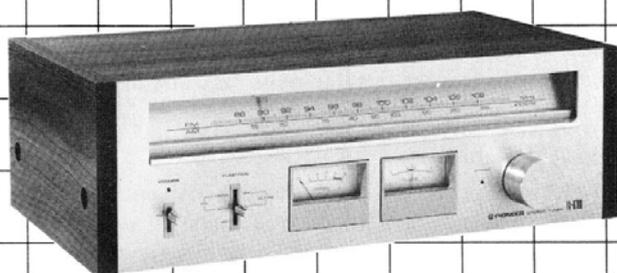


AM/FM STEREO TUNER

# TX-6700

OPERATING INSTRUCTIONS

KC  
KU



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

## IMPORTANT NOTICE

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

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

 PIONEER®

# FEATURES

## FM Front End with a Cascade-connected Junction-type Field Effect Transistor (FET)

The TX-6700 adopts a high-frequency amplification one-stage front end which employs a 3-gang variable capacitor and a cascade-connected junction-type FET featuring high gain and low noise. These parts enhance the ability of the tuner to eliminate image interference ratio, spurious radiation and other interference, and they provide a sufficiently high practical sensitivity of  $1.9\mu\text{V}$  (mono). Furthermore, they ensure stable FM reception even in fringe areas and locations close to the transmitter.

## Low-distortion, High-S/N FM IF Section

The FM IF section incorporates two sets of dual-element ceramic filters with superb phase characteristics. Between the filters there is a buffer amplifier for ample selectivity and high sensitivity. Furthermore, the combination of these features guarantees stable reception even in locations affected by strong input interference signals adjacent to the station which has been tuned in. Distortion and the signal-to-noise ratio are improved by the 3-stage differential amplifier, 5-stage limiter and newly developed ICs which integrate a discriminator offering top detection efficiency.

## MPX Section which uses a new PLL IC with a Built-in Pilot Signal Auto-canceller and Low-distortion Design

The newly developed PLL IC contains a canceller circuit which automatically cancels out the pilot signal. Without affecting the frequency response at the high-end, this feature suppresses the leak carrier and permits a broad range. In addition, the demodulator has a built-in NFB circuit which enhances the signal-to-noise ratio and helps to realize a low distortion rate.

## IC-based AM Tuner

The AM tuner section integrates the high-frequency and intermediate frequency amplification circuits as well as the discriminator onto newly developed IC's, and this configuration improves both the frequency response and the elimination of interference. Another attraction is the fully-fledged AGC circuit which enables AM broadcasts to be received stably and with extremely low levels of distortion even when the tuner is located in the vicinity of the transmitter.

## Easy-to-tune Front Panel Design

The panel is designed for easy operation: the tuning scale is a long 250 mm to facilitate tuning, the tuning meter and signal meter are large for easy read out and they are located in the center. The overall design harmonizes with that of other Pioneer hi-fi components for increased visual appeal.

# INSTALLATION CAUTIONS

To ensure long-term reliable performance, avoid installing the TX-6700 in locations such as the following:

Locations to be avoided	Possible detrimental effects
<ul style="list-style-type: none"><li>• Direct sunlight, radiators or other heat sources. Above or near high power stereo amplifiers or power transformers.</li><li>• Sites subject to poor ventilation, high humidity or moisture.</li><li>• Dusty locations</li><li>• Where an AM radio or TV set is being used simultaneously.</li><li>• Locations where alcohol, insect sprays or volatile materials are used or stored.</li></ul>	<ul style="list-style-type: none"><li>• External heating can cause deterioration of circuit components and may prevent stable operation.</li><li>• Corrosion of terminal contacts which can lead to faulty connections. Humidity and moisture can also cause defective insulation, present the risk of leakage currents and overheating of circuit components.</li><li>• Internal accumulations of dust can absorb moisture and lead to faulty insulation.</li><li>• Mutual interference can occur from oscillator circuits used in these products.</li><li>• Appearance and finish of front panel can be damaged.</li></ul>

# STEREO SYSTEM COMPOSITION

As illustrated in the figure, AM and FM broadcasts can be enjoyed by combining this unit with separately sold stereo amplifier and speaker systems. Also, by connecting a separately sold tape deck (open reel or cassette) to the stereo amplifier, desired programs can be recorded. Enabling you to compile a personalized tape library of your favorite music.

