AM / FM STEREO RECEIVER

SX-550

OPERATING INSTRUCTIONS

KU
KC

Walnut grained vinyl metal top and walnut grained vinyl side panels are used in the construction of this cabinet.

PIONEER®

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CONTENTS

FEATURES

High Stability FM Tuner Circuit Elements

Junction type FET (RF amplifier) and frequency linear type precision 3-gang variable capacitor are employed in the FM front end. These are followed by a high performance Pioneer developed IC in the IF and phase locked loop (PLL) system IC in the MPX circuits to form a superb circuit composition utilizing high reliability elements. Outstanding performance is achieved in terms of such specifications as frequency frift, image rejection, S/N, capture ratio and selectivity. The low distortion, stable operation allows luxurious FM stereo reception to be fully enjoyed.

Stringently Selected Equalizer Elements

Two low noise ICs combined with stringently selected equalizer elements suppress RIAA deviation during record playback. This becomes the most vital factor for obtaining advanced fidelity with respect to the original sound. A transistorized voltage regulator also enlarges the maximum nominal input, widening the dynamic range and contributing to low distortion record performance.

Low Distortion Power Amplifier and Wide Margin Power Supply

Power amplifier is composed of a differential first stange, balanced positive and negative power supply, pure complementary OCL circuit. The SX-550 delivers a

Continuous power output of 20 watts* per channel, min. RMS, at 8 ohms from 20Hz to 20,000 Hz with no more than 0.3% total harmonic distortion.

Plenty of power is available for excellent frequency response, output bandwidth and distortion characteristics.

Compatible with All Program Sources

In addition to special jacks for turntable and tape decks, auxiliary (AUX) input jacks are provided for connecting a cartridge tape player or other component. Virtually all program sources can be connected. The front panel microphone jack also provides flexibility for record concert narration or public address applications.

2 Tape Decks Can Be Connected

Since tape jacks and tape monitor switches are provided for two sets of stereo tape decks, desired portions of a prerecorded tape can be edited onto a second tape, or duplication from open reel to cassette tape can be performed.

2 Sets of Speaker Systems Can Be Used

The speaker switch can be used to select between two sets of stereo speaker systems. A-B comparison listening or simultaneous listening with speakers installed in another room become possible. A single SX-550 functions as two stereo amplifiers in this manner.

New Receiver Styling

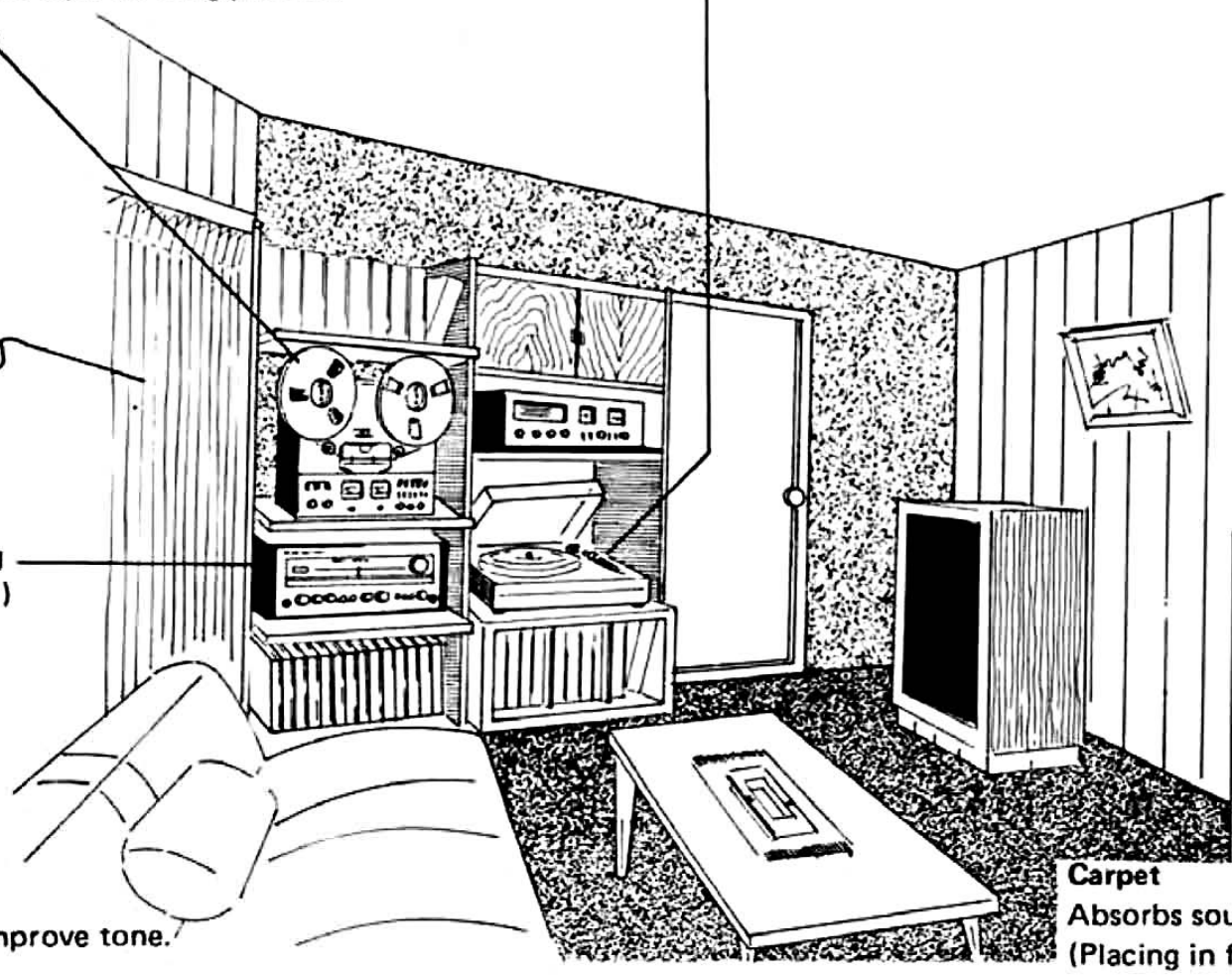
Large easy to see tuning scale, excellent tuning feel and rich operating systems are combined in the integrated stereo amplifier. Both appearance and functions of the front panel express a quality Pioneer product.

**Measured pursant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.*

STEREO SYSTEM COMPOSITION

Tape Deck
- Be sure to install reel clamps when using vertically.
- Always keep heads clean.
- Do not neglect recorded tape for long periods.
- Avoid magnetic fields.

Turntable
- Protect from vibrations and close dust cover whenever possible.
- Store records vertically and protect from dust and dirt.



Speaker System

Rear and side panels of left and right speakers should have the same surroundings.
(Placing with rear panel against a wall improves bass)

Install speakers so that vibrations are not transferred directly to the floor.
(Employ stands or concrete blocks with bookshelf type speakers)

Thick curtain shuts out direct sunlight.

SX-550 (Keep connecting cords as short as possible.)

Furniture materials can improve tone.

Carpet
Absorbs sound and vibrations
(Placing in front of speakers is also effective.)

Listening position slightly to the rear of the apex of an equilateral triangle formed with left and right speakers.

