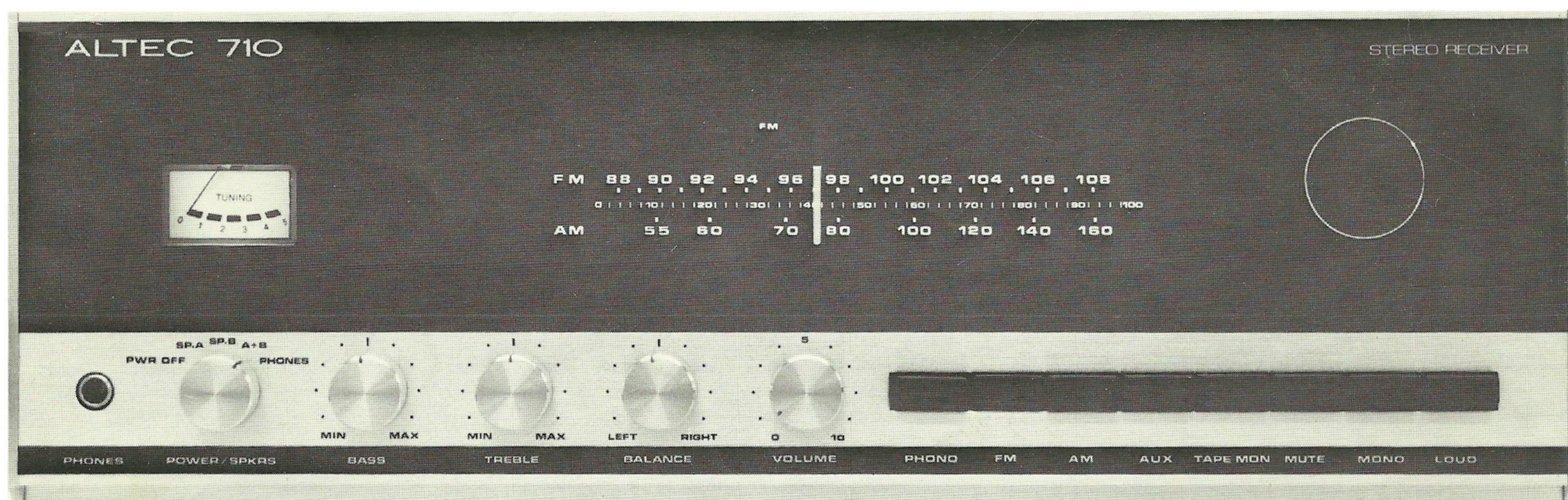


Home Owners Manual

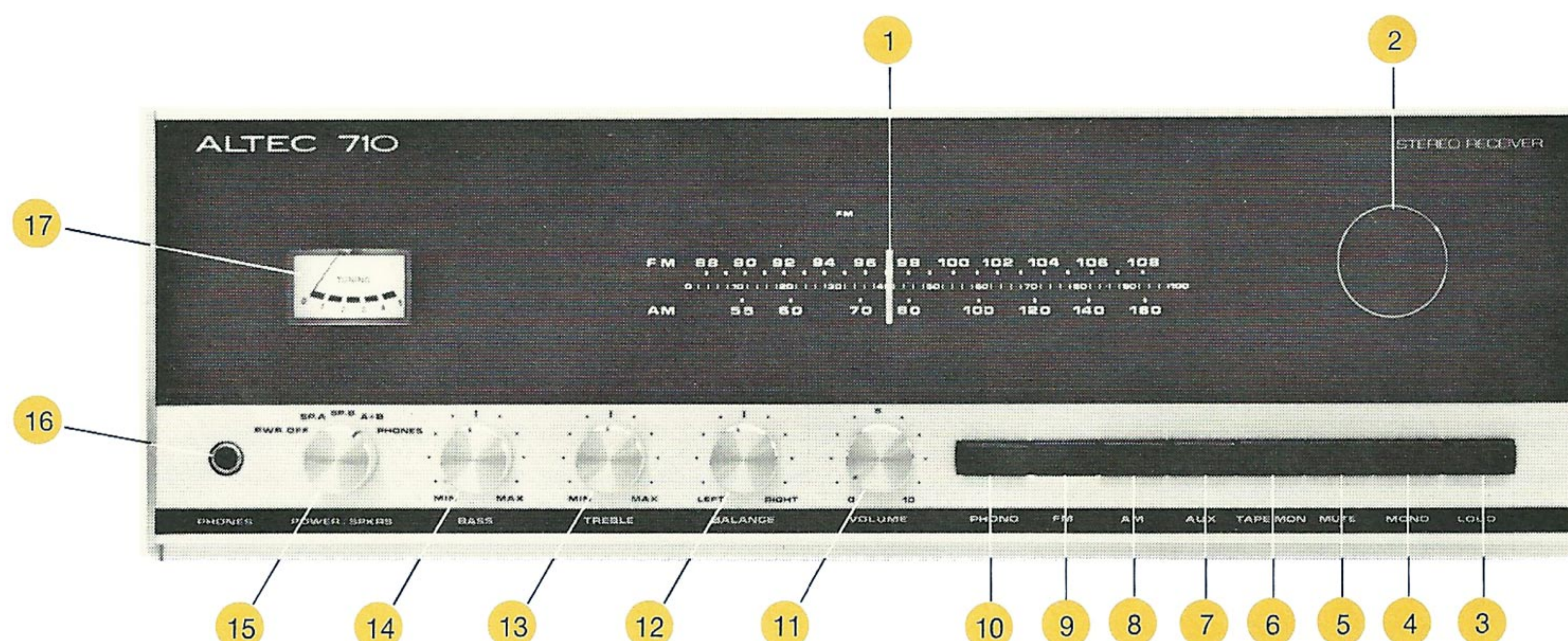
710A Receiver



ALTEC
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Front Panel Controls and Features

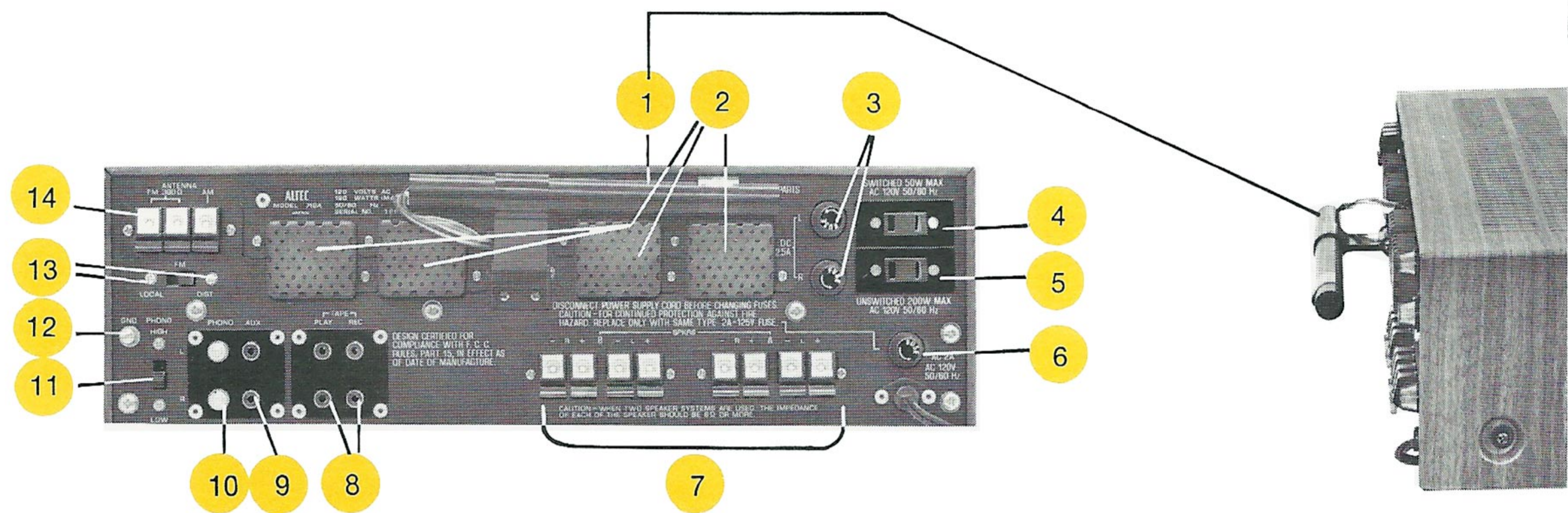
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1	Station Indicator and Function Mode Lamps	Show station selected by Tuning Knob and indicate selected function of PHONO, FM, AM, or AUX switches. Shows if selected FM station is broadcasting in STEREO.	10	PHONO switch	Selects record player (magnetic phono cartridge) connected to PHONO jacks at rear of receiver. PHONO mode lamp is lit when "push-on/push-off" type switch is pressed.
2	Tuning Knob	Tunes stations and moves position of Station Indicator.	11	VOLUME control	Progressively increases speaker volume when turned clockwise. Adjust VOLUME control for desired listening level.
3	LOUD switch	Corrects proportion of audio frequencies so that full frequency range can be heard properly at low listening levels. Boosts bass and treble to compensate for the apparent response loss that occurs in the human ear to bass and treble at low listening levels. "Push-on/push-off" type switch.	12	BALANCE control	Progressively changes volume relationship of left-side and right-side speakers. Use BALANCE control to balance unequal output of the left and right channels.
4	MONO switch	Combines left and right channels so the combined sound emits from all speakers. "Push-on/push off" type switch.	13	TREBLE control	Progressively increases high frequency response when turned clockwise; decreases high frequency response when turned counterclockwise. 'Normal' or 'flat' response at mid-position.
