AlphaRefuge™ 2100 Series (V2) Area of Refuge and Rescue Assistance system Installation, Use and Wiring Instructions
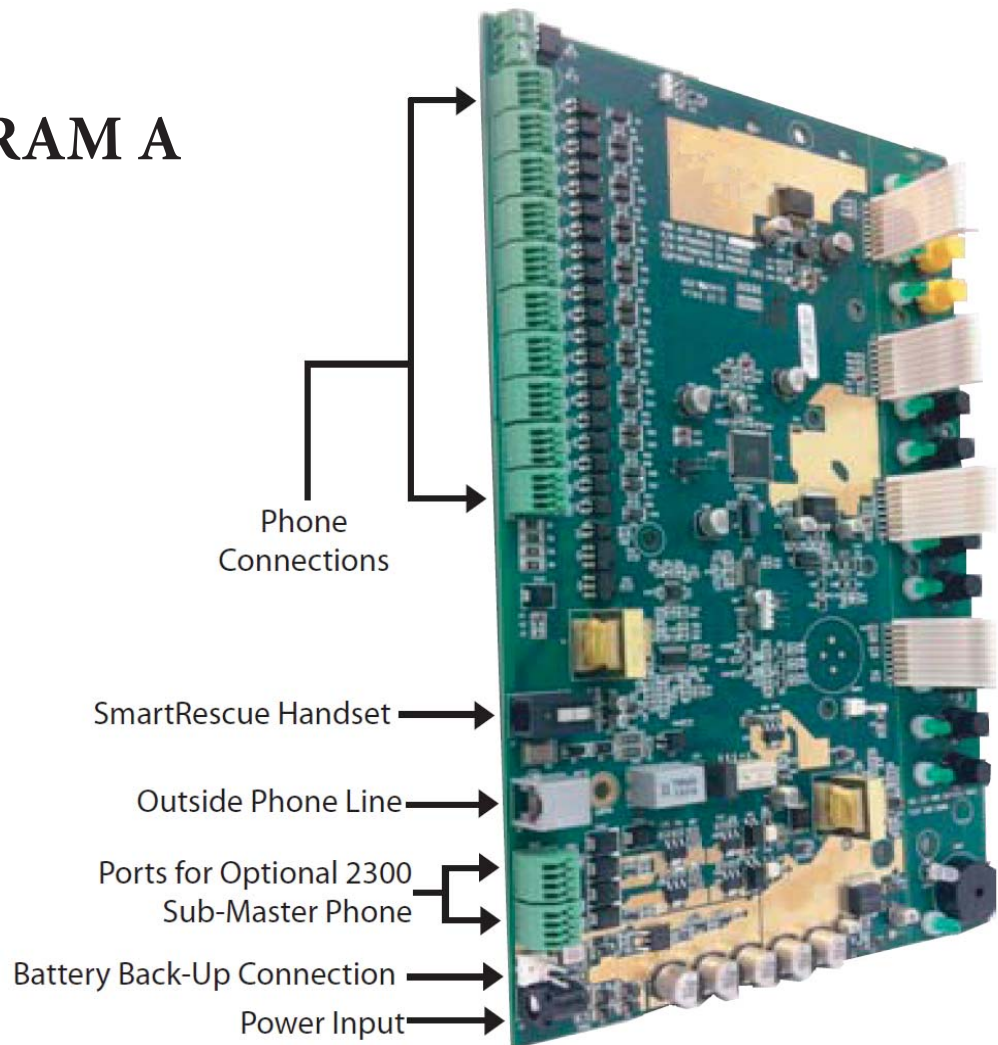

Pre-Installation Requirements:

• Either 24VDC or 110/120VAC Power

• Analog Telephone Line (POTS, PBX, Or Central Office) with RJ11 connectors. If you are installing on a Voice Over IP (VoIP) phone system, you must obtain from Alpha Communications® or the phone system provider, an Analog Telephone Adaptor (ATA) programmed to provide a disconnect (CPC) signal.

• Twisted, shielded, 22 to 24 gauge, 4 wire cabling (CAT 5 rating or greater is preferred) to connect between each Emergency Phone and the AlphaRefuge™ Command Center Station. RJ11 connectors should be attached for connection to the Base Station. Make sure to maintain wire color polarity from the phone connection to the RJ11 jack at the Base Station. See the Wiring Diagrams on Pages 4 through 7.

NOTE: Terminals and markings shown in this manual may not be in the order in which they appear on the actual equipment. When installing, observe all national and local electrical and building codes.

Installation:

• Remove the front cover from the Base Station and punch out conduit knockouts for analog phone line and Phone cabling runs.

• Mount Base Station to the wall using suitable mounting screws (not included).

• Connect the red backup battery cable to the battery terminal.

• Connect an analog phone line to the RJ11 receptacle located on the lower left of the circuit board (See Diagram A below).

• Take 4 wire cabling and insert into push connectors along left side of circuit board following wiring on pages 4 through 7. Terminate connector onto other end of wires to connect to the Emergency Phone.

• Shields from the cabling runs (if used) should be attached to one of the mounting screws on the housing.

• Mount the front cover on the Base Station.

• Direct wire to a 120VAC power source (see instructions on Page 3) or 24VDC Power Supply.

