

Central Amplifier MODEL IMA-516

INTERCOM SYSTEM FOR HOME OR OFFICE

A typical system will include inside intercom speakers and door speaker(s) if door answering is required. **A MAXIMUM OF TEN (10) INSIDE REMOTE SPEAKER STATIONS AND TWO (2) DOOR SPEAKERS.** Intercom speakers designed for outside installation are available. The Amplifier has provisions for connecting optional input equipment; i.e.: radio/music, electronic chime.

RADIO/MUSIC SOURCE – A separate NuTone Radio-Intercom System.

ELECTRONIC CHIME – A NuTone Electronic or Musical Chime may be connected to the amplifier to provide chime tones in the intercom speakers.

NOTE: Models IA-28 or IA-29 chime modules cannot be used with the IMA-516.

SPEAKER REFERENCE CHART (Use applicable rough-in and specified wire with all models)	
MODEL NUMBER	DESCRIPTION
Inside Intercom Speakers	
ISB-53 series	Speaker with controls. Recess mounts with Model IR-3 Rough-In or may be surface-mounted with Model IA-15.
IS-75	5" Paging Speaker - Roto-groove. Recess mounts with Model IR-75 Rough-In.
IS-76	8" Paging Speaker - round. Recess mounts with Model IR-70 Rough-In.
ISA-78 Series	8" Paging Speaker - rectangular. Recess mounts with Model IR-80 Rough-In.
IC-501	Regulates volume in Inside Paging Speakers IS-75, IS-76 or ISA-78.
Outside Intercom Speakers	
ISB-53LW	Speaker with controls - surface mounted.
ISA-77	8" Paging Speaker - surface-mounted.
IS-79	8" Paging Speaker - recessed. Recess mounts with Model IR-9 Rough-In.
Door Speakers	
IS-67 series	Door Speaker with lighted pushbutton - molded. Recess mounts with IR-6 Rough-In.
IS-69 series	Door Speaker with lighted pushbutton - Classic Cast Metal. Recess mounts with IR-6 Rough-In.
ISA-63	Door Speaker - no pushbutton. Molded - surface-mounted.
ISB-64	Door Speaker with unlighted pushbutton. Molded - surface-mounted.
IA-70	Surface-mounting frame for recessed door speakers.

INSTALLATION DON'TS

1. Don't locate inside speaker stations on indoor exterior walls.
2. Don't place more than one speaker station in a room.
3. Don't locate two speaker stations in a common wall between rooms; rooms that share a common wall should not have the speaker stations on that wall.
4. Don't place a speaker station so it is facing another station, even if the other station is across a hallway in another room.
5. Don't locate speaker stations where doors or furniture will interfere with the operation of the speaker.
6. Don't locate the amplifier in an area where temperatures will exceed 120°F or fall below 32°F.

WIRING INFORMATION

CAUTION: This system is designed to be used with NuTone wire/cable. No other wire should be used. Use of wire other than NuTone specified will cause improper operation.

- * **NuTone Model IW-6** – Use for connection between Amplifier and intercom speakers. IW-6 is a 3-twisted-pair cable (3 pairs of 22 gauge wire with variable twists; color-coded).
- * **NuTone Model IW-2** – Use for connections specified in diagrams. IW-2 is one twisted-pair cable (22 gauge).

IMPORTANT

1. Observe local code requirements.
2. Route all system wiring as far as possible (at least 12") from household power wiring, lamp dimmers, furnace controls, etc.
3. Avoid stapling cables.
4. Be sure amplifier is properly grounded to an earth ground source.

IMPORTANT: NuTone cannot be responsible for improper radio-intercom operation that results from interference generated by light dimmers, fluorescent lighting fixtures, and similar electrical products. Such interference must be corrected at the source. As an aid to help reduce this interference, all remote speaker wires and cables must be placed at least 12 inches from any A.C. power wiring.