5	MUTE switch	Eliminates interstation noise between FM channels while tuning. "Push-on/push-off" type switch.	14	BASS control	Progressively increases low frequency response when turned clockwise; decreases low frequency response when turned counterclockwise. 'Normal' or 'flat' response at mid-position.
6	TAPE MON switch	Permits monitoring of program material being recorded on tape from PHONO, FM, AM, or AUX operation, or allows tape playback. "Push-on/push-off" type switch.	15	POWER/SPEAKERS switch	Turns on receiver and selects speaker pair desired. Position SP-A selects one pair (left and right side) of stereo speakers. Position SP-B selects a second pair (left and right side) of stereo speakers. Position A + B selects both pairs of stereo speakers for simultaneous operation. PHONES position selects a private listening mode via headphones plugged into PHONES jack; all speakers are turned off.
7	AUX switch	Selects high level audio output signals from tape player, TV, etc., connected to AUX jacks at rear of receiver. AUX mode lamp is lit when "push-on/push-off" type switch is pressed.	16	PHONES jack	Enables private listening through headphones when POWER/SPEAKERS switch is in PHONES position. High quality stereophonic headphones having a nominal impedance of 8 ohms should be used.
8	AM Switch	Selects AM radio reception. AM mode lamp is lit when "push-on/push-off" type switch is pressed.	17	TUNING meter	Indicates signal strength of AM or FM reception. Graduated in increments of 0 to 5. Use meter to adjust tuning for maximum signal strength.
9	FM switch	Selects FM reception. FM mode lamp is lit when "push-on/push-off" type switch is pressed. A stereo FM broadcast of adequate signal level automatically activates STEREO mode lamp.			

