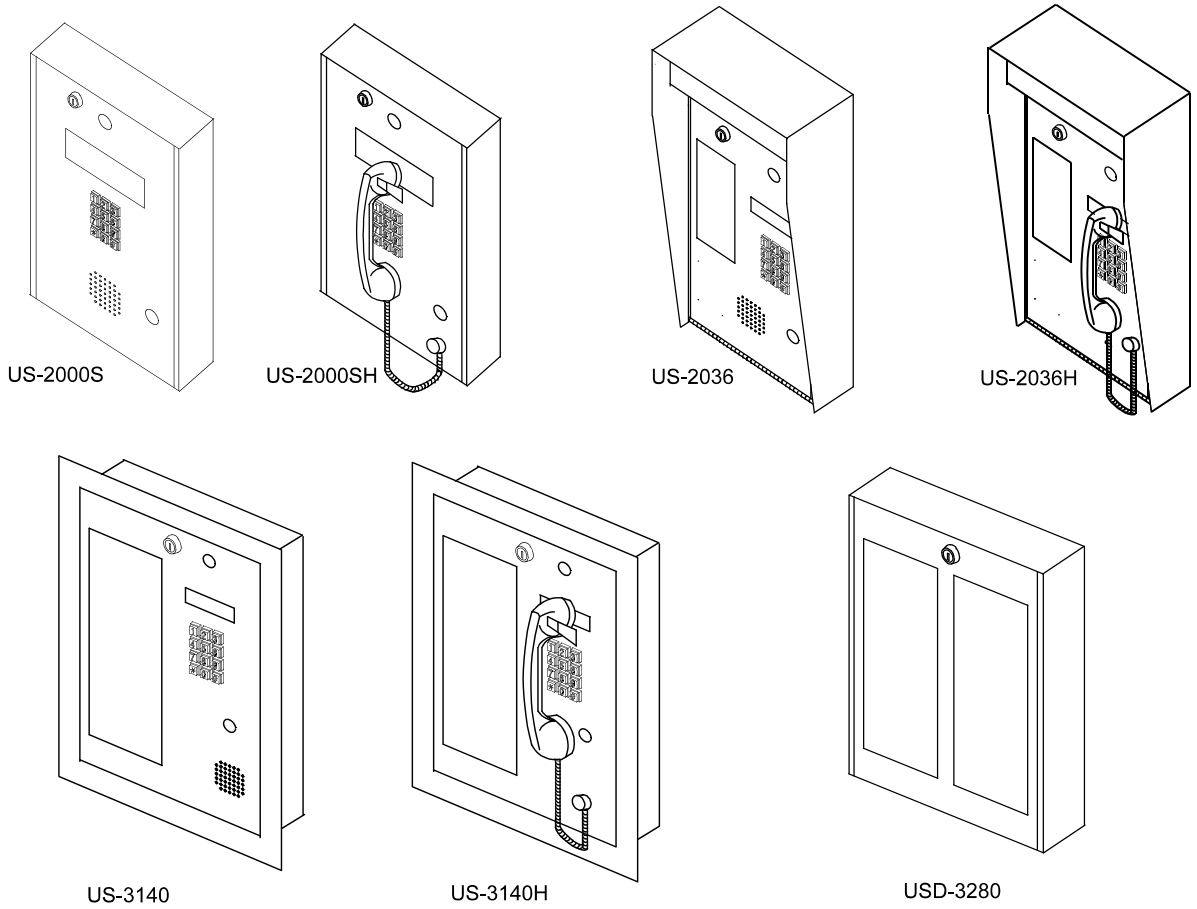
MIRCOM

TAS-2000 SERIES

Telephone Access System

Installation and Operation Manual



☞NOTICE

All information, documentation and specifications contained in this manual are subject to change without prior notice by the manufacturer.

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INTRODUCTION AND GENERAL NOTES

Mircom's **TAS-2000 Series of Telephone Access Units** provides high quality two way communication between residents and their visitors in a multi-unit dwelling establishment.

The TAS-2000 may be used as an NSL system which does not require a subscriber phone line since it uses the existing telephone lines for communication, this is known as the non-subscriber line access (NSL). The TAS-2000 may be used with a dedicated subscriber phone line, this is known as the auto dialler telephone access (ADC).

Both system setups can be configured for multiple entrances with independent doors and control devices such as electric door locks, cameras and garage doors. The TAS-2000 system can be operated in two basic modes ...

ADC: (**AutoDialler**) This mode uses one or more **Lobby Units** connected to an outside Telephone Line for calling access to **Suites**. This mode also allows the visitor access to any voice mail capabilities and call waiting if present on the resident telephone line.

NSL: (**Non-Subscriber Line**) This mode uses one or more **Lobby Units** connected to **2008M NSL Units** in the electrical/telephone room of a building. The NSL Units intercept all Telephone Lines into the Building's Suites, allowing the system to seize the line after checking to see if it is in use, and call the Suite.

Other features include ...

- ✓ Storage for large numbers of Residents / Suites (see individual Lobby Unit specs for details).
- ✓ Lobby Unit models available with simple numeric entry (type in the Suite Number found on a list near the Lobby Unit) or with **Scrolling Directory** (A list of Resident / Suite Names appears on the electronic Lobby Unit Display).
- ✓ DTMF or Rotary Dial service.
- ✓ Many features are configurable per Suite.
- ✓ Door Override connection for fire alarm; doors will open during emergency.
- ✓ Built-in Post Office Lock micro switch.
- ✓ Connection for "Lock Back" door contact to provide door timer cutoff to prevent "tailgating".
- ✓ Microcontroller based design with Data Protection on stored memory and configuration.
- ✓ Configuration may be entered via the Lobby Unit keypad and display or via optional Personal Computer Configuration Software (Windows 95/98 based).
- ✓ Tri-lingual Display - select from English, French and Spanish.
- ✓ Event History Log for visitors and keyless entry.
- ✓ Extensive Transient Protection.
- ✓ Watch Dog Timer circuit to automatically reset the unit to eliminate system latch-up.
- ✓ Uses energy-limited transformers for power supplies.

The TAS-2000 System includes the following Module Types ...

● **Lobby Unit Main Board**	Model **2001** (Main Board) available in various Resident Capacities.
● **Lobby Unit Enclosures & Displays**	Various enclosure styles.
● **NSL Unit**	Model **2008M** (incl. Box, NSL Controller & one NSL 8 Relay Board Backplane)
● **NSL Expander Units**	Models **2008** (Box & one NSL 8 Relay Board Backplane) and **2016** (Box & two NSL 8 Relay Board Backplane); up to 16 Backplanes total may be used.
● **NSL Relay Board**	Model **2012** (12 Residents each; up to 8 may be used with each 2008/2016).
● **Elevator Restriction Unit**	Model **2008E** (incl. Box, Elevator Controller & one 8 Relay Board Backplane).
● **Elevator Relay Board**	Model **2012E** (12 Elevators each; up to 8 may be used with each 2008E).

INDUSTRY CANADA NOTICE FOR ALL TAS-2000 PRODUCTS SOLD IN CANADA

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunication company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradations of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alteration made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure for their own protection that the **Earth Ground** connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This is necessary both for proper operation and for protection.

CAUTION: *Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.*

NOTICE: *The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.*

FCC NOTICE FOR ALL TAS-2000 PRODUCTS SOLD IN THE USA

Type of Service: The **TAS-2000** is designed to be used on standard device telephone lines. It connects to the telephone line by means of a standard jack called the USOC RJ-11C (or USOC FJ45S). Connection to telephone company provided coin service (central office implemented systems) is prohibited. Connection to party lines service is subject to state tariffs.

Telephone Company Procedures: The goal of the telephone company is to provide you with the best service it can. In order to do this, it may occasionally be necessary for them to make changes in their equipment, operations or procedures. If these changes might affect your service or the operation of your equipment, the telephone company will give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service.

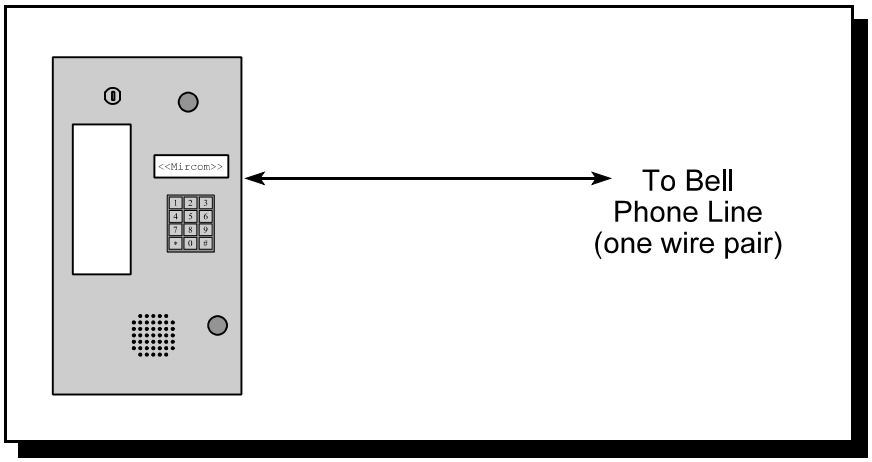
In certain circumstances, it may be necessary for the telephone company to request information from you concerning the equipment which you have connected to your telephone line. Upon request of the telephone company, provide the FCC registration number and the ringer equivalence number (REN); both of these items are listed on the equipment label. The sum of all of the REN's on your telephone lines should be less than five in order to assure proper service from the telephone company. In some cases, a sum of five may not be useable on a given line.

If Problems Arise: If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line, as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily discontinue service. When practical, they will notify you in advance of this disconnection. If advance notice is not feasible, you will be notified as soon as possible. When you are notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC. Contact your telephone company if you have any questions about your phone line. In the event repairs are ever needed on the Communicator, they should be performed by Mircom Technologies Ltd. or an authorized representative of Mircom Technologies Ltd. For information contact Mircom Technologies Ltd. at the address and phone numbers shown on the last page of this document.

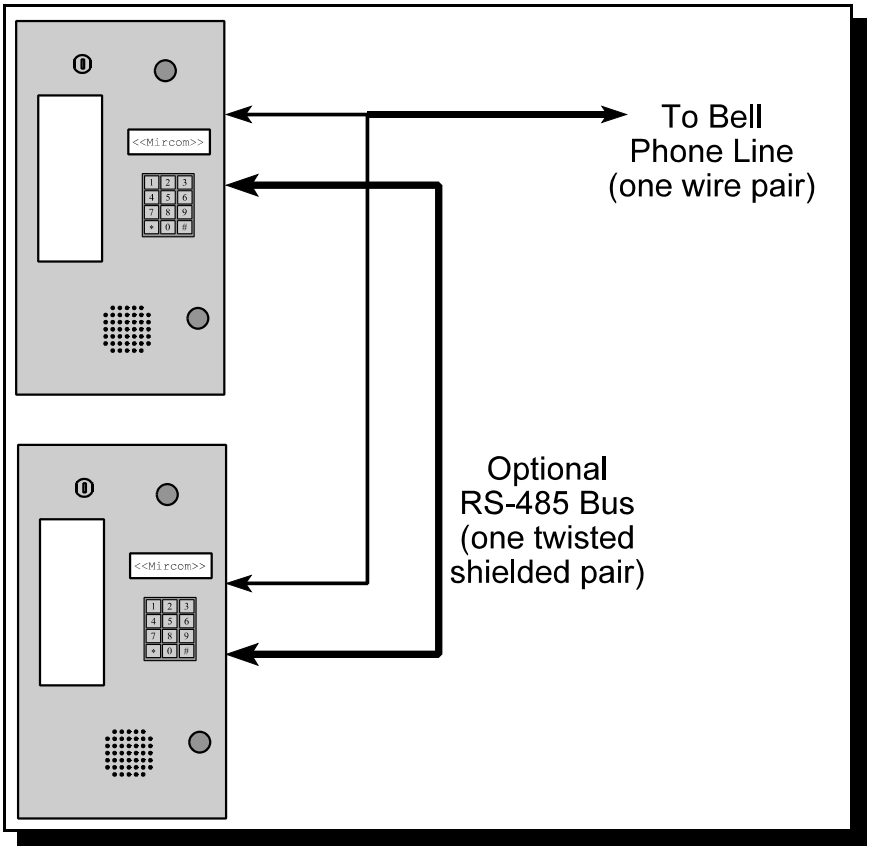
ADC CONFIGURATIONS

There are many architectural configurations possible for the TAS-2000 System, but all will fall into either ADC AutoDialler or NSL groups. ADC operation uses the **Bell Phone Lines** (or other local telephone company) to communicate to Residents in a building.

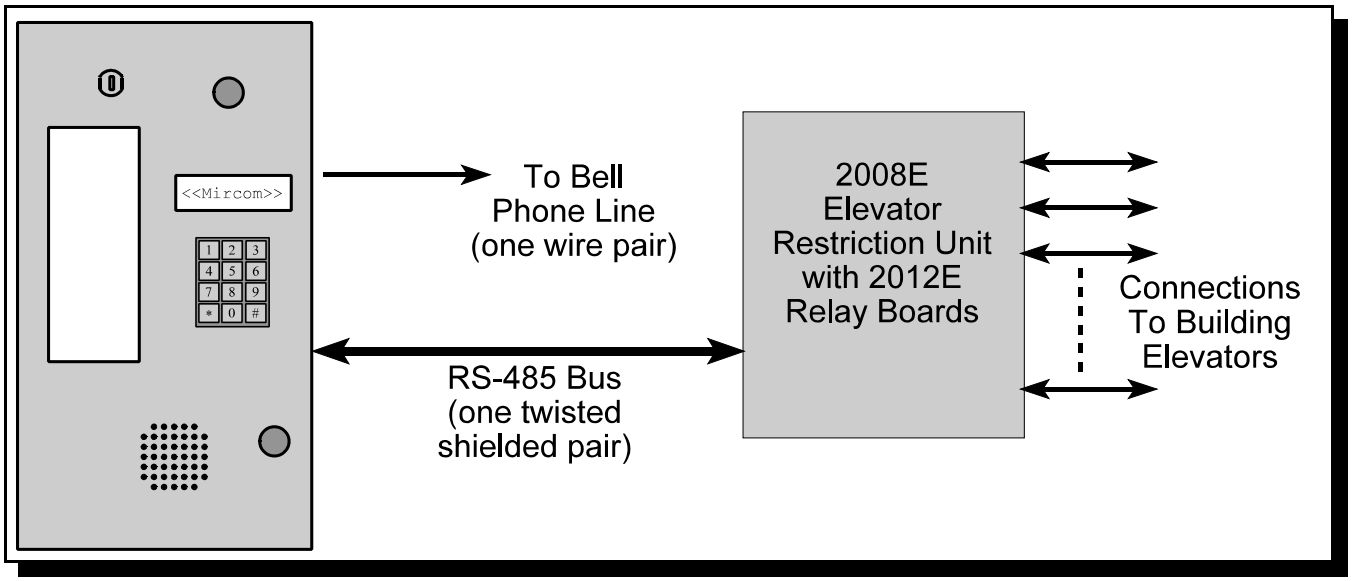
The simplest ADC configuration using one Lobby Unit.



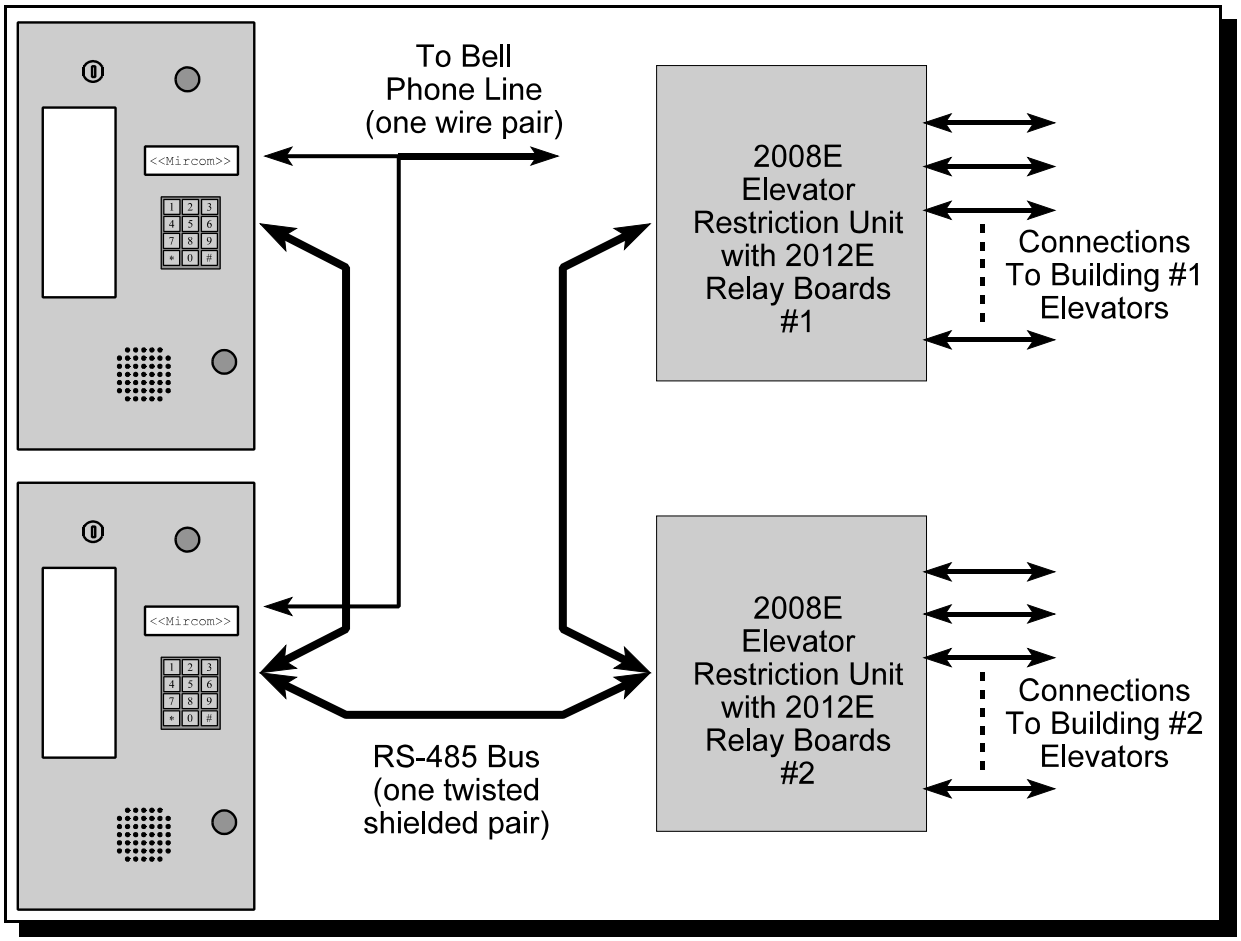
A dual Lobby Unit ADC configuration sharing one Bell Phone Line. The RS-485 Bus is not actually required, but may be installed to allow for future expansion to Elevator Restriction Units, or for remote configuration. Each Lobby Unit has the capability of sensing the telephone line's availability.



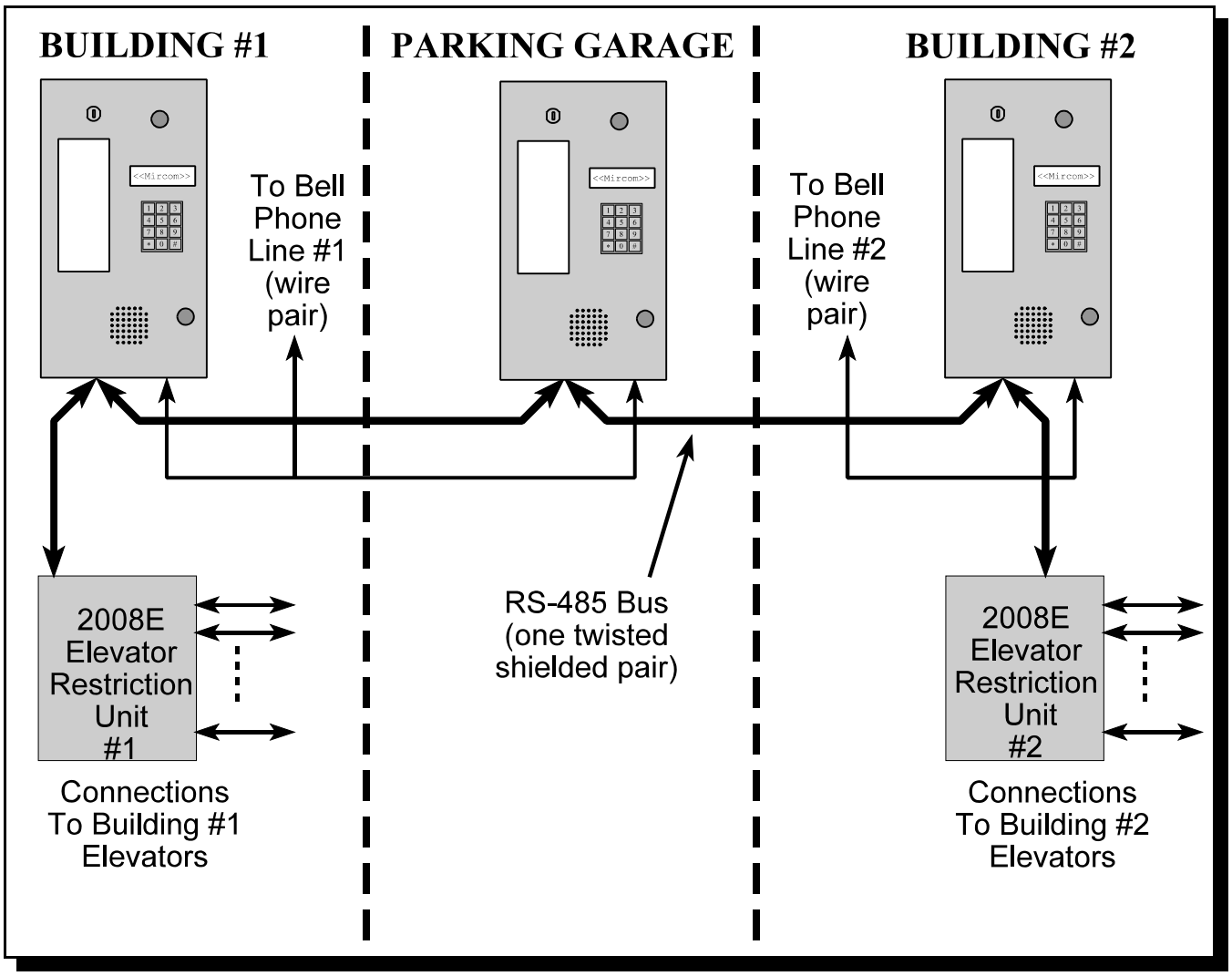
A single Lobby Unit ADC configuration with a 2008E Elevator Restriction Unit.



A two building, dual Lobby Unit ADC configuration sharing one Bell Phone Line, with 2008E Elevator Restriction Units.



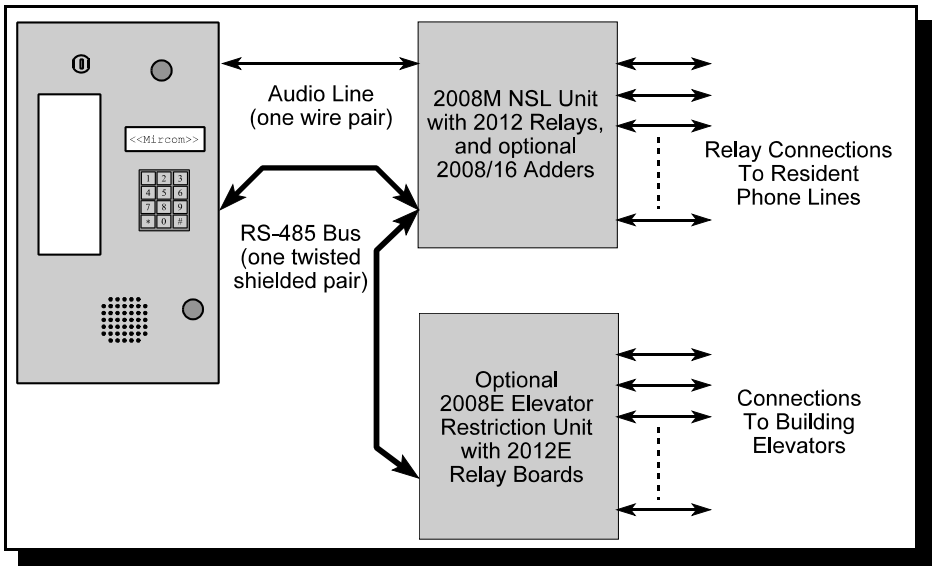
A two building, three Lobby Unit ADC configuration. The Parking Garage and Lobby Unit shares one Bell Phone Line with Building #1. Each Building has a 2008E Elevator Restriction Unit. All three Lobby Units could share the same Bell Line, but if one Lobby Unit is used, the other Lobby Units show a system busy and cannot be used until that line is available again. Also possible is that each Lobby Unit has its own Bell Line.



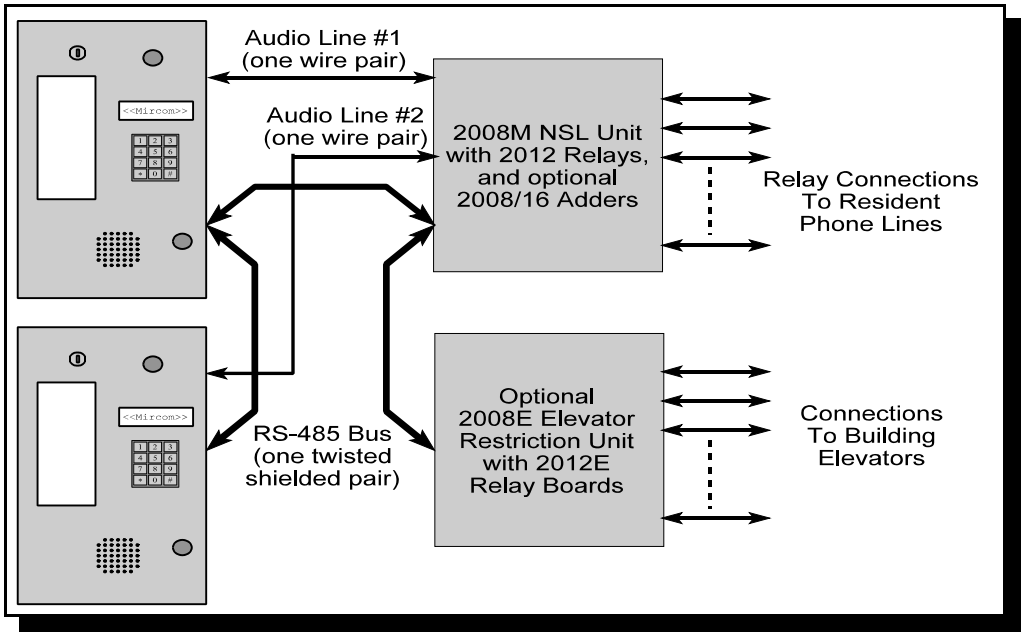
NSL CONFIGURATIONS

NSL (No Subscriber Line) operation does not use Bell Phone Lines; rather the ***2008M NSL Units*** *(and 2008/16 NSL Expanders)* in electrical/telephone rooms intercept all Resident Bell Phone Lines coming into a building and communicate directly to them.

