

Operating Instructions
NuTone
SOLID STATE
Music Intercom System



Models
2540-B - 2541-B

TABLE OF CONTENTS

General Description of your NuTone Intercom System.....	3
Function of Controls on Master Panel.....	3
Preliminary Procedures Common to Operation of Entire system....	4
Operating Speaker Volume Controls.....	5
Operating the AM/FM Radio.....	6
Using your System for Intercom.....	7
Night Watchman Listening Feature	9
Electronic Chime and Intruder Alarm Accessories	10
In Wall Wiring of Phono or Tape Recorder	10
How to Remove Master Unit for Service.....	11
Helpful Hints.....	11

GENERAL DESCRIPTION OF YOUR NUTONE INTERCOM SYSTEM

Your Built-In NuTone Music-Intercom System is a complete "home broadcasting" network enabling you to play AM or FM radio programs throughout your home. Music from phonograph records or tape recordings may also be "piped" throughout the home. The Intercom portion of your system enables you to have room-to-room, and patio communications, plus a step-saving door-answering feature.

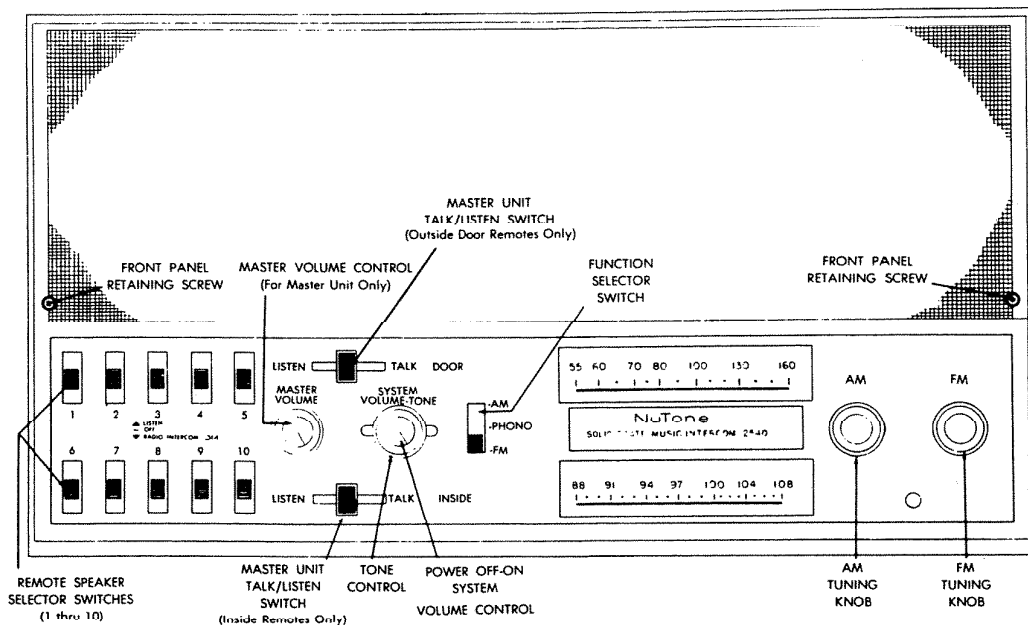
The Master Station Unit in your NuTone home-entertainment system consists of a fully transistorized FM-AM Radio and Intercom. The ten selector switches, on the master, control the function of as many as 10 stations in your "home broadcasting" network, in addition to the door speakers.

FUNCTIONS OF CONTROLS ON MASTER PANEL

Remote Speaker Selector Switches — provide individual control, for as many as ten remote speakers.

"Inside" Talk/Listen Switch — for talking on intercom, from Master to inside speakers only. Use separate, "Door" Talk/Listen switch, for communicating, with outside door speakers only.

Power Off-On, Volume Tone — a dual control and switch, the rear control knob will vary the tone range from deep bass to high treble. The front control switches the power ON and sets the volume level for the entire system.



MASTER VOLUME — rotating the Master Volume control to the right increases the sound at the Master Station speaker. It will NOT vary the sound level at any of the other stations. The Master Volume control should be set near maximum when operating the unit in Intercom.