Rear Panel Connections and Features

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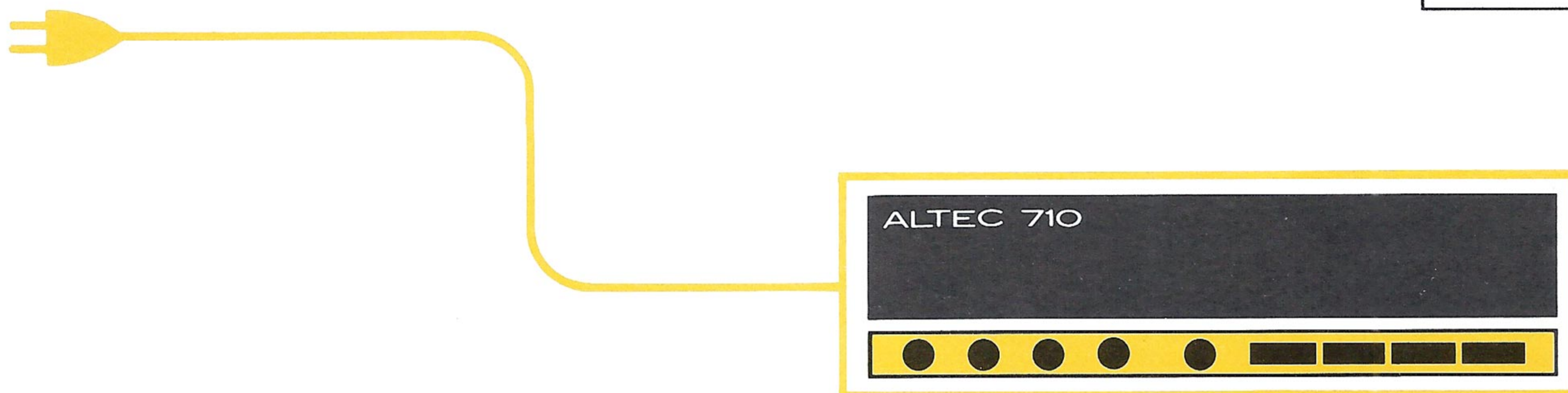


1	Antenna	Provides reception for AM broadcasts. Lower the hinged antenna to fully extended position for best reception. NOTE: Do not use antenna as a handle.
2	Output Transistors and Heat Sinks	Require adequate flow of cooling air. Place receiver where upward flow of air over four heat sinks is not restricted.
3	Output Fuses	Protect output transistors from current overload. One fuse provided for each channel. Replace with identical 2.5 ampere fuse after disconnecting line power cord. If either fuse blows repeatedly, see qualified service personnel.
4	SWITCHED AC power socket	Provides additional source of 120V, 50/60 Hz power when receiver is turned on with POWER/SPEAKERS switch on front panel. Maximum acceptable power drain is 50 watts.
5	UNSWITCHED AC power socket	Provides additional source of 120V, 50/60 Hz power at all times when receiver is connected to line power outlet. Maximum acceptable power drain is 200 watts.
6	AC line fuse	Protects receiver against excessive current drain. Replace with identical 2 ampere fuse after disconnecting line power cord. If fuse blows repeatedly, see qualified service representative.
7	SPKRS Terminals	Connect left and right speakers for each channel. Four pairs of push-and-clip terminals with (–) and (+) polarity designations. When two speakers are connected in parallel, the impedance of each speaker should be 8 ohms or more. POWER/SPEAKERS switch in the A + B position parallels pair A with pair B.

