

OWNER'S MANUAL

PLEASE READ BEFORE OPERATING THIS EQUIPMENT.

STA-100 SOLID STATE am/fm stereo receiver

CATALOG NO. 31-2089



CUSTOM MANUFACTURED FOR RADIO SHACK  A DIVISION OF TANDY CORPORATION

REALISTIC[®]

For your own protection, we urge you to record the Serial Number of this unit in the space provided. You'll find the Serial Number on the back panel of the unit.

Serial Number

RADIO SHACK LIMITED WARRANTY

This equipment is warranted against defects for 2 years from date of purchase. Within this period, we will repair it without charge for parts and labor. Simply **bring your sales slip** as proof of purchase date to any Radio Shack store. Warranty does not cover transportation costs. Nor does it cover equipment subjected to misuse or accidental damage.

This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

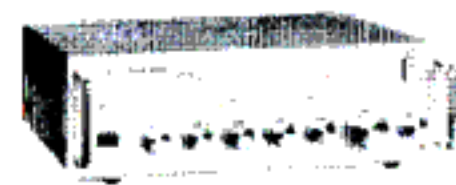
We Service What We Sell



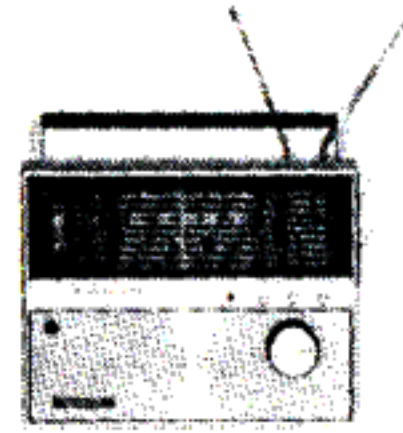
Speakers



Components



P.A. Products



Radios



Recorders



Phonographs

REALISTIC AUDIO PRODUCTS are the proud result of Radio Shack engineering, research, development, and over 50 years of experience in electronics. Laboratories are maintained in Boston, Ft. Worth, Los Angeles, and abroad. In every sense a national brand, the Realistic label is worn with equal distinction by our highly original Communications and Citizens Band (two-way radio) products, and numerous other items, including tape, headphones, antennas, intercoms and tubes.

THE BRAND WITH OVER 10,000,000 CUSTOMERS

In choosing this fine Realistic product you have demonstrated a rather acute awareness of the good old American custom called "getting the most for your money". With Realistic this is not an idle boast.

The "line" was born in Boston, long famous for Yankee ingenuity — and thrift. Its original intent was to bridge a gap between \$100 equipment and \$25 equipment where, at the time, there was a real void in hi-fi merchandise.

Early products were a \$39.95 FM tuner, a \$29.95 preamp/amplifier, a \$19.95 speaker. Soon we found ourselves a unique niche as manufacturing retailers.

Capacity and ability grew simultaneously. Soon Realistic hi-fi products — loudspeakers, receivers, tape decks, even table radios — began receiving critical acclaim for faultless performance as well as value. Dealers and franchises from all over the world began requesting a Realistic franchise.

Today you can shop The Worldwide Supermarket of Sound® with the confidence that you're getting the widest selection of quality hi-fi equipment available anywhere — whether you're looking at budget-priced extension speakers or true audio-ophile receivers.

Specifications

PRE-AMPLIFIER & AMPLIFIER

Audio Output Power at no more than 0.1% Total Harmonic Distortion into 8 ohms, over the audio spectrum, 20 to 20,000 Hz.	:	22 watts (Minimum RMS Power, Both Channels Driven)
Frequency Response (1 watt)	:	20–20,000 Hz
Sensitivity (for full Output)	:	PHONO : 2.2 mV AUX : 160 mV TAPE IN : 160 mV
Tape Output Level	:	PHONO : 120 mV AUX : 140 mV
DIN Output (Input: 220 mV)	:	AUX : 3.3 mV
Harmonic Distortion (at 5 watts)	:	: 0.08%
Signal-to-Noise Ratio	:	PHONO : 65 dB AUX : 75 dB TAPE IN : 75 dB
Tone Control Action	:	BASS : ± 10 dB @ 100 Hz TREBLE : ± 10 dB @ 10,000 Hz

FM TUNER

Sensitivity (IHF)	:	1.9 μ V (10.8 dBf)
Limiting Sensitivity (–3 dB)	:	1.8 μ V
Signal-to-Noise Ratio (1 mV)	:	65 dB
Total Harmonic Distortion	:	MONO : 0.1% STEREO : 0.5%
Stereo Separation (1 kHz)	:	45 dB
Image Rejection	:	58 dB
IF Rejection	:	85 dB, typically 95 dB
Alternate Channel Selectivity	:	60 dB
Capture Ratio	:	1.5 dB

AM TUNER

Terminal Sensitivity	:	10 μ V for 20 dB S/N
Radiated Sensitivity	:	200 μ V/m
Image Rejection	:	45 dB
Total Harmonic Distortion	:	0.8% (5 mV/m)
A.G.C. Figure of Merit	:	50 dB
Selectivity (10 kHz)	:	27 dB
RF Interference Rejection	:	Rated excellent

ANTENNAS

AM : Built-in ferrite FM : Linecord, plus terminals for External Antennas

POWER REQUIREMENTS

120 V AC, 60 Hz (280 watts max.) (220/240 V AC, 50 Hz for European and 240 V AC, 50 Hz for Australian models as indicated on rear of unit)

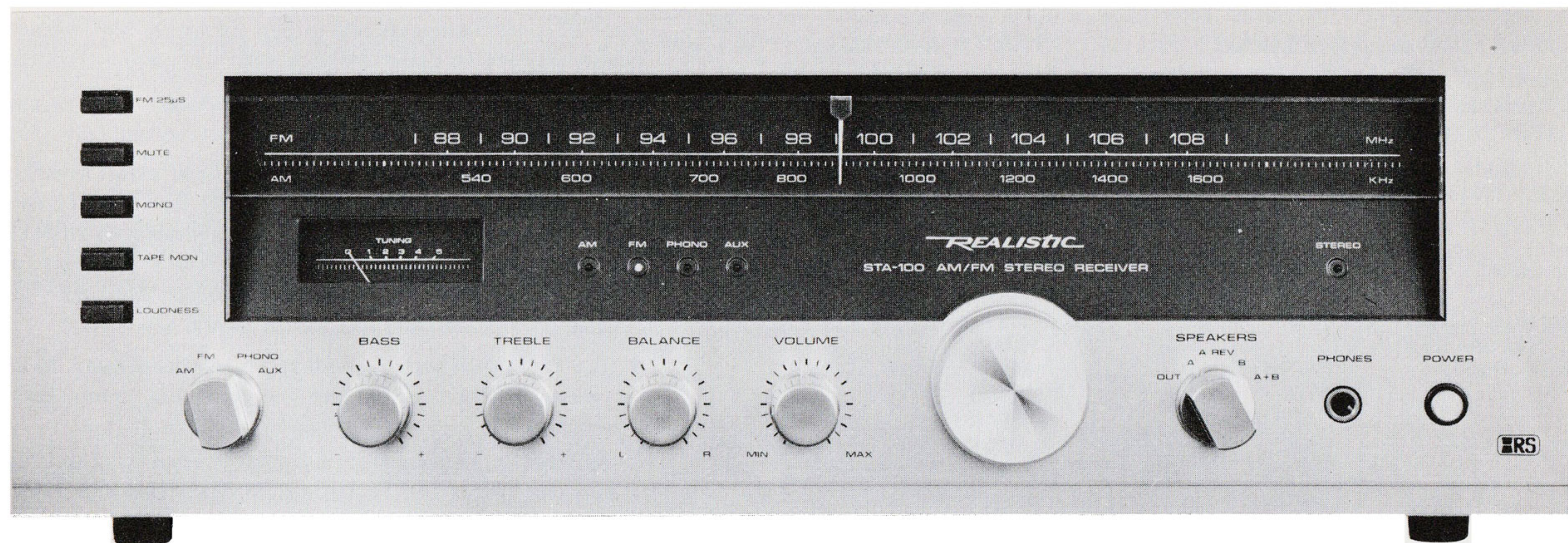
General Description

Your STA-100 represents one of best values available today in a high-quality receiver. Its power and versatility make it an outstanding buy.

- 22 watts of clean “honest” power will drive almost any speaker system — even two sets of speakers!
- The FM front-end section utilizes a “Field Effect Transistor”. This means that your tuner has extra-high sensitivity combined with exceptionally low noise, plus unusual immunity to distortion caused by electrical interference at these high frequencies and minute signal levels. Maybe that’s a little too “technical” for you — but it’s all solid up-to-the-minute engineering technology.
- The FM/AM IF section employs a newly developed Linear IC which assures minimum noise and low distortion, combined with high sensitivity.
- The FM multiplex section employs a newly developed Phase Lock Loop IC (P.L.L. IC) which assures stable stereo separation even if internal temperatures rise or drop.
- Muting Switch eliminates interstation hiss on FM.
- Main Amplifier uses a true complementary OCL (Output Capacitorless) circuit configuration for plenty of power and stability.
- **Two** overload protection circuits assure complete protection from over-driving, thermal and speaker problems (shorting or otherwise).
- A factory-mounted walnut grained vinyl veneer case — and you don’t pay a penny extra.