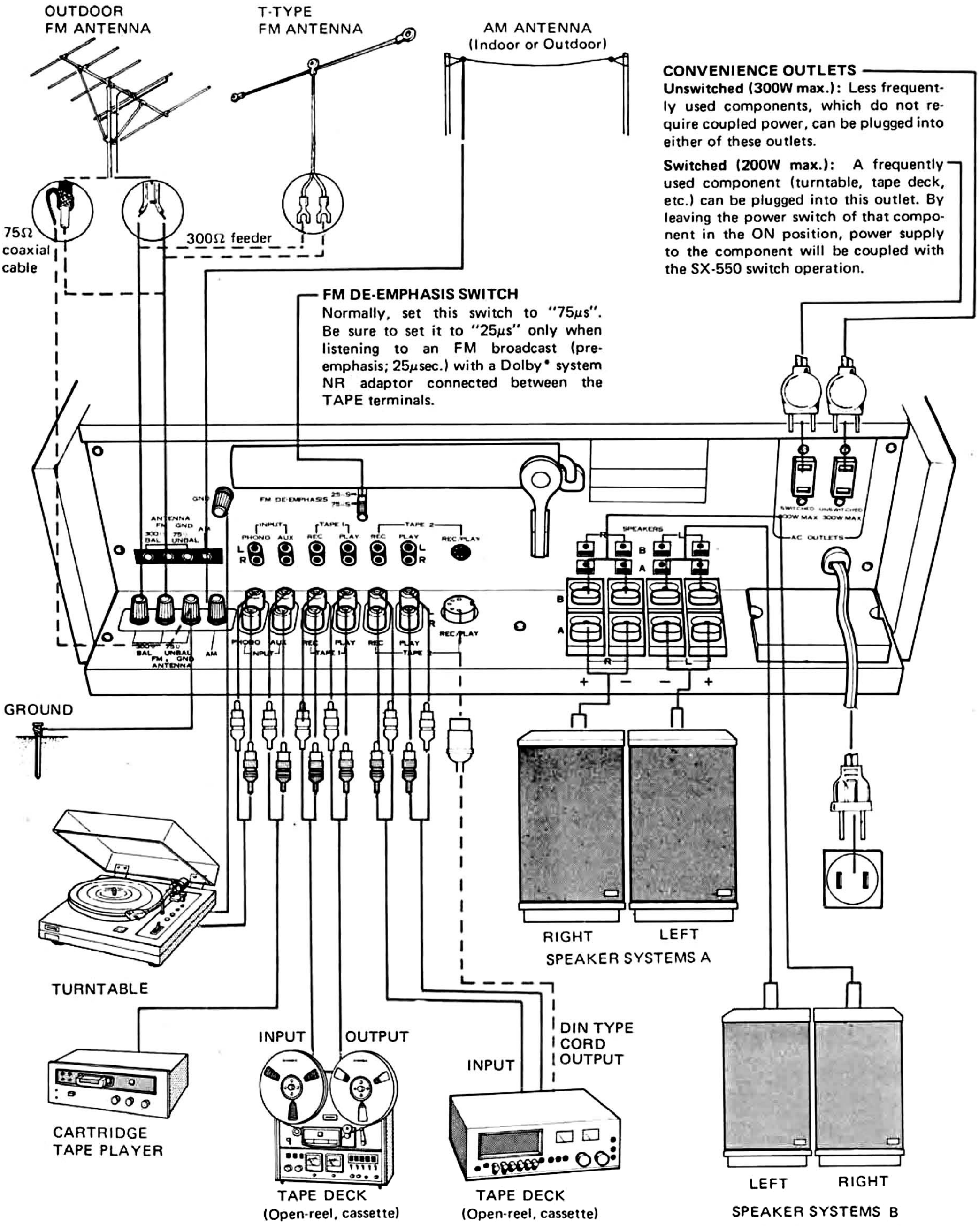
INSTALLATION PRECAUTIONS

When installing the SX-550 avoid locations such as the following:
- In direct sunlight, near radiators or other heat sources.
- In humid or dusty surroundings.
- On unlevel or unstable supports, or where subject to vibration.

A WORD ABOUT ROOM ACOUSTICS

The sound heard from an audio system is greatly influenced by conditions of the listening room.
The size and shape of the room, materials of the walls, ceiling and floor, the amount and distribution of furniture, carpets, draperies, etc. all affect the resulting sound. In general, it is advisable to place speakers with their backs against a wall, as this will improve bass response.
Bare rooms with low ceilings, hard floors and hard reflective walls (especially a hard wall facing the speakers) can produce an excessively 'live' brilliant sound with lack of clear instrument localization and definition. It often helps in such cases to place a carpet and heavy, soft curtains in the room.
Conversely, a "dead" sound can be caused in rooms containing heavy carpeting and a large amount of upholstered furniture. This can often be improved by re-arranging the furniture.

CONNECTION DIAGRAM



* The word "Dolby" is a trademark of Dolby Laboratories inc.

CONNECTIONS

SPEAKER SYSTEMS CONNECTION

The receiver is provided with two sets of speaker terminals for connecting two sets of stereo speaker systems. If only one set is to be used, connect it to the A terminals (selected by the SPEAKER switch in the A position).

As shown in Fig. 1, connect the right channel speaker system (at listener's right as viewed from listening position) to the R terminals and the left channel speaker system to the L terminals.

- Perform connections carefully to avoid reversing polarities. Red terminals are plus (+) and black terminals minus (−), while the terminals of the speaker system also possess + and − polarities. Be sure to connect + to + and − to − .
- In the same manner, a second set of stereo speaker systems can be connected to the B terminals (selected by the SPEAKER switch in the B position).

Speaker Lead Wire Preparation and Connection (Fig. 2)

1. Strip about 10mm (3/8 inch) of the insulation from the end of the speaker lead wire.
2. If the conductor is stranded, twist the strands together so they do not come loose.
3. Depress the black colored button of the speaker terminal, insert the speaker minus lead wire into the adjacent hole, and release the button.
4. In the same manner, connect the speaker plus lead wire into the hole above the red button.

TURNTABLE CONNECTION

Connect a turntable equipped with a moving magnet (MM) type cartridge to the PHONO jacks, taking care to observe L and R channels. The ground lead of the turntable should be connected to the GND terminal (Fig. 3).

Cartridge Note:

Moving magnet (MM) type phono cartridges are directly compatible with the receiver. If using another type of cartridge which differs in output adaptor will be required. See cartridge operating instructions.

USE OF THE AUX JACKS (Fig. 3)

These are auxiliary input jacks, which can be used to connect a cartridge tape player, television sound tuner, or other signal source. Be sure to connect L and R channels correctly.

