

Installation Instructions

FOR RADIO INTERCOM SYSTEMS IM-203, IM-303, IM-406 AND SECURI-COM SYSTEM IM-323

The Master Housing, Speaker Frames and wiring should be installed during the roughing in period of construction. The finished units are installed later when the Electrical Fixtures are installed to eliminate any possibility of damage, breakage or loss of parts. Please read these instructions carefully and refer to appropriate drawings before attempting to install this product.

INSTALLATION HINTS

**THIS SYSTEM IS DESIGNED TO USE NUTONE WIRE/
CABLE TO ELIMINATE HUM-FEEDBACK ETC.**

NO OTHER WIRE SHOULD BE USED.

Select the preferred locations for the master station, each remote station, door speaker and remote controls.

For maximum operating convenience, install the master and inside station (with controls) 4½ ft. from the finished floor and the bottom of the unit. The master should be at least 4" from an adjacent wall, cabinet or counter top.

Whenever possible, locate inside units on interior partition walls free of insulation and other obstructions. To prevent

feedback (interference) never mount any speakers and/or the master station back to back or in a common wall between rooms.

Install door speakers for 203 Series system on exterior wall adjacent to the entrance door for access by callers to the speaker talk listen switch. Door speakers for other systems may be also located in nearby porch ceiling or soffit overhang.

Use model IA-19 Weather Shield for installation of outside speaker remote controls.

An attic FM/AM antenna is provided with the master. For weak FM signal areas, use NuTone Model IA-18 FM outside antenna.

INSTALLATION PRECAUTIONS

1. To achieve the designed performance of this product, observe all requirements set forth in this instruction sheet and all markings appearing on the units, otherwise the warranty is void.
2. NuTone cannot be responsible for improper operation of System resulting from interference; generated by fluorescent lighting fixtures, light dimmer controls or other electrical products. Such interference must be corrected at the source of interference.

NUTONE WARRANTY

READ CAREFULLY — DO NOT DISCARD

NuTone products are warranted to be free from defects in material and workmanship for (12) months from original date of installation unless otherwise stated. Light bulbs, dial lights, record changer needles and batteries (with exception of those specifically designated as rechargeable) are not warranted or guaranteed, in any manner for any length of time.

During this warranty period, NuTone will repair or replace at NuTone's sole option, free of charge, any defective parts returned prepaid to our closest Authorized Service Center. Please provide the model number of the product, original date of installation, and nature of difficulty being experienced.

For the name of your nearest NuTone Authorized Service Center, residents of the contiguous United States call, toll free, 800-543-8687

Residents of Alaska, Hawaii and all other locations outside the contiguous U.S., except Canada, write: Field Engineering Department, NuTone Division of Scovill, Mfg. Madison and Red Bank Roads, Cincinnati, Ohio 45227.

Canadian residents contact: NuTone Electrical Mfg. Co. of Canada, Ltd., 2 St. Lawrence Avenue, Toronto, Ontario M8Z-4T8; 416-251-6580.

Our warranty does not cover damage or failure caused by abuse, misuse, abnormal usage, faulty installation, improper

maintenance or any repairs other than those provided by an Authorized NuTone Service Center.

There will be charges rendered for product repairs made after our warranty period has expired (12 months after original date of installation).

Specific parts of certain models have an extended warranty period. These are specially noted in the current NuTone Catalog. NuTone is responsible for parts only during the remaining portions of the warranty period after the first 12 months. Labor is extra — to be charged to the customer. Your Authorized Service Center can tell you what portions of your particular model may have an extended warranty.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, FOR MERCHANTABILITY OR FITNESS, AND THERE ARE NO OBLIGATIONS OR LIABILITIES ON THE PART OF NUTONE OR SCOVILL MANUFACTURING COMPANY FOR CONSEQUENTIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE PRODUCT OR OTHER INDIRECT DAMAGES WITH RESPECT TO LOSS OF USE, REVENUES OR PROFIT. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THE WARRANTIES SET FORTH HEREIN MAY NOT BE EXTENDED OR ALTERED EXCEPT BY WRITTEN AMENDMENT.

NuTone Housing Products

Scovill

Madison & Red Bank Rds., Cincinnati, Ohio 45227 — Phone 1-513-527-5415

Part # 46466

MODEL IR-10 MASTER HOUSING

NEW CONSTRUCTION

FITS 16" CC STUDDING WITH
MINIMUM WALL DEPTH OF 1-3/4"

LOCATION

Mount IR-10 Master Housing between 2 x 4 studs in standard 16" on center construction approximately 4-1/2 Ft. above floor or at a convenient height.

To avoid feedback interference do not place any Master Station and/or speaker housing back to back or in a common wall between rooms.

WHEN USED WITH THE IM-323 RADIO/INTERCOM SECURITY SYSTEM LOCATION OF THE IR-10 HOUSING SHOULD BE WITHIN 20 TO 25 SECONDS WALKING DISTANCE FROM THE MAIN ENTRANCE TO ALLOW HOME OWNER TO TURN OFF THE SECURITY SYSTEM BEFORE THE INTRUDER ALARM SOUNDS.

MOUNTING

Allow a minimum space of 4" from edge of IR-10 Housing to adjacent wall or cabinet to accommodate Master Control. Minimum wall depth 1-3/4".

