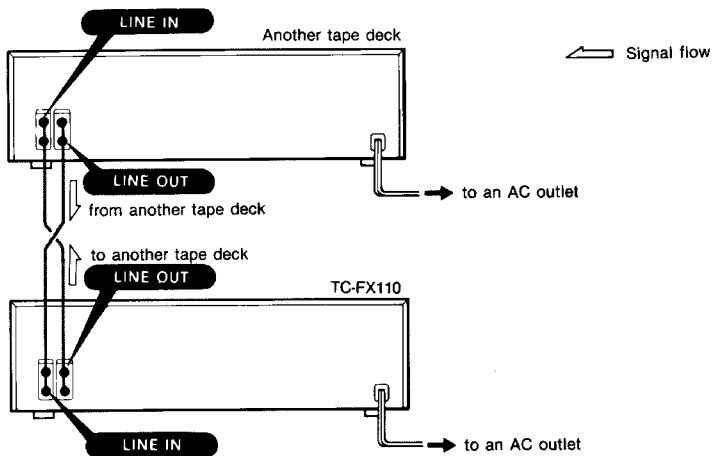


LINE OUT (line output) jacks (phono jacks)
Connect to the tape inputs of an amplifier for playback.

Basic Connection

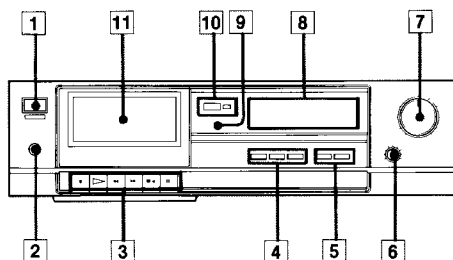


Connection for Tape Dubbing



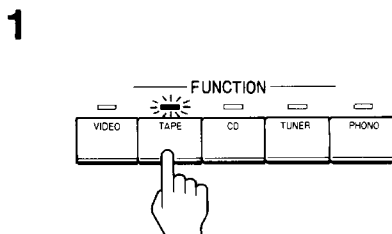
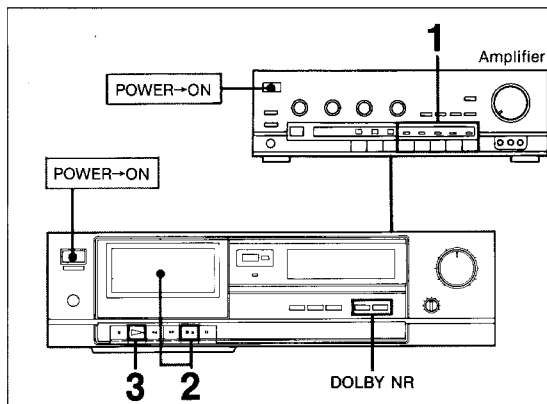
Identification of Front Panel Parts

Refer to the pages indicated in ● for details.



- 1 **POWER switch**
- 2 **HEADPHONES jack** (stereo phone jack)
- 3 **Tape operation buttons**
 - (record) button
 - ▷ (play) button
 - ◀◀ (rewind) button
 - ▶▶ (fast-forward) button
 - ▲ (stop/eject) button
 - || (pause) button
- 4 **TAPE SELECT switches** ①
- 5 **DOLBY NR switches** ②
- 6 **BALANCE control**
Adjusts the recording balance between both channels.
- 7 **REC LEVEL (recording level) control** ③

Playback



How to use the DOLBY NR switch

Set the DOLBY NR switch to the same positions used when the cassette was recorded.

Dolby NR system	Switch Setting	
	ON/OFF (left)	B/C (right)
B type	▲	□
C type	▲	▲
OFF	□	Either position

"DOLBY" and the double-D symbol □ are trademarks of Dolby Laboratories Licensing Corporation.

What is the Dolby NR system?


The Dolby NR (noise reduction) system reduces tape hiss around low-level, high-frequency signals by boosting them during recording and lowering them during playback.

Before turning the power off

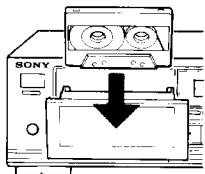
Be sure to release ▶ by pressing ■▲. Otherwise, the tape may become tangled when power is turned on again.

After winding the tape using ◀◀ or ▶▶

Be sure to press ■▲ to shut the unit off.

- 8 PEAK LEVEL METER 
- 9 RECORD INDICATOR
- 10 TAPE COUNTER and RESET button
- 11 Cassette holder



2





3





When the tape ends, the unit will shut off automatically.

To stop play, press  .

To stop for a moment during play, press .

To restart play, press  again.

