

# 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.

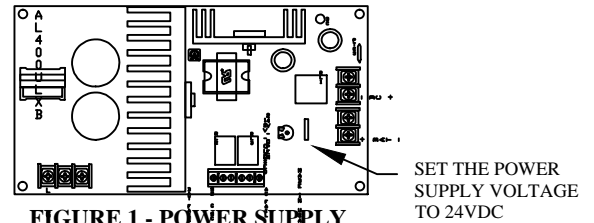


FIGURE 1 - POWER SUPPLY

## 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.

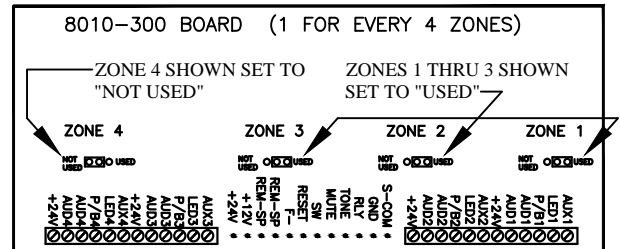


FIGURE 2 - 8010-300 BOARD

## 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.

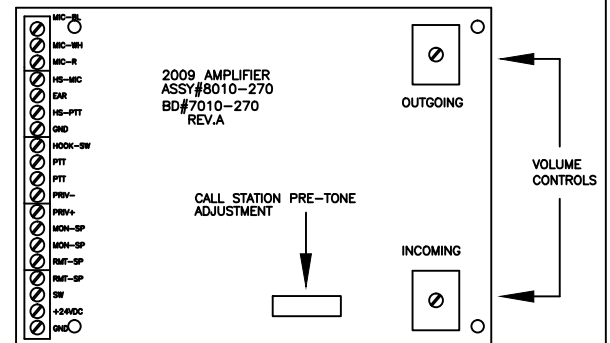


FIGURE 3 - 2009 AMPLIFIER BOARD

## 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..

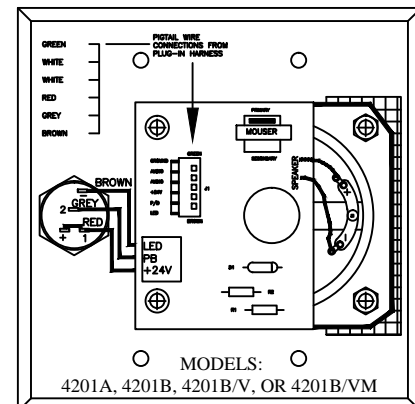
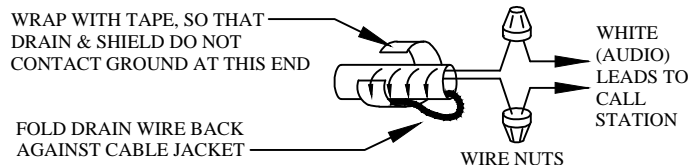


FIGURE 4 - TYPICAL CALL STATION

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90046-13 REV: MAY 22, 2013

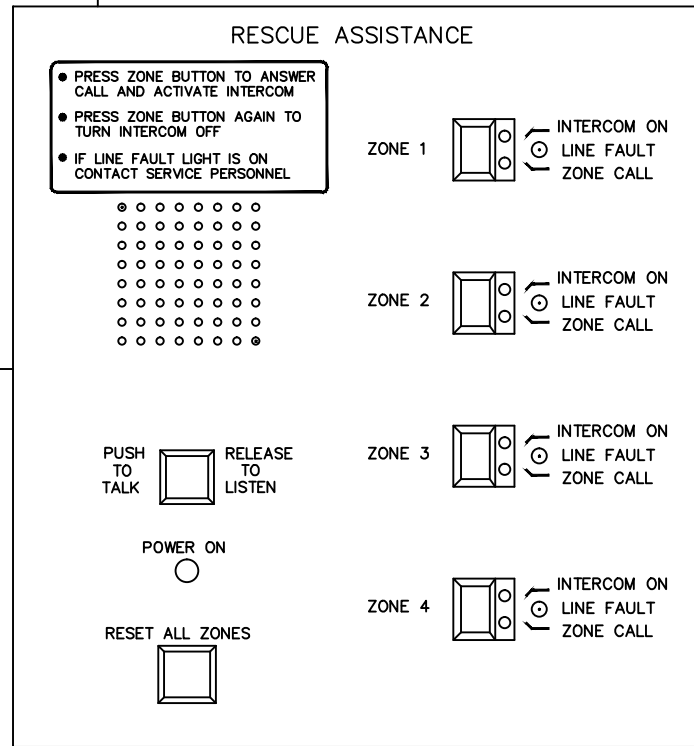
(OPTIONAL) WIRING TO  
TAK-SERIES VOICE DIALER  
OR TO FIRE ALARM SYSTEM  
FOR MONITORING.  
(1) PAIR #22 AWG PER POINT  
OR AS RECOMMENDED BY DIALER /  
FIRE ALARM SYSTEM PROVIDER.