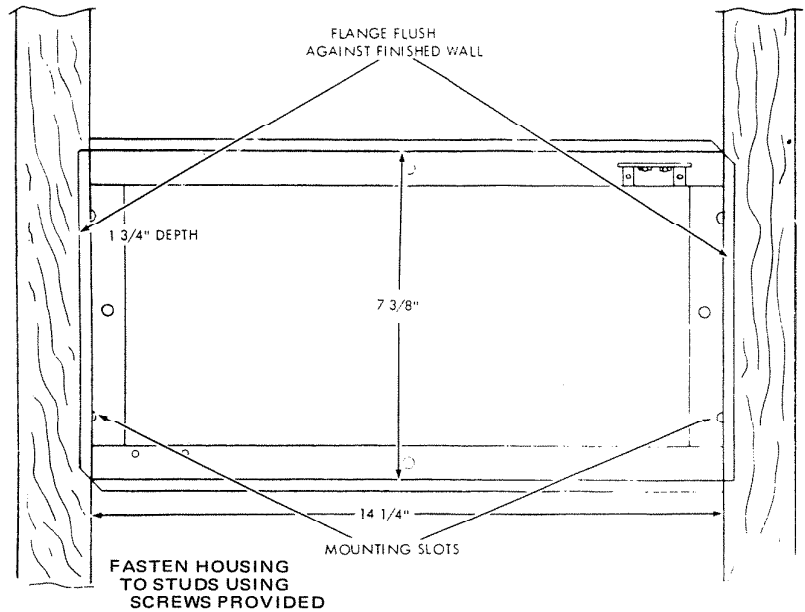


FIGURE 1

NEW CONSTRUCTION

Install IR-10 Housing square and level. Position flange so that it will be flush to finished wall surface. Fasten in place through screw slots in each side with screws provided (Fig. 1).

EXISTING CONSTRUCTION

EXISTING CONSTRUCTION

Make cutout between wall studs 14-1/2" wide by 7-3/8" high. Install IR-10 Housing flush with finished wall surface and fasten in place with screws provided. (Fig. 2).

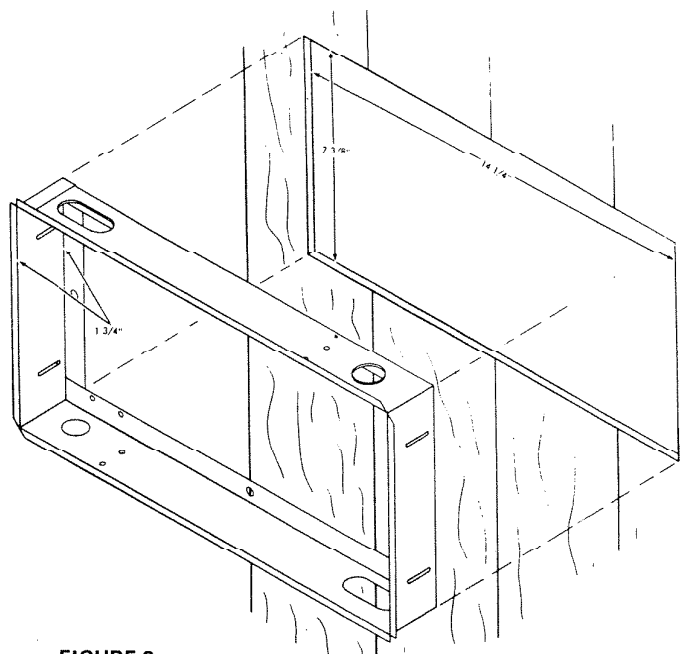


FIGURE 2

INSIDE SPEAKERS

MODEL IR-5 SPEAKER FRAME (Use for installation of All NuTone Radio/Intercom Built-In 5" Speakers).

NEW CONSTRUCTION – 3/4" PLASTER

NOTE: Allow a minimum space of 2" from edge of speaker frame to adjacent wall or cabinet to accommodate speaker panel (Wall Depth Required 1".)

IMPORTANT

To avoid feedback interference do not place any speaker and/or master station housings back to back or in a common wall between rooms.

