

# EMERGENCY COMMUNICATION SYSTEM Operations Manual

The SHIELD30 Emergency Communication System allows the user at a Remote Call Station to get in contact with the Call Center or directly to the Command Panel Operator in case of an emergency.

This document goes over the hardware specifications and navigating the Command Panel and devices:

SM30V - Command Panel Silver.

SM30B - Command Panel Blue.

SCOMM1 - Communicator, included in Command Panel.

SR01V - Remote Call Station, Semi Flush, Silver.

SR01B – Remote Call Station, Semi Flush, Blue.

SR02V - Remote Call Station, Surface, Silver.

SRBV - Remote Back Box, Semi Flush, Silver.

SRBB - Remote Back Box, Semi Flush, Blue.

SRLBV - Remote Back Box, Surface, Silver.

SISOE – Isolator in enclosure, Blue.

SISOV - Isolator in enclosure, Silver.

SMALMRLY – Alarm interface Relay in enclosure.

SMSUPRLY - Supervision relay, included in Command Panel.

SSU00123 – Device priority and document enclosure.

SMLIST10 – Additional device priority plate.

PSN-64 - PSN-64 Power Supply.

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### 1. INTRODUCTION

microphone to communicate with the user at the Remote Call Station.

The SHIELD Emergency Communications Systems is a digital system consisting of several parts: The Command Panel ( CP ), Remote Call Station ( RCS ), an Alarm Relay, an off-site Communicator, and a Power Supply.

The Command Panel (CP) is a device that allows the user at a Remote Call Station to get in contact with the Call Center or directly to the Command Panel Operator in the case of an emergency. The Command Panel is interfaced through a color LCD touch screen, which is discussed in detail (Section 2, "Introduction"). The touch screen allows access to emergency calls, other menus such as Events, Menu Configuration, and displays a warning when a Trouble is signaled. The Command Panel also includes a corded Push To Talk (PTT) microphone. The Command Panel Operator may use the PTT

Inside the Command Panel is a terminal strip for connection to the conductors for the emergency communication system. All terminal strips used in the SHIELD system for the field wiring of the communication and power circuits to the Remote Call Station are listed for up to 18Ga and 2 conductors per terminal.

Configuration of the Command Panel is done via computer through an Ethernet connection. Configuration is only required to set the text labels of the Remote Call Stations, IP addresses where required. The SHIELD system does not require programming for basic operation.

The Remote Call Station (RCS) is made up of two parts; the back box and cover assembly. These are sold and shipped separately so they may be installed separately.

The cover assembly is the front of the Remote Call Station which includes the button, Remote Processor module, speaker, and mic. The cover assembly ships with a pigtail off the terminals that will plug directly into the connector in the back box. Installation of the cover assembly consists of the two hinge screws, connection of the wiring plug, and two side screws, which are included with the cover assembly.

The cover assembly also includes a removable label window. Using the template labels may be printed on standard paper, cut out and inserted on every doorway, identifying the floor and location of the Remote Call Station.

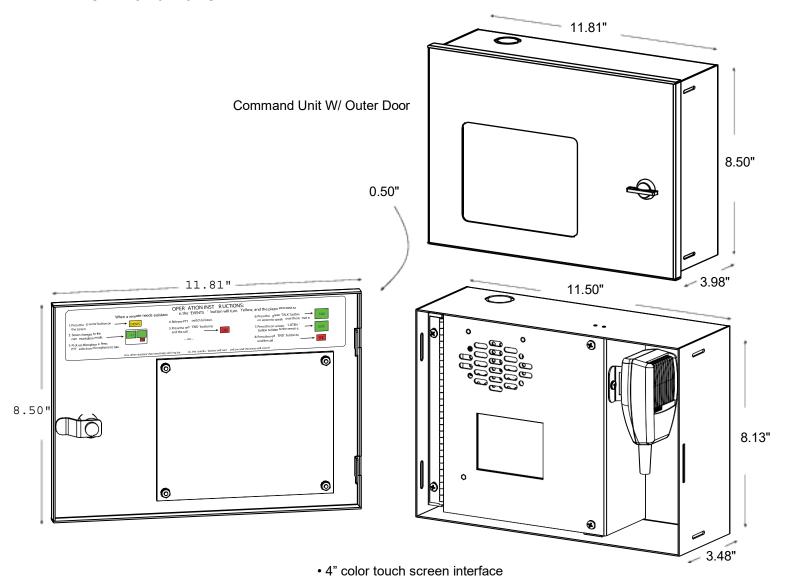
Note: The Remote Processor module, located inside the cover assembly of a Remote Call Station, needs an address setting via. DIP Switch. This address must be unique and may be any number between 3 and 33. Refer to (Section 6.4, "Module Address Setting") for more details.

The Communicator allows the emergency call to be routed off-site to a standard phone connection at the Command Panel. See (Section 5., "Sequence of Operation"). This module must be configured with a recorded message identifying the location, as well as the off-site phone number to dial. Additional options may be set to delay the off-site call to allow for local operators to answer emergency calls first. Refer to the SHIELD30-Communicator Configuration Instructions manual for details on recording messages and file configuration. The Communicator runs off the system 24V and is protected by the battery backup of the system.

Power supply is a Life Safety-listed power supply capable of backing up the system in the event of a site power loss. The power supply will also report troubles for A/C and battery loss. These contacts are rated for and may be monitored by the local fire alarm if required.

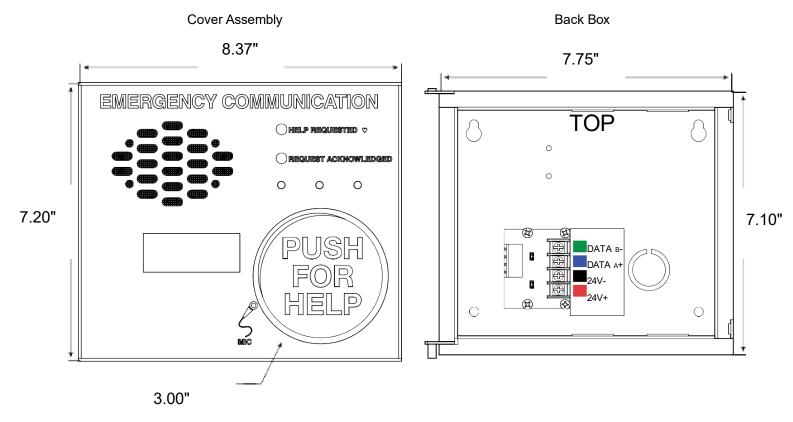
# 2. PRODUCT FEATURES

### 2.1 Command Panel



- Surface or Flush Mounting with flange kit.
- 16 gauge steel housing with locked protective door
  - Push To Talk microphone or on screen Talk/Listen controls.
    - · Mylar cone speaker.
    - Terminal strip rated for 14-22 Ga conductors.
- System Wiring: 2-wire RS-485 and 2-wire 24V power in a daisy chain.
  - Location to mount off-site Communicator inside Command Panel.

