IEI HubMax/HubMax II
Installation/Programming Manual

Document Number: 6065034, Rev. 3.4

Manual Revision Date: 3/2/05

HubMax Firmware Revision: U2: 1.0p, U10: 1.1F

HubMax II Firmware Revision: U2: 2.0a, U10: 2.3b

Fax Document Number: 5034

1.0 System Features and Specifications

The following section outlines the HubMax/HubMax II features, specifications and default settings.

1.1 System Features

Feature	Description/Details
Users	500 (HubMax); 2000 (HubMax II)
Base Capacity	Supports 1-4 Hub Door Control Modules; Controls 1-4 Doors
Additional Capability	Network up to 32 doors with additional Secured Series Door Control Products
Audit Trail	1000 Transaction Buffered Audit Trail (HubMax); 1500 Transaction Buffered Audit Trail (HubMax II)
Front End Support	Each Hub Door Control Module supports two front end readers for IN/OUT operation.
Programming	Hub Door Control Module support keypad or PC programming
Auto-Unlock Time Zones	9:00 A.M. to 5:00 P.M. Monday-Friday *Eight user definable time zones for auto-unlock or access control *Sixteen holiday time zones
First-In Auto-Unlock	Requires valid entry to initiate auto-unlock schedule.
*Remote accessible via modem	
Forced Door Alarm Relay/Timer	
Alarm Zone Shunting Relay	
Timed Egress Input	
Non-Volatile EEPROM Memory	

*** Indicates a feature is only available using software.**

1.2 Specifications

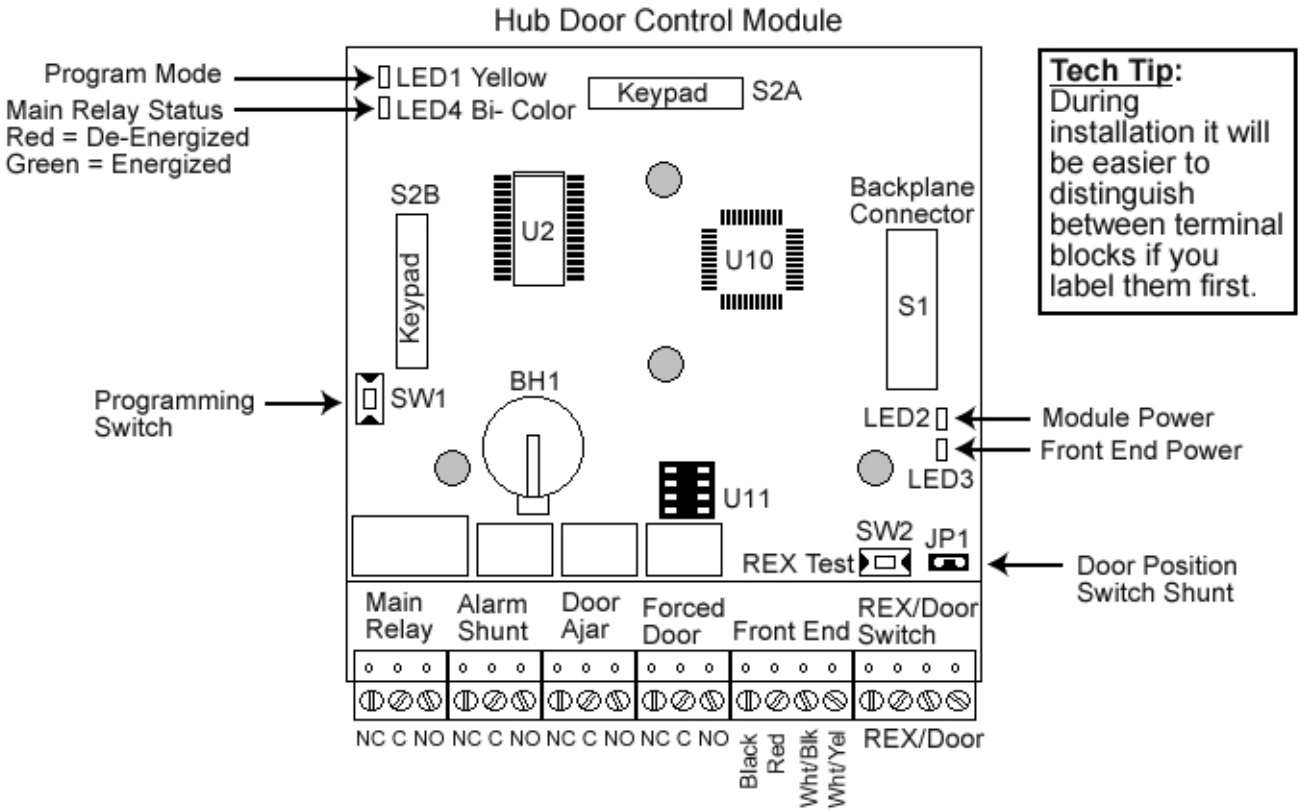
Electrical	
Power Supply	16.5VAC 40VA or 50VA Class 2 Transformer (Revere # RT-G1640SL/M, Revere # RT-G1650SL/M or Globtek, Inc. # DA-40-16.5G)
Current Requirements	100mA (backplane with one module); Add 40mA for each DCM
Front End	13.8 VDC, 300 mA (max. current draw)
Main Relay	12-24 VAC/DC, 2A (max. contact current)
Alarm Shunt, Door Ajar and Forced Door Relays	12-24VAC/DC, 1A (max. contact current)
REX/Door Loop	Dry contact closure
Mechanical	
HubMax Enclosure	Surface mount
Height	4.25” (10.8cm)
Width	19.5” (49.5 cm)
Length	16.5” (41.9 cm)
Material	19 gauge steel
Environmental	
Temperature Tolerance	-20°F to 130°F (-28°C to 54°C)
Recommended Use	For indoor use only

1.3 System Defaults

Parameter	Default Setting
Master Code	1234
Main Relay Time	5 Seconds
Door Ajar Time	30 Seconds
Forced Door Time	10 Seconds
Printer Output	RS-232 Port
Keypress Feedback	Enabled
Door Number	01
First In Auto-Unlock	Off
Auto-Unlock Time Zone: (Without software)	9 A.M to 5 P.M.; Monday through Friday
✱ Key required to active relay after entering valid code	On
Communication Setup	Local
Daylight Savings Time	Enabled
Daylight Savings Time Format	US

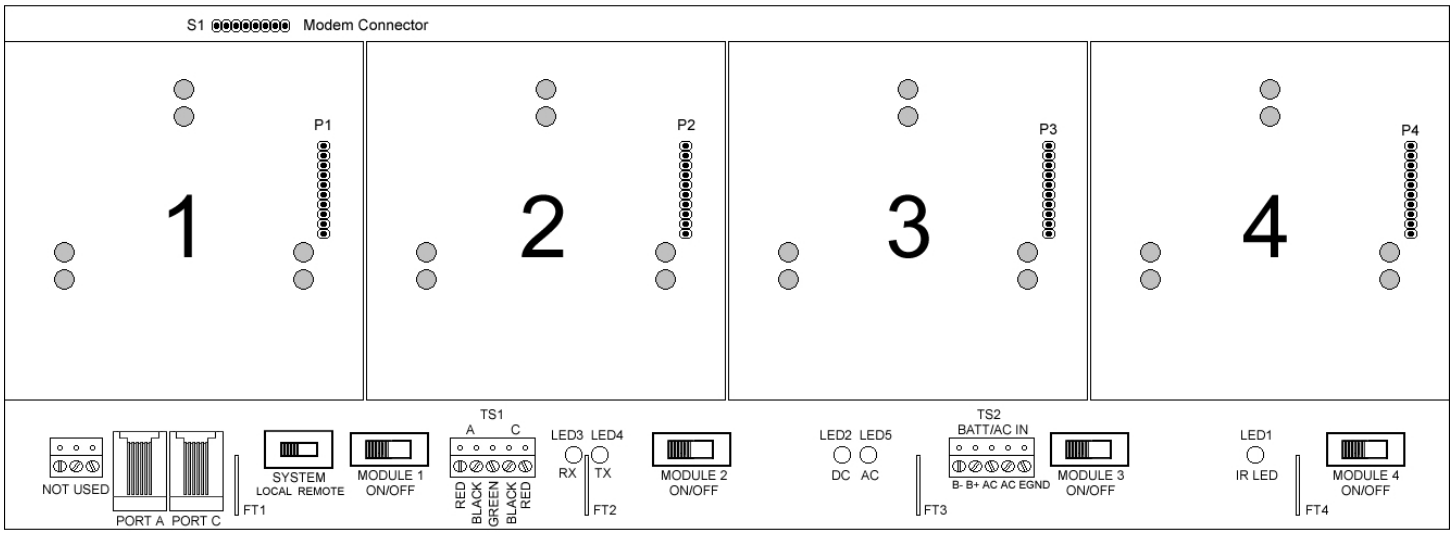
1.4 Hub Door Control Module Diagram

The diagram below shows the component locations and terminal connections on the Hub Door Control Module.



1.5 HubMax/HubMax II Backplane Diagram

The diagram below shows the component locations and terminal connections on the HubMax/HubMax II Backplane.



2.0 UL Requirements

The IEI HubMax and HubMax II controllers are U.L. Listed products and comply with U.L. 294. To install these products to meet U.L. requirements, all the instructions in this section and throughout this manual must be followed.

The HubMax System is designed to be wall mounted (surface mounted) with the supplied hardware. The system must be installed within the protected area in accordance with the National Electrical Code (NFPA 70), local codes, and the authority having jurisdiction. It should also be located in an area that is accessible for programming purposes. After the installation is complete, the HubMax cabinet door should remain closed and locked to protect the contents.

For additional information, see illustration drawing 6225034 Rev. 2.2, dated 3/2/05 located on the inside of the cabinet door.

In addition, all other interconnecting devices must be U.L. Listed.

A minimum of three (3) user codes must be programmed for controlling access.

Note: The modem interface was not evaluated by U.L. The Panic and Duress functions also were not evaluated by U.L. The PC software is only used for downloading and uploading data. The PC does not make access control decisions or monitor the door.

2.1 Tamper Requirements

To meet U.L. requirements, a U.L. Listed tamper switch must be installed in the cabinet of HubMax systems. The tamper switch must be mounted inside the locked cabinet and must activate if the cabinet door is opened. The tamper switch must be wired to an alarm panel or other device that sounds an alarm and/or prevents anyone from gaining access through the protected door.

IEI recommends using a Sentrol 3012 tamper switch (not provided).

To use this tamper switch, simply clip the switch on the side of the cabinet on the interior, then wire the leads to your alarm device using the appropriate U.L. type cable. See diagram below.

2.2 Power and Non-Power Limited Wiring

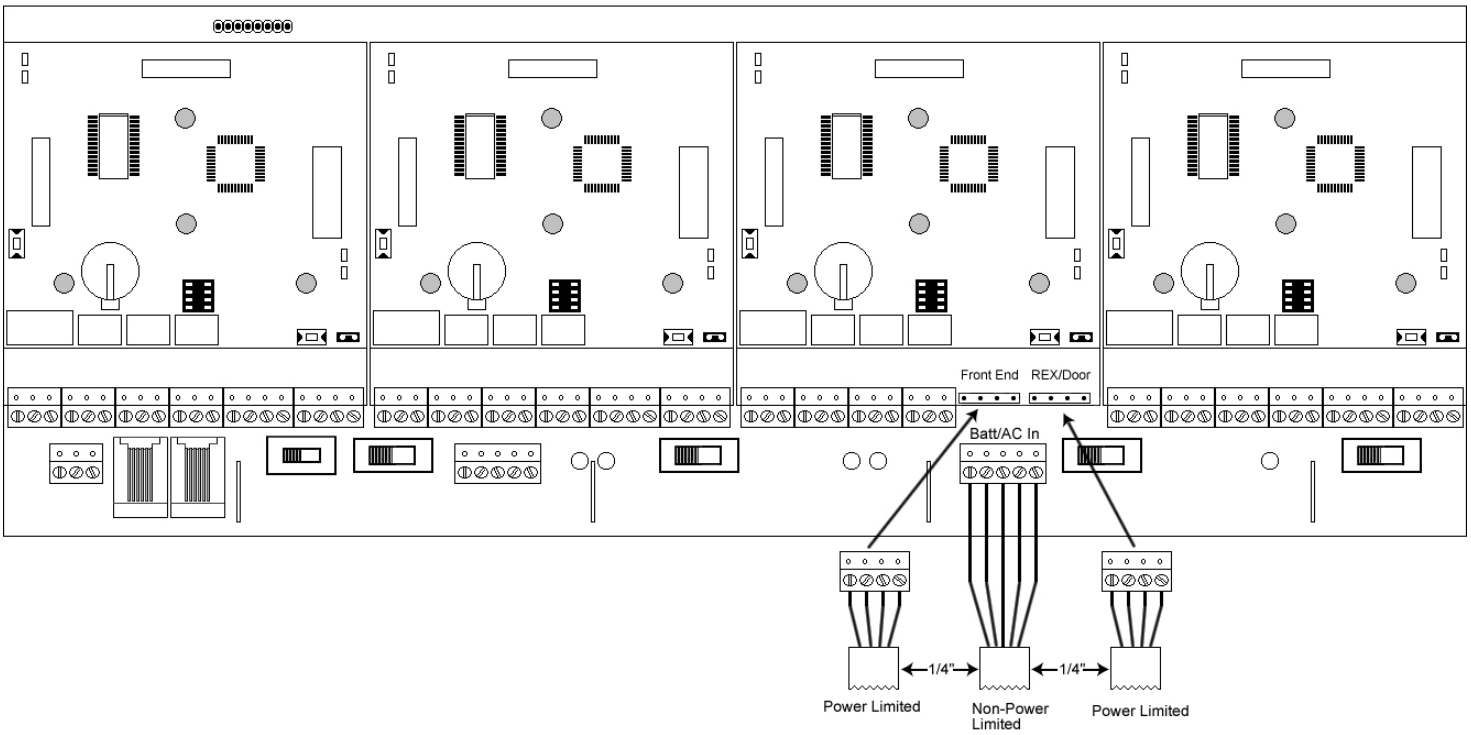
To meet U.L. requirements, the Power Limited and Non-Power limited wiring must be routed away from each other and separated by a minimum of a 1/4 inch (.250"). See related descriptions and diagram below.

The following terminal connections are considered Power Limited:

- Main Relay
- Alarm Shunt Relay
- Door Ajar Relay
- Forced Door Relay
- Front End Terminals
- REX/Door Switch Terminals
- Port A (RJ-11 Jack and TS1 terminal)
- Port C (RJ-11 Jack and TS1 terminal)

The following terminal connections are considered Non-Power Limited:

- AC Transformer Input (AC, AC and EGND)
- Backup Battery Connection (B+ and B-)



2.3 Lithium Battery Replacement

The lithium battery used for keeping the time and date is located on the left-hand side of the Door Control Module above the relay K2. The battery holder is labeled “BH1.”

To replace the battery, first power down the module using the On/Off switch (SW1-SW4) located on the backplane. Then remove the battery carefully by lifting up the bottom edge and pull it out of the clip.

Replace the battery with a Renata CR1225 or Varta CR1225 3 Volt Lithium battery. Use of another battery may present a risk of fire or explosion.

WARNING: The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in a fire.

3.0 Installation

This section contains detailed unpacking and installation procedures and wiring diagrams for the IEI HubMax/HubMax II Access Control System. This section is presented as steps and should be followed in the order indicated. Not all steps are necessary for every application.

Note: Programming commands are inserted into the installation procedure for your convenience. Programming should only be done after all electrical connections are made and the system is powered up in step 13.

Step 1: Unpack the HubMax/HubMax II and Check the Packing List

Open the box and inside is a metal enclosure. The metal enclosure has a removable lid, so the installer has easier access when wiring. Inside the metal enclosure is:

- **1** HubMax Backplane mounted on standoffs
- **1** 16.5VAC Transformer (see section 1.2 for approved transformers)
- **1** Camlock with key
- **1** Hardware Pack containing:
    - **4** Wire nuts (ORANGE)
    - **4** Wall anchors (BLUE)
    - **4** #8 1¼" sheet metal screws
    - **1** Set of battery cables (BLACK AND RED)
    - **4** Ground cables (BLACK wire with RED flush tab receptacle) *one per Hub Door Control Module Port*
- **1** Hub Door Control Module
- **1** detachable keypad for programming (Pre-mounted to Hub Door Control Module)
- **1** Secured Series Software Package
- **1** Secured Series HubMax/HubMax II Installation and Programming Manual

Please check the contents of the enclosure and verify all components on the packing list are present. Taking this inventory will familiarize you with the components as well as ensure you have a complete kit.

Step 2: Mount the HubMax/HubMax II Enclosure

The HubMax enclosure must be mounted on the secured side of the door and must not be used as an access device as a means of gaining access or egress through the door. Ideally the enclosure should be mounted in a secure area such as a locked utility closet. However, this is not always available so wherever you decide to mount the enclosure make sure it is accessible for programming purposes.