8	TAPE PLAY/REC jacks	Connect tape recorder to receiver. REC jacks provide left and right signal information from the receiver to the line input of the tape recorder. PLAY jacks connect the left and right channels from the tape recorder output to the receiver input. Press appropriate receiver mode (PHONO, FM, AM, or AUX) switch to pass receiver output to recorder input. Press TAPE MON switch to pass recorder output through receiver to speakers.
9	AUX jacks	Connect any source of high level audio output signals (from tape players, TV, etc.) to receiver. Press AUX switch to pass signals through receiver to speakers.
10	PHONO jacks	Connect turntables or record changers with magnetic cartridges to receiver. Press PHONO switch to pass record player output through receiver to speakers.
11	PHONO HIGH/LOW switch	Selects appropriate input sensitivity of receiver according to sensitivity of magnetic cartridge connected to PHONO jack. For low output (2.5 mV nominal) magnetic phono cartridges, use LOW position. For high output (8 mV nominal) magnetic phono cartridges, use HIGH position.
12	GND terminal	Provides proper termination for some record players. May not be required for record players having tone arms with metal headshells.
13	FM LOCAL/DIST switch	Should always be set to DIST (distance) position except when the receiver is close to a high powered FM station. In this special case, the LOCAL switch position may be required to eliminate overloading.
14	ANTENNA terminals	Connect external AM or FM antenna to receiver. One push-and-clip terminal for external AM antenna; two push-and-clip terminals for FM 300Ω antenna.

Installing and Connecting the Receiver

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Giving Adequate Ventilation

Solid state devices produce a minimum of heat, but proper ventilation should be provided for best performance and maximum component life. Satisfactory ventilation should be provided to meet the following considerations:

1. Allow an inch or two of space behind the receiver to cool the output transistor heat sinks.
2. The ventilation slots in the top of the receiver housing should remain open.
3. Use either the four plastic feet provided or alternate spacers to allow air to flow under the receiver to the rear panel.
4. It is not advisable to place the receiver on top of other heat producing units.

Making a Custom Installation

According to the kind of cabinet, and the method of installing the receiver, the following conditions should be considered:

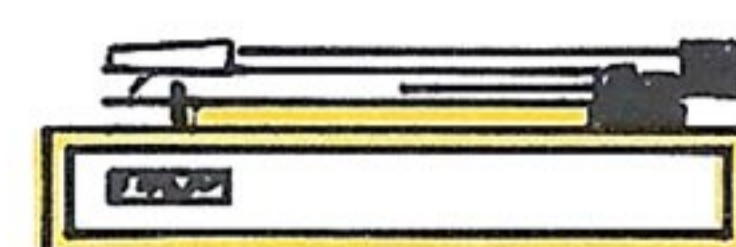
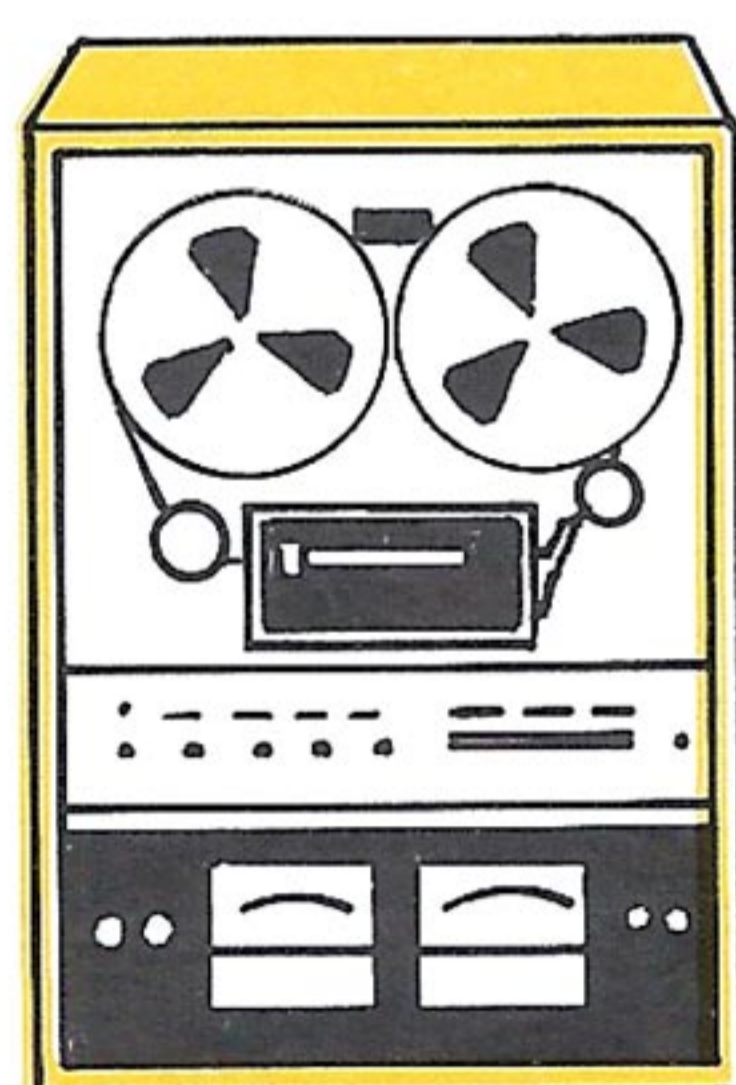
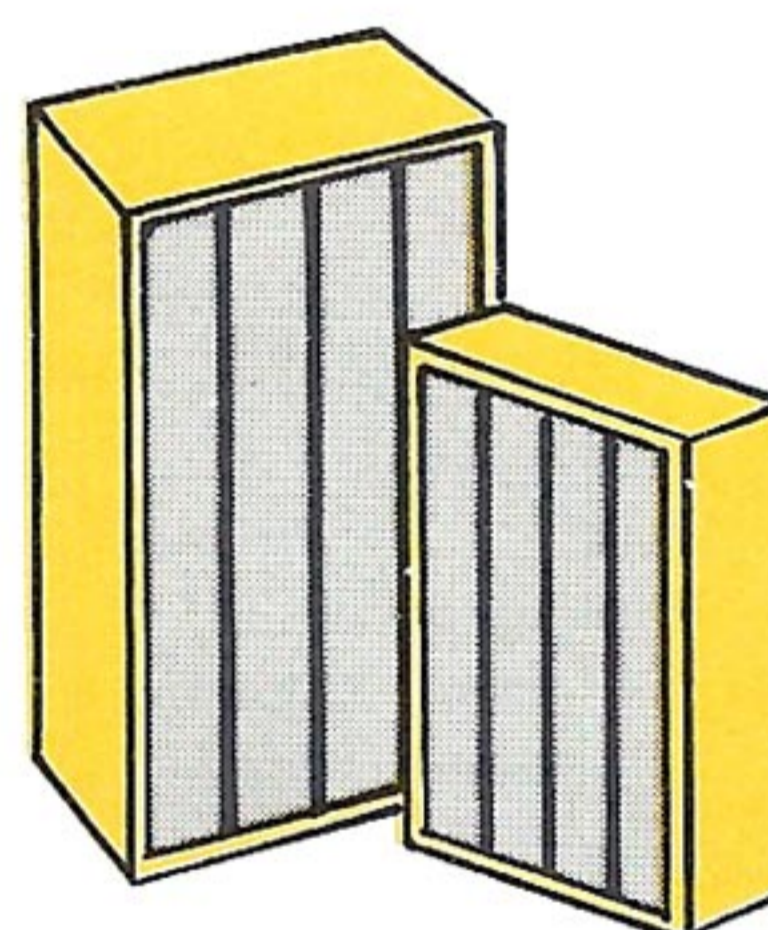
1. Do not remove the top or bottom covers. These provide circuit shielding.
2. Vent the cabinet to allow escape of warm air.
3. If the receiver is to rest upon a shelf within a cabinet, and the supporting feet are removed, a cutout may be made in the shelf to expose the entire vent area.

Vertical Mounting

The face panel of the receiver is designed to support the weight of the unit when mounted vertically. The chassis size is $16\frac{1}{8}$ " wide and $4\frac{1}{6}$ " high. Care should be taken to avoid cutting the opening too large. This will expose the cutout beyond the face panel. The feet should be removed for vertical installation.

Horizontal Mounting

Panel mounting in the horizontal position requires close attention to the ventilation considerations. If the unit is placed on a shelf without feet, the shelf should be vented to allow adequate air circulation. If the shelf is not vented, spacers $\frac{3}{16}$ " high should be used to raise the receiver off the shelf. If this is done, the bottom of the cutout should be $\frac{1}{4}$ " above the shelf mounting surface.