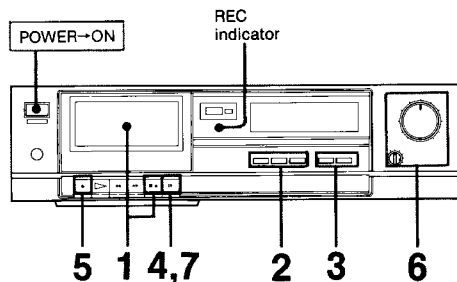
To shut the unit off after winding the tape, press  .

Select the tape type with the TAPE SELECT switches. (Refer to the tape list below.)

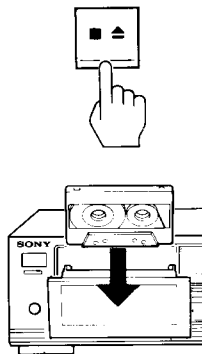
Tape type	Tapes (C30 – C90)
TYPE I (Normal)	SONY: EF, HF, HF-S, HF-ES Other TYPE I equivalent tapes (For 120 μ s EQ, NORMAL BIAS)
TYPE II (CrO ₂)	SONY: UX, UX-S, UX-ES, UX-PRO Other TYPE II equivalent tapes (For 70 μ s EQ, HIGH BIAS)
TYPE IV (Metal)	SONY: METAL-ES Other TYPE IV equivalent tapes (For 70 μ s EQ, METAL BIAS)

Recording

Select the program source you want to record. Any previously recorded material will be erased automatically.

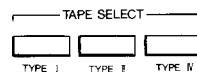


1



2

Set the TAPE SELECT switches. (See page 7)



If the side whose tab has been removed is selected for recording

You cannot start recording.

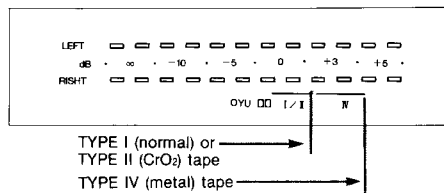
Before turning the power off

Be sure to release by pressing .

Recording Level Adjustment

Adjust the recording level according to tape type by observing the PEAK LEVEL METER, referring to the following diagram.

Recommended maximum PEAK LEVEL METER reading



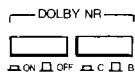
If the recording level frequently exceeds the specified range, the level is too high.

Tips on recording level adjustment

- Adjust the recording level as high as possible without causing distortion in the recorded sound. If the recording level setting is too high, the recording will be distorted; if it is too low, the tape will produce a hissing sound.
- If the program source to be recorded has many high frequency signals, set the level to a relatively low position.

3

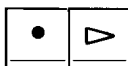
Select the desired DOLBY NR system setting. (See page 6)



4



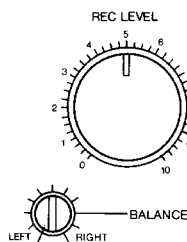
5



▷ will be depressed automatically, and the REC indicator lights up.

6

Adjust the recording level. (See page 8)



7

To start recording.



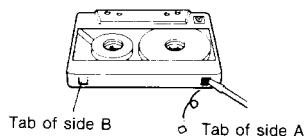
To stop recording, press ■▲.

Notes on Cassettes

To prevent accidental erasure

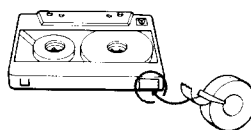
To protect a recording on either side A or B

Break out the tab of the respective side.



To reuse a cassette

Cover the respective slot with plastic tape.



Cassettes exceeding 90 minutes are not recommended except for long continuous recording and playback
Cassettes exceeding 90 minutes use extremely thin tape which tangles easily when the tape transport is stopped and started frequently.

Cassette care

- Do not touch the tape surface as dust or dirt will accumulate on the unit's magnetic heads, lowering the playback and recording quality.
- Keep cassettes away from equipment such as speakers and amplifiers. Their magnetic coils may cause erasure or distortion of your recorded tapes.
- Do not expose cassettes to direct sunlight, extremely low or high temperature, or moisture.


Maintenance

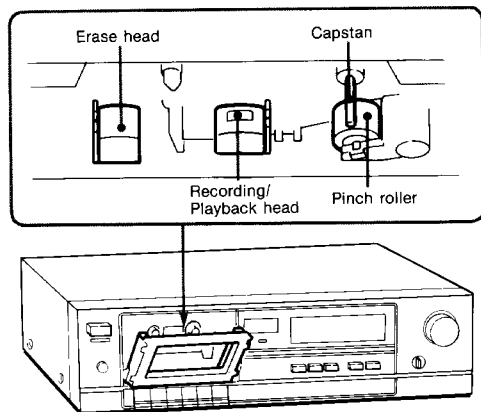
Cleaning the Heads and Tape Path

Clean all surfaces over which the tape travels after every 10 hours of operation. Otherwise, the following symptoms might appear.

- low-quality sound
- a decrease in sound level
- excessive wow, flutter or dropout
- incomplete erasure
- recording cannot be made

To obtain high-quality recording sound, cleaning before every recording is recommended.