The simplest NSL configuration with one 2001 Lobby Unit, a 2008M NSL Unit (and any 2008/16 NSL Expanders) and optional 2008E Elevator Restriction Unit.

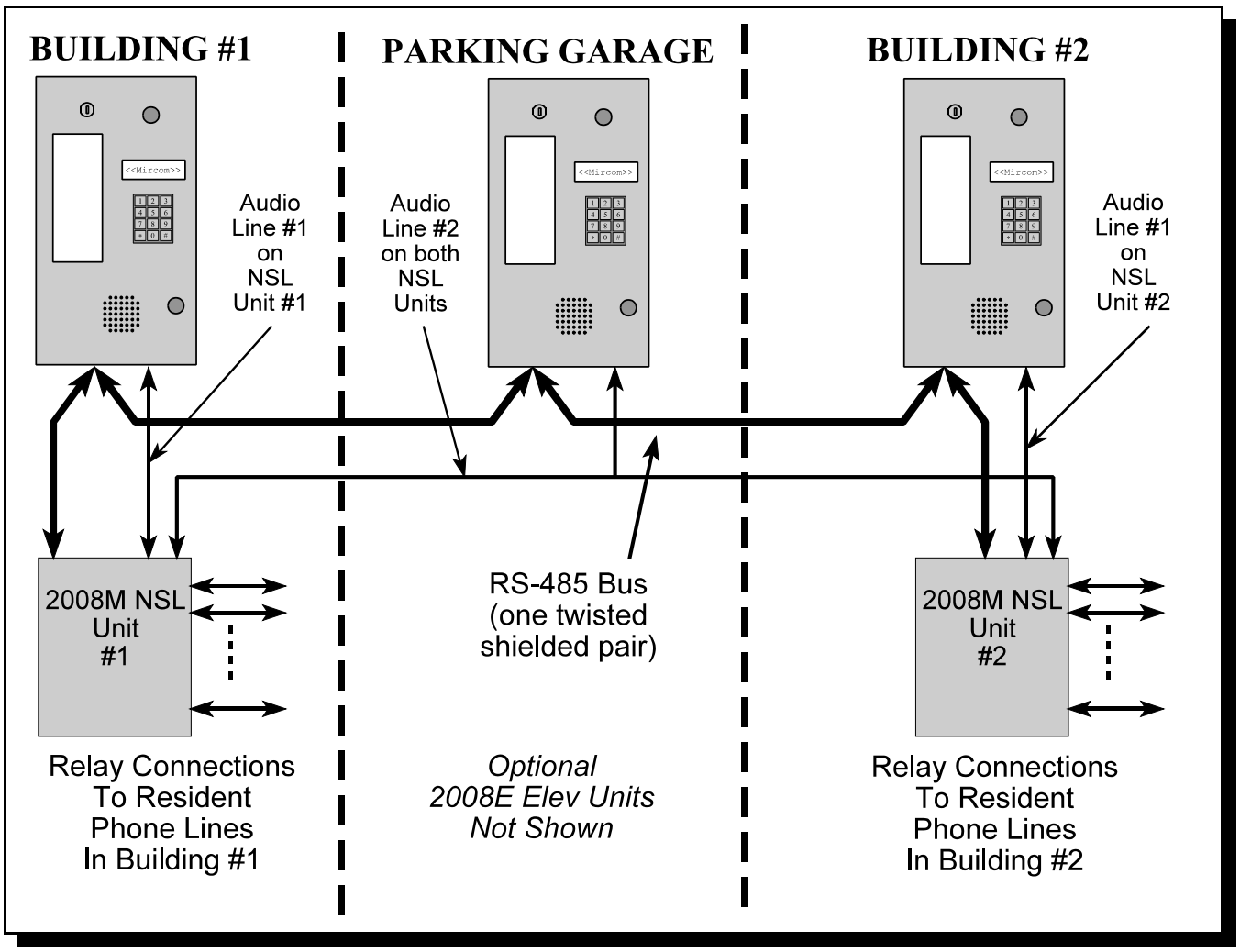


A two 2001 Lobby Unit NSL configuration with one 2008M NSL Unit (and any 2008/16 NSL Expanders), and an optional 2008E Elevator Restriction Unit.



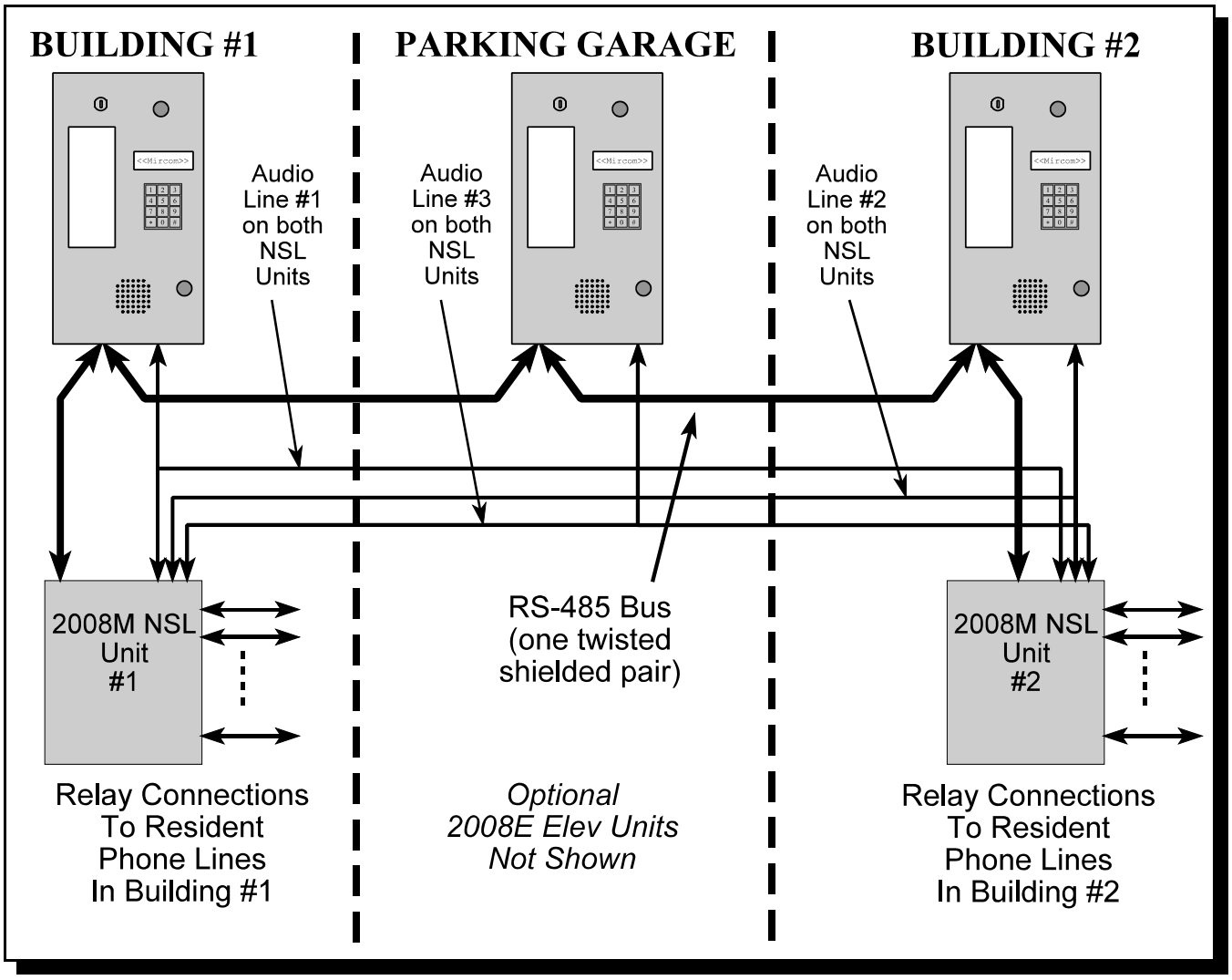
INDEPENDENT BUILDING ACCESS:

A two building, three 2001 Lobby Unit NSL configuration. Each building's 2001 Lobby Unit (only one is shown per building, but there could actually be more, such as for multi-entrances) uses one ***Audio Line***. Each 2008M NSL Unit (and any 2008/16 NSL Expanders) connects to two Audio Lines (each has capability for 5 Audio Lines); one Audio Line for its own Building's Lobby Unit, and one for the Parking Garage Lobby Unit. This allows The Lobby Unit(s) in each building to call Residents in that building independently of each other, and the Garage Lobby Unit can call Residents in either building (although while the Garage Lobby Unit is calling a resident in a building, that building's own Lobby Unit(s) are locked out).

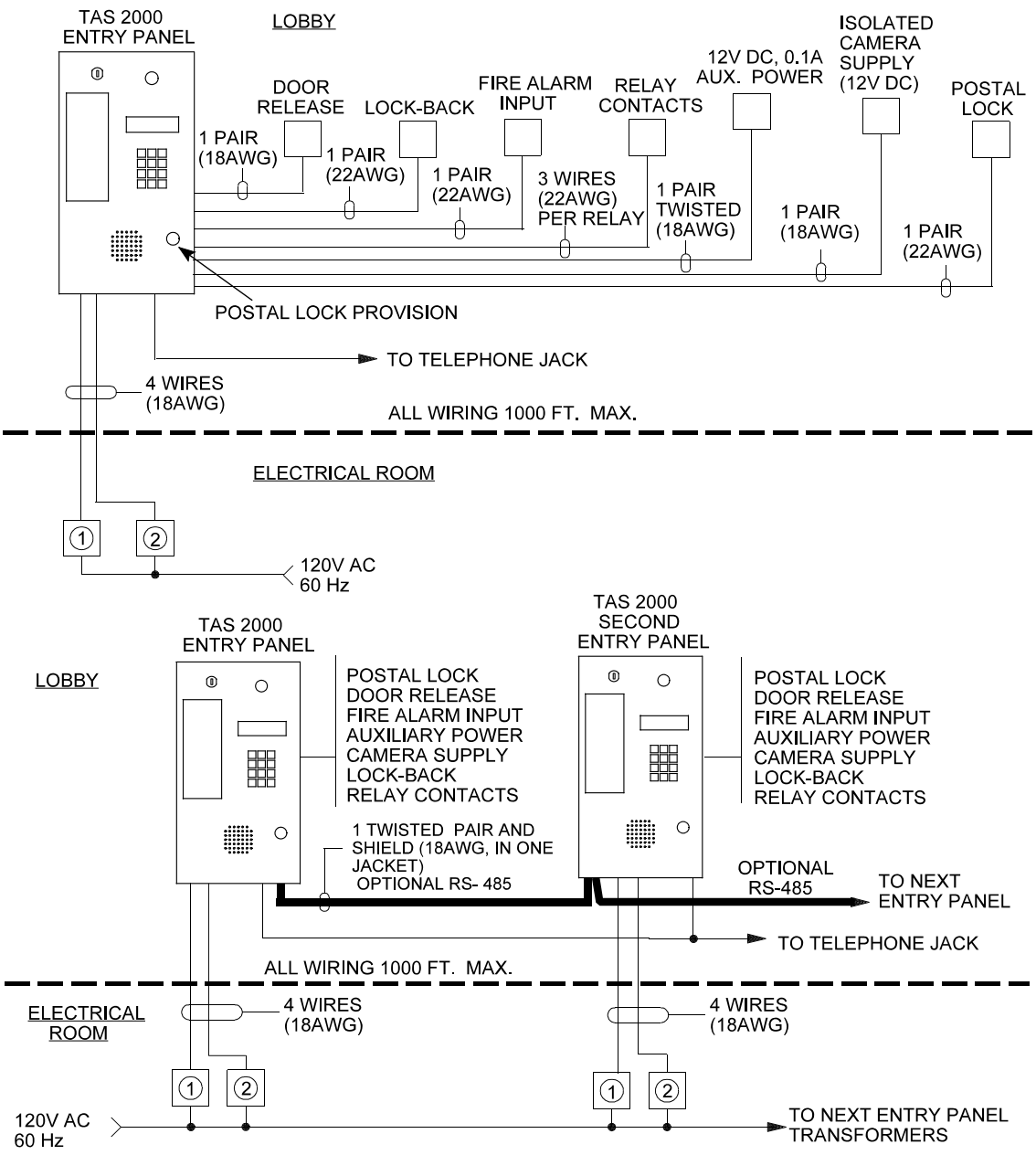


SHARED BUILDING ACCESS:

A two building, three 2001 Lobby Unit NSL configuration. Each 2001 Lobby Unit (only one is shown, but there could actually be more, such as for multi-entrances) uses one ***Audio Line***. Each 2008M NSL Unit (and any 2008/16 NSL Expanders) connects to three Audio Lines (each has capability for 5 Audio Lines); one Audio Line from the Lobby Unit(s) in Building #1, one Audio Line from the Lobby Unit(s) in Building #2, and one Audio Line from The Parking Garage Lobby Unit(s). This setup allow the Lobby Unit(s) to call either building, although while any one NSL Unit is handling a call, other Lobby Units cannot access that building.



ADC SINGLE AND MULTIPLE ENTRANCE SYSTEM WIRING APPLICATION



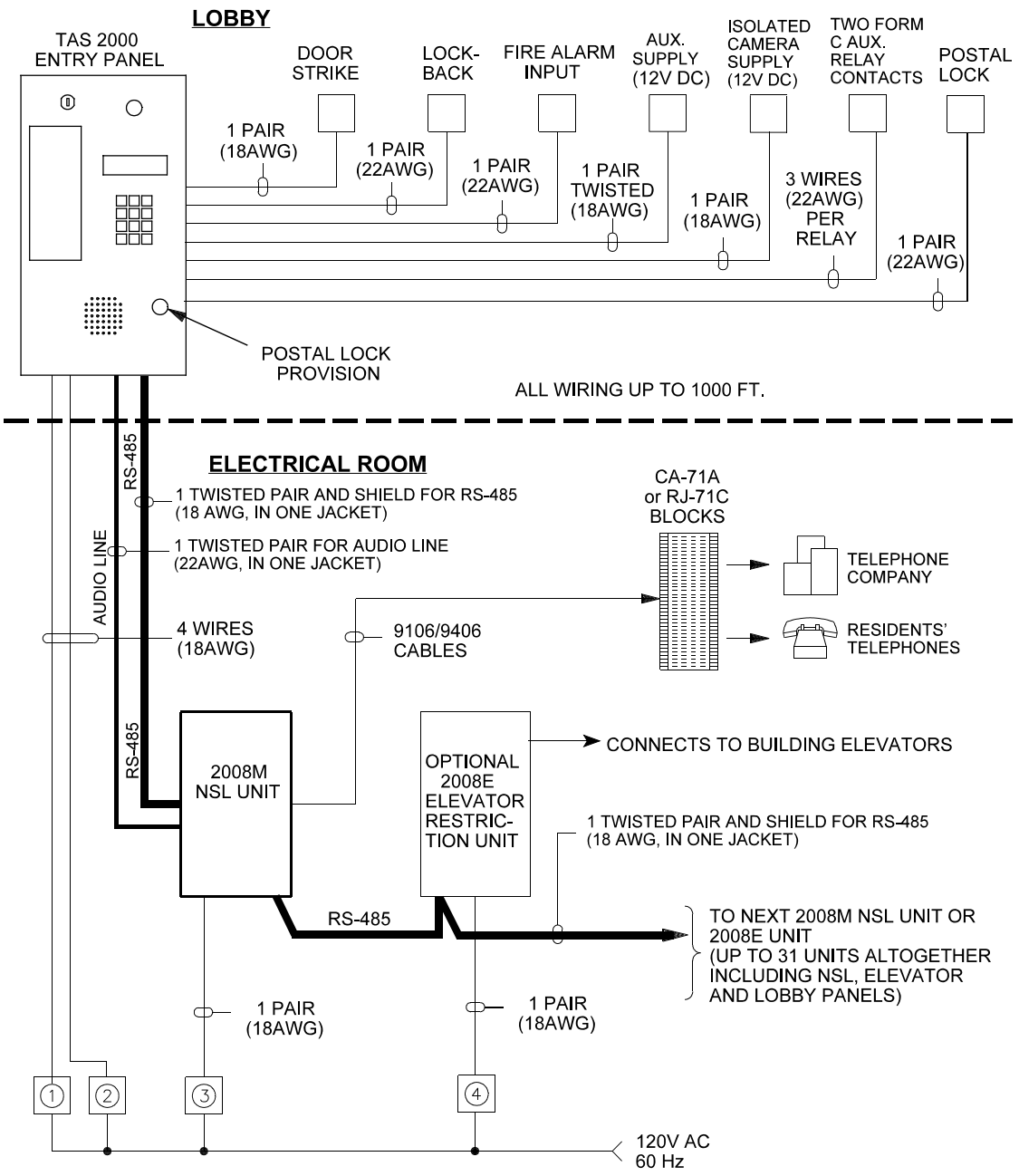
POWER TRANSFORMERS

① PS-4 FOR LOBBY AND LAMP SUPPLY

② PS-3B FOR MIRCOM M-10 DOOR RELEASE

NOTE: ALL TRANSFORMERS SHALL BE INSTALLED OUTSIDE THE ENCLOSURE

NSL SINGLE ENTRANCE SYSTEM WIRING APPLICATION

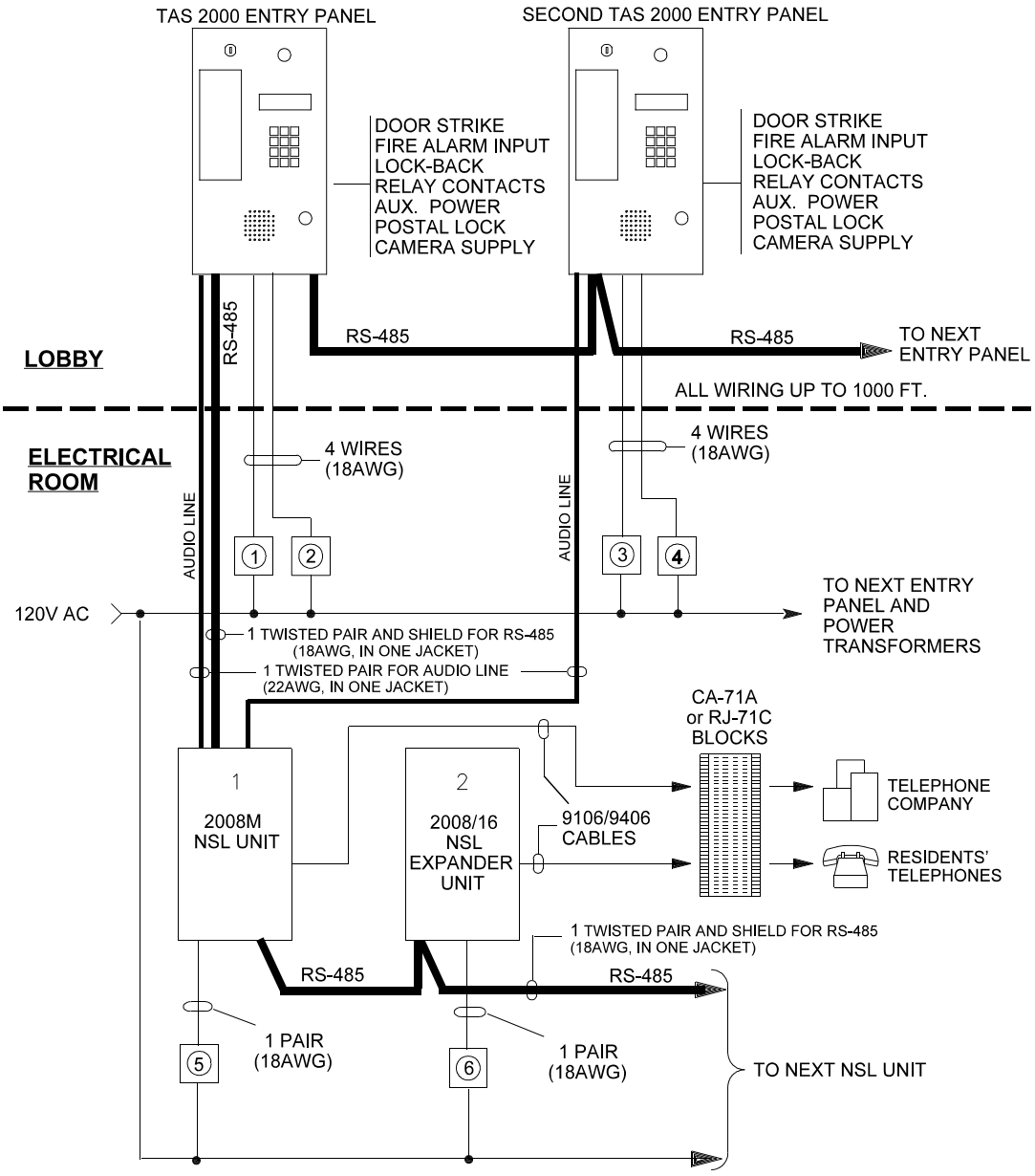


POWER TRANSFORMERS:

① PS-4 FOR LOBBY AND LAMP SUPPLY
② PS-3B FOR MIRCOM M-10 DOOR STRIKE
③ & ④ ONE PS-24 FOR EACH NSL UNIT AND FOR EACH ELEVATOR RESTRICTION UNIT

ALL TRANSFORMERS MUST BE INSTALLED OUTSIDE THE ENCLOSURE

NSL MULTIPLE ENTRANCE SYSTEM WIRING APPLICATION



POWER TRANSFORMERS:

① & ③ PS-4 FOR LOBBY ENTRY PANEL & LAMP SUPPLY

② & ④ PS-3B FOR MIRCOM M-10 DOOR STRIKE SUPPLY

⑤ & ⑥ ONE PS-24 FOR EACH NSL UNIT

ALL TRANSFORMERS MUST BE INSTALLED OUTSIDE THE ENCLOSURE

The are two sizes of lobby panel enclosures. The Universal 2000 Series features both scrolling and non-scrolling lobby panels and the Universal 3000 Series is a larger panel which provides only a non-scrolling function.

UNIVERSAL 2000 PANELS

The **UNIVERSAL 2000** Series entry/lobby panels are surface mounted. Optional flush trim rings are available for semi-flush and flush installations. When using the Rain Hood, the installation is semi-flush or surface only.

Universal Panels for Scrolling Directory TAS-2000:

Model US-2000S ⇨ Stainless Steel finish entry panel with speaker, and micro switch for postal lock. Requires a Scrolling Directory Type 2001 Main Board & Display.

Model US-2000SH ⇨ Stainless Steel finish entry panel with armoured handset, and micro switch for postal lock. Requires a Scrolling Directory Type 2001 Main Board & Display.

Universal Panels for Non-Scrolling Directory TAS-2000:

Model US-2036 ⇨ Stainless Steel finish entry panel with speaker, micro switch for postal lock, and paper directory for 36 names. Requires a Numeric Entry Type 2001 Main Board & Display.

Model US-2036H ⇨ Stainless Steel finish entry panel with handset, micro switch for postal lock, and paper directory for 36 names. Requires a Numeric Entry Type 2001 Main Board & Display.

Universal Panel Accessories:

Model UFT-2000 ⇨ Flush mounting trim for US-2036/H and US-2000S/SH. Textured black finish.

Model USFT-2000 ⇨ Semi-flush trim used with URH-2000 Rain Hood and Light Assembly for US-2000S/SH and US2036/H panels. Painted black (textured).

Model URH-2000 ⇨ Rain Hood and Light Assembly for MUS-2000S/SH and US-2036/H panels. Painted black (textured).

Model TH-102 ⇨ Thermostat heater for outdoor use of lobby panel.

Note: *Painted Silver, Gold & Copper Vein lobby panels are available by custom order.*

UNIVERSAL 3000 PANELS

Universal 3000 Panels for Non-Scrolling Directory TAS-2000:

Model US-3140	⇨	Stainless Steel finish entry panel with speaker, 140 Name Paper Directory or space for 35 Magnetic Letters and micro switch for postal lock. Requires a Numeric Entry Type 2001 Main Board & Display.
Model US-3140H	⇨	Stainless Steel finish entry panel with handset, 140 Name Paper Directory or space for 35 Magnetic Letters and micro switch for postal lock. Requires a Numeric Entry Type 2001 Main Board & Display.
Model USD-3280	⇨	Lobby Directory with paper directory only, 280 name capacity.