(3) #18 AWG (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

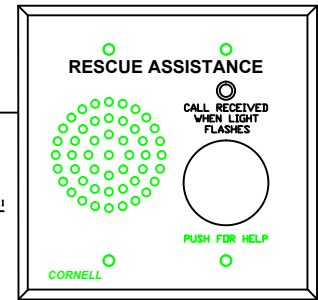
NOTE:  
NO CONDUIT OR WIRE INTO  
BOTTOM OF CABINET,  
BECAUSE OF BATTERIES.



TYPICAL 4200 SERIES ANNUNCIATOR  
(A-4204 SHOWN HERE)

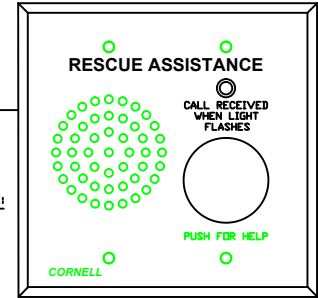
(OPTIONAL) WIRING TO  
FIRE ALARM MONITOR POINT:  
'RESCUE ASSIST POWER TROUBLE'  
(1) PAIR #18 AWG

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



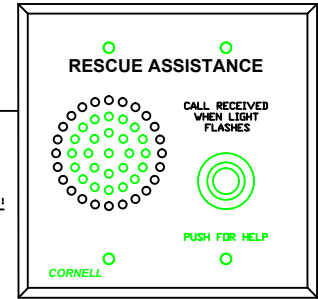
TYP. MODEL 4201B/VM

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



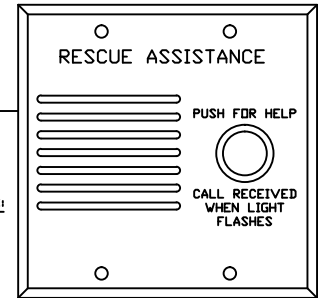
TYP. MODEL 4201B/VM

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



TYP. MODEL 4201B/V

HOME-RUN WIRING:  
(1) CORNELL PART NUMBER  
CB-4200 CABLE  
-OR- (2) SEPARATE CABLES:  
(1) #22 AWG SHIELDED PR  
[AUDIO]  
(1) #22 AWG 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.

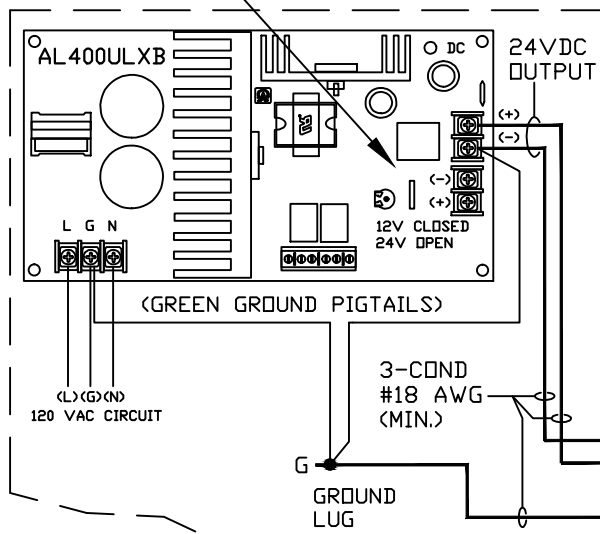
IF A ZONE ON AN 8010-300 CONTROL BOARD IS NOT BEING USED (SEE ZONES 1 THRU 3), THE JUMPER FOR EACH SUCH ZONE MUST BE SET TO THE "NOT USED" POSITION. IF THIS IS NOT DONE, A FAULT WILL BE INDICATED.