SURFACE MOUNTING

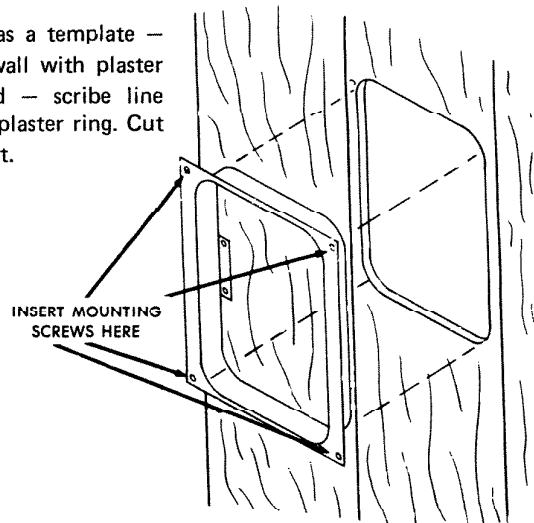
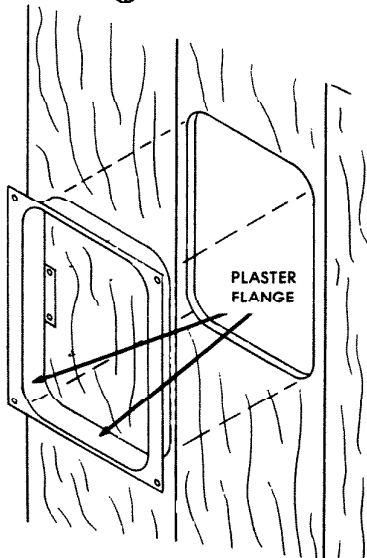
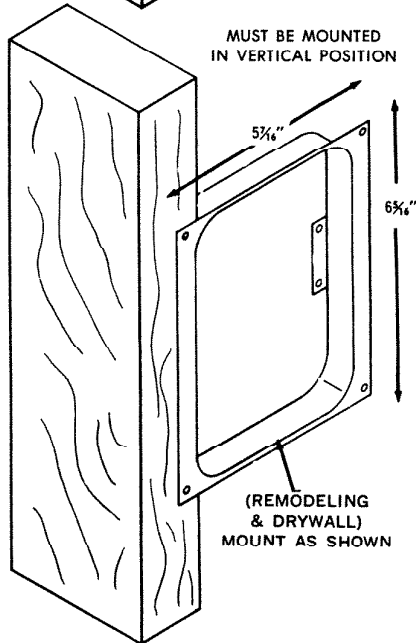
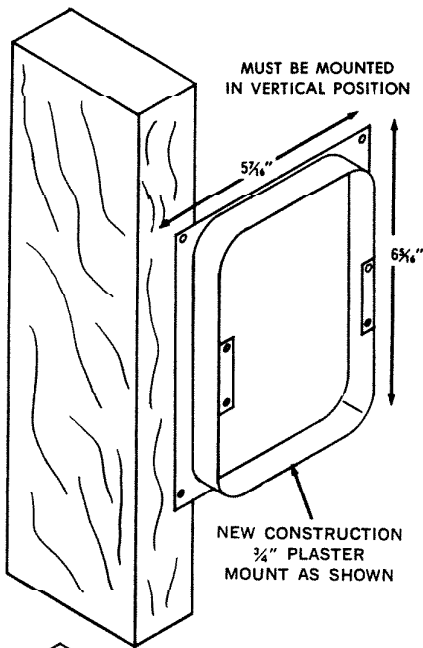
5" Inside Remote Speakers can be surface mounted with optional IA-16 Mounting Frame.

NEW CONSTRUCTION – DRY WALL

For dry wall plaster flange must face away from finished side of wall, to insure speaker unit fitting flush to finished wall.

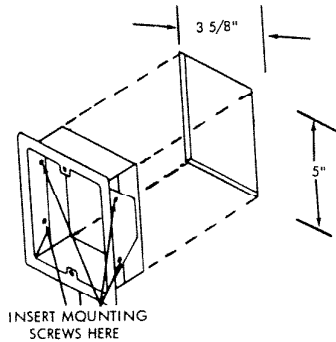
EXISTING CONSTRUCTION – REMODELING

Use the IR-5 Frame as a template – place frame against wall with plaster flange facing outward – scribe line around outer part of plaster ring. Cut out opening and mount.



OUTSIDE DOOR SPEAKER HOUSING – IR-6

(Use for installation of all built-in door speakers)



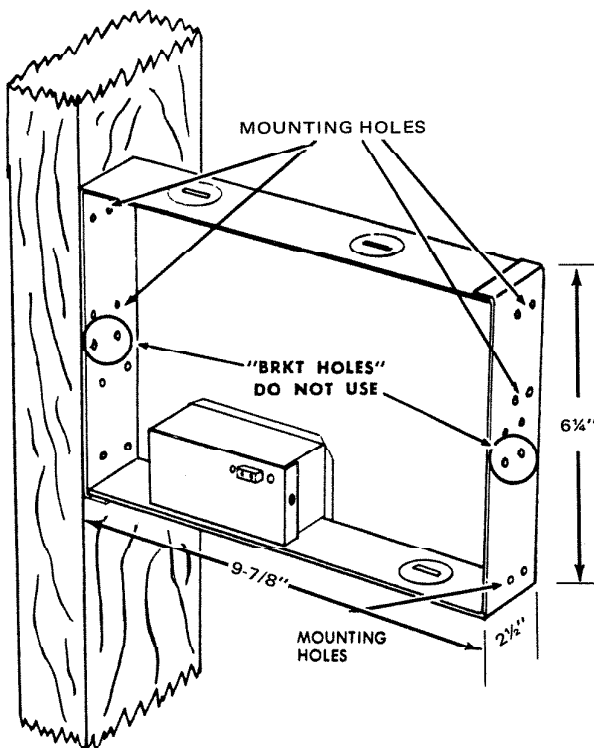
Allow enough wall space to accommodate 4-3/8" wide x 5-7/8" high speaker panel. A minimum wall depth of 2" is required. Flange on IR-6 housing must be flush to outside wall to insure weather protection. Grout flange in place when used in masonry construction.

In Wood Construction mount IR-6 housing to side of stud through mounting holes.

Important – Door speakers for 203 Series system (IS-60 and IS-62) must be located adjacent to entrance door for access to the speaker talk-listen switch.

Note: Model IS-62, IS-63 & IR-64 Surface Mounted Door Speakers require no rough-in housing.

SPEAKER/CLOCK TIMER HOUSING IR-7



LOCATION AND MOUNTING – NEW CONSTRUCTION

Mount IR-7 Speaker/Clock Timer Housing to wall stud through mounting holes in side of housing at a convenient operating location.