DIAGRAM A

Phone Connections

SmartRescue Handset

Outside Phone Line

Ports for Optional 2300 Sub-Master Phone

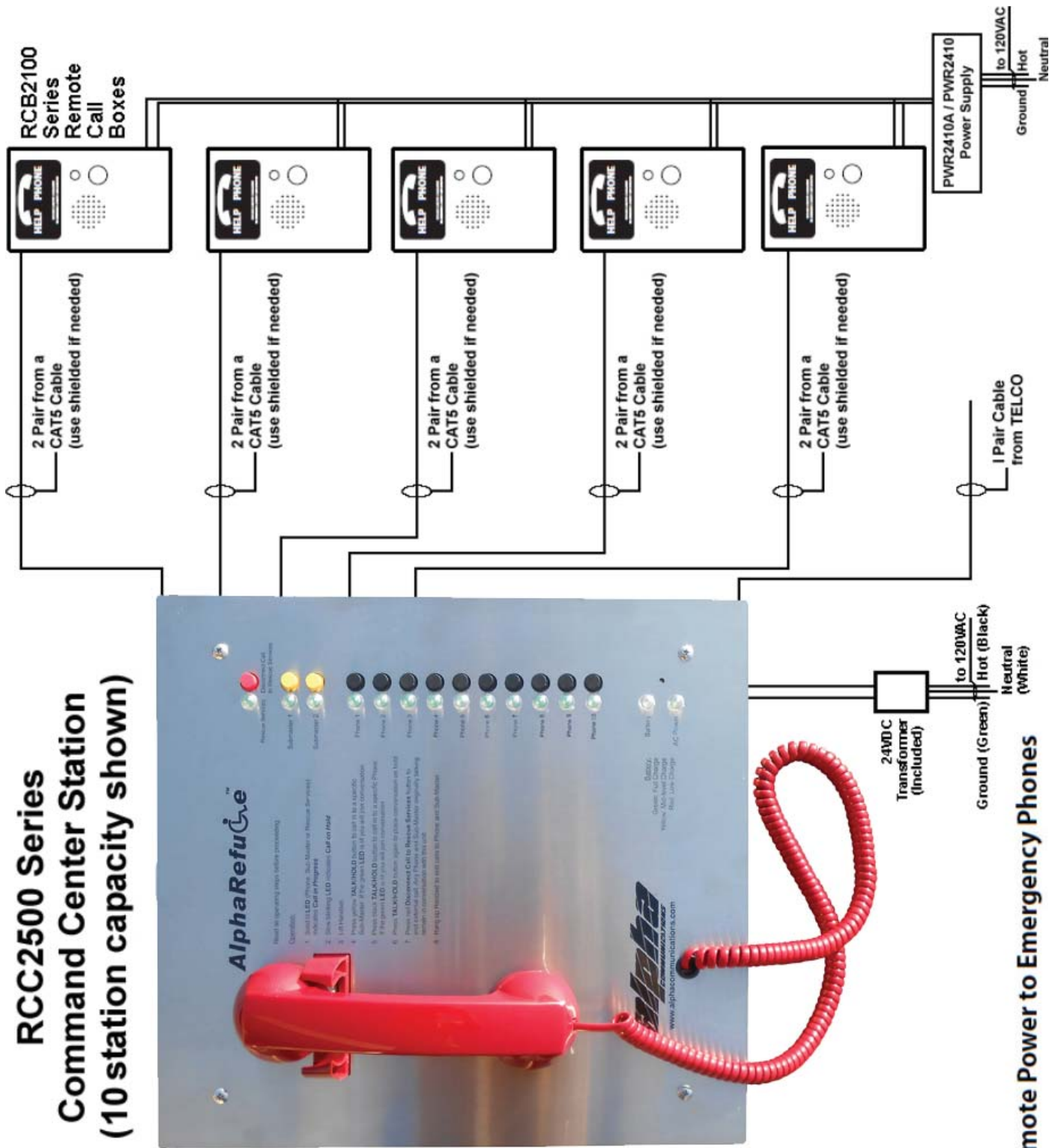Battery Back-Up Connection

Power Input

2

Installation:

• Connect the hot wire of the 120VAC to the L screw on the power supply

• Connect the neutral wire of the 120VAC to the N screw on the power supply

• Connect the ground wire of the 120VAC to the Ground screw on the power supply

• Connect one lead of the DC power connection to the –V screw and the other to the +V screw (polarity is not important)

• Connect the DC power connection to the AlphaRefuge™ Control Board. The power connection is on the lower left hand side of the board
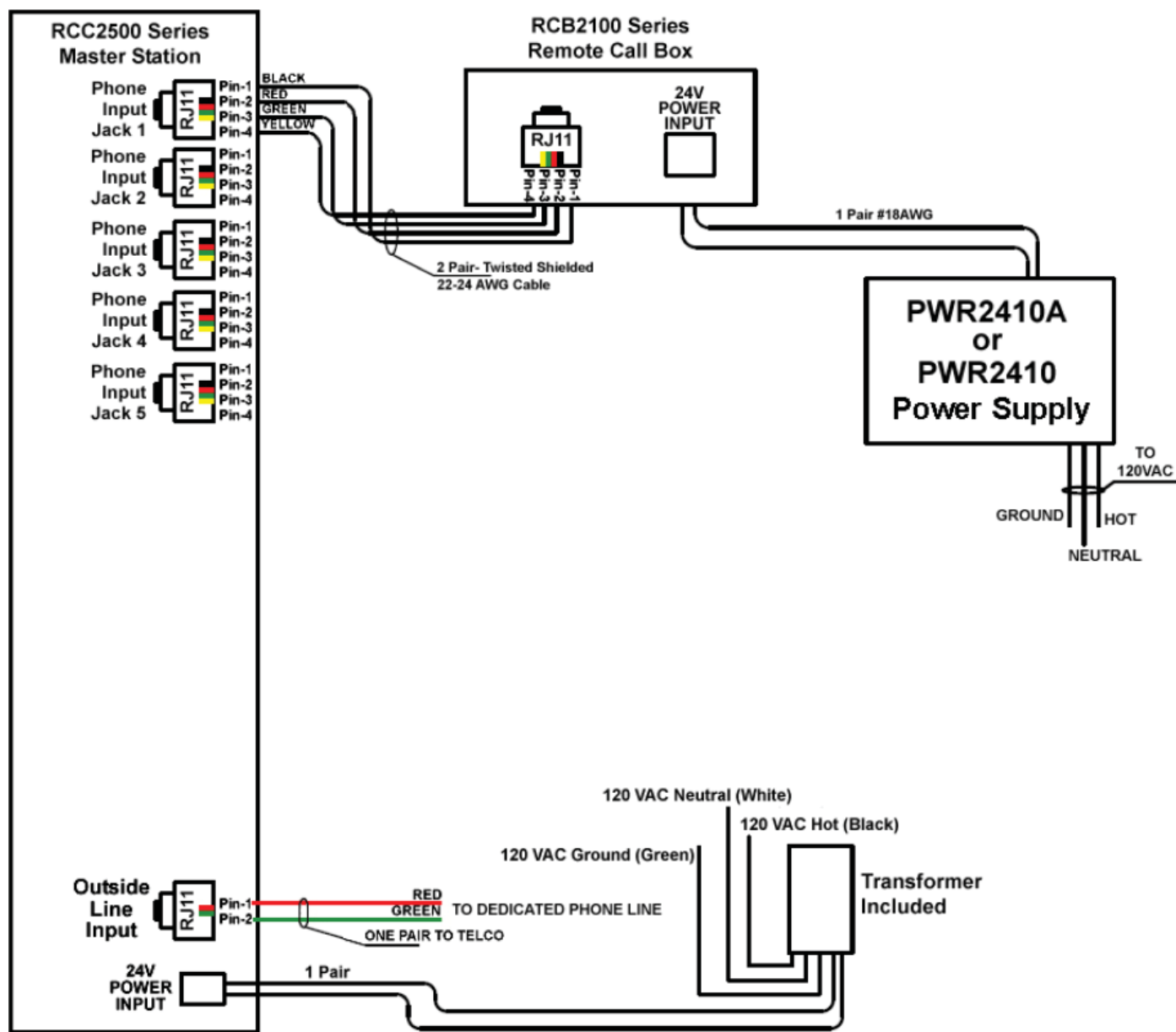
RCB2100 Series Remote Call Boxes

HELP PHONE

2 Pair from a CAT5 Cable (use shielded if needed)

I Pair Cable from TELCO

PWR2410A / PWR2410 Power Supply

to 120VAC
Hot
Neutral
Ground

RCC2500 Series Command Center Station (10 station capacity shown)

AlphaRefuge™

Read in operating steps before proceeding.

Operation:

1. Solid GLED (Phone, Sub-Master or Remote Service) Indicates Call in Progress
2. Slow blinking LED indicates Call on Hold
3. Lift Handset
4. Press TALK/HOLD button to talk to a specific Sub-Master if the green LED is off you and join conversation
5. Press TALK/HOLD button to talk to a specific Phone if the green LED is on and you join conversation
6. Press TALK/HOLD button again to place communication on hold
7. Press out Disconnect Call to Rescue Services button to end external call. Only Phone and Sub-Master originally talking remain on master button this call
8. Hang up Handset to return calls to Phone and Sub-Master

Rescue (WHITE) Disconnect Call to Rescue Services
Submaster 1 Submaster 2
Phone 1 Phone 2 Phone 3 Phone 4 Phone 5 Phone 6 Phone 7 Phone 8 Phone 9 Phone 10
Batter AC Power

Battery:
Green: Full Charge
Yellow: Mid-level Charge
Red: Low Line Charge

alpha COMMUNICATIONS
www.alphacommunications.com

24VDC Transformer (Included)

to 120VAC
Hot (Black)
Neutral (White)
Ground (Green)

Remote Power to Emergency Phones

4

AlphaRefuge™ Base Station Typical Wiring Diagram
With Remote 24V Power to Emergency Phones

RCC2500 Series Master Station

Phone Input Jack 1
- Pin-1 BLACK
- Pin-2 RED
- Pin-3 GREEN
- Pin-4 YELLOW

Phone Input Jack 2
- Pin-1
- Pin-2
- Pin-3
- Pin-4

Phone Input Jack 3
- Pin-1
- Pin-2
- Pin-3
- Pin-4

Phone Input Jack 4
- Pin-1
- Pin-2
- Pin-3
- Pin-4

Phone Input Jack 5
- Pin-1
- Pin-2
- Pin-3
- Pin-4

2 Pair- Twisted Shielded 22-24 AWG Cable

RCB2100 Series Remote Call Box

RJ11
- Pin-4
- Pin-3
- Pin-2
- Pin-1

24V POWER INPUT

1 Pair #18AWG

PWR2410A or PWR2410 Power Supply

TO 120VAC

GROUND   HOT
NEUTRAL

Outside Line Input
RJ11
- Pin-1 RED
- Pin-2 GREEN

TO DEDICATED PHONE LINE
ONE PAIR TO TELCO

120 VAC Neutral (White)
120 VAC Hot (Black)
120 VAC Ground (Green)

Transformer Included

24V POWER INPUT   1 Pair

RCC2500 Series
Command Center Station
(10 station capacity shown)

GREEN (GROUND)
RED (NEUTRAL)
BLACK (120VAC HOT)
24/6VA
1 pair 18 ga.