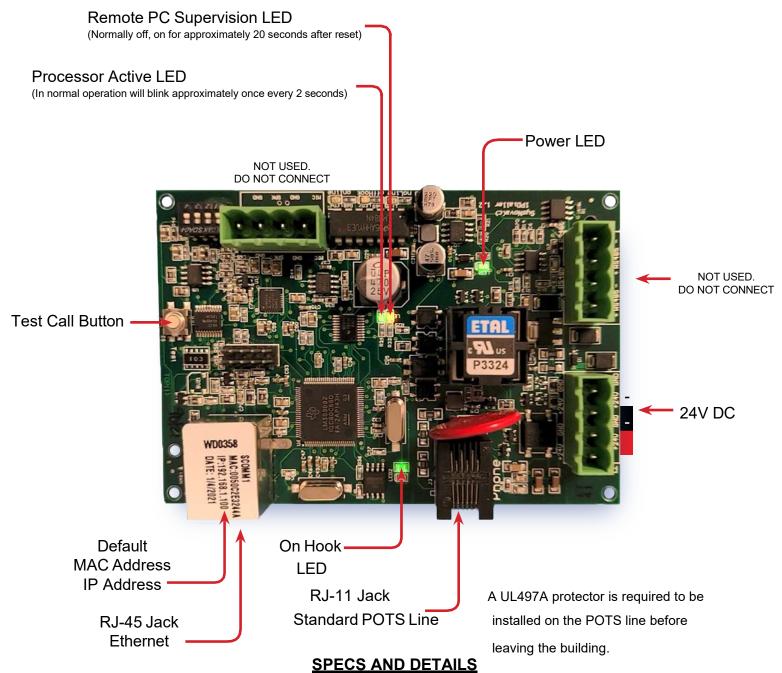
### 2.2: Remote Call Station



- 3" red button with white "PUSH FOR HELP"
- 16 gauge steel housing with screw and post hinge door (Stainless Or Blue).
- White LED identifies when Remote is acknowledged by Command Panel .
  - Amber LED signals when remote is activated "Help Requested".
    - Security Torx hardware.
- Removable Identification label. Provides a professional look that is tamper proof.
  - Mylar cone speaker.
- Speaker has vandal-resistant mesh grill and offset plate for speaker protection.
  - Back Box PCB with shunts for testing circuit wiring.
  - Polarized plug for simple connection of cover assembly.
    - · Highly visible terminal markings.

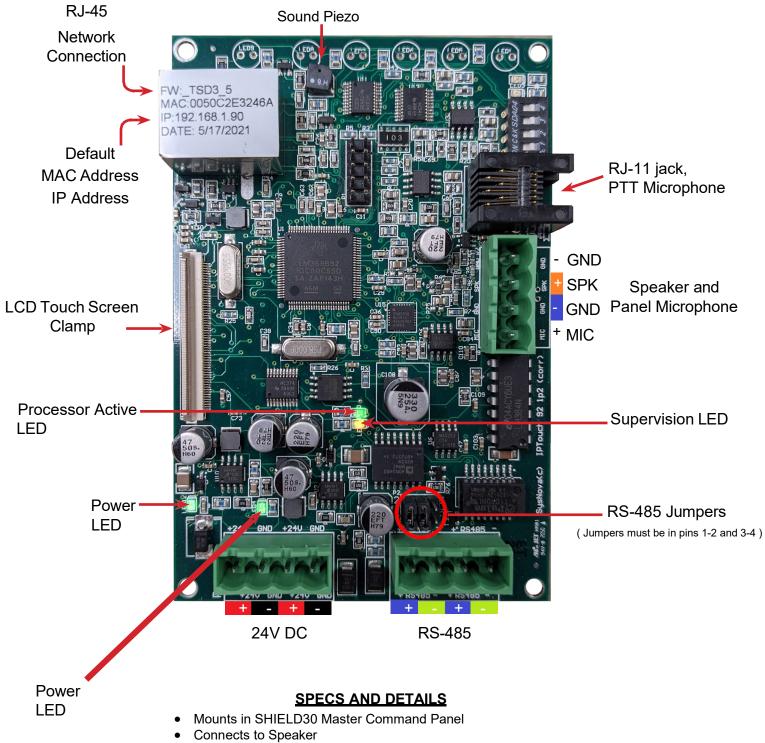
### 2.4 PCBOARD DIAGRAMS

### Communicator (SCOMM1)



- Mounts in SHIELD30 Master Command Panel
- Allows emergency calls to be sent to a standard POTS Phone Line
- Set up Site-specific Messages and Instructions
  - o Refer to SHIELD30-Communicator-Configuration-Instructions
    - (Section 2.1, "Messages")
- RJ-45 Ethernet Port connects Communicator with Command Panel
- Supports voice calls and Contact-ID with Voice
  - o Refer to SHIELD30-Communicator-Configuration-Instructions
    - (Section 2.2b, "Configuring the System")
  - o Refer to (Section 7.2, "Testing") in this current document
- Test Call Button Calls to POTS Phone Line
- Operates off system 24V DC Power

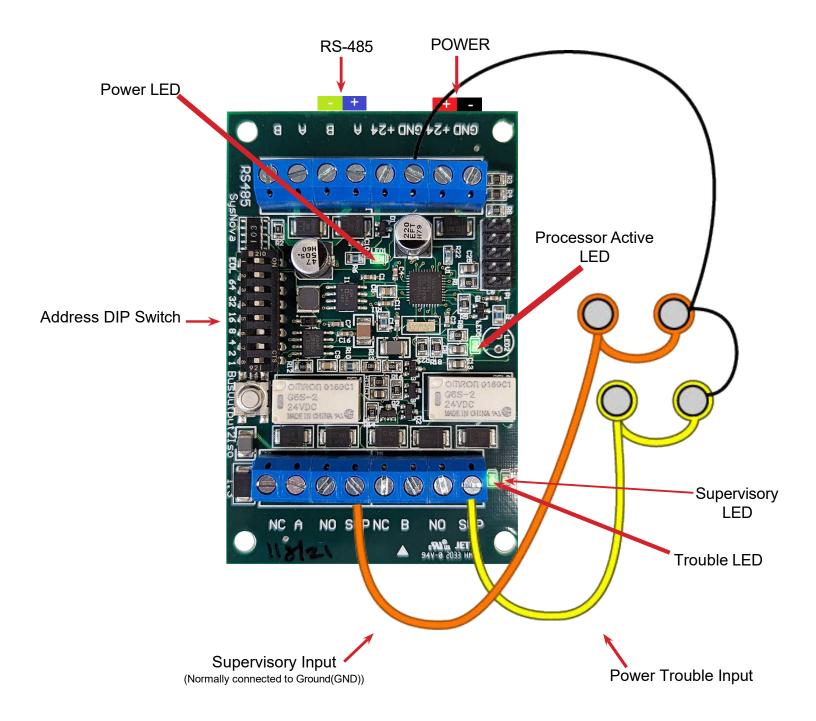
### Master



- Connects to PTT Microphone and Panel Microphone
- Connects to LCD Touch Screen
- Connects to the Communicator (Network)
- Connects to the Relay and Remote Call Station (RS-485)
- Capable of functioning independently from a Communicator if only performing calls between Command Panel and Remote Call Stations.
  - o Example: Waiting for a replacement Communicator.
- · Operates using system 24V DC power.