INSTALLING THE AMPLIFIER

1. Determine exact location for all components. Check plans against the "Installation Don'ts."
2. Run designated wire to component locations, including power wiring to transformer and low-voltage wiring between transformer and amplifier.
3. Make wire connections and mount components. Note that some components (especially speakers) may require a rough-in frame.

NOTE: After the first two speaker stations are wired, supply power to the system and test for proper operation. Wire and test the remaining speaker stations one at a time.

NOTE: If UL listed wire is required, use IW-6-UL and IW-2-UL.

MOUNTING THE TRANSFORMER

CAUTION: Do not install the transformer in attic, crawl space, or on lighting fixture. High ambient temperature will cause transformer to cut out.

IMPORTANT: If replacing an IM-516 with IMA-516, replace transformer with Model 301-T transformer

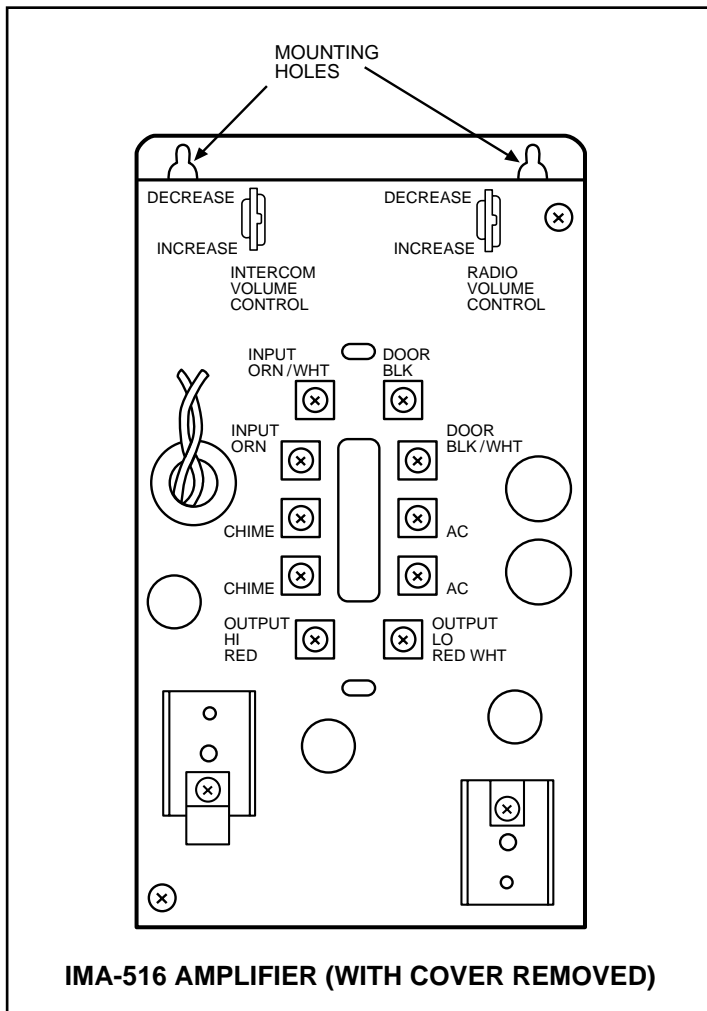
1. In keeping with local electrical code, mount 301-T transformer in one of the following locations: fuse box, circuit breaker box, or utility box in an accessible area.
2. Do not cover transformer with insulation. Do not use transformer for other appliances.

MOUNTING THE AMPLIFIER

The amplifier is surface-mounted to a finished wall, or mounted on a single-gang outlet box. It must be located in an area that is accessible for making adjustments and for servicing if required. Two mounting holes are provided in the amplifier base plate.

CONNECTION TO RADIO-INTERCOM

This is the primary application. By connecting a non-intercom IMA-516 speaker system to a NuTone Radio-Intercom System (2000, 3000, 3300, 4000 or 5000 model series), radio/music can be provided to selected locations where intercom is not needed. Example: A doctor's office may need radio-intercom in the office areas and radio/music only in the waiting-reception area.



