

## TROUBLESHOOTING GUIDE

TROUBLE	POSSIBLE CAUSE	POSSIBLE REMEDY
1. No audio (power light off).	1. No electric power.	1. Be sure there is 120vAC, 60Hz power to transformer primary. Next, check 16vAC to Stereo Receiver from transformer secondary. Check continuity of wiring from transformer.
2. No audio (power light on).	2a. Improper operation.	2a. Be sure input selector is in proper mode.
	2b. Antenna problem.	2b. Check for shorted or no connection on antenna. Be sure antenna is properly installed at highest possible location. In weak signal areas, an outside antenna may be necessary.
3. System off after previously working.	3. Blown remote transformer due to high ambient temperature.	3. Replace transformer and locate new transformer in a lower ambient temperature area.
4. One stereo channel only.	4a. Improper operation.	4a. Check balance control.
	4b. Wiring problem.	4b. Check for short in speaker wiring.
5. Poor stereo effect.	5a. Improper location of speakers.	5a. See recommendations for locating speakers on page 4-5. Relocate if required.
	5b. Improper wiring.	5b. Check for polarity. Positive terminal of speakers must connect to positive terminal of receiver.
6. Static.	6a. Loose ground connection.	6a. Check ground connection to receiver and connection to earth ground source.
	6b. Interference from household electrical appliances.	6b. A dimmer switch may cause interference. For fluorescent lighting interference, use filters (G.E. 89G635 or equivalent, purchase locally).
	6c. Interference from household electrical appliances.	6c. Correct interference at the source: fish tank, heater, hand tool, coffee pot, etc.

Product specifications subject to change without notice.

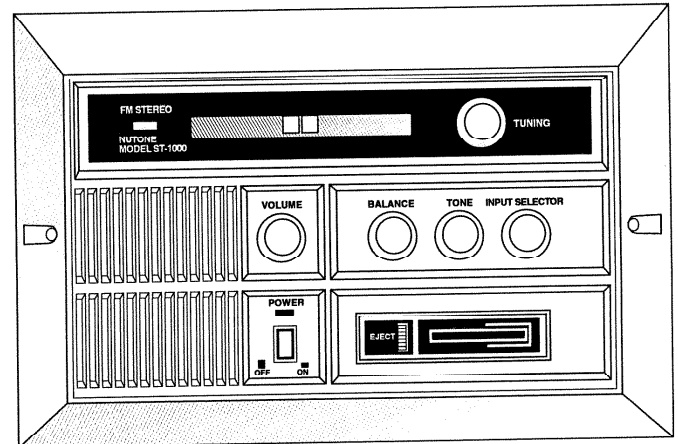
# NuTone®

Madison and Red Bank Roads, Cincinnati, Ohio 45227  
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# NuTone®

INSTALLATION INSTRUCTIONS  
 READ & SAVE THESE INSTRUCTIONS!

## Built-In Stereo Receiver and Cassette Player ST-1000 SERIES



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## OPERATION

### RECEIVER CONTROLS

**ON/OFF PUSHBUTTON** – Press the button in to turn on the program source.

Press and release the button to turn off the program source. The red POWER indicator light illuminates when power is being supplied.

**INPUT SELECTOR** – Turn this knob to select program source: AM, FM, PHONO or TAPE. The red FM STEREO indicator light illuminates when the system is playing FM stereo.

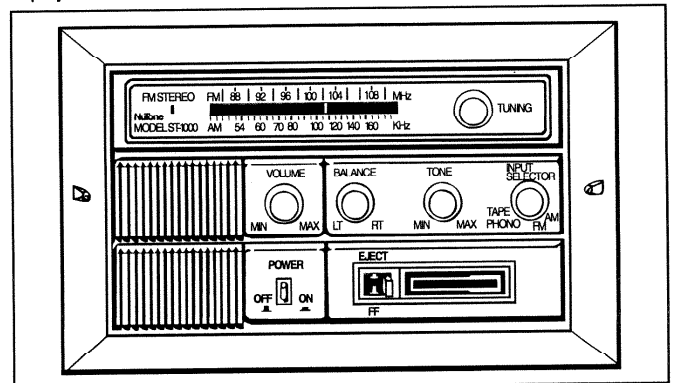
**TUNING** – Turn this knob to tune the radio. The dial pointer indicates radio station frequency. **VOLUME** – Use this knob to adjust volume to all speakers. Turn clockwise to increase volume; counterclockwise to decrease volume.

**BALANCE** – This knob controls the audio levels between the two channels. Adjust as marked for your speaker wiring.

**STONE** – Use this knob to adjust the range. Turn clockwise to increase TREBLE (high range); counterclockwise to decrease treble.