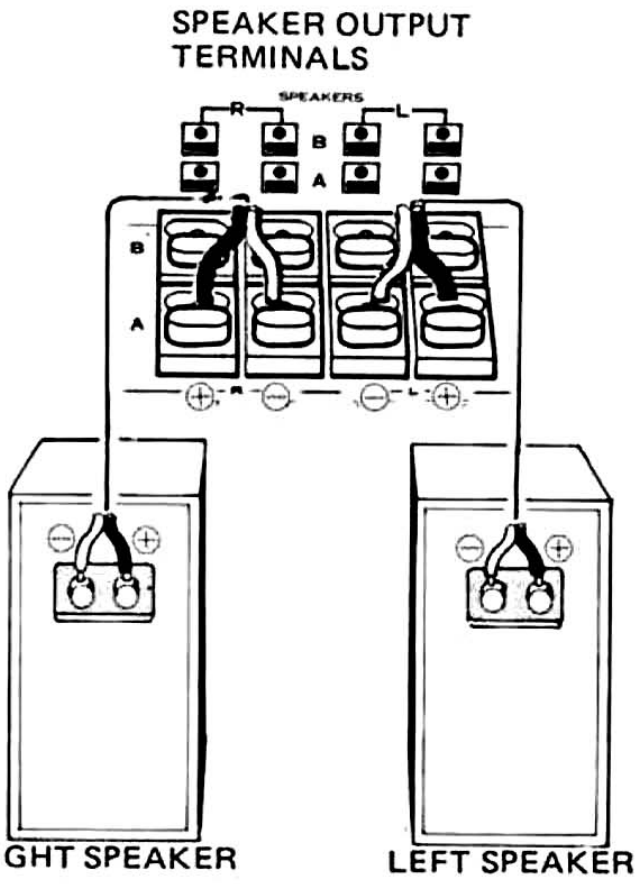


Fig. 1

NOTE:
When two sets of speaker systems are being used at the same time (A and B), please ensure that the impedance of each speaker system is not less than 8Ω. Use caution since connecting a speaker system of less than 8Ω in this case can lead to malfunctions.

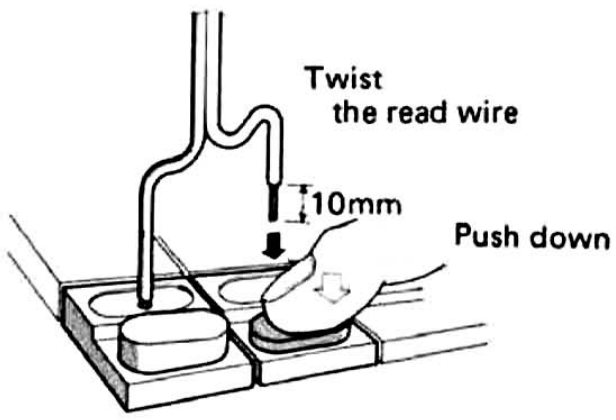


Fig. 2

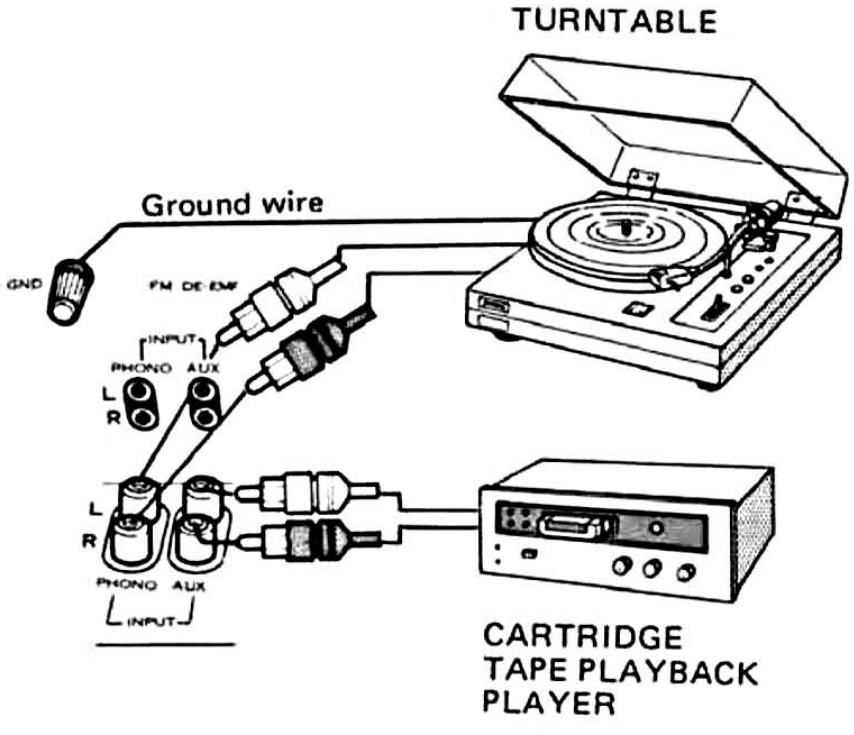


Fig. 3

ANTENNA AND GROUND CONNECTIONS

FM ANTENNA CONNECTIONS

FM broadcast signals are sharply affected by intervening mountains or buildings, or inside metal framed structures, since the signals are weakened and reflections can interfere with reception. Care is thus needed in selecting a suitable FM antenna to match the surrounding conditions and field strength.

FM Outdoor Antenna

The antenna should normally be installed as follows:

- Connect antenna feeder to the 300Ω antenna terminals of the receiver as shown in Fig. 4.
- While listening to a broadcast as described on page 10, determine the best position for optimum reception, and secure the antenna firmly.

NOTE:
In urban locations where traffic is heavy, industrial zones, or when nearby high voltage power lines are present, an ordinary FM antenna may not be adequate to prevent noise. The problem can often be solved by using a special FM antenna and 75Ω coaxial cable to connect it to the receiver. Connect the cable to the 75Ω antenna terminals as shown in Fig. 5.

T-type Antenna

When stations are nearby, or in wooden frame buildings, etc. where FM signals are strong, the accessory T-type antenna can be employed.

- As shown in Fig. 4, connect the T-type antenna to the 300Ω antenna terminals, spread the arms horizontally and while listening to an FM station, position the antenna for best reception. The antenna can then be taped to a wall or ceiling.

NOTE:
Consult audio dealer for defailed information on FM outdoor antenna installation.

AM ANTENNA CONNECTIONS

Normally, position the ferrite bar antenna (Fig. 6) for best reception while listening to an AM station as described on page 10.

AM Indoor Antenna

If reception is difficult with the bar antenna, an indoor AM antenna can be erected with vinyl insulated wire as shown in Fig. 7.