INTERCOM SYSTEM FOR HOME OR OFFICE

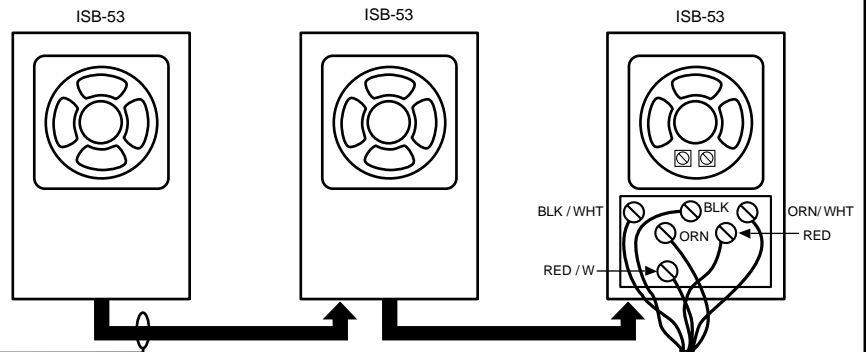
MAXIMUM OF 10 REMOTE SPEAKER STATIONS AND 2 DOOR SPEAKERS

SPEAKER/WIRE SPECIFICATIONS

MAXIMUM OF 3 SPEAKERS MAY BE CONNECTED ON SAME WIRE RUN. MAXIMUM CABLE LENGTHS.

- 1 SPEAKER 500 FEET
- 2 SPEAKERS 250 FEET
- 3 SPEAKERS 150 FEET

