

# 4200 RESCUE ASSISTANCE INSTALLATION GUIDE-OVERVIEW

**IMPORTANT: THE FOLLOWING FIELD MODIFICATIONS MUST BE COMPLETED AT THE TIME OF INSTALLATION.**

THE 4200 RESCUE ASSISTANCE SYSTEM REQUIRES THE FOLLOWING SETTINGS FOR PROPER OPERATION. ADDITIONAL INFO & DIAGRAMS ARE AVAILABLE IN THE INSTALL PACKET AT WWW.CORNELL.COM

## 1. RECOMMENDED CALL STATION WIRING - HOME-RUN BETWEEN EACH STATION & ANNUNCIATOR:

(1) CORNELL CB-4200 CABLE - OR- THE FOLLOWING:

TWO SEPARATE CABLES TO EACH STATION:

- (1) 4-CONDUCTOR 22 GAUGE CABLE [+24V, SWITCH, LED, & GROUND]
- (1) 22 GAUGE SHIELDED PAIR [AUDIO]

## 2. ADJUST THE POWER SUPPLY VOLTAGE (SEE FIGURE 1)

THE 4200 RESCUE ASSISTANCE SYSTEM REQUIRES THE POWER SUPPLY VOLTAGE TO BE SET AT 24VDC. THE CORNELL POWER SUPPLIES ARE FACTORY-SET AT 12VDC. SEE THE LOCATION OF THE SWITCH IN FIGURE 1.

## 3. SET "USED / NOT-USED" ZONE JUMPERS (SEE FIGURE 2)

8010-300 CONTROL BOARDS ARE LOCATED ON THE REAR OF THE ANNUNCIATOR FACEPLATE. EACH CONTAINS (4) JUMPERS (ONE PER ZONE). THE "USED" POSITION ENABLES SUPERVISION, SUCH THAT A USED ZONE WILL REPORT A LINE FAULT IF THE CALL STATION BECOMES DISCONNECTED, OR OF NO STATION IS CONNECTED. THE "NOT USED" POSITION DISABLES THIS SUPERVISION.

## 4. ADJUST THE VOLUME CONTROLS (SEE FIGURE 3)

VOLUME CONTROLS ARE LOCATED ON THE AMPLIFIER BOARD, WHICH MOUNTS IN THE ANNUNCIATOR BACK BOX.

START WITH THE CONTROLS FOR THE "OUTGOING" (TALK) AND "INCOMING" (LISTEN) VOLUME SET AT NO GREATER THAN 1/4 TURN FROM THE FULLY CLOCKWISE POSITION. ANY HIGHER INITIAL SETTING MAY CAUSE FEEDBACK.

ADJUST THE VOLUME LEVELS WHILE COMMUNICATING WITH THE CALL STATION THAT IS THE FARTHEST AWAY FROM THE ANNUNCIATOR. ADJUST BOTH IN-COMING AND OUT-GOING LEVELS, IN SMALL INCREMENTS, FOR CLEAR AUDIO / THE BEST PERFORMANCE.

THE CALL STATION PRE-TONE ("BEEPS" PRODUCED AT THE CALL STATIONS) SHOULD INITIALLY BE SET TO APPROXIMATELY HALFWAY - THEN ADJUST AS NEEDED, TO COMPENSATE FOR AMBIENT NOISE.

## 5. AUDIO SHIELD (DRAIN WIRE) MUST ONLY BE GROUNDED AT THE ANNUNCIATOR END.

AT THE ANNUNCIATOR, CONNECT THE SHIELD (DRAIN WIRE) TO THE SPEAKER MOUNTING STUD, AS SHOWN ON DRAWING # 90022-12.

AT THE CALL STATION, CONNECT THE WHITE CALL STATION LEAD WIRES TO THE SUPPLIED TWISTED PAIR. THE AUDIO SHIELD SHOULD BE TRIMMED-OFF FLUSH WITH THE CABLE JACKET AND/OR TAPED BACK TO THE CABLE, SUCH THAT THE SHIELD CAN NOT TOUCH ANY GROUNDED METAL AT THIS END..

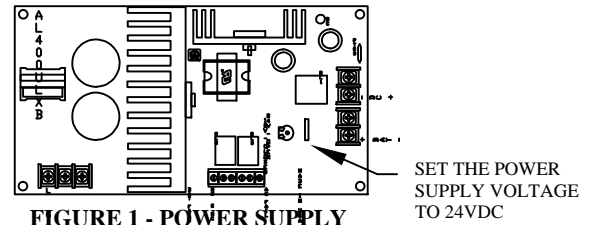
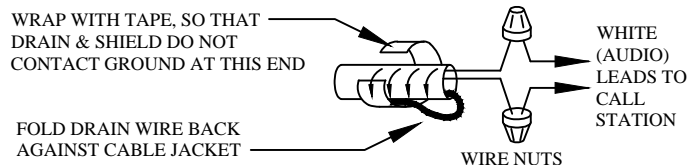


