

# NuTone®

## Two Year Limited Warranty

**WARRANTY OWNER:** NuTone warrants to the original consumer purchaser of its products that such products will be free from defects in materials or workmanship for a period of two (2) years from the date of original purchase. **THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

**During this two year period,** NuTone will, at its option, repair or replace, without charge, any product or part which is found to be defective under normal use and service. **THIS WARRANTY DOES NOT EXTEND TO FLUORESCENT LAMP STARTERS OR TUBES.** This warranty does not cover (a) normal maintenance and service or (b) any products or parts which have been subject to misuse, negligence, accident, improper maintenance or repair (other than by NuTone), faulty installation or installation contrary to recommended installation instructions.

The duration of any implied warranty is limited to the two year period as specified for the express warranty. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

**NUTONE'S OBLIGATION TO REPAIR OR REPLACE, AT NUTONE'S OPTION, SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. NUTONE SHALL NOT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH PRODUCT USE OR PERFORMANCE.** Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. This warranty supersedes all prior warranties.

**WARRANTY SERVICE:** To qualify for warranty service, you must (a) notify NuTone at the address stated below or telephone 1/800-543-8687, (b) give the model number and part identification and (c) describe the nature of any defect in the product or part. At the time of requesting warranty service, you must present evidence of the original purchase date.

Date of Installation \_\_\_\_\_

Builder or Installer \_\_\_\_\_

Model No. and Product Description \_\_\_\_\_

### IF YOU NEED ASSISTANCE OR SERVICE:

For the location of your nearest NuTone Independent Authorized Service Center:

**Residents of the contiguous United States** Dial Free 1-800-543-8687

Please be prepared to provide:

Product model number • Date and Proof of purchase • The nature of the difficulty

**Residents of Alaska or Hawaii should write to:** NuTone Inc. Attn: Department of National Field Service, 4820 Red Bank Road, Cincinnati Ohio 45227-1599.

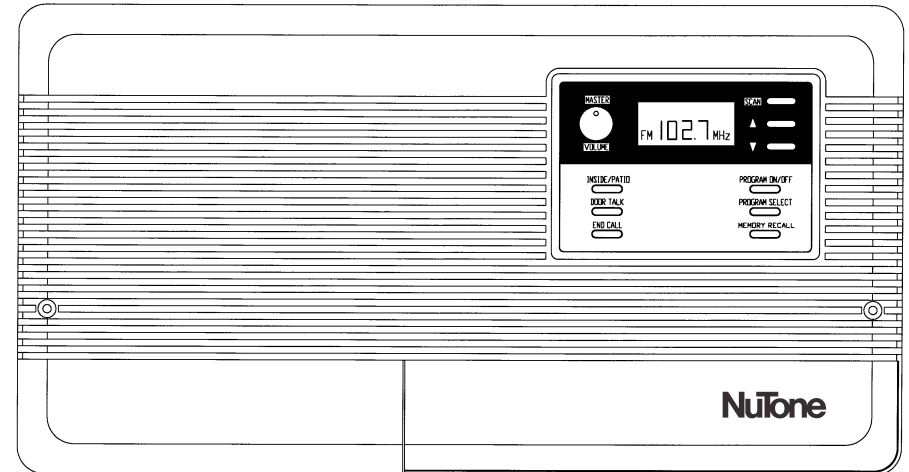
**Residents of Canada should write to:** Broan-NuTone Canada, 1140 Tristar Drive, Mississauga, Ontario, Canada L5T 1H9.

Rev. 03/2001

# NuTone®

## RADIO/INTERCOM SYSTEM

### MODEL IM-3204



## HOMEOWNER'S OPERATING INSTRUCTIONS

## FCC INFORMATION

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**FCC Warning** - This equipment may generate or use radio frequency energy. Changes or modification to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

**FCC Warning** - Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The serial number of this product may be found behind the lower operating doors. No others have the same serial number as yours. You should record the number and other vital information here and retain this book as a permanent record of your purchase to aid identification in case of theft.

Date of Purchase	
Dealer Purchased from	
Dealer's Address	
Dealer's Phone No.	
Model No.	IM-3204

## Resetting the Microprocessor

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**NOTE:** Resetting the microprocessor will cause radio memory channels to be lost.