Mounting Procedure:

Unlock and open metal enclosure. Notice that the enclosure lid opens from top to bottom and if you mount the enclosure horizontally the enclosure lid will form a tabletop and a convenient workspace. You can also mount the enclosure vertically (see section 4.1).

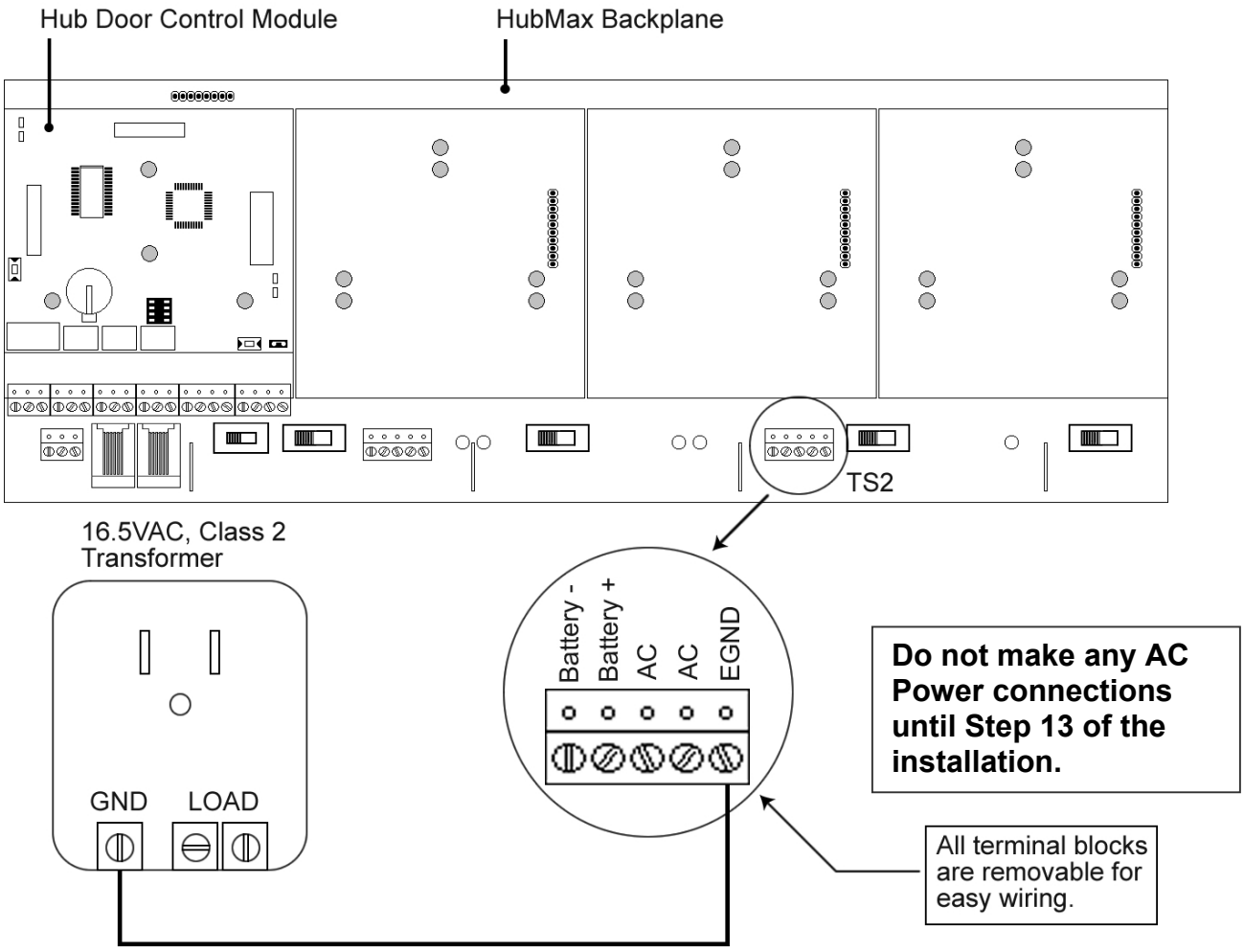
1. Use the supplied wall anchors and sheet metal screws to secure the HubMax Cabinet to the wall.
2. Drill 11/64'' diameter holes for the wall anchors.
3. Tap the wall anchors into the wall until the outer flange is flush to the wall surface.
4. Insert the sheet-metal screws ¾ of the way into the anchors.

5. Hang the HubMax Cabinet by aligning the slotted holes (cut into the rear of the cabinet) with the sheet-metal screws. Space between slotted holes; on-center 17” Horizontally and 13” Vertically.
6. The HubMax Cabinet should now be resting on the sheet-metal screws.
7. Tighten the sheet-metal screws until they are snug.

Step 3: Ground the HubMax/HubMax II

Grounding the system before making any electrical connections is imperative!

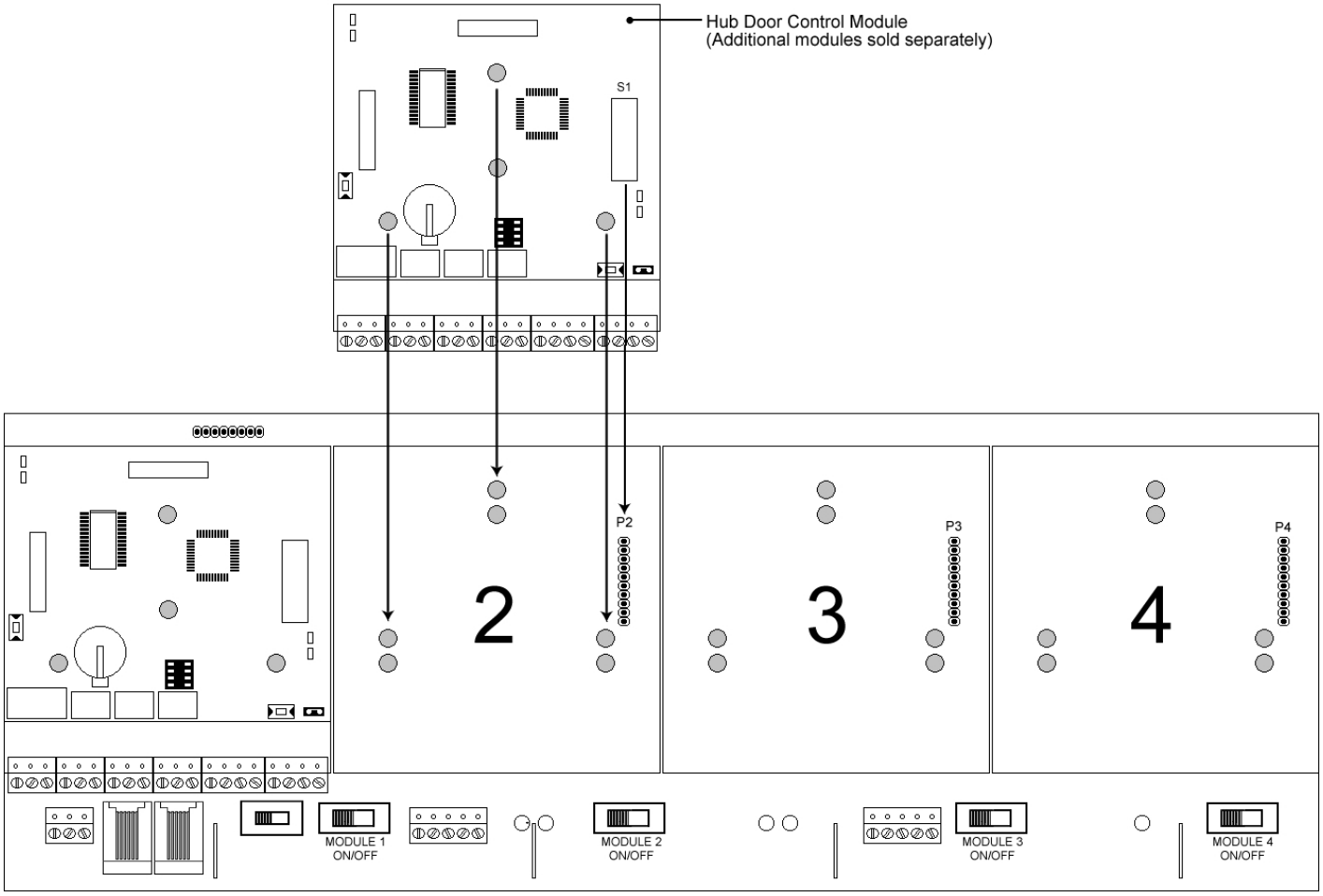
By grounding the system first you not only increase personal safety during installation, but you also protect the HubMax from damage due to static discharge or any other transient voltage effects. We cannot stress enough the importance of completely grounding the HubMax before making any connections or even touching the Backplane (the large circuit board in the enclosure). **Wire as shown and plug the transformer into a grounded electrical socket.**



TOUCH THE GROUNDED METAL CABINET BEFORE TOUCHING THE BACKPLANE OR THE HUBMAX CONTROL MODULE. THIS WILL REMOVE ANY STATIC CHARGE ON YOUR PERSON. STATIC ELECTRICITY CAN DAMAGE THE ELECTRONIC COMPONENTS USED ON THE CONTROLLERS.

Step 4: Connect Additional Hub Door Control Module to the Backplane

The HubMax/HubMax II backplane has 4 expansion ports for Hub Door Control Modules. Provided with the HubMax is one Hub Door Control Module which is installed into **port 1** of the Backplane. If additional Hub Door Control Modules are purchased for this system they must be inserted into the remaining ports in the following order:



To install additional Hub Door Control Modules:

1. Slide the Door Control Module onto the pin-rail marked Px (x = Expansion Port #; Example: P2) located on the HubMax backplane.

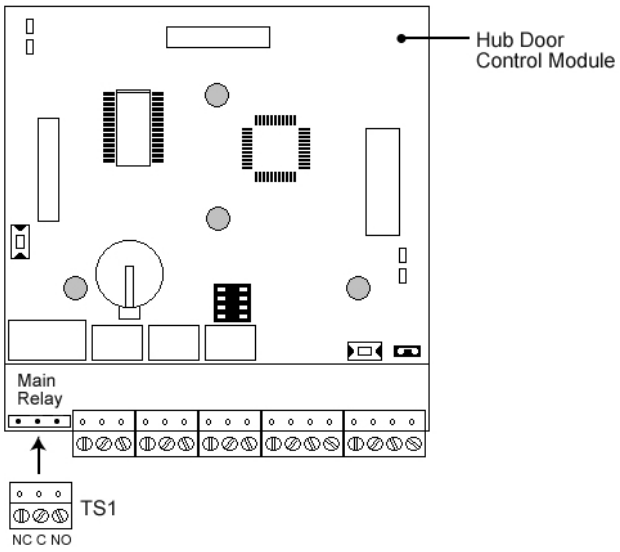
2. Align the 3 holes in the Door Control Module with the standoffs mounted on the backplane.

3. Gently press down on the Module to snap it on onto the standoffs.

4. Turn the Module Power Switch (located on the backplane) to **"ON"**.

Step 5: Wire an electric door lock to the MAIN RELAY of the Hub Door Control Module

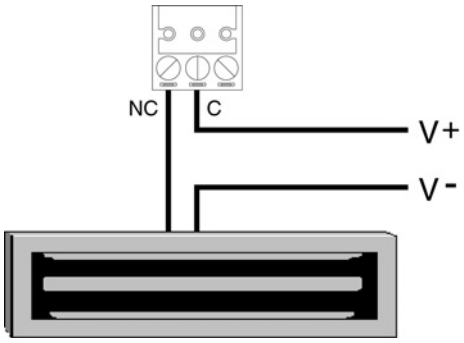
NOTE: All locking devices must be U.L. Listed.



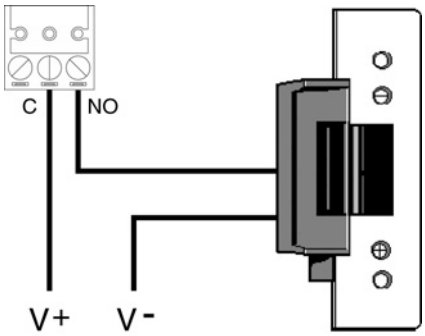
MAIN RELAY Terminal Block

NOTE:
All four relays (Main, Alarm Shunt, Forced Door, Door Ajar) are **FORM C DRY CONTACT**, which means there is **no** output voltage on the relay contacts. These relays can be used on a dry contact loop or switch one leg of power to an external device as shown in the illustrations below.

Connecting a Maglock (Fail-Safe Connection)



Connecting an Electric Strike (Fail-Secure Connection)



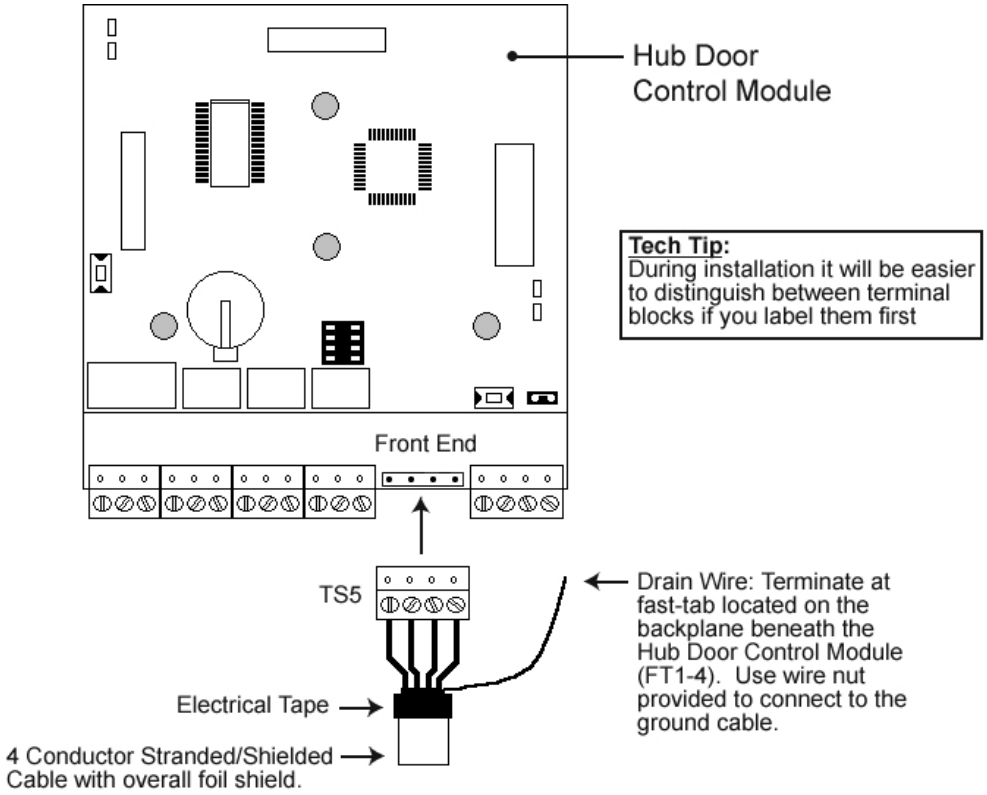
V+ represents one leg of power from an external power source. If you are using DC Voltage for the lock put the positive leg here. If you are using AC it does not matter which leg you use.

The HubMax Backplane powers the Hub Door Control Modules and Front End Readers Only. DO NOT power any external locking device with the HubMax.

Programming the MAIN RELAY TIME: (default MAIN RELAY UNLOCK TIME is 05 seconds)

Action	Press
Enter Program Mode	**99 # Master Code ✱**
Program Relay Time (Two-Digit Number 01-90)	**(Relay Time) # 1 # Master Code ✱ Master Code ✱** **Example: 10 # 1 # 5678 ✱ 5678 ✱**
Exit Program Mode	**✱**

Step 6: Connect a Front End Reader to the Hub Door Control Module



The devices used at the door to gain access are ***Front End Readers*** (not included). IEI manufactures several to choose from, such as: keypads, magnetic card readers, proximity card readers and touch chip readers. **No programming commands are entered at the front end.** The Front End Reader is only able to send access information from the door to the Hub Door Control Module.

Choosing the correct front end for the application is important.
IEI manufactures *light, medium* and *heavy duty* Front End Readers.
If you are not sure which front end to use, call the IEI Sales Dept. at 1-800-343-9502.

The Hub Door Control Module can support 1 or 2 Front End Readers on a single door for *IN* and *OUT* operation. Simply wire the two Front End Readers in parallel at the door.

On the Hub Door Control Module there is a four screw terminal block labeled FRONT END.
Each of these screws is labeled with a color and they connect to the corresponding color of the four-conductor wire harness that is included with the Front End Reader. The connection between the Hub Door Control Module and the Front End Reader is made with ***four-conductor stranded with overall foil shield type cable*** *(not included).* You ***must*** use this type of cable to ensure signal integrity.