FIGURE 1 - POWER SUPPLY

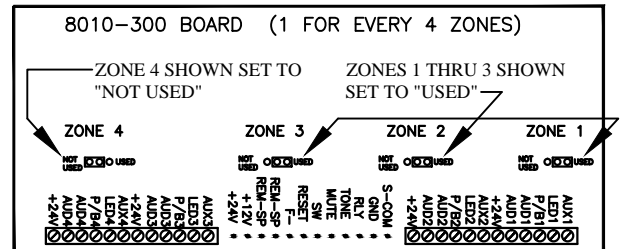


FIGURE 2 - 8010-300 BOARD

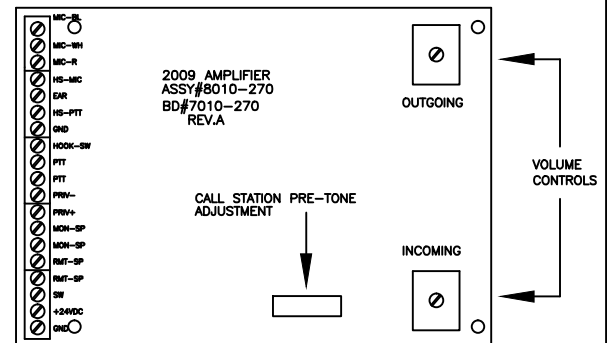


FIGURE 3 - 2009 AMPLIFIER BOARD

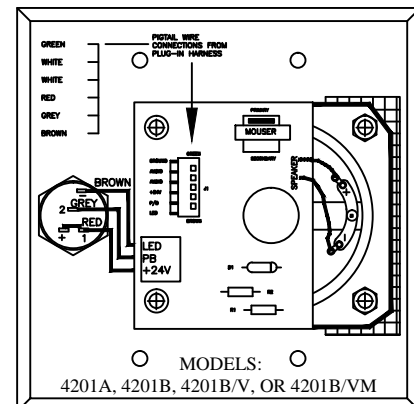


FIGURE 4 - TYPICAL CALL STATION

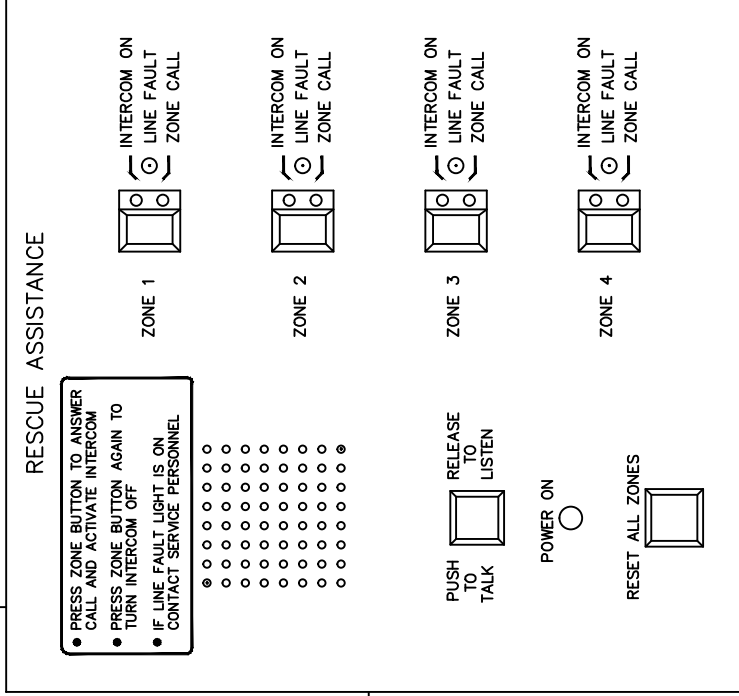
OPTIONAL WIRING TO  
TAK-SERIES VOICE DIALER  
OR TO FIRE ALARM SYSTEM  
FOR MONITORING.  
(1) PAIR #22 AVG PER POINT  
OR AS RECOMMENDED BY DIALER /  
FIRE ALARM SYSTEM PROVIDER.

(3) #18 AVG (min.) CONDUCTORS  
[2 FOR 24 VDC + EARTH GROUND]

115 VAC, 60 Hz  
@ 1.15 AMP  
[DEDICATED  
CIRCUIT  
RECOMMENDED]

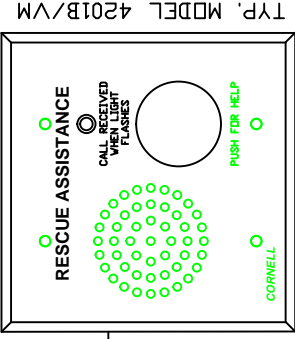
BATTERY BACK-UP  
POWER SUPPLY  
24VDC @ 3.5A

NOTE:  
DO NOT CONDUIT OR WIRE INTO  
BOTTOM OF CABINET,  
BECAUSE OF BATTERIES.

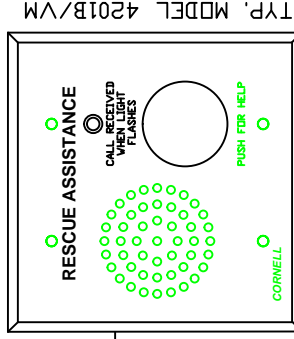


TYPICAL 4200 SERIES ANNUNCIATOR  
(A-4204 SHOWN HERE)

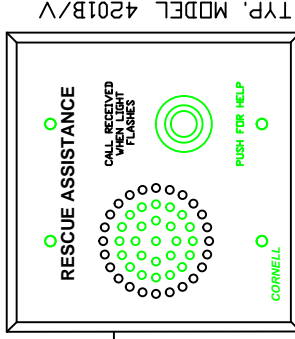
OPTIONAL WIRING TO  
FIRE ALARM MONITOR POINT;  
"RESCUE ASSIST POWER TROUBLE"  
(1) PAIR #18 AVG