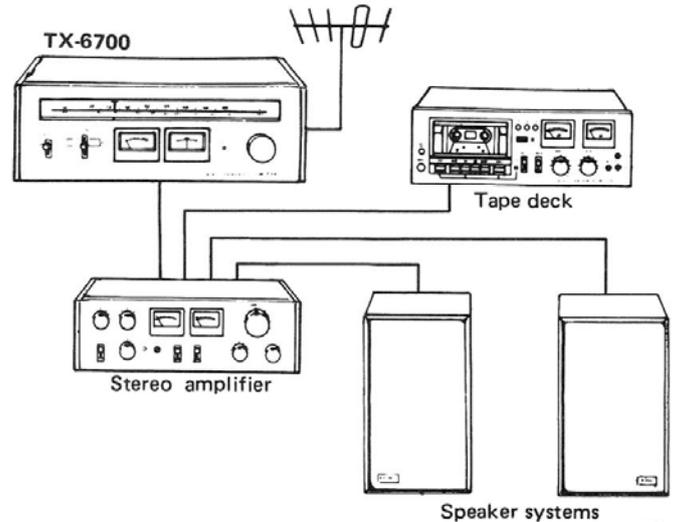
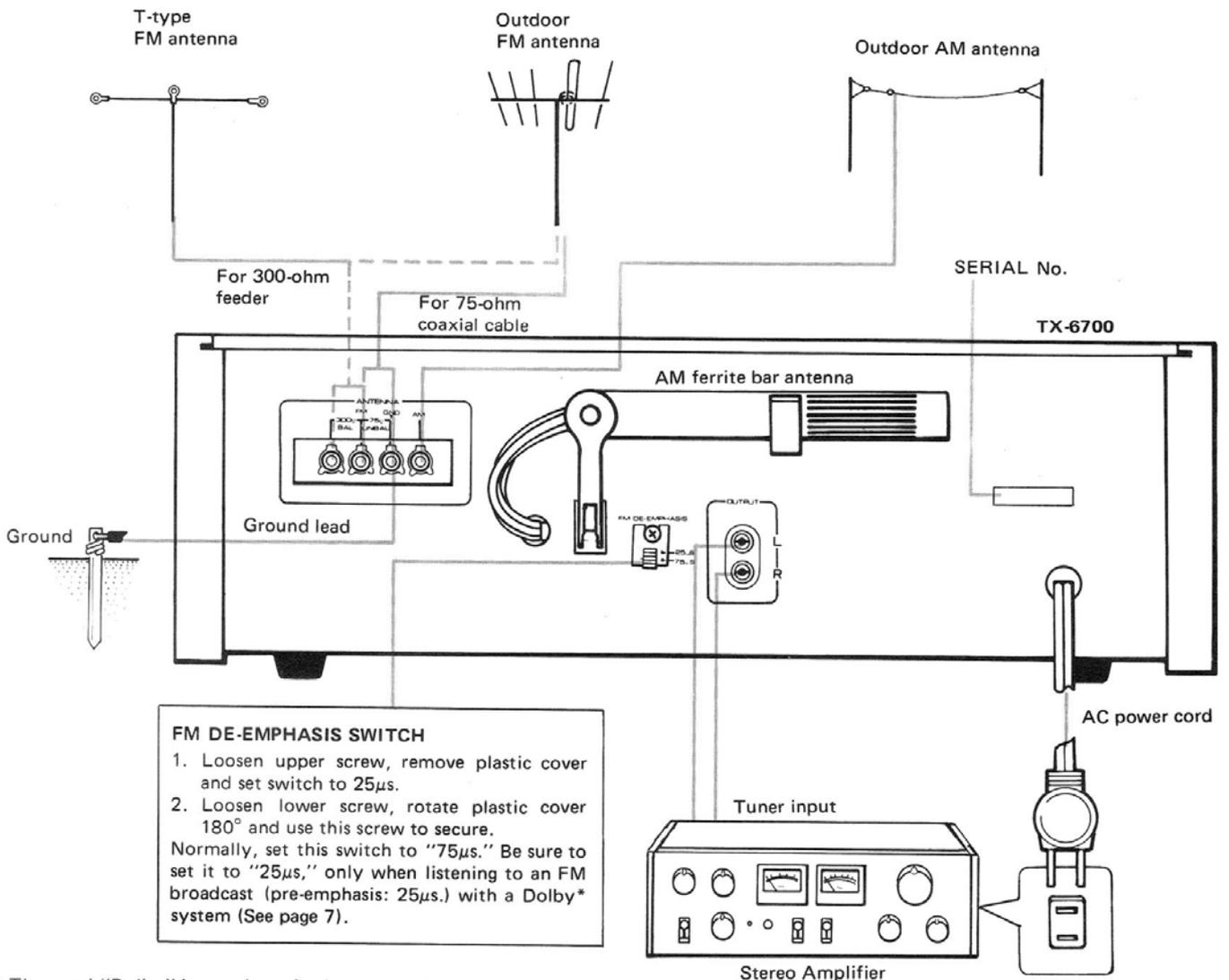