# **Supervision** Relay

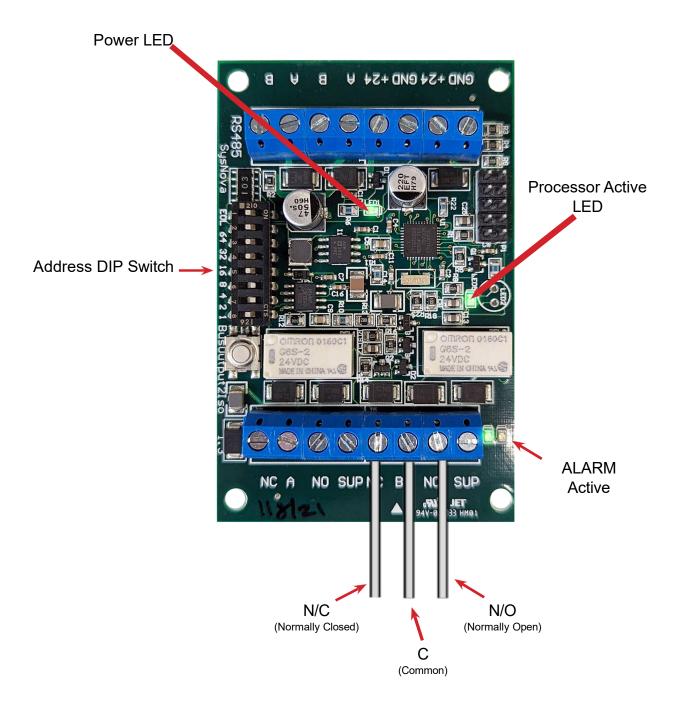
P/N: SMSUPRLY



### **SPECS AND DETAILS**

- Mounts in SHIELD30 Master Command Panel
- RS-485 Module Address DIP Switch
  - o Each Relay gets its own unique number
- Power Trouble Input
- Supervisory Input
- Operates using system 24V DC Power

# **Alarm Relay**

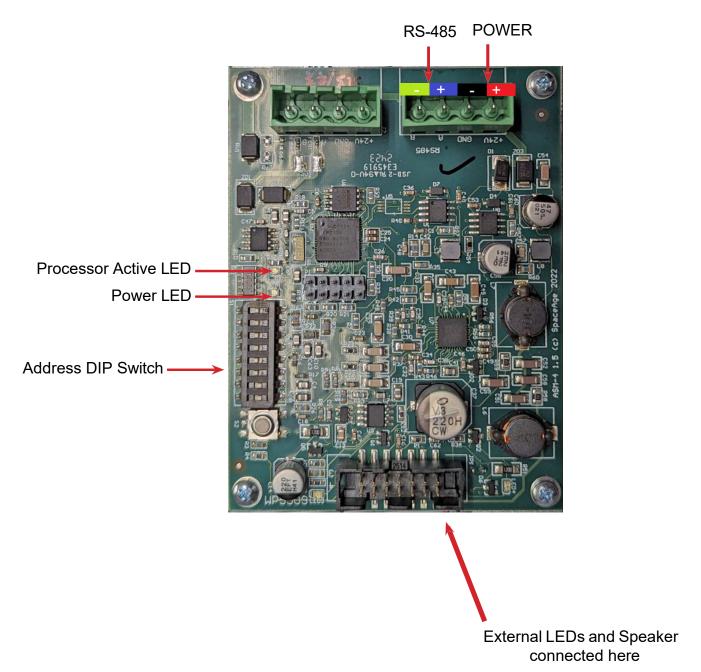


### **SPECS AND DETAILS**

- Mounts outside of SHIELD30 Master Command Panel
- RS-485 Module Address DIP Switch
  - o Each Relay gets its own unique number
- Operates using system 24V DC Power

### **Remote Processor Module**

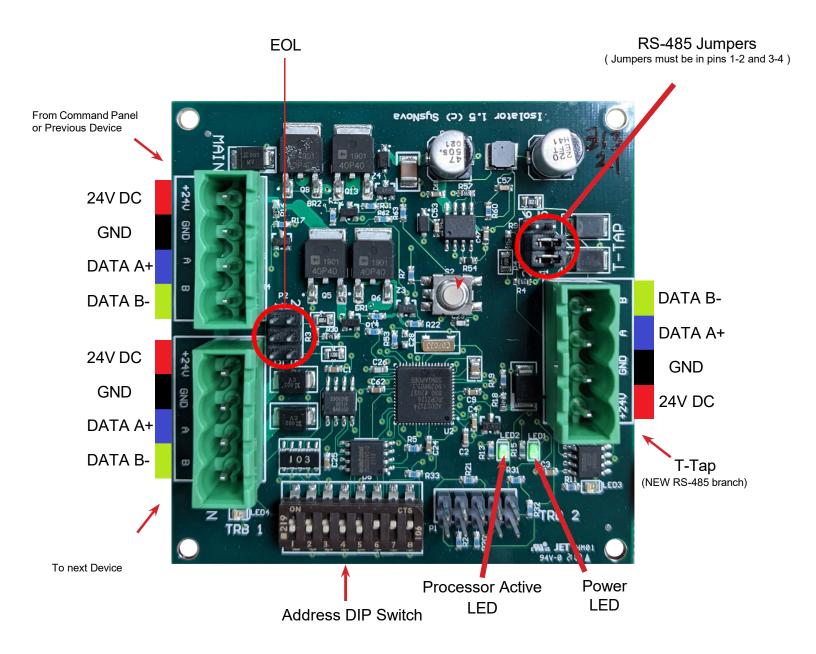
These two ports connect to the Terminal Board, which is a small PCBoard in the backbox of a Remote Call Station.



### **SPECS AND DETAILS**

- Mounts to Cover Assembly of Remote Call Station
- Connects to Command Panel
- Connects to External LEDs
  - o "HELP REQUESTED" Amber
  - o "REQUEST ACKNOWLEDGED" White
- Address DIP Switch
  - o Each Remote Call Station gets its own unique number.
- Operates using system 24V DC power.