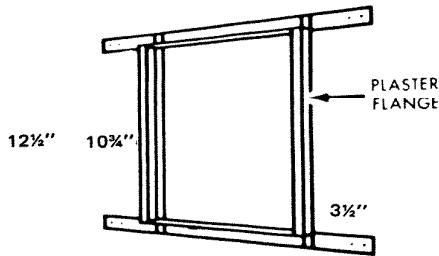
Do not use "Brkt Holes" for mounting. Allow a minimum clearance of 3" from adjacent walls to accommodate Speaker/Clock Timer. Mount with Junction Box at bottom. A minimum wall depth of 3" is required.

EXISTING CONSTRUCTION

IR-7 housing must be mounted to a wall stud. Cut a hole 10" wide x 6-3/8" high in wall next to a wall stud. Mount housing per instructions for new construction installation.

INSIDE SPEAKER FRAME – IR-8

(Use for installation of 8" Inside Speakers)



NEW CONSTRUCTION

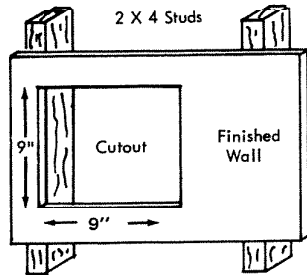
A MINIMUM WALL DEPTH OF 2-7/8" IS REQUIRED.

NOTE: Allow a minimum space of 2" from edge of frame to adjacent wall or cabinet to accommodate speaker panel.

NEW CONSTRUCTION

For plaster wall, fasten frame to wall studs with plaster flange facing out.

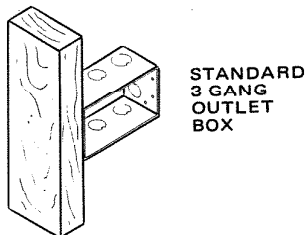
For dry wall, install with plaster flange to the inside.



EXISTING CONSTRUCTION

EXISTING CONSTRUCTION

Frame is not used. Make 9" high by 9" wide cutout – one side adjacent to stud – in finished wall.

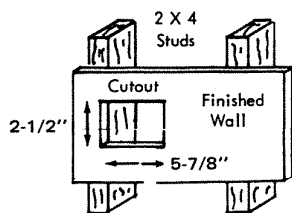


NEW CONSTRUCTION

NOTE: REMOTE CONTROL ASSEMBLY – MODEL IC-21, IC-31, OR IC-41 MUST BE USED WITH MODEL IS-78 INSIDE SPEAKER.

NEW CONSTRUCTION

The remote control mounts in a standard 3 gang outlet box. Install box on stud at desired wall location.



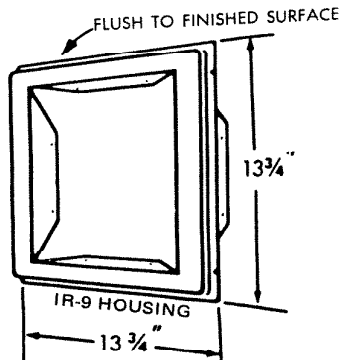
EXISTING CONSTRUCTION

EXISTING CONSTRUCTION

Make 2-1/8" High by 5-7/8" Long cutout one side adjacent to stud.

PATIO SPEAKER HOUSING — IR-9

(Use for installation of 8" Outside Built-In Speakers)

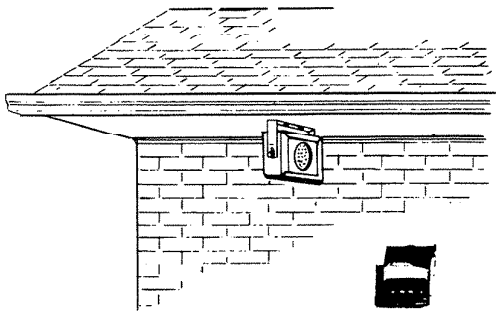


The IR-9 housing requires an opening of $11\frac{1}{16}$ " high x $10\frac{1}{16}$ " wide. For wood construction slots are provided on each side for mounting. In construction other than wood, rough-in frames must be grouted in place. A minimum wall depth of $2\frac{1}{2}$ " is required.

NOTE: REMOTE CONTROL ASSEMBLY — MODEL IC-21, IC-31, OR IC-41 MUST BE USED WITH MODEL IS-77, AND IS-79 OUTSIDE SPEAKERS.

The Remote Control Assembly must be mounted in the Model IA-19 Surface Mounted Weathershield. See Installation Instructions with IA-19.

OUTSIDE SURFACE MOUNTED SPEAKER MODEL IS-77



The Model IS-77 Speaker does not require a rough-in housing.

The Speaker should be fastened to a wall or to an overhead surface, such as a soffit or ceiling.

POWER TRANSFORMER

The 16 volt transformer (NuTone 105-N) supplied with the IR-10 housing should be mounted in one of the following locations, in keeping with local electrical code. (Fig. 1).

Fuse Box, Circuit Breaker Box, or Basement.

CAUTION: Do not install in attic or crawl space. Locate in area that is accessible when house is completed and do not cover with insulation.

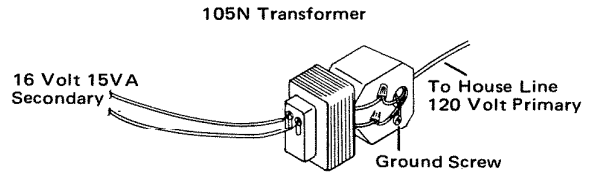


FIGURE 1

POWER WIRING

Wire transformer primary into 120 volt House Line (white to white — black to black) run 18/2 wire from 16 volt secondary to IR-10 Housing (Fig. 1). Allow at least 12" of wire in Housing.