HELP PHONE

2 Pair from a
CAT5 Cable
(use shielded if needed)

GREEN (GROUND)
RED (NEUTRAL)
BLACK (120VAC HOT)
24/6VA
1 pair 18 ga.

HELP PHONE

2 Pair from a
CAT5 Cable
(use shielded if needed)

GREEN (GROUND)
RED (NEUTRAL)
BLACK (120VAC HOT)
24/6VA
1 pair 18 ga.

HELP PHONE

2 Pair from a
CAT5 Cable
(use shielded if needed)

GREEN (GROUND)
RED (NEUTRAL)
BLACK (120VAC HOT)
24/6VA
1 pair 18 ga.

HELP PHONE

2 Pair from a
CAT5 Cable
(use shielded if needed)

GREEN (GROUND)
RED (NEUTRAL)
BLACK (120VAC HOT)
24/6VA
1 pair 18 ga.

HELP PHONE

2 Pair from a
CAT5 Cable
(use shielded if needed)

RCB2100 Series
Remote Call Boxes

I Pair Cable
from TELCO

AlphaRefuge™

Read all operating steps before proceeding

Operation:

1 Solid lit LED (Phone, Sub-Master or Rescue Services) indicates Call in Progress
2 Slow blinking LED indicates Call on Hold
3 Lift Handset
4 Press yellow TALK/HOLD button to call in to a specific Phone or Sub-Master. If the green LED is lit you will poll conversation
5 Press black TALK/HOLD button to call in to a specific Phone Sub-Master. If the green LED is lit you will poll conversation
6 Press TALK/HOLD button again to place conversation on hold
7 Press red Disconnect Call to Rescue Services button to end external call. Any Phone and Sub-Master originally talking remain in conversation with this unit
8 Hang up Handset to end calls to Phone and Sub-Master

Rescue Services
Disconnect Call to Rescue Services
Submaster 1
Submaster 2
Phone 1
Phone 2
Phone 3
Phone 4
Phone 5
Phone 6
Phone 7
Phone 8
Phone 9
Phone 10
Battery
Batteries:
Green: Full Charge
Yellow: Mid-level Charge
Red: Low Charge
AC Power

www.alphacommunications.com

24VDC
Transformer
(Included)

to 120VAC
Hot (Black)
Neutral
(White)
Ground (Green)

Direct 120VAC Power to Phones

6

AlphaRefuge™ Base Station Typical Wiring Diagram
With Direct 120VAC Power to Emergency Phones

RCC2500 Series Master Station

Phone Input Jack 1 — RJ11 — Pin-1, Pin-2, Pin-3, Pin-4 — BLACK, RED, GREEN, YELLOW

Phone Input Jack 2 — RJ11 — Pin-1, Pin-2, Pin-3, Pin-4

Phone Input Jack 3 — RJ11 — Pin-1, Pin-2, Pin-3, Pin-4

Phone Input Jack 4 — RJ11 — Pin-1, Pin-2, Pin-3, Pin-4

Phone Input Jack 5 — RJ11 — Pin-1, Pin-2, Pin-3, Pin-4

RCB2100 Series Remote Call Box

RJ11 — Pin-4, Pin-3, Pin-2, Pin-1

2 Pair- Twisted Shielded 22-24 AWG Cable

24V POWER INPUT

24V/6VA

GREEN (GROUND)
RED (NEUTRAL)
BLACK (120 VAC HOT)

Outside Line Input — RJ11 — Pin-1, Pin-2

RED
GREEN — TO DEDICATED PHONE LINE
ONE PAIR TO TELCO

24V POWER INPUT

1 Pair

120 VAC Neutral (White)
120 VAC Hot (Black)
120 VAC Ground (Green)

Transformer Included

Programming Options for Base(s):

*Note: You must still program each Emergency Phone after programming Base Station

A. Program Base Station to allow Emergency Phones to call it then a Secondary Outside Number
1. Unplug Power Supply and Battery Back-Up from Base Station
2. Hold down Phone 1, Phone 3, and Phone 5 Buttons.
3. Re-connect power to Base Station
4. Release buttons- will hear a confirmation tone
5. Press Phone 2 button, Red Button, and Phone 1 button
6. Press Submaster 2 Button then Submaster 1 Button

B. Program Base Station to allow Emergency Phones to call an Outside Number Only (Factory Default)
1. Unplug Power Supply and Battery Back-Up from Base Station
2. Hold down Phone 1, Phone 3, and Phone 5 buttons.
3. Re-connect power to Base Station
4. Release buttons- will hear a confirmation tone
5. Press Phone 2 Button, then Red Button, then Submaster 2 Button and then the Phone 5 Button
6. Press Submaster 2 Button then Submaster 1 Button
NOTE: You MUST program each remote call box after programming base station.

Programming Options for Phone(s):

A. Program Emergency Phone(s) in Consolidator mode - (Optional)
1. Press **Enter** to get into program mode
2. Press **7, Enter**
3. For Phone(s) 1-5; Press ***, 1-5**
   - Example: For Phone 1, Press 7, Enter, *, 1
   - Example: For Phone 2, Press 7, Enter, *, 2
4. For Phone(s) 6-10; Press **#, 1-5**
   - Example: For Phone 6, Press 7, Enter, #, 6
   - Example: For Phone 7, Press 7, Enter, #, 7
5. Press and hold **Stop** for 2-3 seconds until warble sound to exit programming
6. Confirm operation by calling the phone number Phone(s) are installed on; all phones will answer. To speak with individual phone(s): (for phone(s) 1-5 press ***1, *2, *3, *4 or *5**) or (for phone(s) 6-10 press **#1, #2, #3, #4 or #5**) to speak with all phones press ***0**
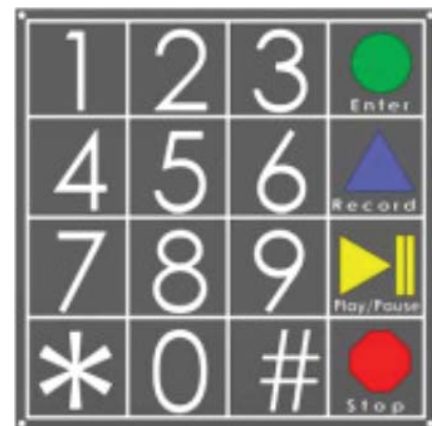
B. To program Phone(s) to call the Base unit first and then if no answer to dial secondary emergency numbers
1. Press **Enter** to get into program mode
2. Press **1, Enter, (Phone Number 1), Stop**
3. Press **2, Enter, (Same number programmed in step 2), Stop**
4. If you wish to dial additional emergency numbers, press **3-5, Enter, (Phone Number), Stop** (for each additional emergency phone number)
5. Press and hold **Stop** for 2-3 seconds until warble sound to exit programming

C. To program Phone(s) to dial standard emergency numbers
1. Press **Enter** to get into program mode
2. Press **1, Enter, (Phone Number), Stop**
3. If you wish to dial additional emergency numbers, press **2-5, Enter, (Phone Number), Stop** (for each additional emergency phone numbers)
4. Press and hold **Stop** for 2-3 seconds until warble sound to exit programming

D. To program Location Message
1. Press **Enter** to get into program mode
2. To turn on message press **1, 3, Enter, 2** or for no message press **1, 3, Enter, 0**
3. Press **6, Record,** (Wait for Beep, Speak your message), **Stop** *(To replay message press 6, Play)*
4. To program frequency of message press **1, 3, Enter, _**
   - Pressing 1 plays message once;
   - Pressing 2 plays message twice (this is the standard configuration);
   - Pressing 3 plays message until called party presses * on their phone
5. Press and hold **Stop** for 2-3 seconds until warble sound to exit programming

Operation:

<u>A. Once all connections are made the following LED's should be lit:</u>
1. Power LED, located on bottom edge of the faceplate, will be constant lit green
2. Battery LED, also located on bottom edge of the faceplate, will be constant lit.
   - Red = Low level charge
   - Yellow = Mid level charge
   - Green = Full Charge

<u>B. Initiate a Call to an Emergency Phone or Sub-Master from the Base Station</u>
1. Lift handset on Base Station
2. Press the Talk button corresponding to the Emergency Phone or Sub-Master you wish
3. The green LED will light next to that button
4. You should have two way communication to that Phone
5. You can place the Phone on hold by pressing the Talk button a second time.
6. To resume communication press the Talk button a third time.
7. To disconnect hang up handset.