Fig. 1

# CONNECTION DIAGRAM



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

# CONNECTIONS

## Connection Notes

- The upper jack is for the left (L) channel and lower jack for the right (R) channel. As stereo amplifiers are also provided with L and R channel jacks, take care to connect the channels correctly (L to L and R to R) in order to obtain proper stereo reproduction.
- Plug connecting cords firmly into the jacks. Loose connections can cause loss of sound or generate noise.
- Do not bundle input and output cords with power and speaker cords. Also avoid using longer cords than necessary. These practices can result in noise, impaired sound quality and possible operating difficulties.

## CONNECTIONS TO STEREO AMPLIFIER

Use the accessory connecting cords to connect the OUTPUT jacks with the tuner jacks of a stereo amplifier.

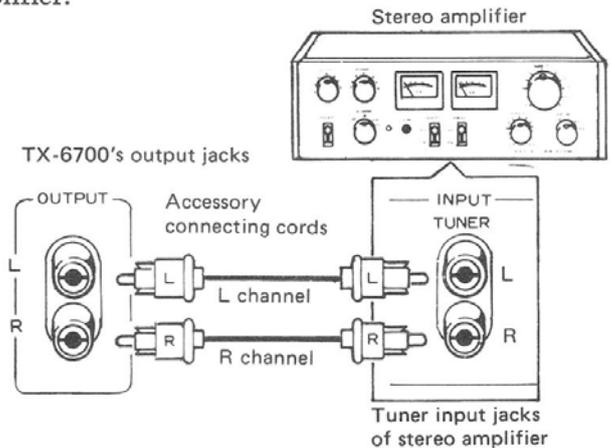


Fig. 2

# ANTENNA AND GROUND CONNECTIONS

## FM ANTENNA

Due to the properties of FM signals, they are considerably weakened by mountains, tall buildings and metal-framed structures. Select the FM antenna carefully according to ambient conditions and signal strength.

### Outdoor FM Antennas

An outdoor FM antenna is recommended to obtain an input signal with which the TX-6700 can display its full performance capabilities.

- While listening to an FM station (see "FM RECEPTION" on Page 6), determine the antenna direction for optimum reception, then install it securely.
- According to the type of antenna, employ a 75-ohm coaxial cable or a 300-ohm feeder for connection.

**75-ohm coaxial cable:** Recommended in locations where external noise is incurred from street traffic, high-voltage power line or other causes. Also employed if the distance between the antenna and the TX-6700 is relatively large. Connect to the 75Ω UNBAL terminals as shown in Fig. 3.

**300-ohm feeder:** This is suitable in locations where external noise is not a problem and if the distance between the antenna and the TX-6700 is short. Connect to the 300Ω BAL terminals as shown in Fig. 4.