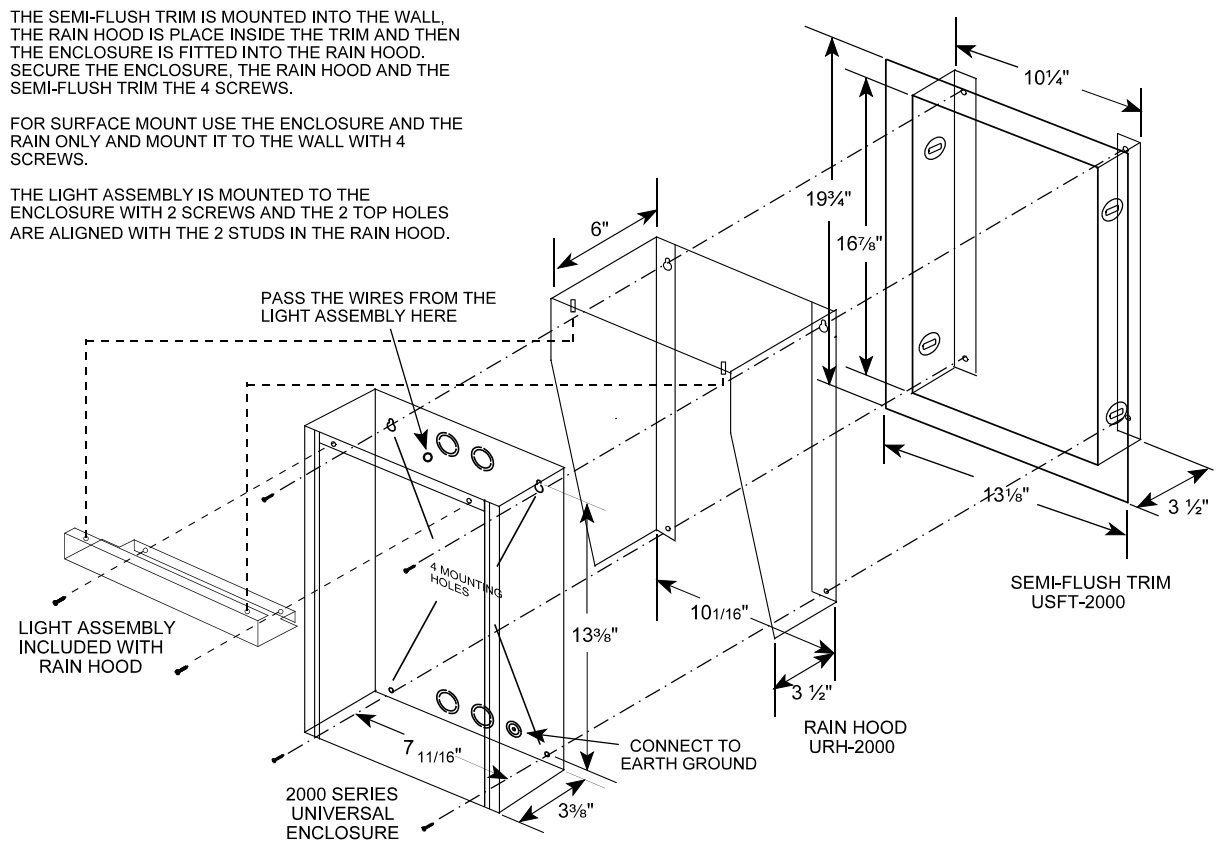
Universal 3000 Panel Accessories:

Model UFT-3001	⇨	Flush Mounting trim for US-3140/H and USD-3280. Textured black finish.
Model UFT-3002	⇨	Flush Mounting trim for two of the following panels, US-3140/H or USD-3280. Painted black (textured).
Model USFT-3000	⇨	Semi-Flush Mounting Trim used with URH-3000 Rain Hood and Light Assembly for US-3140, US-3140H or USD-3280 panels. Textured black finish.
Model URH-3000	⇨	Rain Hood and Light Assembly for US-3140, US-3140H or USD-3280 panels. Textured black finish.
Model MLK-2035	⇨	Magnetic strip directory kit, 35 name capacity. It comes with plastic letters, magnetic strips, brackets, and hexnuts.
Model TH-102	⇨	Thermostat heater for outdoor use of lobby panel

Note: *Painted Silver, Gold & Copper Vein lobby panels are available by custom order.*

MOUNTING THE 2000 UNIVERSAL TYPE LOBBY UNIT ENCLOSURE:

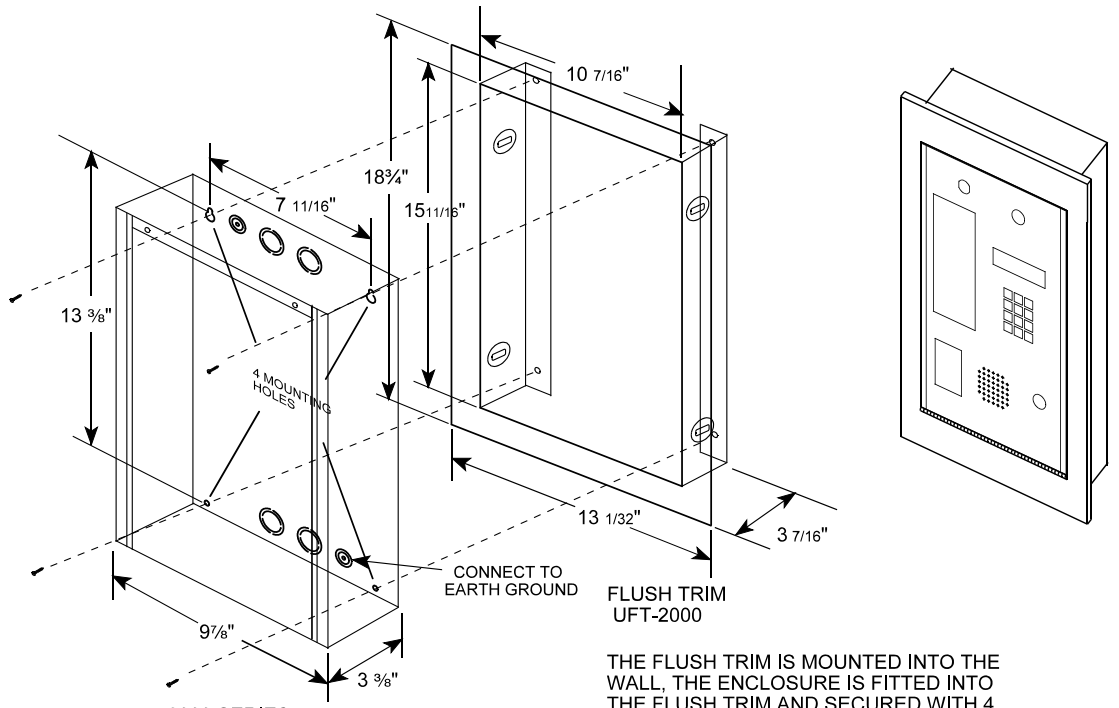
Mount the panel as shown in the next two Figures using the supplied screws.



INSTALLATION INSTRUCTIONS FOR URH-2000 RAIN HOOD AND LIGHT ASSEMBLY

MOUNTING THE FLUSH TRIM FOR THE 2000 SERIES UNIVERSAL ENCLOSURES

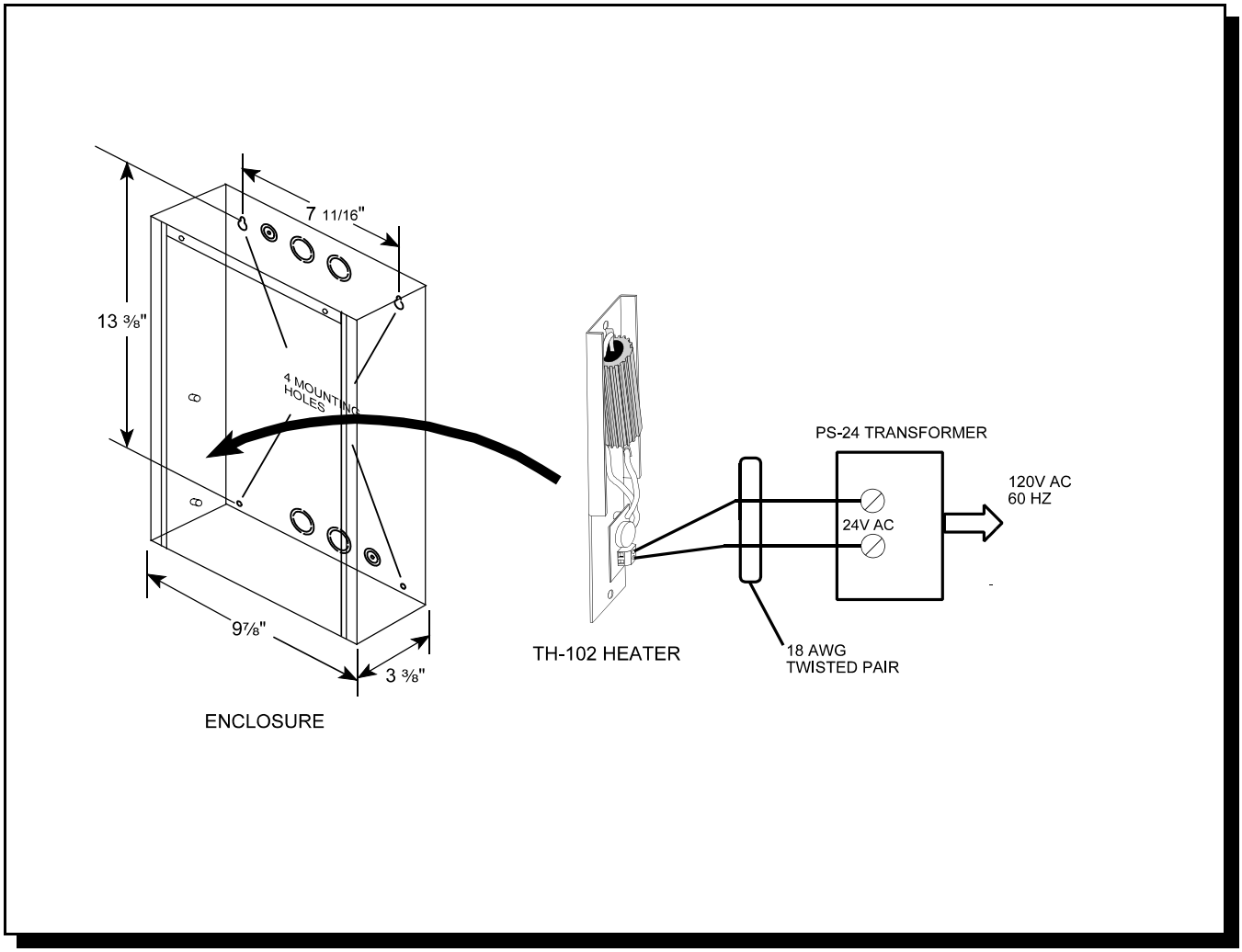
The diagram below displays the installation of the flush trim.



INSTALLATION INSTRUCTION FOR FLUSH MOUNTING 2000 SERIES UNIVERSAL ENCLOSURES

MOUNTING THE THERMOSTAT HEATER KIT MODEL TH-102 IN THE UNIVERSAL ENCLOSURE (OPTIONAL):

Mount the Heater Kit according to the Figure below. Install the TH-102 Heater into bottom left hand corner of the universal enclosure using the two spacers and two hex nuts provided. Use a pair of #18 AWG wires to connect from the TH-102 unit to 24VAC tap on a PS-24 transformer. The transformer must be installed outside the enclosure.



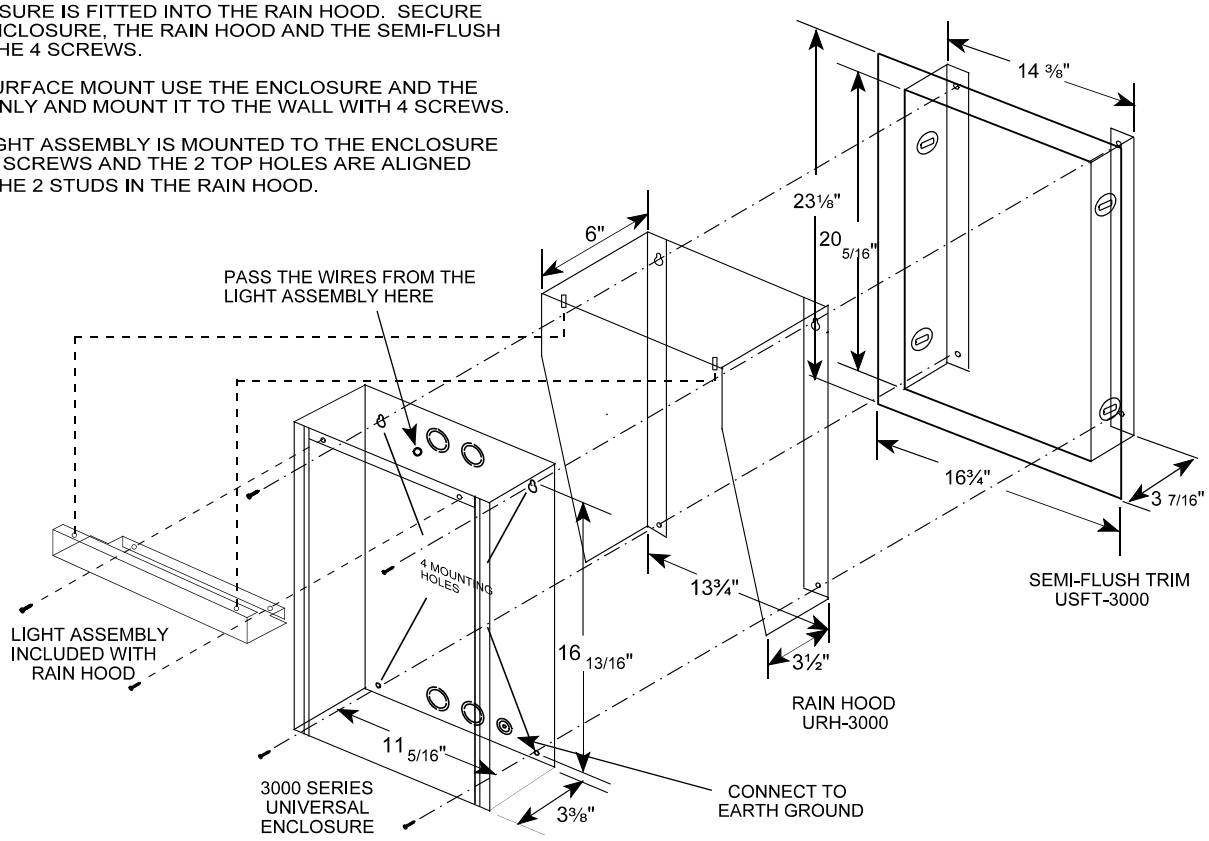
MOUNTING THE 3000 UNIVERSAL TYPE LOBBY UNIT ENCLOSURE:

Mount the panels as shown in the following two Figures using the supplied screws.

THE SEMI-FLUSH TRIM IS MOUNTED INTO THE WALL, THE RAIN HOOD IS PLACE INSIDE THE TRIM AND THEN THE ENCLOSURE IS FITTED INTO THE RAIN HOOD. SECURE THE ENCLOSURE, THE RAIN HOOD AND THE SEMI-FLUSH TRIM THE 4 SCREWS.

FOR SURFACE MOUNT USE THE ENCLOSURE AND THE RAIN ONLY AND MOUNT IT TO THE WALL WITH 4 SCREWS.

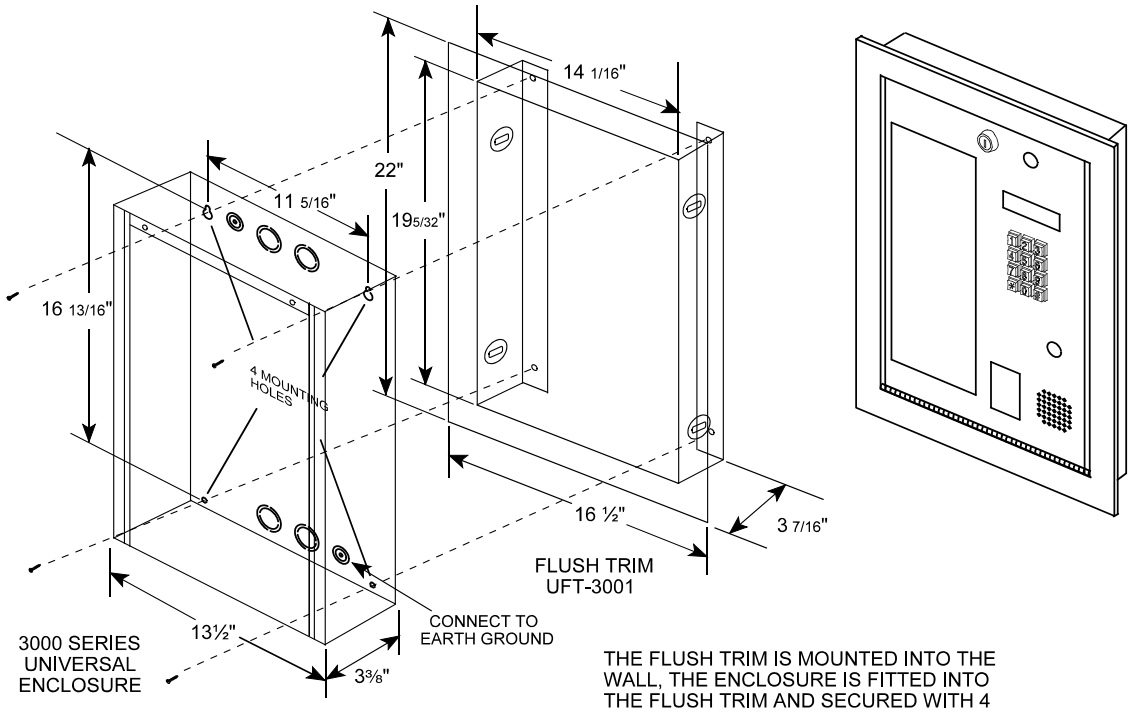
THE LIGHT ASSEMBLY IS MOUNTED TO THE ENCLOSURE WITH 2 SCREWS AND THE 2 TOP HOLES ARE ALIGNED WITH THE 2 STUDS IN THE RAIN HOOD.



INSTALLATION INSTRUCTION FOR URH-3000 RAIN HOOD AND LIGHT ASSEMBLY

MOUNTING THE FLUSH TRIM FOR THE 3000 SERIES UNIVERSAL ENCLOSURES

The diagram below displays the installation of the flush trim.



THE FLUSH TRIM IS MOUNTED INTO THE WALL, THE ENCLOSURE IS FITTED INTO THE FLUSH TRIM AND SECURED WITH 4 SCREWS TO THE FLUSH TRIM.

FOR SURFACE MOUNT USE THE ENCLOSURE ONLY AND MOUNT IT TO THE WALL WITH 4 SCREWS.

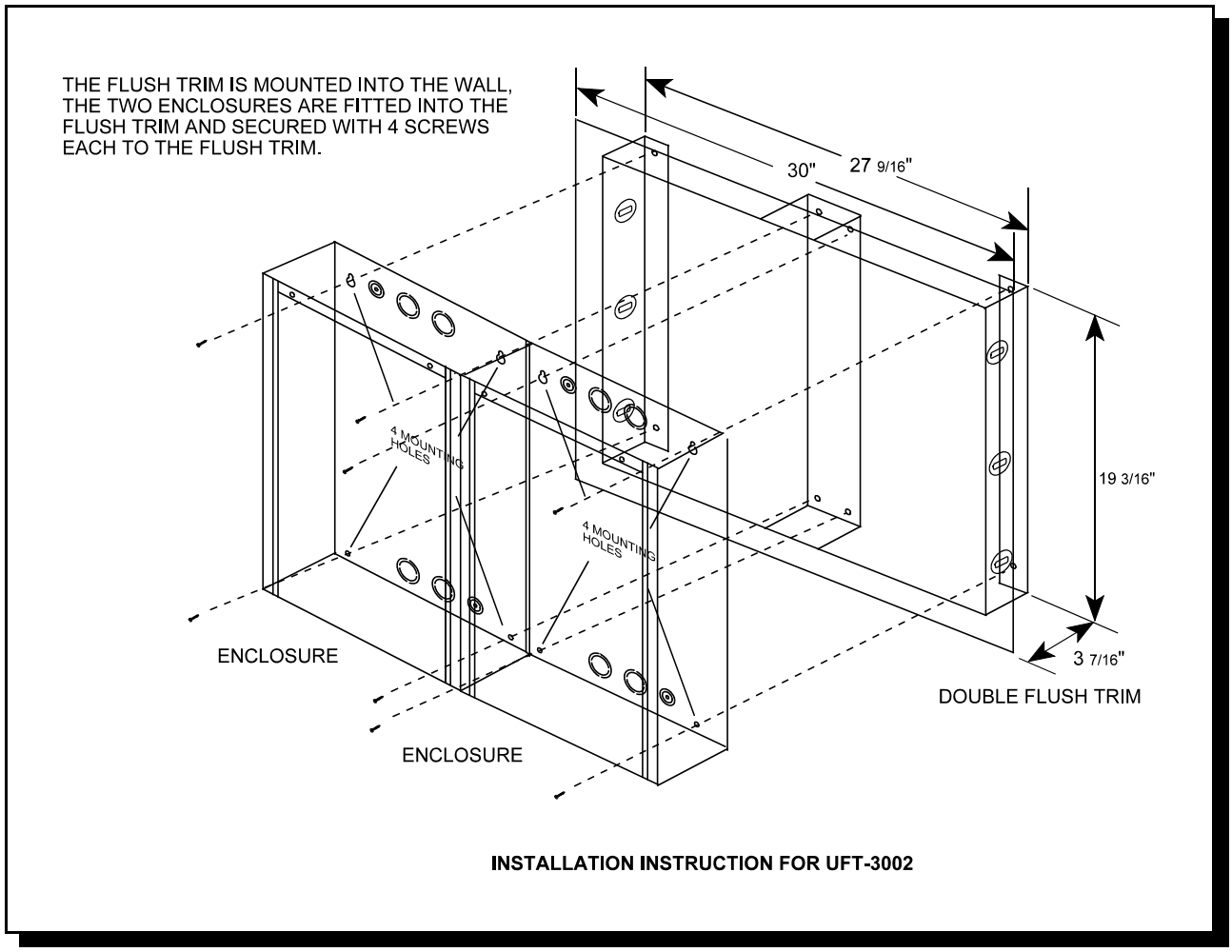
INSTALLATION INSTRUCTION FOR FLUSH MOUNTING 3000 SERIES UNIVERSAL ENCLOSURES

MOUNTING THE MAGNETIC LETTER KIT MLK-2035 (OPTIONAL):

Mount the Magnetic Letter Kit according to the Installation Instruction that comes with the Kit. This kit is used only for the Universal 3000 type panel and provides a metal mounting chassis and letters for 35 names. Additional letter kits are available if needed.

UFT-3002 FLUSH MOUNTING FRAME FOR TWO 3000 UNIVERSAL PANELS

The UFT-3002 Flush Mounting frame allows installation of two 3000 Universal panels (such US-3140, US-3140H and US-3280)within the frame as shown in the Figure below.



INSTALLATION INSTRUCTION FOR UFT-3002

LOBBY UNITS

The **2001 Lobby Unit Main Board & Display** has many configurable options, but the number of Residents / Suites, and whether the Scrolling Directory Feature is present is dependent upon the model chosen ...

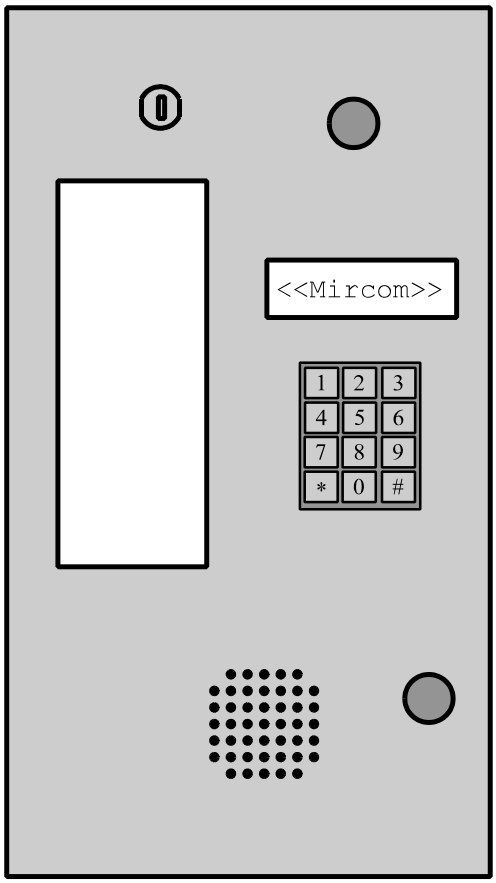
NON-SCROLLING DIRECTORY MODELS		SCROLLING DIRECTORY MODELS	
Model	**Resident Capacity**	**Model**	**Resident Capacity**
2001-0060	60	2001-0060S	60
2001-0120	120	2001-0120S	120
2001-0360	360	2001-0360S	360
2001-1000	1000	2001-1000S	1000
2001-2000	2000	2001-2000S	2000

The Non-Scrolling Directory Models use a two-line by 20 character LCD (Liquid Crystal Display), and a telephone style keypad. The Scrolling Directory Models use a four-line by 20 character LCD (Liquid Crystal Display), and a telephone style keypad.

Note also that Lobby Unit Enclosures and Power Transformers are ordered separately.

Lobby Unit Features include ...

- **ADC** or **NSL** operation.
- Use of **2008E Elevator Restriction** unit(s).
- **Settings per Resident** such as Ring Pattern (NSL only), etc.
- Three configurable **Auxiliary Inputs** and four configurable **Auxiliary Relay Outputs**.
- Provides the user access to the Resident Database either using direct numeric entry (**Non-Scrolling Directory**) or with a scrolling list of names (**Scrolling Directory**).
- Generates a call to the Resident (either via the Telephone Line or an 2008M NSL Unit).
- Acts on Resident touch-tone or rotary-pulse commands for opening the door.
- If so configured and wired, any single Lobby Unit used with 2008M NSL Units, may have a talk-path to any building (up to 8 paths).
- **Real Time Clock** for time-of-day functions such as restricted entry, logging.
- **RS-485 Interface** to network to other Units.
- **Low Power** operation (due to switching regulator) from **one 16V transformer for main operation**, **plus another transformer for the Door Strike**.
- **Line Sensing** for ADC applications; will sense if a Bell line is available and not in use.



The Lobby Unit should be installed as near as possible to the controlled entry point. Do not install the system in a location where the Display is exposed to direct sunlight since it will reduce visibility and damage the unit.

2001 LOBBY UNIT WIRING

The 2001 Lobby Unit Main Board has both ribbon cable sockets and screw terminals.

P2 Connection via ribbon cable to the Lobby Unit Display & Keypad Board mounted on the enclosure's door.

P3 **RS-485 Port** for connection to an RS-485IMA Interface Module or MDM-1000 modem.

P4 RJ-11 Modular Telephone Jack for connection to the Telephone Line or NSL Audio Line.