### **Isolator**



### **SPECS AND DETAILS**

- Connects to Remote Call Station and Command Panel
- Address DIP Switch

Each Isolator gets its own unique number

T-Tap

Acts as an extension to add an extra 300FT of wire while boosting power and data transfer between devices.

EOL

Enabled for the first and last device in a setup.

Operates using system 24V DC Power

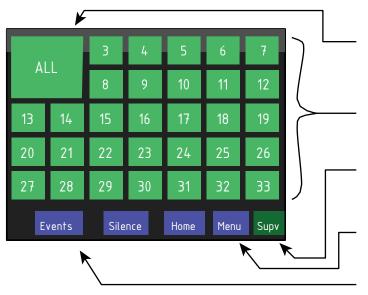
# 2.5 Electrical Ratings

Part Number		Voltage	Current In Standby	Current in Alarm
SM30V	Command Panel Silver	24Vdc	74.1	116
SM30B	Command Panel Blue	24Vdc	74.1	116
SR01V	Remote Station Semi Flush Silver	18Vdc	15	65
SR01B	Remote Station Semi Flush Blue	18Vdc	15	65
SR02V	Remote Station Surface Silver	18Vdc	15	65
SMALMRLY	Command Panel Alarm Relay	24Vdc	21.4	30.8
SCOMM1	Communicator Board	24Vdc	49.5	49.5
SISOE	Isolator	24Vdc	12	12

RS-485 Max line impedance for the RS-485 as well as 24Vdc power circuits is 16 ohms.

### 3. NAVIGATING THE COMMAND PANEL TOUCH SCREEN

### 3.1: Main screen



**ALL** button leads to Figure 3.2.e Communication Screen

Any station number button leads to Figure 3.2.a for that station Number.

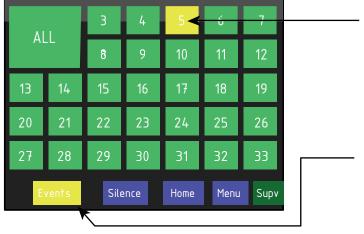
**Supv** indicator. Turns orange on supervisory input.

**Menu** button leads to Figure 3.5 password screen.

**Events** button leads to Figure 3.4.a password screen.

### 3.2: On-Screen Communication Sequence Figure

### 3.2.a: - Main Screen with Active 'Call In'



**Station Number** button leads to Figure 3.2.b Communication Screen

**Events** button leads to Figure 3.4.a for the next station in order of oldest to latest that has called in.

Figure 3.2.b: - Voice Communication Screen



Text Label - retrieved from Remote.

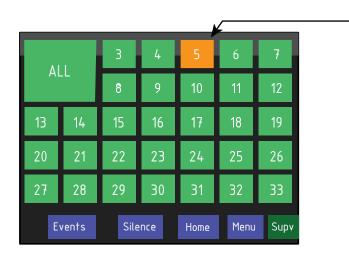
Talk / Listen toggle buttons.

**END** button returns to Main Screen and ends session to Remote.

**VU Meter** shows microphone is active and working.

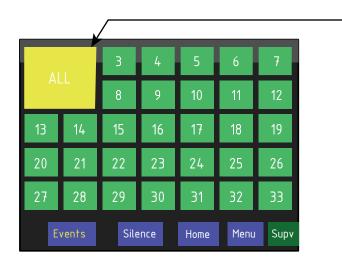
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Figure 3.2.c: - Main Screen After Call in Indicating History