Altec Cabinet Accessory

The ALTEC 42162 Walnut Cabinet is available to mount the receiver. Four metric screws are supplied with the cabinet to secure the receiver within the cabinet. Remove the four feet from the bottom of the receiver, slide the receiver into the cabinet and secure the feet to the 42162 with the four longer screws that are provided.

Connections

Speakers

Connect the speakers to the push-and-clip terminals in accordance with the proper speaker pair and according to proper polarity (— and +). Strip insulation from the end of each speaker wire to expose approximately $\frac{3}{8}$ " of bare metal conductor. Press the spring clip at the bottom of the appropriate terminal, insert the bare end of the speaker wire into the hole and release the clip.

Tape Decks

To listen to a tape player, connect the output of the deck to the left and right TAPE PLAY jacks.

To record program material on tape, connect the output of the left and right TAPE REC jacks to the tape recorder line input.

Record Players

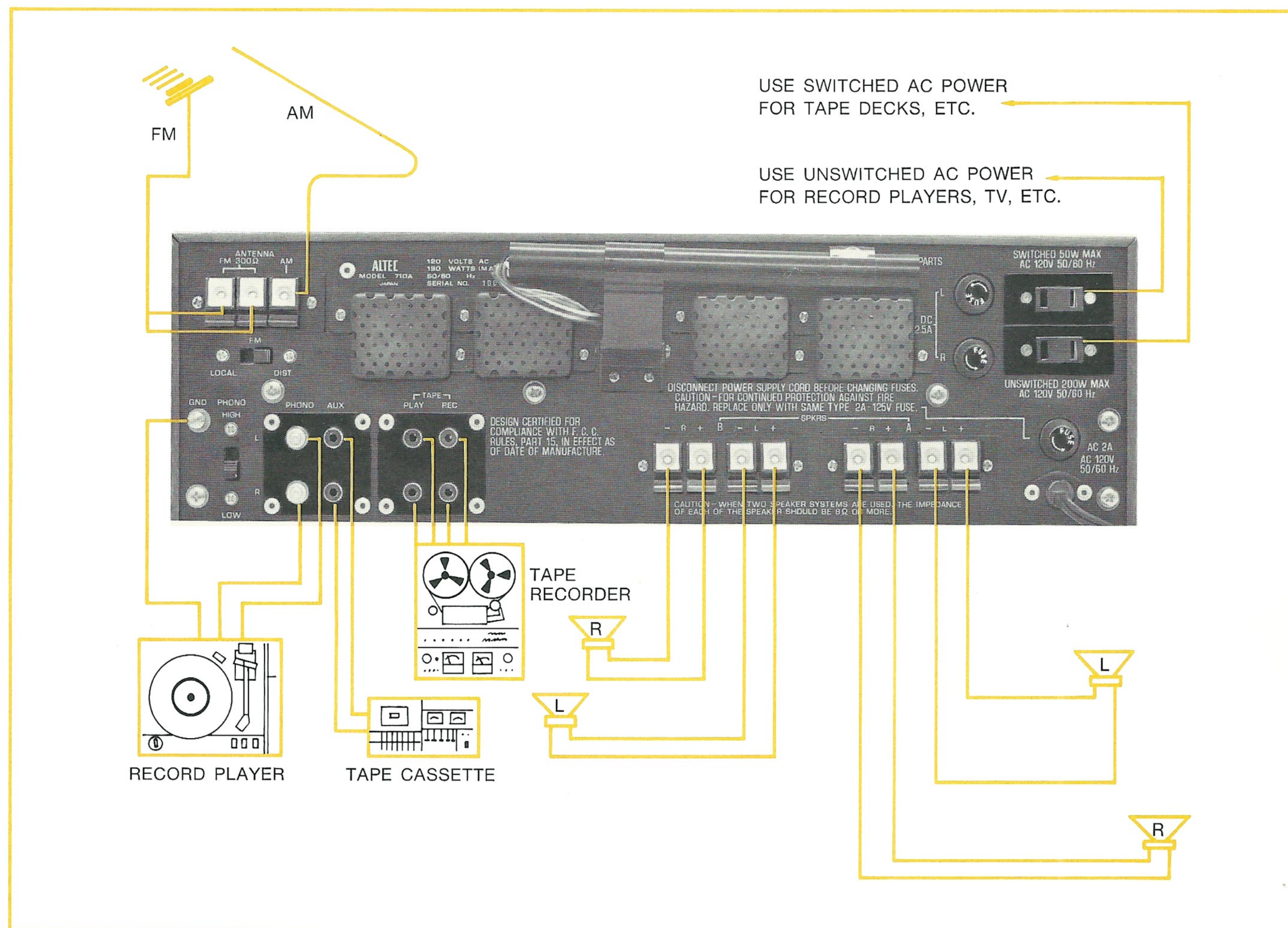
Connect the record player output, using a magnetic cartridge, to the left and right PHONO jacks. Set the PHONO HIGH/LOW switch to match the magnetic cartridge output. If the record player is provided with an external ground wire, it should be connected to the GND terminal of the receiver.