CAUTION: Do not use transformer for other appliances.

GROUND

Unit must be grounded — run separate #14GA wire from an earth ground source to IR-10 Housing. Connect to housing with one of the mounting screws. (Figure 2).

NOTE: Grounding of unit is necessary to minimize interference pick-up and assure proper AM Radio operation.

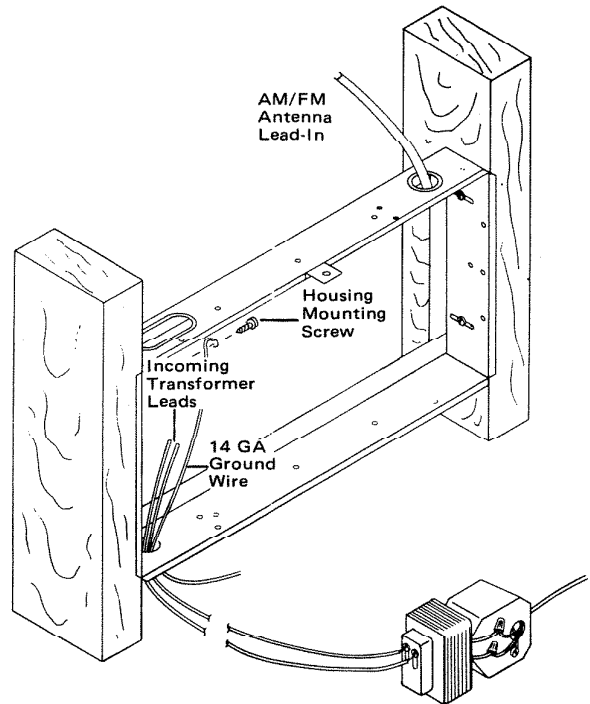


FIGURE 2

ANTENNA WIRING

NuTone Part #40072 attic type antenna — with 20 Ft. twin lead-in wire, is supplied with the IR-10 Housing. Install antenna in attic or crawl space as shown in instruction sheet packaged with the antenna kit. Run wires through hole provided in top right hand corner of IR-10 Housing, and connect wire leads, to terminal screws (Fig. 3).

In Fringe areas, an outside antenna may be required for proper reception. (Use NuTone model IA-18 FM Antenna or equivalent)

IMPORTANT: Do not run antenna wire in conduit.