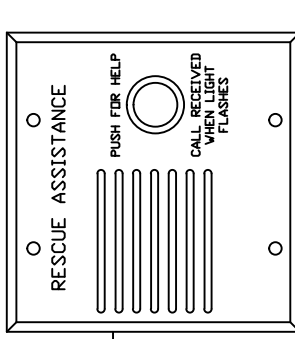
HOME-RUN WIRING:  
(1) CORNELL PART NUMBER  
CB-4200 CABLE  
-OR- (2) SEPARATE CABLES:  
(1) #22 AVG SHIELDED PR  
[AUDIO] (1) #22 AVG 4-COND  
[POWER/SWITCH/LED]



HOME-RUN WIRING:  
(1) CORNELL PART NUMBER  
CB-4200 CABLE  
-OR- (2) SEPARATE CABLES:  
(1) #22 AVG SHIELDED PR  
[AUDIO] (1) #22 AVG 4-COND  
[POWER/SWITCH/LED]



HOME-RUN WIRING:  
(1) CORNELL PART NUMBER  
CB-4200 CABLE  
-OR- (2) SEPARATE CABLES:  
(1) #22 AVG SHIELDED PR  
[AUDIO] (1) #22 AVG 4-COND  
[POWER/SWITCH/LED]



HOME-RUN WIRING:  
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CB-4200 CABLE  
-OR- (2) SEPARATE CABLES:  
(1) #22 AVG SHIELDED PR  
[AUDIO] (1) #22 AVG 4-COND  
[POWER/SWITCH/LED]

OLDER MODELS 4201A 4201B



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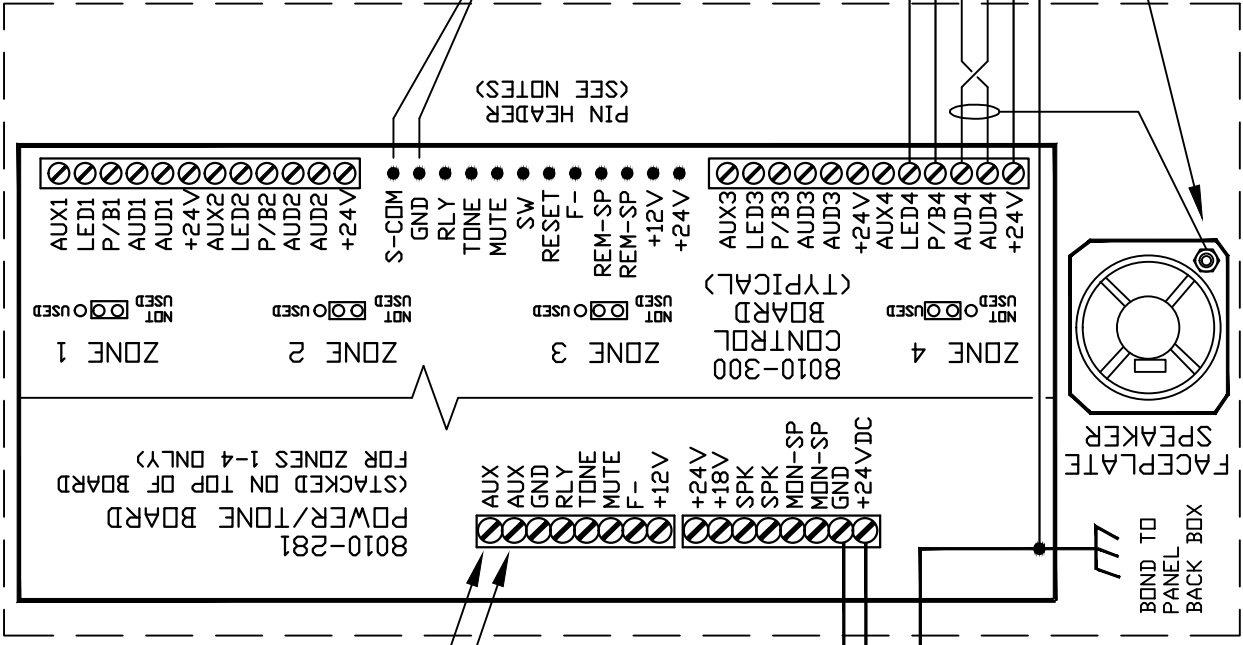
DATE: OCTOBER 11, 2012

TITLE: TYPICAL SYSTEM LAYOUT

SYSTEM: 4200 RESCUE ASSISTANCE

DRAWING # 90021-12 D4200W-A

**TYPICAL A-42NN MASTER PANEL:  
(NN = TOTAL NUMBER OF ZONES)**



**NOTES:**

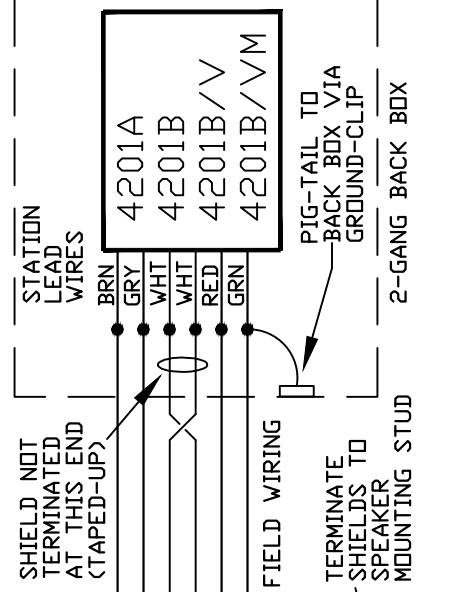
AUX1, AUX2, AUX3 AND AUX4 ARE OPEN COLLECTOR OUTPUTS FOR ZONES 1 THROUGH 4, RESPECTIVELY. EACH CAN SINK UP TO 100 mA AND IS ACTIVE DURING BOTH ALARM AND ACKNOWLEDGE CONDITIONS.