NOTE: Before connecting the STA-100, please read the following instructions. They will insure your getting the most enjoyment from your new Receiver.

REALISTIC®



CONTROL FUNCTIONS

Selector

Chooses one of five input positions.

AM — Activates the built-in AM tuner.

FM — Activates the built-in FM tuner.

PHONO — For any turntable equipped with a magnetic cartridge.

AUX — For any high-output source — a second tuner, a crystal or ceramic phono cartridge, a second tape deck, TV, Ham radio, etc.

BASS

Controls low frequencies. At the center position, it does not affect the sound. Turn clockwise to boost bass response, counterclockwise to de-emphasize the low frequencies.

TREBLE

Controls high frequencies. At the center position, it does not affect the sound. Turn clockwise to boost treble response, counterclockwise to de-emphasize the high frequencies.

BALANCE

Adjusts balance of sound between left and right channels. At the center position (you'll feel a slight "catch" there) sound will be equal from both channels.

VOLUME

Adjusts volume of sound from both channels — from MIN. to MAX.

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Tuning Knob

Tunes AM and FM stations.

SPEAKERS

- OUT — Turns all speakers off for private head-phone listening.
- A — Connects main speakers only.
- A REV — Reverses the left/right sound output from the "A" (or Main) speakers.
- B — Connects remote speakers only.
- A + B — Connects main and remote speakers.

PHONES

Accepts any pair of low impedance stereo headphones. The jack is always "live".

POWER

Master Power ON/OFF.

FM25 μ S

(For USA/Canadian models)

Converts Dolby*-FM signals into standard Dolby NR system for decoding by a Dolby tape deck or decoder. When listening to a non-Dolby FM signal (or if you do not have a Dolby decoder), leave FM 25 μ S button in out position.

HI FILTER

(For European and Australian models)

The HI FILTER button lets you filter out noise. When pressed in, the HI FILTER removes hiss and scratches.

*"Dolby" is a registered trademark of Dolby Laboratories.

MUTE

Press this button in to eliminate interstation noise when tuning for FM stations. Receiver will then be silent until you tune a strong (3 μ V or better) station.

Leave FM MUTE in out position to receive weak FM stations.

MONO

When pressed in, switches the amplifier and tuner from stereo to monaural operation. In the out position, the amplifier operates in stereo and the FM tuner automatically switches to stereo when there is a stereo signal.

TAPE MONitor

Push in to play tapes or to monitor a tape as it is being recorded.

LOUDNESS

With the button in, boosts low and high frequencies to compensate for the ear's reduced sensitivity to these frequencies at low volume levels. With button out, removes the compensation.

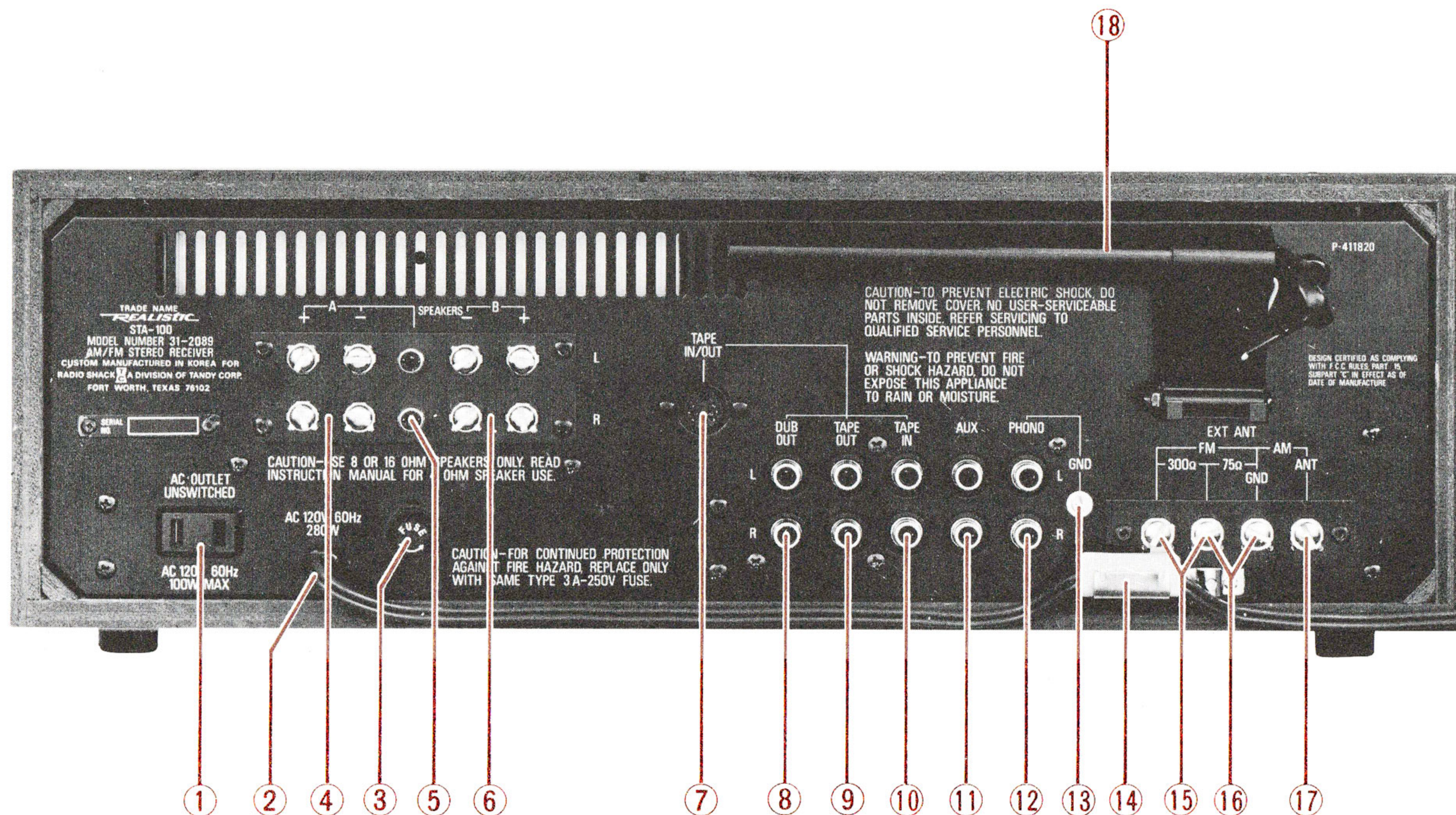
TUNING Meter

Indicates the relative strength of FM and AM signals. Tune for the highest reading.

Indicator

As you turn the SELECTOR, an appropriate indicator lamp will light — AM, FM, PHONO or AUX. When you have tuned to a stereo FM station (with MONO button out), the STEREO light will come on.

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REAR PANEL

1. UNSWITCHED Convenience Outlet

Powers any audio accessory up to 100 watts. The front panel **POWER** switch does not affect this receptacle.

2. AC Cord

Supplies the Receiver's power. Plug into any 120 V AC, 60 Hz outlet (220/240 V AC, 50 Hz for European and 240 V AC, 50 Hz for Australian models as indicated on rear of unit).

3. POWER FUSE

Protects the Receiver from voltage surges, short circuits and other abnormal operating conditions. If the dial light does not go on when **POWER** is on, check the fuse. If it is blown, replace it with an identical size and value (3 A).

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4. A SPEAKERS Screw Terminals

Powers main speakers which do not have phono jack connectors.

NOTE: Use either phono jack or screw terminals for A speakers, **not both**.

5. A SPEAKERS Phono Jacks

Powers main speakers which have phono jack connectors.

NOTE: Use either phono jack or screw terminals for A speakers, **not both**.

6. B SPEAKERS Screw Terminals

Powers remote Speakers.

7. TAPE IN/OUT DIN Jack

If your Tape Recorder has a DIN-type socket, use a cable with DIN-type connectors and plug into the DIN-type socket on the Receiver.

8. DUB OUT

You can make a 2nd recording of any signal being processed through the Receiver by connecting a Recorder's input jacks to the **DUB OUT** jacks. This way you can duplicate a recording or make two recordings at one time.

9. TAPE OUT

Permits tape recording any source chosen by the **Selector**. These jacks are always "live", and their output is unaffected by the front panel controls.

10. TAPE IN

Accepts output from any tape deck or recorder for tape playback. These jacks are active only when front panel **TAPE MON** switch is pressed in.

11. AUX

Accepts output from any high-level source — a second tape deck or tuner, a ceramic or crystal phono cartridge, etc. These jacks are active when **Selector** is set to **AUX**.

12. PHONO

Accepts output from any turntable equipped with a magnetic cartridge. These jacks are active when **Selector** is set to **PHONO**.

