



NH208TVU Amplifier and Power Supply Installation and Use Instructions Used with the HT2006 Series Inside Handset Intercom Stations and 1 or more Door Stations

APPLICATION

The NH208TVU series intercom system allows any HT2006 series inside (master) handset station to selectively signal (buzz) and communicate with any another HT2006 series inside (master) or HT2003 inside (remote) handset station. Communications is common-talk (non-private) type, and allows for conference calls for up to four (4) total handsets at a time. In addition, any master handset may communicate with one or more door speakers, and optionally release the electric door opener(s). A number of optional accessories are available to provide a complete intercom signaling and communications system, with or without optional zone paging.

PROCEDURE

1. Read installation instructions for each unit to determine equipment location and installation method.
2. Install equipment and wiring.
3. Check wiring and connect. Observe all local and national electrical codes.
4. Apply power and check operation.

HOUSING INSTALLATION AND EQUIPMENT LOCATION

INSIDE HANDSET STATIONS

Locate handsets where needed at convenient speaking height, about 4.5 feet (137cm) from the finished floor. Handset(s) can be secured directly to the finished wall surface or can be mounted over a single gang electrical 'gem' box or single gang electrical plaster ring.

OUTSIDE STATION(S)

Locate door station(s) at convenient speaking height on exterior wall near entrance. Door stations must have 16-ohm speaker and MK1C type electret condenser microphone installed.

NH208TVU AMPLIFIER/POWER SUPPLY

The NH208TVU is usually located in a separate equipment location. You can mount the NH208TVU by using the provided 'Din Rail' mounting bracket. It must be located away from any source of direct heat or extreme cold and in an accessible location. Keep at least 3 feet (1 meter) away from transformers, light dimmers or other electrical devices or wiring or sources of electrical interference.

TRANSFORMER

The SS106 pigtail type transformer may be installed on the fuse

panel or other accessible source of 117 VAC, preferably within 50' (15 meters) of the amplifier, but no closer than 3 feet (1 meter) from the NH208TVU amplifier.

DUAL ENTRY ADAPTOR (TU1007A)

For multi-entrance installations you must use one or more model TU1007A multi-entrance adaptors. When these adaptors are used, they should be installed next to the NH208TVU, in the central equipment location. They do not require any additional transformers.

The DO-001A (or equivalent 16VAC type) electric door release is installed in the door jamb in place of the regular door strike plate.

WIRING

INSIDE HANDSET STATIONS

Between HT2006 master handsets, run 5 conductor #22AWG (common) plus 1-conductor (selective) #22AWG cable from handset to handset (equal to no. of total handsets on system). Add 1 additional #22AWG common wire for any of the following options; 1 wire for each call button at the door station; 1 wire for each button to be used for electric door release; 1 wire for each paging zone; etc. Run a 5 conductor #22AWG cable from any of the HT2006 master handsets to the NH208TVU at the central equipment location. Additional cables may be used to serve other stations on other risers (lines). Cables may be straight or twisted pair type and may be solid or stranded conductors.

Route cable away from AC power wiring, transformers, fluorescent lights, light dimmers or other electrical devices. Protect cable from damage. Shielded cable should be used if AC interference is a concern, or if cables cannot be run adequately spaced away from any source of electrical interference.

DOOR ENTRY STATION

Run 3 conductor #22AWG cable from speaker/microphone to the NH208TVU amplifier. We recommend using shielded cable from the speaker/microphone wires to the NH208TVU amplifier/power supply. Run the #22AWG pushbutton wiring as well. Route cable away from inside station cable, AC power wiring, transformers, fluorescent lights, light dimmers and other electrical devices. Protect cable from damage. Shielded cable should be used if AC interference is a concern.

DOOR RELEASE

Run 2 conductor #18AWG from the electric door release location to the NH208TVU amplifier. If distance is greater than

50 feet, use #16AWG cable. Use a separate cable from the intercom cable, and route away from any intercom wiring.