### NOTE:

Consult a reliable audio dealer regarding the FM antenna and 75-ohm cable installation.

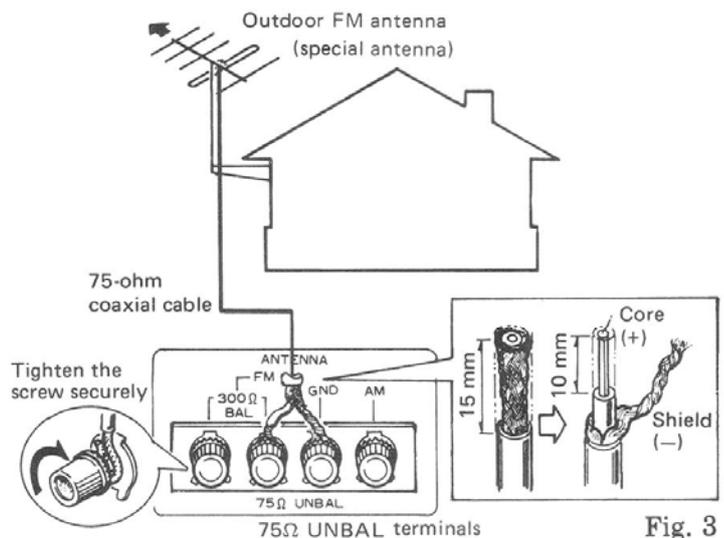


Fig. 3

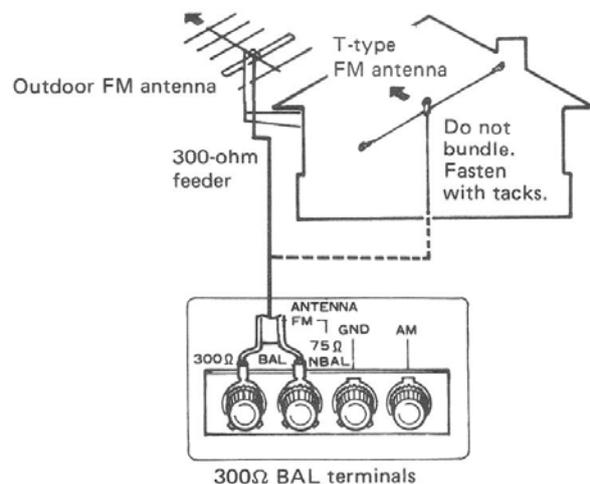


Fig. 4

### T-type Dipole FM Antenna

The accessory T-type FM antenna can be employed in locations where FM signals are strong, such as near transmitting stations or within wooden structures. As shown in Fig. 4, connect the T-type FM antenna to the 300Ω BAL terminals. While listening to FM stations, open the antenna to a T shape, rotate it 180° to determine where the best reception is obtained, then attach it to a wall or ceiling.

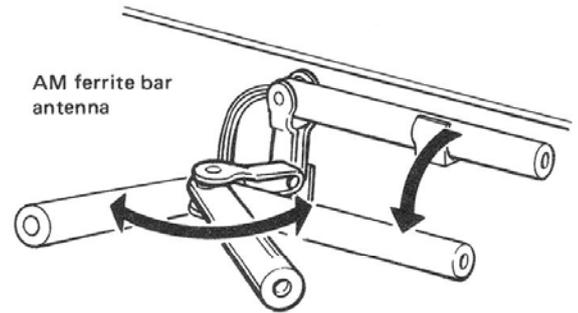


Fig. 5

### AM ANTENNAS

While listening to AM stations (see “AM RECEPTION” on Page 6), move the rear panel ferrite bar antenna and position it for best reception (Fig. 5).

- In cases when the bar antenna is insufficient for adequate reception, an indoor AM antenna can be made from a length (5 to 6 meters) of vinyl-insulated wire. As shown in Fig. 6, connect one end of the wire to the AM antenna terminal and suspend the free end from a wall or ceiling at as high a location as possible.
- If reception is still difficult with an indoor antenna, use vinyl-insulated wire to erect an outdoor AM antenna between two supports as shown in Fig. 6.