FUNCTION SELECTOR — the three positions of the Function Selector are PHONO/AM/FM. The functions of the unit at the various positions of the Selector switch are as follows:

PHONO — When a Record Changer is plugged into the phono receptacle, recorded music may be "piped" throughout the system. When the Record Changer is not operating, the PHONO position can be for Intercom only use of the system. (See page 10 for details regarding connection of Phono.)

AM — In this position you can select an AM station and "pipe" the program throughout the system.

FM — In this position you can select an FM station and "pipe" the program throughout the system.

NOTE: You always have full-time Intercom service regardless of the setting of the Function Selector Switch. FM or AM Radio is automatically silenced when intercom calls are originated or received. During use of the intercom "Listen In" feature, voice transmissions will be heard — above the music level.

AM Tuning — The AM Tuning knob is for quick and easy AM station selection on the Slide Rule Dial.

FM Tuning — The FM Tuning knob is for ready selection of FM stations of the Slide Rule Dial.

PRELIMINARY PROCEDURES COMMON TO OPERATION OF ENTIRE SYSTEM

1. **TO SWITCH THE ENTIRE SYSTEM "ON"** turn the POWER OFF-ON SYSTEM VOLUME CONTROL knob clockwise — until you hear a click.

Note: The Master Station of your system is fully transistorized. This means that the current drain is negligible, being little more than that required to operate an Electric Clock. The small amount of current drain coupled with the lasting characteristics of transistors make it possible and desirable to leave your unit on all the time. In this way you will derive maximum benefit from your system.

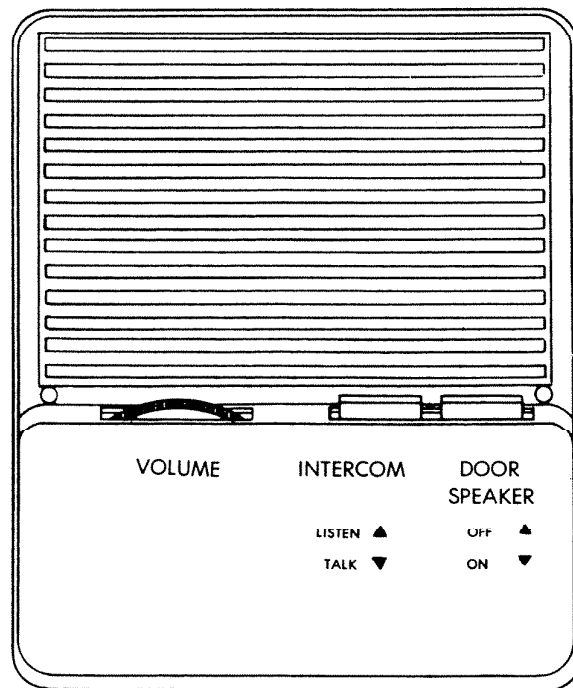
2. **ADJUST THE VOLUME LEVEL** of the entire system by turning the SYSTEM VOLUME CONTROL knob, clockwise, to the right. The setting of this control determines the maximum volume attainable at any remote station speaker. The individual volume controls of the remote speakers can vary this volume downward but they cannot increase it above the level set by the System Volume Control.

3. **ADJUST THE TONE CONTROL** to your preference, rotating the knob, clockwise, to the right, increases treble response, for high musical notes, while rotating the knob to the left, increases the bass response for deep mellow tones.
4. **POSITION THE MASTER STATION REMOTE SPEAKER SELECTOR SWITCHES AS FOLLOWS:**
 - a. For rooms where you want Radio, Music, or Intercom, place corresponding switches in the RADIO-INTERCOM (down) position.
 - b. For rooms in which you do not wish to "pipe" programs, place corresponding switches in the OFF (middle) position.
 - c. To "Listen" to one or more rooms, place corresponding switches in the "Listen" (up) position. You will be able to hear every sound from these rooms, but the speakers in these rooms will be silent. Refer to "HOW TO LISTEN IN TO ONE OR MORE ROOMS" for complete instructions.