IF A ZONE ON AN 8010-300 CONTROL BOARD IS NOT BEING USED (SEE ZONES 1 THRU 3), THE JUMPER FOR EACH SUCH ZONE MUST BE SET TO THE 'NOT USED' POSITION. IF THIS IS NOT DONE, A FAULT WILL BE INDICATED.

OLD STYLE 8010-300 BOARDS HAVE SCREW TERMINALS IN PLACE OF THE PIN-HEADER SHOWN HERE. WHEN ORDERING REPLACEMENT BOARDS, BE SURE TO SPECIFY 'OLD STYLE / SCREW TERMINALS' IN THIS CASE.

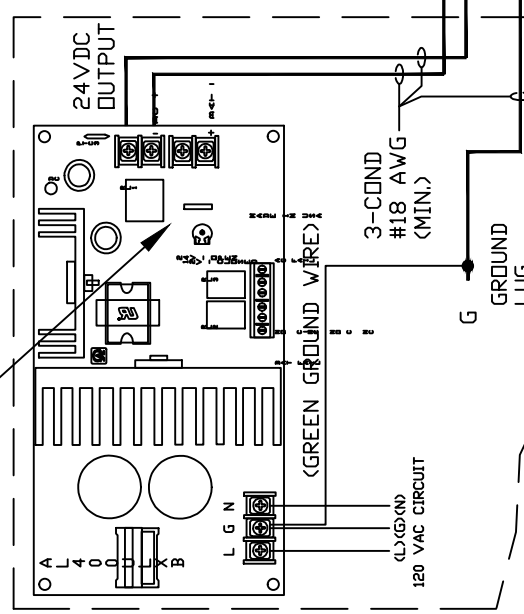
JUMPER BETWEEN 'GND' AND 'S-COM' (PART OF FACTORY WIRE HARNESS) ENABLES ZONE SWITCHES ON PANEL FACEPLATE. TO ENABLE / DISABLE THE SWITCHES FROM AN EXTERNAL SOURCE (FIRE ALARM PANEL, ETC.), DISCONNECT THIS WIRING, AND REPLACE WITH CONTACTS THAT FAIL TO A NORMALLY-CLOSED POSITION.

**TYPICAL CALL STATION**




'AUX' TERMINALS, ON THE POWER BOARD, PROVIDE 2 AMP NORMALLY OPEN CONTACTS THAT CLOSE DURING ANY CALL FOR ASSISTANCE.

BE SURE TO SET THIS SWITCH FOR 24 VDC



**DC POWER SUPPLY:**  
MODEL B-5243A SHOWN  
24 VDC @ 3.5 AMPS

	<b>CORNELL Communications, Inc.</b> sales@cornell.com 414-351-4660 Web: www.cornell.com 414-351-4657(fax)		<b>DATE:</b> OCTOBER 11, 2012	<b>SYSTEM:</b> 4200 RESCUE ASSISTANCE
			<b>TITLE:</b> SYSTEM WIRE DIAGRAM	<b>DRAWING #</b> 90022-10 <b>D4200W-D</b>

4200-SERIES ANNUNCIATOR  
(A-4204 SHOWN HERE)

115 VAC, 60 Hz  
@ 1.15 AMP  
DEDICATED  
CIRCUIT RECOMMENDED

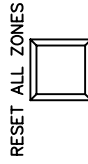
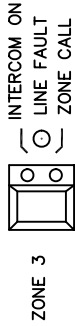
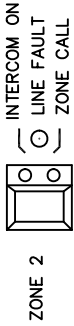
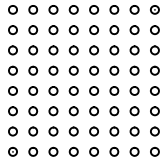
(3) #18 AWG (min.) CONDUCTORS  
(2 FOR 24 VDC + EARTH GROUND)

BATTERY BACK-UP  
POWER SUPPLY  
24VDC @ 3.5A

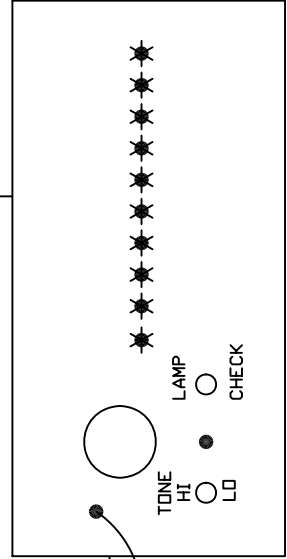
NOTE:  
NO CONDUIT OR WIRE  
INTO BOTTOM OF CABINET,  
BECAUSE OF BATTERIES.