<u>C. Emergency Phone places a call into the Base Station</u>
1. You will hear an alternating audible tone at the Base Station indicating a call has been initiated by one of the Phones.
2. The corresponding green LED, will light on the Base Station next to the phone that placed the call.
3. Lift handset and there is two-Way Communication between the and the Emergency phone. The handset can be hung up on the Base Station at any time to end the call.

<u>D. Emergency Phone places a call into the Base Station then an outside number</u>
1. You will hear an alternating audible tone at the Base Station indicating a call has been initiated by one of the Phones (if programmed to call outside line only, no tone)
2. The corresponding green LED will light on the Base Station next to the phone that placed the call.
3. If call is not answered at the Base Station the Emergency Phone will hang-up and re-dial the second number programed into the Emergency Phone.
4. The CO Line LED, located next to Red Button, will also be lit indicating that the outside line is active. Two-way communication can then take place between the outside line and emergency phone once the call is answered.
5. The Base Station can join the conversation by the handset being lifted at the Base Station.
6. To talk to Rescue Services only from the Base Station, place the Phone on hold by pressing the corresponding Talk button. To bring them back into the conversation, press the Talk button again.
7. To disconnect Rescue Services, press the red button at the top of the face plate. The Rescue Services LED will go off and leave you communicating with the Phones only.
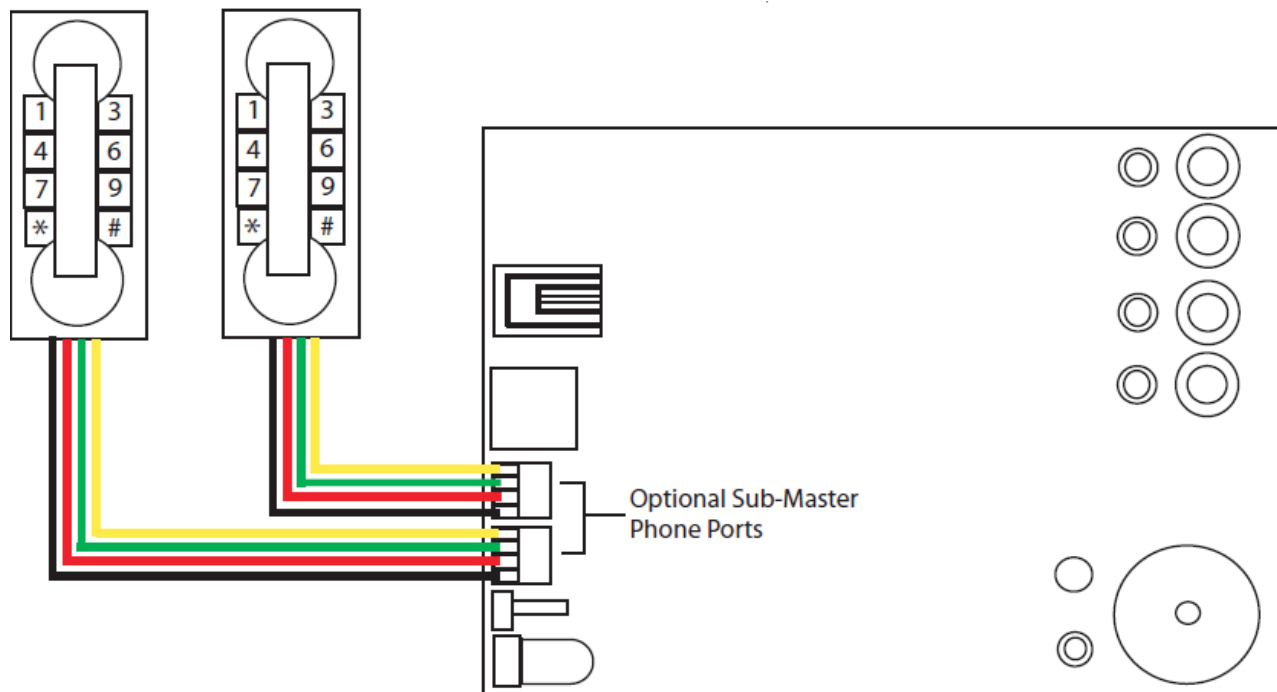
Sub-Master Installation and Operation:

A. Installation
1. Mount the Sub-Master to the wall in desired location.
2. Run twisted, 24 or 22 gauge, 4 wire cabling (CAT-5 rating or greater is preferred) to connect Sub-Master to Base Station
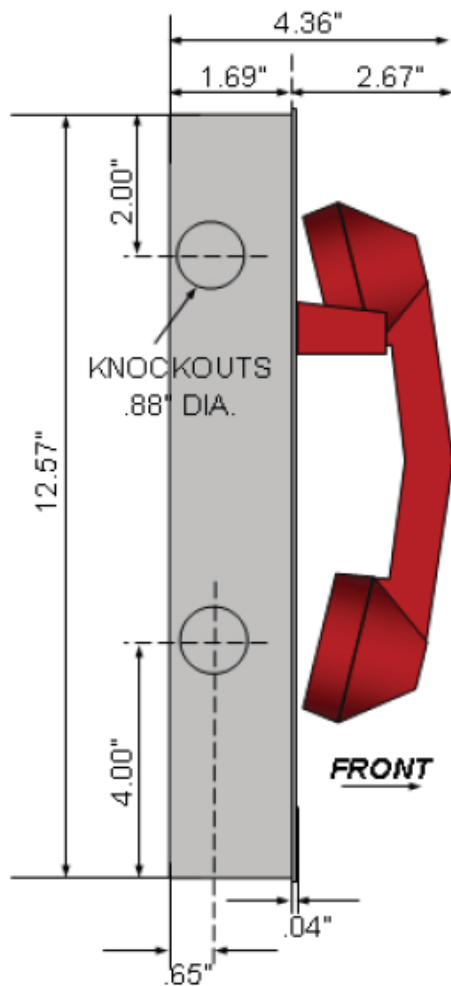
B. Operation
1. Lift handset
2. To dial individual phones connected to Base Station:
   - Press **1** (Phone #1)
   - Press **2** (Phone #2)
   - Press **3** (Phone #3)
   - Press **4** (Phone #4)
   - Press **5** (Phone #5)
   - Press **#1** (Phone #6)
   - Press **#2** (Phone #7)
   - Press **#3** (Phone #8)
   - Press **#4** (Phone #9)
   - Press **#5** (Phone #10)