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.

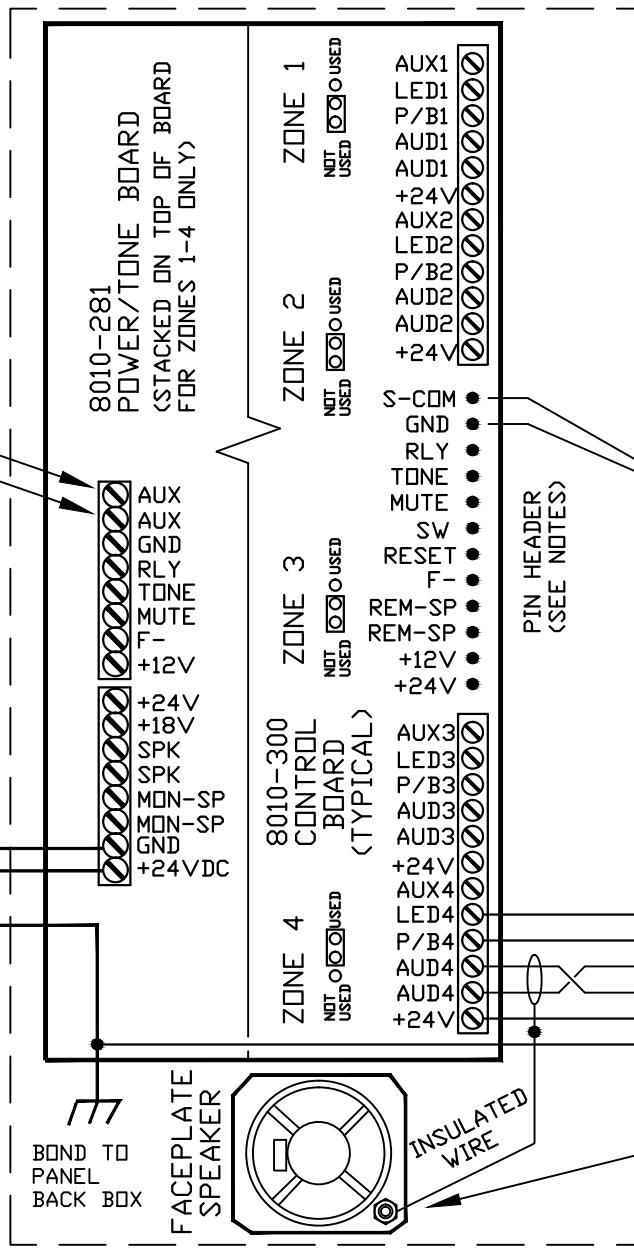
JUMPER BETWEEN "GND" AND "S-COM" (PART OF FACTORY WIRE HARNESS) ENABLES ZONE SWITCHES ON PANEL FACEPLATE. TO ENABLE / DISABLE THE SWITCHES FROM AN EXTERNAL SOURCE (FIRE ALARM PANEL, ETC.), DISCONNECT THIS WIRING, AND REPLACE WITH CONTACTS THAT FAIL TO A NORMALLY-CLOSED POSITION.