RESCUE ASSISTANCE

- PRESS ZONE BUTTON TO ANSWER CALL AND ACTIVATE INTERCOM
- TURN ZONE BUTTON AGAIN TO TURN INTERCOM OFF
- IF LINE FAULT LIGHT IS ON CONTACT SERVICE PERSONNEL



ANNUNCIATOR POINT WIRES:  
#22 AWG MULTI-CONDUCTOR;  
(1) CONDUCTOR PER ZONE

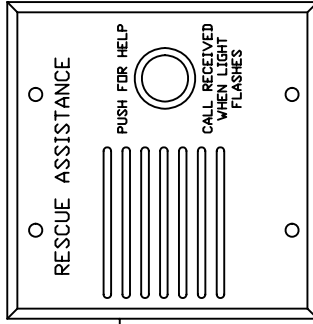
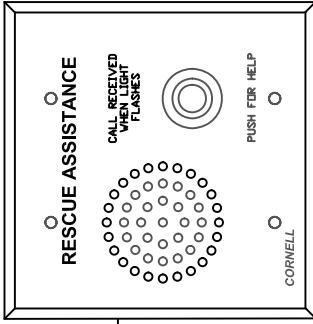
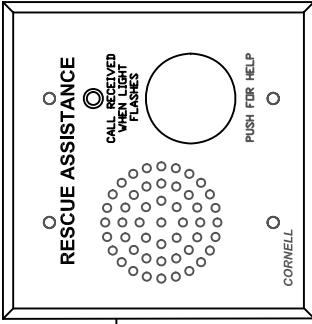
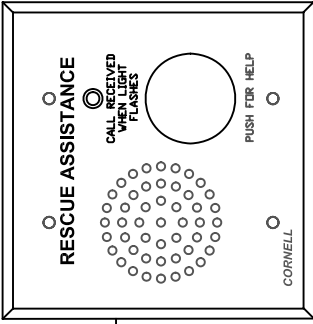


HOME-RUN WIRING:  
(1) CORNELL PART NUMBER  
CB-4200 CABLE  
-DR- (2) SEPARATE CABLES;  
(1) #22 AWG SHIELDED PR  
LAUDIO) (1) #22 AWG 4-COND  
(POWER/SWITCH/LED)

HOME-RUN WIRING:  
(1) CORNELL PART NUMBER  
CB-4200 CABLE  
-DR- (2) SEPARATE CABLES;  
(1) #22 AWG SHIELDED PR  
LAUDIO) (1) #22 AWG 4-COND  
(POWER/SWITCH/LED)

HOME-RUN WIRING:  
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-DR- (2) SEPARATE CABLES;  
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LAUDIO) (1) #22 AWG 4-COND  
(POWER/SWITCH/LED)

HOME-RUN WIRING:  
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CB-4200 CABLE  
-DR- (2) SEPARATE CABLES;  
(1) #22 AWG SHIELDED PR  
LAUDIO) (1) #22 AWG 4-COND  
(POWER/SWITCH/LED)



OLDER MODELS 4201A 4201B



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DATE: JANUARY 14, 2010

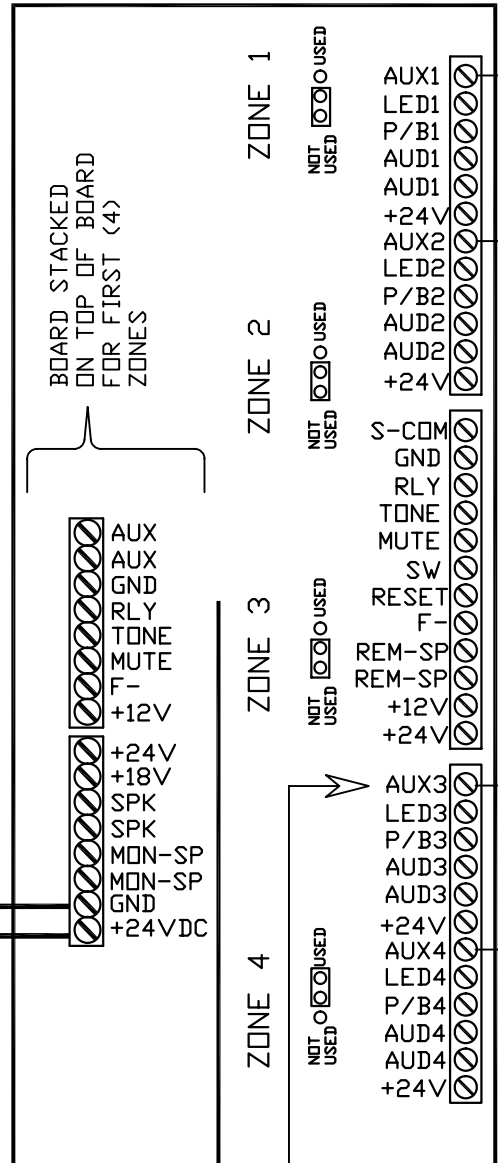
TITLE: REMOTE ANNUNCIATOR LAYOUT

SYSTEM: 4200 RESCUE ASSISTANCE

DRAWING # 90023-10 D4200W-B

(+) (-) (EARTH GROUND)  
 FROM 24 VDC POWER SUPPLY

A-4200 SERIES RESCUE ASSISTANCE ANNUNCIATOR  
 (MODEL A-4204 SHOWN AS TYPICAL)