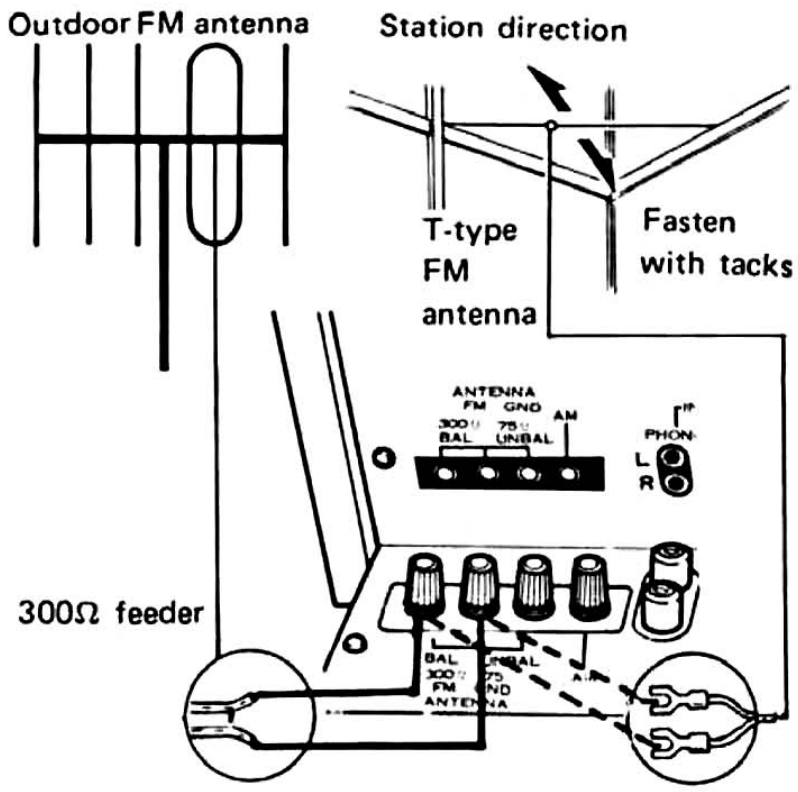


Fig. 4

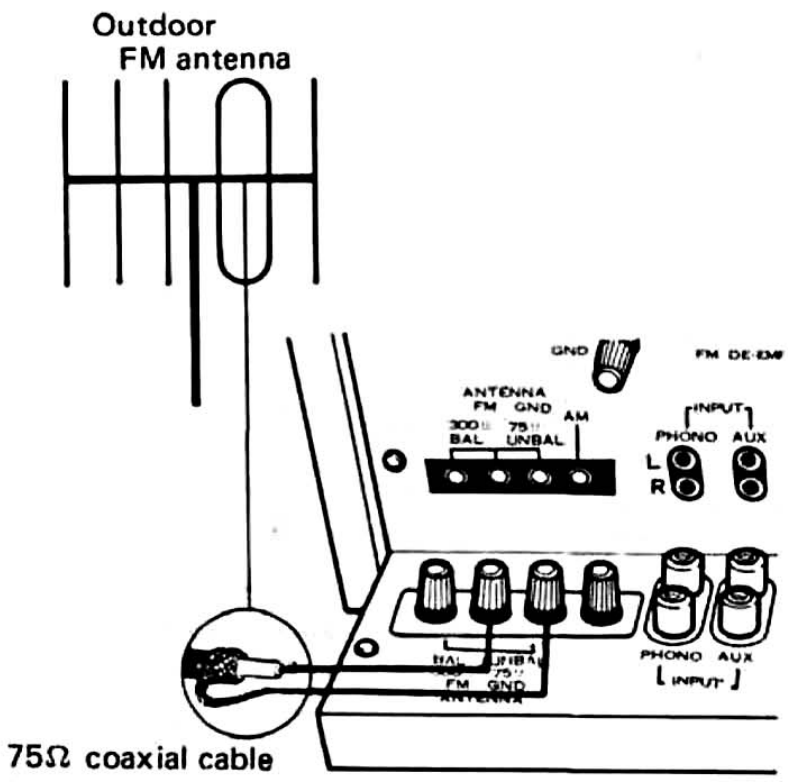


Fig. 5

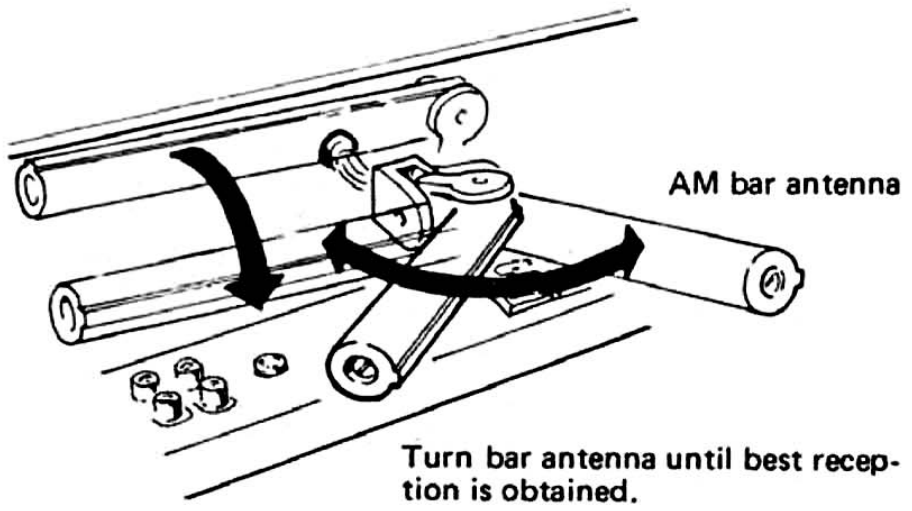


Fig. 6

AM Outdoor Antenna

For optimum AM reception, an outdoor AM antenna using vinyl insulated wire can be erected as shown in Fig. 7.

GROUND

For maximum safety and to eliminate noise, connect the GND terminal to an earth ground if at all possible. See Fig. 7.

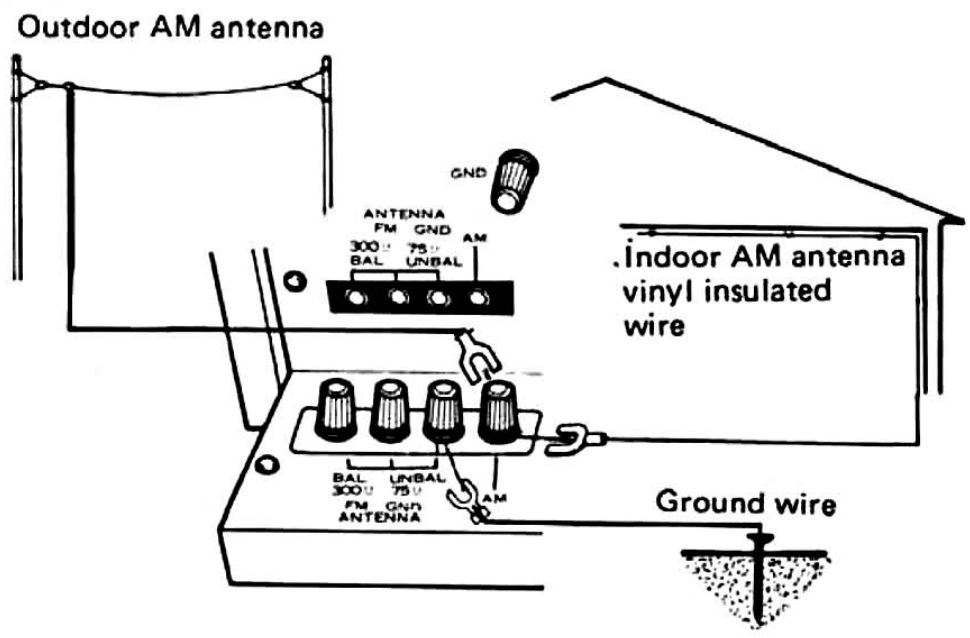


Fig. 7

TAPE DECK CONNECTIONS

Two stereo tape decks can be connected to the receiver. Two sets of recording (TAPE REC) and playback (TAPE PLAY) jacks are provided, plus a DIN REC/PLAY jack in the TAPE 2 circuit.

RECORDING CONNECTIONS (Fig. 8)

The recording output signal is present at the TAPE 1 and TAPE 2 REC jacks. Connect the recording input (LINE INPUT) jacks of a tape deck to the TAPE 1 REC jacks of the receiver, taking care to connect left and right channels correctly. In the same manner, a second tape deck can be connected to the TAPE 2 REC jacks.

PLAYBACK CONNECTIONS (Fig. 8)

Connect the playback output (LINE OUTPUT) jacks of a tape deck to the TAPE 1 PLAY jacks, taking care to connect left and right channels properly. In the same manner, a second tape deck can be connected to the TAPE 2 PLAY jacks.