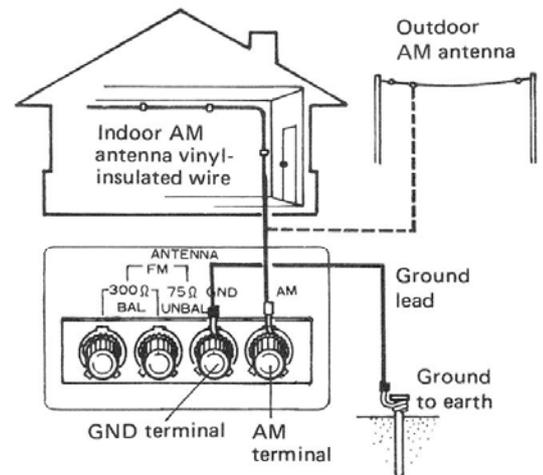
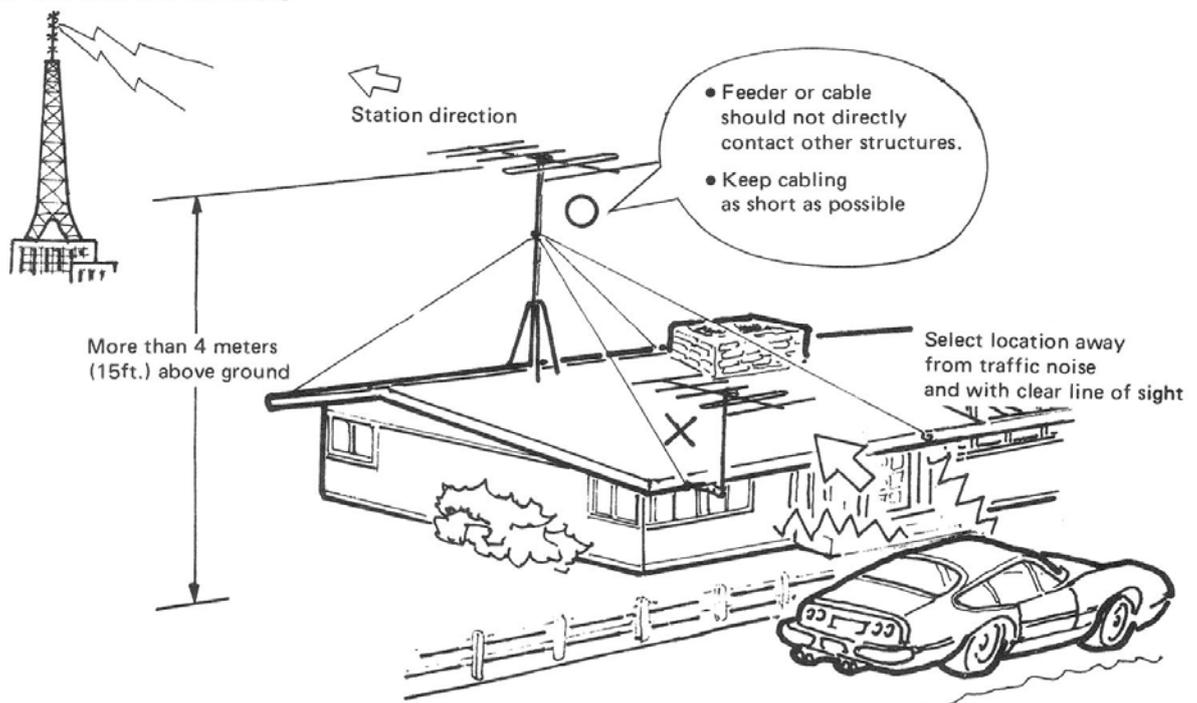