13. PHONO GND

Accepts the green or black ground wire found on most turntables. Making this "ground" connection reduces or eliminates hum.

14. FM Line Cord Antenna

Connect to the 300 Ω FM screw terminal illustrated to provide FM reception in most metropolitan areas. Disconnect the line cord antenna when using an external FM antenna.

15. FM ANTenna 300 Ω Screw Terminals

Connect antennas using standard 300-ohm lead-in to these screws.

16. FM ANTenna 75 Ω Screw Terminals

Connects to antennas using 75-ohm coaxial lead-in. Coaxial cable provides extremely high resistance to static and other noise.

17. AM ANTenna Screw Terminal

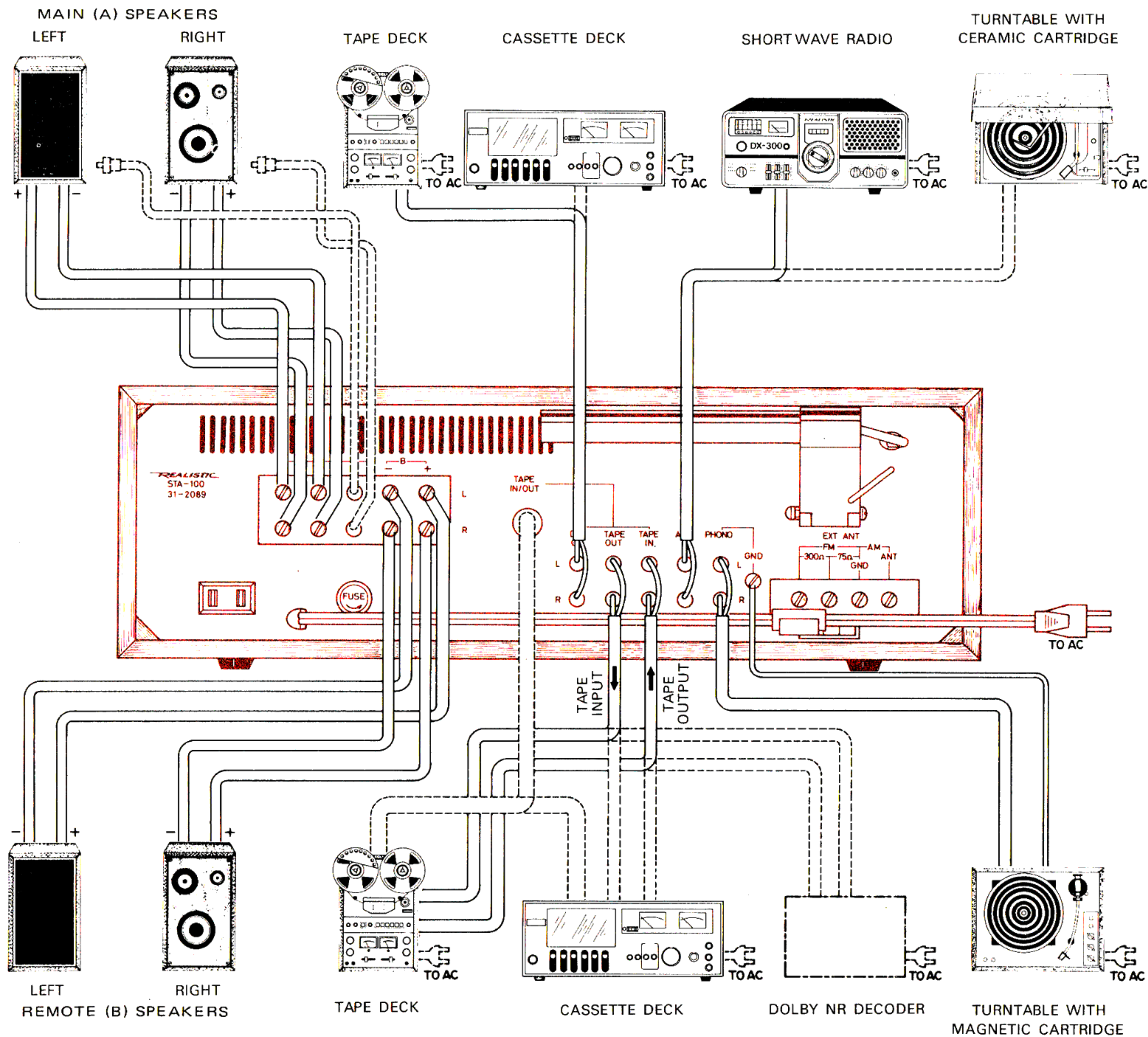
Connect an external AM/short-wave antenna to this screw for long-distance AM reception. In most areas the built-in antenna will provide excellent reception.