### CASSETTE CONTROLS

1. Cassette begins to play when cartridge is positioned into tape slot.
2. To fast forward the tape, depress the cassette pushbutton marked FF and EJECT until it latches. Lightly depress and release pushbutton to resume play.
3. To stop and eject tape while playing, completely depress the cassette pushbutton.
4. When the cassette tape runs out, the tape player shuts itself off. To eject the tape, completely depress the cassette pushbutton.
5. To rewind a cassette tape, stop and eject cartridge, invert and replace into tape slot, then use Fast Forward. After rewinding, stop and eject the cassette. Then, invert the cassette and replace it into tape slot to resume play.

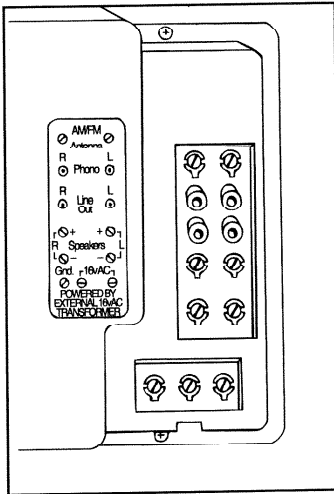


## WIRING CONNECTIONS

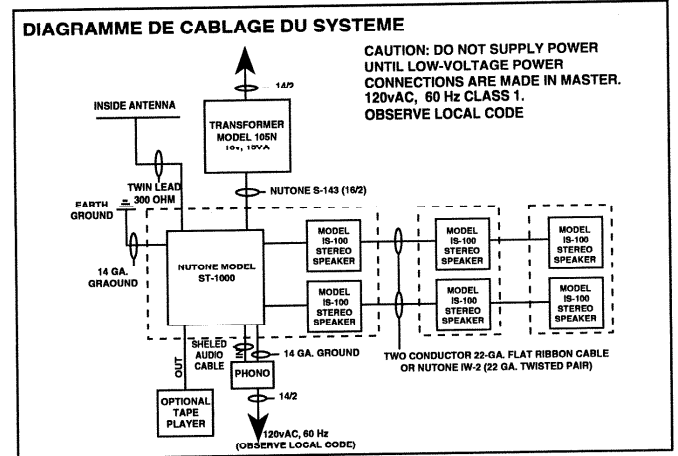
Before connecting any wiring to the receiver, turn off power to the transformer.

Refer to Figure 4.

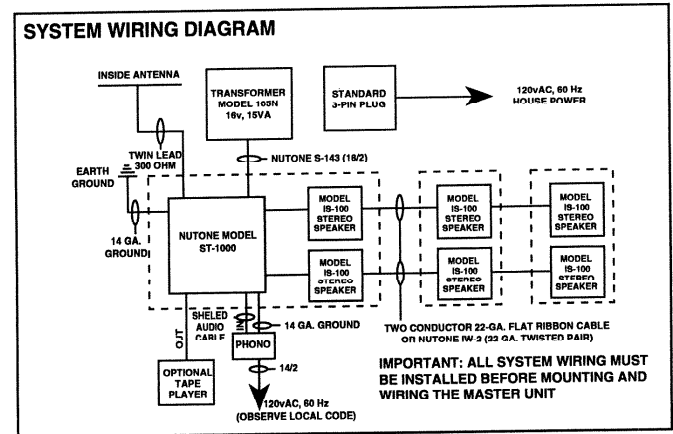
1. Connect 120vAC house power wiring to transformer's primary wiring leads.
2. Use 18 GA., 2-conductor wire (S-143) to connect transformer's secondary screw terminals to terminal screws marked 16vAC on receiver's terminal strip.
3. Connect 14 GA. ground wire from terminal screw marked GND to earth ground.
4. For Model ST-1000PK, plug transformer into standard outlet.
5. Connect antenna's leads to terminal screws marked AM/FM ANTENNA.
6. Connect left channel speaker(s) to terminal screws marked SPEAKERS L. Connect right channel speaker(s) to terminal screws marked SPEAKERS R. NOTE: The IS-100 speaker's positive terminal is marked with a red dot. Whatever wire is being used, observe polarity – speaker positive to receiver positive; speaker negative to receiver negative. See Installation Instructions provided with speaker.
7. Speakers may be loop wired – from speaker terminal to speaker terminal. Or, speakers may all be wired directly to the terminals on the receiver.



**MODEL ST-1000:** Includes AM/FM Stereo Receiver/Cassette Player, transformer, and AM/FM antenna.



**MODEL ST-1000PK STEREO KIT:** Includes AM/FM Stereo Receiver/Cassette Player, transformer, AM/FM antenna, two Model IS-100 Stereo Speakers with grilles, and 100 ft. of 22 gauge, 2-conductor, flat-ribbon cable.