Should the system not operate properly, the internal microprocessor may require resetting. To reset the microprocessor, use the point of a pen to press the reset button through the access hole behind the right lower door. See "Illustration and Master Station Controls" on pages 4 and 5.

## ENDING AN INTERCOM CALL

An intercom call can be ended by pressing the **END CALL** key or allowing the system to automatically timeout 30 seconds after releasing the **INSIDE/PATIO** or **DOOR TALK** keys.

## USING THE MONITOR FUNCTION

The **MONITOR** function allows you to listen to sounds from selected station locations. It is most frequently used to monitor an invalid's or a child's room. When a station is set to **MONITOR**, most sounds in that room will be transmitted to all stations in the **RADIO/IP** mode.

1. Determine the station that is to be placed into the **MONITOR** mode.
2. Set that station's **REMOTE STATION STATUS** switch to **MONITOR**.
3. To maximize audio from the room being monitored, the volume control on the monitored room remote station must be set at maximum.

**NOTE:** If volume control on the remote being monitored is set to minimum, no audio will be heard from that room.

4. Set the listening station's **REMOTE STATION STATUS** switches to **RADIO/IP**.
5. Reset the **REMOTE STATION STATUS** switch when monitoring is no longer necessary.

**NOTE:** If program audio is present during monitor, the program audio and sounds heard in monitor are heard at the same time on all stations selected to **RADIO/ IP** mode. If the program audio is too loud, it may prevent hearing monitor audio. To improve the balance between the program audio, increase the **INTERCOM VOLUME** control and/or reduce the **SYSTEM VOLUME** control.

## INTERCOM VOLUME CONTROL

The **INTERCOM VOLUME** control at the master station controls the intercom and monitor volume throughout the system.

## Optional Accessories

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**ELECTRONIC DOOR CHIME:** When a NuTone Chime Module (IA-28 or IA-29) is connected to your IM-3204 system, the chime is heard at all stations with the **REMOTE STATION STATUS** switches set to **RADIO/IP**.

**CASSETTE PLAYER:** When a NuTone Cassette Player (CP-95) is connected to your IM-3204 system, the cassette audio will be heard at all station's in the **RADIO/IP** mode.

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## IMPORTANT

**This product has many functions and controls. Please read entire operation intructions before using product.**

## Station Status Switches

The **STATION STATUS** switches set the operation of each station in the system. Each station may be set at one of the three following modes:

1. **RADIO/ IP-** Stations set to this mode will receive all program audio, intercom audio and monitor audio (provided that the station's volume control is properly set). Program audio includes AM and FM radio and optional audio source connected to the CD/TAPE input. An optional electronic door chime will also be heard over stations selected to this mode.
2. **OFF-** Stations set to this mode will not receive program audio and chime audio. Intercom audio will not be received but will be transmitted if the **INSIDE PATIO** or **DOOR TALK** keys are pressed. Remote control of the radio will operate while the switch is set to **OFF**.
3. **MONITOR-** When a station is selected to this mode, most sounds originating at the station's location will be transmitted to stations in the **RADIO/ IP** mode. Program audio, chime audio and intercom audio will not be heard at a station set to **MONITOR**.

### DETERMINING STATION LOCATIONS

1. Set all the **REMOTE STATION STATUS** switches to **OFF**.
2. Tune in a radio station and adjust the **SYSTEM VOLUME** control to approximately 1/2 level.
3. Turn the **MASTER VOLUME** control to minimum volume
4. Set the **REMOTE VOLUME CONTROL** at all remote stations to maximum.
5. Set a **REMOTE STATION STATUS** switch to **RADIO/ IP**, and locate the speaker by sound.
6. Label the station's **REMOTE STATION STATUS** switch using the pre-printed room labels (supplied). The label should be positioned in the space provided below the switch that controls that station.
7. Repeat steps 5 & 6 until you locate every remote station in your system.

## Intercom Operation

### INITIAL OPERATION OF THE INTERCOM REQUIRES:

- **INTERCOM VOLUME** control set to approximately 3/4 level.
- **MASTER VOLUME** control set to approximately 2/3 level.
- **REMOTE STATION VOLUME** set to approximately 2/3 level.
- **REMOTE STATION STATUS** switch set to **RADIO/ IP**.