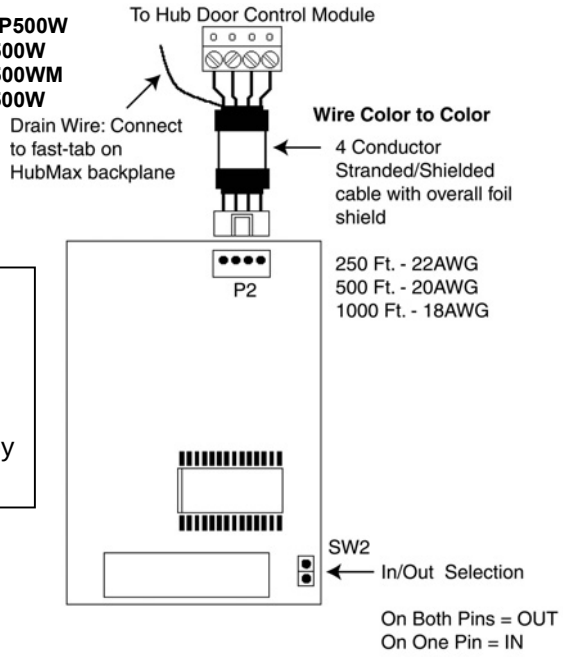
After you have made your connection it is also vital to terminate the drain wire of the cable. The drain wire is a bare wire that runs the entire length of the cable inside the shield and along side the other four-conductors. This drain wire is to be terminated at the fast-tab located on the HubMax Backplane beneath the Door Control Module. Each Module Port on the Backplane has a fast-tab located on the lower edge of the Backplane. The fast-tabs are labeled FTx, whereas "x" represents the Module Port number. See diagram in section 1.5. IEI has included four ground cables and wire-nuts to make this connection.

Do not terminate the drain wire at the Front End Reader. Cut off the exposed drain wire and wrap the insulation and the foil shield in electrical tape.

Wiring Front End Readers:

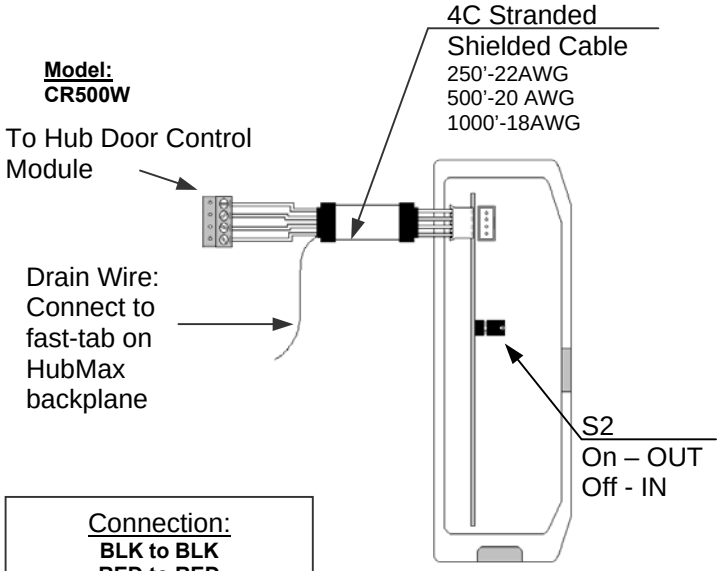
Models:

KP500I	**CR/KP500W**
KP500W	**PRX500W**
KP500WP	**PRX500WM**
KP500R	**TCH500W**



NOTE: These products have NOT been evaluated by U.L.

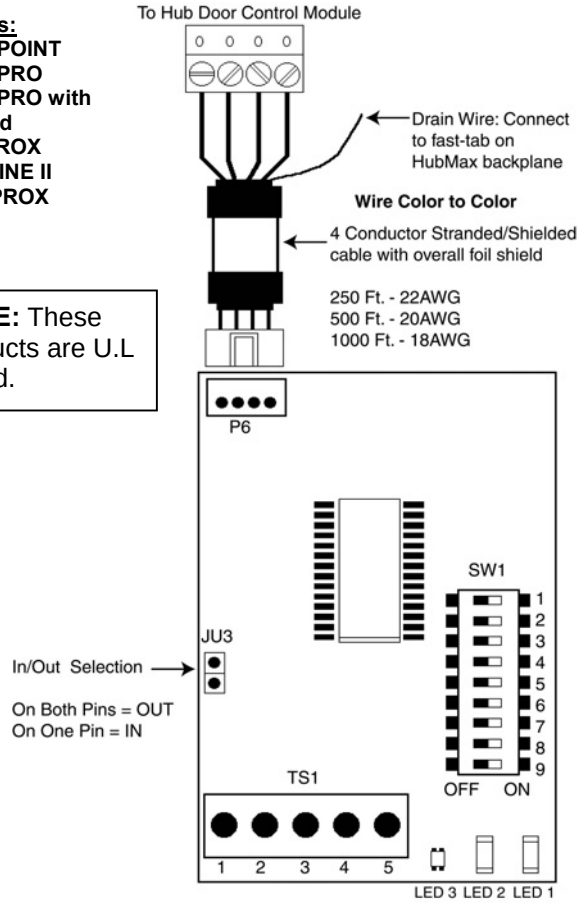
Model:
CR500W



Connection:
BLK to BLK
RED to RED
WHT/BLK to WHT/BLK
WHT/YEL to WHT/YEL

NOTE: This product has NOT been evaluated by U.L.

Models:
PROXPOINT
PROXPRO
PROXPRO with Keypad
MINIPROX
THINLINE II
MAXIPROX

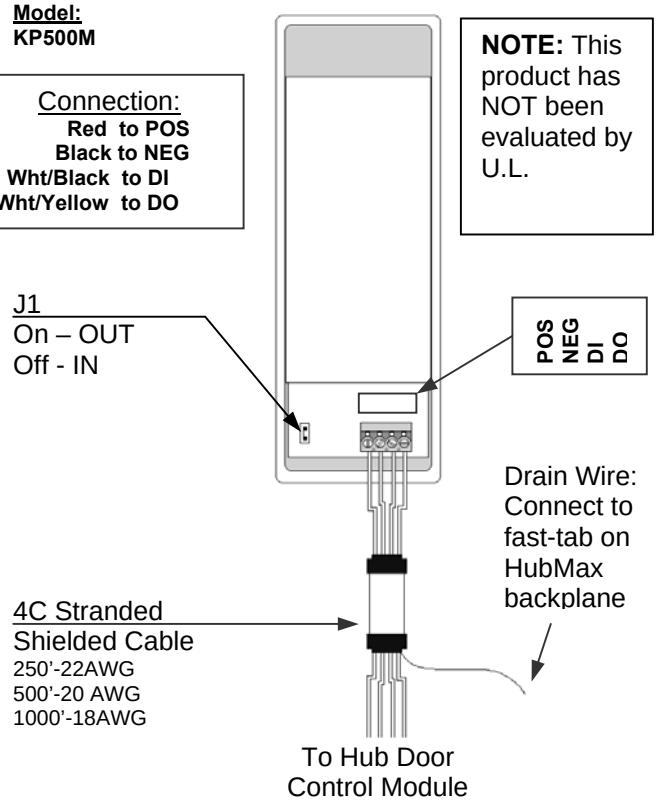


NOTE: These products are U.L Listed.

Model:
KP500M

Connection:
Red to POS
Black to NEG
Wht/Black to DI
Wht/Yellow to DO

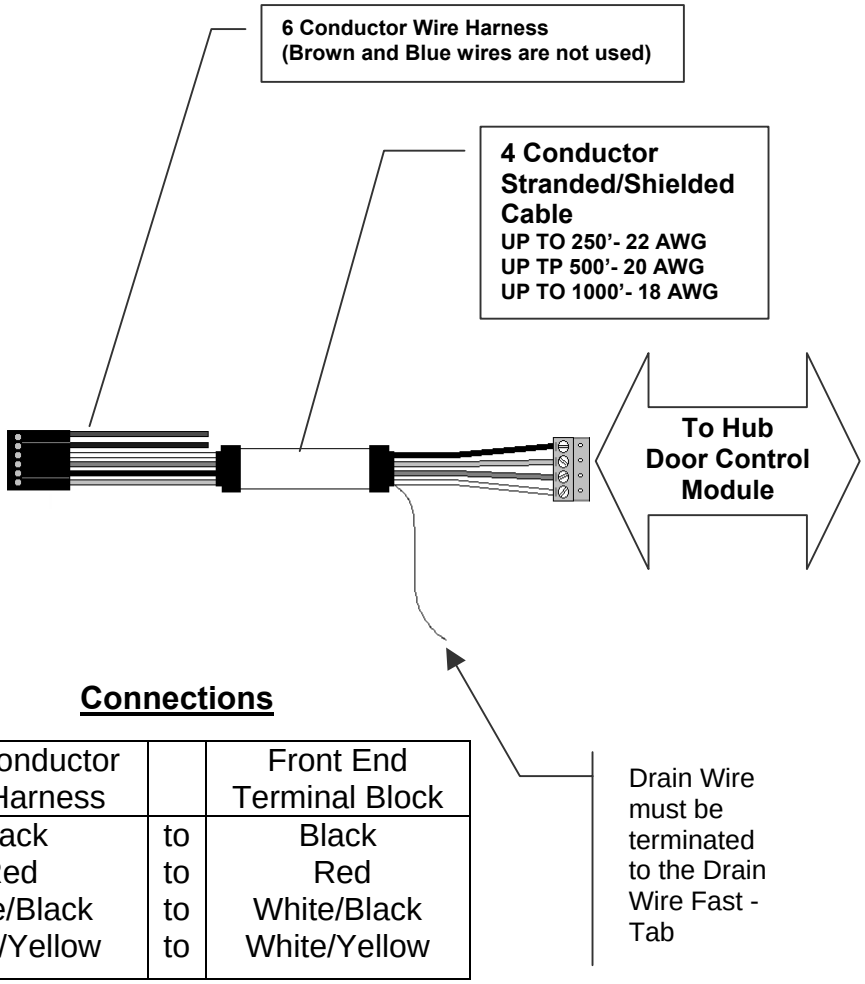
NOTE: This product has NOT been evaluated by U.L.



Wiring to Front End Readers: SSWFX

IN/OUT LOGGING IS PROGRAMMABLE.
SEE SSWFX MANUAL FOR PROCEDURE.

SSWFX



Connections

Four Conductor Wire Harness		Front End Terminal Block
Black	to	Black
Red	to	Red
White/Black	to	White/Black
White/Yellow	to	White/Yellow

NOTE: This product has NOT been evaluated by U.L.

Wiring to Front End Readers: KP500XT and KP500MP

Connections

Four Conductor Wire Harness		Front End Terminal Block
Black	to	Black
Red	to	Red
White/Black	to	White/Black
White/Yellow	to	White/Yellow

KP500XT

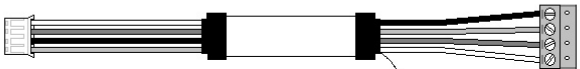
IN/OUT LOGGING
Not available
on KP500XT

To Hub Door Control Module

4 Conductor Stranded/Shielded Cable
UP TO 250'- 22 AWG
UP TP 500'- 20 AWG
UP TO 1000'- 18 AWG

Drain Wire must be terminated to the Drain Wire Fast -Tab

KP500MP



To Hub Door Control Module

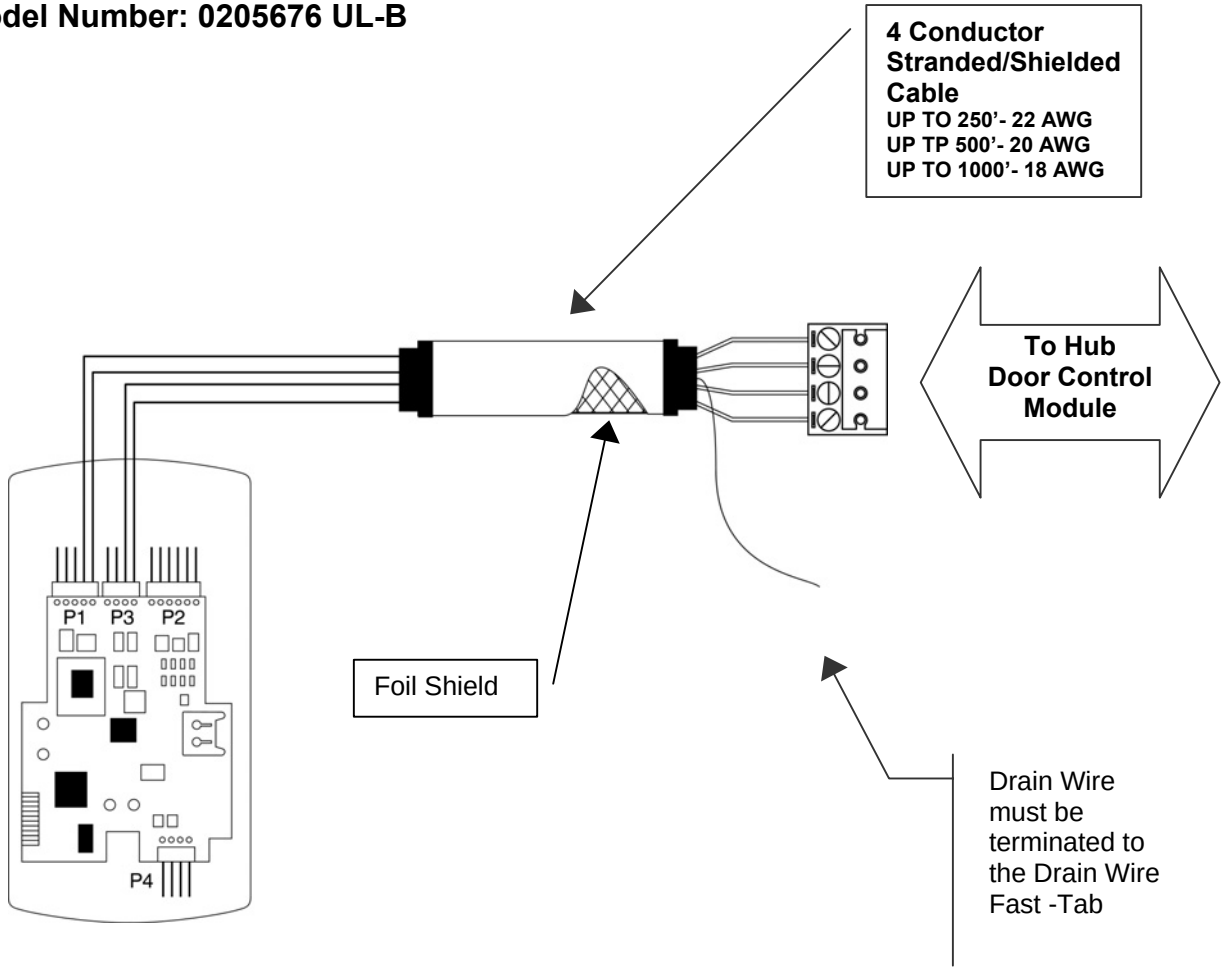
IN/OUT LOGGING
See KP500MP instructions for details.

Drain Wire must be terminated to the Drain Wire Fast -Tab

NOTE: These products have NOT been evaluated by U.L.

Wiring to Front End Readers: Prox.pad proximity/keypad

Model Number: 0205676 UL-B



Connections

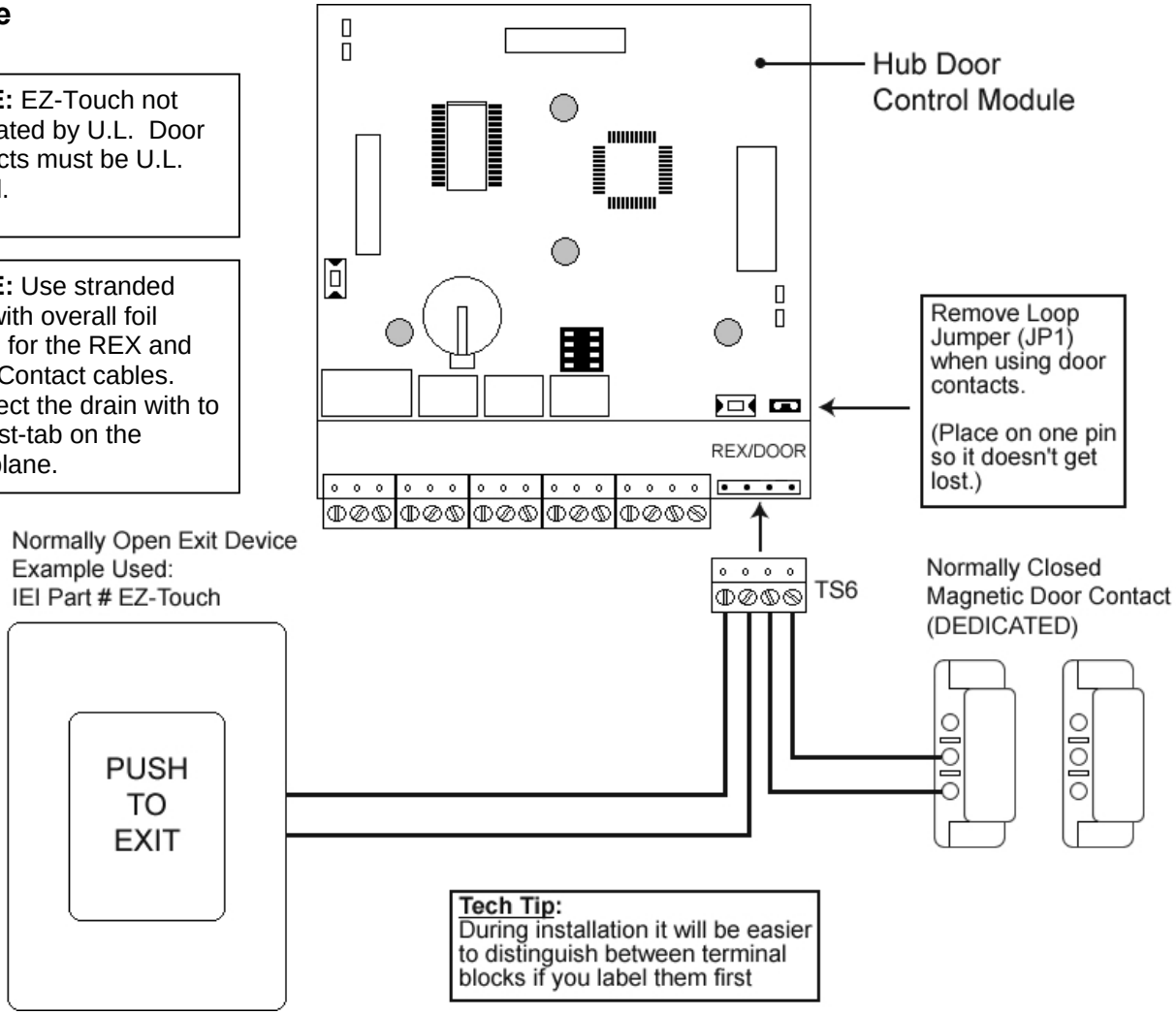
Wire Harness	Wire Color		Front End Terminal Block
P1	Black Red	to to	Black Red
P3	Green White	to to	White/Black White/Yellow

NOTE: This product is U.L. Listed.