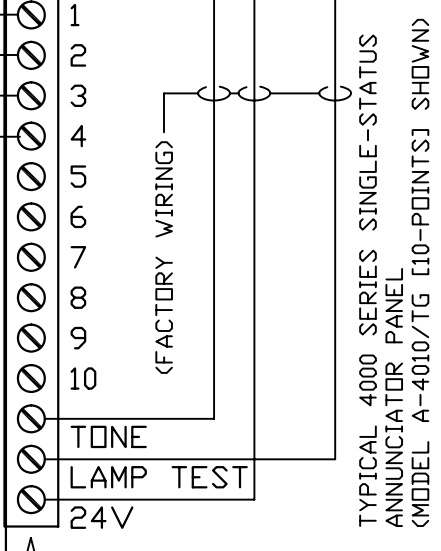


BOND TO PANEL BACK BOX

"AUX" OUTPUTS (1) PER ZONE

(3) #18 AWG POWER WIRES (TYPICAL)

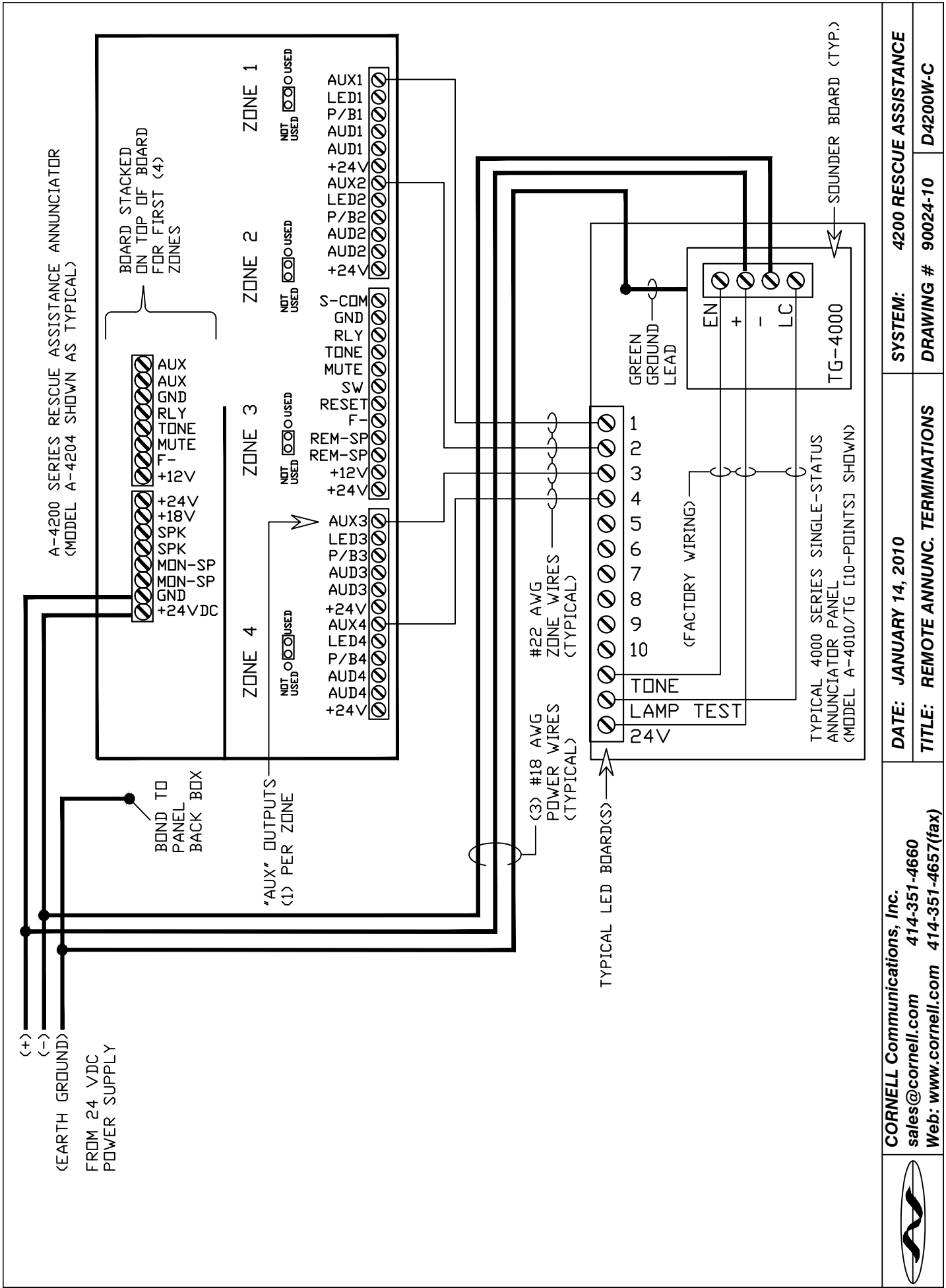
#22 AWG ZONE WIRES (TYPICAL)



TYPICAL LED BOARD(S)

← SOUNDER BOARD (TYP.)