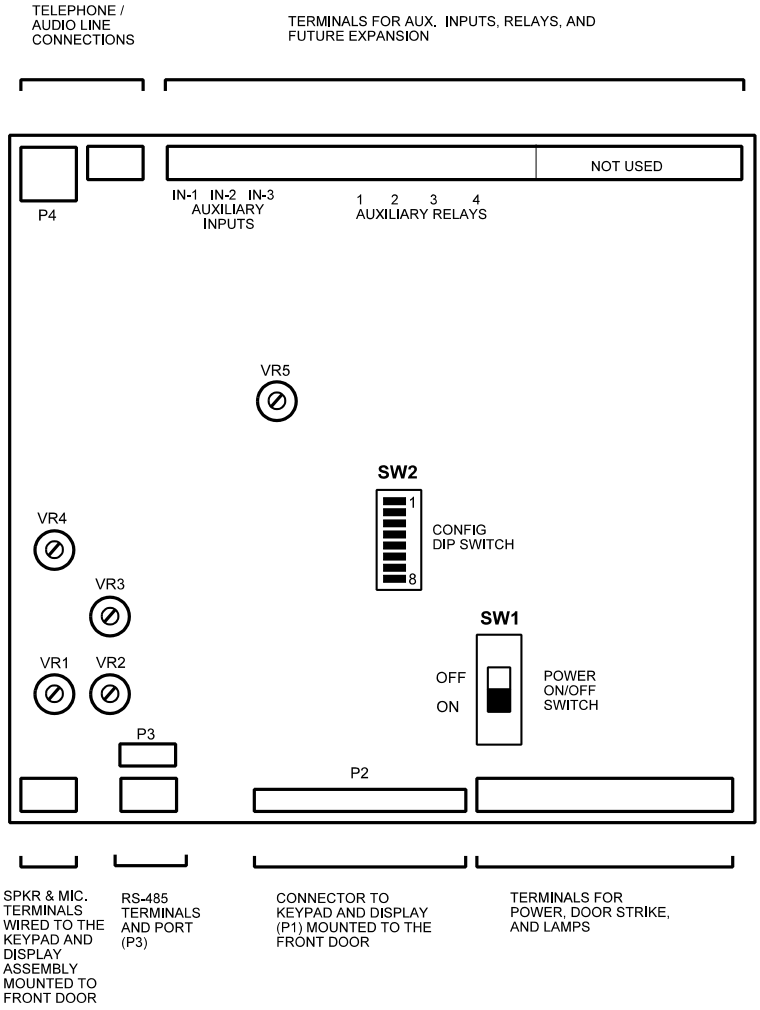
VR1 Adjustment #1 for Speaker Feedback Control. *This is normally Factory Set and should not require adjustment*.

VR2 Adjustment #1 for Microphone Feedback Control. *This is normally Factory Set and should not require adjustment*.

VR3 Adjustment #2 for Microphone Volume Level. Adjust counterclockwise for maximum volume.

VR4 Adjustment #2 for Speaker Volume. Adjust clockwise for maximum volume.

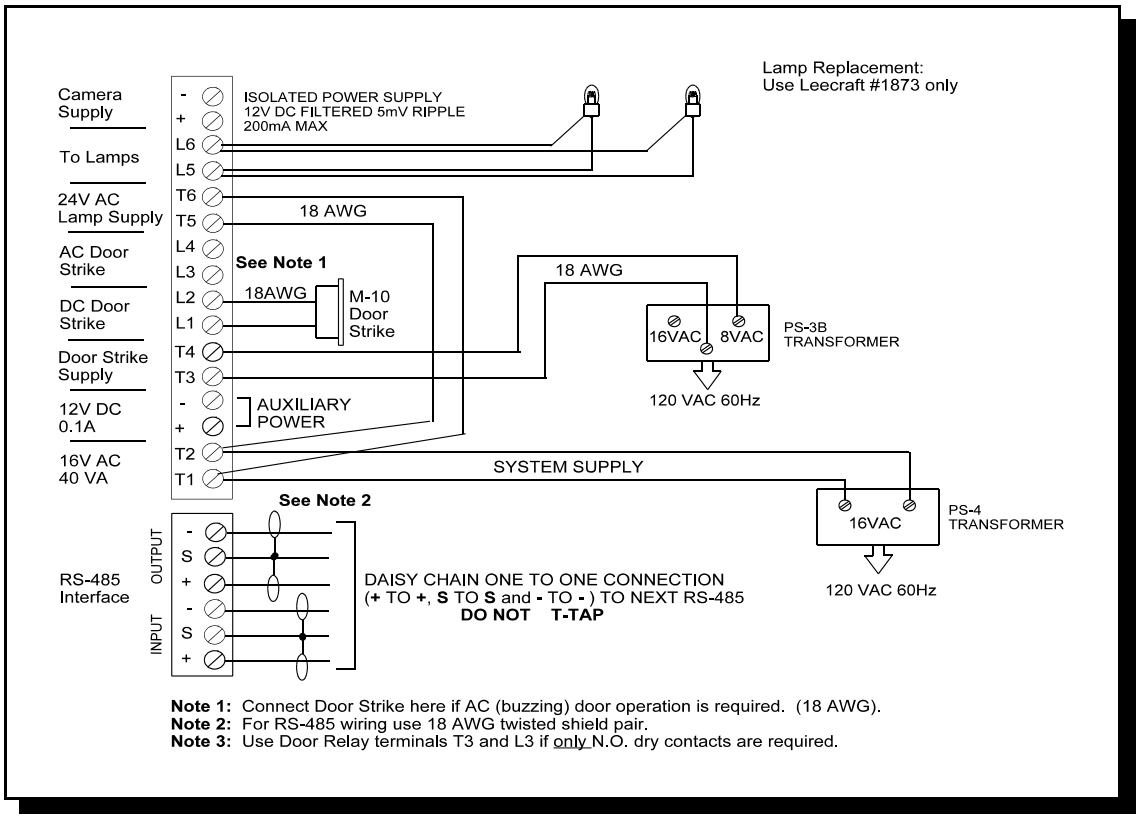
VR5 Adjustment for Rotary Pulse Sensitivity. Because of the condition of many of the old rotary "PULSE" type telephones in use, there is great variation with the signal they generate to release the door. The control units come factory preset to respond properly with these variations. If trouble is encountered in releasing the door when using a rotary phone, this control may require adjustments as follows.

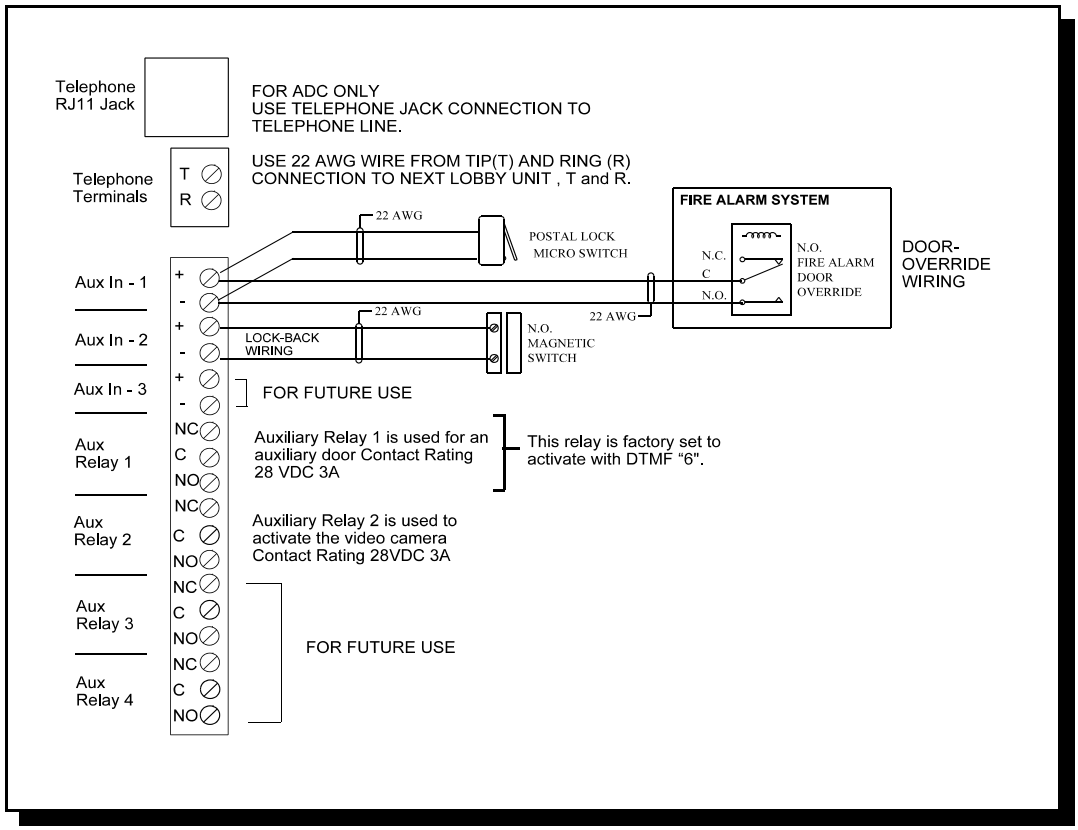


To increase sensitivity, turn the control clockwise 1/10 of a revolution, then call the occupant whose phone was previously not energizing the door release. Check to see if the door is released this time, if not again adjust by 1/10 of a revolution and continue to check until the door is released. For touch tone type phones, there is no adjustment required.

SW1 Turns the Unit's Power on and off for servicing, or to re-start the unit.
SW2 To set the Unit's ID.(see Configuration)

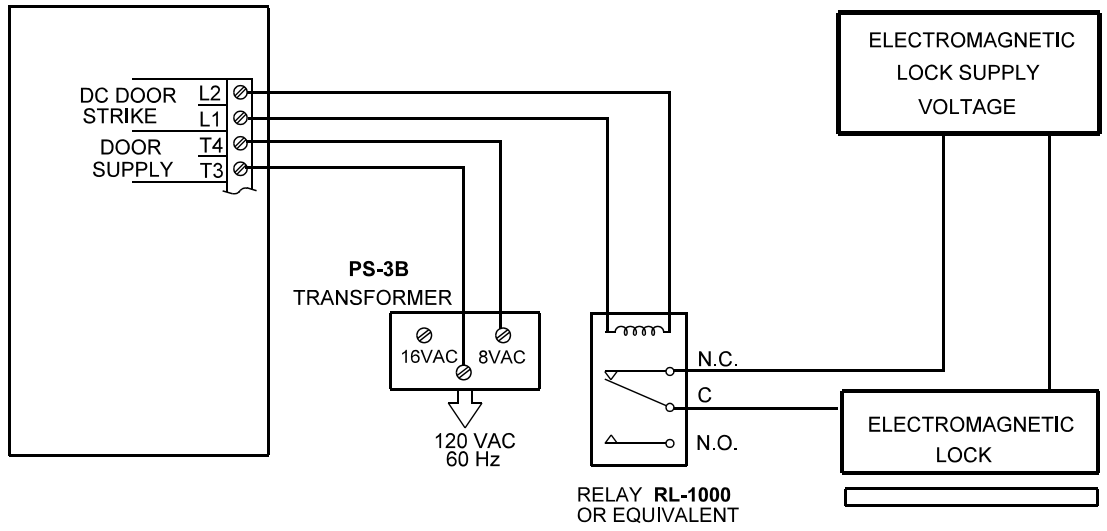
WIRING OF LOBBY UNIT



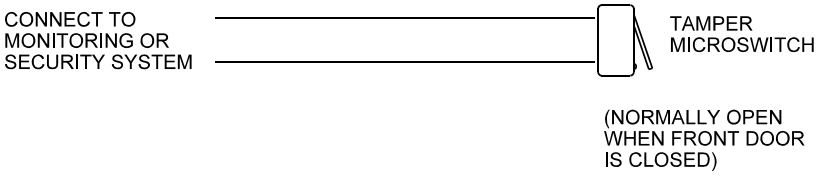


WIRING OF LOBBY UNIT continued

ELECTROMAGNETIC LOCK AND TAMPER SWITCH WIRING AT THE LOBBY UNIT



NOTE: ALL WIRES ARE 18 AWG



THE TAMPER MICROSWITCH IS AN OPTIONAL FEATURE WHICH IS MOUNTED JUST BELOW THE TAS 2000 PANEL DISPLAY BOARD ON THE DOOR

2001 LOBBY UNIT CONFIGURATION

Most of the 2001 Lobby Unit Configuration is set using either the Unit's own Keypad and Display, or via the PC Configuration Software (see separate manual). One item that is separately set is the Lobby Unit's **ID** and **RS-485 Communications Speed**. These are set by the SW2 DIP Switches on the Main Board (see the Main Board diagram in the Lobby Unit Wiring section).

The individual switches are numbered 1 to 8 from the top to the bottom, and are marked as either **On-Off or Closed-Open**. The first five switches set the ID ...

2001 Lobby Unit ID #	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
THIS ADDRESS IS NOT ALLOWED AS LOBBY ID 0 is used for PC ID	ON	ON	ON	ON	ON
1	OFF	ON	ON	ON	ON
2	ON	OFF	ON	ON	ON
3	OFF	OFF	ON	ON	ON
4	ON	ON	OFF	ON	ON
5	OFF	ON	OFF	ON	ON
6	ON	OFF	OFF	ON	ON
7	OFF	OFF	OFF	ON	ON
8	ON	ON	ON	OFF	ON
9	OFF	ON	ON	OFF	ON
10	ON	OFF	ON	OFF	ON
11	OFF	OFF	ON	OFF	ON
12	ON	ON	OFF	OFF	ON
13	OFF	ON	OFF	OFF	ON
14	ON	OFF	OFF	OFF	ON
15	OFF	OFF	OFF	OFF	ON
16	ON	ON	ON	ON	OFF
17	OFF	ON	ON	ON	OFF
18	ON	OFF	ON	ON	OFF
19	OFF	OFF	ON	ON	OFF
20	ON	ON	OFF	ON	OFF
21	OFF	ON	OFF	ON	OFF
22	ON	OFF	OFF	ON	OFF
23	OFF	OFF	OFF	ON	OFF
24	ON	ON	ON	OFF	OFF
25	OFF	ON	ON	OFF	OFF
26	ON	OFF	ON	OFF	OFF
27	OFF	OFF	ON	OFF	OFF
28	ON	ON	OFF	OFF	OFF
29	OFF	ON	OFF	OFF	OFF
30	ON	OFF	OFF	OFF	OFF
31	OFF	OFF	OFF	OFF	OFF

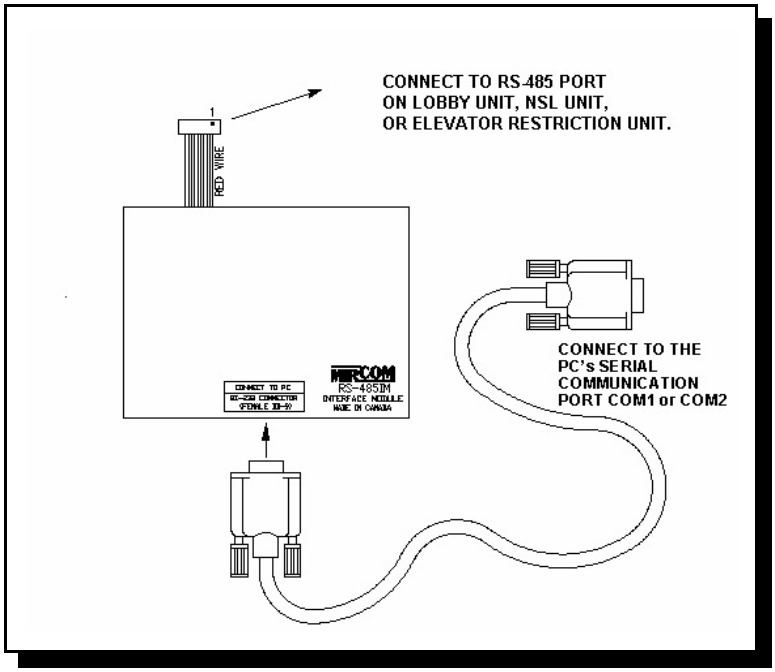
NOTE: Dip Switch 6 is not used and Switch 7 is ON for an NSL system or OFF for an ADC system.

Every Lobby Unit in a given TAS-2000 System requires a unique ID. These should be assigned starting from "1", and incrementing by one, i.e. 1, 2, 3, 4 . . . **UNIT IDS MUST NOT BE DUPLICATED.** The remaining DIP Switch, **Switch 8**, defines the Lobby Unit's **RS-485 Communications Speed**. This Switch 8 is left in the "OFF" position for 2400 Baud.

All Units in a TAS-2000 System must operate at the same RS-485 Communication Speed!!

2001 LOBBY UNIT CONFIGURATION VIA A PERSONAL COMPUTER

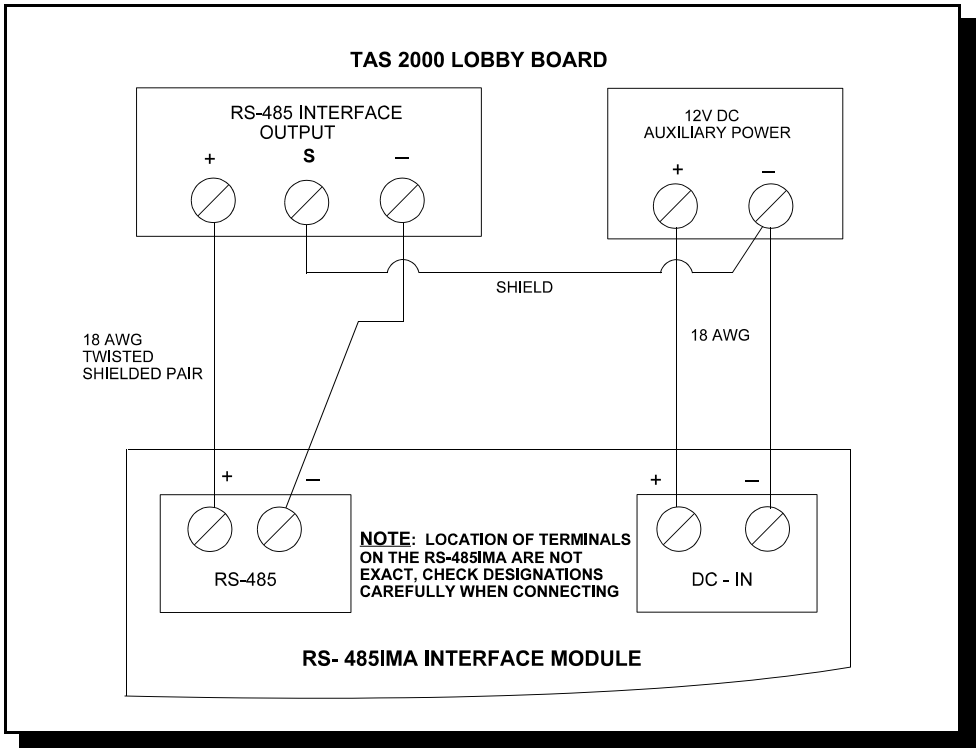
The easiest way to configure the 2001 Lobby Unit is with the **Mircom PC Configuration Software Package**. This Windows 95/98 software is provided on a single CD-ROM. It is connected to the TAS-2000 system via the **Mircom RS-485IMA Interface Module** ...



Only one RS-485IMA connection is required to any fully networked TAS-2000 System (that is a system where all units are connected on the same RS-485 Bus).

See the ------ Online Help for further information.

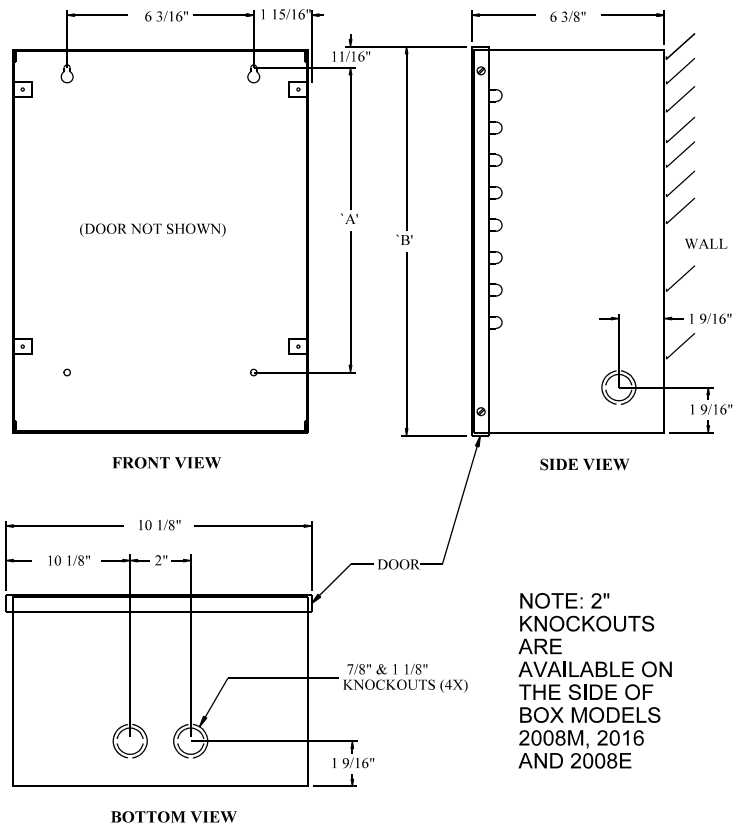
Should the Lobby panel be farther away than the ribbon can reach, the RS-485IMA Interface module may be hard wired as shown in this diagram. Please note the cover must be removed from the RS-485IMA in order to reach the terminals.



NSL & ELEVATOR UNIT ENCLOSURES MECHANICAL INSTALLATION

Both the NSL and Elevator Restriction Units are intended for mounting in the Electrical/Telephone Room of a Building. They come Factory assembled in one of two enclosure sizes shown below. The 2008M NSL Unit includes the 27" enclosure. The 2008 includes the 13 15/16" enclosure. The 2016 includes the 27" enclosure.

2008M NSL Unit	27" High Enclosure
2008 NSL Expander	13-15/16" High Enclosure
2016 NSL Expander	27" High Enclosure
2008E Elevator Unit	27" High Enclosure

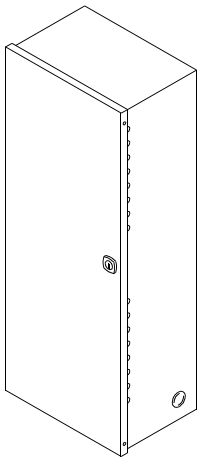


MODEL NO.	DIM. `A'	DIM. `B'
2008	10 1/8"	13 15/16"
2008M, 2016, 2008E	23 3/16"	27"

2008M NSL (NON-SUBSCRIBER LINE) UNITS

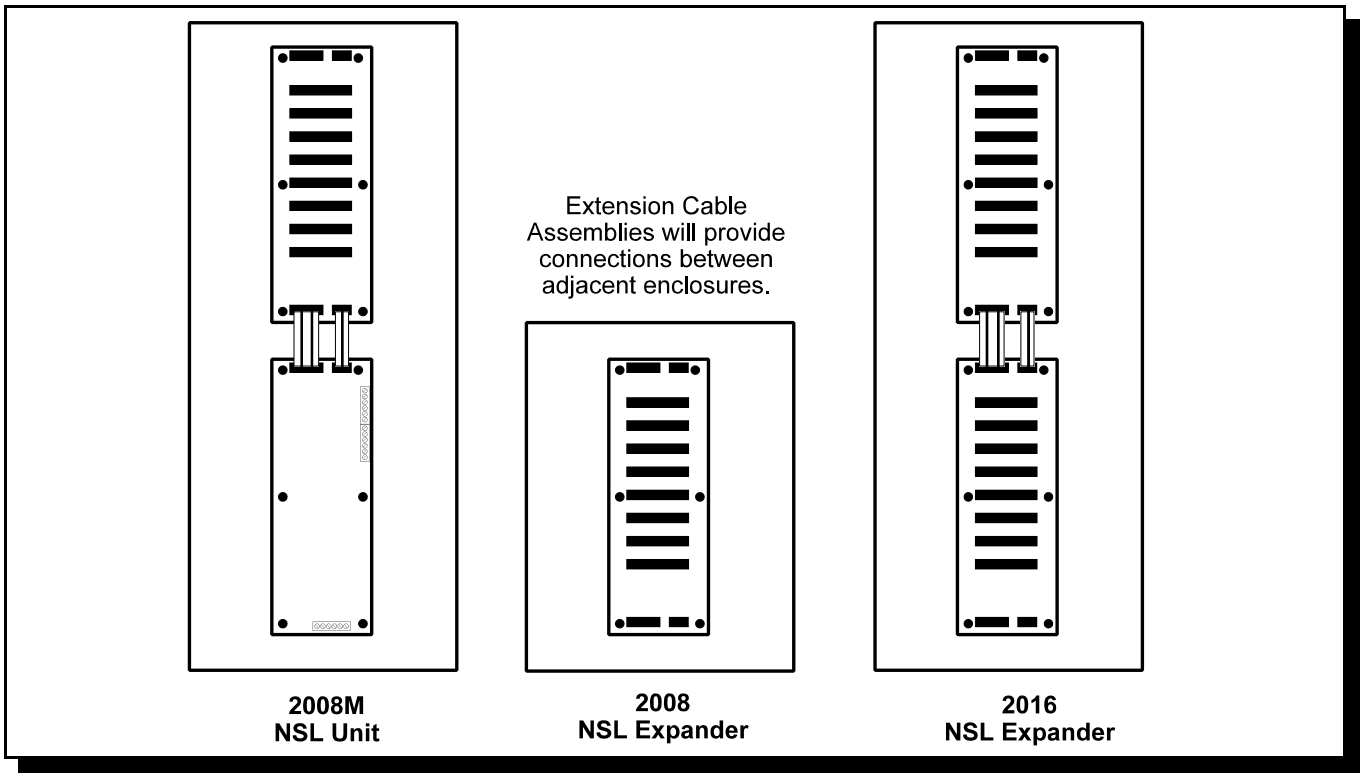
The **2008M NSL Unit** includes a cabinet for mounting into an electrical/telephone room. In this cabinet there is the Main NSL Controller Board and one NSL Backplane. Up to eight **2012 NSL Relay Boards** may be installed on the NSL backplane, allowing for 96 Residents in this enclosure. The **2008 NSL 8 Relay Backplane** or **2016 NSL 16 Relay Backplane Expanders**, each in their own cabinet, may be added (interconnected with two cables) providing additional capacity for 8 or 16 more Relay Boards each (1 or 2 additional Backplane Boards). A total of 16 Backplanes may be installed, allowing for up to 1536 Residents. The **2008M** and any **2008's** and/or **2016's** must all be adjacent to each other, mounted on the same wall and in the same room.

The **2008M NSL Unit (and any 2008/16 NSL Relay Backplane Expanders)** performs the following functions ...



- Switching, involving the telephone lines, Resident lines and the **2001 Lobby Unit(s)**.
- Generates call waiting tones to the Resident.
- Provides a speech path to the **2001 Lobby Unit(s)**.
- As previously described, up to 5 speech paths may be defined, so that any individual **2001 Lobby Unit** may communicate with multiple **2008M NSL Units**.
- **RS-485 Interface** to network to other Units.
- **Low Power** operation from **two 24V transformers**.