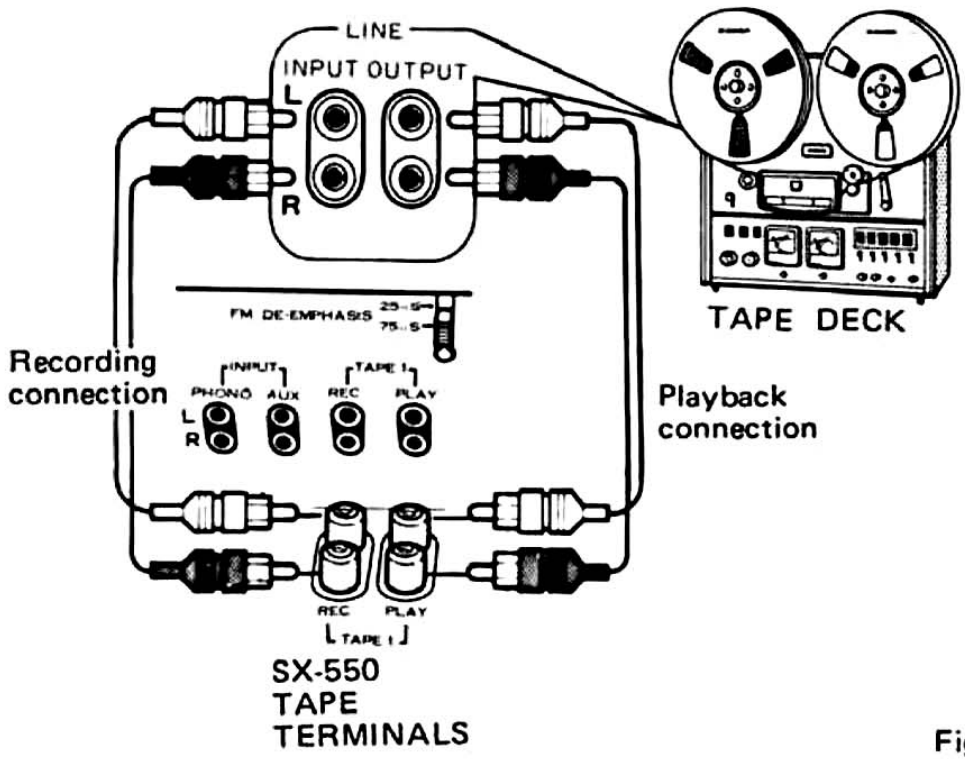


Fig. 8

NOTE:
If the recording jacks of a tape deck are connected to the TAPE 1 REC jacks, be sure to connect its playback jacks to the TAPE 1 PLAY jacks. Cross connections of a single tape deck with the TAPE 1 and TAPE 2 jacks can lead to operating difficulties.

DIN REC/PLAY JACK CONNECTION (Fig. 9)

If the tape deck is provided with a DIN type REC/PLAY jack, use a separately sold connecting cord to connect it to the DIN REC/PLAY jack of the receiver. Both recording and playback connections are then performed with the single cord. In this case, do not connect any components to the TAPE 2 REC and PLAY jacks.

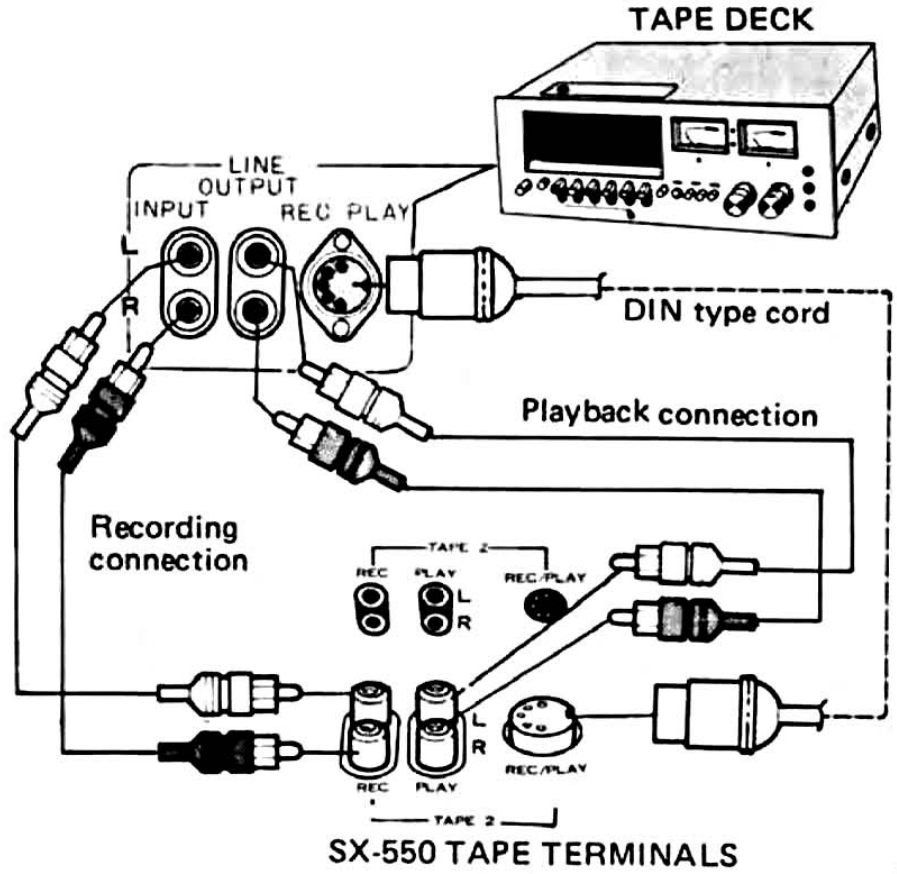


Fig. 9

FRONT PANEL FACILITIES

SPEAKERS SWITCH (POWER)

A combined power ON/OFF switch and speaker system selector switch.

POWER OFF:	Receiver off.
A:	To select speakers connected to the A speaker terminals.
OFF:	Speakers cut off (headphones can be used).
B:	Operates speakers connected to the B speaker terminals.
A+B:	To listen simultaneously to speaker systems connected to A and B speaker terminals.

NOTES:

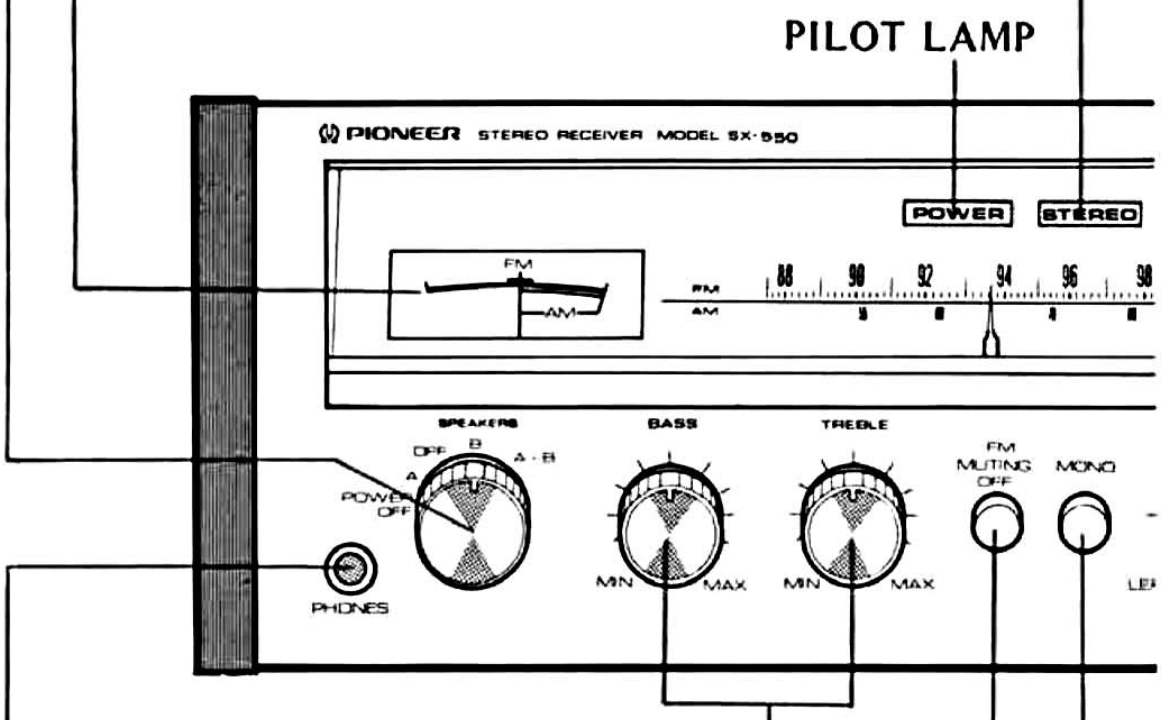
- ***After turning this switch ON there is a delay of some 7 to 9 seconds, during which time the muting circuit operates to eliminate unpleasant noise.***
- ***For easier operation, plug power cord for turntable, etc. into the switched convenience outlet.***

FM STEREO INDICATOR

With the FUNCTION switch set to FM, the STEREO indicator lights while an FM stereo broadcast is being received.

AM/FM TUNING METER

When tuning in FM stations, position the needle in the center FM area for optimum reception. In the case of AM stations, tune for maximum meter deflection toward the right of the scale.



PHONES JACK

To listen through stereo headphones, plug them firmly into this jack.

WARNING:
Do not plug a microphone into the PHONES jack as you may damage the microphone.

FM MUTING OFF BUTTON

Leave this button undepressed (in the ON position) to suppress unpleasant interstation noise while tuning between FM stations. Low-strength signals may also be suppressed by this function, so to pick up a weak station depress this button to the OFF position.

BASS & TREBLE CONTROLS

Controls for adjusting the tone. Adjust low frequencies with the BASS control and high frequencies with the TREBLE control.
Turn controls toward the right (MAX) to enhance, and toward the left (MIN) to reduce, their respective frequency ranges.

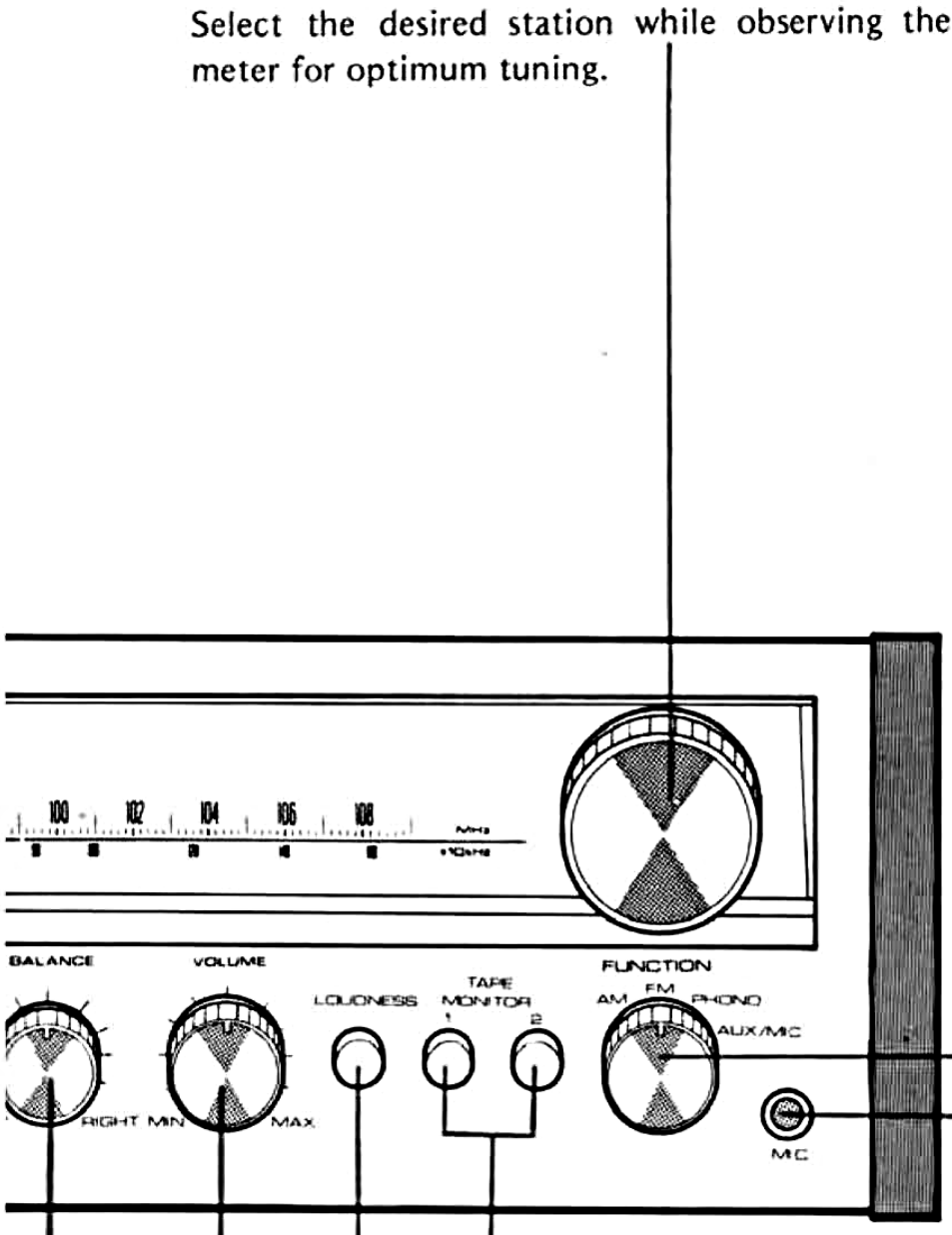
MODE SWITCH (MONO)

For stereo playback leave this switch undepressed. When depressed for MONO playback, left and right channel stereo signals will be mixed to produce monophonic sound from both speaker systems.

NOTE:
Recording stereophonically with the MODE switch in the MONO position may cause channel separation to deteriorate.

TUNING KNOB

Select the desired station while observing the AM/FM meter for optimum tuning.



FUNCTION SWITCH

Switch for selecting desired program source.

AM: For AM broadcast reception.

FM: For FM stereo reception. Automatically receives monophonically during FM monophonic broadcasts. The STEREO indicator lights up when the broadcast is in stereo.

PHONO: To operate a turntable connected to PHONO jacks.

AUX/MIC: For listening to an audio component (cartridge tape player, TV sound tuner, etc.) connected to the AUX jacks. Also set to this position when using the microphone.

Note, when the microphone is plugged in, the component connected to the AUX jacks cannot be used.

MIC JACK

A high impedance (approx. 50k-ohms) dynamic type microphone with a standard plug can be connected to this jack.