## WIRING INSTALLATION GUIDELINES

Maximum number of speakers: 3 per channel.  
Maximum length of wire: Approximately 500 feet per channel.

## WIRING SPECIFICATIONS

**NuTone IW-2** – 22 GA., 2 conductor, twisted pair; used for speaker wiring.  
**NuTone S-143** – 18 GA., 2 conductor; used for power wiring.  
**No. 14/2** – 120v, 60Hz Power Cable: Class 1, U.L. Listed (not supplied).  
**14 GA.** – Ground wire (not supplied).

## WIRING CAUTIONS

- All wiring must conform to local codes.
- Use only recommended wire.
- Avoid stapling cables.
- Be sure that Stereo Receiver is properly grounded.

## LOCATION

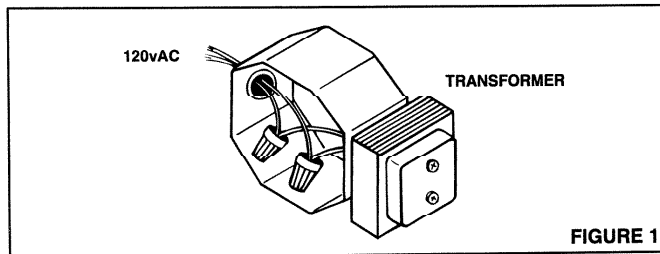
### RECEIVER

1. The Stereo Receiver/Cassette Player should be located in an interior wall that is free of insulation and other obstructions.
2. Locate receiver at a convenient height for operation.
3. An Inside AM/FM antenna is provided. Locate antenna in attic or as high as possible in an area above the ceiling.
4. **FOR ST-1000 ONLY: Refer to Figure 1.** Mount supplied transformer to standard utility box or to fuse box.
5. **FOR ST-1000PK ONLY:** Plug-in transformer is supplied; wire as required. See "Wiring Connections".

### SPEAKERS

For best stereo sound performance, follow these recommendations:

1. Locate speakers on the same wall or ceiling, a minimum of 4 feet and a maximum of 15 feet apart.
2. When located in a wall, the speakers should be mounted at least 4½ feet above the finished floor.
3. Try to locate speakers where running wire will not be a problem.

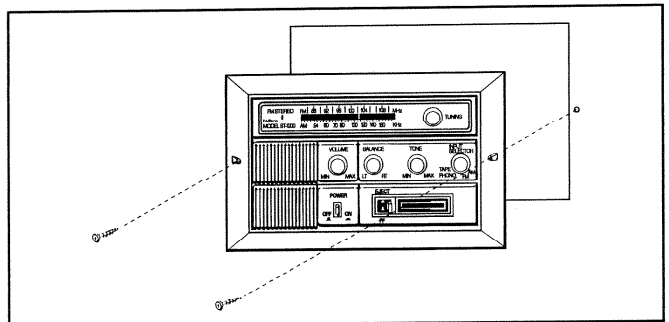


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## PREPARING MOUNTING CUTOUTS

### RECEIVER

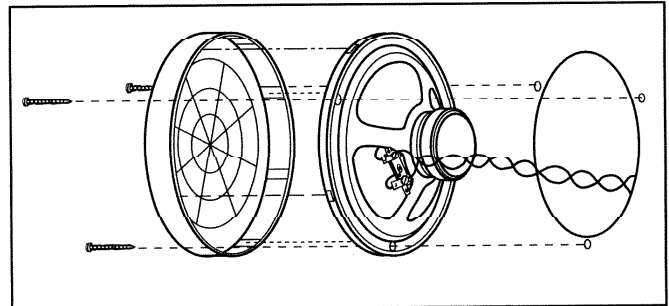
1. Mark receiver location for a cutout measuring 11½" wide x 7" high.
2. Refer to Figure 2. Insert the receiver into the wall cutout and mark the mounting screw hole locations through screw holes in both sides of receiver. Remove receiver.
3. Drill mounting holes where marked. Use anchors as required for mounting surface and provided screws.



### SPEAKERS

Refer to Figure 3.

1. Mark speaker location and cut an opening of exactly 4⅞" diameter. **CAUTION: To provide mounting surface for speaker's mounting screws, the cutout must not be larger than 4⅞" in diameter.**
2. Using the speaker as a template, mark the locations of the three mounting holes around the opening.
3. Drill ⅜" hole where marked. Use anchors required for mounting surface and #8 x 1" type A screws provided.



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