



HT3011 ReliaBUS™ Series Inside Handset Intercom Stations used with the SP300 Control Unit and STR™ Digital Series Modular Style Door Entry Station Installation and Use Instructions

APPLICATION

The HT3011 ReliaBUS™ series intercom system allows up to 120 or more (consult the factory) HT3011 inside handset stations to communicate with one or two STR™ modular type digital door entry stations, and to release the door opener at each door entry station. A number of optional accessories are available to provide a complete entry intercom signaling and communications system. The HT3011 ReliaBUS™ system requires only two (2) common 'bus' wires to the remote apt. handsets. Up to four (4) handsets may be used in parallel in each apartment/suite (see special notes on page 4).

PROCEDURE

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

HOUSING INSTALLATION AND EQUIPMENT LOCATION

INSIDE HANDSET STATIONS

Locate handset stations where needed, at convenient speaking height, about 4.5 feet (137cm) from the finished floor. Handset 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 digital door station(s) at convenient speaking height on exterior wall near entrance. Door stations must be the correct DTSM (or equivalent) 'modular' type speaker and electret condenser microphone installed.

SP300 / SP300E CONTROL UNIT(S)

The SP300 and SP300E (if used) are usually located in a separate equipment location. You can mount the SP300/SP300E by using the provided plastic 'DIN RAIL' mounting strip. Locate the SP300/SP300E 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/POWER SUPPLY

The NTR211 transformer/power supply should be installed near an accessible source of 117VAC, preferably within 50' (15 meters) of the SP300, but no closer than 3 feet (1 meter) from the SP300 control unit. Connect the NTR211 to the 117VAC power by means of an electrical cord and plug.

DUAL ENTRY ADAPTOR

For dual entrance installations, no multi-entrance adaptors are required. The HT3011 ReliaBUS™ system has built in intelligence and electronics that can automatically determine which door entry station placed a call to the apt. handset, and the system will automatically switch the voice and door release functions to the calling entrance.

The DO-001A (or equivalent 12VAC type) electric door release is installed in the door jamb in place of the regular door strike plate, at each entry door.

WIRING

INSIDE HANDSET STATIONS

Run 2 conductor (common) #22AWG cable from station to station and to the SP300 control unit. 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. Polarity is not important.

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(S)

Run 2 conductor #22AWG (bus) cable from DTSM speaker/microphone module to the SP300 control unit. If the SP300 control unit is not mounted behind the entry door station, and is mounted remotely, we recommend using shielded cable from the speaker/microphone module to the SP300 control unit. 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.

If you wish to have the door entry station(s) illuminated, run a separate 2-conductor #22AWG cable from the NTR211 power supply (8V output terminals) to the door entry station terminals '0' and '8V' (at each door station).

DOOR RELEASE

Run 2 conductor #18AWG from the electric door release location to the SP300 control unit. 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 HANDSET STATIONS

1. Connect the two (2) common 'bus' wires to the two (2) handset terminals marked 'BUS'. Polarity is not important on these two (2) wires.
2. Terminals 'ET' on each handset station are optional terminals, and only used if you have a momentary low-voltage pushbutton outside of each apartment's entry door, to provide a 2nd signal indicating that the visitor is at the individual apt. door.

DOOR ENTRY STATION(s)

1. Connect the two (2) terminals marked 'BUS' on each DTSM speaker/microphone module to the two terminals marked 'BUS' (and ground) on the SP300 control unit. There are two (2) sets of terminals marked 'BUS' (and ground) on the SP300 control unit. You can use either set to connect to the door station(s) and/or to the inside handsets. 'BUS' wiring polarity does not matter!

POWER SUPPLY

1. Using the provided cable that comes with the NTR211 power supply, plug the NTR211 into the SP300 control unit. Do not force the connectors, as they are polarized to plug-in to the SP300 in only one direction.
2. Do not connect the NTR211 transformer primary to 117VAC until entire installation is complete and checked.

DOOR OPENER

1. Connect the two (2) wires from 12VAC door opener #1 (at entrance #1) to SP300 terminals 'TO' only.
2. Connect the two (2) wires from 12VAC door opener #2 (at entrance #2) to SP300 terminals 'LT' only, if a second door entry station is being used.