Step 7: Wire a Request to Exit (REX) device and Door Contact to the Hub Door Control Module

NOTE: EZ-Touch not evaluated by U.L. Door contacts must be U.L. Listed.

NOTE: Use stranded wire with overall foil shield for the REX and Door Contact cables. Connect the drain with to the fast-tab on the backplane.



REX	This is a NORMALLY OPEN loop, when momentarily closed activates the MAIN RELAY for the length of time programmed with the MASTER CODE.
DOOR	This is a NORMALLY CLOSED loop that tells the Hub Door Control Module the door status.

Auto RE-LOCK

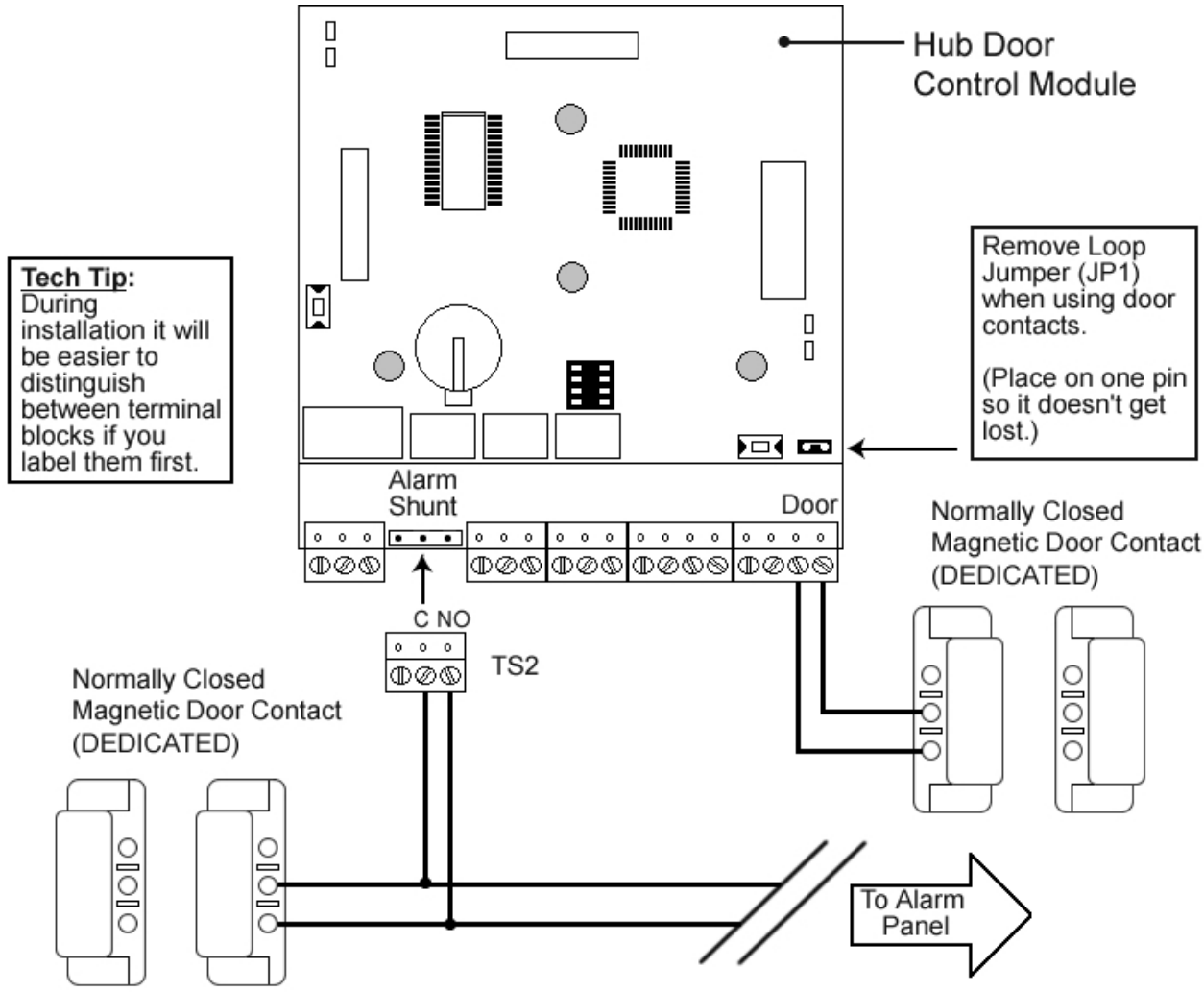
Auto Re-lock automatically solves the problem of people tailgating in behind those using valid access or egress. This feature allows the programmer to set a long door unlock time. This feature overrides the main relay timer, de-energizing the main relay 1 second after the Hub Door Control Module sees the door contact open. In many situations you will find the need for long door unlock time, this allows people carrying packages enough time to get from the front end reader to the door and open it before the timer runs out. Other people may only require a few seconds to do the same task. Without auto re-lock, the door would be left un-locked long enough for people to "tailgate" in behind authorized users. **For this feature to operate properly you have to utilize the door position switch (input) and REMOVE the loop jumper (JP1).**

No programming is necessary. After a valid access or egress the Hub Door Control Module monitoring the door contact sees the door switch open and de-energizes the main relay immediately re-locking the lock.

Step 8: Wire the Alarm Shunt Relay

The Alarm Shunt Relay is used when the HubMax is controlling a door that is monitored by an external alarm system. No programming is required. The Hub Door Control Module energizes both the Main Relay and Alarm Shunt Relay with any valid access or egress. The Alarm Shunt Relay is used to shunt the door contact wired to the external alarm system. The door may now be opened without triggering the external alarm. The Alarm Shunt Relay remains energized until the door is closed. The Alarm Shunt Relay de-energizes one second after the door is closed. This Relay is rated to handle 1 Amp of current at either 12 or 24 Volts AC/DC.

NOTE: This feature requires that you wire a DEDICATED door position switch to the Hub Door Control Module per diagram also REMOVE Loop Jumper (JP1).

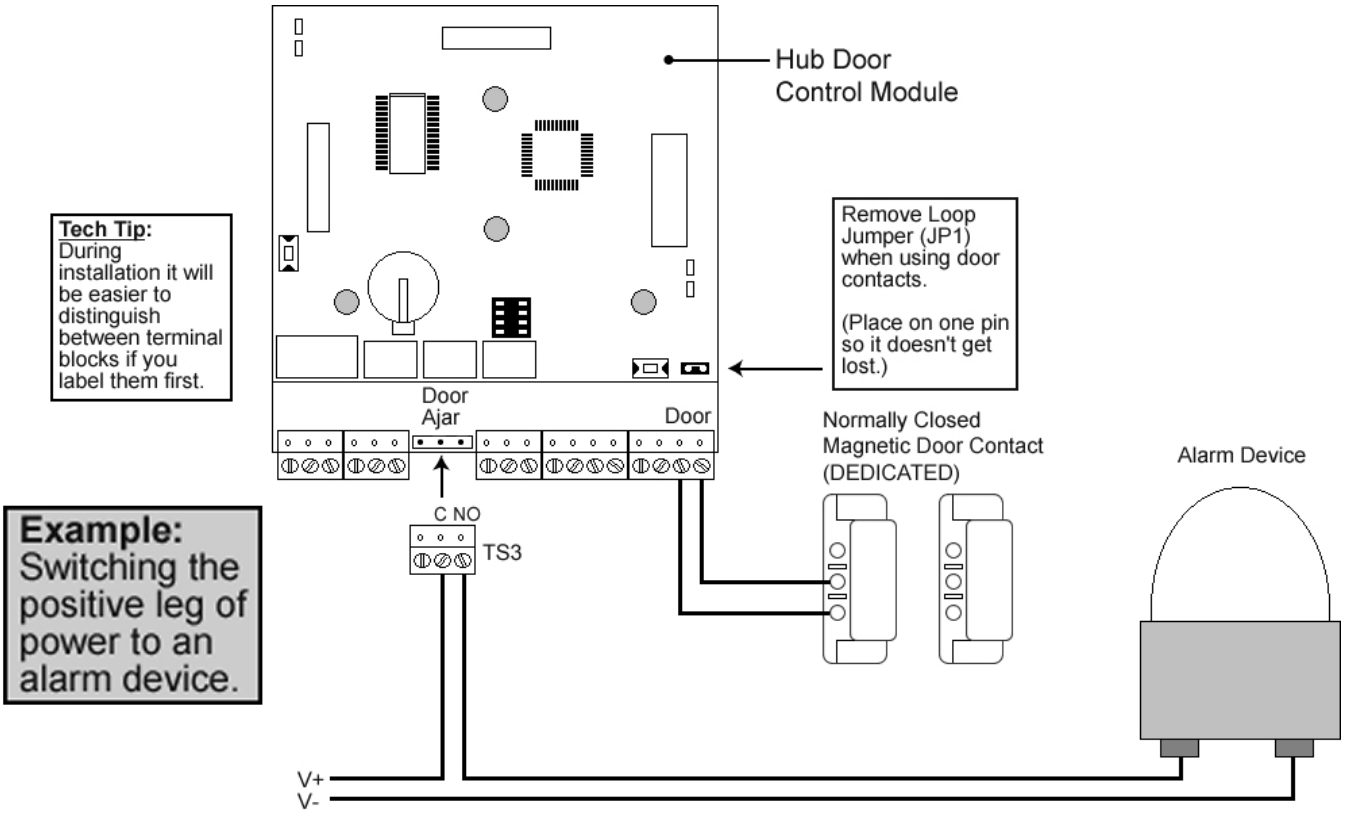


Step 9: Wire the Door Ajar Relay

This output alerts personnel that the door is being held, or propped open, after a valid access or egress. To accomplish this the Hub Door Control Module comes equipped with a relay and internal timer circuit. Once the door has been opened with a valid access or egress the Hub Door Control Module begins to count until the door closes. The DOOR AJAR RELAY energizes if the amount of time the door is open exceeds the DOOR AJAR TIME programmed into it the Hub Door Control Module Kit. The alarm then sounds continuously until the door is closed.

The DOOR AJAR RELAY can be used to switch power to an alarm device (i.e. horn, strobe…). This Relay is rated to handle 1 Amp of current at either 12 or 24 Volts AC/DC. Alarm device(s) are not included with IEI equipment.

NOTE: This feature requires that you wire a DEDICATED door position switch to the Hub Door Control Module per diagram also REMOVE the Loop Jumper (JP1).



Programming the DOOR AJAR TIME: (default DOOR AJAR TIME is 30 seconds)
Door Ajar is the length of time the door can remain open after an authorized access/egress, before the Door Ajar relay energizes.

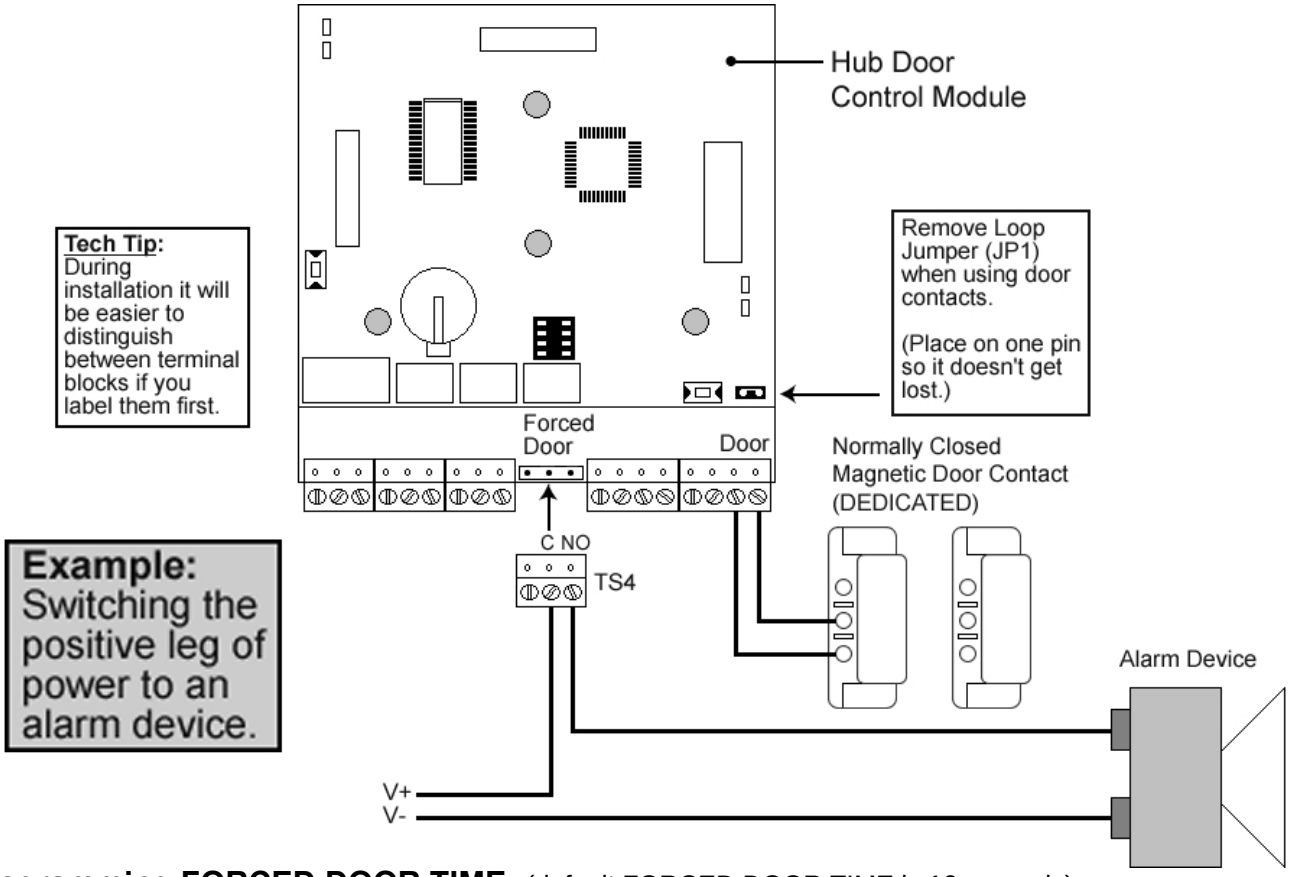
Action	Press
Enter Program Mode	**99 # Master Code ✱**
Program Door Ajar Time (Enter in 10 second intervals 10-990)	**44 # Door Ajar Time # 0 # ✱✱** **Example: 44 # 40 # 0 # ✱✱ (for 40 seconds)**
Exit Program Mode	**✱**

Step 10: Wire the Forced Door Relay

This output alerts personnel that the door had been opened without authorization. The FORCED DOOR ALARM remains energized until a code is entered at the FRONT END or Hub Door Control Module, or the FORCED DOOR RELAY TIME elapses. The FORCED DOOR RELAY TIME represents how long the FORCED DOOR RELAY stays energized.

The FORCED DOOR RELAY can be used to switch power to an alarm device (i.e. horn, strobe…). This relay is rated to handle 1 Amp of current at either 12 or 24 Volts AC/DC. Alarm device(s) are not included with IEI equipment.