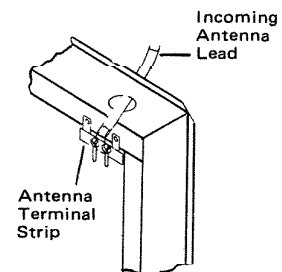
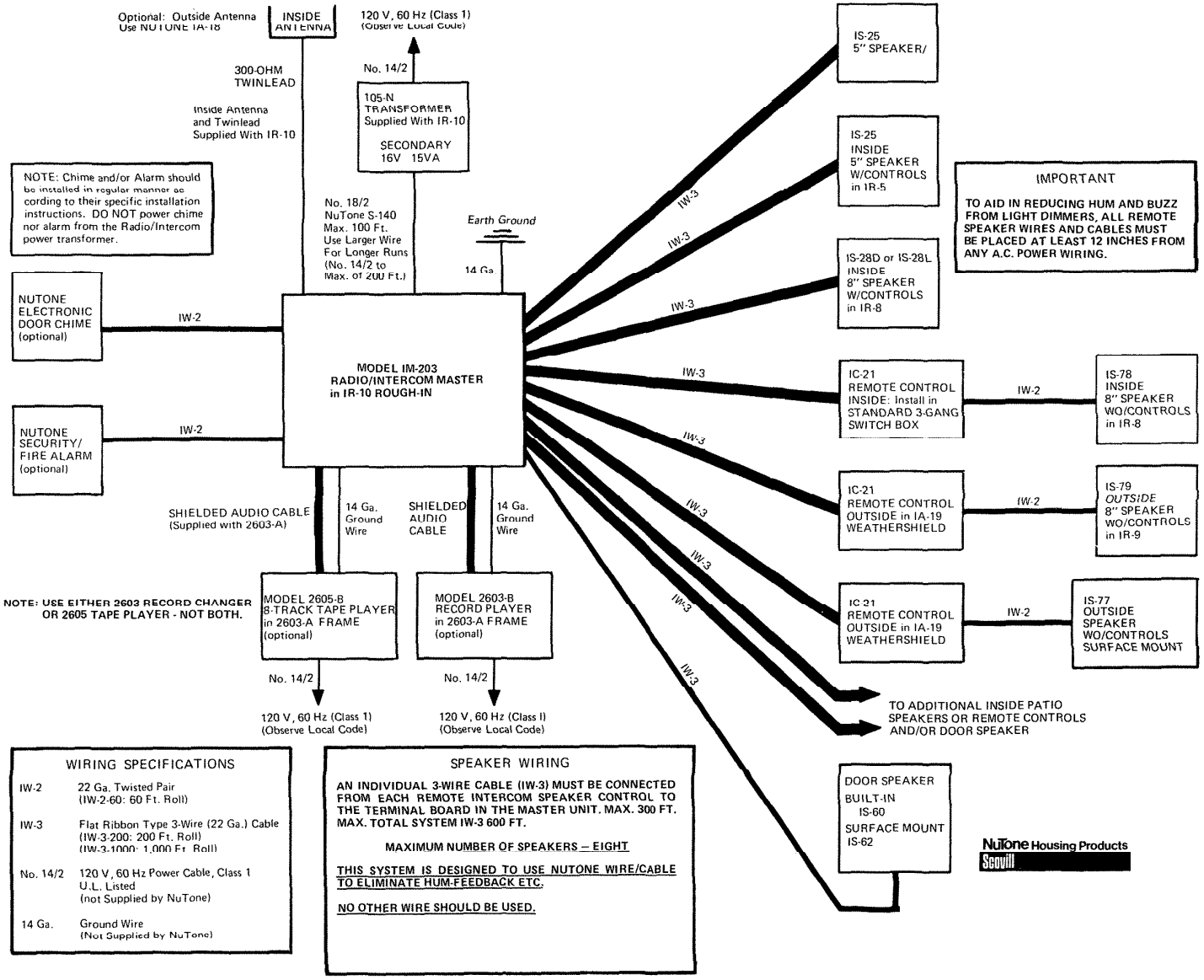
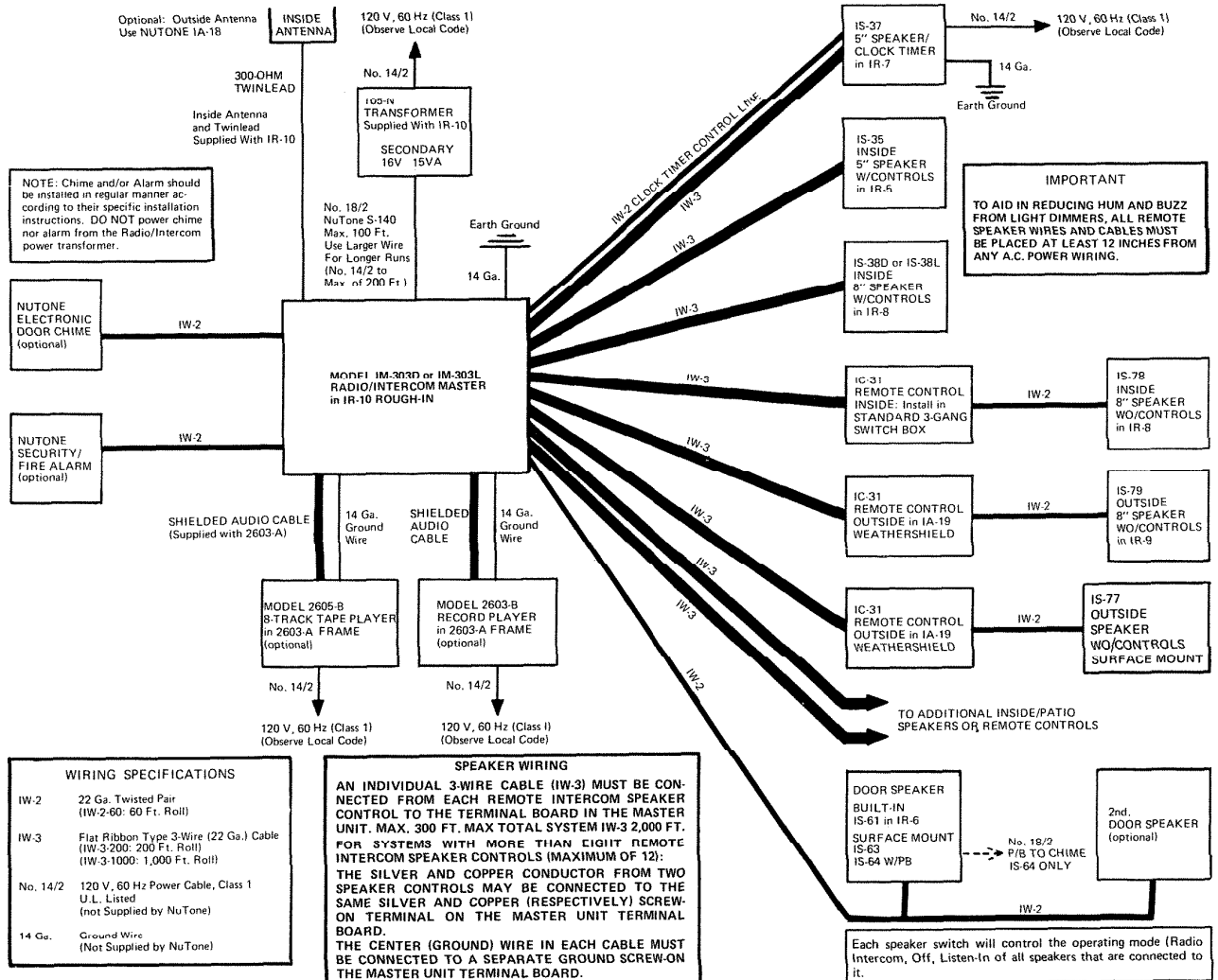


FIGURE 3

**REFER TO THE ATTACHED FOLD OUT REPRESENTATIVE
SYSTEM WIRING DIAGRAMS FOR THE
IM-203, 303, 323, & 406 UNITS**

**THESE FOLD OUTS HAVE BEEN PERFORATED
FOR TEAR OUT USE.**





NOTE: Chime and/or Alarm should be installed in regular manner according to their specific installation instructions. DO NOT power chime nor alarm from the Radio/Intercom power transformer.

IMPORTANT
TO AID IN REDUCING HUM AND BUZZ FROM LIGHT DIMMERS, ALL REMOTE SPEAKER WIRES AND CABLES MUST BE PLACED AT LEAST 12 INCHES FROM ANY A.C. POWER WIRING.