NOTE: POLARITY OF AC TYPE DOOR OPENER TERMINALS IS NOT CRITICAL, BUT DOOR OPENER MUST BE 12VAC (MAXIMUM 1A) TYPE ONLY.

FINISH INSTALLATION

1. Install stations on housings. Do not overtighten screws.

2. Install SP300 (and SP300E) control unit(s) and accessory devices as needed.
3. Connect NTR211 power supply to 117VAC. Observe all local and national electrical and building codes.

TEST AND CHECKOUT

1. At all inside handset stations, make sure all handsets are hung-up and seated properly on the cradle switch, and that no wires were 'pinched' when handset covers were secured.
2. Check each unit in the system for operation in accordance with the operating instructions.
3. If feedback occurs between stations, reduce volume. Speaker/microphone volume controls are 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
(USED ONLY AFTER SYSTEM IS
PROGRAMMED - SEE PAGES 5 AND 6 FOR
FULL PROGRAMMING INSTRUCTIONS!!)

OUTSIDE DOOR ENTRY STATION

TO CALL HANDSET: Scroll the electronic directory (using the UP and DOWN arrows) on the outside door entry station to select the desired resident. Press the 'BELL' symbol to signal the inside handset. An electronic tone will be heard at the inside handset station, indicating that a visitor is at the building entrance, and wishes to be let in. If you know the direct number to call the resident (instead of scrolling the directory) you can enter the number and press the 'BELL' symbol to signal the inside handset. The 'C' button is the CLEAR button, if the wrong code is entered.

INSIDE HANDSET STATIONS

TO REPLY: Lift the inside handset off of its cradle (within 45 seconds of being called) and speak in a normal voice. Conversation is duplex type (digitally switched for talk and listen). If satisfied with the identity of the caller, you may depress the 'Key Symbol' push-button 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. For your safety and the safety of your fellow residents, do not 'buzz' in any visitors that you cannot positively identify, or that do not belong inside the building.

OUTSIDE APT. DOOR (if so equipped and wired)

TO CALL HANDSET: Push button outside individual apt. door to signal inside handset. A different electronic tone will be heard at the inside handset station, indicating that visitor is at your apt. door. Go to your apt. door and greet your visitor(s).

TROUBLESHOOTING

If the system fails to operate as required, review operating instructions again and check the following points:

- 1. ENTIRE SYSTEM DEAD:** Check wiring between NTR211 transformer and SP300 control unit; plug-in connector at control unit and for 117VAC at NTR211 transformer primary.
- 2. NO CALL UP SIGNAL AT HANDSET:** Check that the programming for that specific apt. handset to that entry door station pushbutton has been done properly, by re-programming (see page 6).
- 3. NO VOICE ON SYSTEM:** Check volume controls (potentiometers P1 and P2) on DTSM speaker/microphone module (in both directions; up and down).
- 4. UNABLE TO RELEASE DOOR STRIKE:** Check operating voltage of door opener matches 12VAC output from SP300 system control unit. Check wiring (and gauge) to door opener, from SP300 control unit. 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.
- 5. 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).
- 6. SQUEALING OR HOWLING:** Check DTSM speaker/microphone volume control(s) set too high; check for loose or damaged speaker/microphone module components at door entry station(s).
- 7. UNABLE TO TALK TO DOOR STATION:** Check DTSM speaker/microphone volume control(s) set too low; check for loose or damaged speaker/microphone module components at door entry station(s).
- 8. UNABLE TO LISTEN TO DOOR STATION:** Check DTSM speaker/microphone volume control(s) set too low; check for loose or damaged speaker/microphone module components at door entry station(s).
- 9. MISC. INFORMATION:** To check the SP300 output, using a DC volt meter, check the voltage across the 'BUS' output terminals. You should see approx. 20VDC to 21VDC with the apt. handsets, DB1 and DTSM connected, and hung-up. You should see approx. 24VDC with nothing connected except for the NTR211 power supply/transformer. If the voltages do not fall within these ranges, try replacing the SP300 control unit.