B. Typical Wiring Diagram

Optional Sub-Master Phone Ports

AlphaRefuge™
Base Station
Mounting Dimensions
(Standard Surface Mount)
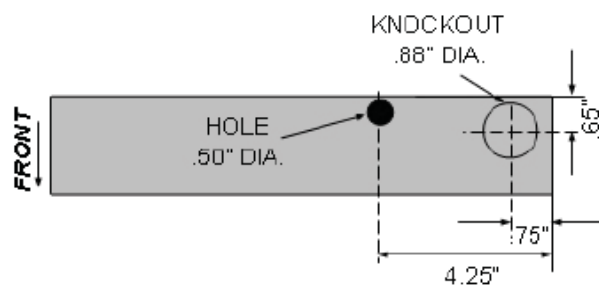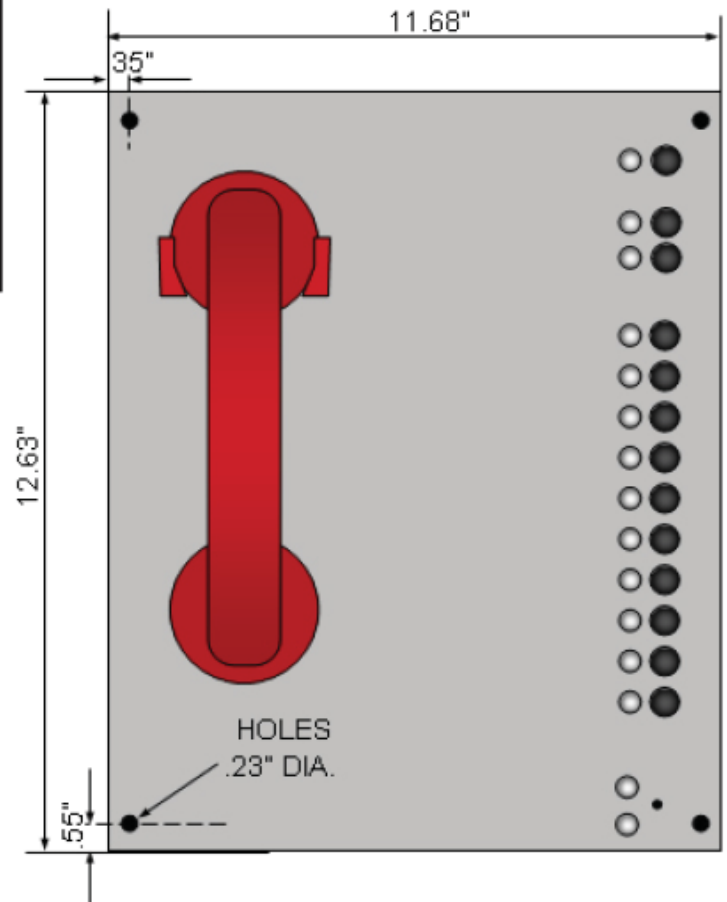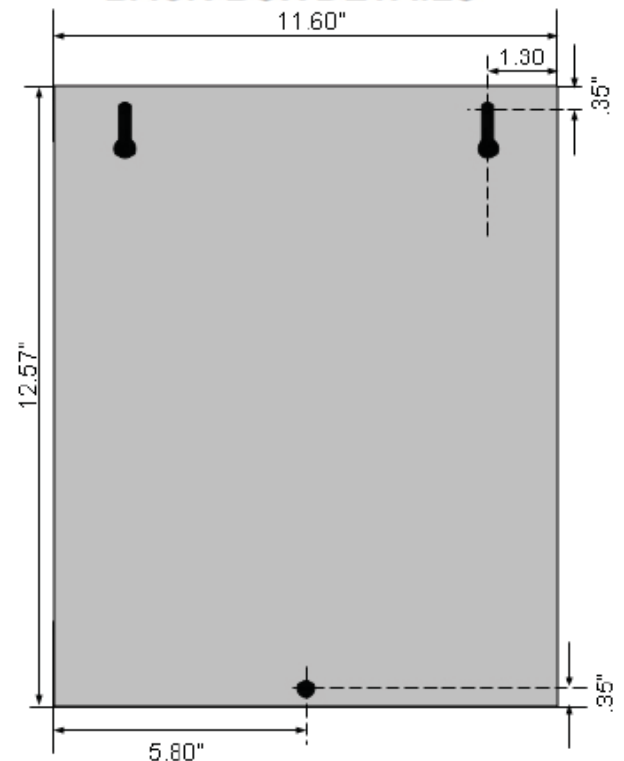
FRONT DETAILS

11.68"

.35"

12.63"

.55"

HOLES
.23" DIA.

SIDE DETAILS

4.36"

1.69"

2.67"

2.00"

KNOCKOUTS
.88" DIA.

12.57"

4.00"

FRONT

.04"

.65"

BACK BOX DETAILS

11.60"

1.30

.35"

12.57"

5.80"

.35"

BOTTOM BOX DETAILS

KNOCKOUT
.88" DIA.

FRONT

HOLE
.50" DIA.

.65"

.75"

4.25"

DIMENSIONS ARE APPLICABLE TO BOTH 10 BUTTON AND 5 BUTTON MODELS.

AlphaRefuge™
Base Station
Mounting Dimensions
(Standard Flush Mount)
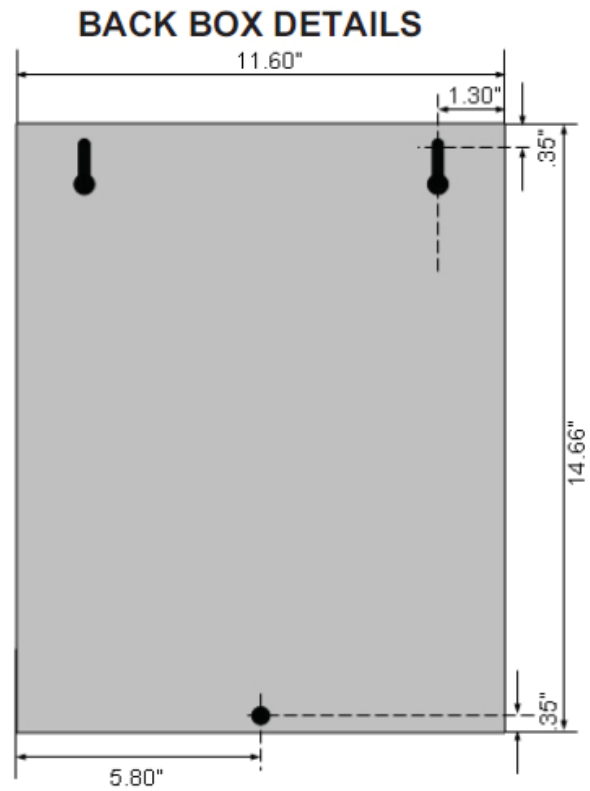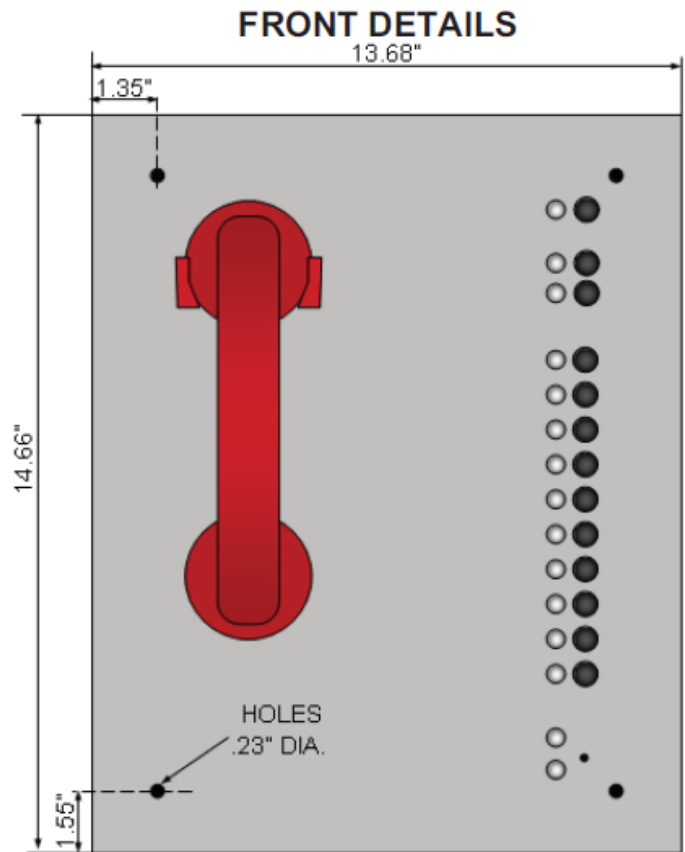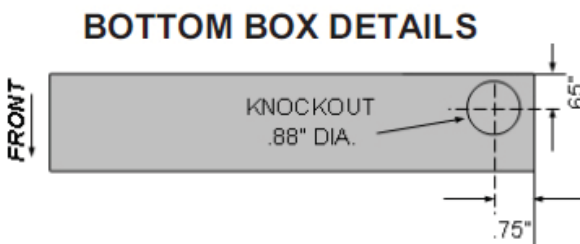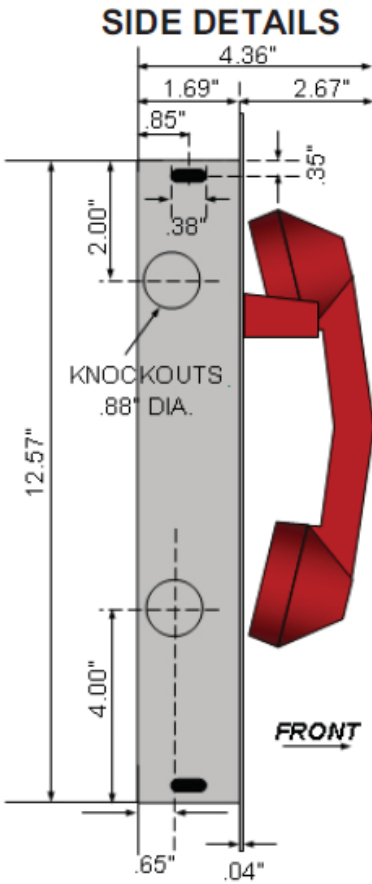
FRONT DETAILS