DO NOT EXCEED 4000 FEET OF IW-6 PER SYSTEM



SPECIFICATIONS FOR LOW-LEVEL OUTPUT CONNECTION.

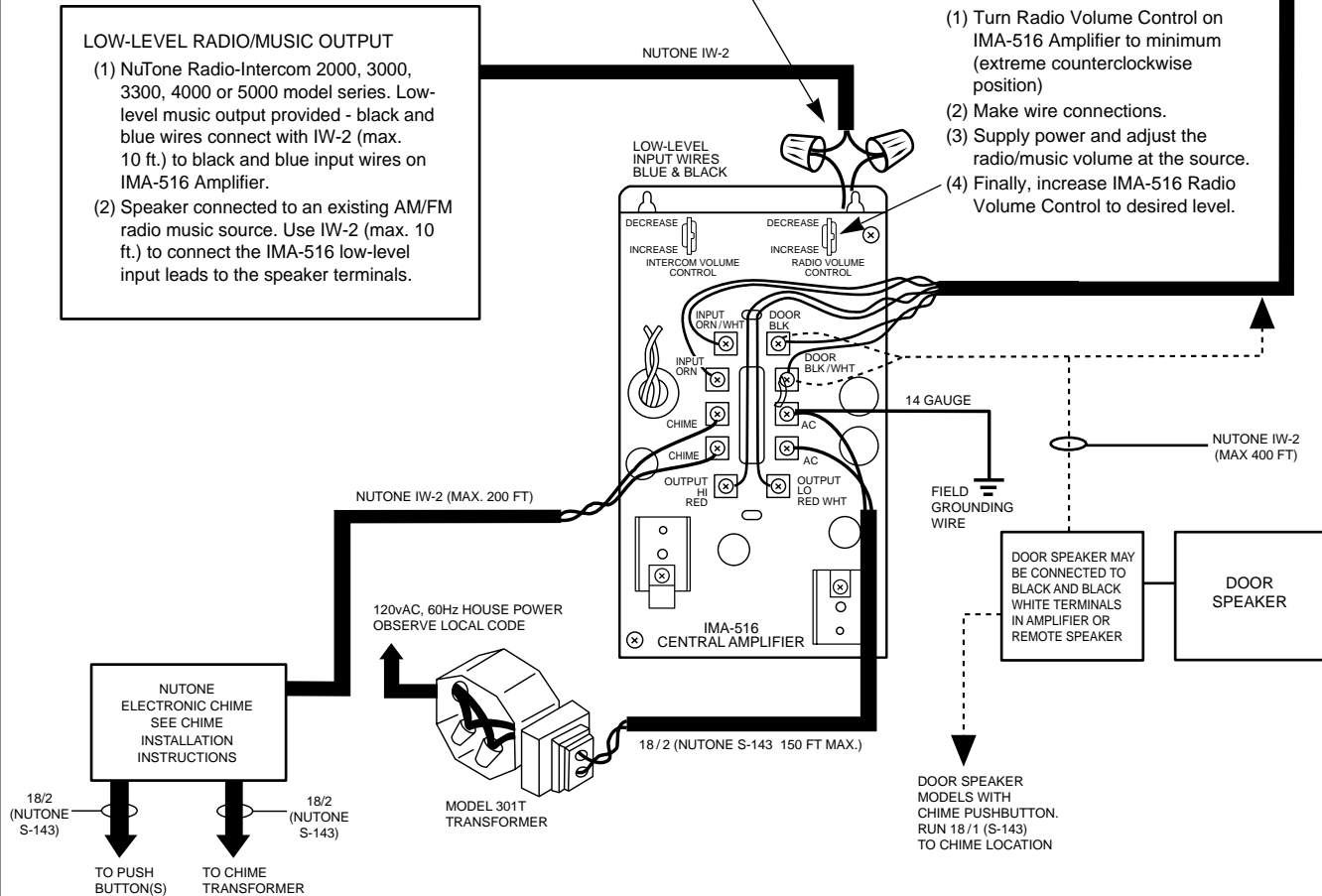
- (1) Minimum 5mv for 50mv output (least useable output).
- (2) 50mv for 4 watts (full output).
- (3) Maximum input voltage: 1 volt.
- (4) Input impedance: 100K ohms.