	CORNELL Communications, Inc. sales@cornell.com 414-351-4660 Web: www.cornell.com 414-351-4657(fax)	DATE: JANUARY 14, 2010 TITLE: REMOTE ANNUNC. TERMINATIONS	SYSTEM: 4200 RESCUE ASSISTANCE DRAWING # 90024-10	D4200W-C
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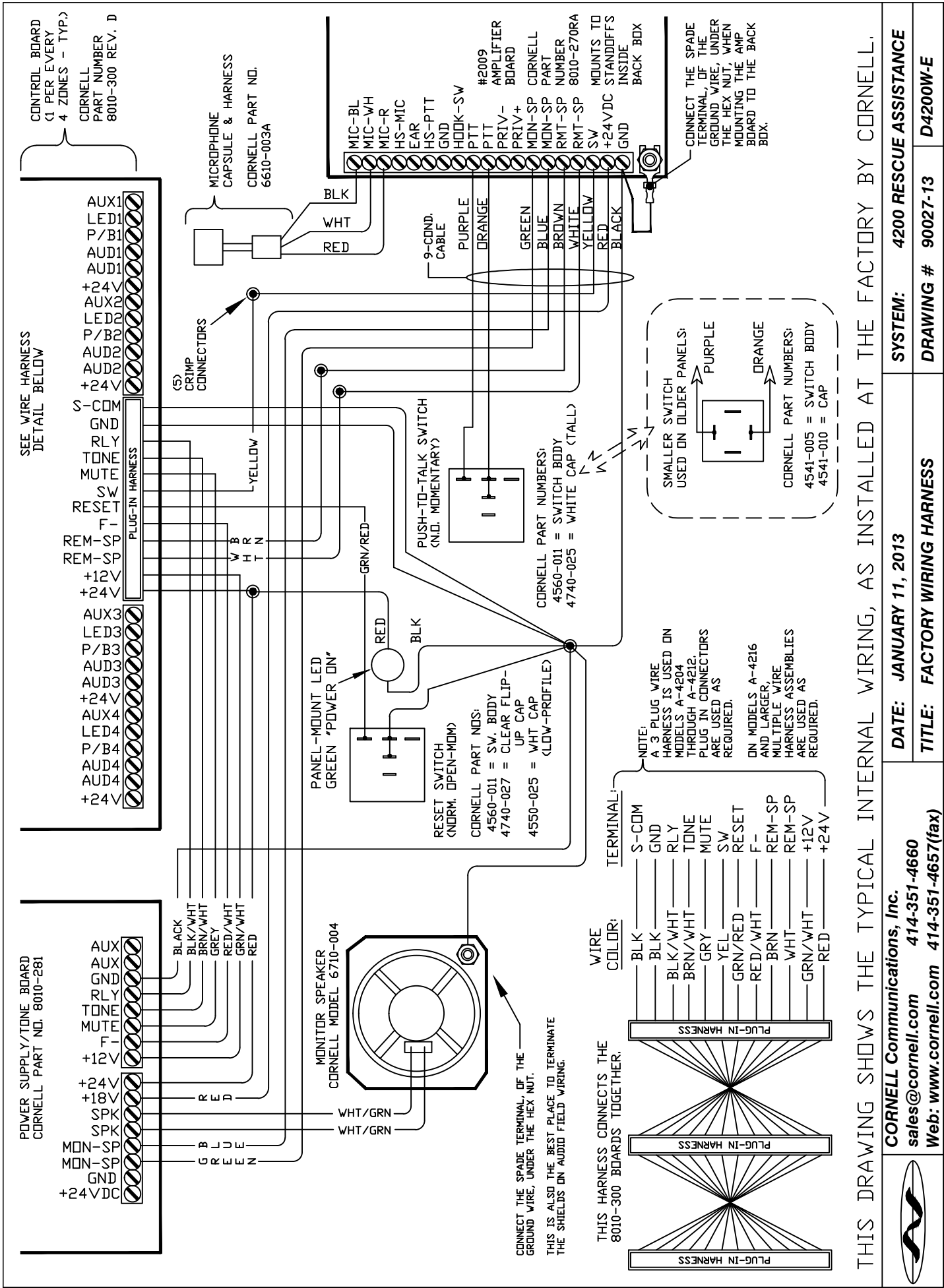
**DATE: JANUARY 14, 2010**

**TITLE: REMOTE ANNUNC. TERMINATIONS**

**SYSTEM: 4200 RESCUE ASSISTANCE**

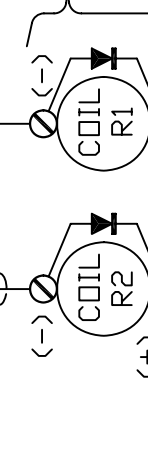
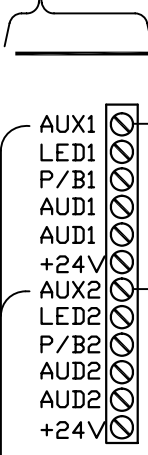
**DRAWING # 90024-10**

**D4200W-C**



THIS DRAWING SHOWS THE TYPICAL INTERNAL WIRING, AS INSTALLED AT THE FACTORY BY CORNELL.