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

SPECIAL NOTES CONCERNING GENERAL SYSTEM WIRING AND USING MULTIPLE HT3011 HANDSETS IN PARALLEL IN 1 APARTMENT

- The 2-conductor wiring running to the HT3011 handsets can be solid or stranded, twisted pair or straight type, although twisted pair is recommended. It is important that you only use 2 wires to the 'BUS' terminals and DO NOT double up conductors to achieve a heavier wire gauge!
- You can use up to four (4) HT3011 handsets to be signaled from an individual door entry pushbutton, in one apartment/suite. When using more than one (1) HT3011 (in parallel) in each apartment, there are a few things you need to know; (a) each HT3011 in that apartment must have its IC (chip) replaced with one from a matched set. For 2 handsets use optional chip set #29002, for 3 handsets use optional chip set #29003 and for 4 handsets use optional chip set #29004. (b) unplug the existing IC Chip, and replace it with one from the matched set (see page 4 diagram), being careful not to bend the pins, (c) make sure to replace all of the IC chip sets into all of the HT3011 handsets being called in parallel BEFORE

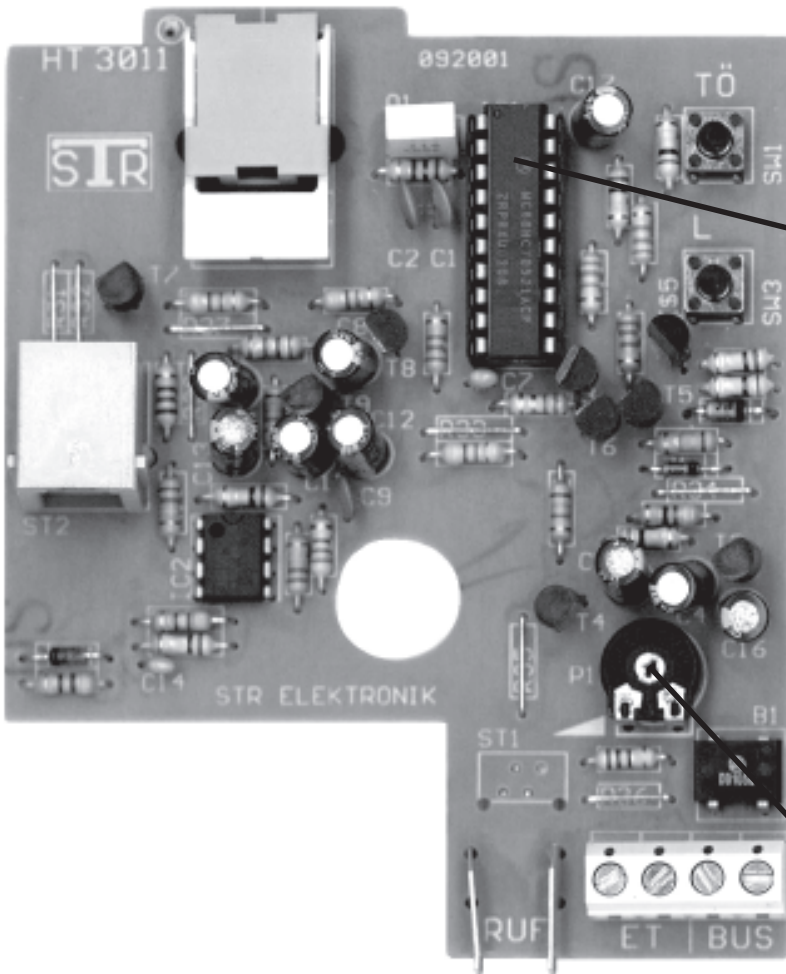
PROGRAMMING those handsets to the pushbutton at the door entry station(s), (d) when a visitor calls to an apartment with multiple HT3011 handsets, they will chime in sequence (i.e. 1 then 2 then 3 then 4). You will not be able to pick up any of the handsets to speak, or release the electric door strike, until ALL of the handsets have gone through their chiming sequence.

- The wiring going to the electric door release(s) MUST be in a separate jacketed cable from any of the intercom and/or 'BUS' or 8VAC illuminator wiring. Try to keep this wiring as far away from the other system wiring as possible.