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

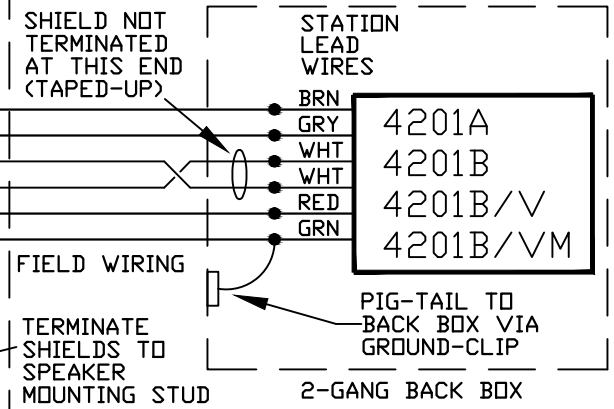
BE SURE TO SET THIS SWITCH FOR 24 VDC



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



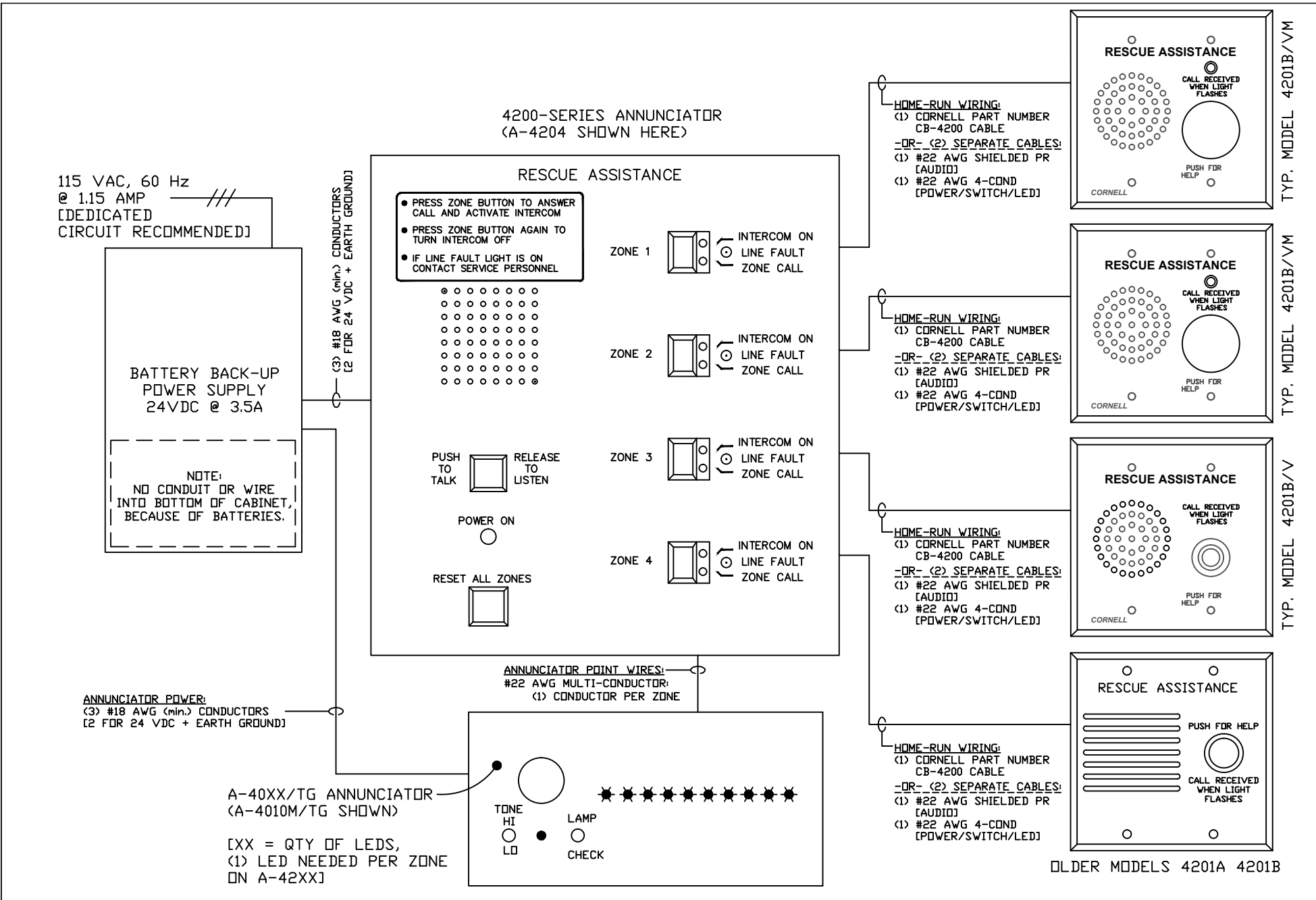
**TYPICAL CALL STATION**

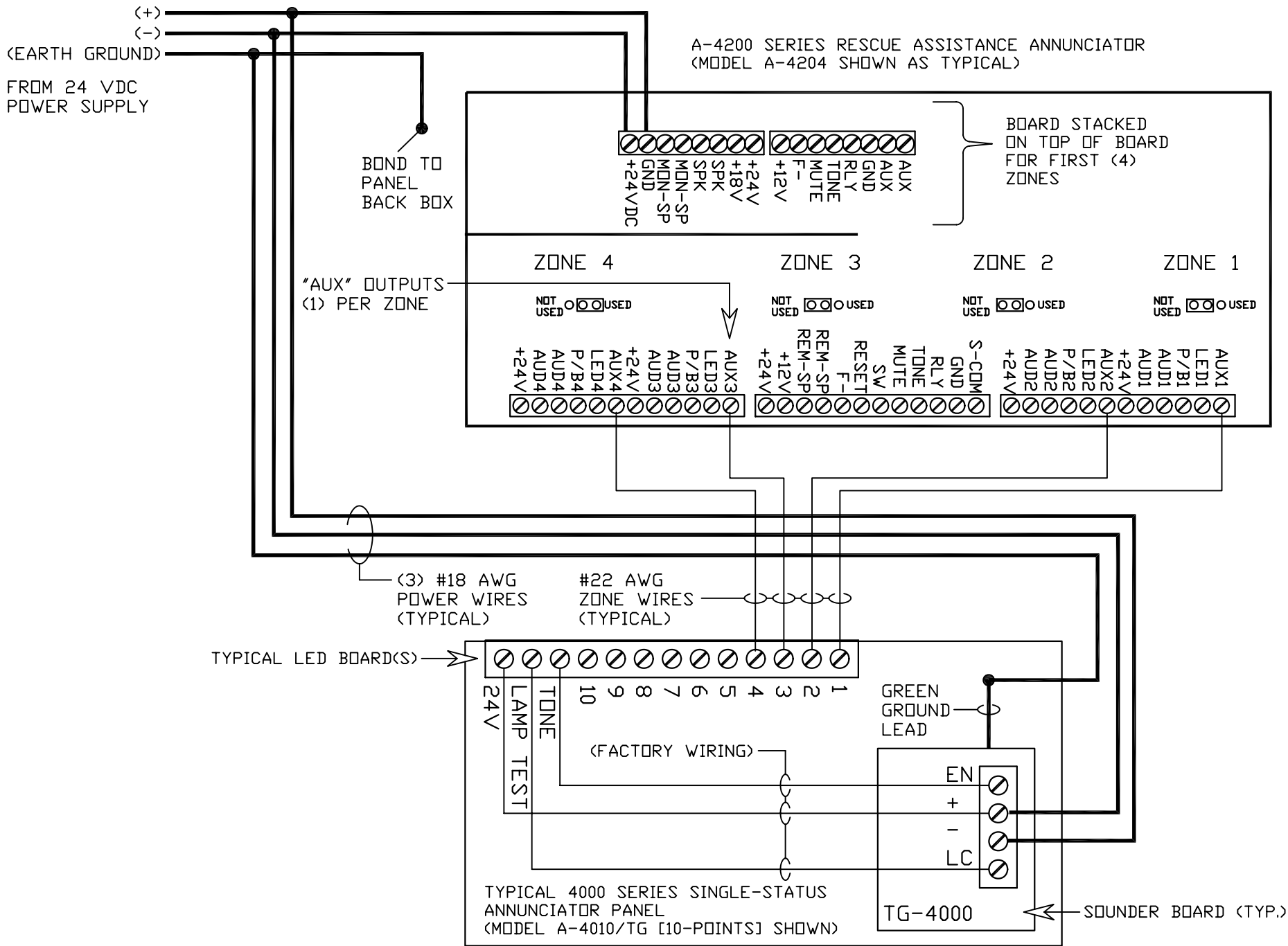


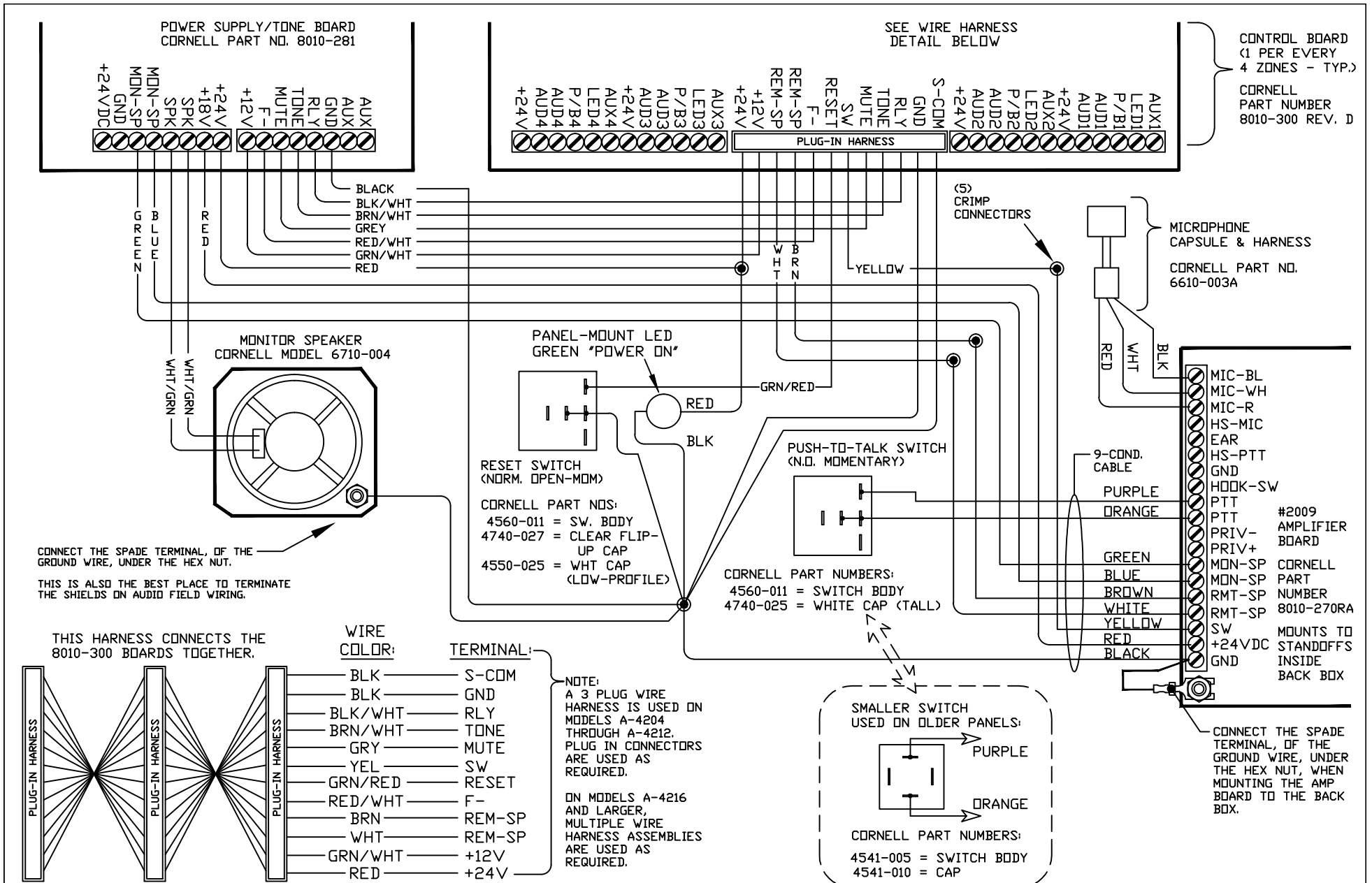