TAPE MONITOR (1 & 2) BUTTONS

Set these switches in the ON (depressed) position as follows:

1 . . . For playback or for monitoring of a recording in progress with a tape deck connected to the TAPE 1 jacks (REC & PLAY).

2 . . . As in 1 above, with a tape deck connected to the TAPE 2 jacks (REC & PLAY) or TAPE REC/PLAY jack (DIN type).

NOTES:

- *Leave both of these buttons in the undepressed position when not using tape decks as the sound source. The signal from the source selected by the FUNCTION switch will be interrupted if switches are left in the depressed position.*
- *When recording with two tape decks simultaneously, do not operates the TAPE MONITOR 1 button as this will interrupt the signal to the TAPE 2 deck (see Fig. 12).*

VOLUME CONTROL

Clockwise rotation increases volume from speakers or headphones.

LOUDNESS BUTTON

Depress this button when listening at low volume. The frequency response of the human ear varies according to the listening level, and the depressed position compensates for hearing characteristics by emphasizing the bass and treble.

BALANCE CONTROL

Control for adjusting volume balance between left and right speakers or headphones. Clockwise rotation from center increases right channel volume, while counter-clockwise rotation increases left channel volume.

OPERATIONS

Before switching on the power, set the various controls as follows:

- VOLUME control to MIN.
- BALANCE control to the center position.
- TAPE MONITOR (1 & 2) buttons to OFF (undepressed).
- BASS & TREBLE controls to the center positions.
- MODE switch to STEREO (undepressed).
- FM MUTING OFF button to ON (undepressed).

It is important to set these controls as indicated to avoid any inadvertent overload on the receiver or speakers, etc. when power is switched on.
The receiver may now be switched on, and the required speaker systems selected.

FM RECEPTION

1. Set the FUNCTION switch to FM.
2. Leave the FM MUTING OFF button in the ON position. Note, however, that in areas of low signal strength the signal may be suppressed. In this case only, the FM MUTING OFF button should be depressed to the OFF position.
3. Select the station by means of the TUNING knob. Best reception is obtained when the AM/FM TUNING meter needle is exactly in the center (see Fig. 10).
4. Adjust the level of the sound with the VOLUME control, and use the BASS & TREBLE controls to adjust for the tone quality of your preference.

- The FM STEREO indicator lights during FM stereo reception, but does not light during monophonic reception.

AM RECEPTION

1. Set the FUNCTION switch to AM.
2. Turn the TUNING knob to select your station. Best reception is obtained when the AM/FM TUNING meter needle deflects to the extreme right (Fig. 10).
3. Adjust the VOLUME, BASS & TREBLE controls for the listening level and tone quality of your preference.

NOTE:
If, when listening to either FM or AM broadcasts listening pleasure is seriously affected by poor sensitivity or heavy interference, refer to the section "ANTENNA CONNECTIONS" on page 6 and make any necessary changes.

PLAYING RECORDS

1. Set the FUNCTION switch to PHONO.
2. Operate the turntable to play the record.
3. Adjust the VOLUME, BASS & TREBLE controls for the listening level and tone quality of your preference.

USING THE AUX JACKS

To play equipment connected to the AUX jacks, proceed as follows:

1. Set the FUNCTION switch to AUX/MIC.
2. Operate the attached component.
3. Adjust the VOLUME, BASS & TREBLE controls for the listening level and tone quality of your preference.

NOTE:
If a microphone is connected to the MIC jack, it will override the AUX signal.

USING THE MICROPHONE

1. Connect the microphone to the MIC jack.
2. Set the FUNCTION switch to AUX/MIC.
3. Adjust the sound level by turning the VOLUME control gradually to the right. The midway setting of the BASS & TREBLE controls will usually be best.

NOTE:

- *Monophonic sound can be heard from both left and right channel speaker systems.*
- *You should use high impedance (above 20k-ohms) microphones of the dynamic type, with standard 6mm diameter phone plugs.*
- *Under certain conditions microphones are liable to give rise to "howling" or feedback noise. Be careful not to raise the volume too high when the microphone is close to the speaker systems or in a room with a great deal of resonance. This tendency can be reduced by setting the BASS and TREBLE controls to their center positions.*
- *When employing a microphone, set the output volume of a component connected to the AUX jacks to minimum, or disconnect the component.*

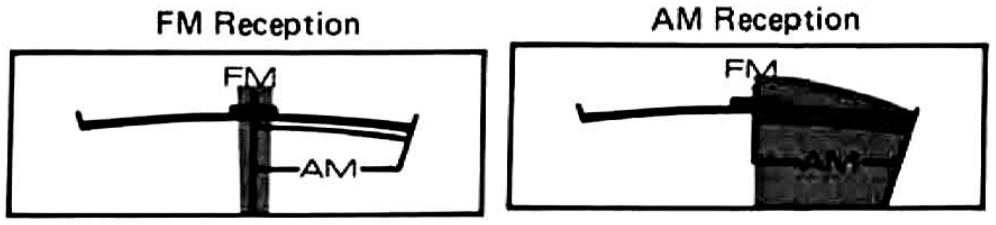


Fig. 10

With a full 4 ohms loads connected the receiver, do not apply a sinewave signal continuously at full power more than 1 hour.

TAPE DECK OPERATIONS

TAPE PLAYING

1. If the tape deck is connected to the TAPE 1 jacks, set the TAPE MONITOR 1 button to ON (depressed). Set the TAPE MONITOR 2 button to ON (depressed) if the tape deck is connected to the TAPE 2 jacks or the DIN REC/PLAY jack.
2. Operate tape deck and play tape.
3. Adjust VOLUME, BASS & TREBLE controls for desired volume and tone.

NOTE:
With the TAPE MONITOR button ON, the tape deck playback sound will be obtained from the speakers regardless of the FUNCTION switch setting.

TAPE RECORDING

The program source selected by the FUNCTION switch is always present at the REC jacks.

1. Set the FUNCTION switch according to the source to be recorded.
2. Operate selected component and adjust for optimum sound.
3. Adjust recording levels with the controls of the tape deck and proceed with recording.

Recording Monitor

If the tape deck is a 3 head type, or one provided with monitoring facilities, recording conditions can be monitored from the speakers by setting the TAPE MONITOR button to ON. Both TAPE REC and TAPE PLAY jacks connections must be performed in order to use this facility.

TAPE DUPLICATION

The TAPE MONITOR buttons and two sets of TAPE jacks allow the desired portions of a previously recorded tape to be copied onto a second tape. A personal tape library can be composed in this manner.

1. Connect two tape decks to the TAPE 1 and 2 jacks as shown in Fig. 13.
- To record with tape deck connected to the TAPE 2 jacks from a tape deck connected to the TAPE 1 jacks.
2. Insert prerecorded tape in tape deck 1 and blank tape in tape deck 2.
3. Operate tape deck 1 for playback and tape deck 2 for recording.
4. To check recording conditions, set TAPE MONITOR 2 button to ON.