Auxiliary Equipment

Any equipment with high level audio output signals may be connected to the AUX jacks. This includes TV, tape recorder outputs, cassette players, etc.

Installing and Connecting the Receiver

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FM Antenna

A 300 ohm dipole antenna is supplied with the receiver for FM reception. Connect the antenna to the two push-and-clip terminals marked FM 300Ω. Press the spring clips at the bottom of the terminals, insert the antenna wires (two bare metal ends) into the holes and release the spring clips. Stretch the dipole antenna along a non-metallic wall in the form of a 'T'.

FM reception in some locations may be improved with an outside antenna. Consult your local dealer for information regarding reception in your area.

AM Antenna

Connect an outside AM antenna to the push-and-clip terminal marked AM. Press the spring clip at the bottom of the terminal, insert the antenna wire (bare metal end) into the hole and release the spring clip.

External Equipment

Use the SWITCHED 50W MAX AC 120V 50/60 Hz outlet on the receiver for such accessories as tape decks, cassette units, etc. Power is on at this outlet when the POWER/SPEAKERS switch is set to any position except OFF.

Use the UNSWITCHED 200W MAX AC 120V 50/60 Hz outlet on the receiver for record players, etc. Power is on at this outlet whenever the receiver power cord is connected to 120V power.

Receiver Power Cord

Connect the power cord to any 120 volt, 50/60 Hz power source.



Listening to Records

After properly connecting your record player to your receiver, turn the POWER/SPEAKERS switch to the desired speaker pairs. Press the PHONO switch; the PHONO mode lamp will light. Monophonic recordings played on some stereo record players exhibit excessive vertical rumble; press the MONO switch to eliminate this type of noise.

Listening To FM Broadcasts

Turn the POWER/SPEAKERS switch to the desired speaker pairs. Press the FM switch; the FM mode lamp will light. Turn the Tuning Knob until the desired FM station is obtained. If a reliable stereo signal is being received, the red STEREO mode lamp will light. Press the MUTE switch to eliminate interstation noise while you locate the desired station. For best reception of weak stations, the MUTE switch should be in the OFF position. The signal strength of the selected station is indicated on the TUNING meter. The best setting of the Tuning Knob is obtained when the TUNING meter shows the highest reading.

Listening To AM Broadcasts

Turn the POWER/SPEAKERS switch to the desired speaker pairs. Press the AM switch; the AM mode lamp will light. Turn the Tuning Knob until the desired AM station is obtained. The signal strength of the selected station is indicated on the TUNING meter. The best setting of the Tuning Knob is obtained when the TUNING meter shows the highest reading.

Using Auxiliary Input

After connecting the output of your tape deck or other high level output device to the AUX jacks, turn the POWER/SPEAKERS switch to the desired pairs. Press the AUX switch; the AUX mode lamp will light. Best operation is obtained when the auxiliary equipment has a nominal output level of 250 millivolts. If you are in doubt concerning the output level of your auxiliary equipment, consult your local dealer.

Making Tape Recordings

After connecting your tape deck to the TAPE PLAY/REC jacks, select the program source by pressing the PHONO, FM, AM, or AUX switch. This automatically feeds the desired signal to the tape deck at the correct recording level. Adjustment of the tape deck line input level control is required for proper performance. The signal to the tape deck is not affected by the receiver VOLUME, BASS, TREBLE, or BALANCE controls.

Playback from the tape deck is accomplished by pressing the TAPE MON switch on the receiver. Pressing the TAPE MON switch does not release any of the other pushbutton switches.

If your recorder is equipped with separate record and playback heads, you may monitor the recorded material directly from the tape after the recording process, while the recording is being made. Proper technique for this type of monitoring is to press the TAPE MON switch on the receiver, as well as the program source desired (PHONO, FM, AM, or AUX). Set the tape recorder Monitor Switch to 'Source' and adjust the Input Level Control for proper recording level. Monitoring should then be performed at the tape recorder with the tape recorder's monitor switch.

Locating the Speakers

Room environment affects speaker acoustics. In a rectangular room, preferred placement of the speakers usually is along the longer wall, with the sound being projected across the shorter distance. To obtain the most pleasing listening effects, we encourage your experimentation with different speaker locations to suit your listening room.

Acoustically Balancing the Stereo System

The BASS, TREBLE, and BALANCE controls are provided to adjust the acoustics of the stereo system. 'Normal' or 'flat' response of the stereo system is obtained at the center position of these controls (under ideal conditions). Adjustment of these controls depend upon the individual preference of the listener and the acoustical characteristics of the room.