NOTE: This feature requires you to wire a DEDICATED door position switch to the Hub Door Control Module per the diagram below and to also REMOVE the Loop Jumper (JP1).



Programming FORCED DOOR TIME: (default FORCED DOOR TIME is 10 seconds)
Forced Door is the length of time the Forced Door relay energizes upon an invalid ingress.

Action	Press
Enter Program Mode	**99 # Master Code ✱**
Program Forced Door Time (Enter in 10 second intervals 10-990; Entering 00 latches the output)	**45 # Forced Door Time # 0 # ✱✱** **Example: 45 # 40 # 0 # ✱✱ (for 40 seconds)**
Exit Program Mode	**✱**

Step 11: Configure the HubMax/HubMax II to Print

There are two methods to print from the HubMax/HubMax II (without software).

1. Using the Infrared Handheld Printer (IRPRINT).
2. Connecting the Hub Door Control Module to a SERIAL LINE PRINTER (only way to print LIVE).

Both methods are described in this section.

HubMax Modules are equipped with a 1000 event Transaction Log. HubMax II modules can hold 1,500 events. This means that the Door Control Module records events occurring at the door. When the log buffer reaches its capacity of events, the oldest event is overwritten with the new event. (**NOTE:** The first transaction on the list is the most recent transaction.)

You can program the Hub Door Control Module to mask out (not record) certain events. This feature is used in situations where the end user does not want the transaction buffer to be filled with non-essential transactions. The commands to record or mask an event are located in section 4.4.3.

It is also possible to print a list of the Users programmed into a Hub Door Control Module. See section 4.4.5.

The Transaction Log (Audit Trail) and User List can also be accessed using the Secured Series Software to print with a computer. Please see the Secured Series Software Manual for this information.

Programming the DOOR NUMBER into the Hub Door Control Module

When a Hub Door Control Module is networked with other door controllers (HubMax, HubMax II, MiniMax, MiniMax II, HubPlus Kits or stand-alone Hubs), you need to program a unique DOOR NUMBER for each door controller.

Without a DOOR NUMBER the network will not communicate to either a printer or a PC.

A DOOR NUMBER should be programmed into each Hub Door Control Module even when ***not*** networked to other door controllers. The DOOR NUMBER prints out on the transaction log so you can distinguish which door was accessed.

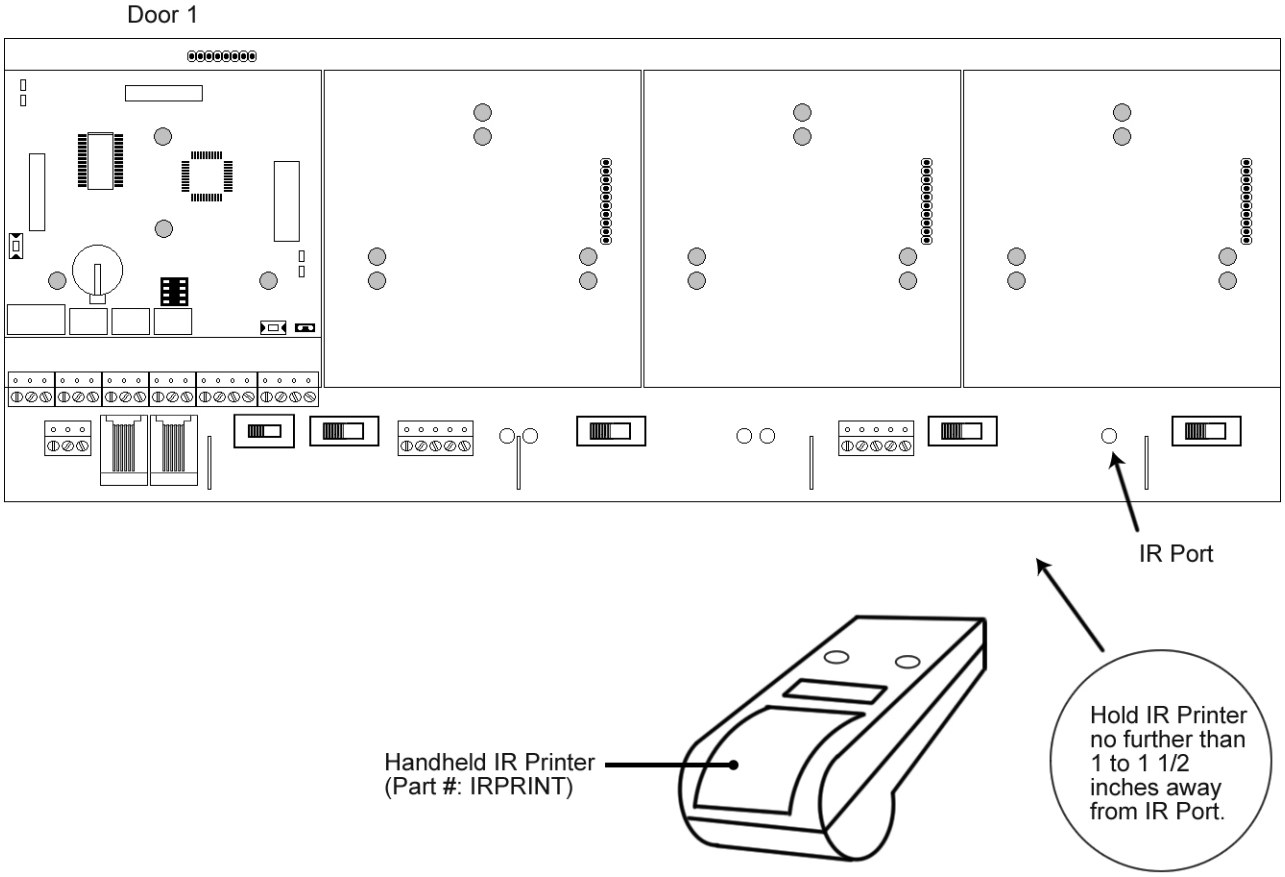
Every Secured Series Controller is factory set to DOOR 01.

Programming Procedure:

Action	Press
Enter Program Mode	**99 # *(Master Code)* ✱**
Set Door Number (DN = DOOR NUMBER which must be in a two-digit format: Door 1 = 01, Door 2 = 02, Door 32= 32)	**43 # 0 # DN # ✱✱**
Exit Program Mode	**✱**

If you are networking two HubMax Backplanes, the Hub Door Control Module in Port 1 of the second HubMax Backplane must be programmed as DOOR 5.

11A: Printing From HubMax Using Handheld Infrared Printer



To Print:

A. Enter the DUMP CODE (if programmed) at Hub Door Control Module or present the DUMP TOKEN (if programmed) at FRONT END READER.

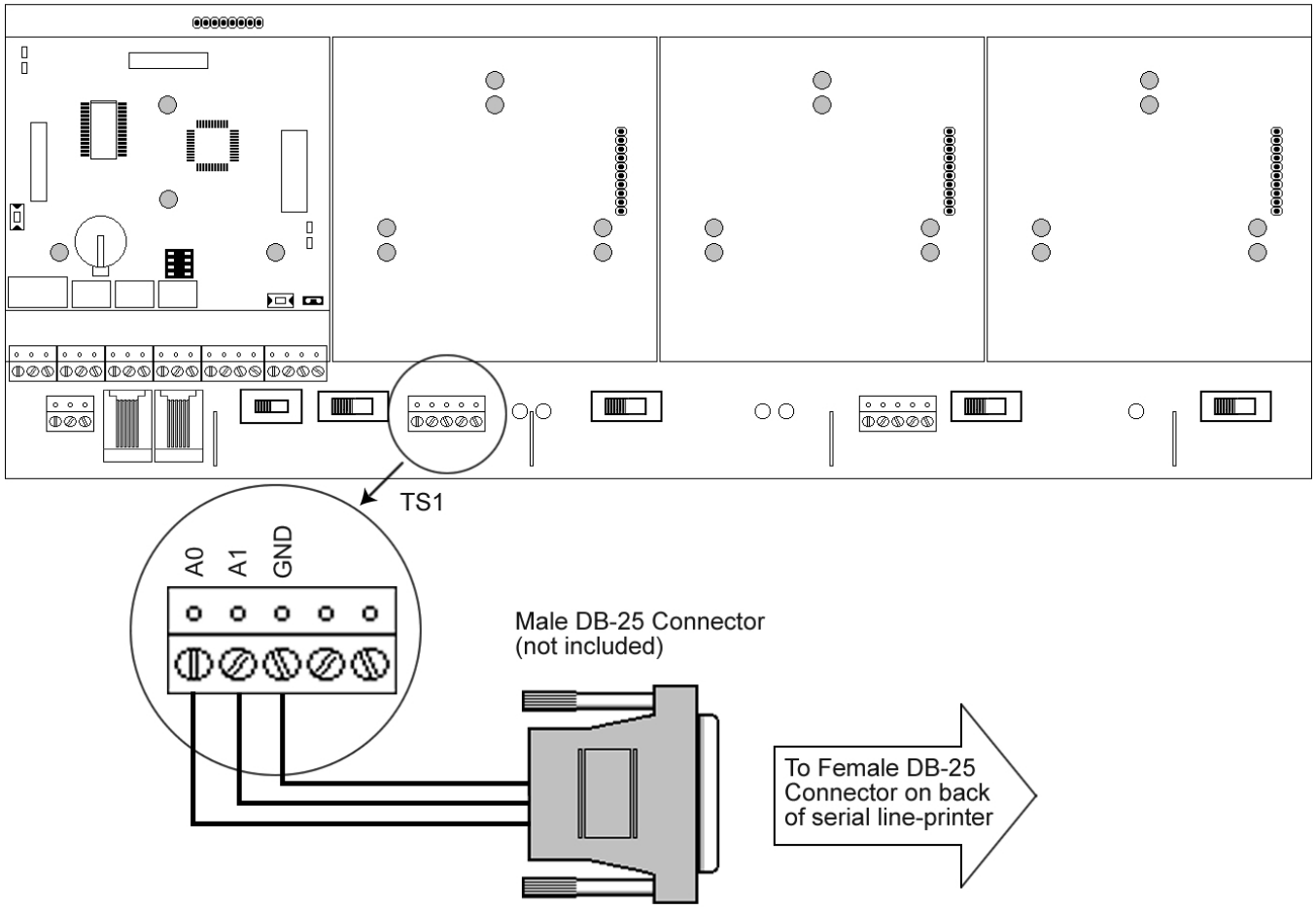
B. If there is no DUMP CODE or TOKEN you must either program one or:

1. Put Hub Door Control Module into Program Mode: **99 #** ***(MASTER CODE)*** ✱ yellow LED starts flashing.
2. Enter command to **Print Audit Trail (70#0#0#**)**, or **Print User List (25#0#0#**)**, see section 4.4.3 and 4.4.5.

Once you have performed either option **A** or **B,** the Red and Green LED's on the front of the Hub Door Control Module start flashing, then:

- Hold the Handheld IR Printer up to the HubMax Backplane (as shown above).
- Face the IR Port on the printer towards the IR Port on the HubMax Backplane.
- The printer must be no further than 1 to 1½ inches away from the IR Port.

11B: Connecting a Serial Line Printer to the HubMax/HubMax II Backplane



Connections/ Wiring Requirements
Wire 4 Conductor Stranded/ Shielded cable between Port A terminals and DB25 Connector.

Port A	to DB25	Dist to	AWG
GND	Pin 7	1000'	18
AO	Pin 2	250'	22
AI	Pin 3	500'	20

IEI recommends 4 different serial line-printers. The printers are identified along with their wiring and programming instructions on the next page.

Wiring and Programming serial line-printers for use with the HubMax

IEI recommends the following four serial line-printers:

Epson LQ300	Okidata 184 Microline
Citizen GSX-190	Okidata 320 Turbo

Note: All interconnecting devices must be U.L. Listed.

<table>
<tr><td colspan="3">Epson LQ300 or the Citizen GSX-190:</td></tr>
<tr><td>Wiring</td><td colspan="2">Programming</td></tr>
<tr><td>Follow the wiring instructions on the previous page.</td><td colspan="2">Program the printer so the following settings are active:
• Serial Mode, 1200 baud
• 8 Data Bits
• 1 Stop Bit
• Auto Line Feed is enabled</td></tr>
<tr><td colspan="3">Okidata 184 Microline:</td></tr>
<tr><td>Wiring</td><td colspan="2">Programming</td></tr>
<tr><td>In addition to the wiring instructions on the previous page, short these pins on the Male DB-25 Connector:
• Short Pin 20 to Pin 6
• Short Pin 4 to Pin 5</td><td>Dip Switch Settings on the mother-board:
• 1,2,3,4,8 OFF
• 5,6,7 ON</td><td>Dip Switch Settings on the serial-card:
<table><tr><th>Bank 1</th><th>Bank 2</th></tr><tr><td>1, 2, 3, 5, 6: ON</td><td>1, 2, 4, 6, 7: ON</td></tr><tr><td>4: Off</td><td>3, 5: OFF</td></tr><tr><td>7, 8: Not Used</td><td>8: Not Used</td></tr></table></td></tr>
<tr><td colspan="3">Okidata 320 Turbo:</td></tr>
<tr><td>Wiring</td><td colspan="2">Programming</td></tr>
<tr><td>In addition to the wiring instructions on the previous page, short these pins on the Male DB-25 connector:
• Short Pin 20 to Pin 6
• Short Pin 4 to Pin 5</td><td colspan="2">Program the printer so the following settings are active:
• Serial Mode, 1200 baud
• 8 Data Bits
• 1 Stop Bit
• Auto Line Feed is enabled</td></tr>
</table>

To Print:

1. Enter your DUMP CODE (if programmed) or present your DUMP TOKEN (if programmed).
2. If you don't have a DUMP CODE or TOKEN you must either program one or:

    - Put the Hub Door Control Module into Program Mode: **99 # *(MASTER CODE)* ✱**
    - Enter PRINT TRANSACTION LOG (**25#0#0#****), or PRINT USER LIST **(70#0#0#**)** commands

Once you have performed either option A or B, the bi-color LED on the Hub Door Control Module starts alternating RED/GREEN. The contents of the Transaction Log Buffer then start printing out on the printer.

You can also set the Hub Door Control Module to *PRINT LIVE*.
When this feature is enabled the Hub Door Control Module sends events to the printer as they occur at the door. To set the Hub Door Control Module to PRINT LIVE you must:

- Put the Hub Door Control Module into Programming Mode: **99 # *(MASTER CODE)* ✱**
- Enter the command to enable PRINT LIVE: **31 # 10 # 1 # ****

PRINT LIVE is NOT recommended for heavy traffic systems with multiple doors. Events occurring simultaneously at more than one door will collide and the printout will be illegible.

Step 12: Network the HubMax/HubMax II

This step describes how to network the HubMax/HubMax II to other Hub Door Controllers and how to connect it to it a modem for remote access using PC.

For instructions and diagrams to connect a PC (Personal Computer) to the HubMax consult the *Hardware Installation Manual* **(Document # E000- 0010),** which is in the Secured Series Software Kit (included).

Remote Access

The HubMax can be accessed from a remote site via modem. This enables you to manipulate any of the data in the system as if you were at the site with your personal computer, but via phone. This is described in this section.

NOTE: The modem interface was not evaluated by U.L.

At the HubMax

For each network you need to install the IEI Secured Series HubModem Kit **(Part #: SS-MODEM)**. It is recommended that the site with the HubMax should have a dedicated phone line available to use this feature. The dedicated line cannot be through a PBX system.

The HubMax Backplane has an eight-position pin rail, labeled S1, designed to plug an IEI modem onto it. The pin rail is located on the top of the PCB above module #1 (see diagram in section 1.5). The modem board has a corresponding connector mounted on the bottom side of the board so the components are facing away from the module when connected. It is then supported by two card guides on both ends that snap into holes in the Backplane. The pin rail makes all the connections necessary for the modem to operate and no additional wiring is needed. You just need to connect the phone line. The ON/OFF switch on the Backplane also controls power to the modem connector.

For instructions and diagrams to connect the HubModem Kit to the HubMax consult the *Secured Series HubModem Installation Guide* **(Document #: 6060551),** which is included in the Secured Series HubModem Kit.

Before the HubModem Kit became available IEI specified the Boca 14.4 for use at the HubMax, which is no longer available, but since there may still be units out there, this manual covers all the programming commands used with the Boca 14.4.

To enable remote communication on the HubMax you must first enable Remote Access then Select the Modem String in Hub Door Control Module # 1:

Action	Press
Enter Program Mode	**99 # *(Master Code)* ✱**
Enable Remote Access	**31 # 8 # 1 # ✱✱**
Selecting the Modem String	
For HubModem Kit	**35 # 2 # 0 # ✱✱**
For Boca 14.4 *only*	**35 # 1 # 0 # ✱✱**
Exit Program Mode	**✱**
Enter the Self-Test This initializes the modem	**7 8 9 0 # 1 2 3 4 5 6 ✱**

Tech Note: When connecting the IEI Secured Series HubModem Kit to a network of two or more HubMax Backplanes:

The **SYSTEM SWITCH** on the first Backplane must be set to *REMOTE*.