18. Built-in Ferrite AM Antenna

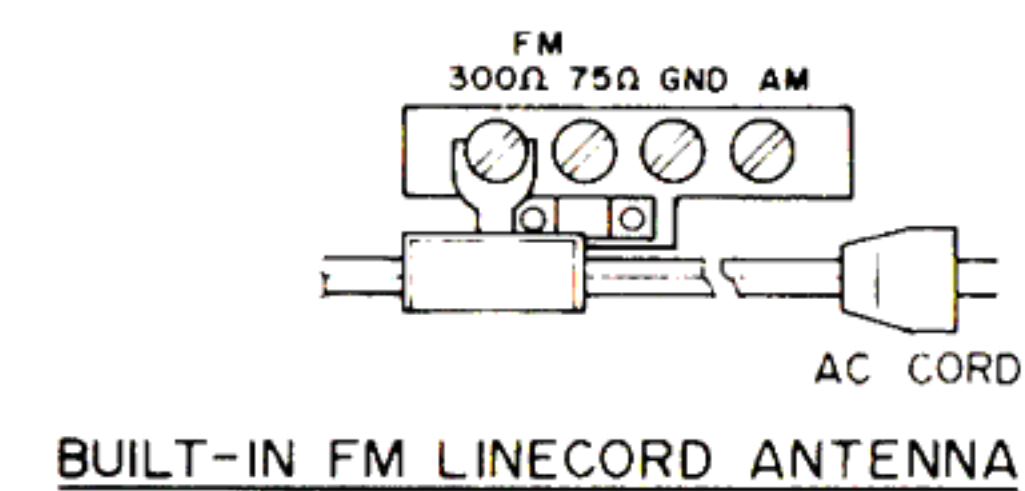
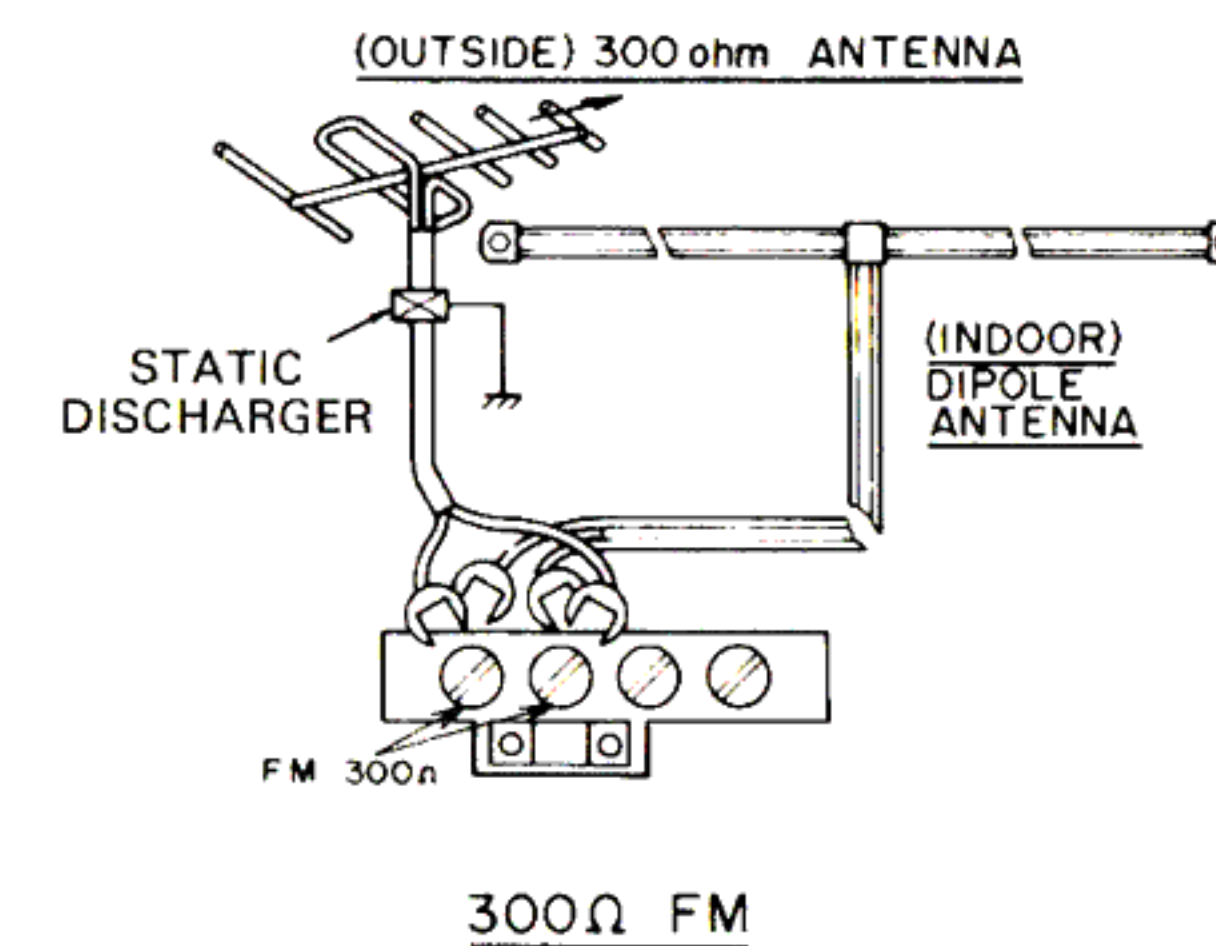
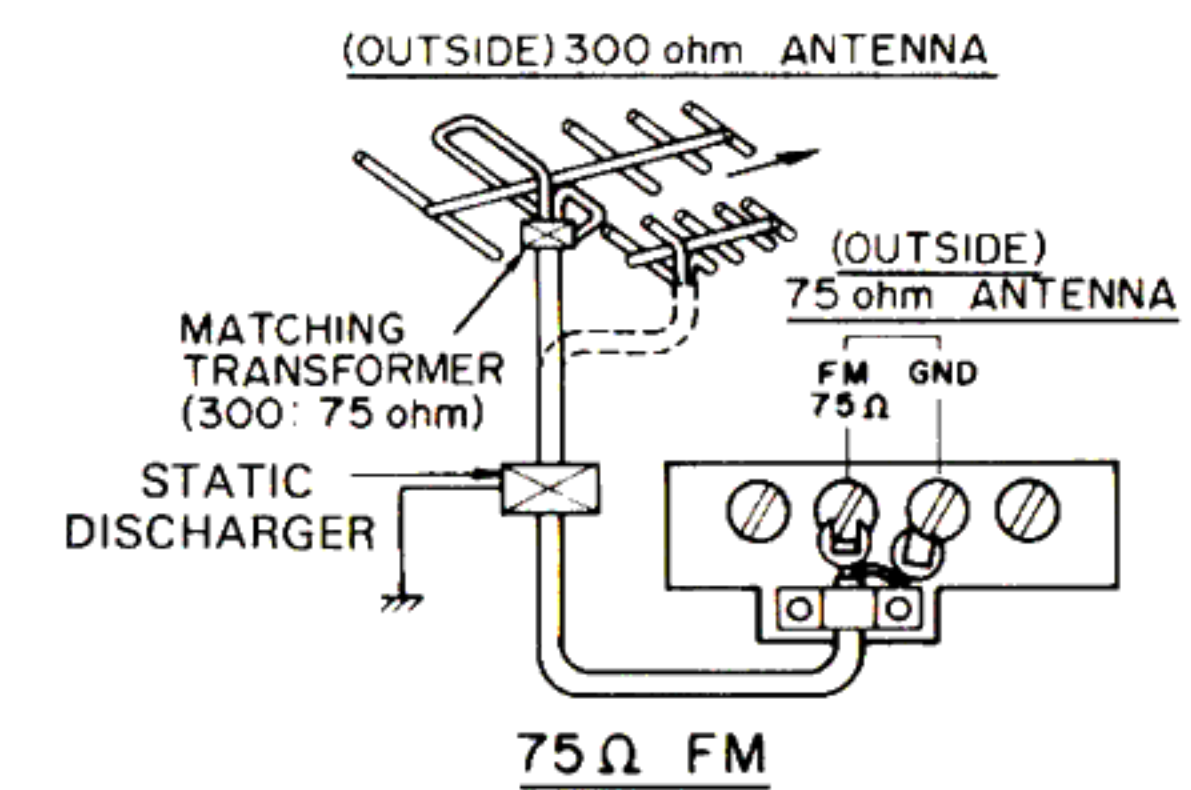
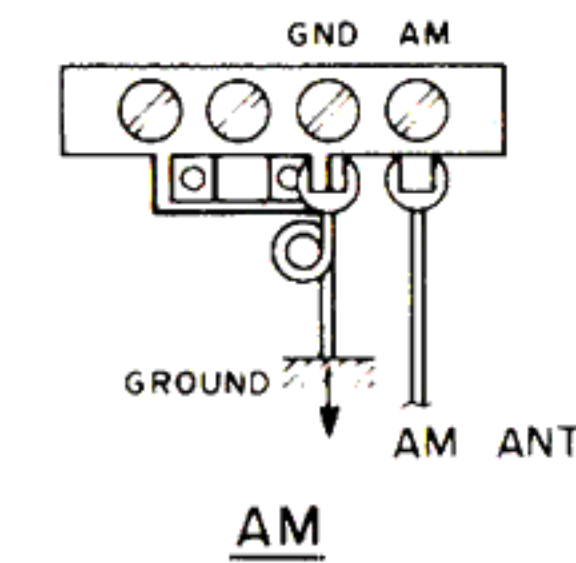
Is adequate in most areas for AM reception. Move around on its swivel for best reception.

REALISTIC[®]

A Typical System: STA-100, Turntable, 4 Speakers, Tape Decks and Shortwave Radio



ANTENNA CONNECTIONS



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CONNECTIONS

BEFORE MAKING CONNECTIONS:

1. Do not plug in the Receiver's power cord.
2. Be sure **POWER** is off.

NOTE: To reduce hum, use shielded audio cables for all connections except speakers.

SPEAKERS

The STA-100 has two sets of A(main)speaker outputs — use only one set. If your speakers have phono plug inputs, use the Receiver's phono plug outputs and a set of unshielded speaker cables. Otherwise use the Receiver's screw terminal outputs.

For maximum bass response, be sure to observe proper phasing. Connect the + Receiver speaker output to the speaker terminal labeled A, 1 or +; and the — output to the speaker terminal labeled B, 2 or —. Most speaker wire is marked with a ridge along one conductor or has one color-coded conductor. If you use preassembled phono plugs, phasing will automatically be correct.

Connect B (remote) speakers following the instructions above. Be sure the speakers are phased properly.

NOTES: 1. The STA-100's outputs are designed for 4-16 ohm speakers. **However, when more than one set of speakers is being connected, use only 8-16 ohm systems.** This will prevent the amplifier from being overloaded.

2. When using the screw terminals, be sure no stray strands of wire touch a second terminal or the chassis — a harmful short could result.
3. Connect no more than two sets of speakers to the Receiver.
4. Use only as much wire as necessary to connect the speakers.

If you are using 4-ohm speakers, connect only one set of speakers, or use only one set of speakers at a time. That is, don't use **A + B** if one set is 4 ohms. Low-impedance speaker systems will tend to trip the automatic circuit protection/amplifier shut-down circuitry when operating at high volume levels (to prevent damage from amplifier overdrive). Also, see Overload Protection, Page 12.

TURNTABLE

Connect the turntable leads to the **PHONO** inputs. If the turntable has a ground wire (usually green or black), connect it to the **PHONO GND** screw. Plug the turntable's power cord into an AC outlet or Receiver's **UNSWITCHED** convenience outlet.

(NOTE: If the turntable has a ceramic or crystal cartridge, connect it to the **AUX** jacks.)

TAPE DECK

For recording, connect the Receiver's **TAPE OUT** jacks to the recorder's Aux or Line input. For playback, connect the deck's Line or Output jacks to the Receiver's **TAPE IN** jacks.

If you want to duplicate (or dub) a recording, or make two recordings at one time, use shielded cable to connect the STA-100's **DUB OUT** jacks to a second tape recorder's input.

If your tape deck has a DIN-type socket, use a cable with DIN-type connectors and plug into the DIN-type socket on the Receiver.

Use either phono jacks or DIN jack, not both.

ANTENNAS

Be sure the line cord FM antenna is connected to the FM ANT 300 Ω terminal. The built-in AM antenna requires no attention.