CONNECTIONS

Before connecting, make certain wires are free from shorts or grounds. Make connections as shown on following pages and as detailed in the following instructions.

INSIDE MASTER HANDSET STATIONS

1. Connect terminals 'T', 'O', 'M' and 'S' on HT2006 handset stations to terminals 'T', 'O', 'M' and 'S' on other HT2006 handset stations and to terminals 'T', 'O', 'M' and 'S' on the NH208TVU amplifier.
2. Connect terminals 'E' on HT2006 handset stations to terminals 'E' on other HT2006 handset stations and to terminal '8V' on the NH208TVU amplifier.
3. Terminals 1 thru 5 (on HT2006/5) and 1-10 (on HT2006/10) handsets are the calling-out 'selective' terminals to call other master handsets (or electric door release).
4. Terminal 'Z' is the calling-in 'selective' terminal on each master handset that identifies the handset number (#) being called from the other handsets.
5. Connect terminal 'R' on each individual handset to the corresponding push-button at the entry door station, that is used to signal that handset station (thru the R2006 AlphaTone™).

DOOR ENTRY STATION (for single entrance systems)

1. Connect speaker/microphone terminals 'L', 'B' and 'U' on door entry station to terminals 'L', 'B' and 'U' on the NH208TVU amplifier.

TRANSFORMER

1. Connect transformer 16VAC terminals to the 16VAC input terminals on the NH208TVU amplifier/power supply. Do not use this transformer to power any other device, not included on this system.
2. Do not plug SS146 (plug-in) transformer into electrical outlet or connect SS106 transformer primary to 117 VAC until entire installation is complete and checked.

FINISH INSTALLATION

1. Install stations on housings. Do not overtighten screws.
2. Install amplifier and accessory devices as needed.
3. Plug SS146 transformer into outlet. If SS106 transformer is used, connect primary to 117 VAC. Observe all local and national electrical codes.

TEST AND CHECKOUT

1. At all inside handset stations, make sure the handsets are hung-up and seated properly on the cradle switch, and that no wires were 'pinched' when handset covers were affixed.
2. Check each unit in the system for operation in accordance with the operating instructions.
3. If feedback occurs between stations, check wiring and check for any loose speaker and/or microphone connections inside the handset(s). Also, try reducing volume to door speaker(s). Amplifier volume control is preset at the factory, but may be readjusted, if necessary.

NOTE: The Alpha Communications® warranty is void if this system is installed or used in any manner other than described in this manual.

OPERATING INSTRUCTIONS

OUTSIDE DOOR STATION

TO CALL HANDSET: Push button on outside door station to signal inside handset(s). The AlphaTone™ electronic chime will be heard at the inside handset station(s) connected to that push button.

INSIDE HANDSET STATIONS

TO REPLY: Lift the inside handset off of its cradle and speak in a normal voice. Conversation is full duplex type (simultaneous talk and listen). If satisfied with the identity of the caller, you may depress the 'Door Release' push-button (1-5 or 1-10) to electrically open the entrance door (if so equipped). An AC type door opener will 'buzz' while operating, indicating permission to enter. When conversation is completed, hang-up handset on its cradle.

CALLING ANOTHER HANDSET STATION

Lift the calling handset off of its cradle and depress the button corresponding to the handset you wish to call, for a few seconds. The electric buzzer inside the handset being called will sound as long as the button is depressed. Wait for the other party to lift his/her handset to reply. Speak in a normal voice. Conversation is full duplex type (simultaneous talk and listen). When conversation is completed, hang-up both handsets on their cradles.