See the NSL & Elevator Unit Enclosure section for mechanical and mounting information.



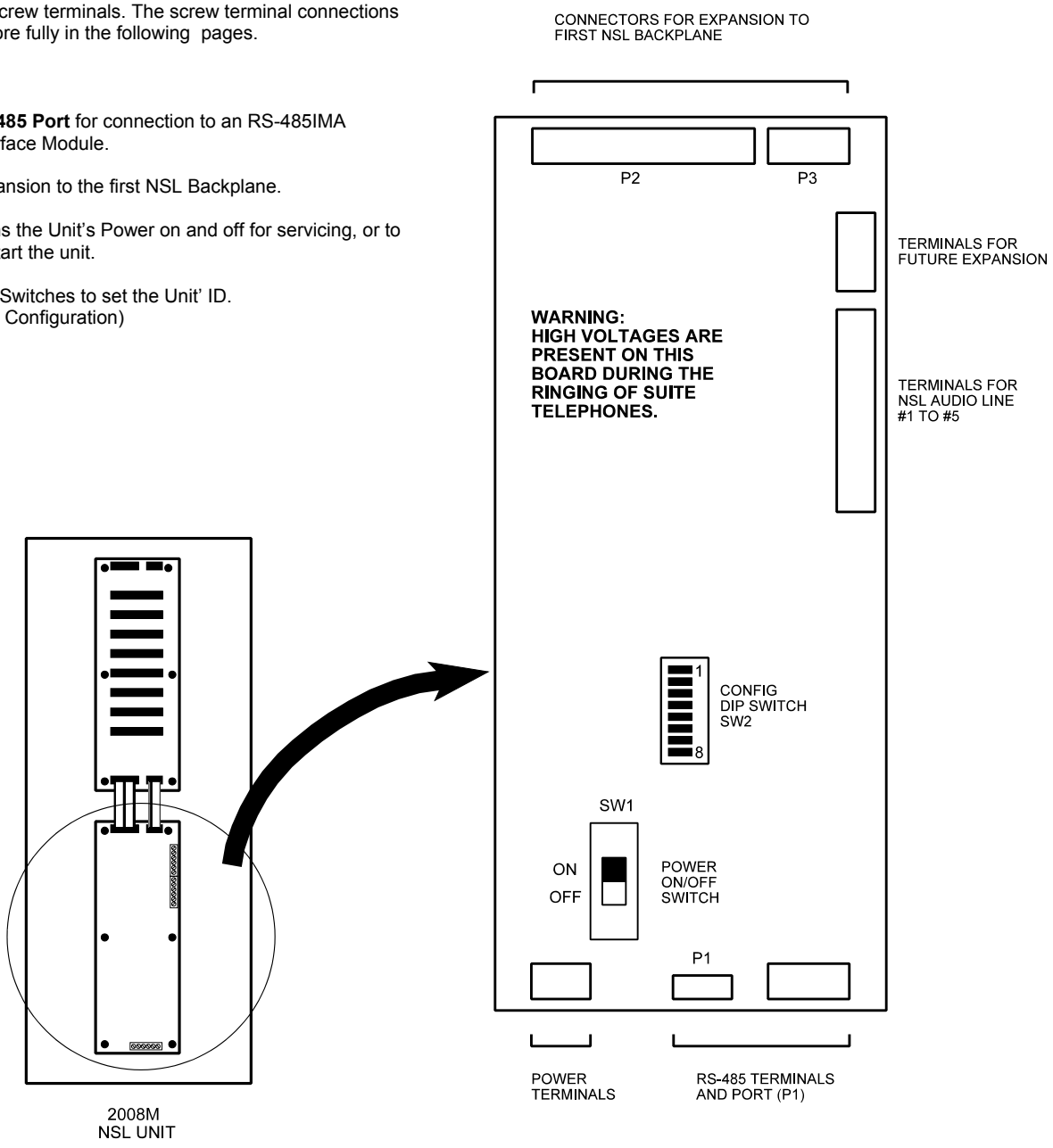
The **2008M NSL Unit Controller Board** has both ribbon cable sockets and screw terminals. The screw terminal connections are defined more fully in the following pages.

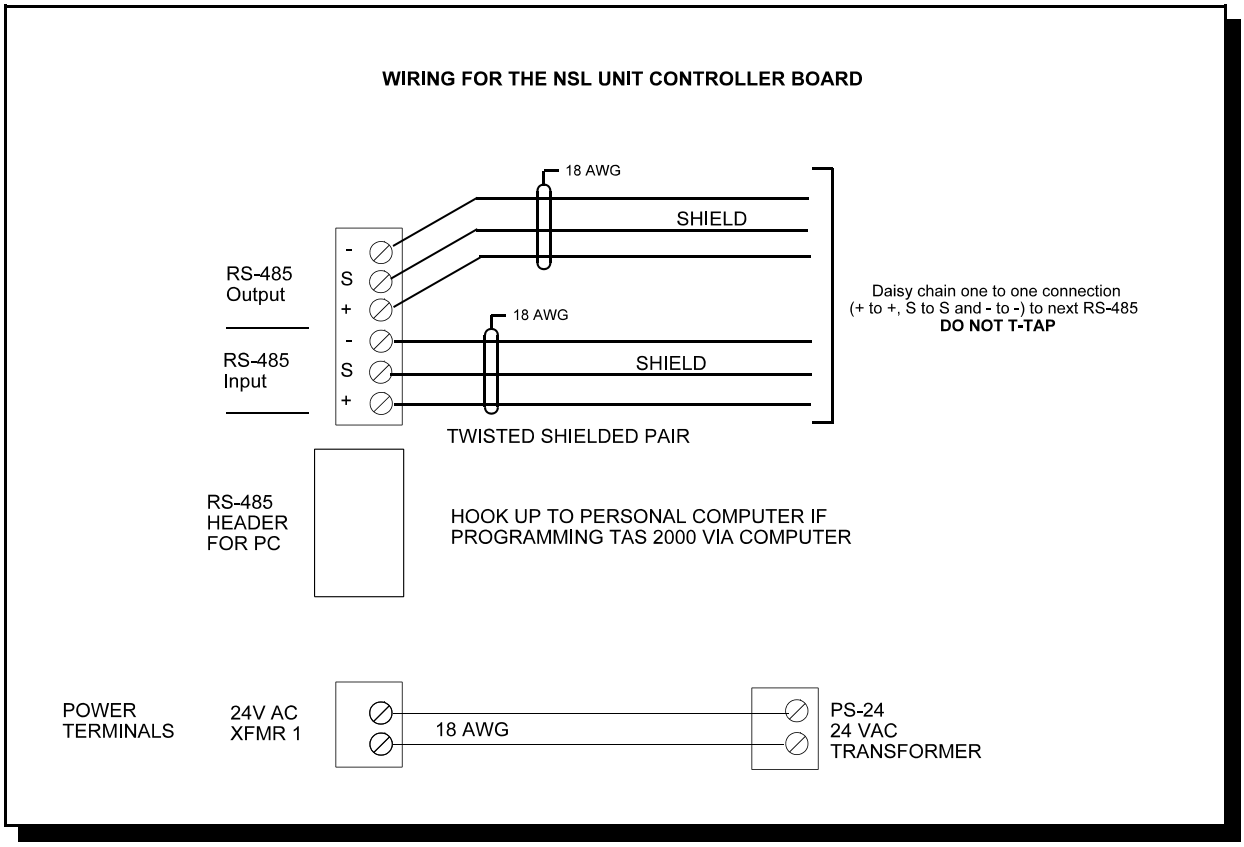
P1 **RS-485 Port** for connection to an RS-485IMA Interface Module.

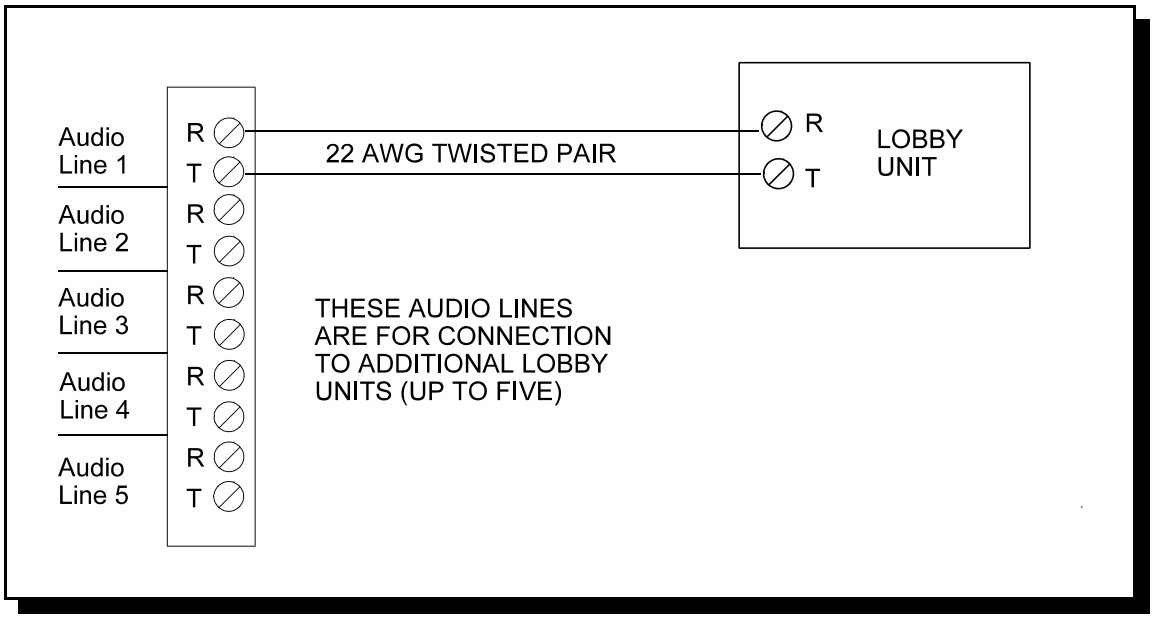
P2 & P3 Expansion to the first NSL Backplane.

SW1 Turns the Unit's Power on and off for servicing, or to re-start the unit.

SW2 DIP Switches to set the Unit' ID. (see Configuration)




WIRING FOR THE NSL UNIT CONTROLLER BOARD
18 AWG
SHIELD
RS-485
Output
RS-485
Input
18 AWG
SHIELD
Daisy chain one to one connection
(+ to +, S to S and - to -) to next RS-485
DO NOT T-TAP
TWISTED SHIELDED PAIR
RS-485
HEADER
FOR PC
HOOK UP TO PERSONAL COMPUTER IF
PROGRAMMING TAS 2000 VIA COMPUTER
POWER
TERMINALS
24V AC
XFMR 1
18 AWG
PS-24
24 VAC
TRANSFORMER


Audio
Line 1
Audio
Line 2
Audio
Line 3
Audio
Line 4
Audio
Line 5
22 AWG TWISTED PAIR
LOBBY
UNIT
THESE AUDIO LINES
ARE FOR CONNECTION
TO ADDITIONAL LOBBY
UNITS (UP TO FIVE)

Most of the 2008M NSL Units settings are actually set by the 2001 Lobby Unit Configuration. One item that is separately set is the NSL Unit's **ID** and **RS-485 Communications Speed**. These are set by the DIP Switches on the NSL Unit's Controller Board. There is an eight position **DIP Switch** numbered **SW2** on the Board located just above the **ON/OFF Switch SW1**. The individual switches are numbered 1 to 8 from the top to the bottom, and are marked as either **ON-OFF, or Closed-Open**. The first five switches set the ID ...

2008M NSL Unit ID #	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
THIS ADDRESS IS NOT ALLOWED AS NSL ID 0 is used for PC ID	ON	ON	ON	ON	ON
1	OFF	ON	ON	ON	ON
2	ON	OFF	ON	ON	ON
3	OFF	OFF	ON	ON	ON
4	ON	ON	OFF	ON	ON
5	OFF	ON	OFF	ON	ON
6	ON	OFF	OFF	ON	ON
7	OFF	OFF	OFF	ON	ON
8	ON	ON	ON	OFF	ON
9	OFF	ON	ON	OFF	ON
10	ON	OFF	ON	OFF	ON
11	OFF	OFF	ON	OFF	ON
12	ON	ON	OFF	OFF	ON
13	OFF	ON	OFF	OFF	ON
14	ON	OFF	OFF	OFF	ON
15	OFF	OFF	OFF	OFF	ON
16	ON	ON	ON	ON	OFF
17	OFF	ON	ON	ON	OFF
18	ON	OFF	ON	ON	OFF
19	OFF	OFF	ON	ON	OFF
20	ON	ON	OFF	ON	OFF
21	OFF	ON	OFF	ON	OFF
22	ON	OFF	OFF	ON	OFF
23	OFF	OFF	OFF	ON	OFF
24	ON	ON	ON	OFF	OFF
25	OFF	ON	ON	OFF	OFF
26	ON	OFF	ON	OFF	OFF
27	OFF	OFF	ON	OFF	OFF
28	ON	ON	OFF	OFF	OFF
29	OFF	ON	OFF	OFF	OFF
30	ON	OFF	OFF	OFF	OFF
31	OFF	OFF	OFF	OFF	OFF

NOTE: DIP Switches 6 and Switch 7 are NOT used.

Every NSL Unit in a given TAS-2000 System requires a unique ID. These should be assigned starting from "1" and going up. Unit IDs must not be duplicated. For example if there are two Lobby Units in a system and they have been given address 1 and 2, then those addresses are not available for the NSL Units.

The remaining DIP Switch, **Switch 8**, defines the NSL Unit's **RS-485 Communications Speed**. This Switch 8 is left in the "OFF" position for 2400 Baud.

All Units in a TAS-2000 System must operate at the same RS-485 Communication Speed!!

The **2008M / 2008 / 2016 NSL Unit Relay Backplane Boards** have both ribbon cable sockets and Relay Board sockets.

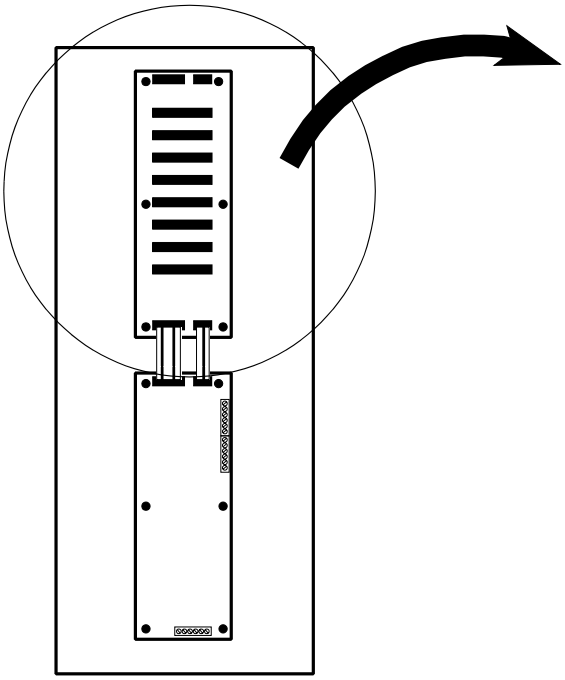
P1 & P2 Expansion from the previous Backplane or the NSL Main Controller board.

P11&12 Expansion to the next Backplane.

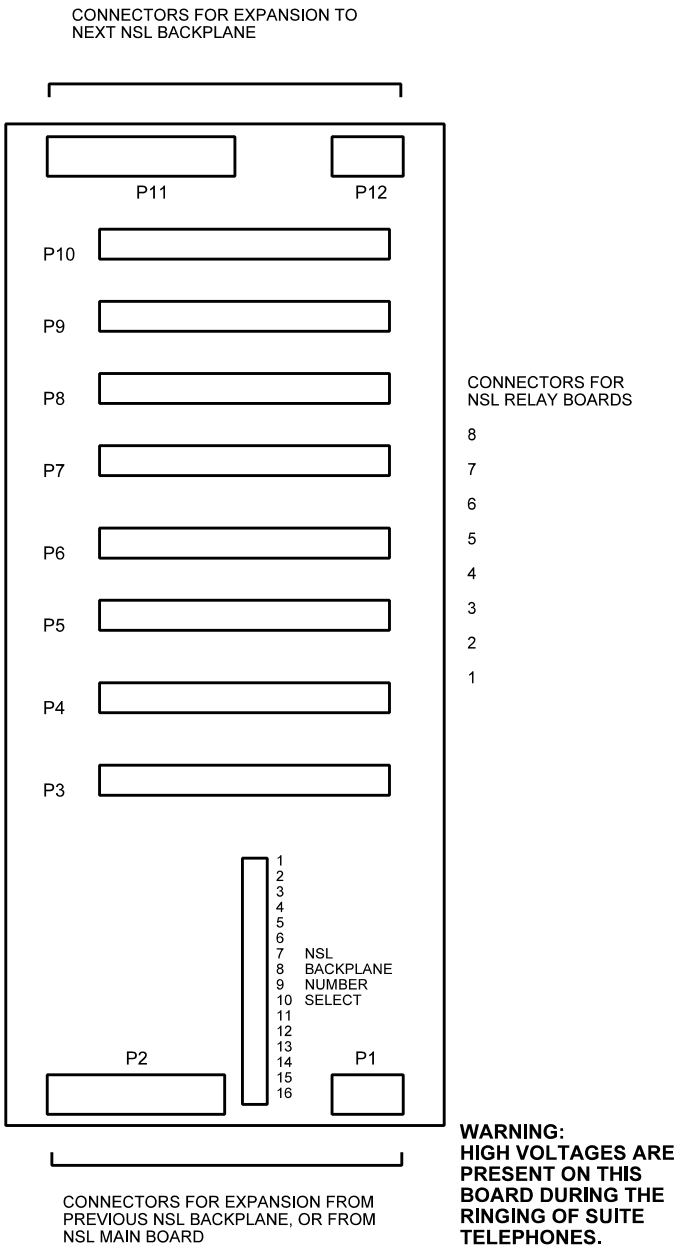
P3 to 10 Connectors for the 2012 NSL Relay Boards. (eight relay boards per backplane)

NSL Backplane Number Select (located between P1 and P2):

There may be up to 16 NSL Backplanes connected to an NSL Main Controller Board. Each has a set of 16 positions for a jumper plug. The first Backplane is jumpered for “1", the next for “2", and so on up to “16".



2008M
NSL Unit



WARNING:
HIGH VOLTAGES ARE PRESENT ON THIS BOARD DURING THE RINGING OF SUITE TELEPHONES.

2012 NSL RELAY BOARD WIRING

The **2012 NSL Relay Board** plugs into the Backplane Boards of the NSL Units. There may be one to eight in each Backplane to a total of 128 per NSL Backplane. In each NSL Backplane the relay boards are numbered 1 to 8, starting from the bottom of the backplane and going to the top. Each relay board provides for connection to 12 Suite (resident) Telephone Lines, for a maximum of 1536 per system. The connections are via **CA-71A BIX Block or RJ-71C Punch Down Block Wiring Configuration**. The CA-71A (for Canada) and RJ-71C (for U.S.A.) Wiring Configurations of BIX or Punch Down Block are shown below. Normally, the required blocks are installed by the telephone company. Each block serves up to 12 telephone lines. The 50 pin Amphenol connector on the BIX block is connected to the 2012 relay card using the standard 9106 cable. Contact the telephone company at least three (3) weeks in advance before the actual installation and order the required blocks. Complete the CA-71A or RJ-71C Block Identification Form (on page 33) for the phone installer. The form instructs the phone installer as to how the phone lines should be wired to the BIX/Punch Down Blocks. All BIX Blocks should be installed as close as possible to the NSL Unit to which they connect.

The following information must be given to the Telephone Company:

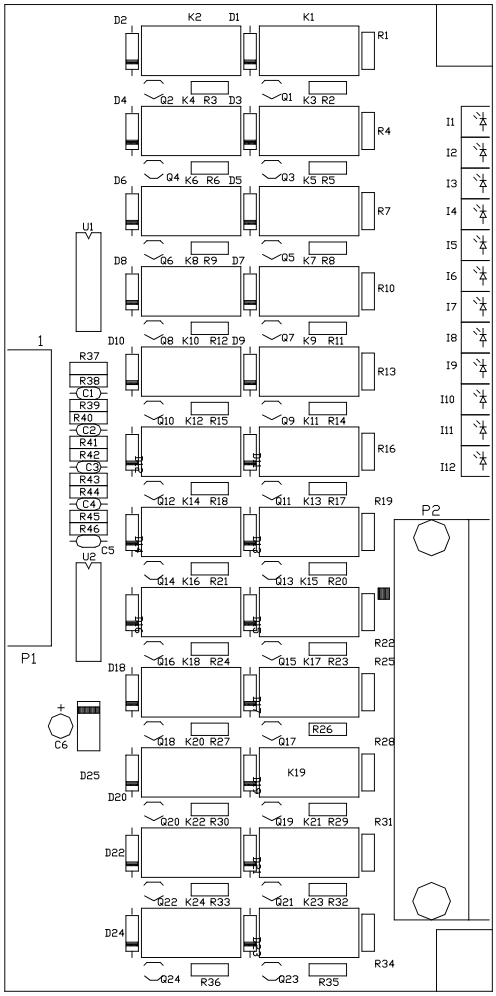
1. Telephone numbers of the lines to which the TAS-2000 System will be connected.
2. The Industry Canada Registration Number for Canada.
3. The FCC Registration Number for U.S.A.
3. The Ringer Equivalence Number (REN) of the TAS-2000 System.

Note: *RJ-71C Wiring Configuration is not recognized by all Telephone Companies. For Bell Canada who has jurisdiction for Ontario and Quebec, refer to CA-71A block for interconnect to the Telephone Entry systems.*

Important notice:

Since there are two types of block wiring configuration, CA-71A and RJ-71C, we recommend the user contact the Telephone Company as to what block wiring configuration is available. We suggest using Mircom's standard 9106 cable for CA-71A or RJ-71C configured blocks since they are straight forward and easy to use.

MODEL 2012 NSL RELAY BOARD

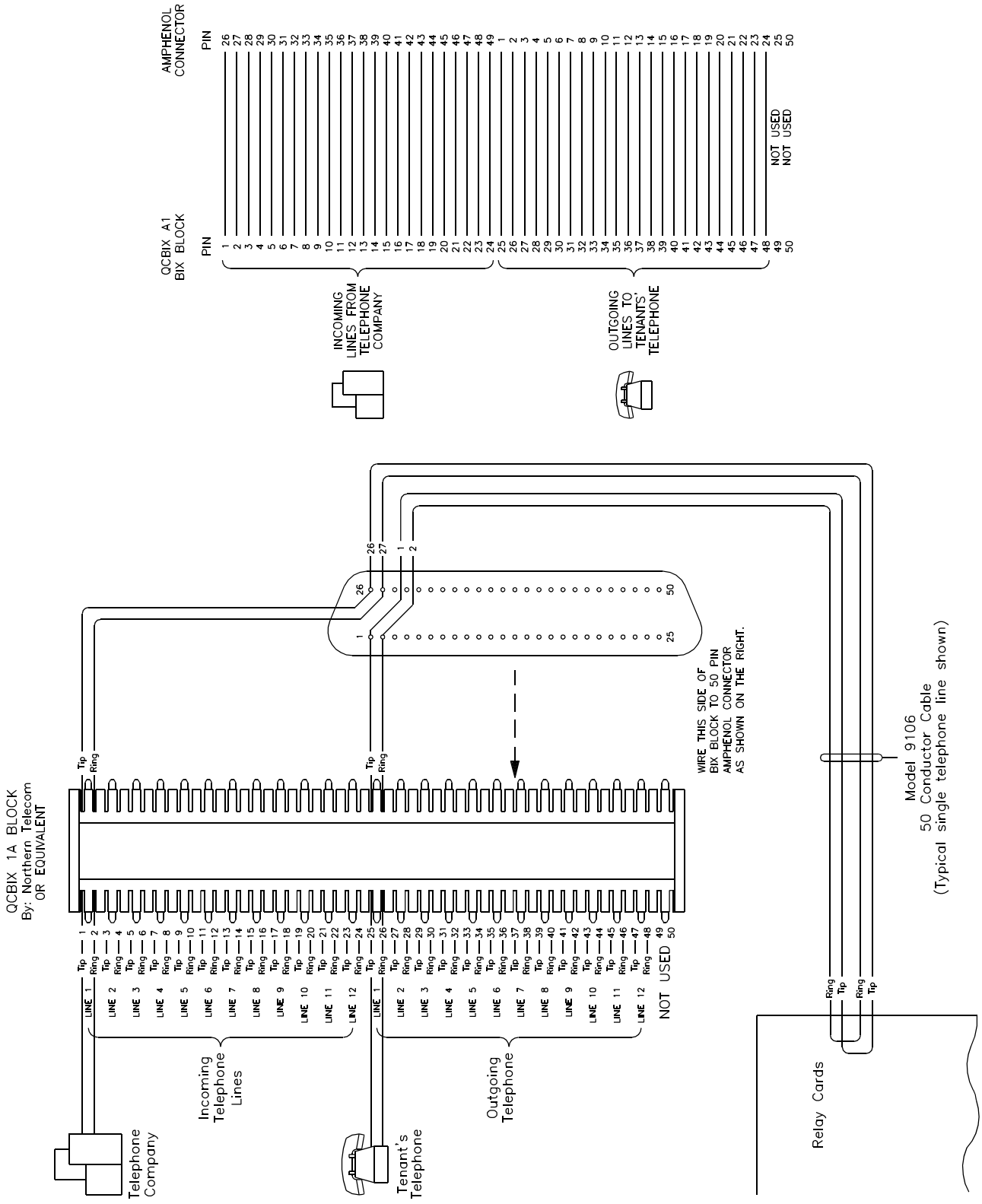


THIS CONNECTOR MOUNTS INTO THE NSL BACKPLANE

INDIVIDUAL RELAY LED IS ILLUMINATED WHEN ASSOCIATED RELAY IS ACTIVATED

AMPHENOL CONNECTION FROM PHONE COMPANY'S RESIDENT TELEPHONE LINES TO THE 2012 NSL RELAY CARD

CA-71A BIX Block Wiring Configuration:

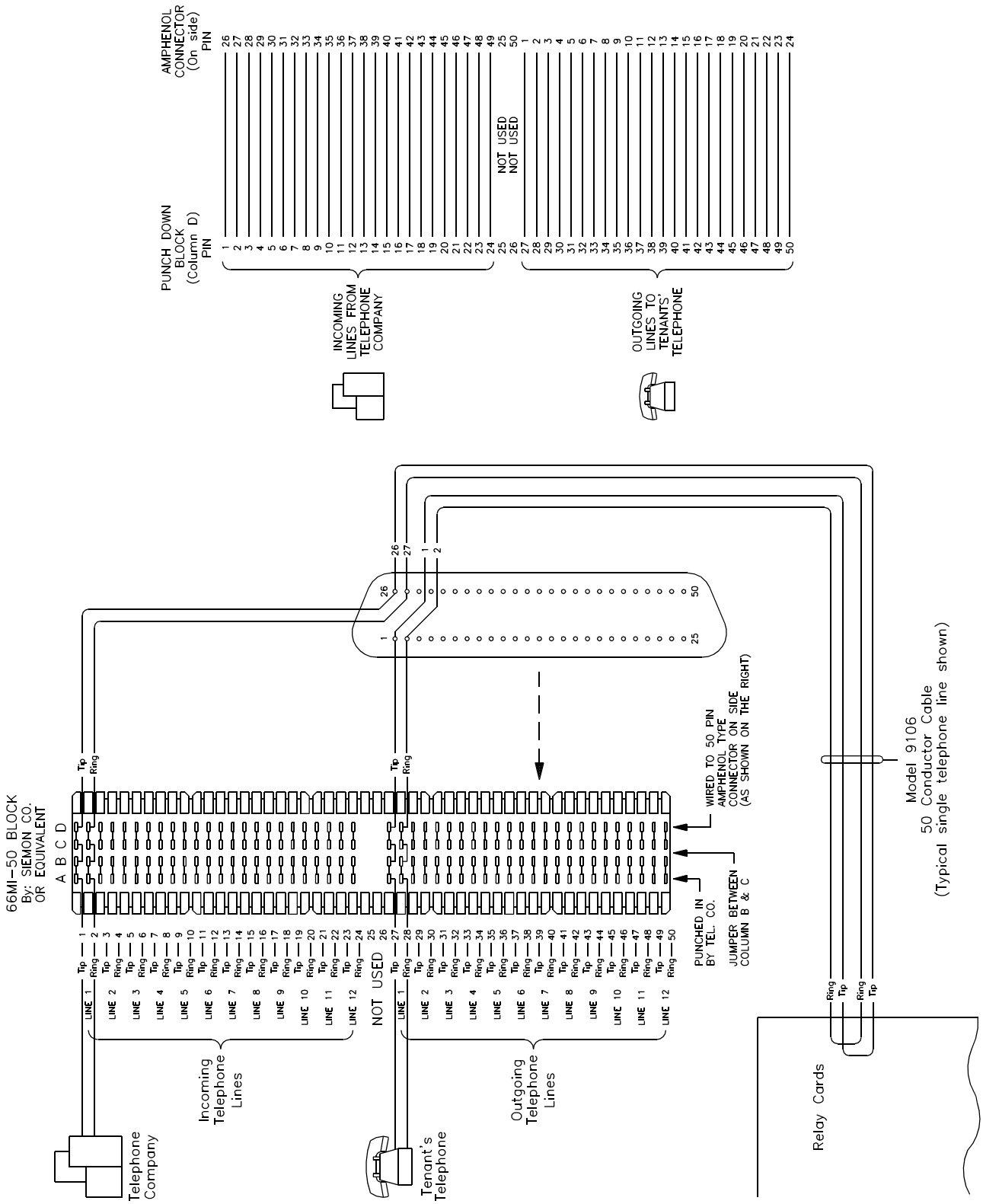


CA-71A BIX Block Identification Form:

RELAY CABINET No. __ OF __ DECODER/MOTHER BOARD No. __

RELAY CARD/ AMP. JACK #	TELEPHONE NUMBER	BLOCK PINS TEL. CO./RES.	APT. #	DIAL CODE	RELAY/ LINE #	RELAY CARD/ AMP. JACK #	TELEPHONE NUMBER	BLOCK PINS TEL. CO./RES.	APT. #	DIAL CODE	RELAY/ LINE #
1		1,2/25,26			0000	5		1,2/25,26			0048
		3,4/27,28			0001			3,4/27,28			0049
		5,6/29,30			0002			5,6/29,30			0050
		7,8/31,32			0003			7,8/31,32			0051
		9,10/33,34			0004			9,10/33,34			0052
		11,12/35,36			0005			11,12/35,36			0053
		13,14/37,38			0006			13,14/37,38			0054
		15,16/39,40			0007			15,16/39,40			0055
		17,18/41,42			0008			17,18/41,42			0056
		19,20/43,44			0009			19,20/43,44			0057
		21,22/45,46			0010			21,22/45,46			0058
		23,24/47,48			0011			23,24/47,48			0059
2		1,2/25,26			0012	6		1,2/25,26			0060
		3,4/27,28			0013			3,4/27,28			0061
		5,6/29,30			0014			5,6/29,30			0062
		7,8/31,32			0015			7,8/31,32			0063
		9,10/33,34			0016			9,10/33,34			0064
		11,12/35,36			0017			11,12/35,36			0065
		13,14/37,38			0018			13,14/37,38			0066
		15,16/39,40			0019			15,16/39,40			0067
		17,18/41,42			0020			17,18/41,42			0068
		19,20/43,44			0021			19,20/43,44			0069
		21,22/45,46			0022			21,22/45,46			0070
		23,24/47,48			0023			23,24/47,48			0071
3		1,2/25,26			0024	7		1,2/25,26			0072
		3,4/27,28			0025			3,4/27,28			0073
		5,6/29,30			0026			5,6/29,30			0074
		7,8/31,32			0027			7,8/31,32			0075
		9,10/33,34			0028			9,10/33,34			0076
		11,12/35,36			0029			11,12/35,36			0077
		13,14/37,38			0030			13,14/37,38			0078
		15,16/39,40			0031			15,16/39,40			0079
		17,18/41,42			0032			17,18/41,42			0080
		19,20/43,44			0033			19,20/43,44			0081
		21,22/45,46			0034			21,22/45,46			0082
		23,24/47,48			0035			23,24/47,48			0083
4		1,2/25,26			0036	8		1,2/25,26			0084
		3,4/27,28			0037			3,4/27,28			0085
		5,6/29,30			0038			5,6/29,30			0086
		7,8/31,32			0039			7,8/31,32			0087
		9,10/33,34			0040			9,10/33,34			0088
		11,12/35,36			0041			11,12/35,36			0089
		13,14/37,38			0042			13,14/37,38			0090
		15,16/39,40			0043			15,16/39,40			0091
		17,18/41,42			0044			17,18/41,42			0092
		19,20/43,44			0045			19,20/43,44			0093
		21,22/45,46			0046			21,22/45,46			0094
		23,24/47,48			0047			23,24/47,48			0095

RJ-71C Punch-Down Block Wiring Configuration:



RJ-71C Punch-Down Block Identification Form:

RELAY CABINET No. __ OF __ DECODER/MOTHER BOARD No. __

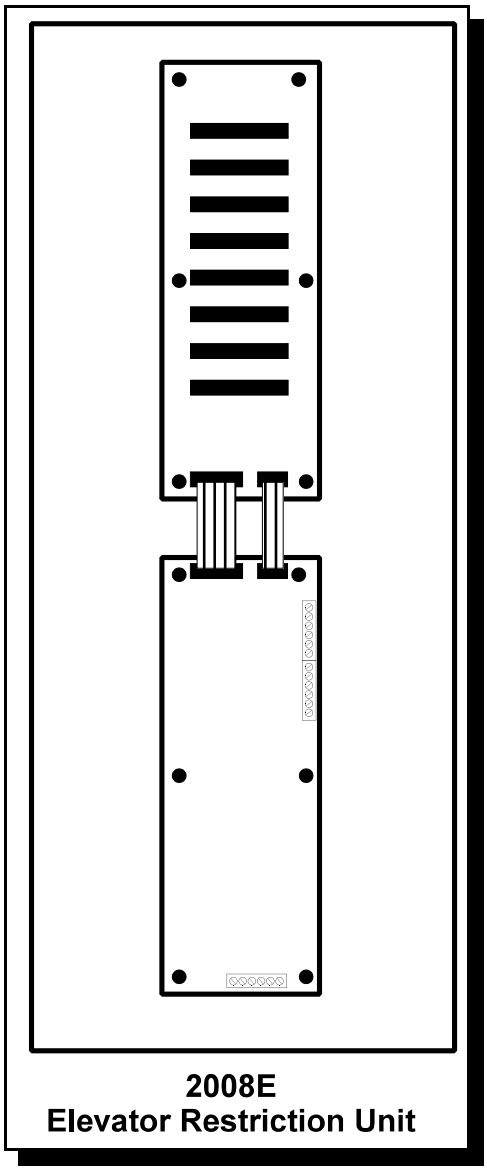
RELAY CARD/ AMP. JACK #	TELEPHONE NUMBER	BLOCK PINS TEL. CO./RES.	APT. #	DIAL CODE	RELAY/ LINE #	RELAY CARD/ AMP. JACK #	TELEPHONE NUMBER	BLOCK PINS TEL. CO./RES.	APT. #	DIAL CODE	RELAY/ LINE #
1		1,2/27,28			0000	5		1,2/27,28			0048
		3,4/29,30			0001			3,4/29,30			0049
		5,6/31,32			0002			5,6/31,32			0050
		7,8/33,34			0003			7,8/33,34			0051
		9,10/35,36			0004			9,10/35,36			0052
		11,12/37,38			0005			11,12/37,38			0053
		13,14/39,40			0006			13,14/39,40			0054
		15,16/41,42			0007			15,16/41,42			0055
		17,18/43,44			0008			17,18/43,44			0056
		19,20/45,46			0009			19,20/45,46			0057
		21,22/47,48			0010			21,22/47,48			0058
		23,24/49,50			0011			23,24/49,50			0059
2		1,2/27,28			0012	6		1,2/27,28			0060
		3,4/29,30			0013			3,4/29,30			0061
		5,6/31,32			0014			5,6/31,32			0062
		7,8/33,34			0015			7,8/33,34			0063
		9,10/35,36			0016			9,10/35,36			0064
		11,12/37,38			0017			11,12/37,38			0065
		13,14/39,40			0018			13,14/39,40			0066
		15,16/41,42			0019			15,16/41,42			0067
		17,18/43,44			0020			17,18/43,44			0068
		19,20/45,46			0021			19,20/45,46			0069
		21,22/47,48			0022			21,22/47,48			0070
		23,24/49,50			0023			23,24/49,50			0071
3		1,2/27,28			0024	7		1,2/27,28			0072
		3,4/29,30			0025			3,4/29,30			0073
		5,6/31,32			0026			5,6/31,32			0074
		7,8/33,34			0027			7,8/33,34			0075
		9,10/35,36			0028			9,10/35,36			0076
		11,12/37,38			0029			11,12/37,38			0077
		13,14/39,40			0030			13,14/39,40			0078
		15,16/41,42			0031			15,16/41,42			0079
		17,18/43,44			0032			17,18/43,44			0080
		19,20/45,46			0033			19,20/45,46			0081
		21,22/47,48			0034			21,22/47,48			0082
		23,24/49,50			0035			23,24/49,50			0083
4		1,2/27,28			0036	8		1,2/27,28			0084
		3,4/29,30			0037			3,4/29,30			0085
		5,6/31,32			0038			5,6/31,32			0086
		7,8/33,34			0039			7,8/33,34			0087
		9,10/35,36			0040			9,10/35,36			0088
		11,12/37,38			0041			11,12/37,38			0089
		13,14/39,40			0042			13,14/39,40			0090
		15,16/41,42			0043			15,16/41,42			0091
		17,18/43,44			0044			17,18/43,44			0092
		19,20/45,46			0045			19,20/45,46			0093
		21,22/47,48			0046			21,22/47,48			0094
		23,24/49,50			0047			23,24/49,50			0095

Elevator Restriction function allows the visitor limited access in the building. The **2008E Elevator Restriction Unit** includes a cabinet for mounting into an electrical room with the Main Elevator Restriction Controller Board and the Elevator Backplane. Up to eight **2012E Elevator Relay Boards** may be installed, allowing for 96 Elevator floors to be accessed in this enclosure.

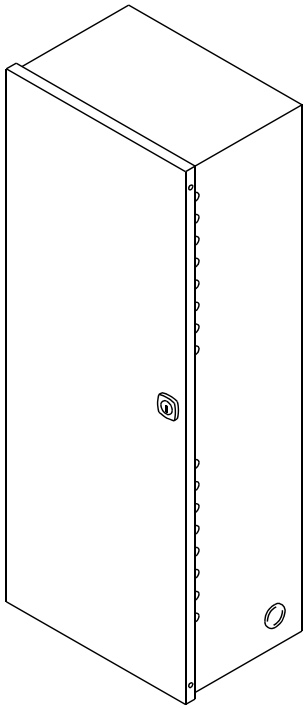
The **2008E Elevator Restriction Unit** performs the following functions ...

- Provides time dependent relay contacts which can be used for either Elevator control or Video control
- User selectable timer for relay contacts, settable for each 2008E Elevator Restriction Unit at each 2001 Lobby Unit.
- **RS-485 Interface** to network to other Units.
- **Low Power** operation from **one 24V transformer**.

See the NSL & Elevator Unit Enclosure section for mechanical and mounting information.



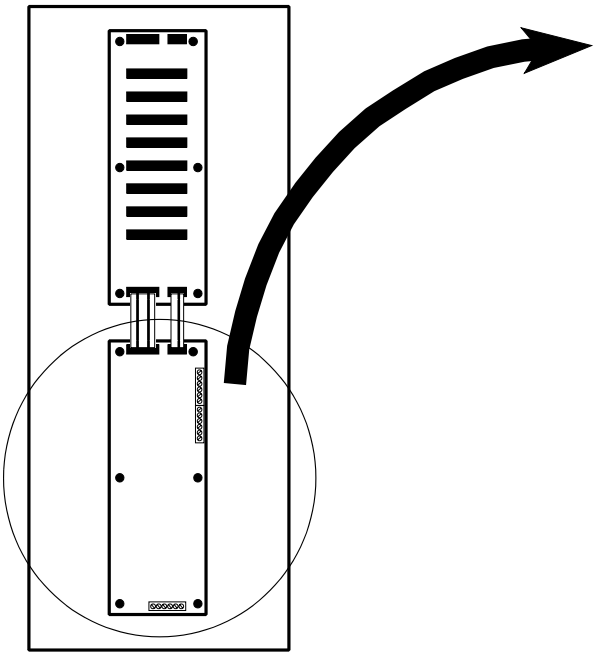
2008E
Elevator Restriction Unit



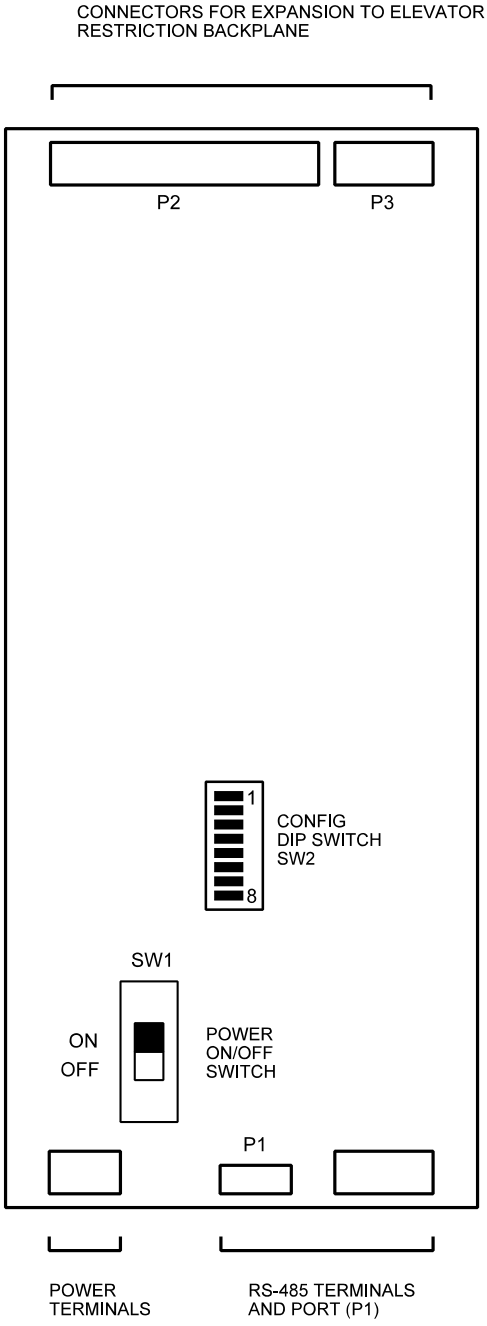
2008E ELEVATOR RESTRICTION UNIT WIRING

The **2008E Elevator Restriction Unit Controller Board** has both ribbon cable sockets for connection to the Backplane Board.

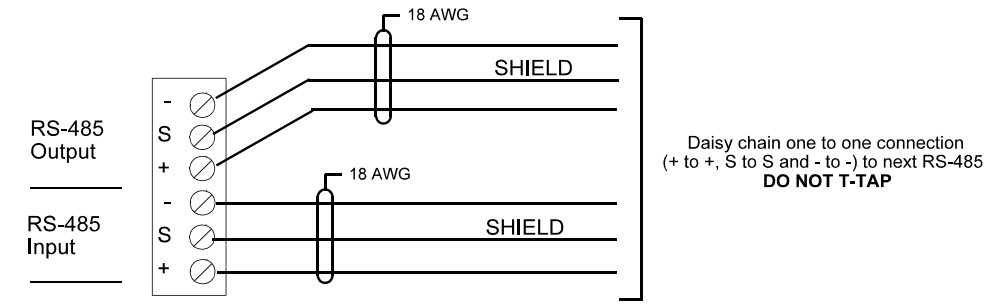
P1	**RS-485 Port** for connection to an RS-485IMA Interface Module.
P2 & P3	Expansion to the Elevator Restriction Backplane.
SW1	Turns the Unit's Power on and off for servicing, or to re-start the unit.
SW2	To set the Unit's ID. (see Elevator Restriction Unit Configuration)

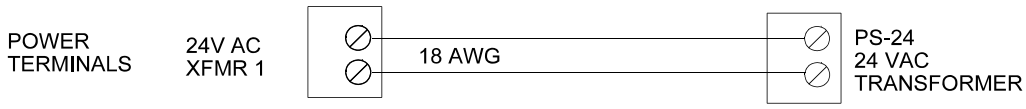


2008E Elevator Restriction Unit



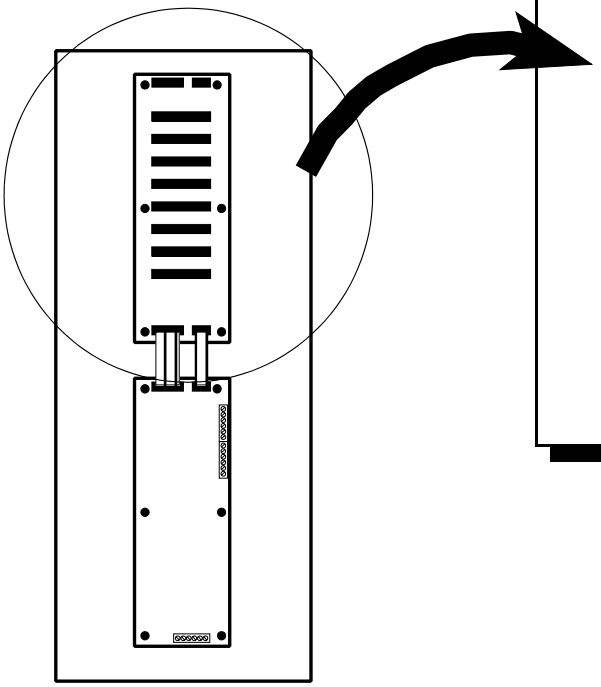
WIRING FOR THE ELEVATOR RESTRICTION CONTROLLER BOARD



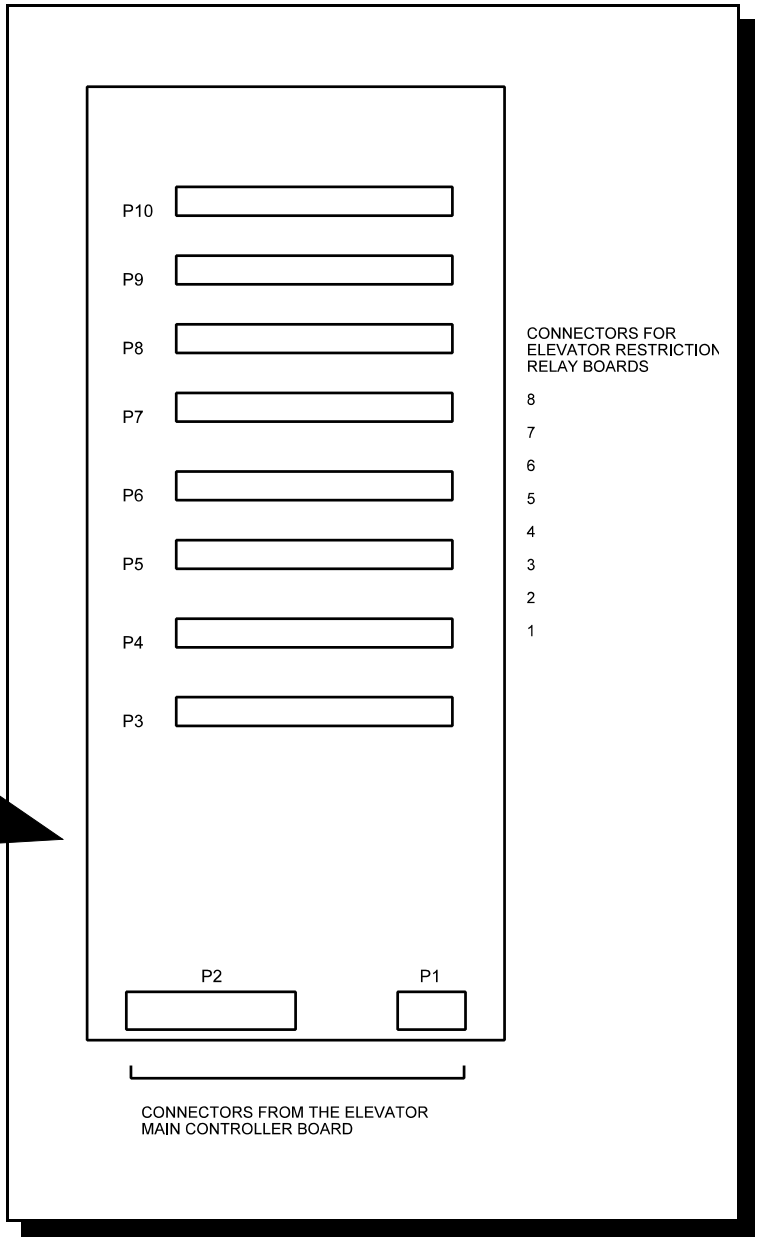


The **2008E Elevator Restriction Unit Backplane Board** has ribbon cables to connect to the Elevator Main Controller Board and 2012E Relay Board sockets. There can only be one Backplane Board per 2008E Unit.

P1 & P2	Expansion from the Elevator Restriction Main Controller Board.
P3 to 10	Connectors for the Elevator Restriction 2012E Relay Boards (maximum eight relay boards per backplane).



2008E Elevator Restriction Unit



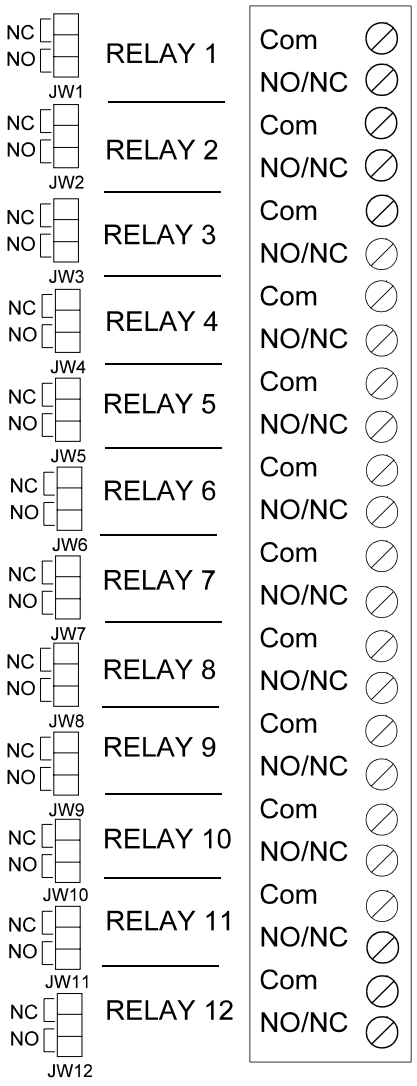
The **2012E Elevator Restriction Relay Boards** plug into the Backplane portion of the 2008E Elevator Restriction Unit. They number from 1 to 8 starting from the bottom slot and moving towards the top. Each has 12 Form “A” or “B” (Each is Jumper selectable as Normally Closed or Normally Open) Relay contacts rated at 28 VDC, 0.5 ampere. There may be a total of 96 Elevator Restriction Relays in each 2008E Unit.

JW1-12 Jumpers for selecting Normally Open or Normally Closed Relay operation.

I1-12 LED’s indicating when each Relay is active.

RLY1-12 Screw Terminal Contacts for each Relay.

2012E ELEVATOR RESTRICTION RELAY CARD



RELAY RATING:
JUMPER EACH RELAY
EITHER NORMALLY OPEN
OR NORMALLY CLOSED VIA
JUMPERS JW1 THROUGH
TO JW12

2008E ELEVATOR RESTRICTION UNIT CONFIGURATION

Most of the 2008E Elevator Restriction Units settings are actually set by the 2001 Lobby Unit Configuration. One item that is separately set is the Elevator Restriction Unit's **ID** and **RS-485 Communications Speed**. These are set by the DIP Switches on the Elevator Restriction Unit's Controller Board. There is an eight position **DIP Switch** labelled **SW2** on the Board located just above the **On/Off Switch SW1**. The individual switches are numbered 1 to 8 from the top to the bottom, and are marked as either **ON-OFF, or Closed-Open**. The first five switches set the ID ...