"AUX" OUTPUTS  
(1) PER ZONE



FROM POWER (+)  
SUPPLY

MULTI-ZONE  
ALARM CONNECTION:  
CHOOSE METHOD:

GENERAL ALARM CONNECTION:

"AUX" TERMINALS =  
NORMALLY OPEN  
CONTACTS -  
CLOSE ON ANY CALL  
REMAIN CLOSED UNTIL  
ALL CALLS CLEARED  
& PANEL IS RESET

TYPICAL 8010-300  
4-ZONE CONTROL BOARD  
INSIDE A-4200 SERIES  
ANNUNCIATOR  
(STATION TERMINATIONS NOT SHOWN)

ADD RELAYS:  
(1) NEEDED PER ZONE  
24 VDC COIL  
@ 30 mA (MAXIMUM)

(1) CONDUCTOR PER ZONE  
PLUS (1) COMMON PER  
EVERY 8 ZONES

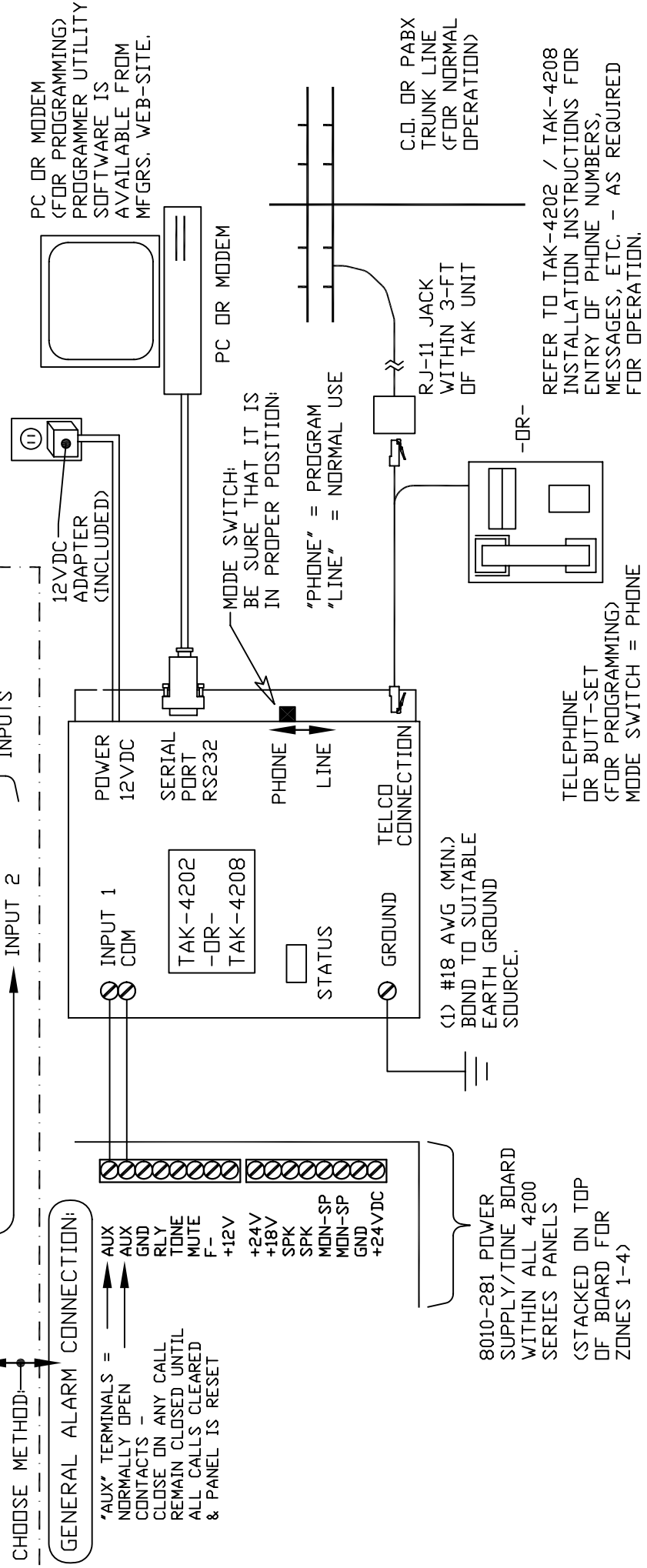
INPUT COMMON  
INPUT 1  
INPUT 2  
TO  
TAK-4200  
INPUTS

**NOTES:**

- IF BATTERY BACK-UP IS REQUIRED FOR TAK UNIT, USE EITHER OF THE FOLLOWING:
  - PLUG ADAPTER INTO AN UNINTERRUPTIBLE POWER SUPPLY (U.P.S.)
  - PROVIDE A SEPARATE 12-VOLT DC POWER SUPPLY / CHARGER, AND USE THE CORD FROM THE INCLUDED ADAPTER.

INSTALLER WILL NEED TO COORDINATE PHONE NUMBERS / ANSWERING SERVICE NEEDS WITH OWNER PRIOR TO INSTALLATION - THIS OFTEN TAKES SEVERAL WEEKS.

- GENERAL ALARM = SYSTEM WILL SEND THE SAME MESSAGE FOR ANY ALARM ON THE SYSTEM
- MULTI-ZONE ALARM = DIFFERENT MESSAGE PER TAK INPUT. MESSAGE BEING SENT CORRESPONDS TO THE INPUT THAT IS ACTUATED BY A RELAY



(1) #18 AWG (MIN.)  
BOND TO SUITABLE  
EARTH GROUND  
SOURCE.

8010-281 POWER  
SUPPLY/TONE BOARD  
WITHIN ALL 4200  
SERIES PANELS  
(STACKED ON TOP  
OF BOARD FOR  
ZONES 1-4)

TELEPHONE  
OR BUTT-SET  
(FOR PROGRAMMING)  
MODE SWITCH = PHONE

REFER TO TAK-4202 / TAK-4208  
INSTALLATION INSTRUCTIONS FOR  
ENTRY OF PHONE NUMBERS,  
MESSAGES, ETC. - AS REQUIRED  
FOR OPERATION.