PROCEDURE FOR THIS CONNECTION:

- (1) Turn Radio Volume Control on IMA-516 Amplifier to minimum (extreme counterclockwise position)
- (2) Make wire connections.
- (3) Supply power and adjust the radio/music volume at the source.
- (4) Finally, increase IMA-516 Radio Volume Control to desired level.

LOW-LEVEL RADIO/MUSIC OUTPUT

- (1) NuTone Radio-Intercom 2000, 3000, 3300, 4000 or 5000 model series. Low-level music output provided - black and blue wires connect with IW-2 (max. 10 ft.) to black and blue input wires on IMA-516 Amplifier.
- (2) Speaker connected to an existing AM/FM radio music source. Use IW-2 (max. 10 ft.) to connect the IMA-516 low-level input leads to the speaker terminals.



NOTE: If desired NuTone Model: ISB-53W (outdoor speaker) may be used. The ISB-53W has the same features as the ISB-53 except that it is weather-resistant.

MUSIC-ONLY SPEAKER SYSTEM

A separate radio/music source may be connected to a non-intercom IMA-516 speaker system to provide a music-only system.

LOW-LEVEL RADIO/MUSIC OUTPUT

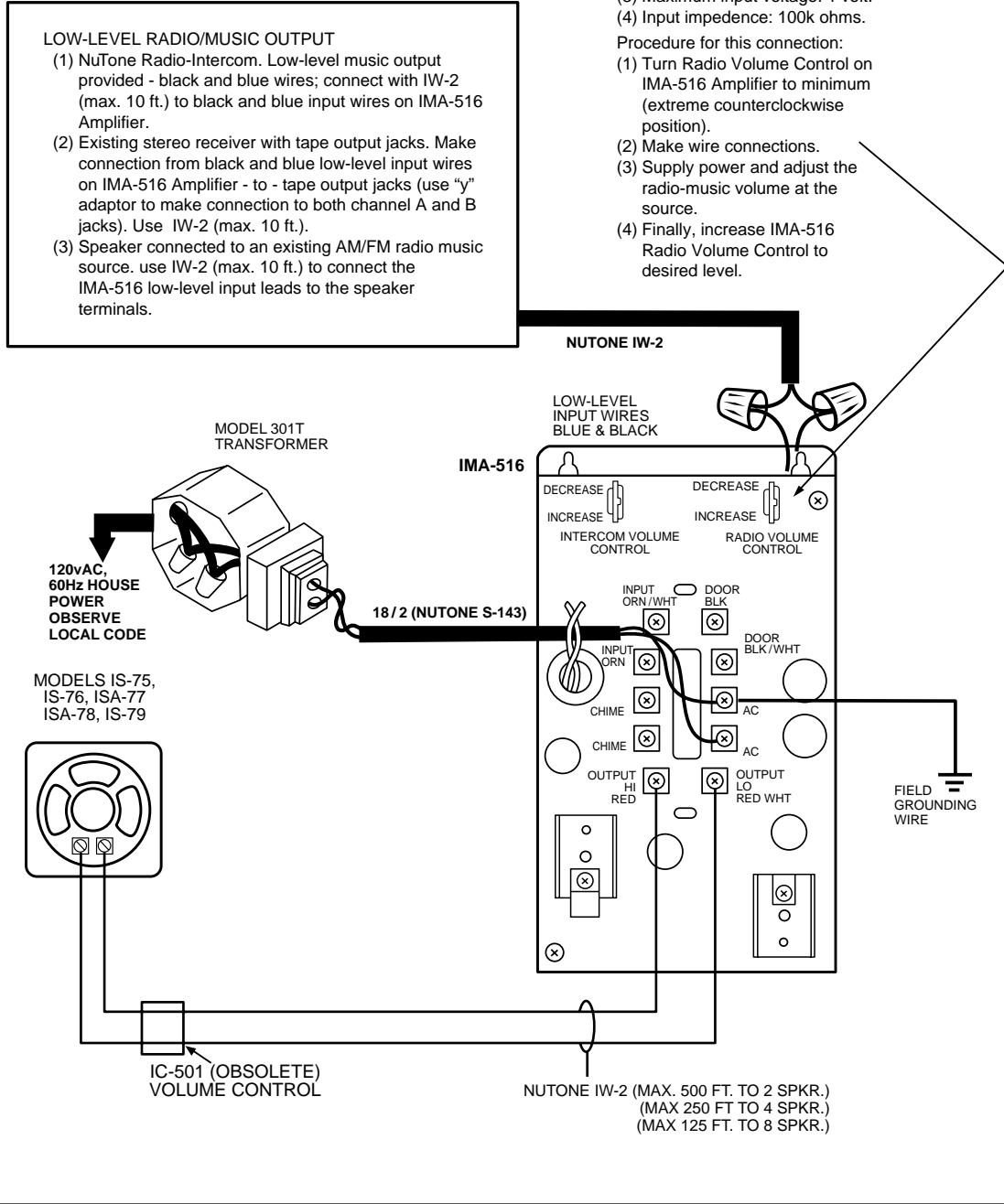
- (1) NuTone Radio-Intercom. Low-level music output provided - black and blue wires; connect with IW-2 (max. 10 ft.) to black and blue input wires on IMA-516 Amplifier.
- (2) Existing stereo receiver with tape output jacks. Make connection from black and blue low-level input wires on IMA-516 Amplifier - to - tape output jacks (use "y" adaptor to make connection to both channel A and B jacks). Use IW-2 (max. 10 ft.).
- (3) Speaker connected to an existing AM/FM radio music source. use IW-2 (max. 10 ft.) to connect the IMA-516 low-level input leads to the speaker terminals.