2008E Elevator Unit ID #	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
THIS ADDRESS IS NOT ALLOWED AS ELEVATOR ID 0 is used for PC ID	ON	ON	ON	ON	ON
1	OFF	ON	ON	ON	ON
2	ON	OFF	ON	ON	ON
3	OFF	OFF	ON	ON	ON
4	ON	ON	OFF	ON	ON
5	OFF	ON	OFF	ON	ON
6	ON	OFF	OFF	ON	ON
7	OFF	OFF	OFF	ON	ON
8	ON	ON	ON	OFF	ON
9	OFF	ON	ON	OFF	ON
10	ON	OFF	ON	OFF	ON
11	OFF	OFF	ON	OFF	ON
12	ON	ON	OFF	OFF	ON
13	OFF	ON	OFF	OFF	ON
14	ON	OFF	OFF	OFF	ON
15	OFF	OFF	OFF	OFF	ON
16	ON	ON	ON	ON	OFF
17	OFF	ON	ON	ON	OFF
18	ON	OFF	ON	ON	OFF
19	OFF	OFF	ON	ON	OFF
20	ON	ON	OFF	ON	OFF
21	OFF	ON	OFF	ON	OFF
22	ON	OFF	OFF	ON	OFF
23	OFF	OFF	OFF	ON	OFF
24	ON	ON	ON	OFF	OFF
25	OFF	ON	ON	OFF	OFF
26	ON	OFF	ON	OFF	OFF
27	OFF	OFF	ON	OFF	OFF
28	ON	ON	OFF	OFF	OFF
29	OFF	ON	OFF	OFF	OFF
30	ON	OFF	OFF	OFF	OFF
31	OFF	OFF	OFF	OFF	OFF

NOTE: DIP Switches 6 and Switch 7 are NOT used.

Every Elevator Restriction Unit in a given TAS-2000 System requires a unique ID. Unit IDs must not be duplicated. The remaining DIP Switch, **Switch 8**, defines the Elevator Restriction Unit's **RS-485 Communications Speed**. This Switch 8 is left in the "OFF" position for 2400 Baud.

All Units in a TAS-2000 System must operate at the same RS-485 Communication Speed!!!

APPENDIX A - SPECIFICATIONS

Operating Temperature: 50°C (122°F) to -20°C(-4°F). For installation where the ambient temperature falls below 0°C (32°F), it is necessary that a TH-102 Thermostat Heater be installed within the enclosure.

Telephone Lines: Use only Loop Start telephones (not ground start), check with your local telephone company.

AC Power Supply: 105 to 128 VAC.

Power Transformers:

Mircom Model PS-4	16 VAC/ 40 VA, CSA approved Class 2 Power Transformer.
Mircom Model PS-3B	8 VAC/ 13 VA, 16 VAC/17 VA, 24 VAC/20 VA, CSA approved Class 2 Power Transformer.
Mircom Model PS-24	24 VAC/ 40 VA, CSA approved Class 2 Power Transformer.

Door Strikes: Select the appropriate door strike as required by your system applications. We recommend using Mircom's door strikes below and its compatible power transformer.

Mircom Model M-10	DC (silent) or AC (buzzing) Door Strike. (Use PS-3B transformer)

The door strike must have its own separate power transformer. Do not tap or use the system power transformers. When using a different door strike and door strike transformer, the maximum strike load that may be switched through the control unit is 28 VAC or DC, 3.0 Amp. Maximum.

Post Office Lock: The system has a built-in micro switch and mounting hardware for postal lock installation. If a postal service is required, contact the Post Office to obtain the lock.

Tamper Switch: This switch can be connected to any security or monitoring system to supervise the opening of the panel front door. This microswitch is the same type used for the postal lock. This switch is normally open when the panel front door of the Tas 2000 is closed, 28V AC or DC, 1A.

APPENDIX B: PROGRAMMING THE TAS 2000 VIA THE KEYPAD

To program the TAS-2000 via the keypad, press the number 9 four times ‘9999', the following screen will appear,

```
Enter the Password
[ _ _ _ _ _ _ _ _ _ _ ]
```

Press the keys 1111111111 (Default Password) and you will get you will get a list of operations that can be chosen (Programming Menu).

Press **#** key to move down the list and ***** to go back up the list and **0** to select a function. The list of programming functions are as follows:

- 〉Add new record
- 〉Edit record
- 〉Delete record
- 〉Main Door DTMF
- 〉Aux. Door DTMF
- 〉Online Timer
- 〉Door Timer
- 〉Change Password
- 〉Set Time and Date
- 〉Show Time and Date
- 〉Show Logging
- 〉Sort by Name
- 〉Sort by Dial Code
- 〉Auto Sort order
- 〉Select language
- 〉Set NSL ID and SP
- 〉Set Elev ID and Time (delay)
- 〉Auto program
- 〉Set Tone/Pulse mode
- 〉Reset

Continued on next page,

〉Initialize Logging

〉Init/Erase all Data

〉Exit

We will provide information as to how to input data using the programming menu. The following table provides the function of the command keys used to program the TAS 2000.

COMMAND KEYS	
Key	FUNCTION
#	to move arrow down **or** accept
*	to move arrow up **or** cancel
0	(zero) to select function arrow is positioned at
1	to edit **or** enter
9	to exit to Opening Screen **or** Programming Menu

IMPORTANT

Before entering any data into the system, the following three steps must be performed in order to initialize the system properly.

1. Before you enter resident names and dial codes or do anything, move the arrow to Init/Erase all data, you will see the following screen,

```
Are you sure?
[*=CANCEL][#=OK]
```

press #, this will erase all data, initialize the system and add all the default values and returns to the Opening Screen (acts as an ON/OFF switch).

2. Next move the arrow to Initialize Logging, you will see the following screen,

```
Are you sure?
[*=CANCEL][#=OK]
```

press the # key and this will eliminate all present logging.

Preform these two functions first, before entering any data into the TAS-2000.

3. Auto Sort Order

Place arrow on the Auto Sort Order function and press 0 to select and the next screen will be:

```
[0]  [0=NS,1=BN,2=BDC]
```

NS= NO SORT
BN= BY NAME
BDC= BY DIAL CODE

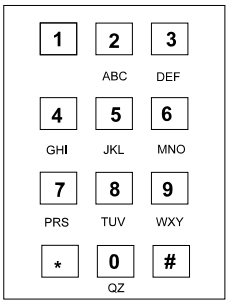
Select the type of sorting required, for example if sorting alphabetically by name enter the digit 1 (by pressing the 1 key) and then press # key to accept this and move back to the programming menu. Reset the system at this point, prior to adding names. By doing this, whatever data you now enter will automatically be sorted in the order in which it was programmed above (i.e. by name in this example) and is not affected by the power on or off of the system. If the Auto Sort Order was not selected prior to entering names, then in the case of power failure, the names will return to the order of entry.

Add New Record

To add resident names and dial codes move arrow to the 'Add new record' function. Use the **#** and ***** keys to move arrow up and down. To select the 'Add new record' function press **0**. The display will show,

```
Enter Name
[_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _]
```

To enter a name use the keys 0 to 9 and press once, twice or three times depending on the letter which is required, see diagram below:



As an example, for the letter **A**, press the '2' key once, for the letter **B**, press the '2' key twice and for the letter **C**, press the '2' key three times and so on. For a backspace, press the **1** key once , for a comma, press the **1** key twice and to get a dash (-) press the **1** key three times. Press the **0** key once to get the letter "blank" and twice to get the letter **Q** and press 3 times to get the letter **Z**. To leave a space, press the **0** key three times.

"1" Key	**Once**	-	Backspace	**" 0" Key**	**Once**	-	Blank
	Twice	-	Comma		**Twice**	-	Q
	3 Times	-	"-" dash		**3 Times**	-	Z

Once the name is entered press **#** to accept; the next screen will be as shown in the following table.

PROGRAMMING MENU	NSL (SCROLLING)	NSL (NON-SCROLLING)	ADC (SCROLLING)	ADC (NON-SCROLLING)	Explanation/Description
Enter Name [_____]	✔		✔		Enter the resident's name (15 digits)
Enter Telephone No. [_____]			✔	✔	Enter the resident's telephone number (14 digits including comma which is used as 1 second delay). Press # and the 1 for comma. Press # and 2 for space. Press # twice to finish entering the phone number.
Enter Dial Code [_ _ _ _]	✔	✔	✔	✔	Enter the resident's Dial Code (4 digits)
Enter Relay Code [_ _ _ _]	✔	✔			Enter the resident's assigned Relay Code. Note: Relay codes start at 0000 for first relay.
Enter NSL-ID [_ _]	✔	✔			Enter the ID decimal value of NSL controller for above resident (2 digits).
Enter Elevator Code [_ _]	✔	✔	✔	✔	Enter the Elevator Restriction Relay number for above resident. **Note:** Relay codes start at 00 for first relay. **Press # or enter 99** to disable, if no elevator control is used.
Enter Elevator ID [_ _]	✔	✔	✔	✔	Enter the ID (decimal value) of the Elevator Restriction controller for above resident.
Enter Keyless Code [_ _ _ _]	✔	✔	✔	✔	Enter the assigned Keyless Code for above resident (if used)
Enter Ring Pattern [_ _]	✔	✔			Enter the decimal value for Ring Pattern for above resident. See table below for available ring patterns (2 digits). Default is 02.

NOTE: Always remember the Command Keys (see Command Keys table on page 48) to move through the menu and accept data.

Keyless Entry: To enter the premises with a keyless code, the user must first enter the number **0** at which point they will be prompted with 'Enter keyless code'. Enter your four digit keyless code and you will automatically gain entrance to the premises. Example:

4 Digit Keyless code

0 XXXX

Decimal Value	AVAILABLE RING PATTERN						
01	2s ON	4s OFF					standard ring **A**
02	800ms ON	400ms OFF	800ms ON	4s OFF			distinct ring **B**
03	200ms ON	400ms OFF	200ms ON	400ms OFF	800ms ON	4s OFF	distinct ring **C**
04	200ms ON	400ms OFF	800ms ON	400ms OFF	200ms ON	4s OFF	distinct ring **D**

Edit Record

Place arrow on Edit Record and press **0** and you will get the dial code and resident name

```
1212>SMITH
1213 JONES
```

Use the **#** key to scroll down the list of residents. Once the arrow is pointing to the resident that requires a change, press **1** to edit. The screen will be the same as Add New Record except it will have the information of this particular resident already there. Re-enter the correction directly (via the keys as described in Add New Record section) and the next screen will be telephone number (ADC only), enter dial code etc. If errors are made as letters are entered, press **1** to backspace (which deletes the letter every time you backspace) and re-enter a new letter. Enter changes to these parameters as necessary, if no further changes are required, press **#** to go back to the Edit Record function. Press **9** to go back to the programming menu.

Delete Record

To delete any resident name and dial code, select this function. The screen will show the dial code and resident name. You may scroll through the names via the **#** key. Then to delete the name and dial code and all information associated with this resident, press **1** to delete.

```
1212>SMITH
1213 JONES
```

Once a name (and all information on this resident) has been deleted, the screen will go back to the Delete Record function. At this point you may delete other residents or press **9** to go back to the programming menu.

NOTE: There is no warning before deleting. Deletes one resident record at a time.

Main Door DTMF

Place arrow on Main Door DTMF and press ‘0' and the next screen will be:

```
Main Door DTMF
[ 9 ]
```

This function defines the key which will be pressed by the resident to open the main door, the default is 9. Press any other number if you wish to change this. NOTE: for pulse phones, make the DTMF key higher than 5 to avoid interpretive problems. Press **#** to go back to programming menu.

Aux Door DTMF

Place arrow on Aux Door DTMF and press **0** and the next screen will be:

```
Aux Door DTMF
[ 6 ]
```

This function defines the key which will be pressed by the resident to open the auxiliary door, the default is 6. Press any other number if you wish to change this. Press **#** to go back to programming menu.

Online Timer

Place arrow on Online Timer and press **0** and the next screen will be:

```
Online Timer
[ _ _ 6 0 ]
```

This function defines the length of time that a visitor may be on the phone with a resident, the default is 60 seconds. Enter any other numbers if you wish to change this, the number represents time in seconds. Press **#** to go back to programming menu.

Door Timer

Place arrow on Door Timer and press **0** and the next screen will be:

```
Door Timer
[ 1 0 ]
```

This function defines the length of time that the door will be open; the default is 10 seconds. Enter any other numbers if you wish to change this. Press **#** to go back to programming menu.

Change Password

Place arrow on Change Password and press **0** and the next screen will be:

```
Change Password
[ _ _ _ _ _ _ _ _ _ _ ]
```

The password is 9 digits, enter numbers 1111111111 to change the password from the default. If the new password is forgotten, call our Factory for the master code.

Set Time and Date

NOTE: Any time the parameters above are changed, the system must be reset, by chosing the options menu and selecting reset. Parameters such as DTMF Values, Timers and Password.

Place arrow on Set Time and Date and press **0** and the next screen will be:

```
[MM/DD/YYYY][HH:MM]
[__/__/____][__:__]
```

Enter month, for example August as ‘08', day ‘10', year ‘1999' and the hour and minutes. Press **#** to go back to programming menu. **NOTE:** The TAS 2000 is Y2K compliant.

Show Time and Date

Place arrow on the Show Time and Date function and press **0** and the next screen will be:

```
Date: 08/10/1999
Time: 10:42:33
```

Press **#** to go back to programming menu.

Show Logging

Please remember to Initialize Logging before operating this feature.

Place arrow on Show Logging and press **0** and the next screen will be:

```
Log data not present
```

This message will arise if the system has just be installed, if events have occurred such as dial codes entered and doors opened; all this information will be listed with date and time. See below for example:

```
0001 08/10/99 10:42
4321D Acc: Yes
```

The first four digits represents the index of logged events in sequence form 1 (0001) and up to 1000. The next digits 08/10/99 represents the date as month, day and year. Following is the time in hour and minutes. The second line shows the 4 digit code dialed to get entrance. The following letter is D= for dial code or K=keyless code. Acc: represents access and followed by Yes or No depending if access was granted or not.

Sort By Name

Place arrow on Sort by Name and press `0' and the next screen will be:

```
Sorting please wait...
```

Press **#** to go back to programming menu.

NOTE: The system will sort the entered data by name, but should there be a power failure or reset the names will returned to the order in which they were entered.

Sort By Dial Code

Place arrow on Sort by Dial Code and press **0** and the next screen will be:

```
Sorting please wait...
```

NOTE: The system will sort the entered data by dial code, but should there be a power failure or reset the names will returned to the order in which they were entered.

Select Language

The default language is English. If the Multi Language selection is entered, the opening screen flips through all the three languages, once a key is hit as one of the languages is on screen, then all the following messages will be in that language.

```
Enter Language [_]
0=E 1=F 2=S 3=M
```

0=English
1=French
2=Spanish
3=Multi Language (English and French)

Press **#** key to go back to the programming menu.

NOTE: The system must be Reset after selecting French, Spanish or Multi Language for the selection to be activated.

Set NSL ID and SP

This function is for setting the NSL ID and speech path (SP). Each NSL controller has five (5) speech paths or audio lines (AUDIO LINES 1 TO 5) to select. These speech paths are used as audio lines which can be connected to as many as five (5) lobby panels. Because of this unique feature, the system can be configured to accept calls from any lobby panel connected to it. Please note that each NSL unit can only accept one caller at a time. If a particular NSL unit is in use and a subsequent call comes in from another lobby panel, the system will indicate the line is busy. Another feature of TAS 2000 is that each lobby panel can be connected to eight (8) NSL units. With this feature, the lobby panel can call any of the NSL units. This is particularly useful when a lobby panel is required to talk to several buildings with several NSL units.

To program this lobby panel, the user has to identify what "NSL ID" and "Audio Line Number" this unit is connected to. Since this lobby panel can be connected to as many as eight (8) NSL systems, each NSL ID and Audio Line number has to be entered. Record all NSL IDs (from 01 to 31) and SP (01 to 05) below for future reference.

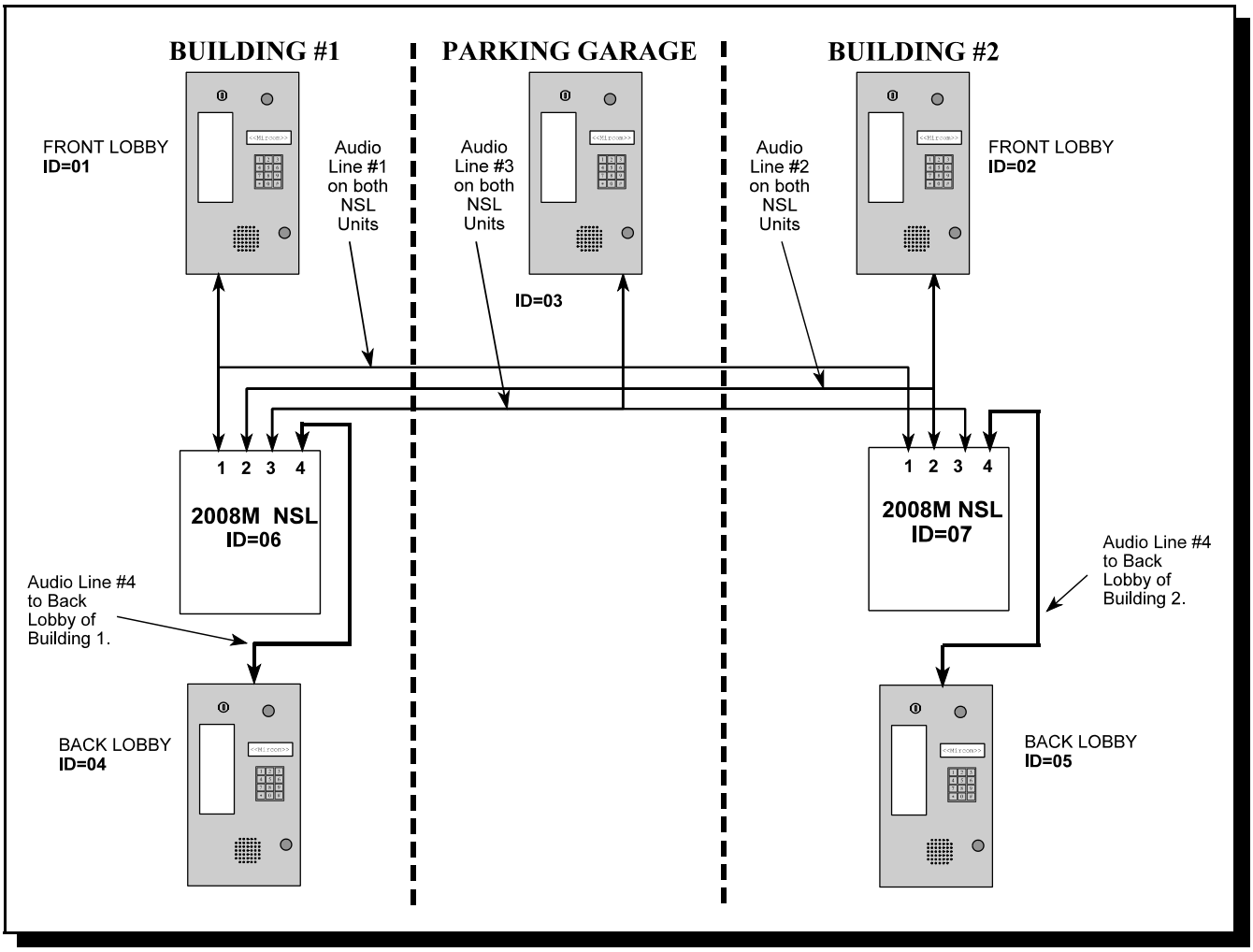
NOTE: Press # or enter 99 for any entries not used rather than leave blank.

Program the system by selecting the **Set NSL ID and SP.** Enter all numerical values and press # to accept, otherwise press * to cancel.

Enter NSLA ID&SPA [_ _] [_ _]	NSL Cabinet A
Enter NSLB ID & SPB [_ _] [_ _]	NSL Cabinet B
Enter NSLC ID & SPC [_ _] [_ _]	NSL Cabinet C
Enter NSLD ID & SPD [_ _] [_ _]	NSL Cabinet D
Enter NSLE ID & SPE [_ _] [_ _]	NSL Cabinet E
Enter NSLE ID & SPF [__] [__]	NSL Cabinet F
Enter NSLE ID & SPG [_ _] [_ _]	NSL Cabinet G
Enter NSLE ID & SPH [__] [__]	NSL Cabinet H

EXAMPLE OF SPEECH PATH DESIGNATION:

In the following example, there are five lobby units and two NSL units. They each must be given an ID (two digit address). The NSL with ID 06 must talk to the Front Lobby Panel of Building #1 as does the NSL with ID 07. The NSL with ID 06 must also talk to the Front Lobby Panel of Building #2 as does the NSL with ID 07. The NSL with ID 06 must also talk to the Parking Garage Lobby Panel as does NSL with ID 07. This is a shared access set up. The Back Lobby Panel of Building #1 will only talk to the NSL with ID 06 since it only needs to access Building #1. The Back Lobby Panel of Building #2 will only talk to the NSL with ID 07 since it only needs to access Building #2. Below is a diagram which represents this example system.



We may now fill in the NSL IDs and their speech path for each Lobby Panel

Program the Lobby Panel with address 01 in Building #1 by selecting the **Set NSL ID and SP** function on the menu. Enter all numerical values and press # to accept, otherwise press * to cancel.

Enter NSLA ID&SPA [06][01]	NSL Cabinet A
Enter NSLB ID & SPB [07][01]	NSL Cabinet B
Enter NSLC ID & SPC [99][99]	NSL Cabinet C
Enter NSLD ID & SPD [99][99]	NSL Cabinet D
Enter NSLE ID & SPE [99][99]	NSL Cabinet E
Enter NSLE ID & SPF [99][99]	NSL Cabinet F
Enter NSLE ID & SPG [99][99]	NSL Cabinet G
Enter NSLE ID & SPH [99][99]	NSL Cabinet H

NOTE: Press # or enter 99 for any entries not used rather than leave blank.

Further, the other lobby panels have to be programmed accordingly. The Lobby Panel of Building #2 with ID=02 will be entered in the same manner as above. The Parking Garage Lobby will be:

	NSL ID	Speech Path (SP) or Audio Line		NSL ID	Speech Path (SP) or Audio Line
NSLA ID	06	03	NSLE ID	99	99
NSLB ID	07	03	NSLF ID	99	99
NSLC ID	99	99	NSLG ID	99	99
NSLD ID	99	99	NSLH ID	99	99

For the back lobby of Building #1, the set up will be:

	NSL ID	Speech Path (SP) or Audio Line		NSL ID	Speech Path (SP) or Audio Line
NSLA ID	06	04	NSLE ID	99	99
NSLB ID	99	99	NSLF ID	99	99
NSLC ID	99	99	NSLG ID	99	99
NSLD ID	99	99	NSLH ID	99	99

The set up for the back lobby of Building #2:

	NSL ID	Speech Path (SP) or Audio Line		NSL ID	Speech Path (SP) or Audio Line
NSLA ID	07	04	NSLE ID	99	99
NSLB ID	99	99	NSLF ID	99	99
NSLC ID	99	99	NSLG ID	99	99
NSLD ID	99	99	NSLH ID	99	99

SETTING THE ELEVATOR ID AND TIMER

Each controller must have a unique ID. Set the Dip Switch SW2 on the elevator controller board. See below for switch function*:*

Dip Switch #	***Function***
1-5	Used for setting the controller ID (address) 1st switch is the least significant bit and the 5th switch is the most significant bit.
6,7	spare/not used
8	Baud rate select. 2400 (switch to the left/off) or 9600 (switch to the right/on) *Note: Make sure to match all controller's baud rates.*

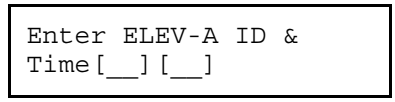
The Elevator Restriction cabinet can house up to eight (8) 2012 Relay Modules or up to ninety-six (96) Form C type relay contacts. These relay contacts are normally connected to the input circuits of the elevator manufacturer's Button Controller. When a resident releases the door, a designated relay is energized to signal the elevator button controller to **enable** a particular **floor select button** on the elevator while others are disabled. In effect, the elevator will be restricted to stop only on the selected floor. The time period for these relays to remain in an energized state depends on the timer period assigned. Please note that each Elevator Restriction cabinet can have only one common timer. The timer decimal value is a multiple of 15 seconds. For example: Entering 03 would mean the relay will remain ON for 45 seconds.

Record the Elev. ID and Timer values below for future reference.

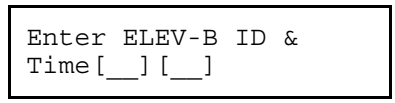
	Elev. ID	Timer Period		Elev. ID	Timer Period
ELEV-A ID	_ _	_ _	ELEV-E ID	_ _	_ _
ELEV-B ID	_ _	_ _	ELEV-F ID	_ _	_ _
ELEV-C ID	_ _	_ _	ELEV-G ID	_ _	_ _
ELEV-D ID	_ _	_ _	ELEV-H ID	_ _	_ _

NOTE: Press # or enter 99 for any entries not used rather than leave blank.

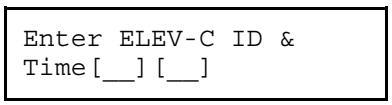
Select the **Set ELV ID and Time** function. Enter the Elevator ID (address) and Timer Period as shown below. Press # to accept, otherwise press * to cancel.



Elev. Restriction Cabinet A

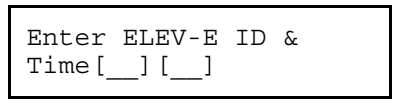


Elev. Restriction Cabinet B

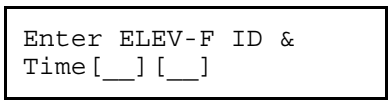


Elev. Restriction Cabinet C

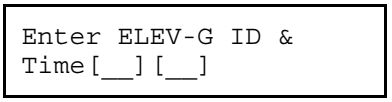
Elev. Restriction Cabinet D



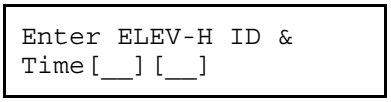
Elev. Restriction Cabinet E



Elev. Restriction Cabinet F



Elev. Restriction Cabinet G



Elev. Restriction Cabinet H

NOTE: Press # or enter 99 for any entries not used rather than leave blank.

AUTO PROGRAMMING

This function is provided to allow the user to auto program the Number of Residents, Dial Codes, Relay Number, NSL ID, Ring Pattern and Elevator ID. This feature is particularly useful when programming the system with different ranges of Dial Codes with the same NSL ID, Ring Pattern and Elev. ID. Please note that each resident can have a distinct Ring Pattern if desired.