13.68"

1.35"

14.66"

HOLES
.23" DIA.

1.55"

SIDE DETAILS

4.36"

1.69"   2.67"

.85"

.35"

2.00"

.38"

KNOCKOUTS
.88" DIA.

12.57"

4.00"

FRONT

.65"   .04"

BACK BOX DETAILS

11.60"

1.30"

.35"

14.66"

.35"

5.80"

BOTTOM BOX DETAILS

FRONT

KNOCKOUT
.88" DIA.

.65"

.75"

NOTE: DIMENSIONS ARE APPLICABLE TO BOTH 10 BUTTON AND 5 BUTTON MODELS.

AlphaRefuge™
Base Station
Mounting Dimensions
(Surface Mount Cabinet)
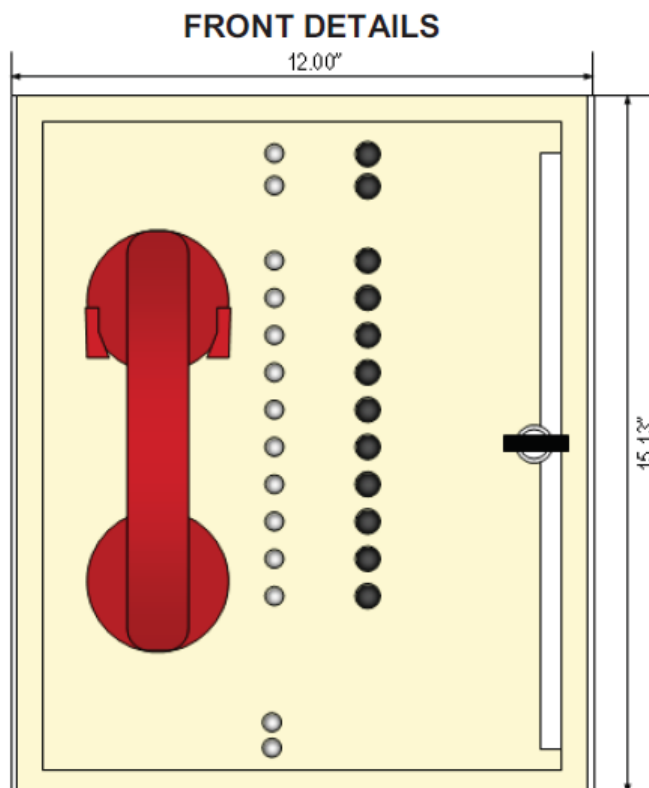
SIDE DETAILS

6.13"

6.75"

FRONT DETAILS

12.00"

15.13"

BACK DETAILS

5.00"

1.65"

1.50"

6.50"

6.00"

6.00"

1.63"

NOTE:
DIMENSIONS ARE APPLICABLE
TO BOTH 10 BUTTON AND 5
BUTTON MODELS

13
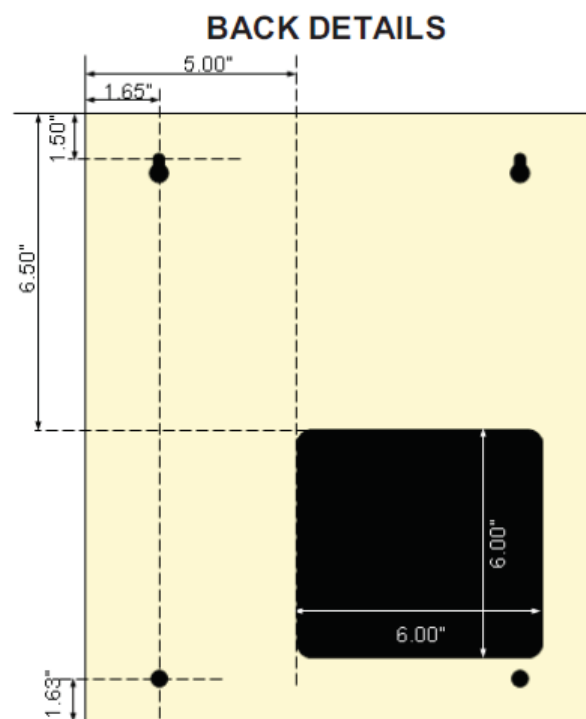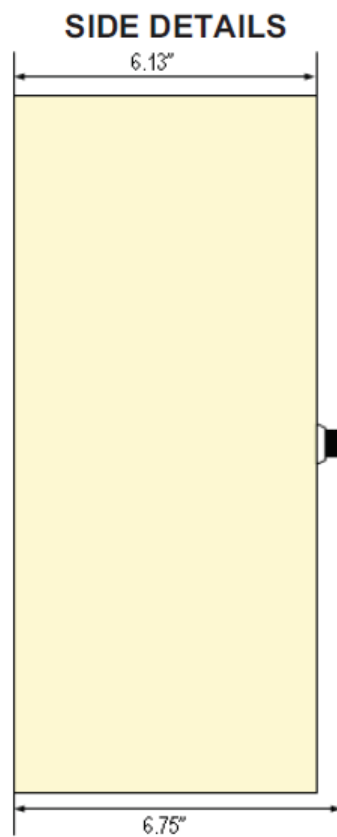
AlphaRefuge™
Base Station
Mounting Dimensions
(Flush Mount Cabinet)

FRONT DETAILS

14.00"

16.13"

SIDE DETAILS

3.06"   3.00"

1.88"

FRONT

7.82"

15.63"

HOLES
.25" DIA.

1.88"

1.50"   3.66"

TOP & BOTTOM DETAILS

HOLES
.25" DIA.

KNOCKOUTS
.88" DIA.