SPECIFICATIONS FOR LOW-LEVEL OUTPUT CONNECTION

- (1) Minimum 5mv for 50mw output (least useable output).
- (2) 50 mv for 4 watts (full output).
- (3) Maximum input voltage: 1 volt.
- (4) Input impedance: 100k ohms.

Procedure for this connection:

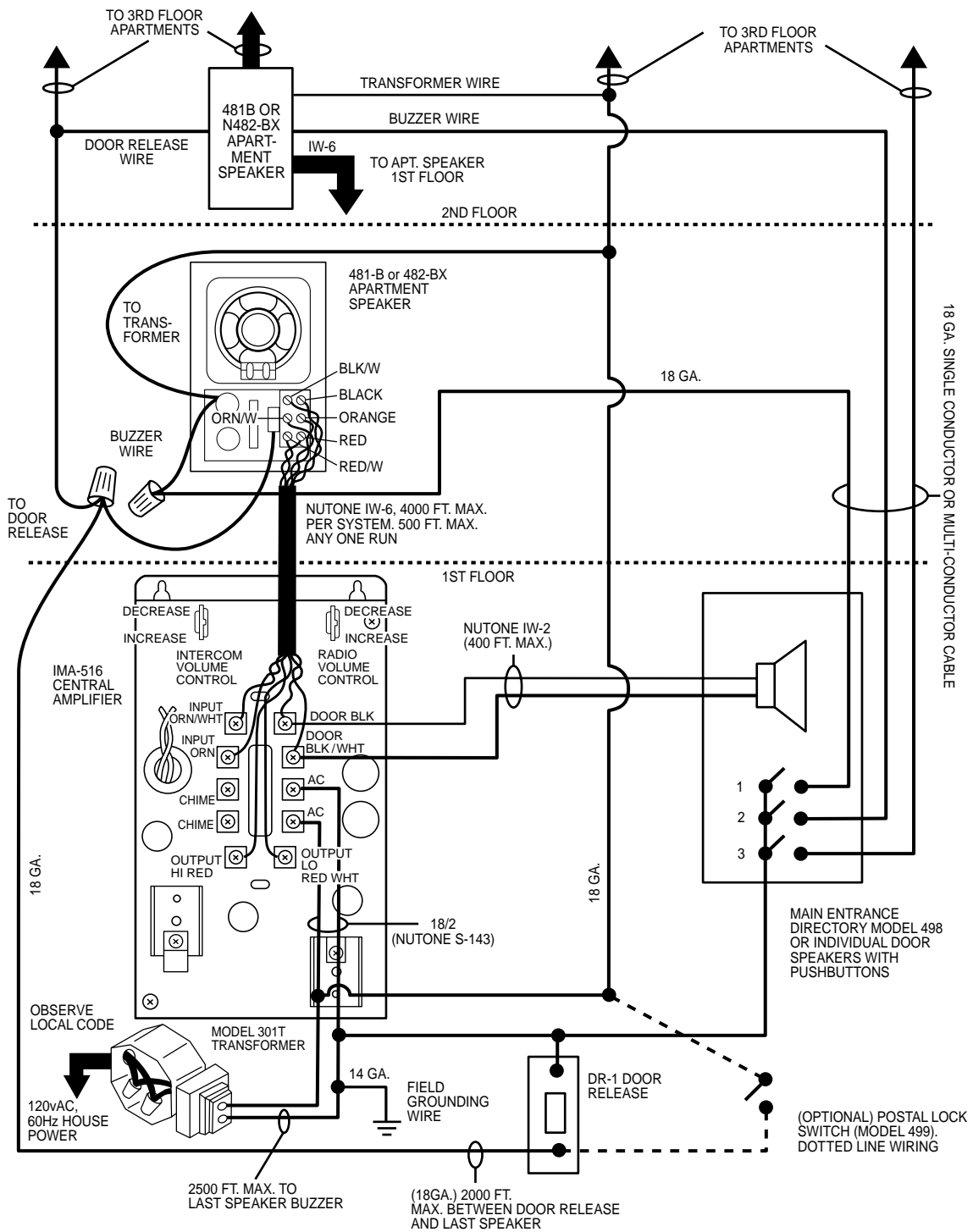
- (1) Turn Radio Volume Control on IMA-516 Amplifier to minimum (extreme counterclockwise position).
- (2) Make wire connections.
- (3) Supply power and adjust the radio-music volume at the source.
- (4) Finally, increase IMA-516 Radio Volume Control to desired level.