WIRING SPECIFICATIONS

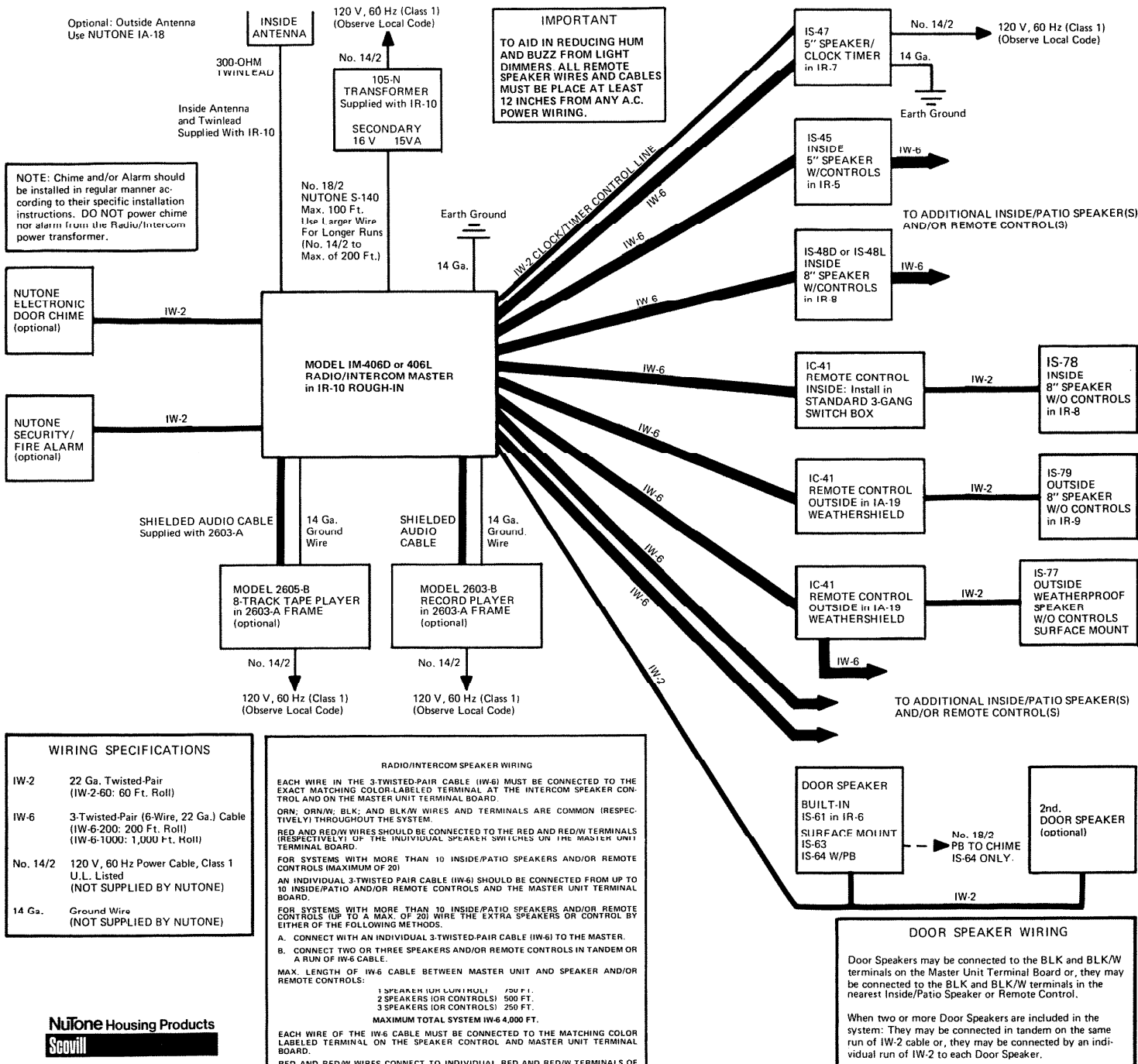
IW-2	22 Ga. Twisted Pair (IW-2-60: 60 Ft. Roll)
IW-3	Flat Ribbon Type 3-Wire (22 Ga.) Cable (IW-3-200: 200 Ft. Roll) (IW-3-1000: 1,000 Ft. Roll)
No. 14/2	120 V, 60 Hz Power Cable, Class 1 U.L. Listed (not Supplied by NuTone)
14 Ga.	Ground Wire (Not Supplied by NuTone)

SPEAKER WIRING

AN INDIVIDUAL 3-WIRE CABLE (IW-3) MUST BE CONNECTED FROM EACH REMOTE INTERCOM SPEAKER CONTROL TO THE TERMINAL BOARD IN THE MASTER UNIT. MAX. 300 FT. MAX TOTAL SYSTEM IW-3 2,000 FT. FOR SYSTEMS WITH MORE THAN EIGHT REMOTE INTERCOM SPEAKER CONTROLS (MAXIMUM OF 12): THE SILVER AND COPPER CONDUCTOR FROM TWO SPEAKER CONTROLS MAY BE CONNECTED TO THE SAME SILVER AND COPPER (RESPECTIVELY) SCREW-ON TERMINAL ON THE MASTER UNIT TERMINAL BOARD. THE CENTER (GROUND) WIRE IN EACH CABLE MUST BE CONNECTED TO A SEPARATE GROUND SCREW-ON THE MASTER UNIT TERMINAL BOARD.