OPERATING REMOTE SPEAKER VOLUME CONTROLS

ADJUST REMOTE SPEAKER VOLUME CONTROL(s) as follows:

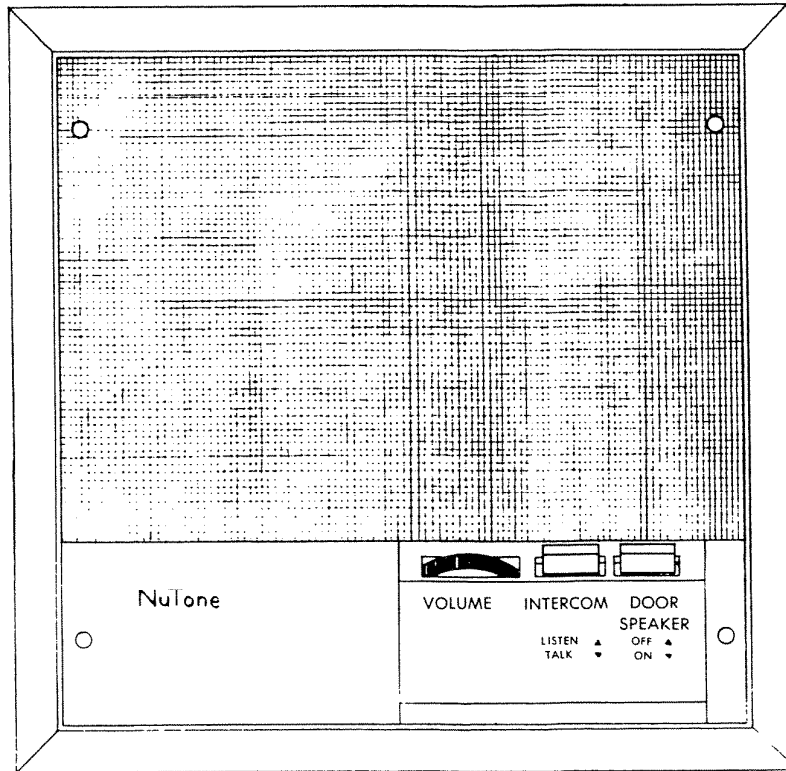
- a. Turn speaker Volume Control(s) to the right ↷ to increase volume.
- b. Turn speaker Volume Control(s) to the left ↶ to decrease volume.



MODEL 2550
Remote Station Speaker

- c. Turn speaker Volume Control(s) all the way to the left to turn speaker(s) off.

Note: If the volume level is too low when the remote speaker volume control is turned all the way to the right (↷) the System Volume Control at the master unit should also be turned, farther to the right (↷). If, when this is done, the volume level is too high in other rooms, the remote speaker volume controls, in those rooms, should be turned to the left (↶) until all rooms have the desired sound level.



MODEL 2553

Remote Station Speaker

OPERATING THE AM FM RADIO

1. **MAKE SURE THE MASTER STATION SYSTEM VOLUME CONTROL**, is turned far enough to the right, to provide sufficient sound level.

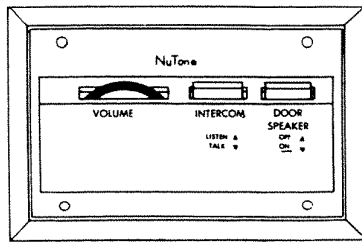
Caution: The setting of the SYSTEM VOLUME CONTROL on the Master determines the maximum volume that can be obtained at any speaker.

2. **POSITION THE SELECTOR KNOB** for the type of reception desired:
 - a. If AM is desired, slide the SELECTOR SWITCH to the AM position.
 - b. Rotate the AM TUNING KNOB to select the desired station.
 - c. If FM is desired, slide the selector switch, to the FM position. Select the desired station by rotating FM TUNING KNOB.
 - d. Adjust SYSTEM VOLUME CONTROL for desired volume, without distortion, and decrease volume as desired at each remote station by adjusting individual remote volume controls. Avoid turning system volume control too high, while all remote volume controls are turned down, to prevent the sound from becoming distorted.