**Station Number** now highlighted in orange. see screen 3.2.d 'Clear All' to reset. (Must use 'Menu' button)

Figure 3.2.d: - Main Screen 'ALL CALL' Button



**All** button leads to Figure 3.2.e all call Communication Screen.

Figure 3.2.e: - All Call Communication Screen

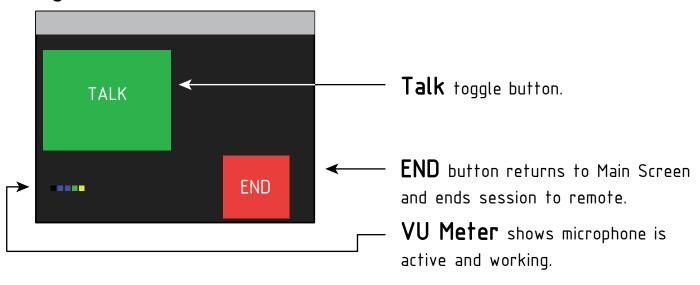


Figure 3.3: Main Screen with 'Silence' Active

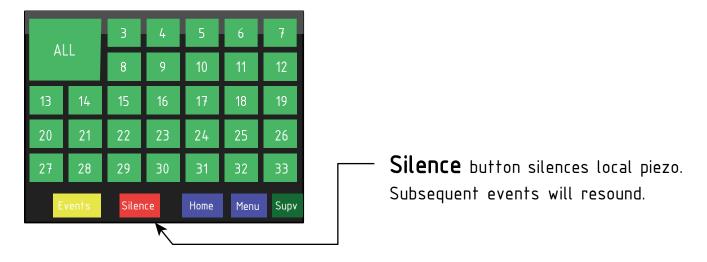


Figure 3.4: Main Screen with a Trouble Active

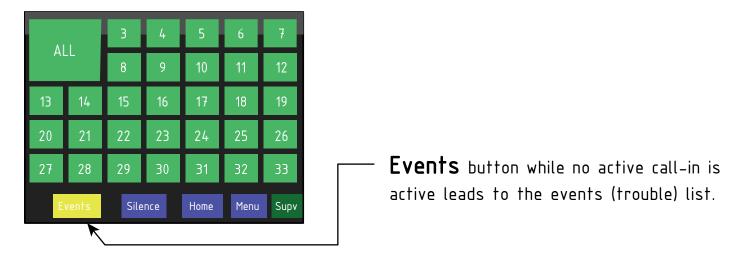


Figure 3.4.a: Password Screen After Main Screen "Events" Button Press

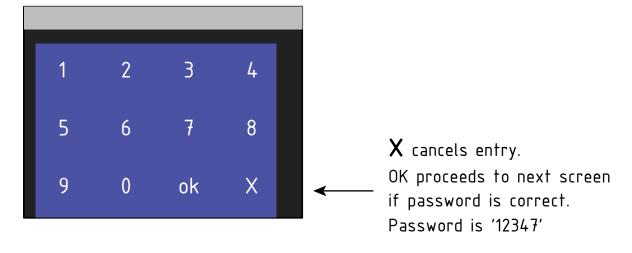


Figure 3.4.b: - Trouble Last After Trouble Password Has Been Entered

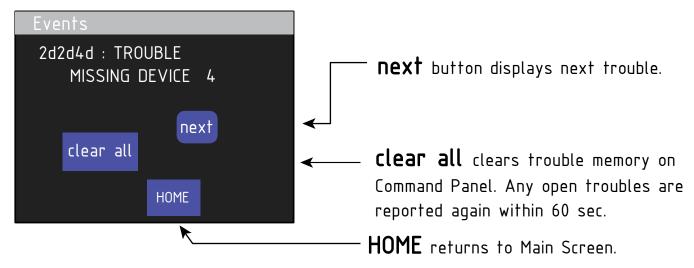
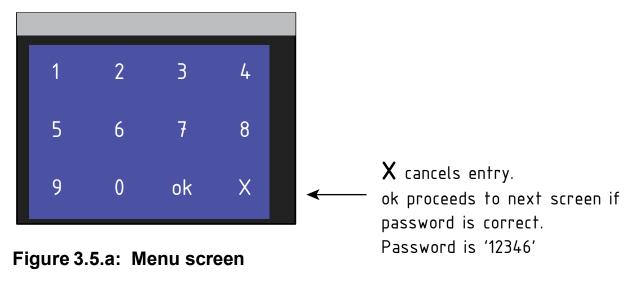


Figure 3.5: Password Screen After Main Screen "Menu" Button Press



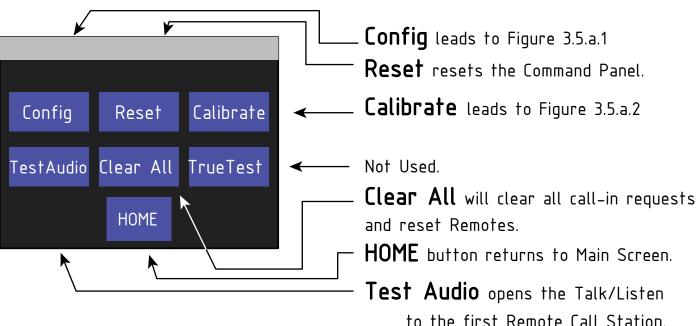


Figure 3.5.a.1: Config Screen

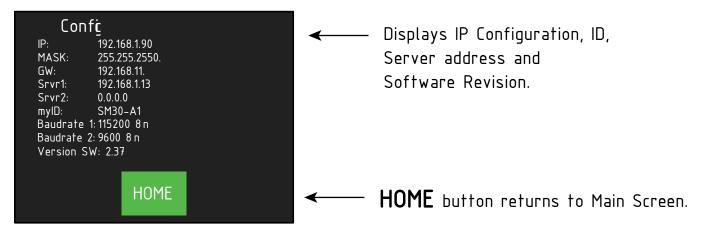
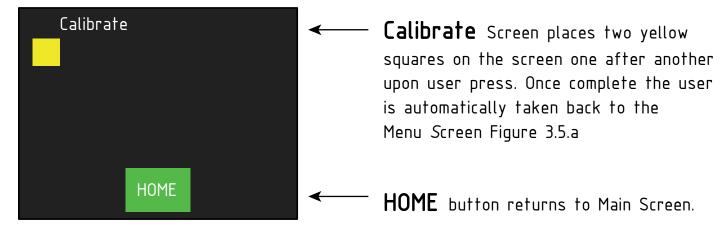


Figure 3.5.a.2: Calibrate Screen



## 4. OPERATOR INSTRUCTIONS

### 4.1: Call is initiated: End user requesting help presses button at Remote Call Station (RCS).

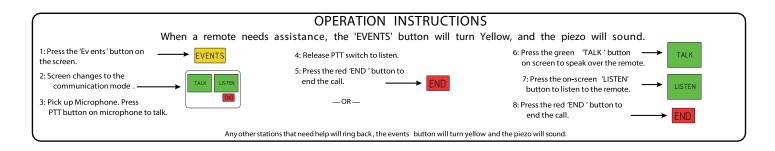
- RCS LED 'HELP REQUESTED' illuminates.
- RCS produced an audible beep to indicate that a request has been initiated.
- Command Panel (CP) piezo beeps, 'Events' button turns yellow.

### 4.2: Responding to Call at the Command Panel

- · Command Panel produces an audible beep
- Command Panel Operator presses the yellow 'EVENTS' button on-screen
- Command Panel's screen changes to the Talk / Listen screen for incoming call.
  - The Command Panel Operator may use the PTT microphone or the on-screen buttons.
- Once the Command Panel Operator is done communicating, the 'END' button is pressed. This
  resets the Remote Call Station and the Command Panel returns to the main screen.

Note: If several calls are initiated from multiple Remote Call Stations, the Command Panel answers them in the order received.

### Instruction label attached inside of Command Panel door:



### 5. SEQUENCE OF OPERATION

For Messages and their contents, refer to (Section 1.2, "Messages" in the SHIELD30-Communicator-Configuration-Instructions) manual.

For more information on Voice Loops, refer to (Section 2.2a: "Configuration Files: Description" in the SHIELD30-Communicator-Configuration-Instructions) manual.

### 5.1: Call Sequence: ( Non contact-ID ):

- 1. Call from Remote Call Station is placed.
- 2. Communicator dials number in Configuration File.
- 3. Operator picks up call.
- 4. Communicator in Command Panel starts playing Message 0, followed by Message 5.
- 5. The minimum required Voice Loops will force the Messages to play a certain number of times before they can be interrupted before proceeding the call.

Note: These messages will repeat if no input is given.

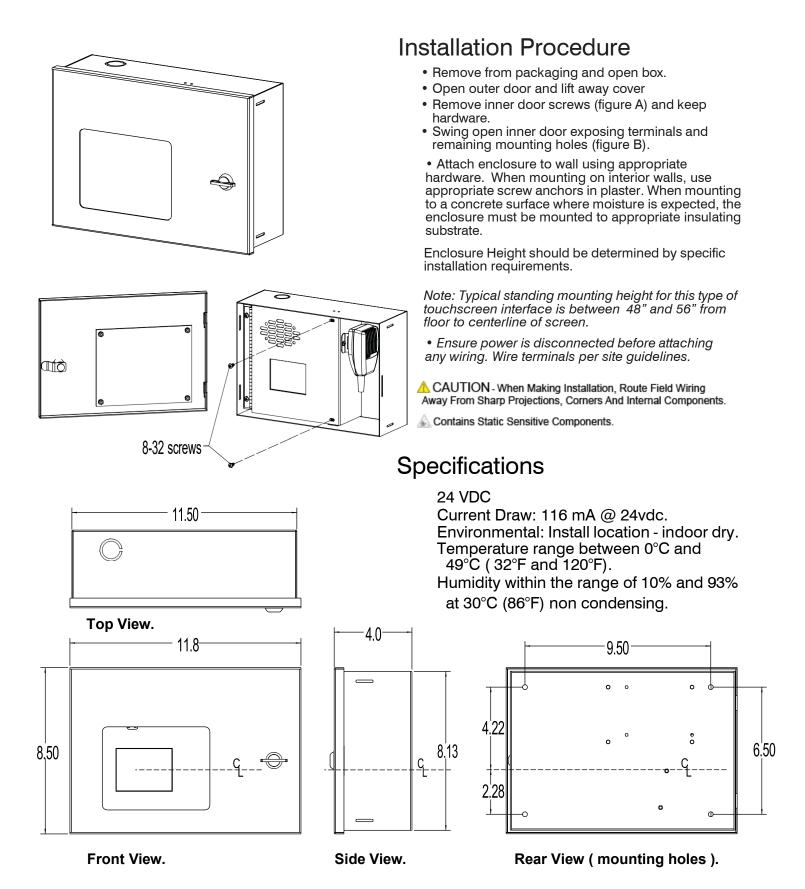
- 6. Operator listens to message and uses asterisk '\*' key to talk.
- 7. Operator communicates with user at Remote using the '\*'key. Each time the '\*' is pressed the Operator hears Message 1 if they enable Talk, or Message 2 if they enable Listen.
- 8. Operator presses' 1' key to stop communication. Message 3 is played. Operator presses'1'key again to acknowledge and end the call.