Special Note About CALLING HANDSET TO HANDSET: **It is important to lift the calling handset off of its cradle, BEFORE depressing the push button to call the other handset station. If you depress the push button first, and then lift the calling handset cradle, the door station(s) will not be disconnected and the inside conversation may be heard at the door station(s). This is due to the fact that when the handsets are hung-up, the relay that disconnects the door station is dis-engaged and re-enables conversation at the door station(s).**

TROUBLESHOOTING

If the system fails to operate as required, review operating instructions again. If the equipment fails to operate as indicated in the instructions, check the following points:

1. **ENTIRE SYSTEM DEAD:** Check 16VAC at transformer secondary; wiring between transformer and NH208TVU amplifier; connections at amplifier terminals and for 117 VAC at transformer primary.
2. **NO CALL BUZZER AT HANDSET:** Check for approx. 16VAC at terminals 'Z' and 'S' (on HT2006 handset) when called from another handset. Temporarily switch handset with one from a functioning location. Check wiring connections at handsets. Check that wiring inside handset base is not restricting movement of buzzer clapper; temporarily switch handset to another location that is functioning, and try again. Check

that the calling handset pushbutton is making contact, by shorting out the two (2) contacts on the pushbutton manually.

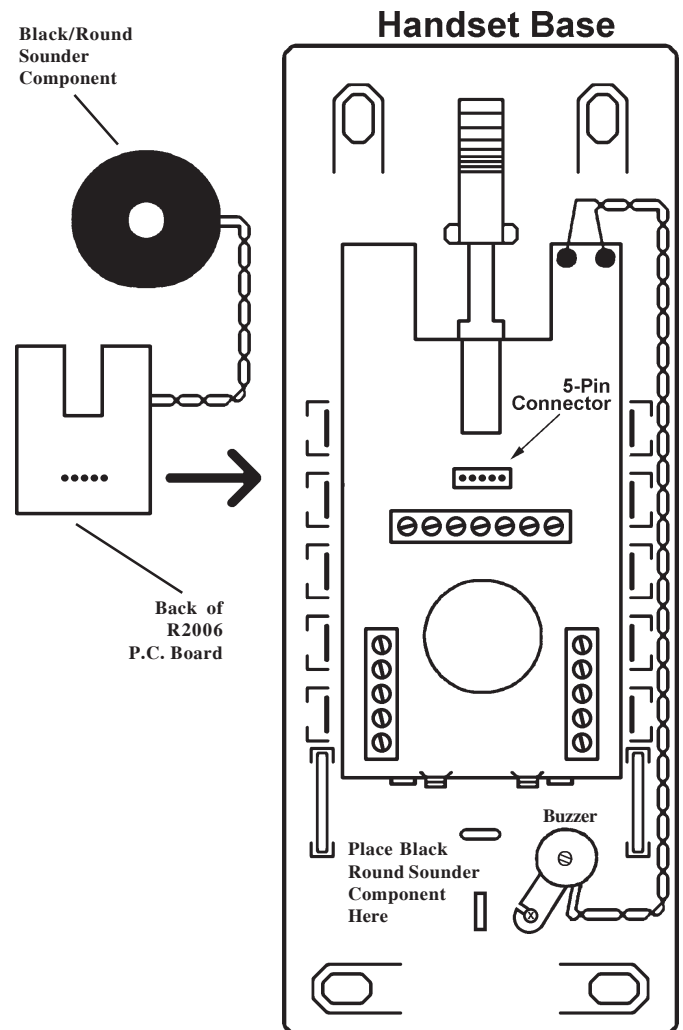
3. **NO CALL UP CHIME AT HANDSET:** Check for approx. 16VAC at terminals 'O' and 'R' on handset, when entry station pushbutton is depressed. Temporarily switch handset with one from a functioning location. Check wiring connections at handset. Temporarily switch handset to another location that is functioning, and try again. Check that entry station pushbutton is making contact, by shorting out the two (2) wires on the back of the button. Check that the R2006 AlphaTone™ chime module is seated properly on the multi-pin connector or replace with one from a functioning handset location.
4. **NO VOICE ON SYSTEM:** Check volume control (potentiometer) on NH208TVU amplifier. Check terminals 'T', 'O', and 'M' to handsets. Check speaker/microphone connections at each entry door station. Disconnect terminals 'T', 'O' and 'M' on NH208TVU system amplifier, and connect a single handset to those terminals. If voice is working, amplifier and entry speaker/microphone are O.K., so check riser wiring. If not, amplifier or speaker/microphone could be faulty. Check by replacement.
5. **UNABLE TO RELEASE DOOR STRIKE:** Check wiring to handset terminals 'E' and '(1-5 or 1-10 depending upon which one you are using for door release)'. Temporarily remove door opener wire going to handset terminals '(1-5 or 1-10)' and touch to terminal '8V' on NH208TVU. Check operating voltage of door opener matches output from system amplifier. Check wiring (and gauge) to door opener, from amplifier/power supply. When using a magnetic type lock or other 'fail-safe' type door lock, you should use a reversing relay, such as our model# PK407A for each entrance.
6. **HUM OR BUZZ:** Check system wiring installed too close to power wiring or electrical devices or transformers; check transformer(s) installed too close to control equipment (should be at least three (3) feet away). Wiring is being run next to wiring for other systems and/or devices.
7. **SQUEALING OR HOWLING:** Check wiring for pinching, crimping, crushing, shorting, or being too close to another source of audio interference. Make sure correct voltage transformer is being used to power the NH208TVU amplifier.