Select the **Auto Program** function, then enter all desired values on each item of the programming menu. Press **#** to accept, otherwise press * to cancel. Since there are four (4) types of systems available, their respective programming parameters are tabulated below:

PROGRAMMING MENU	NSL (SCROLLING)	NSL (NON-SCROLLING)	ADC (SCROLLING)	ADC (NON-SCROLLING)	Explanation / Description
Enter # of Residents [____]	✔	✔	✔	✔	Enter the total number of residents to auto program(4 digits).
Enter start dial code [____]	✔	✔	✔	✔	Enter the **start number** of Dial Codes to auto program. The starting code will be entered in increments of 1, up to the number of residents entered. These codes are used by the visitors to call the residents by entering it on the keypad.
Enter start relay # [____]	✔	✔			Enter the start **relay line #** to auto program. The starting relay line number will be entered in increments of 1, up to the number of residents entered. Please note that the relay line number starts at 0000 for the first relay.
Enter default NSL ID [__]	✔	✔			Enter the **NSL ID** decimal value you wish for this lobby panel to connect to. This ID will be used by the number of residents entered.
Enter default ring P [__]	✔	✔			Enter the **Ring Pattern** decimal value (see above table for available ring Pattern). This Ring Pattern will be used by the number of residents entered.
Enter default ElevID [__]	✔	✔	✔	✔	Enter the **Elev. ID** decimal value you wish this lobby panel to connect to. This ID will be used by the number of residents entered.

Set Tone/Pulse mode
Choose **0** for a touch tone telephone (DTMF) or **1** for a pulse (rotary) type telephone.

```
Select tone/pulse
[ _ ] [ 0=T, 1=P]
```

Reset

This function acts as an OFF/ON switch. Place arrow on the Reset function and press **0** to accept.

```
Resetting the system,
please wait ...
```

NOTE: Certain functions will require a Reset for the system to accept changes. Reset will also reset the sorting to the type selected prior to entering names.

Initialize Logging (Eliminate existing logging)

```
Are you sure!
[*=CANCEL]  [#=OK]
```

Pressing ***** will cancel this function and return to the opening screen. Pressing the **#** key will eliminate all logging presently in the system.

Init/Erase all data

```
Are you sure!
[*=CANCEL]  [#=OK]
```

This function (press **#**) erases all entered data and returns to default (Factory Set). This function may be used if after entering many tenant names, etc. you realize you have made a mistake and rather than erasing one by one, you may want to delete all the data at once. **Note:** Logging is the only thing which remains. It must be removed as shown under Initialize Logging. Press ***** to cancel this function and return to programming menu.

EXIT
Selecting this function will bring you back to the opening screen:

```
EXIT TO OPENING
SCREEN
```

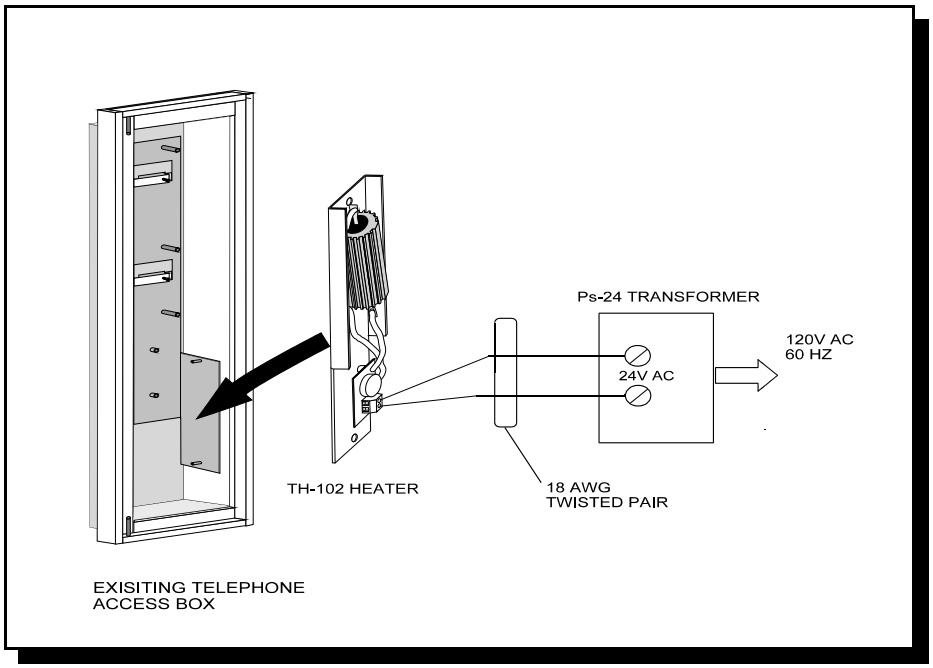
APPENDIX C - TAS 2000 SLIM LINE AND MRK-1RK RETRO-FIT

There are two additional TAS 2000 Telephone Access models available. One is the TAS 2000 Slim Line which provides all the same features as the TAS 2000 in a narrower mechanical box and the other is the TAS 2000 MRK retro-fit version used to update existing telephone access equipment. The TAS 2000 Slim Line and the TAS 2000 retro-fit are able to handle up to 750 residents whereas the Standard TAS 2000 is able to have a database of up to 2250 residents.

TAS 2000 MRK-1RK RETRO-FIT TELEPHONE ACCESS

The Mircom TAS 2000 MRK-1RK Retro-fit Telephone Access Unit is designed to provide an easy flush replacement of existing access equipment. The system provides back-lit display, a built-in Postal Lock micro switch and tamper proof screws. The MRK-1RK is a NSL (No Subscriber Line) system which has all the same features as the TAS-2000 including ring pattern selection, keyless code entry and an event log. The Mircom MRK-1RK is also available as a scrolling (display) under the model MRK-1RKS.

This retrofit version is wired using the existing wires. It requires NSL Relay Cabinets, relay cards, Elevator Cabinets (if required) and transformers. The dimensions are different than the TAS-2000 and the Thermostat Heater Kit is the TH-102. See below for mounting instructions and installation of the thermostat.



TH-102 HEATER INSTALLATION FOR THE MRK-1RK RETRO-FIT

Use the two #6 Hex nuts to screw the TH-102 Heater into place as shown in diagram above. The 24VAC is connected to the terminals on the TH-102 using 18 AWG twisted pair wire.

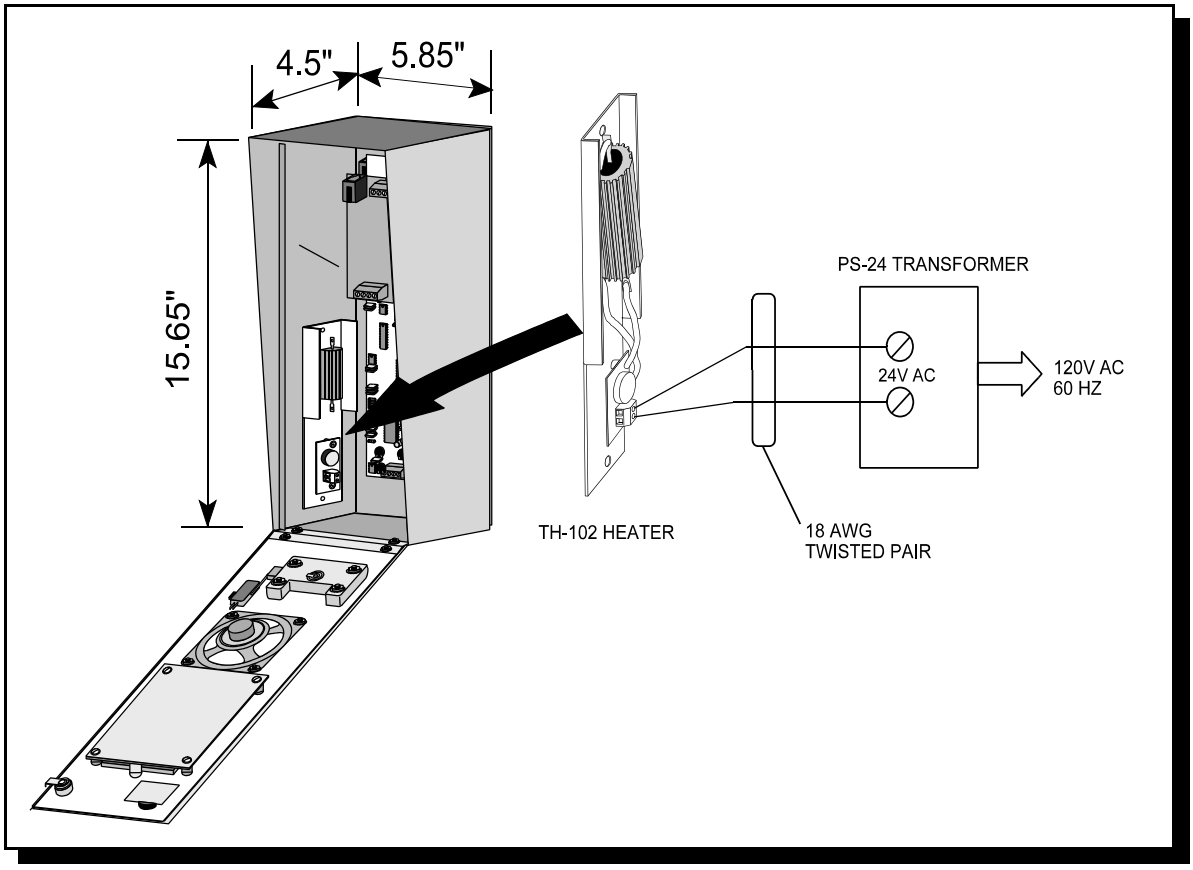
TAS 2000 MRK-1RK RETRO-FIT LOBBY WIRING

The TAS 2000 MRK-1RK Retro-fit lobby panel is wired in the same manner as the TAS 2000 Slim Line. To wire the retro-fit model use the information given in the following diagrams. The retro-fit lobby board and the slim line lobby board have the same layout. All other wiring, i.e. to the NSL Units, is as shown in this manual in the appropriate section.

TAS 2000 SLIM LINE TELEPHONE ACCESS

The Mircom TAS 2000 Slim Line Telephone Access Unit is designed to provide a slimmer, sleeker version of the standard TAS 2000. The system provides 2 line by 20 character LCD back-lit display, a built-in Postal Lock micro switch and tamper proof screws. The TAS 2000 Slim Line may be used as an ADC or NSL (No Subscriber Line) system (via DIP switch 7 on the main controller board) which has all the same features as the TAS-2000 including ring pattern selection, keyless code entry and an event log. The Mircom TAS 2000 is available as a scrolling display.

This slim line version is wired in the same manner as the standard TAS 2000 Telephone Access system. Please refer to the wiring sections of this manual. If the TAS 2000 Slim Line is selected as an NSL system it requires NSL Relay Cabinets, relay cards, Elevator Cabinets (if used) and transformers. The dimensions are different than the standard TAS-2000 and the Thermostat Heater Kit is the TH-102. See below for mounting instructions and installation of the thermostat.



TH-102 HEATER INSTALLATION FOR TAS SLIM LINE

Use th
e two #6 Hex nuts to screw the TH-102 Heater into place, in the bottom right-hand corner as shown in Figure 2 above. The 24VAC is connected to the terminals on the TH-102 using 18 AWG twisted pair wire.

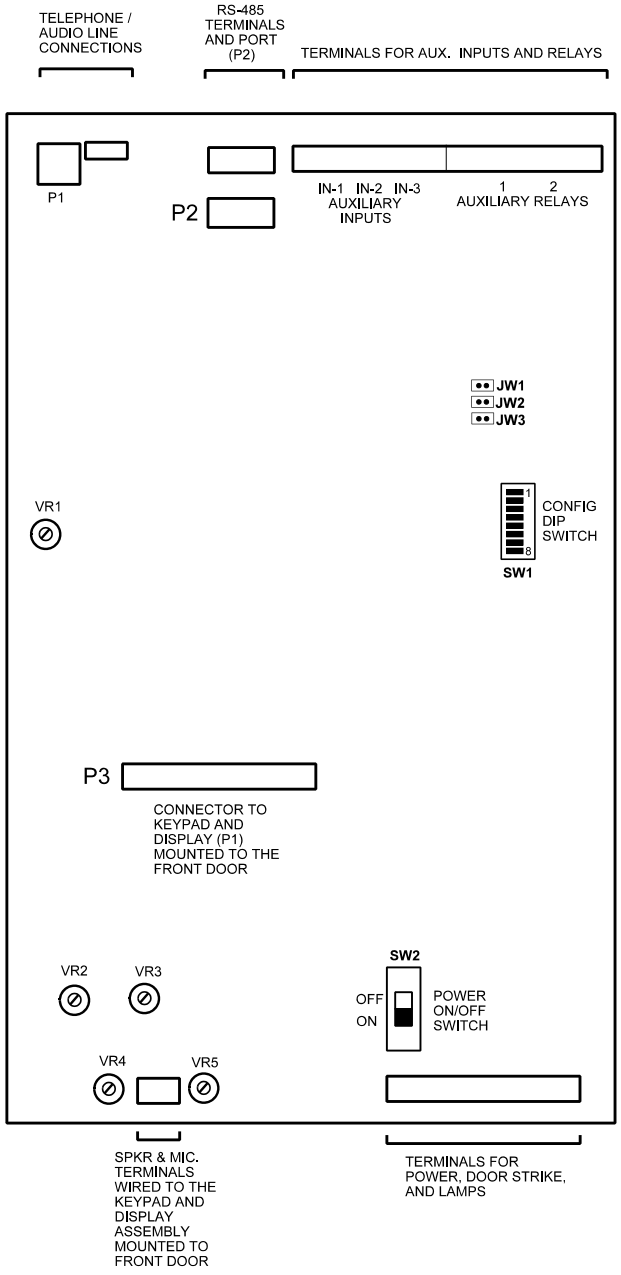
TAS 2000 SLIM LINE LOBBY UNIT AND MARK 1 WIRING

The TAS 2000 Slim Line and Mark 1 has both ribbon cable sockets and screw terminals.

P1 RJ-11 Modular Telephone Jack for connection to the Telephone Line or NSL Audio Line.

P2 **RS-485 Port** for connection to an RS-485IMA Interface Module.

P3 Connection via ribbon cable to the Lobby Unit Display & Keypad Board mounted on the enclosure's door.



VR1 Adjustment for Rotary Pulse Sensitivity. Because of the condition of many of the old rotary "PULSE" type telephones in use, there is great variation with the signal they generate to release the door. The control units come factory preset to respond properly with these variations. If trouble is encountered in releasing the door when using a rotary phone, this control may require adjustments as follows. To increase sensitivity, turn the control clockwise 1/10 of a revolution, then call the occupant whose phone was previously not energizing the door release. Check to see if the door is released this time, if not again adjust by 1/10 of a revolution and continue to check until the door is released. For touch tone type phones, there is no adjustment required.

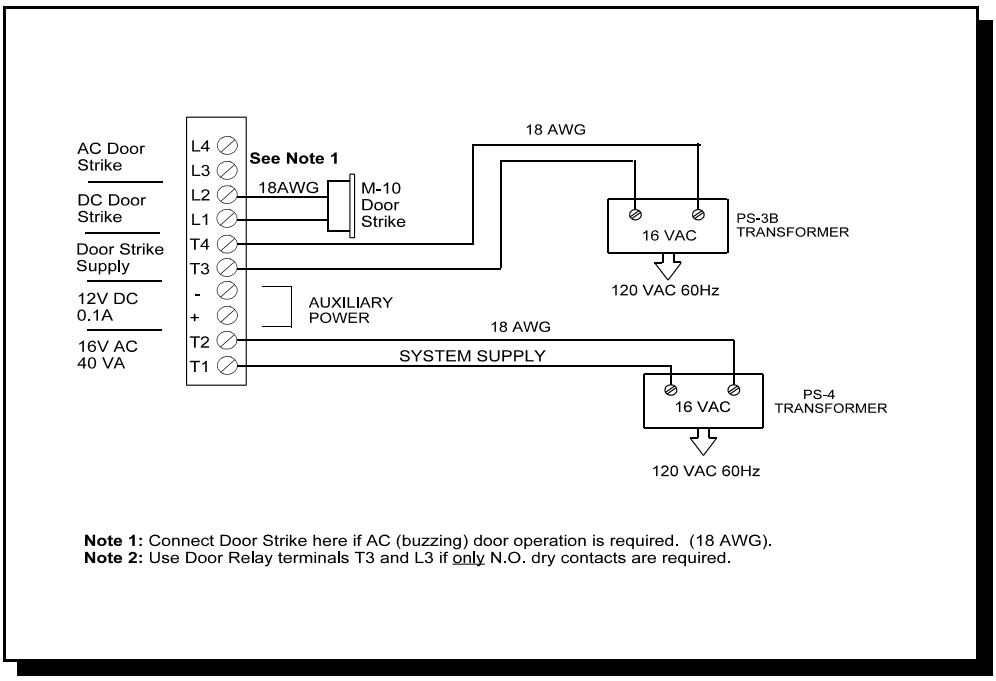
VR2 Adjustment #2 for Speaker Volume. Adjust clockwise for maximum volume.

VR3 Adjustment #2 for Microphone Volume Level. Adjust counterclockwise for maximum volume.

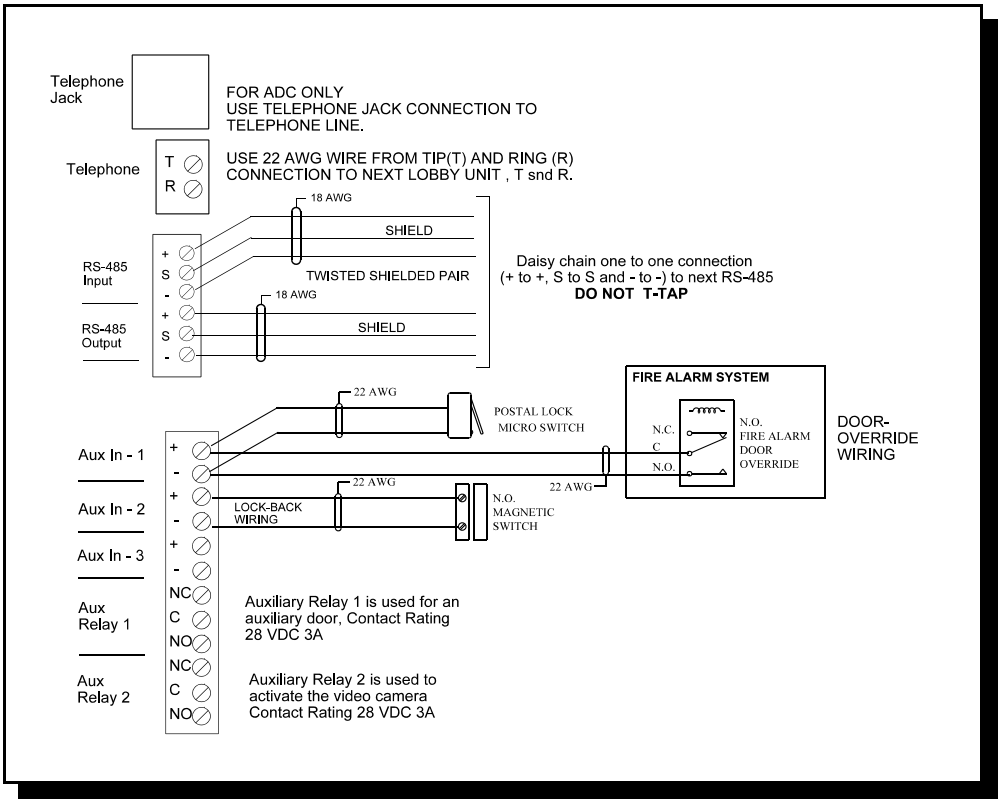
VR4 Adjustment #1 for Speaker Feedback Control. *This is normally Factory Set and should not require adjustment*.

VR5 Adjustment #1 for Microphone Feedback Control. *This is normally Factory Set and should not require adjustment*.

SW1 DIP Switches to set the Unit's ID (see Lobby Unit Configuration section in this manual).
SW2 Turns the Unit's Power on and off for servicing, or to re-start the unit.
JW1 Factory Set (Shorted).
JW2 Factory Set (Open).
JW3 Factory Set (Open).



Wiring of the Door Strike and System Supply



Wiring of Telephone, RS-485 and Auxiliary Inputs

Copies may be made of this NSL worksheet and filled in with additional resident names and numbers.

RESIDENT DIRECTORY WORK SHEET FOR NSL SYSTEMS

APT. #	RESIDENT NAME	KEYLESS ENTRY CODE	DIAL CODE	RELAY / LINE NUMBER	TEL. CO. AMPHENOL JACK #
				0000	
				0001	
				0002	
				0003	
				0004	
				0005	
				0006	1
				0007	
				0008	
				0009	
				0010	
				0011	
				0012	
				0013	
				0014	
				0015	
				0016	
				0017	2
				0018	
				0019	
				0020	
				0021	
				0022	
				0023	

Copies may be made of this ADC worksheet and filled in with additional resident names and numbers.

RESIDENT DIRECTORY WORK SHEET FOR ADC SYSTEMS

Unit No. Flr.	Unit No. Apt.	Resident's Name	Dial Code				Phone Number	Phone Type Pulse/Tone	Keyless Entry Code			

APPENDIX E - KITS

MUS-2060SDK Electronic Scrolling Directory Lobby Panel Kit

consists of 4 Line by 20 LCD Character Display
Main Controller Board for 60 Residents (Model 2001-0060S)
PS-4 Transformer
US-2000S Lobby Panel and Enclosure
URH-2000 Rain Hood and Light Assembly

MUS-2120SDK Electronic Scrolling Directory Lobby Panel Kit

consists of 4 Line by 20 LCD Character Display
Main Controller Board for 120 Residents (Model 2001-0120S)
PS-4 Transformer
US-2000S Lobby Panel and Enclosure
URH-2000 Rain Hood and Light Assembly

MUS-2360SDK Electronic Scrolling Directory Lobby Panel Kit

consists of 4 Line by 20 LCD Character Display
Main Controller Board for 360 Residents (Model 2001-0360S)
PS-4 Transformer
US-2000S Lobby Panel and Enclosure
URH-2000 Rain Hood and Light Assembly

MUS-2036K Electronic Non-Scrolling Paper Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 60 Residents (Model 2001-0060)
PS-4 Transformer
US-2036 Lobby Panel and Enclosure
URH-2000 Rain Hood and Light Assembly

MUS-3140K Electronic Non-Scrolling Paper Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 360 Residents (Model 2001-0360)
PS-4 Transformer
US-3140 Lobby Panel and Enclosure
URH-3000 Rain Hood and Light Assembly

TELEPHONE ACCESS SLIM-LINE KITS

MUS-1060SDK Slim-Line Electronic Scrolling Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 60 Residents (Model 1001-0060S)
PS-4 Transformer
US-1000 Lobby Panel and Enclosure

TELEPHONE ACCESS SLIM-LINE KITS continued

MUS-1120SDK Slim-Line Electronic Scrolling Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 120 Residents (Model 1001-0120S)
PS-4 Transformer
US-1000 Lobby Panel and Enclosure

MUS-1360SDK Slim-Line Electronic Scrolling Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 360 Residents (Model 1001-0360S)
PS-4 Transformer
US-1000 Lobby Panel and Enclosure

MUS-1360K Slim-Line Electronic Non-Scrolling No Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 360 Residents (Model 1001-0360)
PS-4 Transformer
US-1000 Lobby Panel and Enclosure

MARK 1 REPLACEMENT DIRECTORY KITS

MRK-1RK48S Slim-Line Retro-Fit Electronic Scrolling Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 48 Residents (Model 1001-0048S)
PS-4 Transformer
Mounts in existing Lobby Panel

MRK-1RK324S Slim-Line Retro-Fit Electronic Scrolling Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 324 Residents (Model 1001-0324S)
PS-4 Transformer
Mounts in existing Lobby Panel

MRK-1RK48 Slim-Line Retro-Fit Electronic Non-Scrolling No Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 48 Residents (Model 1001-0048)
PS-4 Transformer
Mounts in existing Lobby Panel

MRK-1RK324 Slim-Line Retro-Fit Electronic Non-Scrolling No Directory Lobby Panel Kit

consists of 2 Line by 20 LCD Character Display
Main Controller Board for 324 Residents (Model 1001-0324)
PS-4 Transformer
Mounts in existing Lobby Panel

WARRANTY

MIRCOM Technologies Ltd., manufactured equipment is guaranteed to be free of defects in material and workmanship for a period of one (1) year from the date of original shipment. MIRCOM will repair or replace, at its option, any equipment which it determines to contain defective material or workmanship. Said equipment must be shipped to MIRCOM prepaid. Return freight will be prepaid by MIRCOM. We shall not be responsible to repair or replace equipment which has been repaired by others, abused, improperly installed, altered or otherwise misused or damaged in any way. Unless previously contracted by MIRCOM, MIRCOM will assume no responsibility for determining the defective or operative status at the point of installation, and will accept no liability beyond the repair or replacement of the product at our factory authorized service depot.

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MIRCOM TELEPHONE ENTRY SYSTEM

(NSL SYSTEM)

RESIDENT OPERATING INSTRUCTIONS

Mircom's state-of-the-art door entry system has been installed in this building to provide you and your guest with an increased level of confidence and security.

The system operates with your existing telephone. Your guest simply dials your code number or selects your name by scrolling through the electronic directory on the lobby panel and your telephone will ring. When answered, you will be in communication with your guest.

To unlock the main door, dial the digit " 9 " from your telephone.
To refuse entry, simply hang up.

CALL WAITING FEATURE

While engaged in a conversation with the outside line, a distinct tone will be heard when a visitor places a call. Flash the hook switch to answer the call. This action will automatically put the outside line "on hold". While on-line, you can open the main door by dialing the digit " 9 " or flash the hook switch to refuse entry. Both actions will automatically reconnect you to the previously "on hold" caller to continue your conversation.

In a similar manner, you can answer your outside caller while talking to the guest in the lobby. Please note that you can not put your guest "on hold" due to a system allowable talk-time limit (normally 60 seconds).

KEYLESS ENTRY CODES

To unlock the front door without calling the suite, enter the digit zero and then the keyless code XXXX. The last four digits are confidentially assigned to each tenant.

MIRCOM TELEPHONE ENTRY SYSTEM

(ADC SYSTEM)

RESIDENT OPERATING INSTRUCTIONS

Mircom's state-of-the-art door entry system has been installed in this building to provide you and your guest with an increased level of confidence and security.

The system operates with your existing telephone. Your guest simply dials your code number or selects your name by scrolling through the electronic directory on the lobby panel and your telephone will ring. When answered, you will be in communication with your guest.

To unlock the main door, dial the digit " 9 " from your telephone.
To refuse entry, simply hang up or dial digit "4".

KEYLESS ENTRY CODES

To unlock the front door without calling the suite, enter the digit zero and then the four digit keyless code XXXX. The last four digits are confidentially assigned to each tenant.