### MAKING A CALL

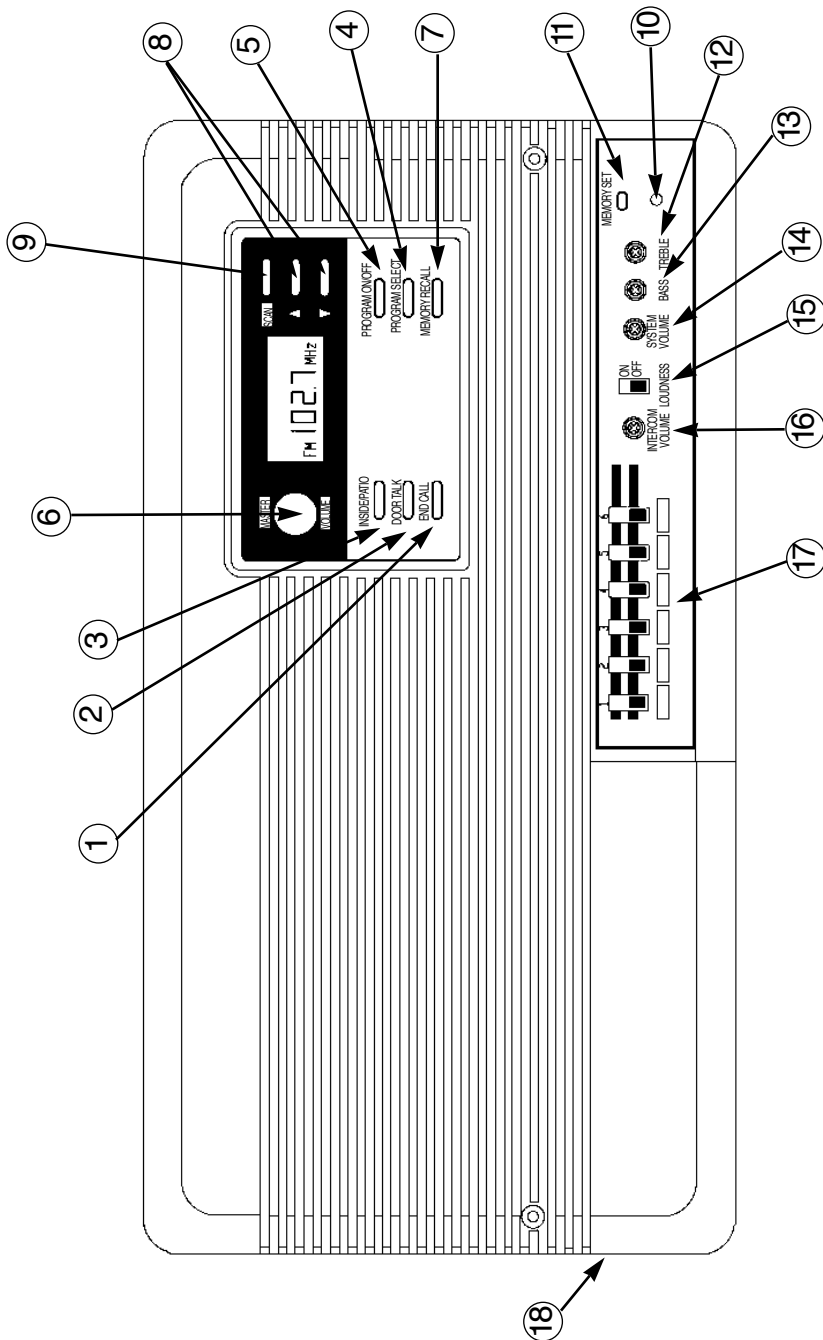
1. Press and hold the **INSIDE/PATIO** key while you speak. Your voice will be heard by all stations, except the door speakers.
2. Release the **INSIDE/PATIO** key to hear the reply.

### ANSWERING A CALL

1. Stations called must press and hold the **INSIDE/PATIO** key while they speak, and release to hear the reply.

### ANSWERING YOUR DOOR

1. Press the **DOOR TALK** key at any station while you speak.
2. Release the **DOOR TALK** key to hear the reply.
3. The call and the reply will be heard at all stations in the **RADIO/IP** mode.