FRONT

1.50"

1.03"

3.03"
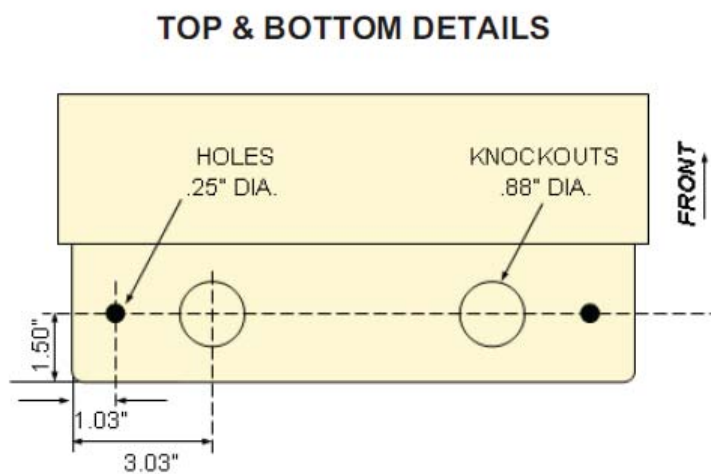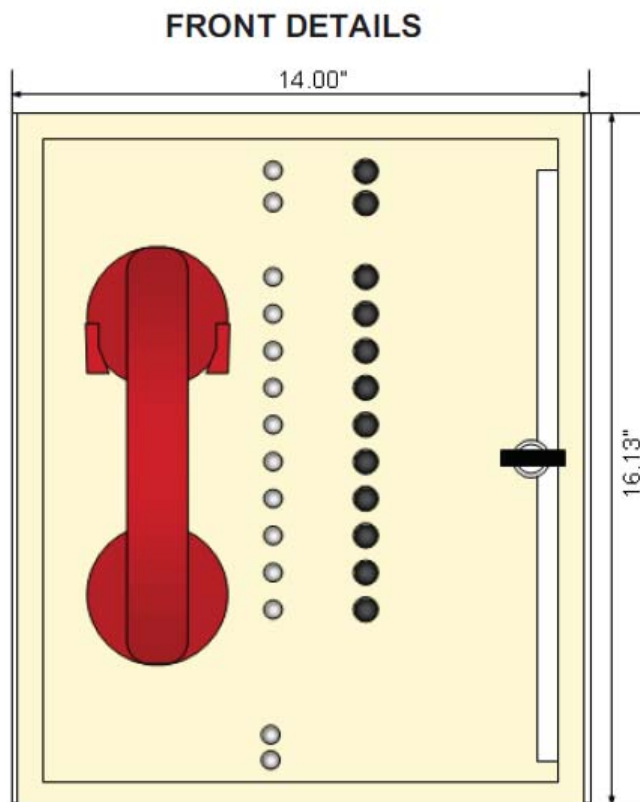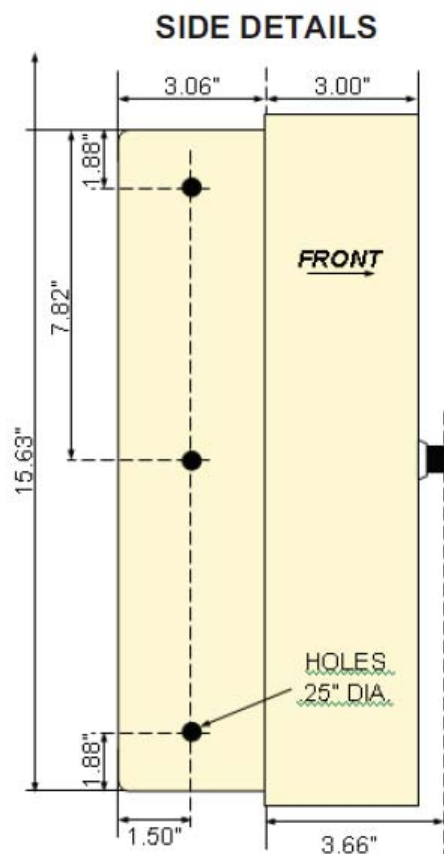
NOTE: DIMENSIONS ARE APPLICABLE TO BOTH 10 BUTTON AND 5 BUTTON MODELS.
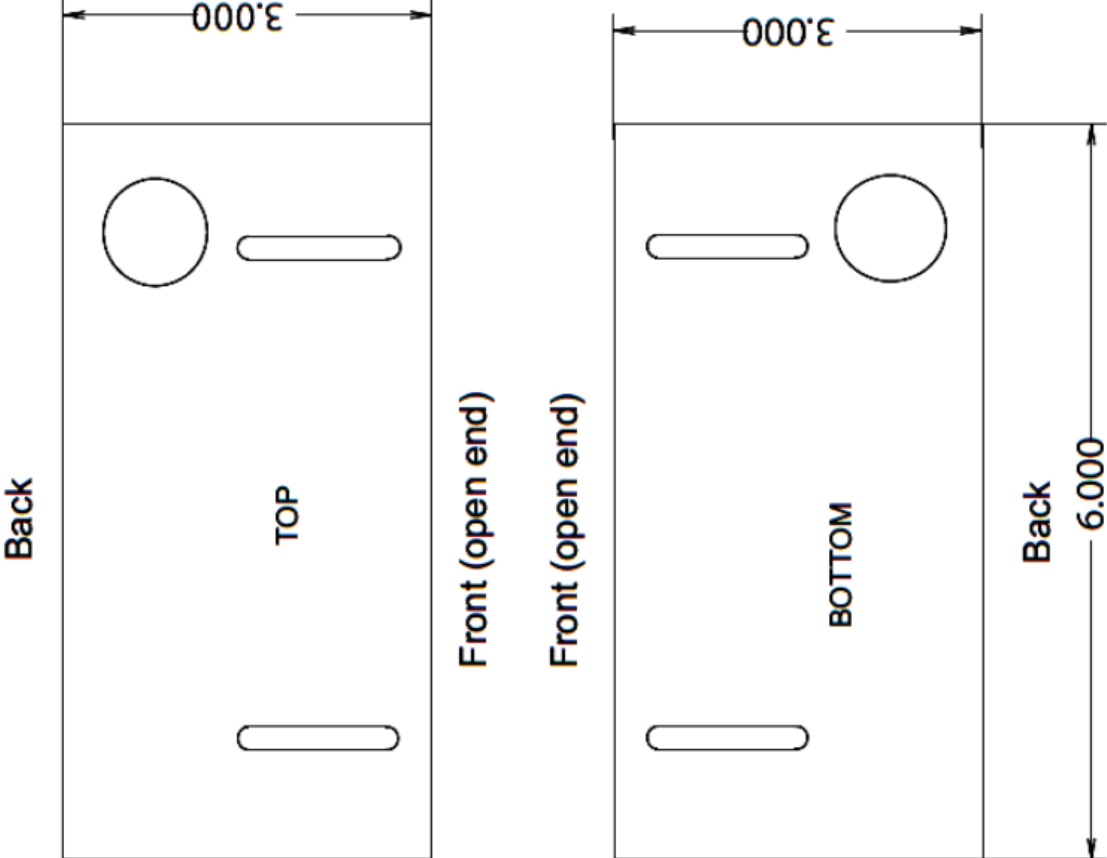
RCB2100SF Flush Mount St. Steel Remote Call Box Station