The **SYSTEM SWITCH** on the second Backplane must be set to *LOCAL*

At the remote PC

Following these steps to set up your PC to operate remotely.

1. Install the IEI Secured Series Software Kit, which is supplied with HubMax.

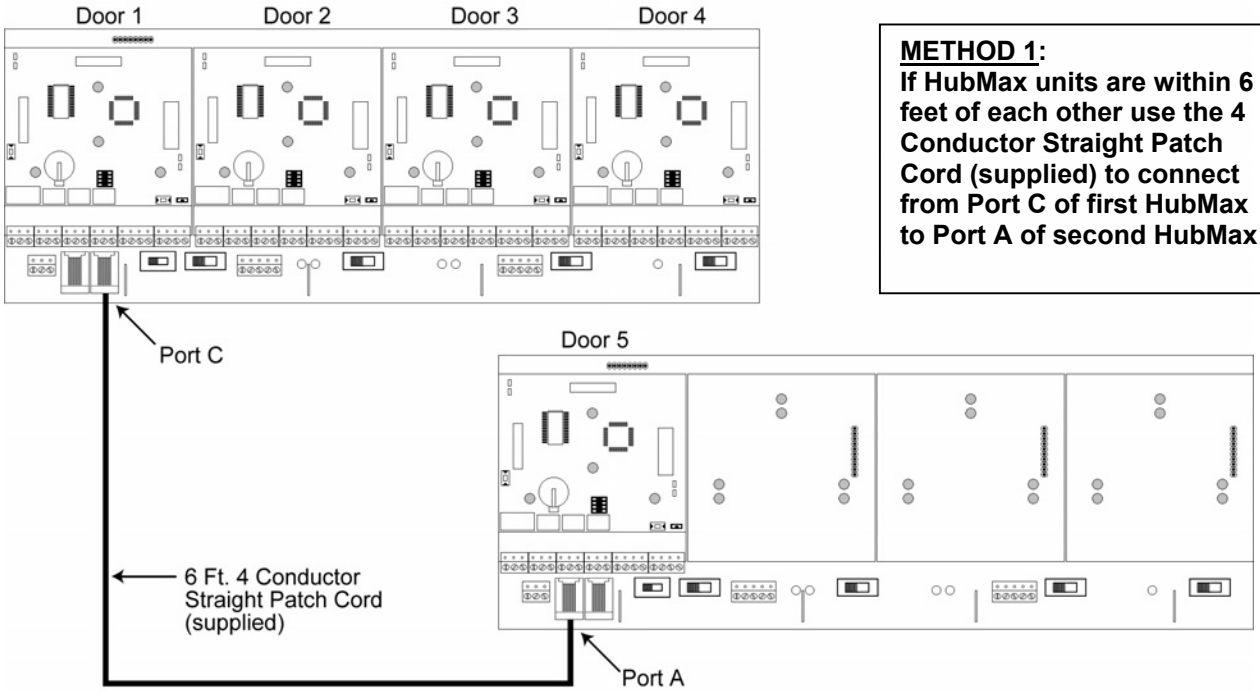
2. Install one of 4 ***external*** modems for your PC.

The four external modems that IEI supports are:

1. **Boca 14.4 (no longer available)**
2. **Boca 33.6**
3. **US Robotics 33.6**
4. **US Robotics 56k v.90**

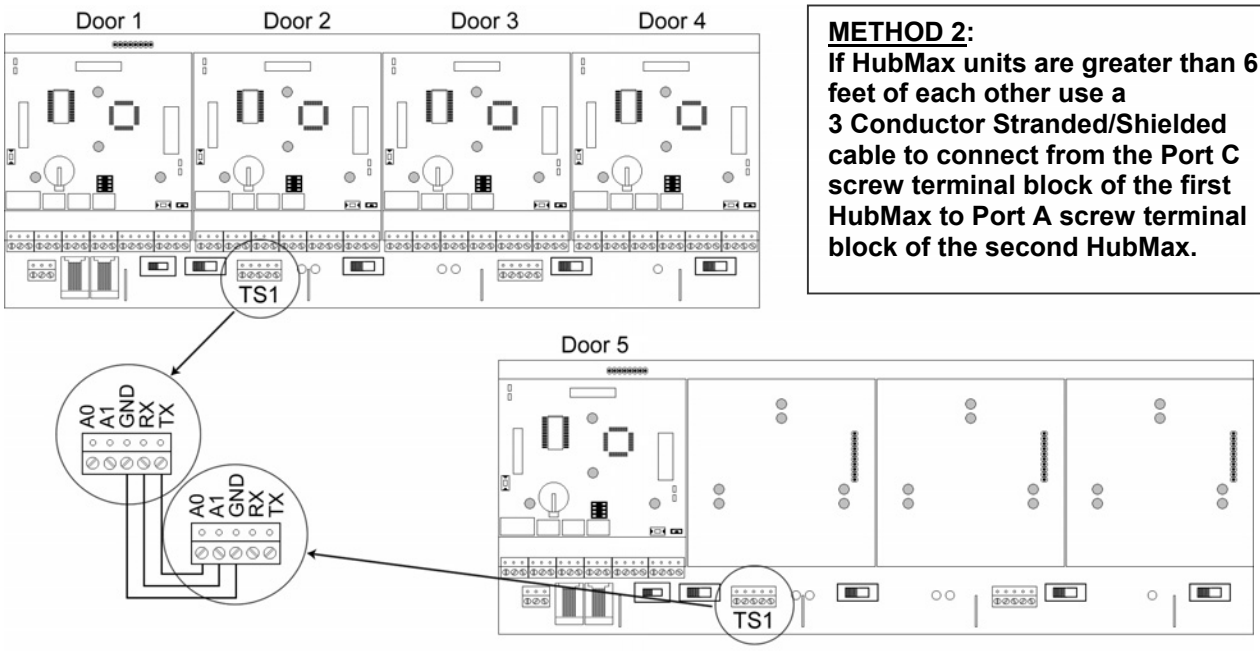
For complete instructions for setting up your PC, please consult the appropriate documents in the IEI Secured Series Software kit.

12A: Networking HubMax Backplanes – Method 1



METHOD 1:
If HubMax units are within 6 feet of each other use the 4 Conductor Straight Patch Cord (supplied) to connect from Port C of first HubMax to Port A of second HubMax

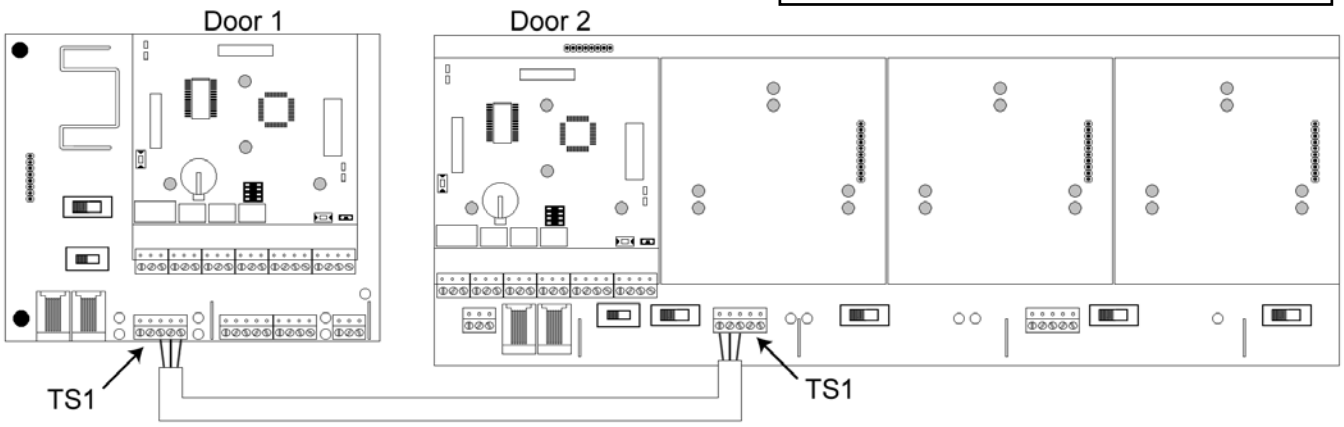
12B: Networking HubMax Backplanes – Method 2



METHOD 2:
If HubMax units are greater than 6 feet of each other use a 3 Conductor Stranded/Shielded cable to connect from the Port C screw terminal block of the first HubMax to Port A screw terminal block of the second HubMax.

Wiring Requirements
4-conductor stranded/shielded cable between Hub MiniMax and HubMax.
250' – 22AWG
500' – 20AWG
1000' – 18AWG

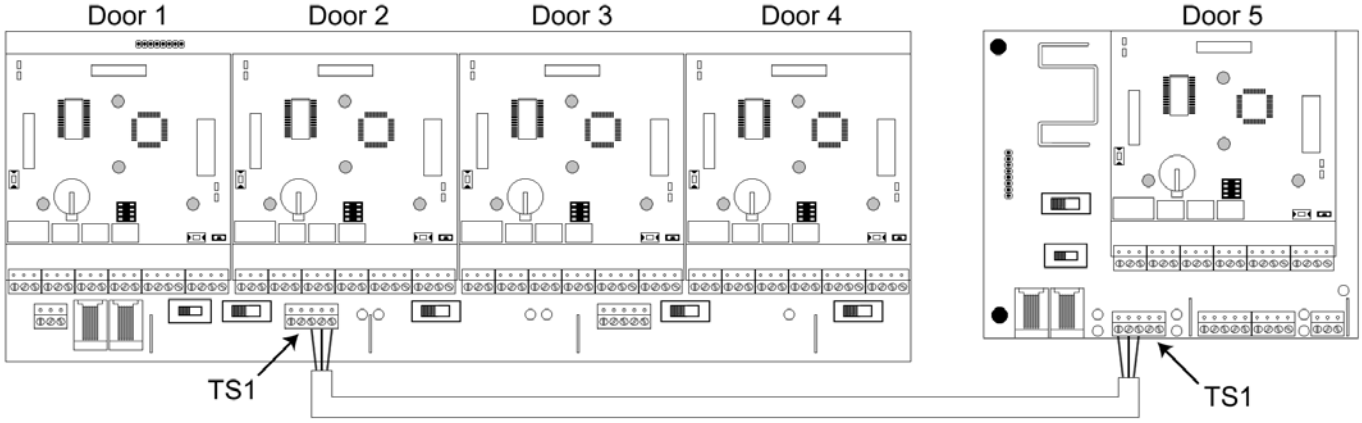
12C: Networking Hub MiniMax to HubMax



Connections:

Hub MiniMax TS1 Terminal Block		HubMax TS1 Terminal Block
GND Terminal	⟷	GND Terminal
TX Terminal	⟷	A0 Terminal
RX Terminal	⟷	A1 Terminal

12D: Networking HubMax to Hub MiniMax

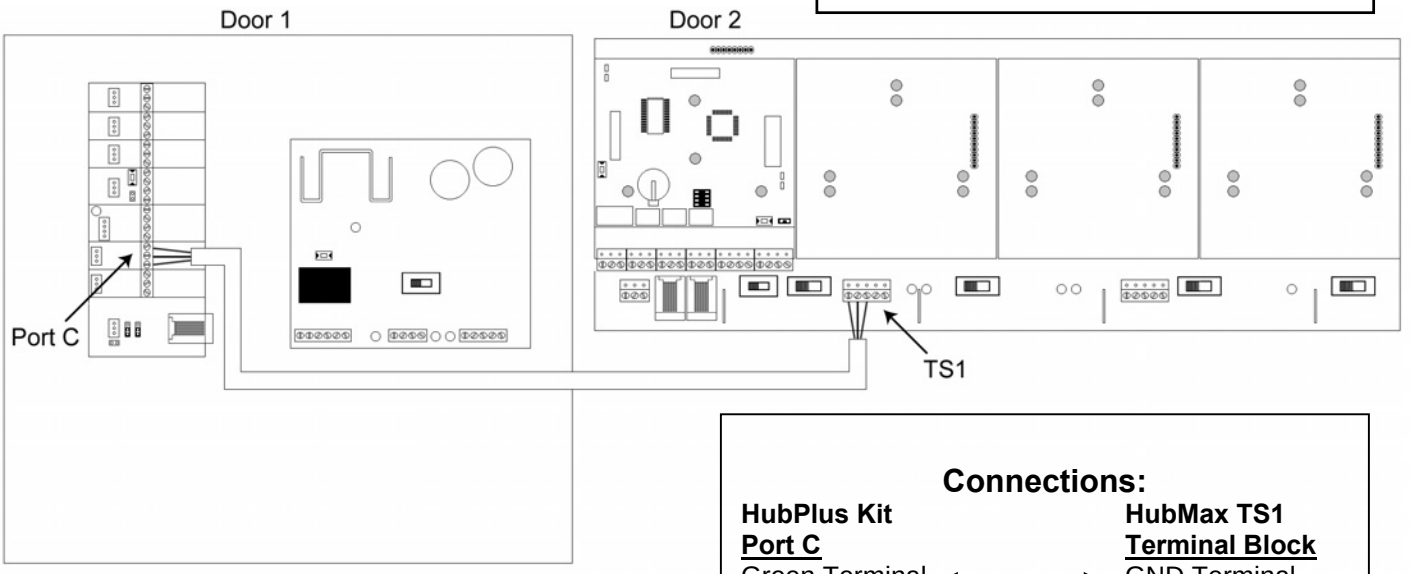


Connections:

HubMax TS1 Terminal Block		Hub MiniMax TS1 Terminal Block
GND Terminal	⟷	GND Terminal
TX Terminal	⟷	A0 Terminal
RX Terminal	⟷	A1 Terminal

12E: Networking HubPlus Kit to HubMax

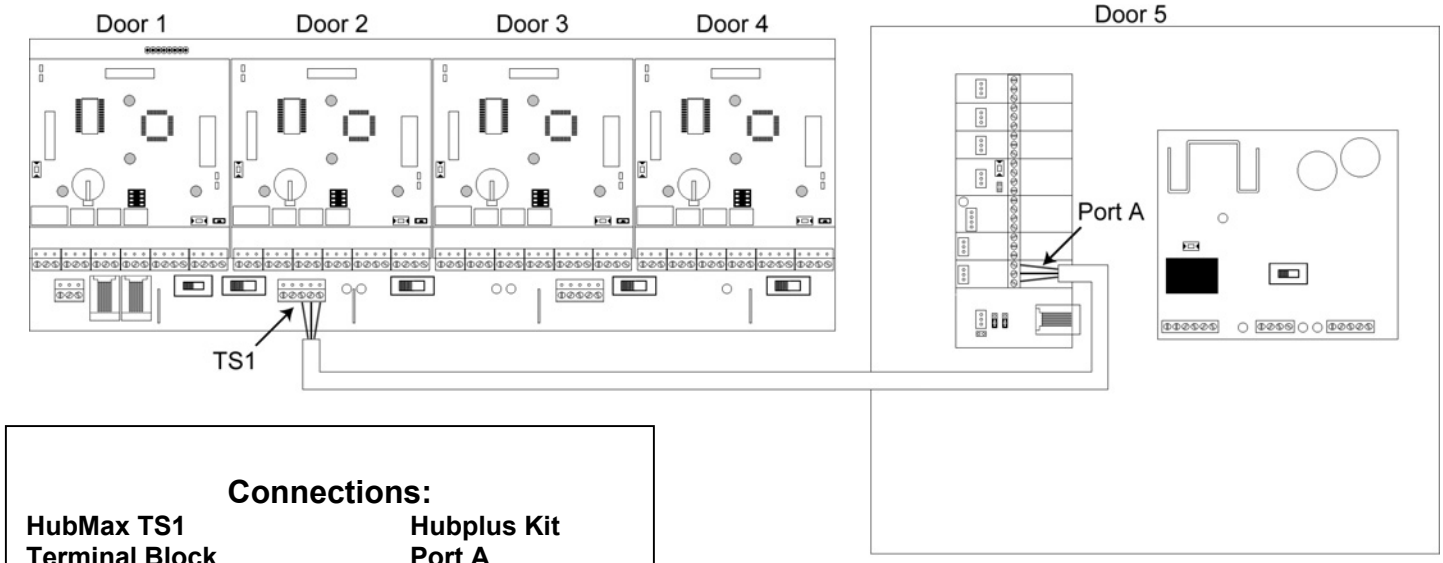
Wiring Requirements
4 conductor stranded/shielded cable between HubPlus Kit and HubMax.
250' – 22AWG
500' – 20AWG
1000' – 18AWG



Connections:

HubPlus Kit Port C		HubMax TS1 Terminal Block
Green Terminal	⟷	GND Terminal
Blue Terminal	⟷	A0 Terminal
Gray Terminal	⟷	A1 Terminal