Note: If the' 1' key is not used to confirm ending the call, the system will re-dial the number until the call is acknowledged.

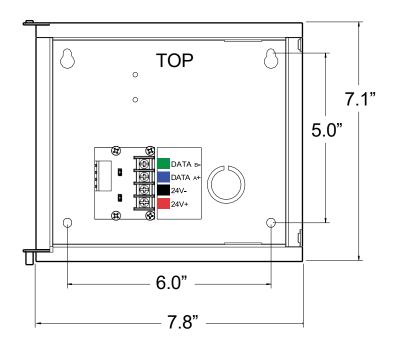
A COPY OF THIS PAGE IS TO BE GIVEN TO THE CENTRAL STATION OPERATOR

### 6. MECHANICAL SPECIFICATIONS

### 6.1 : Command Panel Mechanical Specification



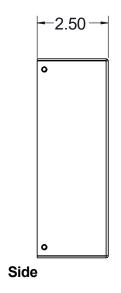
### 6.2: Remote Call Station Back Box Mechanical Specification

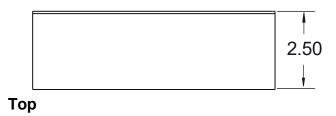


### Installation Procedure

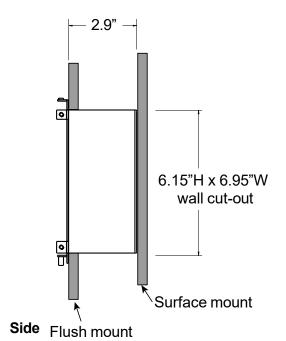
- Remove from packaging and open box.
- Place backbox on wall where it is to be mounted and mark the location of holes to mount box to the wall.
- Drill appropriate size holes in wall for appropriate mounting screws being used, (screws not supplied).
- Mount backbox to wall with appropriate hardware (not supplied).

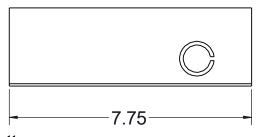
### Semi-Flush





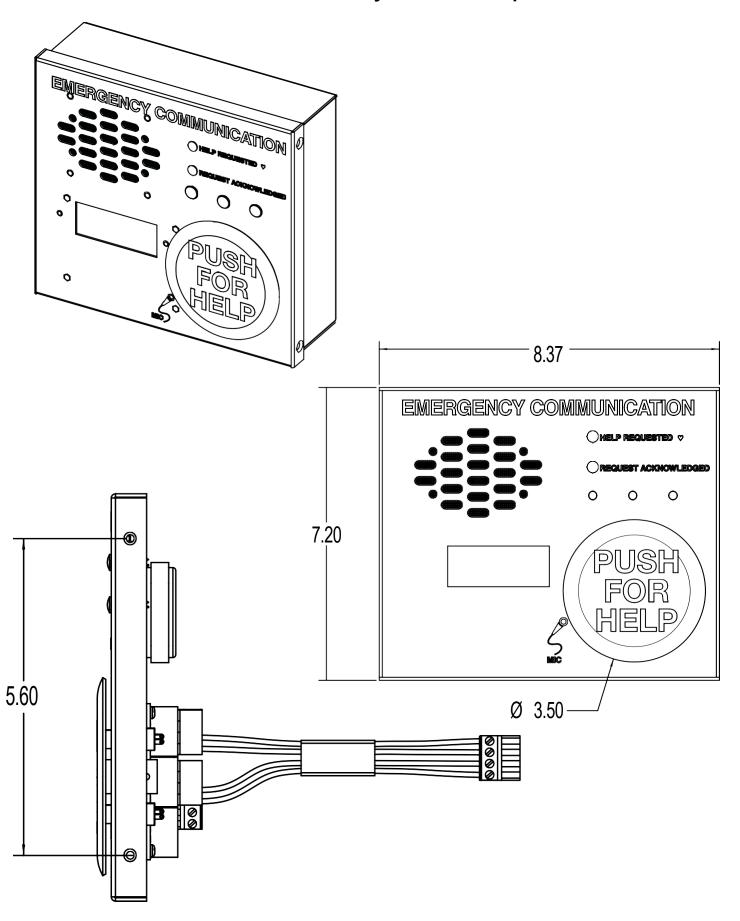
### **Surface-Mounted**





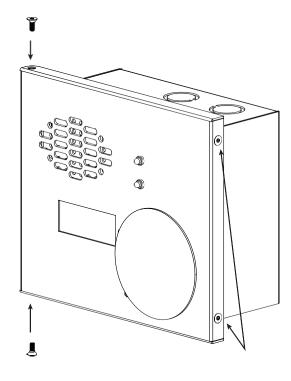
**Bottom** 

### 6.3: Remote Call Station Cover Assembly Mechanical Specification



### 6.3: Remote Call Station Cover Assembly Mechanical Specification (Continued)

# Remote Semi Flush SR01



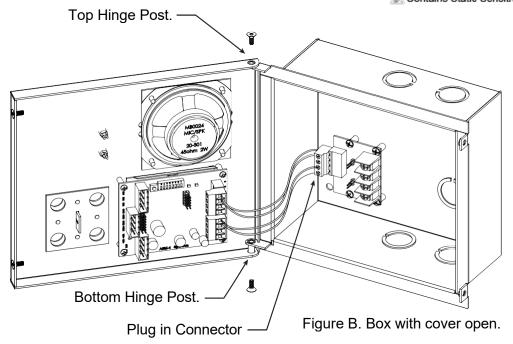
### Installation Procedure

- Remove from packaging and open box.
- Remove screws and bit from screw kit and prepare to assemble.
- Attach cover to box, slide cover hinge hole over Bottom Hinge Post and up, then hook on Top Hinge Post. Attach two of the supplied Torx screws as shown in Figure A.
- Plug in cable assembly to board in back box as shown in Figure B.
- Address Board as shown in (Section 6.4, "Module Address Setting").
- Close door and secure with remaining (2)
   Torx screws as shown.
- A sign is required at each communication station indicating the location both written and in braille.