9.75 x 12.5   11 GAUGE BRUSHED
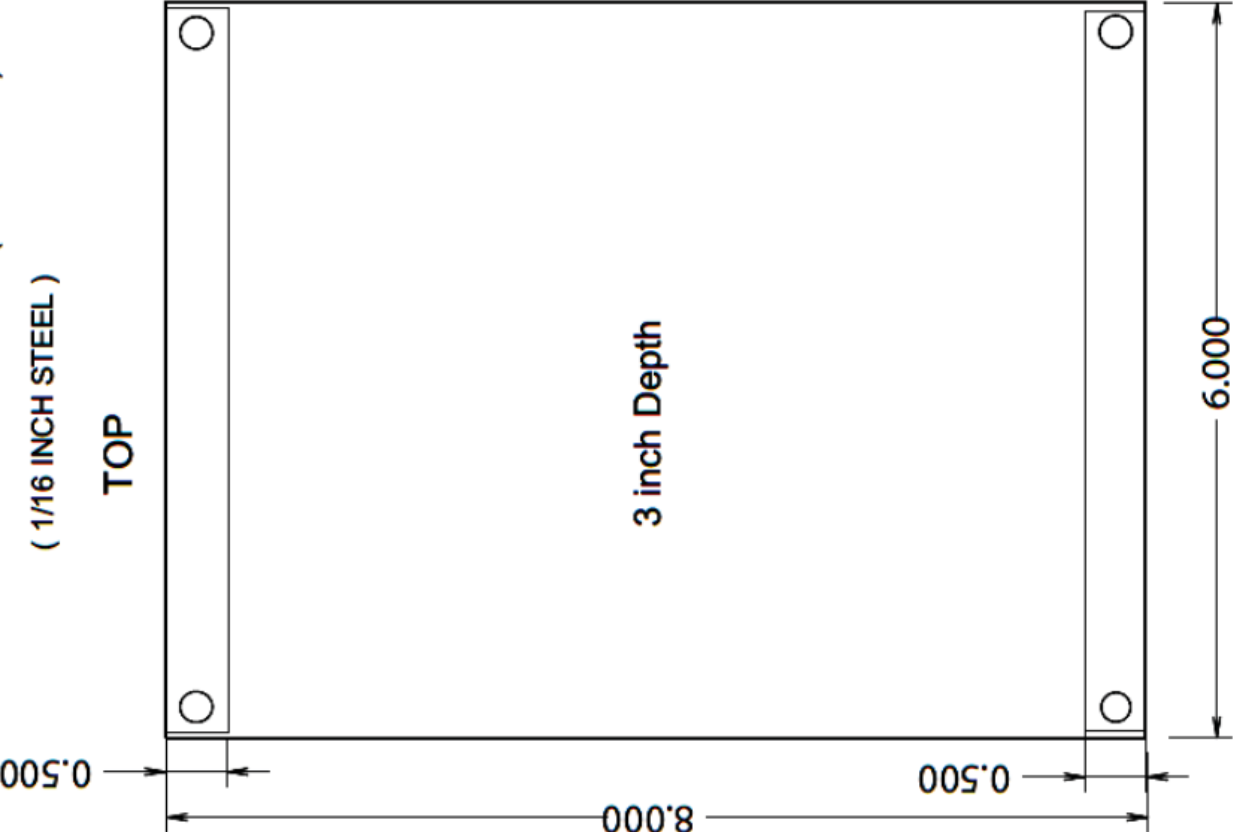STAINLESS STEEL WITH B4 FINSH

FRONT VIEW

Ø0.180

Ø0.180

12.500

10.370

2.870

2.130

7.620

9.750

RCB2100SF Flush Mount St. Steel Remote Call Box Station

Back

TOP

Front (open end)

3.000

Front (open end)

BOTTOM

Back

6.000

3.000
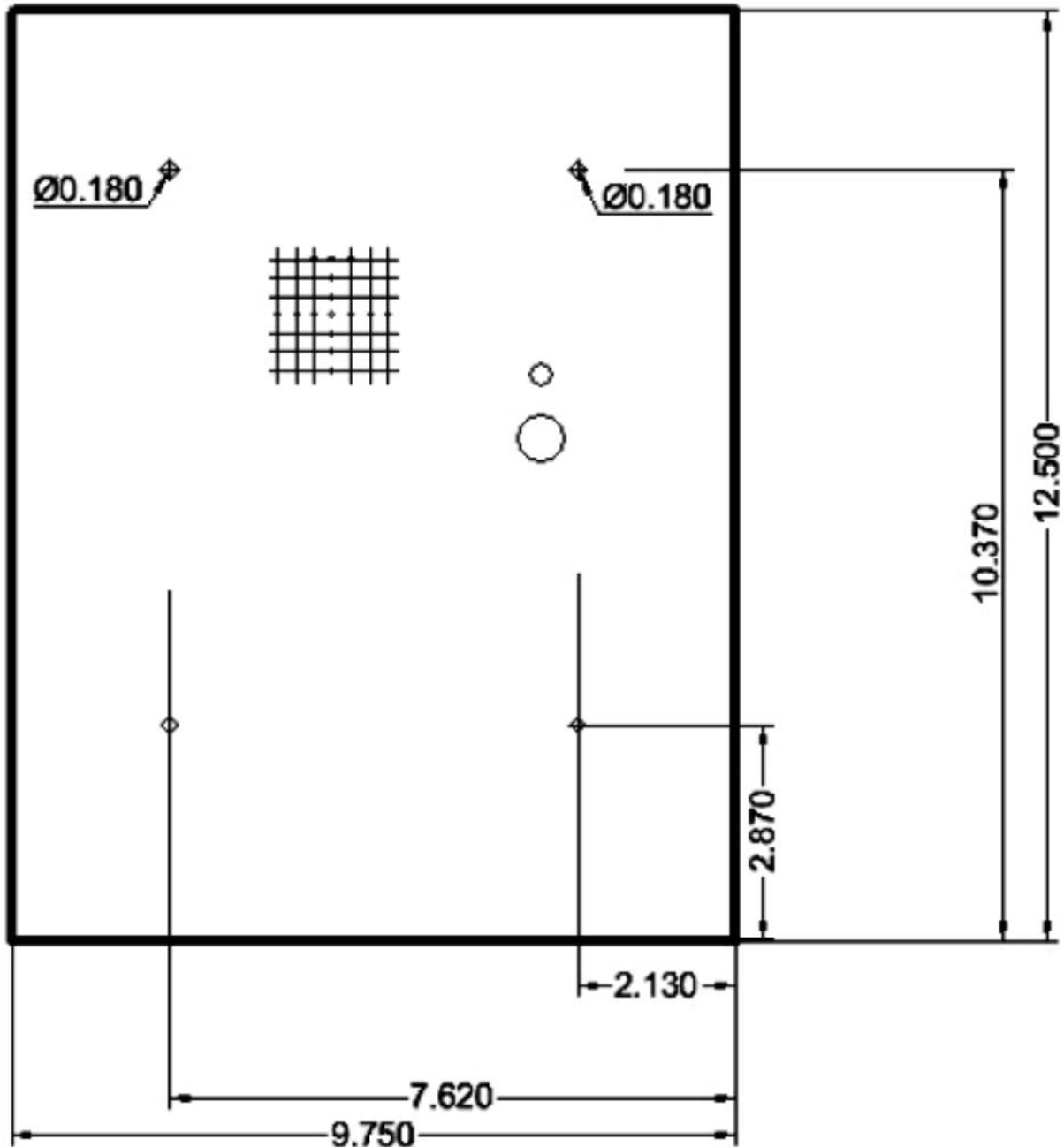
FRONT VIEW OF STEEL BOX (OPEN END)
(1/16 INCH STEEL)

TOP

3 inch Depth

6.000

0.500

0.500

8.000

16

Troubleshooting

Problem	Possible Cause & Fixes
Power LED is not illuminated:	• Check to make sure the transformer is connected to a good 120vac power source. If 24vdc powered, check the power supply. • Make sure power connection on the circuit board is secure
Battery LED is not illuminated:	• Battery plug is not connected to circuit board • Battery should be replaced every 2 years.
No dial tone:	• Analog phone line or Voice Over IP (VoIP) with proper VoIP Interface is not connected, cannot be a digital phone line. • Tip and Ring on center pin of RJ-11 reversed.
Talk/Hold LED's will not illuminate after buttons are pressed:	• Twisted, shielded, 24 or 22 gauge, 4 wire runs are not connected to phone(s) • 4 wires not ran all the way through from Emergency Phones to **Base Station**
LED's periodically blink:	• Noise on phone line. Check shield ground at the Base Station. Make sure you ran twisted, shielded, 24 or 22 gauge, 4 wire sets (CAT5 or better) from each phone
Volume low on Emergency Phone:	• Locate silver VR1 pot in bottom right corner of **Base Station** board. • Turn VR1 clockwise with fine phillips head screwdriver to increase volume.
Volume low on handset:	• Adjust volume control on under side of handset
Base Station will dial emergency phone but phones will not dial Smart-Rescue:	• No outside phone line connected to **Base Station** • Phone line connected doesn't have working 24v to 52v • Line connected has voltage but doesn't have working dial-tone. • Plug analog phone into phone line and place a call out to verify line.

NOTE: Terminals and markings shown in this manual may not be in the order in which they appear on the actual equipment. When installing, observe all national and local electrical and building codes.