12F: Networking HubMax to HubPlus Kit



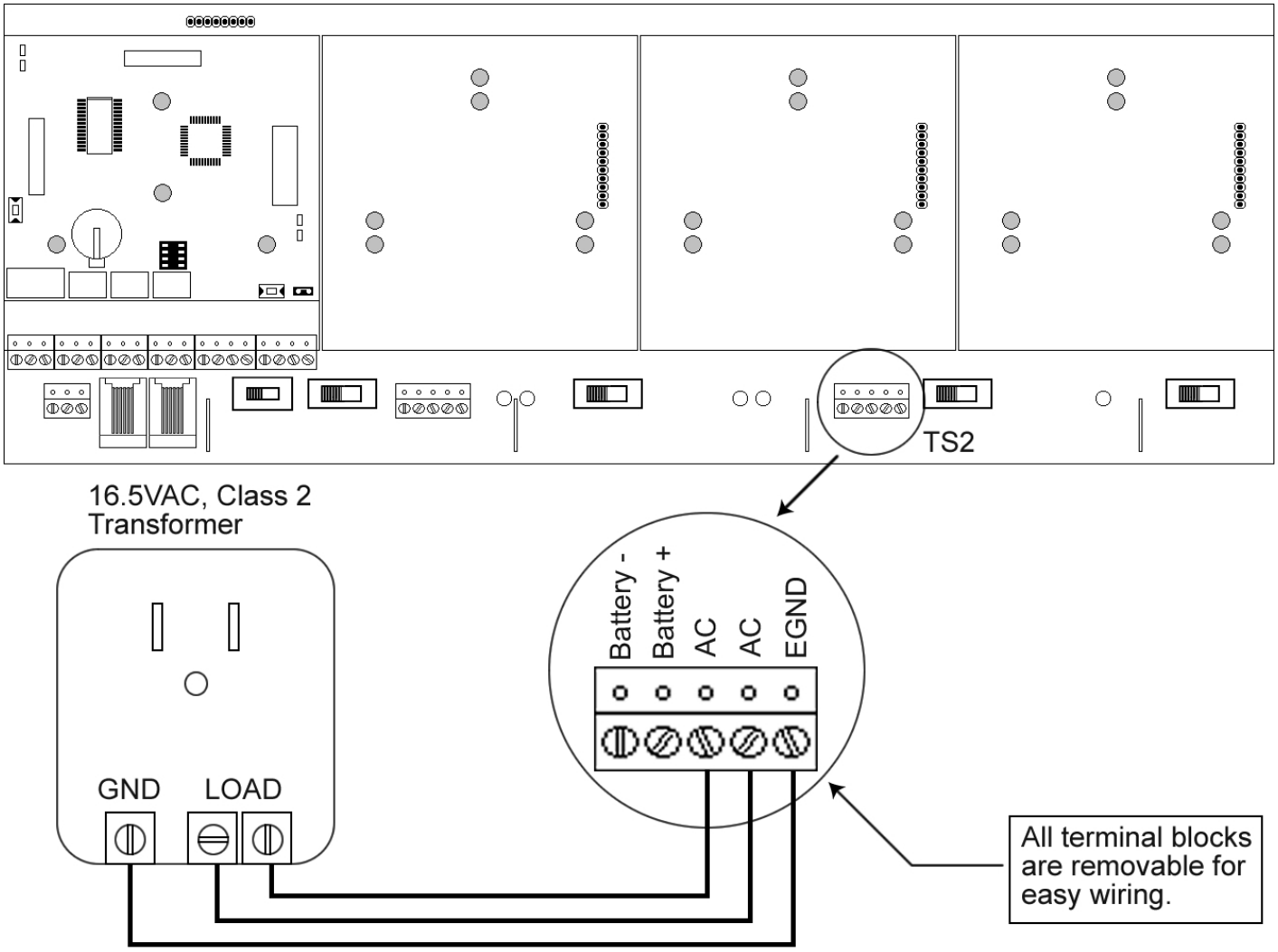
Connections:

HubMax TS1 Terminal Block		Hubplus Kit Port A
GND Terminal	⟷	Green Terminal
TX Terminal	⟷	Blue Terminal
RX Terminal	⟷	Gray Terminal

Step 13: Complete connections between the 16.5 VAC transformer and HubMax

Connect the 16.5 VAC Transformer (included with the HubMax) to the Backplane at the terminals marked **AC**.

Provided with the HubMax are Backup Battery Connection Cables. Connect these cables from your 12V battery (7AH Recommended) to the HubMax Backplane at the terminals marked **B+ and B-**.
Polarity is an issue! Be sure you know which battery terminals are positive and negative BEFORE you connect your battery to the HubMax Backplane.



Step 14: Power up the System

Plug the transformer into a grounded 110 VAC electrical outlet. You should now have power to your system. Check the power status by checking the following:

On the HubMax Backplane:

- LED 5 should be lit - This indicates that AC Power is present
- LED 2 should be lit - This indicates that DC Power is available on the Backplane

On the Hub Door Control Module:

- LED 2 should be lit - This indicates that the HubMax Module is receiving power
- LED 3 should be lit - This indicates that the Front End Reader is receiving power

If the above requirements are met the system is now powered up and ready for programming and operation.

If the above requirements are *not* met see the Troubleshooting Section below.

Troubleshooting

HubMax Backplane	
Symptom	**Probable Solution**
LED 5 is not lit.	1. Disconnect the transformer from the Backplane and read the AC output. 2. Verify the AC output from the transformer is 16.5 VAC
If the transformer reads 16.5 VAC and LED 5 is not lit.	1. Unplug the transformer from the electrical outlet. 2. Reconnect the transformer to the Backplane. 3. Confirm you have solid connections on the TS2 Terminal Block. 4. Plug transformer back into electrical outlet. 5. If problem persists CALL IEI TECH SUPPORT.
If the transformer does not read 16.5 VAC.	1. Unplug the transformer from the electrical outlet. 2. Read the AC output from the electrical outlet and verify that 110-120 VAC is present. 3. If this voltage is not present, consult an electrician.
Hub Door Control Module	
Symptom	**Probable Solution**
LED 2 is not lit.	1. Check the connection between the Hub Door Control Module and the Backplane. 2. Confirm that the pins on the “P Connector” are properly mated to the “S1 Connector” on the Hub Door Control Module.
LED 3 is not lit	1. This indicates that the BLACK and RED lines going to the Front End Reader are shorted. 2. Disconnect the Front End Reader and see if LED 3 turns on. If LED 3 does not illuminate there may be a problem on your Hub Door Control Module. 3. CALL IEI TECH SUPPORT.

4.0 Programming the HubMax/HubMax II

This section contains the details of programming the HubMax/HubMax II Door Control Module.

4.1 Programming Methods

There are two methods of programming the Hub Door Control Modules. They are as follows:

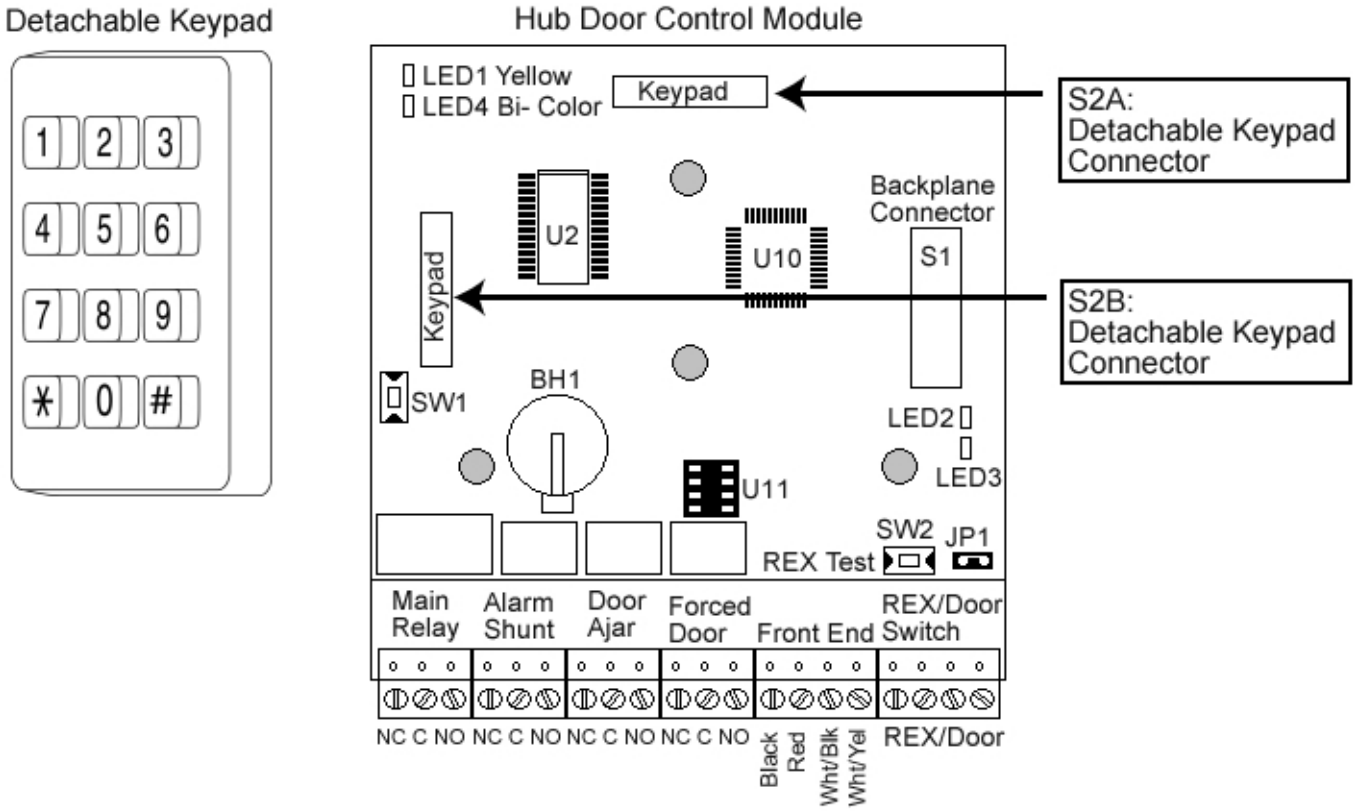
1. Programming directly to a Hub Door Control Module using the detachable keypad, which is pre-mounted on Hub Door Control Module #1. Simply move this keypad to the Hub Door Control Module you want to program (limited options).

2. Programming all information through the Secured Series Software and exporting that information to the Hub Door Control Module(s).

This manual only covers the first method (programming directly to Hub Door Control Module), shown below. Information on the second method is in the Secured Series Software User Manual (included with the HubMax).

Programming using method #1

The first step to program a Hub Door Control Module is to connect the detachable keypad. You can connect the detachable keypad to either S2A or S2B connectors on the Hub Door Control Module, depending on which way you mount the HubMax Cabinet. Use S2A to mount the cabinet horizontally and use S2B to mount it vertically.



4.2 Programming Features

- Each HubMax Module has 500 user locations, HubMax II has 2000 user locations
- Location 1 is the Master Code
- The Master Code is used to put the Hub Door Control Module into Program Mode
- The Master Code can also be used to open the door as any user code
- This leaves 499 (HubMax) / 1999 (HubMax II) locations to be dedicated to user data
- User data can be data from User Token (such as a magnetic stripe card, proximity cards, touch chip, touch keys) or keypad codes
- A User Token **cannot** be programmed into location 1.
- Location 1 can only be programmed as a code!
- Code data for all model keypads can be from one to six digits in length, and numbers can be repeated within a User Code

Programming Example:

Objectives:

- Change MASTER CODE to 4321.
- Set RELAY TIME to 10 seconds.
- Add USER CODE of 2268 to USER LOCATION 2.
- Set DOOR AJAR TIME to 440 seconds.
- Enable PRINT LIVE.

Perform the following actions on the Hub Door Control Module programming keypad:

Action	Press
Enter Program Mode	**99 # *(MASTER CODE)* ✱**
Change MASTER CODE to 4321 Set RELAY TIME to 10 seconds	**10 # 1 # 4321 ✱ 4321 ✱**
Add USER CODE of 2268 to USER LOCATION 2	**2 # 2268 ✱ 2268 ✱**
Set DOOR AJAR TIME to 440 seconds	**44 # 440 # 0 # ✱✱**
Enable PRINT LIVE	**31 # 10 # 1 # ✱✱**
EXIT Program Mode	**✱**

4.3 Sending Information Between Networked Hub Door Controllers

(Note: Feature not available with HubMax II Door Control Module)

IEI Secured Series Door Controllers have the ability to send pre-programmed information between networked door controllers. This is useful for applications that have networked controllers but are not using the Secured Series Software to program the controllers with a PC. This feature also requires that you have access to both door controllers because it's done through the detachable keypad on each controller.

This feature requires two door controllers:

- The "SOURCE" door controller (programmed with the information you want to send)
- The "DESTINATION" door controller (where you want the information to be received)

The SOURCE and DESTINATION controllers can be any controller in the network, regardless of the door number. Below is an overview of the procedure. **Detailed instructions and diagram are on the next page.**

Procedure Overveiw:

1. **At the DESTINATION controller:**
   - Put the controller into program mode.
   - Enter the command to set controller into receive mode (BI-COLOR LED flashes RED/GREEN).

2. **At the SOURCE controller:**
   - Put the controller into program mode.
   - Enter the command to send the data (The YELLOW and GREEN LED's flash simultaneously).

3. **After the Data Transmission is complete:**
   - The GREEN LED on the source controller reverts to solid RED, with a slowly flashing YELLOW.
   - Exit progam mode on both controllers.

Note: There are two types of information that you can send between controllers:
- RANGE OF USERS
- ALL DATA

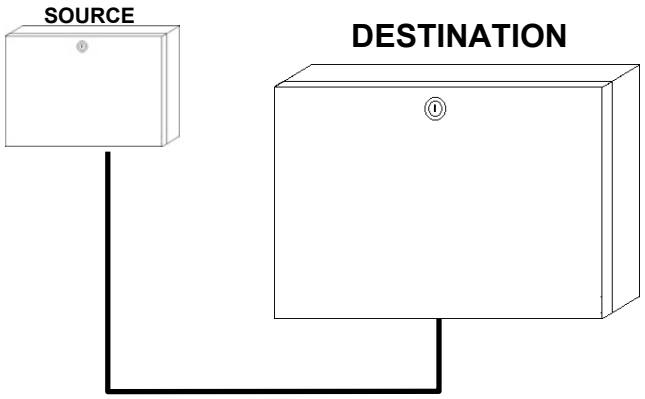
Sending a RANGE OF USERS:
This feature is used to send pre-programmed USER INFORMATION from one controller to another. USER INFORMATION is the code and/or token programmed into a USER LOCATION.

Sending ALL DATA :
This feature is used to send the entire programming of one controller to another. This includes all USER INFORMATION and all DOOR SETTINGS. DOOR SETTINGS include:

- DOOR NUMBER
- MAIN RELAY TIME
- FORCED DOOR TIME
- DOOR AJAR TIME
- PRINTER OUTPUT PORT
- KEYPRESS FEEDBACK STATUS

Below are detailed instructions on sending information between door controllers:

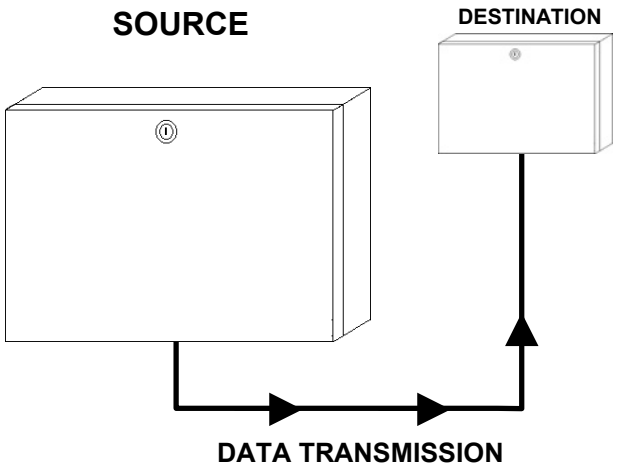
Step 1: At the Destination Door Controller



Action	Press
Enter Program Mode	**99 # (Master Code) ✱**
Program the door controller to *RECEIVE DATA*	**29 # 0 # 0 # ✱✱**
LED Status: • BI-COLOR-LED on Controller will flash RED/GREEN	

Step 2: At the Source Door Controller

Action	Press
Enter Program Mode	**99 # (Master Code) ✱**
Method 1	
Copy a *RANGE OF USERS*	**20 # FFF # LLL # ✱✱**
FFF – first USER LOCATION in range, Example: 001 LLL – last USER LOCATION in range, Example: 500	
Method 2	
Copy *ALL DATA*	**21 # 0 # 0 # ✱✱**
LED Status: • During the transmission of data: The YELLOW and the GREEN LED's flash simultaneously • Once the data transmission is complete: the GREEN LED reverts to a solid RED, with a flashing YELLOW	



Step 3: At the SOURCE and Destination Door Controller

Action	Press
Exit Program Mode	✱

4.4 Printing the Transaction Log and User List

The HubMax/HubMax II Door Control Module has the capability to print a complete user list and transaction log. The HubMax can store up to 500 users and 1000 events in the transaction event buffer. The HubMax II can store up to 2000 users and 1500 events in the transaction event buffer. The transaction event buffer stores events (User In, Forced Door, etc…) that occur at the door the Hub Door Control Module is controlling. This section describes the features relating to these functions.