- When using more than 40 and up to 120 HT3011 handsets, you must use the SP300E (Expander) unit in addition to the SP300 control unit. The SP300E does not require any additional power and is powered from the SP300 using the jumper wiring harness provided. When using the SP300E, do not connect any of the HT3011 handsets to the 'BUS' terminals on the SP300, but only to the 'BUS' terminals on the SP300E (30 maximum for each of 4 output 'BUS' lines).

- When using any shielded cables, do not connect the shields or drain wires. Leave the shield connections "floating".

PC Board Inside HT3011 Handset



NOTES: When connecting multiple HT3011 Handsets (in parallel) in one apartment/suite, you must replace this IC (chip) with one from a matched set of 2 (optional model #29002) or 3 (optional model #29003) or 4 (optional model #29004), before programming the handsets.

On the matched chip sets you will see only one of the chips will have a single black line (slash) on it, and the other chip(s) will have multiple lines (slashes). When programming the handset (on page 6) you only need to program the handset with the chip with the single black line (slash). When using multiple handsets in one apt. you must use programming option #1 (on page 6) only, and not programming option #2!

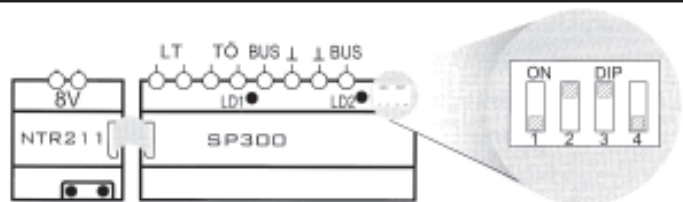
Call Chime Volume Control

SPECIAL NOTES CONCERNING DIPSWITCH SETTINGS ON THE SP300 CONTROL UNIT and SP300E (Expander) if used

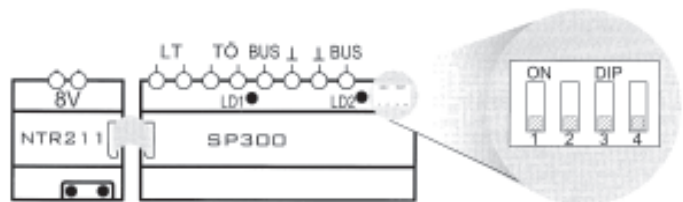
The SP300 has a 4-position DIP Switch on the upper right hand corner, which sets the SP300 to a 'single' or 'dual' entry station operation mode. See page 6 for dual entrance entry panel programming instructions.

The SP300 comes set from the factory for 'single' entrance operation. Make sure the DIP Switch is set correctly, depending on whether you are using the SP300 with a 'single' or with 'dual' door entry stations, as shown on the illustrations herein.

When using the SP300E (Expander) all four (4) DIP Switches on the SP300E must be in the DOWN (OFF) position.



**SP300 DIP SWITCH SETTINGS
FOR 'SINGLE' ENTRY SYSTEM
(after all programming is completed)**



**SP300 DIP SWITCH SETTINGS
FOR 'DUAL' ENTRY SYSTEM
(after all programming is completed)**

SYSTEM PROGRAMMING INSTRUCTIONS:

The HT3011 ReliaBUS™ system must be programmed properly, before it can be used. It is **HIGHLY RECOMMENDED** that you first program the resident's names into the door entry station(s), and **THEN PROGRAM** the HT3011 handsets. The digital-dial door station programming is found (below) on this page, and the HT3011 handset programming is found on page 6. **NOTE:** Each digital door station must be programmed separately.

Programming the digital door station can be done **Manually** by using the Keypad Module on the door station. This method is recommended for small buildings, or for quick name changes, when a resident moves in or out of the building. For larger buildings, new installations and/or buildings with multiple door stations, we recommend programming the digital door station(s) using the STR™ uploader software, connected to a Windows compatible PC or laptop computer.