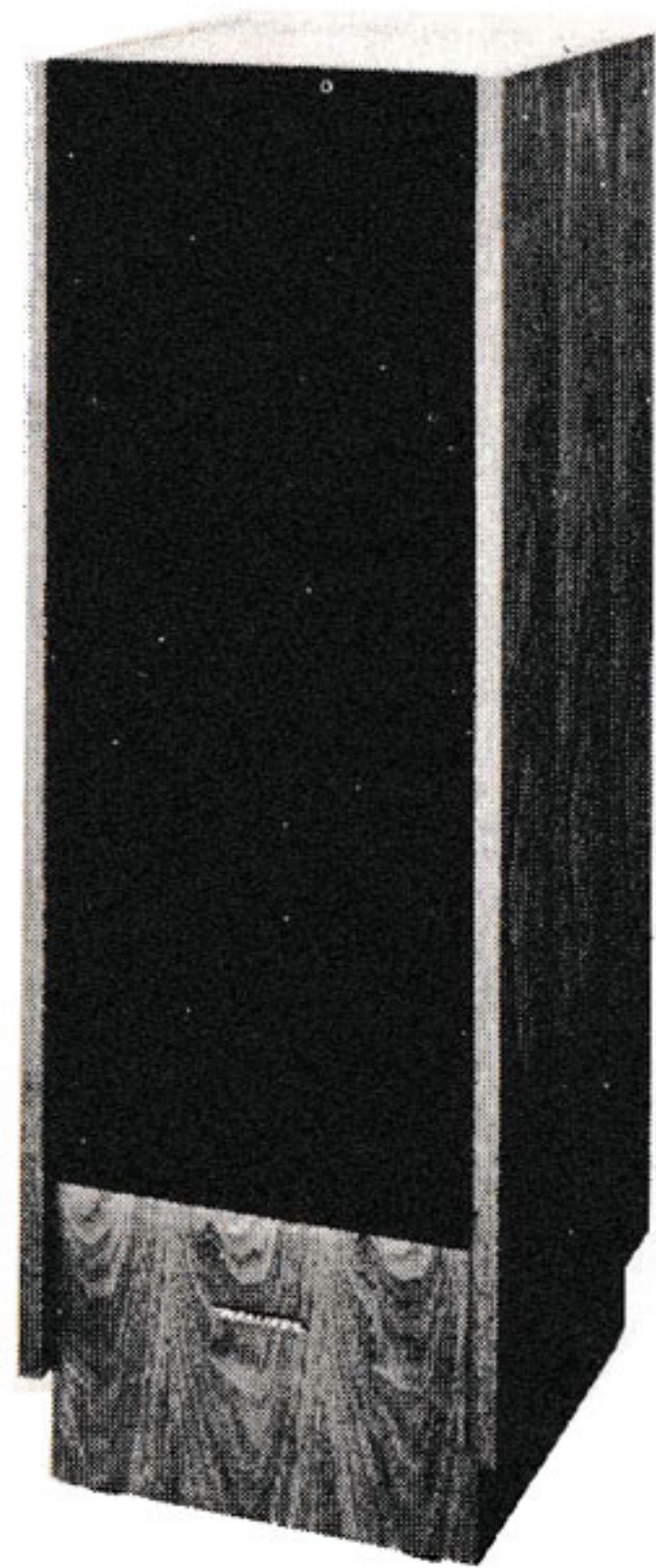
If you think you need an external antenna, see **HINTS FOR BETTER SOUND.**

AUXILIARY

Plug the output from any high level source into the **AUX** jacks. This input is ideal for a second tuner, TV audio, ceramic or crystal phono cartridges, a tape player, shortwave radio, etc.

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CHOOSING THE REST OF YOUR SYSTEM



SPEAKERS

No stereo system sounds better than its speakers, so choose the best you can afford for your front or main speakers. With a high quality receiver like the STA-100, you should carefully consider Radio Shack's Optimus and Nova-series speakers. To be able to hear your new receiver's superior performance, we recommend one of the Minimus speakers as a minimum investment.

Of course there are a wide variety of speakers intended primarily for remote use. Some are weather-proofed for outdoor installations and others offer the convenience of a built-in volume control. Naturally, if you plan to use your remote speakers for critical listening, you should consider using the same type of speakers for both your main and remote installations.

Your nearest Radio Shack has a complete selection of speakers for every application and budget.

TURNTABLE

For convenience, most people prefer a record changer (often called an automatic turntable) to a manual turntable. A changer will play an entire stack of records and return the tonearm to its rest at the end of the last record.

For the best sound, your turntable should be equipped with a magnetic cartridge. Cartridges equipped with conical styli (needles) are usually inexpensive and have good sound. But a cartridge with an elliptical stylus follows the record groove more accurately, and so, produces better sound. Your Radio Shack store has a selection of changer systems which come with factory-mounted bases and cartridges.

TAPE DECKS

Until very recently, reel-to-reel tape decks were the only possible choice for those interested in true high-fidelity. But recent technological advances have made 8-track and cassette recorders approach the sound quality of reel-to-reel machines.

Reel-to-reel decks are a must for those who want to edit their own tapes, and they still have marginally the best performance.

The best cassette decks, equipped with special tape bias settings and noise reduction circuitry, will out-perform many reel-to-reel decks. They have the additional advantage of compactness and convenient pop-in loading. In addition, cassettes can be used in the car as well as at home.

8-track cartridges provide slightly less fidelity than cassettes or reels but have several advantages. An 8-track recorder plays pre-recorded car tapes at home and can save money by recording new auto tapes. In addition, an 8-track cartridge uses a continuous tape loop which can provide hours of uninterrupted music. Many 8-track playback decks are less expensive than record changers and let you use car tapes at home.

HEADPHONES

Any system can benefit from a good pair of stereo headphones. They provide convenient private listening and many people find the heightened stereo very exciting.

Your STA-100's front-panel headphone jack will accept any low impedance stereo headphones. When shopping, wear each pair of headphones long enough to be sure they will be comfortable.

ANTENNAS

Under most conditions your Receiver's built-in antennas should provide adequate AM and FM reception. If you have difficulty, see HINTS FOR BETTER SOUND.

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OPERATING THE STA-100

BEFORE PLUGGING IN THE STA-100

1. Double-check all connections — especially the speaker connections — to assure that all connections are firm and that there are no shorts.
2. Set **VOLUME** to MIN.
3. All pushbuttons should be out.

Now, plug in Receiver and push **POWER** button in to turn it on.

SPEAKERS/HEADPHONES

Select any speaker or combination of speakers with the **SPEAKERS** switch. In the A position, the Receiver's power goes to the main speakers only and in the B position to the remote speakers only. A + B puts the same stereo signal through both sets of speakers. In the A REV position, the left/right sound output from the A/Main speakers will be reversed. Sometimes this reversing of channels can give interesting effects from various sound sources.

The **PHONES** jack permits headphone listening with any or all of the speakers. For private listening, turn the **SPEAKERS** switch to OUT.

VOLUME

Increase or decrease the **VOLUME** control setting for a pleasant listening level.

BALANCE

If necessary, adjust **BALANCE** for best stereo effect and channel balance, or to compensate for slightly off-center listening positions.

SELECTOR

Choose the input you want by turning the **Selector** switch.

AM — Use the Tuning knob to find the desired station. Fine-tune for the highest reading on the **TUNING** meter.

FM — Use the Tuning knob to select the desired station. If you're tuned to a stereo FM station, the **STEREO** light will come on. Adjust Tuning for the highest reading on Meter.

PHONO — Adjust the **VOLUME**, **BALANCE** and Tone controls. For the best sound and longest record life, do not track your cartridge below the recommended force. Light tracking may actually cause more distortion than heavy tracking.

AUX — Adjust **VOLUME**, **BALANCE** and Tone controls. The auxiliary input can be used for any high-level source such as a tape player, a second tuner, TV, ceramic or crystal phono cartridge, ham radio, etc.

NOTE: If the **TAPE MONitor** button is pressed in, the **Selector** switch will have no effect on the sound.

TAPE MONitor

Press the **TAPE MONitor** button in to play tapes or (with a three-head deck) to listen to tapes immediately after they have been recorded. **If no tape is being played, pressing this button will silence the Receiver.**

FM25 μ S

(For USA/Canadian models)

Dolby FM Reception. If you connect a Dolby noise reduction decoder to your STA-100 (see illustration, page 8), you will be able to get the full benefit from Dolby FM broadcasts. (Check with your local FM stations to see which ones offer Dolby FM broadcasts.)

To listen to an Dolby FM broadcast: Press **FM 25 μ S** button in, press **TAPE MONitor** button in and turn your Dolby noise reduction accessory on. You will then enjoy improved signal-to-noise-ratio; full dynamic range, even at high frequencies; and improved reception in weak-signal areas.

To listen to non-Dolby FM broadcasts (or if you do not have a Dolby decoder) leave **FM 25 μ S** button out; otherwise the FM sound will have an unnatural "brightness".

MUTE

To eliminate interstation noise while tuning for FM stations, press **MUTE**. Receiver will now be silent until you tune a relatively strong (3 μ V or more) signal. To tune weak FM stations, leave **MUTE** button in out position.

LOUDNESS

When listening at low volume, press the **LOUDNESS** button. This overcomes the ear's reduced sensitivity to treble and bass at low volume by boosting these frequencies.

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MONO

Press the **MONO** button to defeat normal stereo operation. The result is a composite signal (left + right). When you listen to weak FM stereo stations, pressing the **MONO** button will reduce the hiss, but the signal will no longer be stereo.

BASS

Turn the **BASS** control toward + to boost the low frequencies or toward — to de-emphasize them. In the center position, the control has no effect on the sound.

TREBLE

Turn the **TREBLE** control toward + to boost high frequencies or toward — to de-emphasize them. In the center position, the control has no effect on the sound.

HI FILTER

(For European and Australian models)

Press **HIGH FILTER** in to eliminate the pops and clicks on an old record, hiss from tape or FM — or any high frequency noise.