4.4.1 Selecting the Printing Output Port

The first thing you need to do before you can print anything is choose which method of printing you want to use. The HubMax/HubMax II Backplane is equipped with two output ports for printing. They are:

1. **Infra-Red (IR) LED** – for use with the hand-held infra-red printer (IRPRINT)
2. **Serial RS-232** – for use with a serial line-printer

After you've selected which port you want to use, you have to program the Hub Door Control Module to use that port. Enter the appropriate command below on the Hub Door Control Module keypad.

Action	Press
Enter Program Mode	**99 # (Master Code) ✱**
Select IR Port	**31 # 03 # 0 # ✱✱**
OR	
Select RS-232 Port	**31 # 03 # 1 # ✱✱**
Exit Program Mode	**✱**

4.4.2 Setting the Time/Date and Door Number

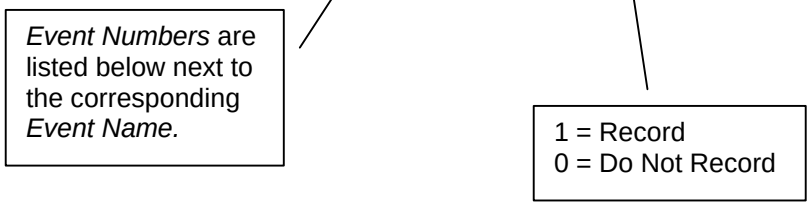
To enable the accurate recording of the events that occur at a door the TIME, DATE and the DOOR NUMBER must be programmed into the Hub Door Control Module.

Action	Press
Enter Program Mode	**99 # (Master Code) ✱**
Set TIME in real time clock	**41 # HHMM # 0#✱✱** HHMM- Hours and Minutes in 24 hour format (Military Time)
Set DATE in real time clock	**42 # MMDDYY # Day of Week # ✱✱** MMDDYY- Month, Day and Year all in two-digit numbers Day of Week (Sunday=1, Monday=2, Tuesday=3…)
Set DOOR NUMBER	**43 # 0 # DN # ✱✱** DN- a double-digit number from 01 to 32
Exit Program Mode	**✱**

4.4.3 Setting/Masking Events for logging in Event Buffer

This option enables you to select which events you want to record in the Event Buffer. This eliminates the possibility of the log filling up with events that have no bearing on your needs. Enter these commands on the Hub Door Control Module keypad to select the events.

Action	Press
Enter Program Mode	**99 # (Master Code) ✱**
Disable/Enable recording of an Event	**73 # (Event Number) # (0/1) # ✱✱**
Exit Program Mode	**✱**



Event Number	Event Name	Event Number	Event Name
1	Access Denied	**16**	Print
2	Program Denied	**17**	In (User Entered)
3	Program Mode	**18**	Out (User Egress)
4	Request to Exit (REX)	**19**	Bad Timezone
5	Door Ajar	**20**	Toggle On
6	Door Closed	**21**	Toggle Off
7	Forced Door	**22**	First-In Auto-Unlock
8	Log Erased	**23**	Relock

4.4.4 Printing the Transaction Log

Printing the Transaction Log (list of events recorded in chronological order) can be accomplished in two ways.

1. Entering a DUMP USER (code or token).
2. Putting the Hub Door Control Module into Programming Mode and entering the command to print the Transaction Log.

1. Commands for programming for a dump code or card:

Action	Press
Enter Program Mode	**99 # (Master Code) ✱**
Assign LOG DUMP code	**2 # (User Location) # (New Code) ✱ (New Code) ✱**
Assign LOG DUMP token	**2 # (User Location) # (Swipe Token at Reader) ✱✱**
Exit Program Mode	**✱**

To use a DUMP USER to print the Transaction Log:

- If the DUMP USER is a code it can be entered at either the Hub Door Control Module programming keypad or a keypad Front End Reader.
- If the Dump User is a card it can only be used at the Front End Reader.

2. Print the Transaction log <u>without</u> a DUMP USER:

Action	Press
Enter the Programming Mode	**99 # (Master Code) ✱**
Print the Transaction Log	**70 # 0 # 0 # ✱✱**
After Print is complete Exit the Program Mode	**✱**

After the Transaction Log has been printed it may be desirable to erase the Event Buffer

Action	Press
Programming Mode press	**99 # (Master Code) ✱**
Erase the Event Buffer	**76 # 00000 # 00000 # ✱✱**
After Print is complete Exit the Program Mode	**✱**

4.4.5 Printing a User List

It is possible to print the USER LIST of the Hub Door Control Module. This printout contains the USER LOCATION and USER CODE or encoded USER TOKEN associated with it.

Action	Press
Enter the Programming Mode press	**99 # (Master Code) ✱**
Print USER LIST command	**25 # 0 # 0 # ✱✱**
After Print is complete Exit the Program Mode	**✱**

4.5 Programming Daylight Savings Time

Note: This feature is only available in the HubMax II.

The Hub DCM supports Daylight Savings Time, which can be enabled or disabled by using the commands below. Daylight Savings Time is enabled by default.

Action	Press
Enter Program Mode	**99 # (master code) ✱**
Disable Daylight Savings Time	**31 # 16 # 1 # ✱✱**
OR	
Enable Daylight Savings Time	**31 # 16 # 0 # ✱✱**
Exit Program Mode	**✱**

The Hub DCM can also be programmed for either US or European Daylight Savings Time format. To select the format use the commands below.

Action	Press
Enter Program Mode	**99 # (master code) ✱**
Select US Daylight Savings Time Format	**31 # 17 # 0 # ✱✱**
Select European Daylight Savings Time Format	**31 # 17 # 1 # ✱✱**
Exit Program Mode	**✱**

The US and European Daylight Savings Time formats are described below.

US DST Format	
Begins	First Sunday in April at 2:00 AM
End	Last Sunday in October at 2:00 AM
European DST Format	
Begins	Last Sunday in March at 2:00 AM
Ends	Last Sunday in October at 2:00 AM

5.0 Programming Options Chart

The following chart is provided as a quick reference to experienced programmers. Explanations of these programming commands are available in Section 4 of this manual.

To ENTER Programming Mode: ***Press*** **99 # (*master code)* ✱**
To EXIT Programming Mode: ***Press*** **✱**

Action Desired	Press
1. Enter Program Mode	**99 # (Master Code) ✱** Must be entered prior to any programming. Default master code is 1234.
2. Exit Program Mode	**✱** Must be entered when programming is finished
3. Change Master Code and Main Relay Time	**(Relay Time) # 1 # New Code ✱ New Code ✱** Relay Time must be a two-digit number from 01-90 seconds. Example: 10 # 1 # 4321 ✱ 4321 ✱ (Sets the relay time to 10 seconds and changes master code to 4321)
Adding Users **Notes: "User Location" is the number of the memory slot the user is to occupy.** **HubMax: User 2 to 500; HubMax II: User 2 to 2000** **"Token" refers to access media (mag card, prox card, prox key or touch chip)**	
4. Code Only	**(User Location) # (New Code) ✱ (Repeat New Code) ✱**
5. Token Only	**(User Location) # ✱ ✱ (Swipe Token at Reader Head)**
6. Code and Token	**(User Location) # (New Code) ✱ (Repeat New Code) ✱ (Swipe)**
7. Code or Token	**52 # 1 # (User Location) # (New Code) ✱ (Repeat New Code) ✱ (Swipe)**
8. Sequentially adding users (Token Only)	**53 # 1 # (Starting User Location) # ✱ ✱ (Swipe Tokens at Reader Head)**
Add/Change Users to Toggle the Main Relay	
9. Code Only	**00 # (User Location) # (New Code) ✱ (New Code) ✱**
10. Token Only	**00 # (User Location) # ✱✱ (Swipe Token at Reader Head)**
11. Code and Token	**00 # (User Location) # (New Code) ✱ (New Code) ✱ (Swipe)**
12. Code or Token	**52 # 00# (User Location) # (New Code) ✱ (New Code) ✱ (Swipe)**
Deleting Information	
13. Delete User	**(User Location) # ✱✱**
14. Reset System Defaults Only	**46 # 0 # 0 # ✱✱**
15. Erase Entire Unit and Reset Defaults	**46 # 00000 # 00000 # ✱✱**
16. Delete Transaction Log Buffer	**76# 00000 # 00000 # ✱✱**
Programming System Options	
17. Select IR LED	**31 # 03 # 0 # ✱✱**
18. Select RS-232 Port	**31 # 03 # 1 # ✱✱**
19. Enable Time Zone	**31 # 04 # 1 # ✱✱**
20. Disable Time Zone	**31 # 04 # 0 # ✱✱**
21. Enable Auto-Unlock	**31 # 05 # 1 # ✱✱**
22. Disable Auto-Unlock	**31 # 05 # 0 # ✱✱**
23. Enable 1st IN Auto-Unlock	**31 # 07 # 1 # ✱✱**

Programming Options Chart (continued)
To Enter Programming Mode Enter: 99 # Master Code ✱
To Exit Programming Mode Enter ✱

24. Disable 1st IN Auto-Unlock	**31 # 07 # 0 # ✱✱**
25. Enable Remote Access	**31 # 08 # 1 # ✱✱**
26. Disable Remote Access	**31 # 08 # 0 # ✱✱**
27. Enable Duress	**31 # 9 # 1 # ✱✱** **(**Duress uses the Door Ajar relay)
28. Disable Duress	**31 # 9 # 0 # ✱✱**
29. Select Modem String (HubModem)	**35 # 2 # 0 # ✱✱**
30. Select Modem String (Boca 14.4,only)	**35 # 1 # 0 # ✱✱**
31. Enable Print Live	**31 # 10 # 1 # ✱✱**
32. Disable Print Live	**31 # 10 # 0 # ✱✱**
33. Enable Log Almost Full Warning	**31 # 11 # 1 # ✱✱**
34. Disable Log Almost Full Warning	**31 # 11 # 0 # ✱✱**
35. Enable Panic	**31 # 12 # 1 # ✱✱** (Panic uses the Door Ajar relay)
36. Disable Panic	**31 # 12 # 0 # ✱✱**
Note: Options 16 and 17 (below) are only available in the HubMax II controller.	
37. Enable Daylight Savings Time	**31 # 16 # 0 # ✱✱**
38. Disable Daylight Savings Time	**31 # 16 # 1 # ✱✱**
39. Select US DST Format	**31 # 17 # 0 # ✱✱**
40. Select European DST Format	**31 # 17 # 1 # ✱✱**
Note: Commands 20, 21 and 29 (below) are not supported in the HubMax II controller.	
41. Set Controller to Receive Data	**29 # 0 # 0 # ✱✱**

42. Send a Range of Users	**20 # FFF # LLL # ✱✱**
	FFF = First User Location; LLL = Last User Location

43. Send All Data	**21 # 0 # 0 # ✱✱** (Sends all users and door settings)
Programming Access Control Features	
44. Set Time in real time clock	**41 # HHMM # 0# ✱✱** HHMM- Hours and Minutes in 24 hour format (Military Time)
45. Set Date in real time clock	**42 # MMDDYY # Day of Week # ✱✱** MMDDYY- Month, Day and Year all in two-digit numbers Day of Week (Sunday=1, Monday=2, Tuesday=3…)
46. Set Door Number	**43 # 0 # DN # ✱✱** DN- a two-digit number from 01 to 08
47. Set Door Ajar Time	**44 # (DOOR AJAR TIME) # 0 # ✱✱** DOOR AJAR TIME- in 10 second intervals from 10-900
48. Set Forced Door Time	**45 # (RELAY TIME) # 0 # ✱✱** FORCED DOOR TIME- in 10 second intervals from 10-900

Programming Options Chart (continued)
To Enter Programming Mode Enter: 99 # Master Code ✱
To Exit Programming Mode Enter ✱

Programming Transaction Log Commands	
49. Assign Log Dump Code	**2 # (User Location) # (New Code) ✱ (New Code) ✱**
50. Assign Log Dump Token	**2 # (User Location) # (Swipe Token at Reader) ✱✱**
51. Print Transaction Log	**70 # 0 # 0 # ✱✱**
52. Delete Transaction Log	**76# 00000 # 00000 # ✱✱**
53. Print the User List	**25 # 0 # 0 # ✱✱**

6.0 Definitions of terms and HubMax Functions

Please refer to these definitions of terms when consulting the Programming Options Chart.

COMMON TERMS	
MASTER CODE	This code is stored in USER LOCATION 1 and activates the MAIN RELAY. This code is also used to put the Hub Door Control Module into Program Mode by entering **99#MASTER CODE✱**.
USER LOCATION	This is the number of the actual memory register that user data is stored in and they range from 2 to 500 (HubMax) or 2 to 2000 (HubMax II). USER LOCATION 1 is reserved for the MASTER CODE only and is defaulted to 1234.
RELAY TIME	This is a two-digit number that represents the number of seconds the MAIN RELAY is energized. It is programmed in association with the MASTER CODE. ***For Example:*** The Default RELAY TIME associated with the MASTER CODE is 05 for five seconds.
USER CODE	This is the actual sequence of numbers that the user enters, followed by the ASTERISK, to gain access to the door. ***For Example:*** If you have programmed a keypad code of 2468 into a USER LOCATION. To gain access to the door controlled from the Hub Door Control Module, enter **2468✱** at the Front End Reader.
TOGGLE USER	This type of user is assigned a RELAY TIME of 00. A TOGGLE USER can LATCH the MAIN RELAY (Energize or De-energize), until the same code or another toggle code is entered.
USER TOKEN	A form of access media such as a Magnetic Swipe Card, Proximity Card, Proximity Key or Touch Chip.
DOOR NUMBER	This is the address programmed into the Hub Door Control Module that is used when networking Hub Door Control Modules. The Door Number is a two-digit number. ***For Example:*** All Hub Door Control Modules are factory set to Door Number **01.**
AUTO UNLOCK	This feature uses the Real Time Clock in the Hub Door Control Module. When enabled, the Hub Door Control Module automatically UNLOCKS the door at 9 A.M. and LOCKS the door at 5 P.M. (default). **Note: *Time Zone* must be enabled for this feature to work.**
PRINT LIVE	This sends event reports to a serial LINE-PRINTER **as they occur** 24 hours a day.
LOG ALMOST FULL WARNING	This feature causes the YELLOW LED on the Hub Door Control Module to blink once every 8 seconds when the Transaction Log Buffer reaches 80% of capacity or more. **You can reset the FLASHING YELLOW LED by entering the self-test on the Hub Door Control Module through the Detachable Keypad**.

ACCESS CONTROL FEATURES	
FORCED DOOR TIME	This is a number that represents the number of seconds the FORCED DOOR RELAY is energized. It can be programmed from 10 to 900 seconds in 10-second intervals (10,20,30….) or it can be set to LATCH by entering a time of 00. *NOTE:* When the FORCED DOOR is set to a LATCH TIME the FORCED DOOR RELAY remains energized until an authorized user is recognized at the Front End Reader.
DOOR AJAR TIME	This is a number that represents the number of seconds the door can be seen as open before the DOOR AJAR RELAY is energized. It can be programmed from 10 to 900 seconds in 10-second intervals (10,20,30….)
TRANSACTION LOG COMMANDS	
LOG DUMP CODE	This special USER CODE cannot open the door, when entered the Hub Door Control Module prints the contents of the TRANSACTION LOG BUFFER.
LOG DUMP TOKEN	This special USER TOKEN cannot open the door, when entered the Hub Door Control Module prints the contents of the TRANSACTION LOG BUFFER.
LOG EVENTS	
ACCESS DENIED	An unrecognized USER attempted to gain ACCESS.
PROGRAM DENIED	An unrecognized MASTER CODE tried to enter PROGRAM MODE.
REX	Free Exit (normally-open device wired to REX terminals was energized)
DOOR AJAR	The door was held open longer than the programmed DOOR AJAR TIME.
DOOR CLOSED	The door was recognized as closing after an authorized ACCESS or EGRESS.
FORCED DOOR	The door was recognized as opening without an authorized ACCESS or EGRESS.
LOG ERASED	The TRANSACTION LOG BUFFER was erased through programming.
PRINT	A DUMP CODE or DUMP TOKEN was entered and the TRANSACTION LOG was PRINTED.
IN	An authorized User gained access through a Front End Reader designated as IN.
OUT	An authorized User gained egress through a Front End Reader designated as OUT.
BAD TIME ZONE	A User tried to gain access or egress outside of the authorized TIME ZONE.
TOGGLE ON	The MAIN RELAY was latched OPEN by a TOGGLE USER.
TOGGLE OFF	The MAIN RELAY was latched CLOSED by a TOGGLE USER.
First -In AUTO – UNLOCK	An authorized user triggered the AUTO –UNLOCK TIME ZONE.
RE-LOCK	A RELOCK User locked the door.

7.0 Warranty

International Electronics Incorporated (IEI) warrants its products to be free from defects in material and workmanship, when they have been installed in accordance with the manufacturer's instructions, and have not been modified or tampered with. **IEI** *does not* assume any responsibility for damage or injury to person or property due to improper care, storage handling, abuse, misuse, normal wear and tear, or an act of God.

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