Phasing the Stereo System

Proper system electrical phasing of the left and right loudspeaker units in a home stereo music system is essential. Many elaborate methods for determining correct phase are available, but by using a simple test, this can be done easily in the home.

Listen to the system in the monophonic mode, or with a mono sound source. The sound should appear to emanate directly from between the speakers. If any stereo effect is still heard, reverse the polarity of one speaker system; this should bring the source back to the one desirable point. When the sound appears to be at this mid-point in the mono mode, the correct acoustical phasing for stereo has been achieved.

Specifications



FM Tuner Section

IHF Sensitivity:	2.5 μ V
Capture Ratio:	1.5 dB
Stereo Separation at 1 kHz:	40 dB
Harmonic Distortion (100% Modulation):	0.5%
Frequency Response:	± 1 dB, 20 to 15,000 Hz
Image Rejection:	65 dB
Antenna:	300 ohms

AM Tuner Section

IHF Sensitivity:	26 μ V
Signal-to-Noise Ratio:	42 dB

Amplifier Section

Full Frequency Power Output (1)*:	60 watts (30 watts/channel)
Continuous (RMS) power at 1 kHz into 8 ohms:	76 watts
IHF Power Output at 4 ohms:	150 watts
Total Harmonic Distortion (2)*:	under 0.5%
Intermodulation Distortion (3)*:	under 0.5%
Frequency Response:	± 1 dB, 20 to 20,000 Hz
Minimum Bandwidth (4)*:	30 to 20,000 Hz
IHF Power Bandwidth:	10 to 30,000 Hz
Signal-to-Noise Ratio: High Level (aux. and tape) Low Level (phono)	greater than 75 dB greater than 60 dB
Input Sensitivity: High Level Low Level	200 mV 2.5 mV/8.0 mV switchable
Tone Controls (Baxendall Curve): Bass Treble	± 12 dB @ 50 Hz ± 12 dB @ 10,000 Hz

Dimensions

Overall:	5 $\frac{5}{8}$ " (143mm)H x 16 $\frac{1}{16}$ " (421mm)W x 15 $\frac{1}{2}$ " (394mm)D
Behind Faceplate:	4 $\frac{9}{16}$ " (116mm)H x 16 $\frac{1}{8}$ " (410mm)W x 14 $\frac{1}{8}$ " (359mm)D
Faceplate:	5 $\frac{3}{16}$ " (132mm)H x 16 $\frac{1}{16}$ " (421mm)W

Weight

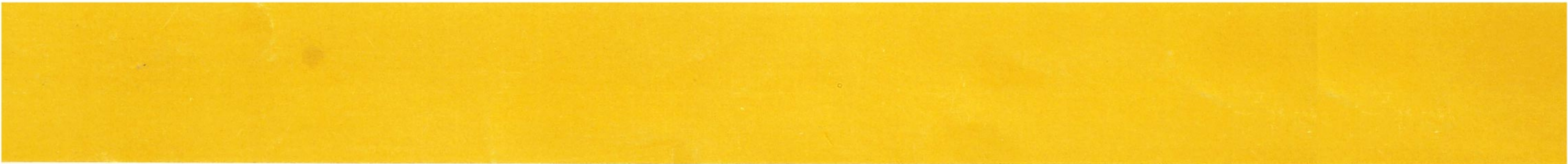
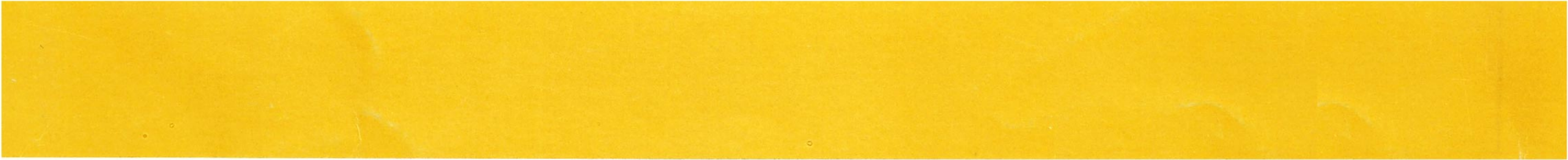
	23.5 lb. (10.7Kg)
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*ALTEC Full Frequency Output Specifications

- (1) Continuous (RMS) power, both channels driven simultaneously into an 8 ohm load, at all frequencies from 30 to 20,000 Hz.
- (2) From rated output to less than 0.5 watts at all frequencies from 30 to 20,000 Hz.
- (3) From rated output to less than 0.5 watts at any two frequencies from 30 to 20,000 Hz.
- (4) Measured at full rated output at less than rated distortion.

Components Supplied with Altec 710 AM/FM Stereo Receiver

- 1 each Indoor 300-ohm dipole FM antenna
- 1 each Owner's Manual
- 1 each Warranty Card



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