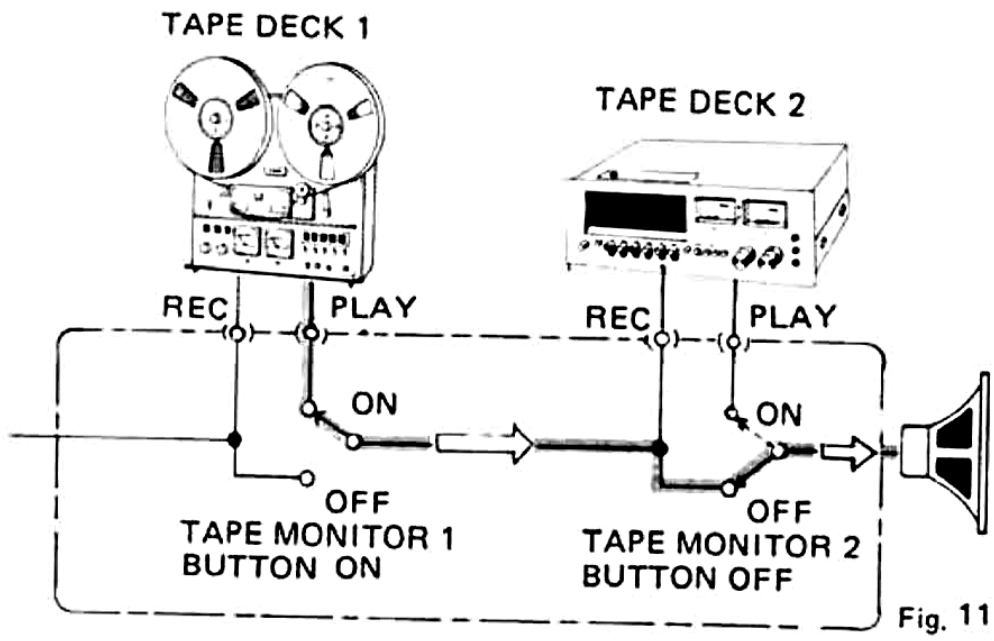


Fig. 11

Tape Playback: TAPE MONITOR 2 button must be OFF, and TAPE MONITOR 1 button ON to play tape on TAPE 1 deck. Signal enters PLAY jacks and proceeds in arrow direction to be amplified and transferred to the speakers. Set TAPE MONITOR 2 button to ON to play tape with TAPE 2 deck.

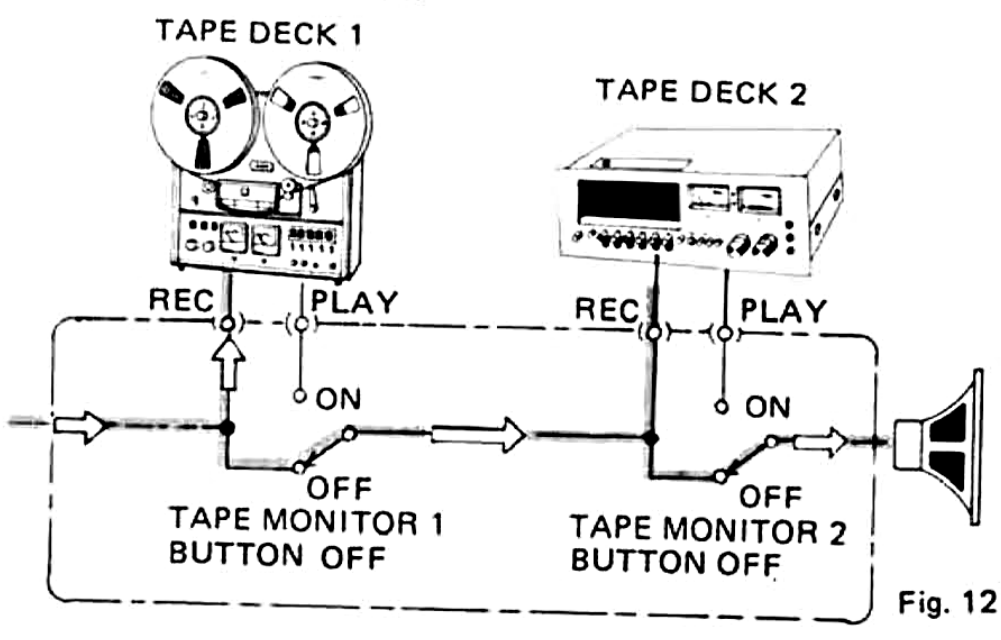


Fig. 12

Tape Recording: Signal selected by the FUNCTION switch appears at the TAPE 1 REC jacks. If TAPE MONITOR 1 button is set to OFF, the same signal also appears at the TAPE 2 REC jacks. Simultaneous recording with 2 tape decks can be performed in this case.

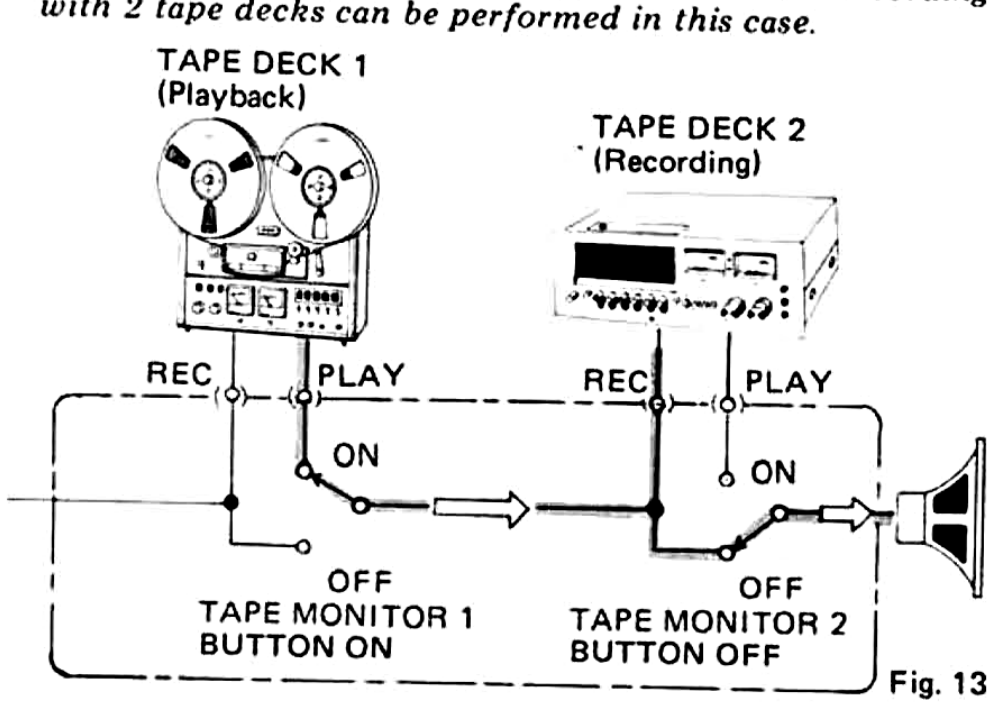


Fig. 13

Duplication: With the TAPE MONITOR 1 button set to ON, the TAPE 1 deck playback signal proceeds in the arrow direction where it can be recorded by TAPE 2 deck. While listening to the sound from the speakers, operate TAPE 2 deck controls (PAUSE button, etc.) in order to record only the desired signal.

CONDITIONS FREQUENTLY MISTAKEN FOR MALFUNCTIONS

If trouble is experienced, perform the following simple checks. In most cases, the difficulty can be traced to incorrect operation or faulty connections. If the problem cannot be corrected, contact a Pioneer Authorized Service Center.

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
U.S. PIONEER ELECTRONICS CORPORATION 75 Oxford Drive, Moonachie, New Jersey 07074, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Luithagen-Haven9, 2030 Antwerp, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia

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