Fig. 6

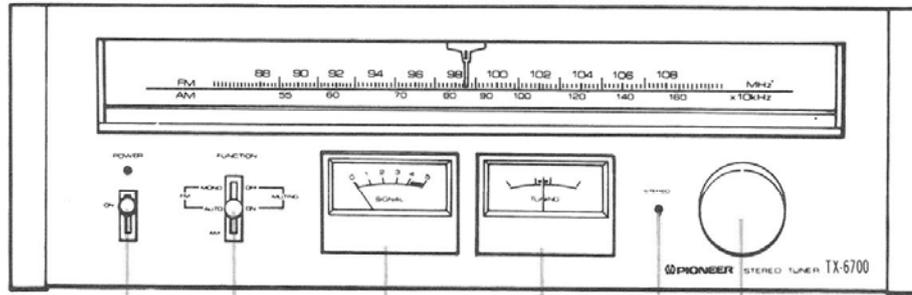
### GROUNDING

From aspects of both safety and reduced noise, if possible employ a ground as shown in Fig. 6. Connect the ground lead to the GND terminal of the TX-6700. Consult a qualified electrician regarding proper grounding techniques.

### SETTING UP AN FM ANTENNA



# LISTENING TO BROADCASTS



## POWER SWITCH

Set to ON to turn on power. Pilot lamp will light.

## FUNCTION SWITCH

Switch for selecting type of broadcast reception. Incorporates muting switch for cutting inter-station noise.

**FM AUTO (MUTING ON):** FM stereo reception. Automatically switches to mono mode when an FM mono signal is received.

**FM MONO (MUTING OFF):** FM mono reception. Set to this position if reception at FM AUTO position is noisy or the signals weak.

**AM:** AM broadcast reception.

### NOTES:

- **MUTING ON:** Eliminates unpleasant noise in sections of the FM band where stations are absent (inter-station noise) to allow comfortable station tuning.
- **MUTING OFF:** Set to this position if desired FM station is weak or station tuning difficult.

## TUNING KNOB

Use this to tune in to broadcasting stations. Select the station and tune for optimum reception by observing the SIGNAL meter for AM stations and both the SIGNAL and TUNING meters for FM stations.

## STEREO INDICATOR

With FUNCTION switch at FM AUTO, lights when FM stereo signal is being received.

## TUNING METER

Use when tuning FM stations. First tune for maximum deflection of the SIGNAL meter (toward the right), then tune carefully so that the meter indicates center of scale (optimum tuning point).

## SIGNAL METER

Employ when tuning AM and FM stations. Optimum tuning point is when maximum meter deflection toward the right is obtained.

## FM RECEPTION

1. Set FUNCTION switch to FM AUTO.
2. Slightly turn the VOLUME knob on the amplifier clockwise to obtain the sound.
3. Turn the TUNING knob to select desired station. Turn for maximum deflection of the SIGNAL meter toward the right and center of scale indication on the TUNING meter, as shown in Fig. 7. The STEREO indicator lights during FM stereo reception. It does not light during monophonic reception.

### NOTE:

If reception is difficult in FM AUTO mode, switch to FM MONO. At this setting, monophonic reception will be performed.

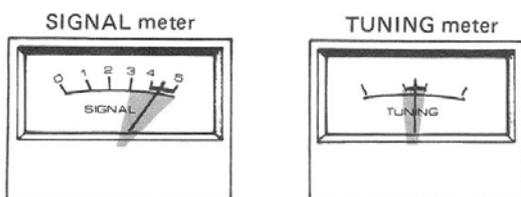


Fig. 7

## AM RECEPTION

1. Set FUNCTION switch to AM.
  2. Turn the TUNING knob to select desired station. Tune for maximum deflection of the SIGNAL meter toward the right, as shown in Fig. 8.
- Adjust volume and tone with the controls of the connected stereo amplifier.

### NOTE:

If sensitivity is poor or reception noisy when listening to FM or AM receptions, refer to Page 4 "ANTENNA AND GROUND CONNECTIONS" and inspect the antenna installation again.