How to program the Digital Door Station (Manually):

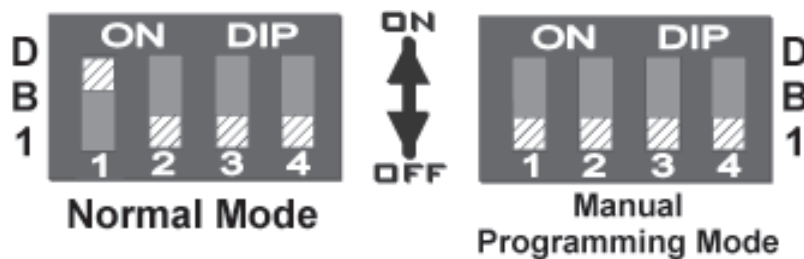
1. Under the digital door station's LCD display and keypad modules is the DB1 digital control PC board. On the DB1 board there is a 4-position DIP Switch labelled SW1. If the SP300E (Expander) is used, Dip Switch #4 must always be 'ON'!
2. Set the 4-position DIP Switch SW1 (on the DB1) all to the 'OFF' position for programming mode (see above diagram).
3. Press the UP or DOWN arrow (doesn't matter which one), one time. The Apt. List will be displayed.
4. Select the name or Apt. Nr. you would like to change, using the UP/DOWN buttons.
5. Press button 2 in order to start changing the Name/Apt. Nr. The cursor will indicate the first letter of the Name.
6. Now press the DOWN arrow button to go down with the cursor until you reach the line with the letter you would like to use.
7. Press the RIGHT arrow button until you reach the letter you want to select.
8. By pressing the button with the BELL symbol, you save the letter and the letter will be placed in front of the existing name.
9. By using the ARROW buttons, move the cursor to the position where the letter should be placed and press the BELL button.
10. Repeat programming steps 6 to 9 for changing the entire Name. You can use up to a MAXIMUM of 11 characters for one Name.
11. In order to change the 4-digit Apt. Nr. (which is placed behind the Name), move the cursor to the first number by using the ARROW buttons.
12. If you want to use Apt. Nr. 0051 (for example), press '0', press BELL symbol and then move to the next position of the Apt. Nr., then press '0', press BELL symbol and then move to the next position of the Apt. Nr., then press '5', press BELL symbol and then move to the next position of the Apt. Nr., then press '1', and then press BELL symbol.
13. Press button 'C' to store the Name and Apt. Nr.
14. Finally, DIP Switch 1 (on the DB1 switch SW1) to the 'ON' position and make sure the other 3 switches are 'OFF' (normal mode), unless you are using the SP300E, in which case Switch 4 must always be 'ON'.
15. If there are additional digital door stations, you must repeat all of the above steps for EACH digital door station!
16. Go to page 6 and program the HT3011 handsets.

How to program the Digital Door Station (Automatically):

1. Install the STR™ uploader software into your Windows compatible PC or laptop computer. Enter all of the resident's names into the software's database, as instructed by the software.
2. Plug the provided cable from your serial port (on your PC) to the 9-pin female connector on the DB1 board.
3. Set the 4-position DIP Switch SW1 (on the DB1) all to the 'OFF' position, except for Pin 2, which should be 'ON' for programming mode (see above diagram). If the SP300E (Expander) is used, Dip Switch #4 must always be 'ON'!
4. Using the STR™ uploader software, UPLOAD all of the programmed names into the DB1 board.
5. Finally, restore all DIP Switches (on the DB1 switch SW1) to the Normal Mode positions (shown above).
6. If there are additional digital door stations, you must repeat all of the above automatic programming steps for EACH digital door station!
7. Go to page 6 and program the HT3011 handsets.

PROGRAMMING OPTION #1 (USING HT3011 APT. HANDSET)

1. IMPORTANT: Make sure that ALL of the apt. handsets in the entire building are 'hung-up' on their handset cradles.
2. Move DIP Switch 1 (on the DB1) to the 'OFF' position (programming mode). If you are using the SP300E (Expander) unit move DIP Switch 1 (on the SP300E) to the 'ON' position.
3. Lift the apt. handset you want to program and keep handset 'off-hook'. You can now speak to the door entry station.
4. Select the name/code at the door entry station that you want to program to the handset that is 'off-hook', by using the UP/DOWN arrow buttons. Press the BELL symbol button. You will hear 4 tones in the loudspeaker of the DTSM.
5. Hang up the handset.
6. Repeat programming steps 3 to 5 for all apt. handsets and for all door entry names/codes to program (for each door entry station as well, on multi-entrance systems).
7. Move DIP Switch 1 (on the DB1) to the 'ON' position (normal mode).