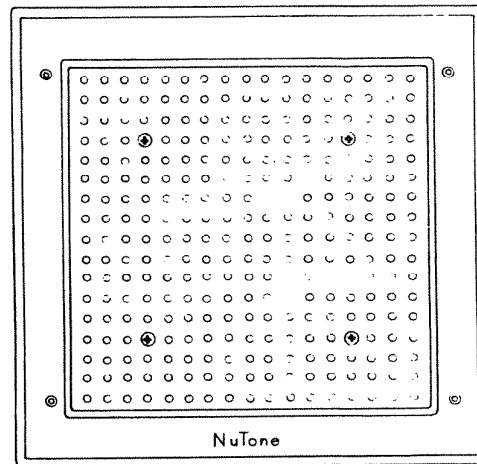
3. TO PLAY RECORDED MUSIC FROM PHONO OR TAPE RECORDER:

- a. Plug the phonograph or Tape Recorder into the Phono receptacle on Master Station.
Note: See page 10 for In Wall wiring of Phono or Recorder to Master Station.
- b. Set SELECTOR KNOB to PHONO.
- c. Set the REMOTE SELECTOR SWITCHES for the rooms where you want music. Push switches for all rooms that you want music to RADIO/INTERCOM (down) position. For all rooms in which you do not want music, push the Switch to the OFF or CENTER position.

Remember — You still have full-time Intercom, even when music is playing throughout the system. Radio will be silenced automatically. Your voice will be heard above Phono music, since the Intercom sound level, is automatically set, at a higher volume level, than the music.



MODEL 2556
Remote Control Panel



MODEL 2556
Hi-Fidelity Outside Remote
Patio Speaker

USING YOUR SYSTEM FOR INTERCOM

HOW TO CARRY ON CONVERSATION BETWEEN MASTER AND REMOTE SPEAKERS.

1. Be sure the POWER OFF-ON switch is in the "ON" position and that the level of volume is sufficient.
2. Place REMOTE SELECTOR switches in the "Radio/Intercom" (down) position, for room(s) you wish to call. Leave switches in Center or "OFF" positions for room(s) you do not want to receive message.
3. Turn MASTER VOLUME Control to maximum clockwise position.
4. To Talk, Push Master TALK LISTEN switch to RIGHT (Talk Position) and HOLD while speaking. (Radio will be silenced. Voice will override PHONO Music Level.)

5. To hear answer, push Master Inside TALK LISTEN Switch to LEFT (Listen Position) and HOLD. Person at Remote Speaker can answer without pushing TALK Button.

NOTE: Alternate method to receive answer: When listening to reply, leave TALK/LISTEN switch in "Center" position. Person at Remote Speaker must "push" TALK Button on Speaker to reply.

HOW TO ORIGINATE CALLS FROM SPEAKER TO MASTER

1. Turn Speaker VOLUME Control fully clockwise.
2. To TALK — push TALK button DOWN and HOLD while speaking. Release TALK button to receive reply. (Radio will be silenced. Voice will override Phono Music level.)

NOTE: You can call Master from a Remote Speaker regardless of how the Remote Selector Switch(s) at the Master have been set. However, Selector Switch(s) must be set in Radio/Intercom (down) position to answer. Radio will not be silenced, if Remote Switch is "OFF" at Master, indicating the remote, originating a call, cannot hear your reply.

HOW TO CARRY ON CONVERSATION BETWEEN REMOTE SPEAKERS

1. Check that Power switch is "ON."
2. Be sure all REMOTE SELECTOR switches on the Master are in the RADIO/INTERCOM (Down) position.
3. Each Remote Speaker VOLUME control should be turned up to listening level. If turned too high, feedback (howl) may be induced. If so, turn controls down slightly.
4. To TALK, push TALK Button IN and HOLD while speaking. Release button to receive answer.
5. The person in another room can answer by using the TALK button of their Speaker as outlined in Step 4.

HOW TO ANSWER DOOR SPEAKERS

HOW TO ANSWER DOOR FROM MASTER

1. To Talk, push Door TALK/LISTEN switch to the right (talk position) and hold while you are speaking.
2. To hear answer, push Door TALK/LISTEN switch to LISTEN (left) position. Caller at door can answer without operating any controls.
3. When conversation is completed, allow Door TALK/LISTEN switch to return to center (OFF) Position. No music, or room to room intercom, will be heard at the door.