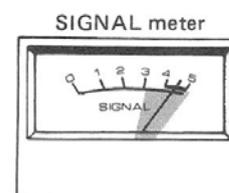


Fig. 8

### FM-DOLBY RECEPTION

The FM DE-EMPHASIS switch is provided to allow reception of FM-Dolby broadcasts in locations where these programs are being transmitted. A separately sold adaptor must be connected to the stereo amplifier in this case, then proceed according to the following steps.

1. As shown in Fig. 9, connect a Dolby NR adaptor to the tape (record & play) jacks of the stereo amplifier.
2. Set rear panel FM DE-EMPHASIS switch to 25 $\mu$ s.
3. Set tape monitor switch of stereo amplifier to ON.
4. Set FUNCTION switch to FM and use the TUNING knob to tune in FM-Dolby broadcast. Tuning is performed in the same manner as described in "FM Reception."
5. Operate adaptor and set for reception. Adjust volume and tone with the controls of the stereo amplifier.

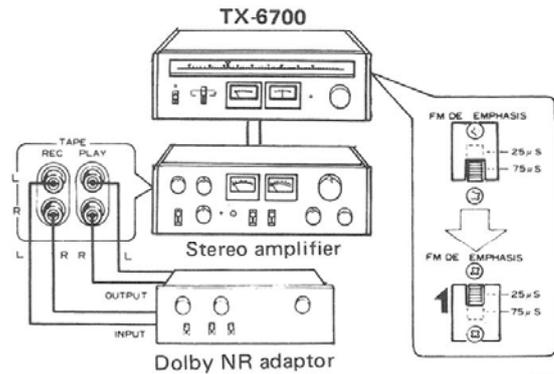


Fig. 9

**NOTES:**

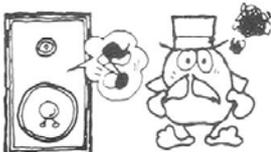
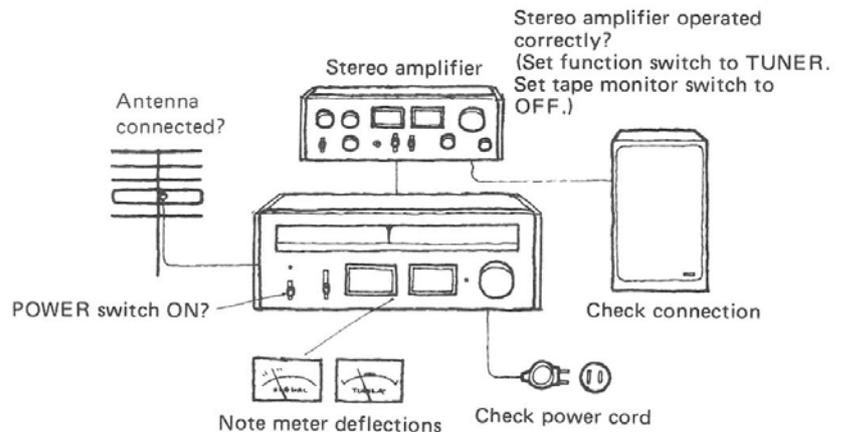
- Refer to the Dolby NR adaptor operating instructions regarding connection and operation.
- When not listening to FM-Dolby broadcasts, be sure to set the FM DE-EMPHASIS switch to 75 $\mu$ s.