PROGRAMMING OPTION #2 (USING INDIVIDUAL APT. PUSHBUTTON)

Note: this option can only be used on systems that have an individual apt. door pushbutton connected to HT3011 handset terminals 'ET', and NOT for apartments using multiple HT3011 handsets.

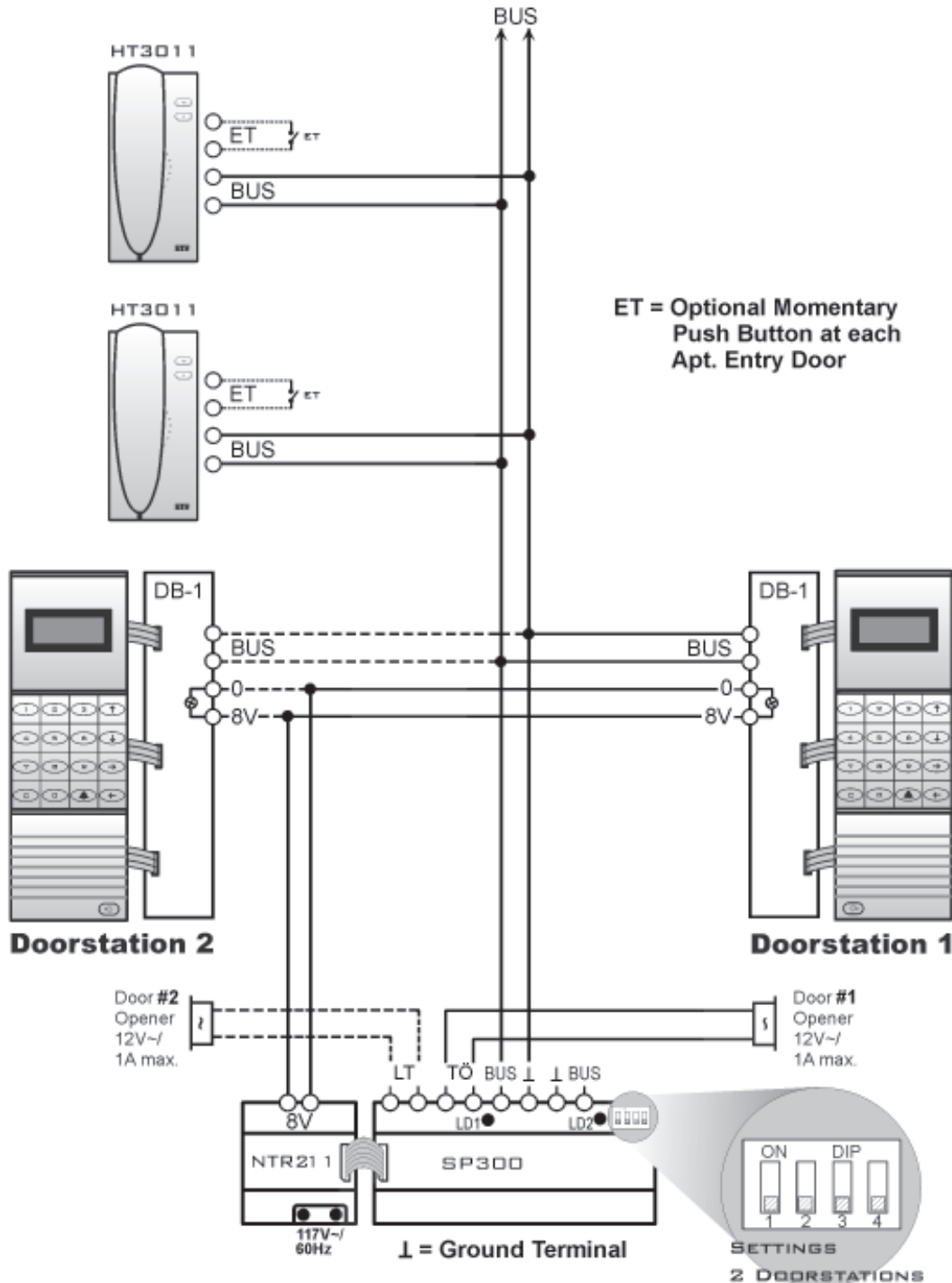
1. IMPORTANT: Make sure that ALL of the apt. handsets in the entire building are 'hung-up' on their handset cradles.
2. Move DIP Switch 1 (on the DB1) to the 'OFF' position (programming mode). If you are using the SP300E (Expander) unit move DIP Switch 1 (on the SP300E) to the 'ON' position.
3. Press the pushbutton at the individual apt. door of the handset that you want to program. (Pushbutton is connected to terminals 'ET' at that apt. handset).
4. Select the name/code at the door entry station that you want to program to the handset that is 'off-hook', by using the UP/DOWN arrow buttons. Press the BELL symbol button. You will hear 4 tones in the loudspeaker of the DTSM.
5. Hang up the handset.
6. Repeat programming steps 3 to 5 for all apt. handsets and for all door entry names/codes to program (for each door entry station as well, on multi-entrance systems).
7. Move DIP Switch 1 (on the DB1) to the 'ON' position (normal mode).