TO ANSWER DOOR FROM REMOTE SPEAKER

1. The SELECTOR switch(s) on the Master for the Remote Speaker(s) must be pre-set to the RADIO/INTERCOM (Down) position.

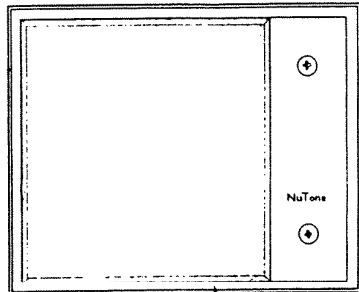
2. Depress the Remote Speaker Door Button, and HOLD in this position, while you are speaking or receiving answer.
3. To Talk, also depress TALK/LISTEN Button In. Release only the TALK/LISTEN Button to receive answer from door. Continue to hold Door Button IN until conversation is completed.

HOW TO "LISTEN IN" TO ONE OR MORE ROOMS

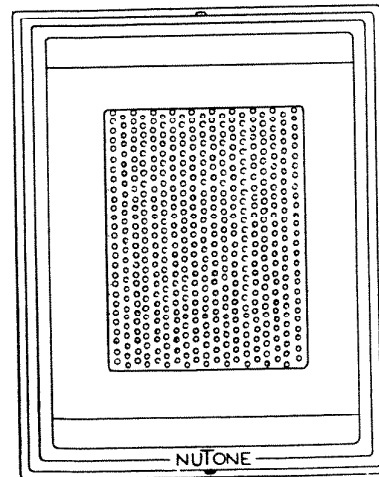
1. Place the Master REMOTE SPEAKER SELECTOR Switch(s) in the LISTEN (up) position for any room or rooms you want to hear (monitor). The Speakers in these rooms will be silent; however, you will hear every sound from these rooms at the Master, as they are acting as Microphones.
2. To "Listen In" at any other speaker in the System (Bedroom, Living Room, etc.) place the SPEAKER SELECTOR switch for that room in the RADIO/INTERCOM (down) position.
3. If you so desire, you can "Listen IN" to rooms even while listening to a radio program or enjoying recorded music. Should you not want to listen to a radio program or phonograph records, place the FUNCTION SELECTOR switch in PHONO position.

FOR "SPOT" MONITORING

Push the Master TALK/LISTEN Switch to the LISTEN (Left) position to momentarily "LISTEN IN" (Spot Monitor) at the Master any Speaker(s) of the system whose Selector Switch(s) is in the RADIO/INTERCOM (down) position.



MODEL 412
Surface Mounted
Outside Door Remote



MODEL 2571
Built-In
Outside Door Remote

NIGHT WATCHMAN LISTENING FEATURE

This feature enables you to "Monitor" sounds in or near the house through the inside and Patio speakers. Note: The Master Station and Door Speakers cannot be monitored.

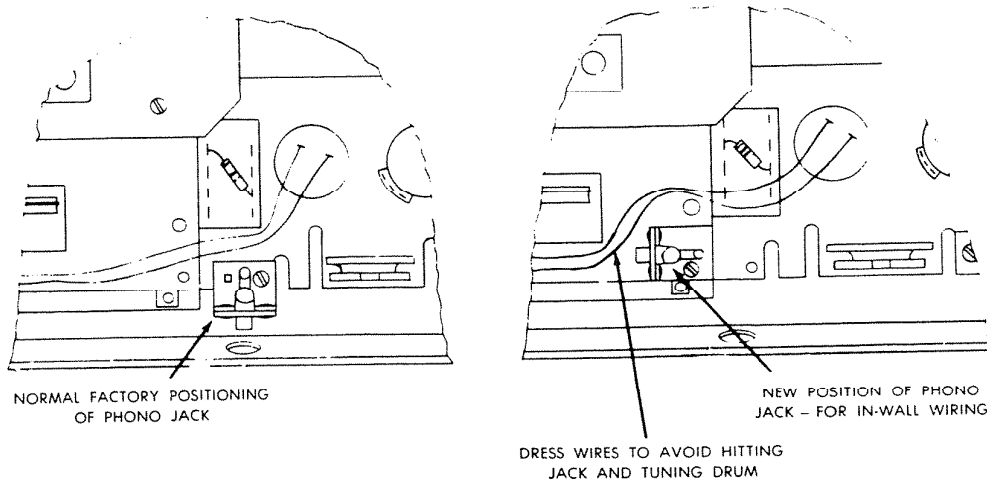
1. Be sure the POWER Switch is "ON" and the SYSTEM VOLUME turned high.