NuTone Housing Products
Scout

THIS SYSTEM IS DESIGNED TO USE NUTONE WIRE/CABLE TO ELIMINATE HUM-FEEDBACK ETC. NO OTHER WIRE SHOULD BE USED. NUTONE MODEL IM-303: 3-WIRE CENTRALIZED RADIO/INTERCOM REPRESENTATIVE SYSTEM WIRING DIAGRAM



IMPORTANT
 TO AID IN REDUCING HUM AND BUZZ FROM LIGHT DIMMERS, ALL REMOTE SPEAKER WIRES AND CABLES MUST BE PLACED AT LEAST 12 INCHES FROM ANY A.C. POWER WIRING.

NOTE: Chime and/or Alarm should be installed in regular manner according to their specific installation instructions. DO NOT power chime nor alarm from the Radio/Intercom power transformer.

NUTONE ELECTRONIC DOOR CHIME (optional)
 IW-2

NUTONE SECURITY/FIRE ALARM (optional)
 IW-2

WIRING SPECIFICATIONS

IW-2	22 Ga. Twisted-Pair (IW-2-60: 60 Ft. Roll)
IW-6	3-Twisted-Pair (6-Wire, 22 Ga.) Cable (IW-6-200: 200 Ft. Roll) (IW-6-1000: 1,000 Ft. Roll)
No. 14/2	120 V, 60 Hz Power Cable, Class 1 U.L. Listed (NOT SUPPLIED BY NUTONE)
14 Ga.	Ground Wire (NOT SUPPLIED BY NUTONE)

RADIO/INTERCOM SPEAKER WIRING

EACH WIRE IN THE 3-TWISTED-PAIR CABLE (IW-6) MUST BE CONNECTED TO THE EXACT MATCHING COLOR-LABELED TERMINAL AT THE INTERCOM SPEAKER CONTROL AND ON THE MASTER UNIT TERMINAL BOARD.

ORN; ORN/W; BLK; AND BLK/W WIRES AND TERMINALS ARE COMMON (RESPECTIVELY) THROUGHOUT THE SYSTEM.

RED AND RED/W WIRES SHOULD BE CONNECTED TO THE RED AND RED/W TERMINALS (RESPECTIVELY) OF THE INDIVIDUAL SPEAKER SWITCHES ON THE MASTER UNIT TERMINAL BOARD.

FOR SYSTEMS WITH MORE THAN 10 INSIDE/PATIO SPEAKERS AND/OR REMOTE CONTROLS (MAXIMUM OF 20)

AN INDIVIDUAL 3-TWISTED PAIR CABLE (IW-6) SHOULD BE CONNECTED FROM UP TO 10 INSIDE/PATIO AND/OR REMOTE CONTROLS AND THE MASTER UNIT TERMINAL BOARD.

FOR SYSTEMS WITH MORE THAN 10 INSIDE/PATIO SPEAKERS AND/OR REMOTE CONTROLS (UP TO A MAX. OF 20) WIRE THE EXTRA SPEAKERS OR CONTROL BY EITHER OF THE FOLLOWING METHODS.

A. CONNECT WITH AN INDIVIDUAL 3-TWISTED-PAIR CABLE (IW-6) TO THE MASTER.

B. CONNECT TWO OR THREE SPEAKERS AND/OR REMOTE CONTROLS IN TANDEM OR A RUN OF IW-6 CABLE.

MAX. LENGTH OF IW-6 CABLE BETWEEN MASTER UNIT AND SPEAKER AND/OR REMOTE CONTROLS:

1 SPEAKER (OR CONTROL)	750 FT.
2 SPEAKERS (OR CONTROLS)	500 FT.
3 SPEAKERS (OR CONTROLS)	250 FT.

MAXIMUM TOTAL SYSTEM IW-6 4,000 FT.

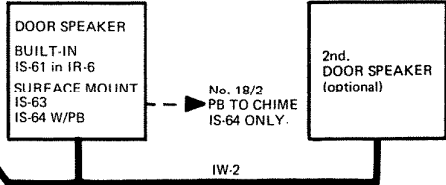
EACH WIRE OF THE IW-6 CABLE MUST BE CONNECTED TO THE MATCHING COLOR LABELED TERMINAL ON THE SPEAKER CONTROL AND MASTER UNIT TERMINAL BOARD.

RED AND RED/W WIRES CONNECT TO INDIVIDUAL RED AND RED/W TERMINALS OF EACH SPEAKER SWITCH ON THE MASTER TERMINAL BOARD.

ORN; ORN/W AND BLK; BLK/W WIRES AND TERMINALS ARE COMMON THROUGHOUT THE SYSTEM.

THE RED AND RED/W WIRES FROM 2 OR 3 IW-6 CABLES MAY BE CONNECTED TO RED AND RED/W TERMINALS OF ANY SPEAKER SWITCH ON THE MASTER UNIT TERMINAL BOARD.

EACH SPEAKER SWITCH WILL CONTROL THE OPERATING MODE (RADIO INTERCOM, INTERCOM ONLY, LISTEN-IN & OFF) OF ALL SPEAKERS THAT ARE CONNECTED TO IT.



NUTONE MODEL 406: 3-TWISTED-PAIR (6-WIRE) RADIO/INTERCOM REPRESENTATIVE SYSTEM WIRING DIAGRAM

THIS SYSTEM IS DESIGNED TO USE NUTONE WIRE/CABLE TO ELIMINATE HUM-FEEDBACK ETC.