PROGRAMMING THE DOOR STATIONS (ON DUAL ENTRY SYSTEMS ONLY):

On Dual Entrance Systems you must 'program' the door stations, so the system knows which is Door #1 and which is Door #2, etc.

1. Move DIP Switch 1 (on the SP300) to the 'ON' position (programming mode). DIP Switches 2,3 and 4 should be 'OFF'.
2. Move DIP Switch 4 (on the SP300) to the 'ON' position. Press any ONE call button on Door Entry Station #1.
3. Move DIP Switch 4 (on the SP300) to the 'OFF' position. Press any ONE call button on Door Entry Station #2.
4. Move DIP Switch 1 (on the SP300) to the 'OFF' position. Door Station programming is now complete.
5. See the DIP Switch settings shown on the bottom of page 4, to see how the SP300 (and SP300E) DIP Switches should be set, after all programming of handsets and door entry stations is completed.

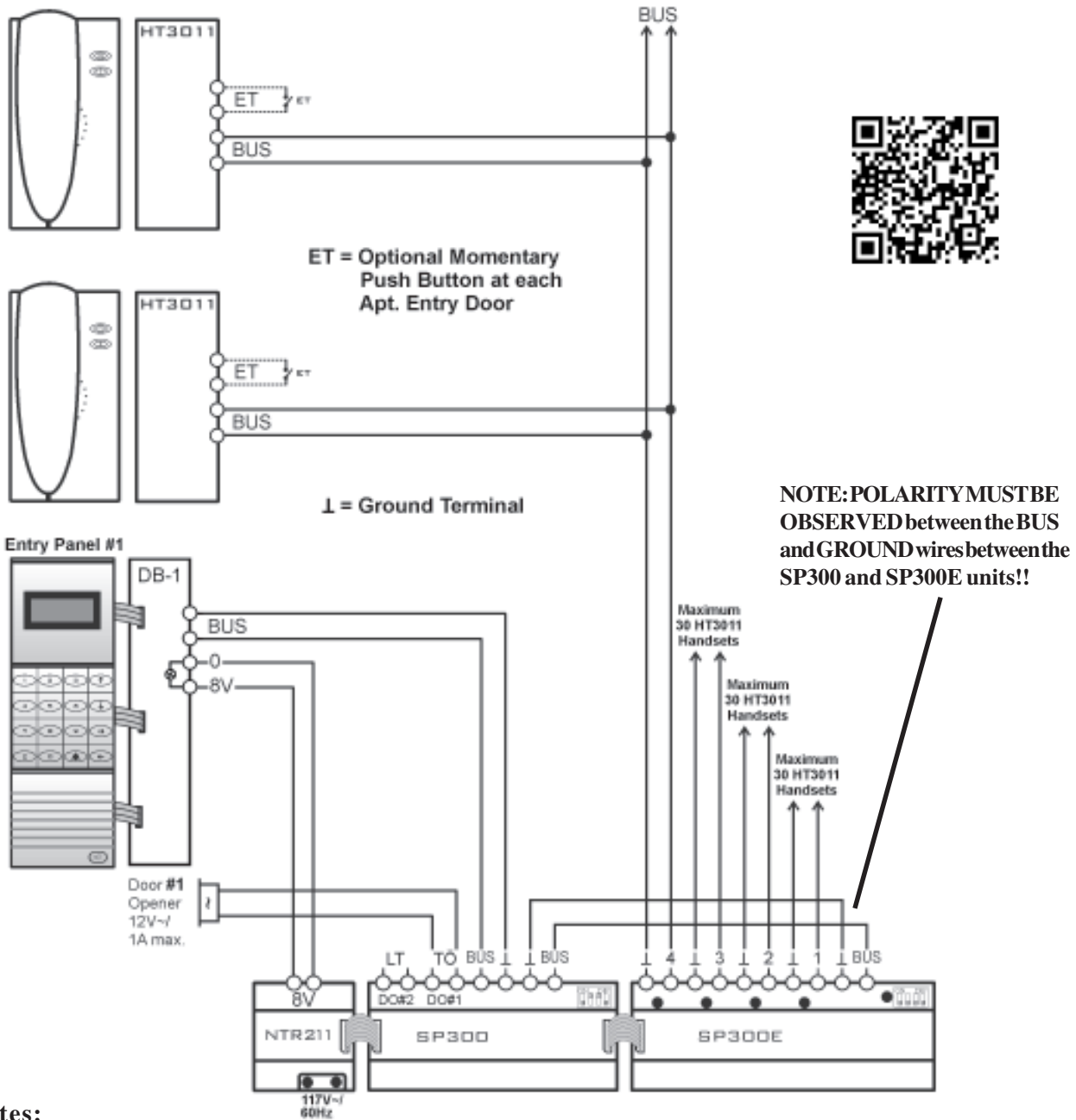
**TYPICAL WIRING LAYOUT DIAGRAM FOR A SINGLE
(OR DUAL) ENTRANCE SYSTEM WITH UP TO 40 HT3011 REMOTE HANDSETS
DUAL ENTRANCE AND OPTIONAL COMPONENTS SHOWN IN DOTTED LINES**