# Program Audio Controls

The following controls allow the user to adjust the level and tone of the program audio.

1. **MASTER VOLUME**- This control adjusts the audio level at the master station.
2. **REMOTE VOLUME**- This control adjusts the audio level at the remote station.
3. **SYSTEM VOLUME**- Sets the program audio level throughout the system.
4. **LOUDNESS**- Compensates for the loss of bass and treble response the human ear has when listening to audio at low volume levels by increasing bass and treble response.
5. **TREBLE**- Adjusts the high frequency audio content of the source audio.
6. **BASS**- Adjusts the low frequency audio content of the source audio.

# Setting Program Audio Controls

The volume level required at each station may vary with the location of the speaker and the size of the room where the speaker is located. Spend some time experimenting with volume levels, and adjust each speaker so that you can clearly hear the radio and intercom. Use the following procedures to set your system's volume level.

1. At each remote station, turn the volume control completely clockwise to maximum volume.
2. At the master station, set the **REMOTE STATION STATUS** switches to the **RADIO/IP** position.
3. Turn the **MASTER VOLUME** control to maximum volume.
4. Turn the **SYSTEM VOLUME** control on the master station to approximately one-third volume.
5. Select an AM or FM radio station with a strong, clear signal.
6. Adjust the master station's **SYSTEM VOLUME** control until you have enough volume at the remote station that requires the highest volume (i.e. large living room, family room, basement, etc). **Note: The Master Station and all Remote Stations (except the door speakers) are equipped with their own volume controls. Although the Master Station SYSTEM VOLUME sets the SYSTEM'S volume level, you may adjust an individual speaker volume level as desired.**
7. Adjust the **MASTER VOLUME** control and all remote stations volume controls to the volume level you desire. In order to have proper intercom audio levels, it is recommended that the master volume and remote stations volume controls be set at 2/3 or above.

## Master Station Controls

- ① **END CALL**: Ends intercom communication and returns system to audio source. (pg. 10)
- ② **DOOR TALK**: Initiates intercom communication to the door speaker(s). (pg. 9)
- ③ **INSIDE/PATIO**: Initiates intercom communication to remote stations. (pg. 9)
- ④ **PROGRAM SELECT**: Selects the program audio source: AM, FM, CD/TAPE. The selected mode will be indicated in the LCD display. (pg. 6 & 7)
- ⑤ **PROGRAM ON/OFF**: Turns on/off the selected program audio source, including CD/TAPE input. **NOTE**: The program on/off key does not affect intercom or chime operation. (pg. 6 & 7)
- ⑥ **MASTER VOLUME**: Adjusts the volume at the master station. (pg. 8)
- ⑦ **MEMORY RECALL**: Stores and recalls radio frequencies in memory. (pg. 6 & 7)
- ⑧ **UP/DOWN TUNING**: Provides manual tuning of the AM/FM radio. (pg. 6)
- ⑨ **SCAN**: Activates scan tuning during AM/FM operation. (pg. 6)

⑩

**MICROPROCESSOR RESET**: Initiates a reset of the microprocessor. **NOTE**: A reset of the microprocessor will erase the system's memory.

⑪

**MEMORY SET**: Stores desired radio frequencies into a selected memory location. (pg. 6)

⑫

**TREBLE**: Adjusts the high frequency audio content of the source audio. (pg. 8)

⑬

**BASS**: Adjusts the low frequency audio content of the source audio. (pg. 8)

⑭

**SYSTEM VOLUME**: Adjusts the program audio level throughout the system. (pg. 8)

⑮

**LOUDNESS**: Compensates for the loss of the bass and treble response the human ear has when listening to audio at low volume levels. (pg. 8)

⑯

**INTERCOM VOLUME**: Adjusts intercom audio level throughout the system. (pg. 10)

⑰

**REMOTE STATION STATUS SWITCHES**: Sets the remote stations in one of the following modes: **RADIO/IP**, **OFF** or **MONITOR**. (pg.9)

⑱

**ELECTRONIC CHIME TUNE SELECTION**: Selects the tune of the optional IA-29 chime module.

# Audio Source Selection

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## INITIAL OPERATION OF THE SYSTEM REQUIRES:

- All **STATION STATUS** switches set to **RADIO/ IP** mode.
- **SYSTEM VOLUME** set to approximately 1/3 level.
- **MASTER VOLUME** set to approximately 2/3 level.
- **REMOTE STATION VOLUME** set to approximately 2/3 level.