OVERLOAD PROTECTION

Your Receiver has built-in, automatic overload protection. If an abnormal load is presented to the speaker terminals, this protective circuit will automatically silence the Receiver. If this happens, turn **POWER** "off" and check all speaker connections; be sure no pieces of wire are touching between speaker terminals and be sure you don't have 4 ohm speakers connected for both Main (A) and Remote (B). When you are sure everything is OK, apply power once more.

THERMAL PROTECTION

Your Receiver also has built-in thermal overload protection. This means it can not become abnormally hot and damage some portion of the circuitry. If internal temperatures do rise abnormally, the Receiver will automatically silence itself. If this happens, check to be sure you have not placed something over the ventilation holes — if you have, remove it. If you are using speakers with excessively low impedance, the amplifier circuit may be over-driven and thus producing excessive heat. This can be caused by using 4 ohm speakers on both Main (A) and Remote (B) speakers — if you use both pairs of speakers, be sure to use either 8 or 16 ohm types.

HINTS FOR BETTER SOUND

POSITIONING YOUR SPEAKERS

Where you put your speakers is a highly personal matter, depending largely on the arrangement of your listening room and the way you listen to music. Where you put your speakers **does** make a difference in how your system will sound, so before setting on a final arrangement, try several alternatives.

Bass response is highly dependent on speaker location. For maximum bass, place the speakers in the corners of your room. Putting the speakers directly on the floor will make the bass even stronger. If the bass sounds boomy and exaggerated, move the speakers away from the corner slightly, pull them out from the wall a little or raise them 6 to 18 inches (15–45 cm) off the floor.

Stereo

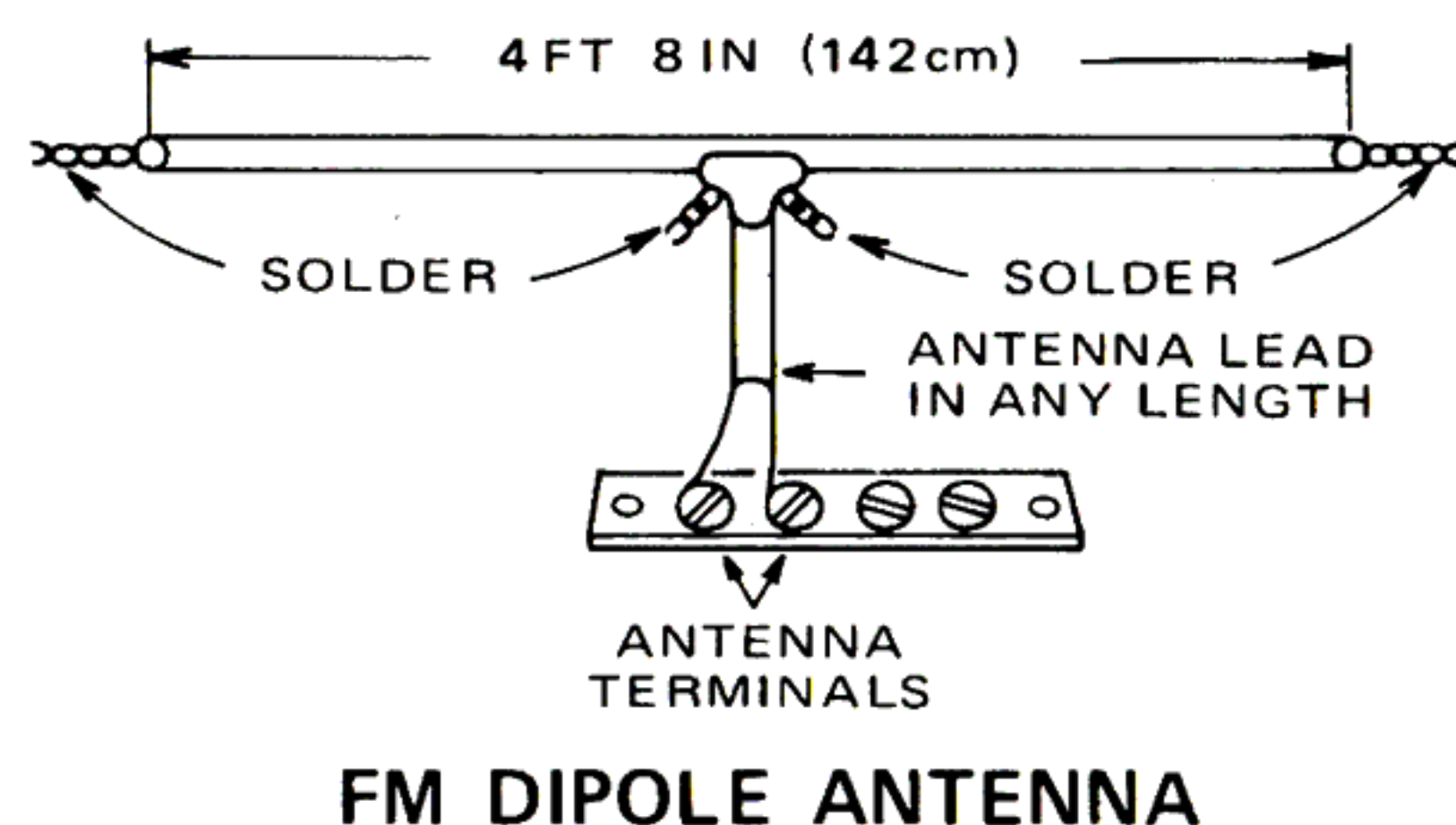
Stereo speakers should be 6 to 8 feet (1.8–2.4 m) apart. Putting them too close together reduces the stereo effect, while placing them too far apart reduces bass response and creates a "hole in the middle". Also, most speakers have a tweeter dispersion angle of about 60°. Ideally your listening position should be in the overlap, so you may want to angle the speakers toward you for better stereo.

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ANTENNAS

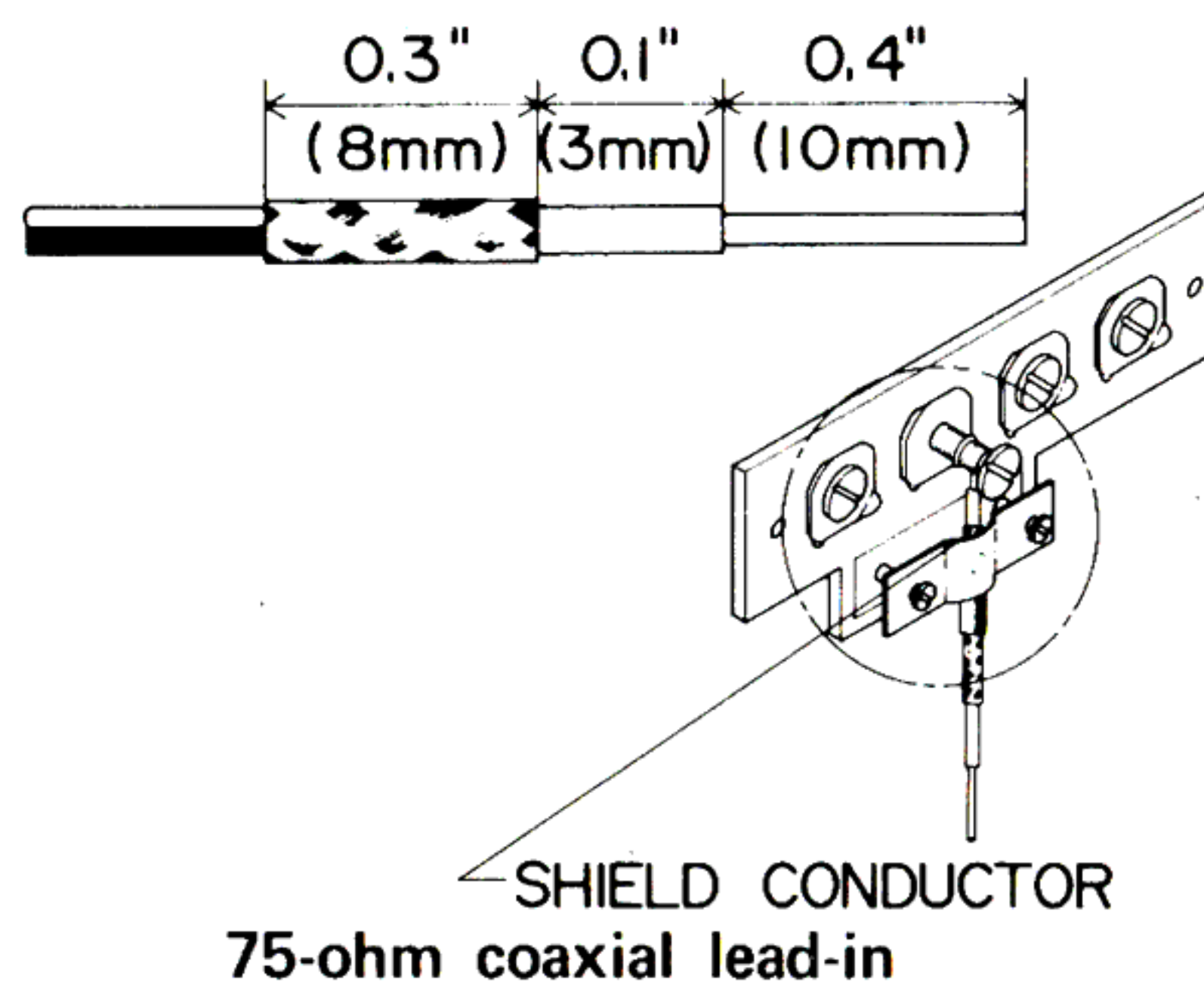
Under most conditions your STA-100's built-in antennas should be adequate for AM and FM reception. If you are not satisfied with the reception, try one of the arrangements listed below.