If these checkpoints fail to indicate the problem, there may be an equipment fault. Contact the factory or qualified service representative.

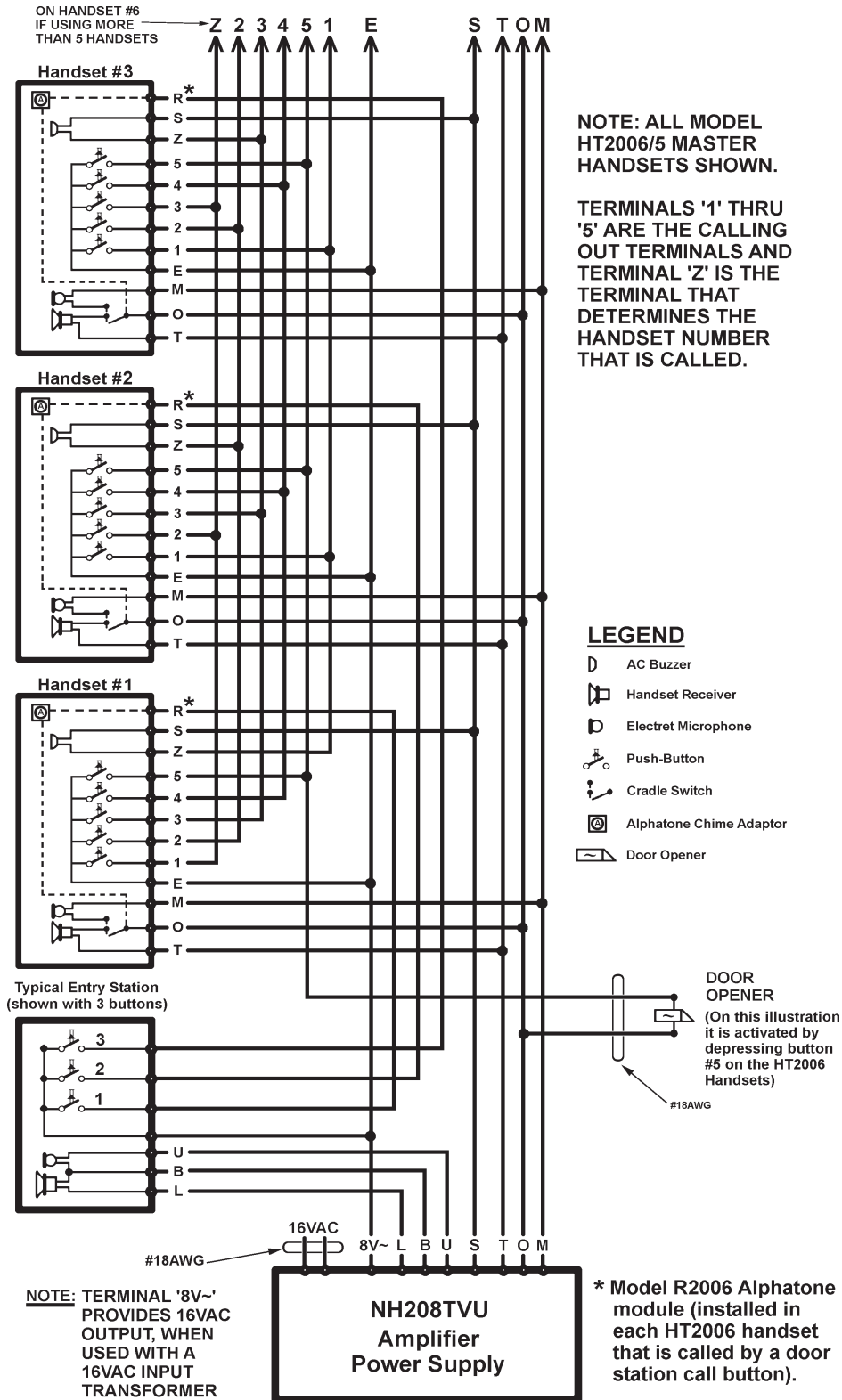
NOTE: Each HT2006 handset comes with a loose push button cap with a 'Key Symbol' on it. If you are using one of the 5 or 10 push buttons to activate an electric door release, you may (carefully) 'pop-out' the numbered cap and 'pop-in' the 'Key Symbol' cap, to make it easier to identify the door release push button. You do not need to do this to make the push button activate the electric door release.