## RADIO OPERATION

1. Press the **PROGRAM ON/OFF** key.
2. Select **AM** or **FM** by pressing the **PROGRAM SELECT** key until the desired mode is displayed in the LCD display.
3. Tune the radio to the desired frequency using one of the following methods:
  - **RAPID TUNE:** Depress and hold either the **▲** or **▼** tuning keys until you reach the frequency you desire. Release the tuning key.
  - **STEP TUNE:** Momentarily touch either the **▲** or **▼** tuning keys, and the radio will tune to the next radio frequency.
  - **SCAN:** Momentarily touch **SCAN** key. The radio tunes up in frequency to the next strong signal. It remains on this signal for five (5) seconds, then moves to the next strong signal. When the desired station is found, press the **SCAN** key to stop the scan operation.

## RADIO MEMORY

4 **AM** and 4 **FM** radio frequencies may be stored in the system's memory for recall by using the following procedure.

## STORING FREQUENCIES INTO MEMORY

NOTE: It is recommended that the lowest frequency be programmed into memory 1 and the next higher frequency into memory 2, etc.

1. Select the radio to **FM** and tune to the desired frequency using the **▲▼** or **SCAN** keys.
2. Press the **MEMORY SET** key (behind panel door). Within 5 seconds, press the **MEMORY RECALL** key until the desired memory channel to store the current radio frequency into is shown in the LCD display. Within 5 seconds, again press the **MEMORY SET** key and the frequency will be stored.
3. Repeat this procedure for all four **FM** memory channels.
4. Select the radio to **AM** and repeat the programming procedure for the **AM MEMORY CHANNELS**.

NOTE: During a power outage, the radio memory channels will be lost.

## RECALLING FREQUENCIES

1. Select **AM** or **FM** mode.
2. Press the **MEMORY RECALL** key until desired memory channel is shown in the LCD display.

## CONTROLLING THE RADIO FROM REMOTE SPEAKERS

The remote stations can be used to turn the radio ON/OFF and advance the radio memory channels.

**NOTE:** Remote control of the Radio will not function during intercom communication. Remote control of the Radio will not function if the master has been selected to **CD/TAPE** program position.

## TURNING THE RADIO ON AND OFF

1. The radio may be turned on or off from a remote station by pressing and holding the **END CALL** key for two (2) seconds. After the radio turns on/off, release the **END CALL** key.
2. During the time the **END CALL** key is pressed an **"IU"** (in use) will be displayed in the master LCD display. This indicates a remote control function is being performed at a remote station.

## ADVANCING THE RADIO MEMORY CHANNELS

NOTE: Radio memories must be stored before controlling radio memory channels from remote stations.

The radio memory channels may be advanced from a remote station by momentarily pressing the **END CALL** key.

1. Select the master station to radio using the **PROGRAM SELECT** key on the master station, or **END CALL** key at a remote station.
2. Pressing the **END CALL** key momentarily will advance the memory channel to the next highest stored memory channel.
3. Continue pressing the **END CALL** key to advance to the next highest stored memory channel.
4. After reaching the highest stored memory channel in the current program mode (AM or FM), momentarily pressing the **END CALL** key will cause program mode (AM or FM) to switch to the opposite mode and select the lowest programmed memory channel.
5. Continuing to momentarily press the **END CALL** key will repeat the operation.

## CD/TAPE AUXILIARY SELECTION

An optional audio source may be selected by using the following procedure:

1. Press the **PROGRAM ON/OFF** key to turn on the program audio.
2. Press the **PROGRAM SELECT** key until **CD/TAPE** is shown in the LCD display. If an optional audio source (tape player/CD player) has been connected to your unit, this unit will be heard as the audio source. The optional CD/TAPE audio throughout the system may be turned off by pressing the **PROGRAM ON/OFF** key.