2. Put the Function Selector Switch in the "PHONO" Position.
3. Push the REMOTE SPEAKER SELECTOR Switch for your room to the RADIO/INTERCOM (down) position.
4. Set all other REMOTE SPEAKER SELECTOR Switches (Inside and Patio Speakers) to the LISTEN (up) position.
5. Turn Remote Volume Control, in your bedroom, to its highest position, to the right.

ELECTRONIC CHIME AND INTRUDER-FIRE ALARM ACCESSORIES

If your system includes an Electronic Chime, it will be heard through any speaker whose REMOTE SPEAKER SELECTOR Switch on the Master Panel is in the RADIO/INTERCOM (Down) position. TO CONTROL THE VOLUME set Function Selector Switch in RADIO position. Select a station with clear reception and ring the Chime. The Chime tones should be heard clearly throughout the system while the radio is playing. Adjust the volume control on the chime base plate for desired chime volume.

NuTone's Intruder-Fire Alarm System including an Electronic Horn Alarm can also be connected to your Music Intercom System to sound the alarm signal through the system speakers.



IN WALL WIRING OF PHONO OR TAPE RECORDER TO MASTER STATION

For in wall wiring of phono or tape recorder, phono bracket may be repositioned from normal place opposite hole in bottom of panel to a position on the corner of the chassis.

(NOTE: AC wires to switch, may have to be moved to one side, to reduce hum pick-up.)

LOW LEVEL RADIO OUTPUT

Two wires from the Master Function Switch are provided so FM or AM Radio, or recorded MUSIC ONLY can be connected with shielded wire to an Auxiliary Amplifier and Speaker System. Intercom

operation through the regular system, will not be heard through the Auxiliary Speaker System. For further information, contact NuTone Field Engineering Department.

HOW TO REMOVE MASTER UNIT FOR SERVICE

The NuTone Intercom Master has been designed for easy removal without disconnecting speaker wiring. Should service be required, follow the procedure outlined below.

1. Turn SYSTEM VOLUME knob fully to the Left to turn the power OFF.
2. Remove two front panel mounting screws.
3. Pull Master Unit slightly forward, and pull off antenna connections from terminals in upper right corner of housing. Depress white tabs to remove blue signal plug from switch housing.

HELPFUL HINTS

1. If you do not want Radio, but wish to leave the Intercom System functioning, set Function Selector to PHONO position.
2. Be sure to leave SYSTEM VOLUME control at a reasonably high level. This setting determines the maximum sound available at any remote station speaker. Avoid turning system volume control too high, while all remote volume controls are turned down, to prevent the sound from becoming distorted.
3. If squealing should develop on intercom, one of two things have probably happened.
 - a. The SYSTEM VOLUME control is too high.
 - b. Two or more speakers are located too close together. First reduce the SYSTEM VOLUME control setting; if this does not cure the squeal, reduce the REMOTE STATION SPEAKER volume of one or both the Speakers that are affecting each other. You can determine which Speakers are causing the squeal by turning all remotes "OFF" at the Master Unit, then on again — one at a time. If trouble persists, it could be in your wiring, notify your installer.
4. If FM reception is not satisfactory, an outside FM Antenna may help. We recommend that a NuTone Model #2420 FM Antenna, or its equivalent, be installed on the roof or in the attic, pointed in the direction of desired FM Stations. If FM stations are widely separated, an omnidirectional type antenna may be required.
5. HOW TO CLEAN — If the surfaces of the Master or Remote Speakers should become finger marked or dirty, they can be cleaned by wiping with a damp cloth.

NuTone

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