- 1** Press  to open the cassette holder. Grasp the front of the holder on both sides and gently lift to remove it.
- 2** Wipe the heads, the pinch rollers and the capstans with a cotton swab slightly moistened with tape cleaning fluid or alcohol.
- 3** Replace the cassette holder.



Demagnetizing the Heads

After 20 or 30 hours of use, or when you notice hiss and/or loss of high frequencies, the residual magnetism built up on the heads should be removed.

- 1** Turn off the power.
- 2** Demagnetize the heads with any commercially available demagnetizer. Refer to the instruction manual of the demagnetizer for detailed instructions.

Cleaning the Cabinet

Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution.

Important

Do not use any type of abrasive pad, scouring powder or solvents such as alcohol or benzene.

Specifications

Recording system

4-track 2-channel stereo
 Fast winding Approx. 120 sec. (with C-60 cassette)
 Bias AC Bias
 Signal-to-noise ratio (NAB, at peak level)

Cassette \ Dolby NR switch	OFF	B-TYPE ON	C-TYPE ON
TYPE IV (Sony METAL-ES)	58 dB	65 dB	71 dB
TYPE II (Sony UX-S)	56 dB	63 dB	69 dB
TYPE I (Sony HF-S)	54 dB	61 dB	67 dB

Total harmonic distortion

1.0% (with Sony METAL-ES cassettes)

Frequency response (DOLBY NR OFF)

TYPE IV cassette (Sony METAL-ES)	30–15,000 Hz (±3 dB, DIN) 30–13,000 Hz (0VU recording)
TYPE II cassette (Sony UX-S)	30–14,000 Hz (±3 dB, DIN)
TYPE I cassette (Sony HF-S)	30–13,000 Hz (±3 dB, DIN)

Wow and flutter 0.12% WRMS (NAB)
 ±0.2% (DIN)

Inputs

Line inputs (phono jacks)	Sensitivity	77.5 mV (–20 dB)
	Input impedance	50k ohms

Outputs

Line outputs (phono jacks)	Rated output level	0.44 V (–5 dB) at a load impedance of 47k ohms
	Load impedance	Over 10k ohms
Headphone output (stereo phone jack)	Output level	0.4 mW at a load impedance of 32 ohms

General

Power requirements

Model for the U.S.A. and Canada:
 120 V AC, 60 Hz
 Model for the United Kingdom:
 240 V AC, 50 Hz

Power consumption

12 W

Dimensions

Approx. 430 × 118 × 286 mm (w/h/d)
 (17 × 4³/₄ × 11³/₈ inches)

Weight

including projecting parts and controls
 Approx. 3.5 kg (7 lbs 12 oz)

Supplied accessory

Audio connecting cord (2)

Design and specifications subject to change without notice.

Note

This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

Troubleshooting Guide

The following trouble checks will help you correct the most common problems encountered with your tape deck.

Should any problems persist after you have made these checks, consult your nearest Sony dealer.

Before proceeding with these trouble checks, first check these basic points:

- The power cord is firmly connected.
- Amplifier connections are firmly made.
- Heads, capstans and pinch rollers are clean.
- The amplifier controls and switches are set correctly.

Function buttons and tape transport problems

Symptom	Cause	Remedy
Function buttons do not activate.	Cassette holder is not fully closed.	Close the holder completely.
● button cannot be depressed.	No cassette in the holder.	Insert a cassette.
	Tab has been removed from the cassette.	Cover the hole with plastic tape. (page 9)
Automatic shut-off mechanism activates before the tape comes to its end.	Cassette shell is deformed.	Use another cassette.
Excessively loud tape transport noise during fast winding.	This depends on the cassette used and is not a problem.	—

Recording and playback problems

Symptom	Cause	Remedy
Recording or playback cannot be made or there is a decrease in sound level.	Record/playback and erase heads are either dirty or magnetized.	Clean or demagnetize the heads.
	Improper connection	Make connections properly.
	Improper setting of the amplifier controls	Set the amplifier controls to the appropriate positions.
Excessive wow, flutter or dropout	Head, capstan or pinch roller is dirty.	Clean in accordance with instructions shown on page 10.
Incomplete erasure	Erase head is dirty.	Clean the erase head.
Increased noise or poor reproduction in high frequencies	Head is magnetized.	Demagnetize the head.
Unbalanced tone in high frequencies	Improper setting of the DOLBY NR switch.	When playing back, set the switch to the same position used in recording.
	Improper setting of the TAPE SELECT switches.	If recorded with the wrong switch setting, adjust the tone controls of the amplifier during playback.
	The unit is placed near a television set.	Move the unit away from the television set.

Noise

Symptom	Cause	Remedy
Hum noise	The deck is stacked on or placed under the amplifier.	Separate the units.
Noise is recorded.	Recording was made near equipment such as a television set or a color monitor, and the interference has affected the recording on the tape and the Dolby NR system.	Move the unit away from the television set or color monitor.