Notes:

1. Use #18AWG wiring to transformer and door opener. All other wiring can be #22AWG.
2. All DUAL ENTRANCE and OPTIONAL COMPONENTS are shown in dotted lines.
3. Talk down/talk up volume can be adjusted using volume controls (potentiometers) P2 and P1 (respectively) on the DTSM speaker/microphone module.
4. When connecting to a magnetic door lock or other 'fail safe' type door lock or other voltage other than 12VAC, use the optional model PK407A specialty relay, for each entrance door lock.
5. If the SP300 control unit is not mounted behind the entry door station, and is mounted remotely, we recommend using shielded cable from the DTSM wires to the SP300 control unit.
6. Observe all local and national electrical and building codes.
7. All terminals and connections shown may not be in the order that they actually appear on the equipment.

**TYPICAL WIRING LAYOUT DIAGRAM FOR A SINGLE ENTRANCE SYSTEM
USING SP300E (EXPANDER) TO ALLOW 41 TO 120 HT3011 REMOTE HANDSETS
OPTIONAL COMPONENTS SHOWN IN DOTTED LINES**



Notes:

1. Use #18AWG wiring to transformer and door opener. All other wiring can be #22AWG.
2. All DUAL ENTRANCE and OPTIONAL COMPONENTS are shown in dotted lines.
3. Talk down/talk up volume can be adjusted using volume controls (potentiometers) P2 and P1 (respectively) on the DTSM speaker/microphone module.
4. When connecting to a magnetic door lock or other 'fail safe' type door lock or other voltage other than 12VAC, use the optional model PK407A specialty relay, for each entrance door lock.
5. If the SP300 control unit is not mounted behind the entry door station, and is mounted remotely, we recommend using shielded cable from the DTSM wires to the SP300 control unit.
6. Observe all local and national electrical and building codes.
7. All terminals and connections shown may not be in the order that they actually appear on the equipment.

ALPHA COMMUNICATIONS® • 42 Central Drive • Farmingdale NY 11735-1202
TOLL-FREE TECHNICAL LINE 1-800-666-4800 • Phone: 631-777-5500 • Fax: 631-777-5599
 WEBSITE: www.AlphaCommunications.com • EMAIL: info@alphacommunications.com