For FM, build the low-cost folded dipole (illustrated); or buy one ready-made from Radio Shack (42-2385). Just splice regular 300-ohm lead-in wire as shown. Apply a small amount of solder and heat the twisted ends until solder flows evenly over each strand of wire. Attach the lead-in to the 300 Ω terminals on the back of the receiver. The antenna itself can be tacked to the back of a record cabinet or onto a wall — the higher the better.



A set of VHF-TV rabbit ears or ones made specially for FM reception work well in suburban areas. Some deluxe models feature electronic "tuning" for better directionality. Connect such antennas to the 300 Ω terminals.

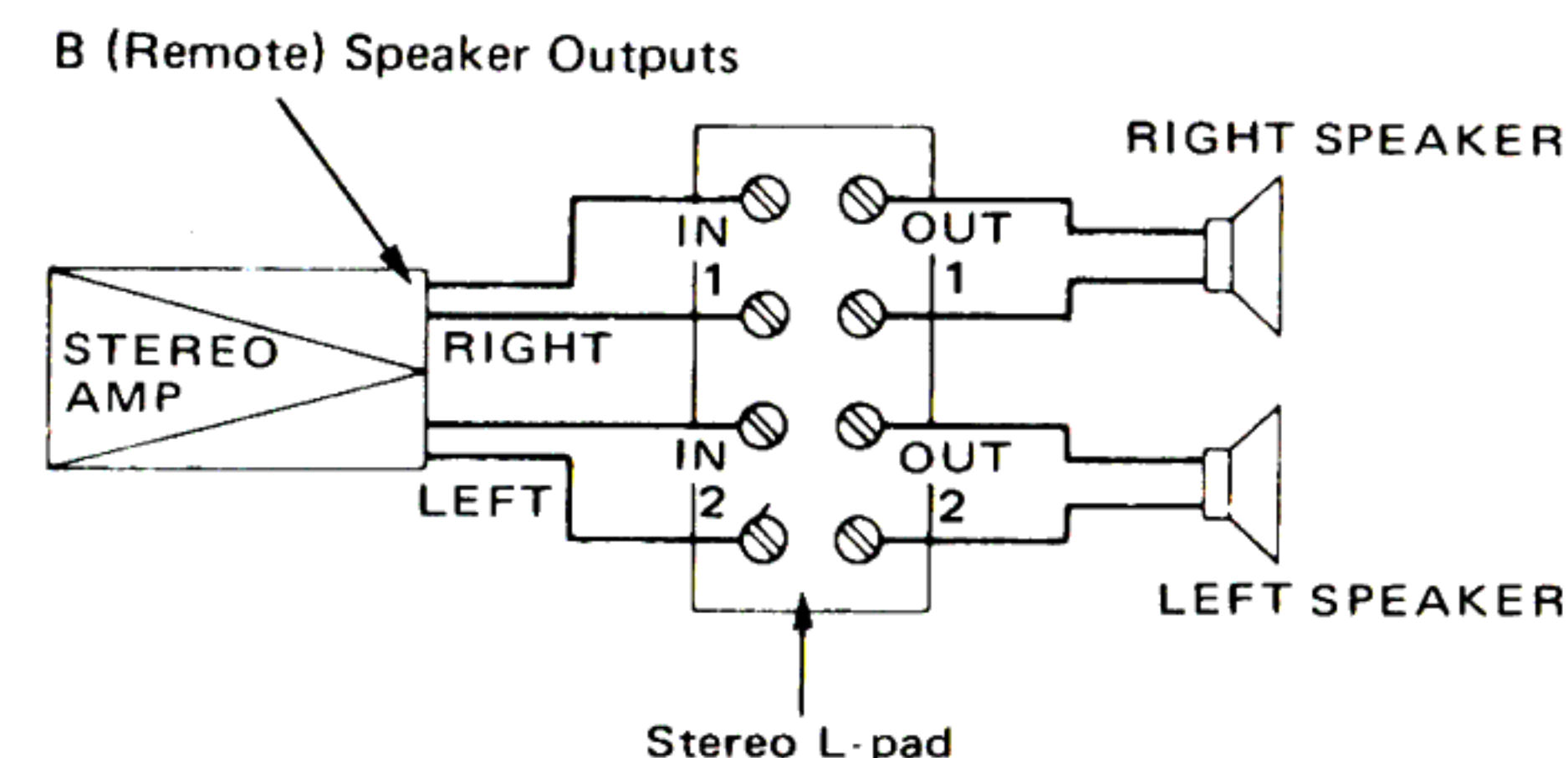
An outside VHF-TV antenna provides excellent FM reception. An inexpensive "splitter" permits you to connect a TV set and your Receiver to the same antenna. In fringe areas, a special outdoor FM antenna may be the only solution. Such antennas can pick up stations up to 175 miles (280 km) away over flat terrain. If you use 300-ohm lead-in, connect it to the 300 Ω terminals and if you use 75-ohm lead-in connect it to the 75 Ω terminals. (Attach the braided ground wire of 75 ohm lead-in to the terminal common to the 75 Ω and 300 Ω antenna terminals or connect the braid under the clamp as illustrated.) For AM, a long piece of wire hung outdoors between two insulators can greatly improve long-distance AM reception.



NOTE: To protect your Receiver, use a lightning arrestor on any outdoor antenna.

Connecting an L-Pad

In some cases you may want to vary the volume of the remote speakers separately. This can be done very simple and inexpensively with a stereo L-pad, such as Radio Shack Catalog Number 40-978.



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Notes on Tape Recorder Care

A clean, demagnetized recorder will give its best performance for many years, while a dirty recorder can mangle or ruin pre-recorded tapes in a very short time. An inexpensive demagnetizer (de-gausser) removes residual magnetism from the tape heads. This will insure the lowest possible hiss and distortion and the best possible high frequency response. Always clean and demagnetize your recorder before making critical recordings. Under

normal conditions you should demagnetize your recorder after every 10–15 hours of play. With normal use you should clean the heads and metal tape guides once or twice a month with a special solvent such as Realistic Recorder Cleaner (catalog number 44-1010). Moisten a clean cotton swab with fluid and rub the heads with short circular movements. Then clean oxide deposits from all metal guides. There are also a number of cloth cleaning tapes which can be played like a tape for fast, easy cleaning.

You can even use your demagnetizer to help remove oxide particles trapped deep in the head gaps. Place a cleaner moistened cotton swab over the gap and bring the demagnetizer into contact with it. Move the swab and demagnetizer in short, circular sweeps. Gradually withdraw the demagnetizer and remove the dirty swab.

Yearly preventive maintenance by an authorized technician reduces the possibility of expensive major breakdown and will keep your recorder in peak operating condition.

CARING FOR YOUR STA-100

The STA-100's case is mar and stain resistant. Clean it with a slightly moistened soft cloth. Treat the front panel with care — so you don't scratch it. A window cleaning liquid works well (a small amount on a soft cloth).

Ventilation — can be important. We merely recommended that you don't place the STA-100 on a surface which would block air circulation — air must be able to circulate freely around the back, under and over the top of the case. Avoid placing on a shag rug, etc. which would block such circulation.