Secure Door with Torx screws.

Box with cover closed.

Contains Static Sensitive Components.

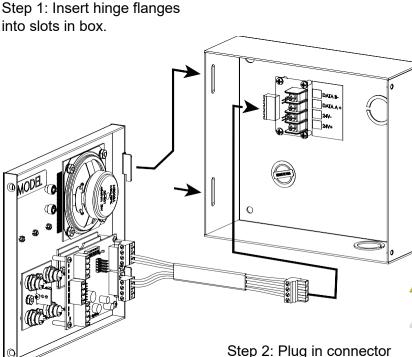


### 6.3: Remote Call Station Cover Assembly Mechanical Specification (Continued)

# Remote Surface Mounted SR02

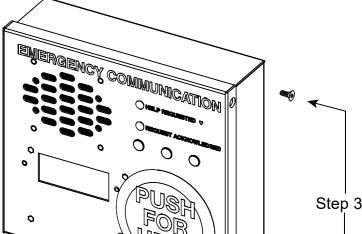
### Installation Procedure

- Remove from packaging and open box.
   Remove screws and bit from screw kit and prepare to assemble.
- Attach cover assembly to back box, slide hinge flanges into slots of back box as shown in Step 1.
- Plug in cable assembly to board in backbox as shown in Step 2.
- Address Board as shown in (Section 6.4, "Module Address Setting").
- Close door and secure with remaining (2)
   Torx screws as shown.
- A sign is required at each communication station indicating the location both written and in braille.



CAUTION - When Making Installation, Route Field Wiring Away From Sharp Projections, Corners And Internal Components.

Contains Static Sensitive Components.



into socket on PC board

in backbox.

Step 3: Secure door with supplied screws.

### 6.4 Module Address Setting

As shown on board looking at the back of the door.

Reset Switch Address Value 1 2 4 8 16 32 EOL

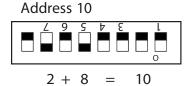
DEFAULT SHIPPING CONFIGURATION SHOWN. Module Address = 3

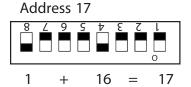
Switch 1 is EOL. **To be switched in on position on last device only.** 

Addressing is a binary setting. The lowest number that can be used by ANY Remote is 3 (default address). To increase the address add all of the switch number values.

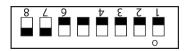
# **Examples:**





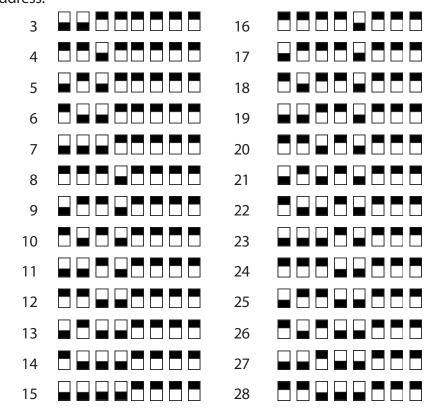


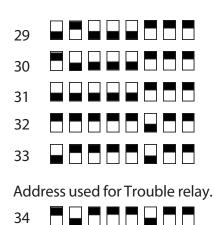
Down is ON.



Switch shown as oriented on remote board.

### Address:



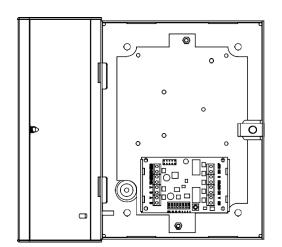


Last address. Should NOT be used for any remote. May be used for isolator.









# **SMALMRLY**

# **Installation Instructions**

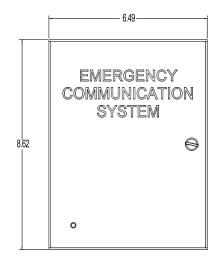
Installation and wiring should be performed by qualified personnel only - Equipment damage and/or malfunction may result from improper installation. All work of any kind shall be performed to meet the requirements of any and all local, state and federal codes and/or standards set by the authority having jurisdiction.

Installation environment: INDOOR DRY

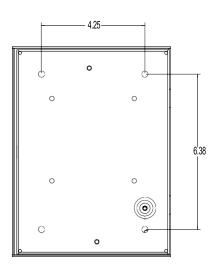
### Installation Procedure

- Remove from packaging and open box.
- Open door and lift away cover.
- Remove internal plate with module. Before performing any drilling or punching for conduit entry(s), remove 6-32 nuts holding plate with isolator module in place and remove from enclosure (Figure A). Keep hardware.
- Attach enclosure to surface where it is supposed to be installed with appropriate hardware.
- Install plate with module into enclosure using original hardware.
- •Wire module as appropriate for the system.
- •Set module address according to site layout.
- Replace door and secure.

Figure A. Removing plate from box.

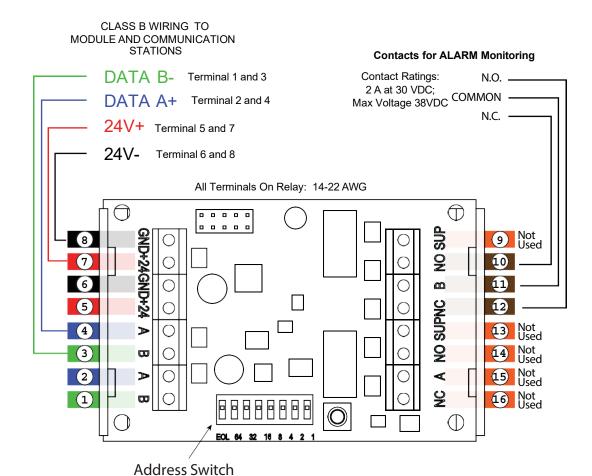








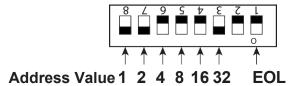
# **SMALMRLY**



# **Module Address Setting**

▲ CAUTION - When Making Installation, Route Field Wiring Away From Sharp Projections, Corners And Internal Components.



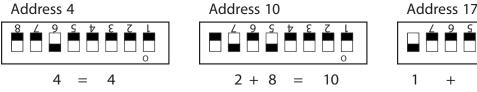


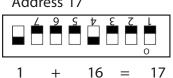
DEFAULT SHIPPING CONFIGURATION SHOWN. Module Address = 35

Switch 1 is EOL. To be switched in on position on last device only if necessary.