TYPICAL SYSTEM LAYOUT

The IMA-516 system can be used for two types of apartment layouts: (1) low-rise garden apartments that have a single entrance, (2) townhouse apartments that have separate entrances for each apartment.

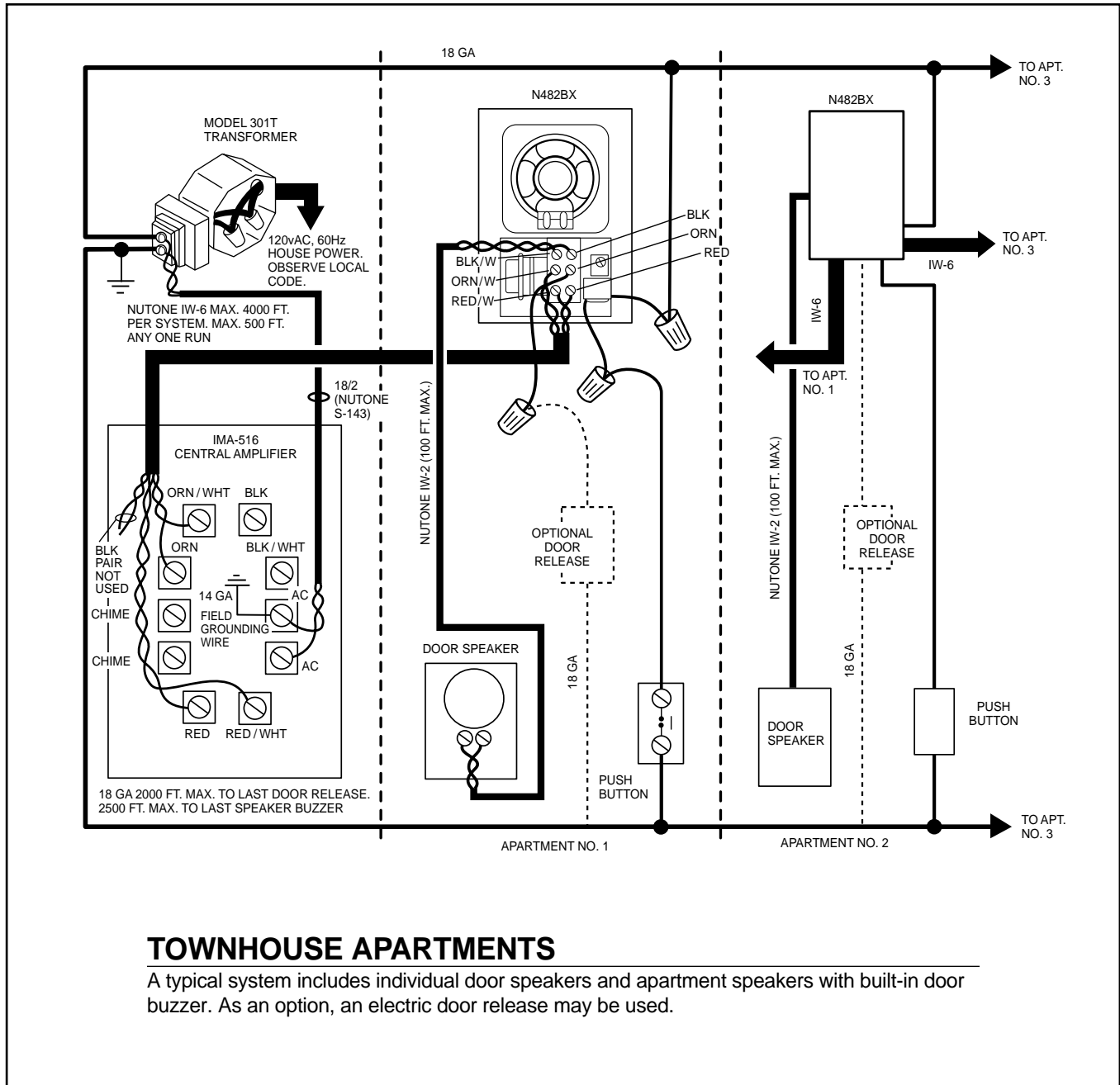
(For systems using 481-B or N482-BX speakers with buzzers)