If You Have Problems

We hope you don't; but if you do, here are some suggestions:

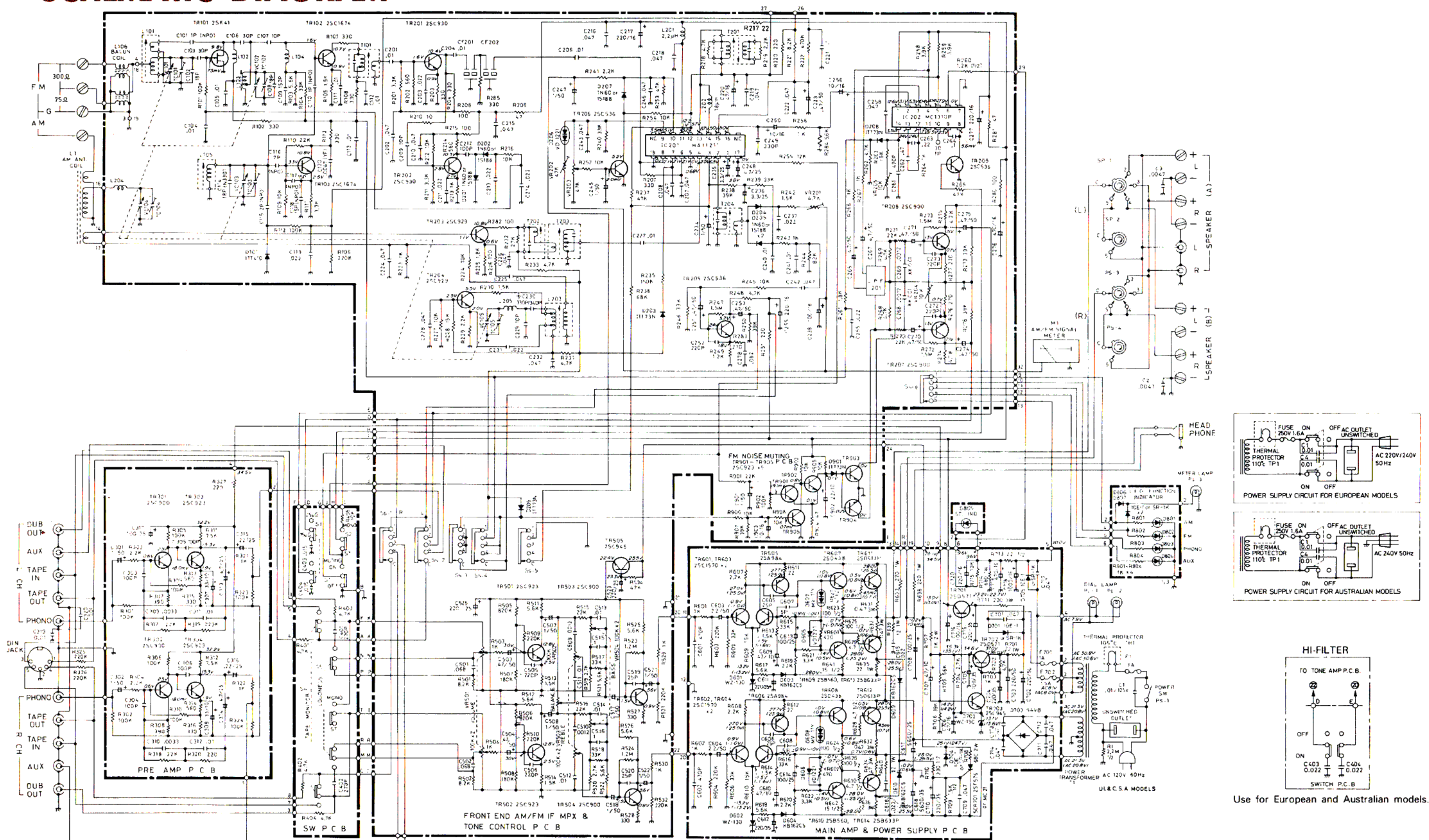
1. Check all your cable connections. Make sure all the leads and plugs are secure **at both ends**.
2. Try a different AC outlet if you don't get any indication of power (and be sure you've got the line cord plugged in!).
3. Try interchanging cables and connections on the rear panel — sometimes this will give you a hint of where the problem lies — and may solve the problem for you.
4. If the dial scale lights are on and Meter works — but you have no sound — make sure you don't have **TAPE MON** pressed in! If that is not the case — maybe the automatic current limiting protection circuit has been activated. In such a case, turn off **POWER** and check your speaker connections.

- A. Make sure there is no short across the speaker screw terminals (stray strand of wire touching between terminals or to the metal chassis).
 - B. If you are using more than one pair of speakers, they must be 8 or 16 ohm type (two pairs of 4 ohm speakers can overload the amplifier circuit and cause this circuit to activate).
 - C. Let the Receiver cool down for a few minutes and then turn **POWER** back on.
5. If the dial lights don't come on, the fuse may be blown. Check it; replace only with a 3 Amp type.

In any case, if none of the above does the job and you still have a problem — help is as close as your local Radio Shack store. Bring your unit in and be ready to describe the symptoms — we will get you back into good stereo sound ASAP!

REALISTIC®

SCHEMATIC DIAGRAM



- NOTE: (1) Ss-1~Ss-7: FUNCTION SELECTOR SWITCH.
POSITION: 1 - AM, 2 - FM, 3 - PHONO, 4 - AUX, C - COMMON.
- (2) Ps-1~Ps-2: POWER SWITCH.
- (3) SP 1~SP 4: SPEAKER SELECTOR SWITCH.
POSITION: 1 - OUT, 2 - A, 3 - A, REV, 4 - B, 5 - A + B.
- (4) ALL RESISTANCE VALUES ARE INDICATED IN "OHM" (K = 10^3 OHM, M = 10^6 OHM).
- (5) ALL CAPACITANCE VALUES ARE INDICATED IN " μ F" (P = 10^{-6} μ F).
- (6) * VALUES MAY VARY FROM UNIT TO UNIT FOR OPTIMUM PERFORMANCE.
- (7) ** VALUES ARE USED FOR EUROPEAN AND AUSTRALIAN MODELS.

REALISTIC®

SPEAKERS — FOR THE MUSIC MINDED

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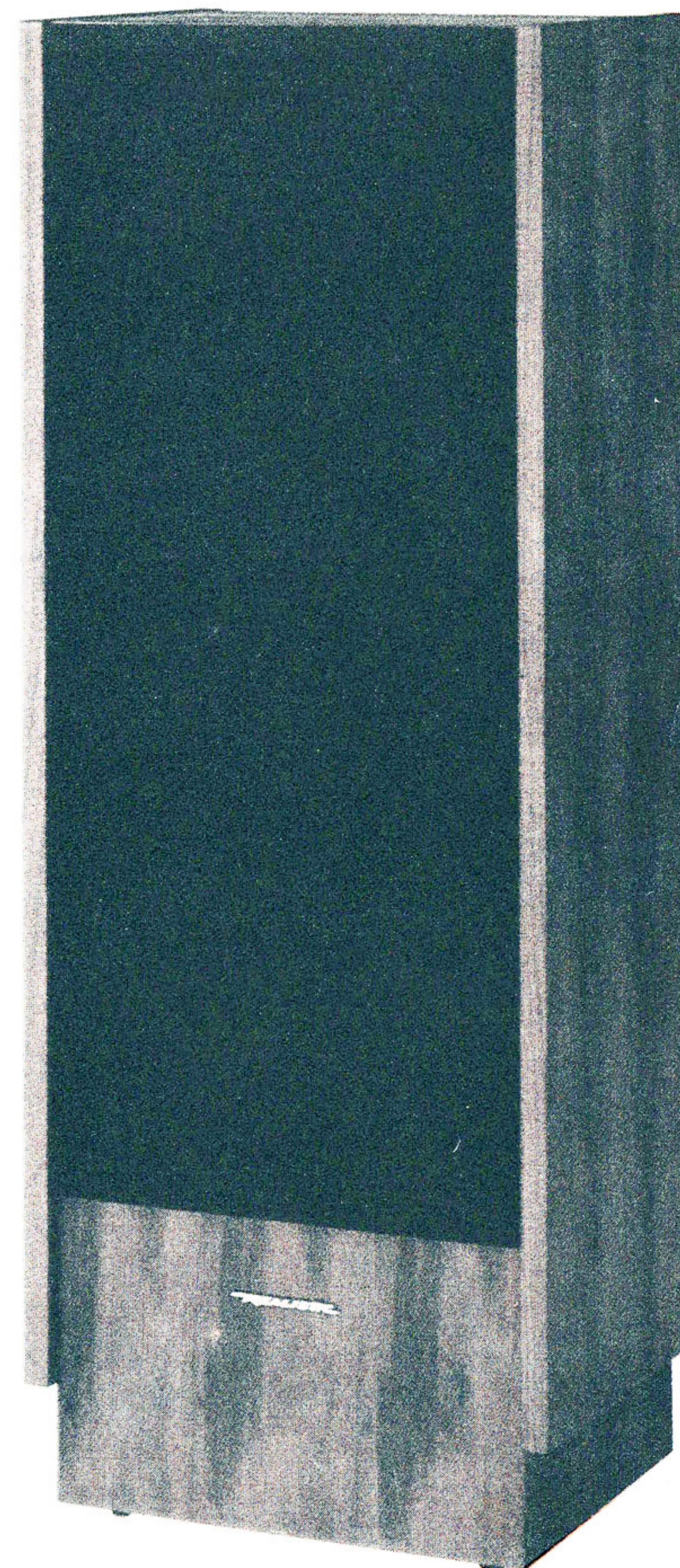
MACH™ SERIES

For years Radio Shack has been known for its line of speakers. Back in the days when speakers often were priced higher than a good receiver — Radio Shack brought out the Optimus line which proved a speaker didn't have to be expensive to sound expensive.

And today, we are *THE* place to go for speakers. Whether you are looking for a real-wood piece of furniture that sounds good or just a small bookshelf-type. Everything from our big sound Mach One to our sophisticated Optimus Tower to our handsome Minimus-5.

MINIMUS-7

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