Addressing is a binary setting. The lowest number that can be used by ANY remote is 3 (default address). To increase the address add all of the switch number values.

### **Examples:**



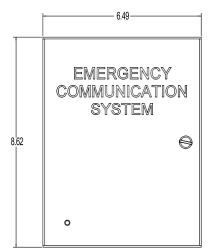






# 

### Figure A. Removing plate from box.



# **SISOE**

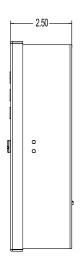
# **Installation Instructions**

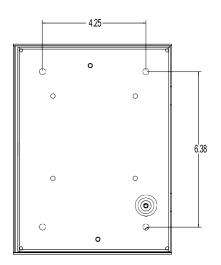
Installation and wiring should be performed by qualified personnel only - Equipment damage and/or malfunction may result from improper installation. All work of any kind shall be performed to meet the requirements of any and all local, state and federal codes and/or standards set by the authority having jurisdiction.

Installation environment: INDOOR DRY

### Installation Procedure

- Remove from packaging and open box.
- Open the door and lift away cover.
- Remove internal plate with module. Before performing any drilling or punching for conduit entry(s), remove 6-32 nuts holding plate with isolator module in place and remove from enclosure (Figure A). Keep hardware.
- Attach enclosure to surface where it is supposed to be installed with appropriate hardware.
- Install plate with module into enclosure using original hardware.
- Wire module as appropriate for the system.
- •Set module address according to site layout.
- Replace door and secure.



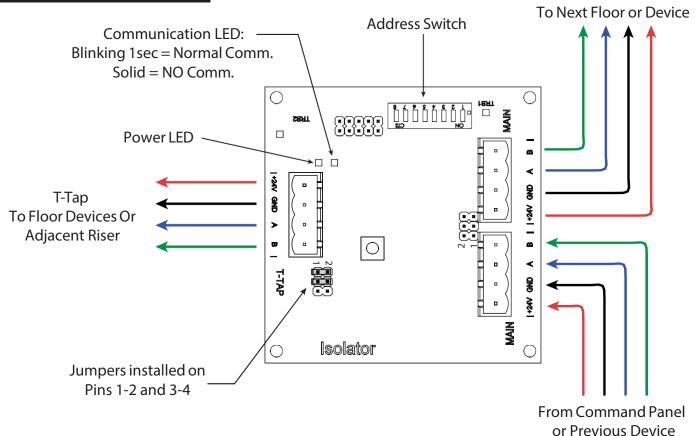




# **SISOE**

# **Installation Instructions**

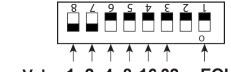
### **Isolator Detail**



▲ CAUTION - When Making Installation, Route Field Wiring Away From Sharp Projections, Corners And Internal Components.

# **Module Address Setting**

& Contains Static Sensitive Components.



DEFAULT SHIPPING CONFIGURATION SHOWN. Module Address = 3

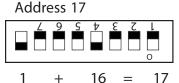
Address Value 1 2 4 8 16 32 EOL

Switch 1 is EOL. To be switched in on position on last device only if necessary.

Addressing is a binary setting. The lowest number that can be used by ANY remote is 3 (default address). To increase the address add all of the switch number values.

### **Examples:**

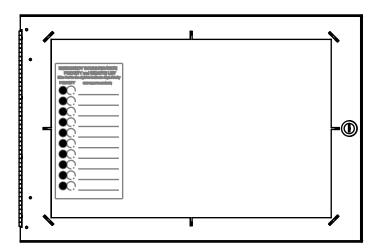






# DEVICE PRIORITY ENCLOSURE

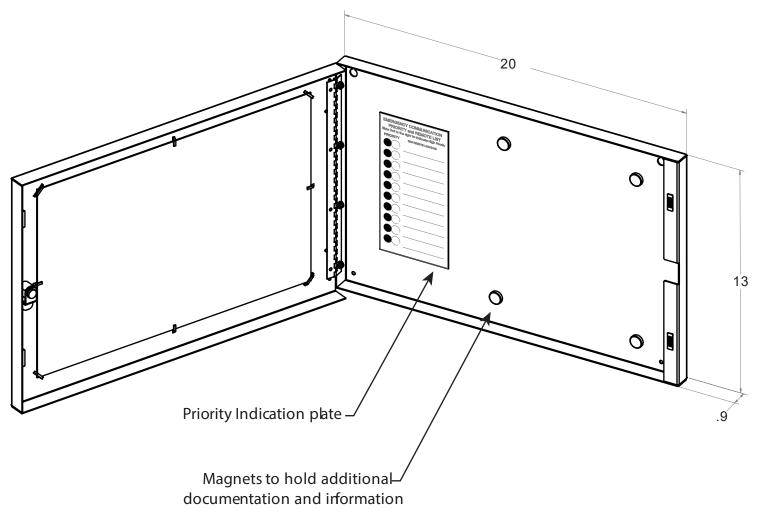
# Installation Instructions



Installation environment: INDOOR DRY

### Installation Procedure

- Remove from packaging and open box.
- Un-lock and ppen door with included keys.
- Use 4 #8 screws to install.





# ALARM PRIORITY LIST

	CY COMMUNICATION  Y and REMOTE LIST			
Slide Dot to the right to indicateligh Priority				
PRIORITY	ECS REMOTE LOCATION:			
	P/N: SMLIST10			

- Mounts inside of Graphic Map Enclosure P/N: SSU00123
- List all remotes in emergency communication system in space provided.
- magnetic indicators should be organized as shown in a normal condition.
- In an emergency, locations with a high priority may be indicated.
- Label all non used appropriately and remove magnetic indicator.
- Add as many plates as necessary for system size.

### 7. TESTING

### 7.1: Service

The SHIELD Emergency Communication System allows direct communication between the end user and the Call Center or local Command Panel operator.

The Command Panel Operator can communicate with the end user at the Remote Call Station by using either the PTT microphone or the on-screen Talk / Listen buttons.

The amount of time it takes for the Remote Call Station to call the Call Center can be changed via the Configuration Files. Refer to the **SHIELD30-Communicator-Configuration-Instructions** manual, (Section 2.2: 'Configuration Files') for details.

Recorded voice messages contain vital information such as the location of the site, the location of the Remote Call Station itself, and, if answering from a phone, instructions on how to operate the phone. Messages containing site information will be provided by you during the installation process, see (*SHIELD30-Communicator-Configuration-Instructions*) for further information on recording messages. Consult with the Call Center and the Authority Having Jurisdiction to determine the content of the messages.

When ending the call, the Command Panel Operator will press the 'END' button on-screen. The Call Center Operator will press ' 1 ' on the keypad twice to acknowledge and end the call.







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