## CONDITIONS FREQUENTLY MISTAKEN FOR MALFUNCTION

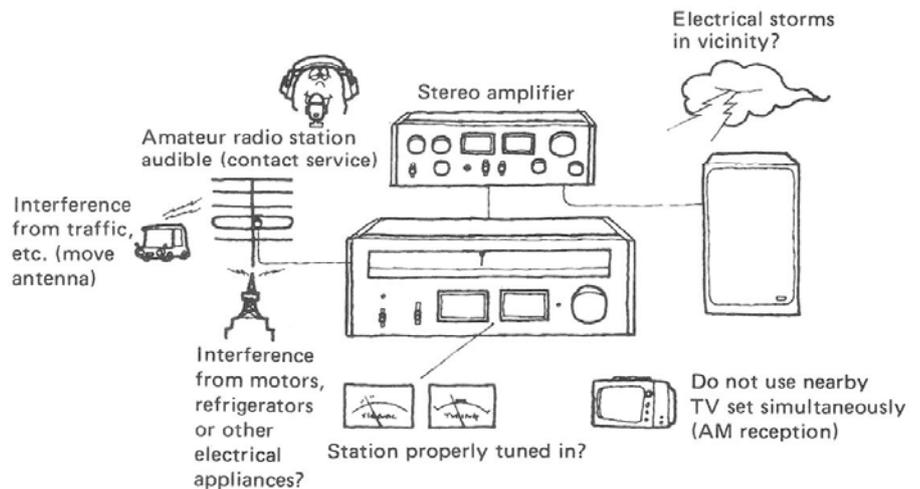
Most cases of operating difficulty can be attributed to simple causes. In the event of trouble, check equipment according to the following chart. If the difficulty cannot be remedied, contact your nearest Pioneer Authorized Service Center.



Sound not obtained



Excessive noise



# SPECIFICATIONS

## Semiconductors

IC(s) . . . . .	3
FET . . . . .	1
Transistors . . . . .	8
Diodes . . . . .	9

## FM Tuner Section

Circuitry . . . . . FET 1-stage RF amplifier, 3-gang variable capacitor, double-balanced NFB type PLL MPX, built-in automatic pilot signal canceller

Usable Sensitivity . . . . .	Mono; 10.7dBf (1.9 $\mu$ V)
50dB Quieting Sensitivity . . . . .	Mono; 16.1dBf (3.5 $\mu$ V)
	Stereo; 38dBf (44 $\mu$ V)
Signal-to-Noise Ratio (at 65dBf) .	Mono; 79dB
	Stereo; 74dB

Distortion (at 65dBf)	
100Hz. . . . .	Mono/Stereo; 0.15%/0.25%
1kHz . . . . .	Mono/Stereo; 0.15%/0.25%
6kHz . . . . .	Mono/Stereo; 0.15%/0.25%

### Stereo Separation

1kHz . . . . .	40dB
30Hz to 15kHz . . . . .	35dB
Frequency Response . . . . .	20Hz to 15kHz $^{+0.2}_{-1.0}$ dB
Capture Ratio . . . . .	1.0dB
Alternate Channel Selectivity . .	60dB
Spurious Response Ratio . . . . .	70dB
Image Response Ratio . . . . .	60dB
IF Response Ratio . . . . .	75dB
AM Suppression Ratio . . . . .	50dB
Subcarrier Product Ratio . . . . .	53dB
SCA Rejection Ratio . . . . .	50dB
Muting Threshold . . . . .	17.2dBf (4 $\mu$ V)
Antenna Input . . . . .	300 ohms balanced
	75 ohms unbalanced

## AM Tuner Section

Circuitry . . . . . 1-stage RF amplifier  
2-gang variable capacitor.

Sensitivity . . . . . 300 $\mu$ V/m (IHF, ferrite antenna)  
15 $\mu$ V (IHF, ext. antenna)

Selectivity . . . . .	30dB
Signal-to-Noise Ratio . . . . .	50dB
Image Response Ratio . . . . .	40dB
IF Response Ratio . . . . .	45dB
Antenna . . . . .	Ferrite Loopstic Antenna

## Audio Section

Output Level/Impedance:	
FM . . . . .	650mV/4.3k $\Omega$ (100% MOD)
AM . . . . .	200mV/4.3k $\Omega$ (30% MOD)

## Miscellaneous

Power Requirements . . . . .	120V 60Hz
Power Consumption . . . . .	7W
Dimensions . . . . .	450(W) x 148(H) x 264(D) mm 17-3/4(W) x 5-13/16(H) x 10-3/8(D) in
Weight. . . . .	Without package; 4.8kg (10lb 9oz) With package; 5.8kg (12lb 12oz)

## Furnished Parts

FM T-type Antenna . . . . .	1
Connecting cord with pin plugs . . . . .	1
Operating instructions . . . . .	1

**NOTE:**  
*Specifications and the design subject to possible modification without notice due to improvements.*

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