INSTALLING THE R2006 AlphaTone™: For each HT2006 series handset that needs to be signaled (called) from the door entry station(s), you need to install the model R2006 AlphaTone™ unit. Please follow these instructions:

1. Turn off the power to the system by disconnecting the 120VAC primary power switch of disconnecting 1 side of the 16VAC transformer from the NH208TVU.
2. Locate the 5-pin male connector found under the handset cradle switch, on the handset's p.c. board.
3. Gently slide the female 5-pin connector on the R2006 p.c. board onto the 5-pin male connector on the handset's p.c. board, with the component side of the R2006 p.c. board facing downwards. Make sure the 5 pins align properly and are not bent or shorting and the p.c. board cut-out clears the cradle switch mechanism.
4. Peel the self-stick backing from the round black sounder component and stick to the handset base. The best location would be to the left of the (silver) electric buzzer.
5. Position the wires inside the handset base, so they will not get 'pinched' when the cover is placed over the base.
6. Re-connect the power to the NH208TVU amplifier.



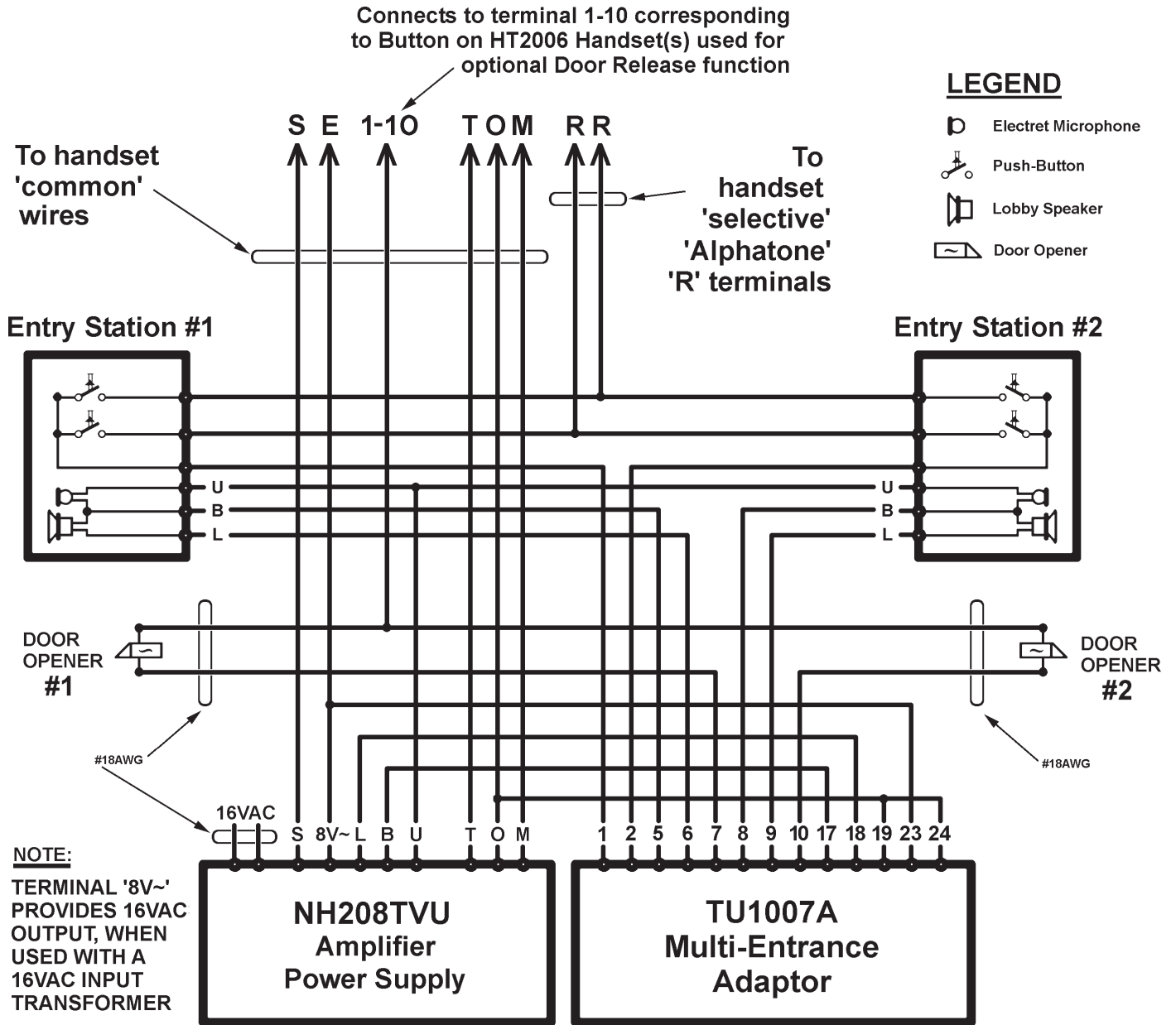
TYPICAL WIRING LAYOUT DIAGRAM FOR UP TO SIX (6) HT2006/5 MASTER HANDSET STATIONS AND 1 DOOR STATION



Notes:

1. All other wiring can be #22AWG unless shown otherwise. If any wire run exceeds 750 feet use #18AWG in place of the #22AWG.
2. The most recent NH208TVU has two (2) 'O' and '8V' terminals. They are duplicated for ease of wiring. You may use either or both. Both sets are internally connected together inside the NH208TVU on the p.c. board.
3. Observe all local and national electrical codes.
4. All terminals connections shown may not be in the order that they appear on the equipment.

**TYPICAL WIRING LAYOUT DIAGRAM FOR NH208TVU AMPLIFIER
USED WITH TU1007A DUAL ENTRANCE ADAPTOR
AND 2 DOOR STATIONS**



Notes:

1. All other wiring can be #22AWG unless shown otherwise. If any wire run exceeds 750 feet use #18AWG in place of the #22AWG.
2. The most recent NH208TVU has two (2) 'O' and '8V' terminals. They are duplicated for ease of wiring. You may use either or both. Both sets are internally connected together inside the NH208TVU on the p.c. board.
3. Observe all local and national electrical codes.
4. All terminals connections shown may not be in the order that they appear on the equipment.
5. See also the wiring diagram on page 4 for handset to handset wiring connections.

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