LOW-RISE GARDEN APARTMENTS

A typical system includes an entrance directory (with pushbuttons and speaker), apartment speakers (with built-in door buzzer or a separate door chime), and an electric door release.

TYPICAL SYSTEM LAYOUT CONTINUED



TOWNHOUSE APARTMENTS

A typical system includes individual door speakers and apartment speakers with built-in door buzzer. As an option, an electric door release may be used.

OPERATIONAL CHECKOUT

INTERCOM SYSTEM FOR HOME OR OFFICE VOLUME

SETTING – Each remote speaker's volume control should be set between 3/4 and full volume. The intercom Volume Control in the Amplifier should be set about 1/3 of its rotation. In general, keep the remote speaker's volume control high and the amplifier intercom volume control relatively low.

MODEL ISB-53 SPEAKER –

INTERCOM – Press the INTERCOM button to speak with inside or patio speakers. To speak with the door speaker, lock in the DOOR button and press INTERCOM button. To listen, release the intercom button.

MONITORING – To monitor a specific speaker location, lock in the TALK LOCK button. The speaker will now transmit sounds to other speakers. **NOTE: Be certain the speaker set for monitoring has its volume control set to maximum level.**

DOOR ANSWERING INTERCOM FOR APARTMENTS

To talk, place the intercom switch to TALK. To listen, place the button to LISTEN. To activate the door release, press the DOOR button to OPEN.

MUSIC-ONLY SPEAKER SYSTEM

The maximum volume for the radio/music is set at the source. The amplifier has a Radio Volume control which can decrease the volume which is set at the music source.

INSTALLER'S TROUBLESHOOTING GUIDE

1. System does not work.	1a. Improper wire.	1a. NuTone Model IW-6 cable must be used with this system. No other wire can be used.
	1b. Power supply.	1b. Check 120vAC, 60Hz house power supply to transformer
2. System worked temporarily.	2. Improper transformer.	2. NuTone Model 301T transformer must be used.
3. No intercom.	3. Intercom gain control.	3. Check setting of intercom gain control.
4. No radio/music (optional).	4a. Radio volume control.	4a. Be certain volume control on radio/music source is set sufficiently high. Next check radio volume control on amplifier.
	4b. Short in wiring.	4a. Be certain volume control on radio/music source is set sufficiently high. Next check radio volume control on amplifier.

TROUBLESHOOTING HINT: If system does not work, remove remote speaker and accessory wiring from amplifier, then connect a pair of test speakers. Connect one test speaker to the orange pair terminals and connect the other test speaker to the red pair terminals. If sound is heard, the amplifier is operational. Begin connecting one remote speaker at a time and testing for proper operation. If remote speaker does not work, check for wiring error (improper connection or short).

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, FILTERS, DUCT, ROOF CAPS, WALL CAPS AND OTHER ACCESSORIES FOR DUCTING.** 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.

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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, Madison and Red Bank Roads, Cincinnati Ohio 45227-1599.

Residents of Canada should write to: NuTone Canada Inc., 6300 Tomken Road, Mississauga, Ontario, Canada L5T 1N2.

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Product specifications subject to change without notice.

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