**CORNELL Communications, Inc.**  
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Web: www.cornell.com 414-351-4657(fax)

**DATE:** MAY 22, 2013  
**TITLE:** SYSTEM WIRE DIAGRAM

**SYSTEM:** 4200 RESCUE ASSISTANCE  
**DRAWING #** 90022-13 D4200W-D







CONNECT THE SPADE TERMINAL, OF THE GROUND WIRE, UNDER THE HEX NUT. THIS IS ALSO THE BEST PLACE TO TERMINATE THE SHIELDS ON AUDIO FIELD WIRING.

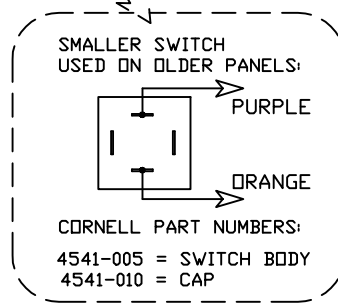
THIS HARNESS CONNECTS THE 8010-300 BOARDS TOGETHER.

WIRE COLOR:      TERMINAL:


- BLK — S-COM
- BLK — GND
- BLK/WHT — RLY
- BRN/WHT — TONE
- GRY — MUTE
- YEL — SW
- GRN/RED — RESET
- RED/WHT — F-
- BRN — REM-SP
- WHT — REM-SP
- GRN/WHT — +12V
- RED — +24V

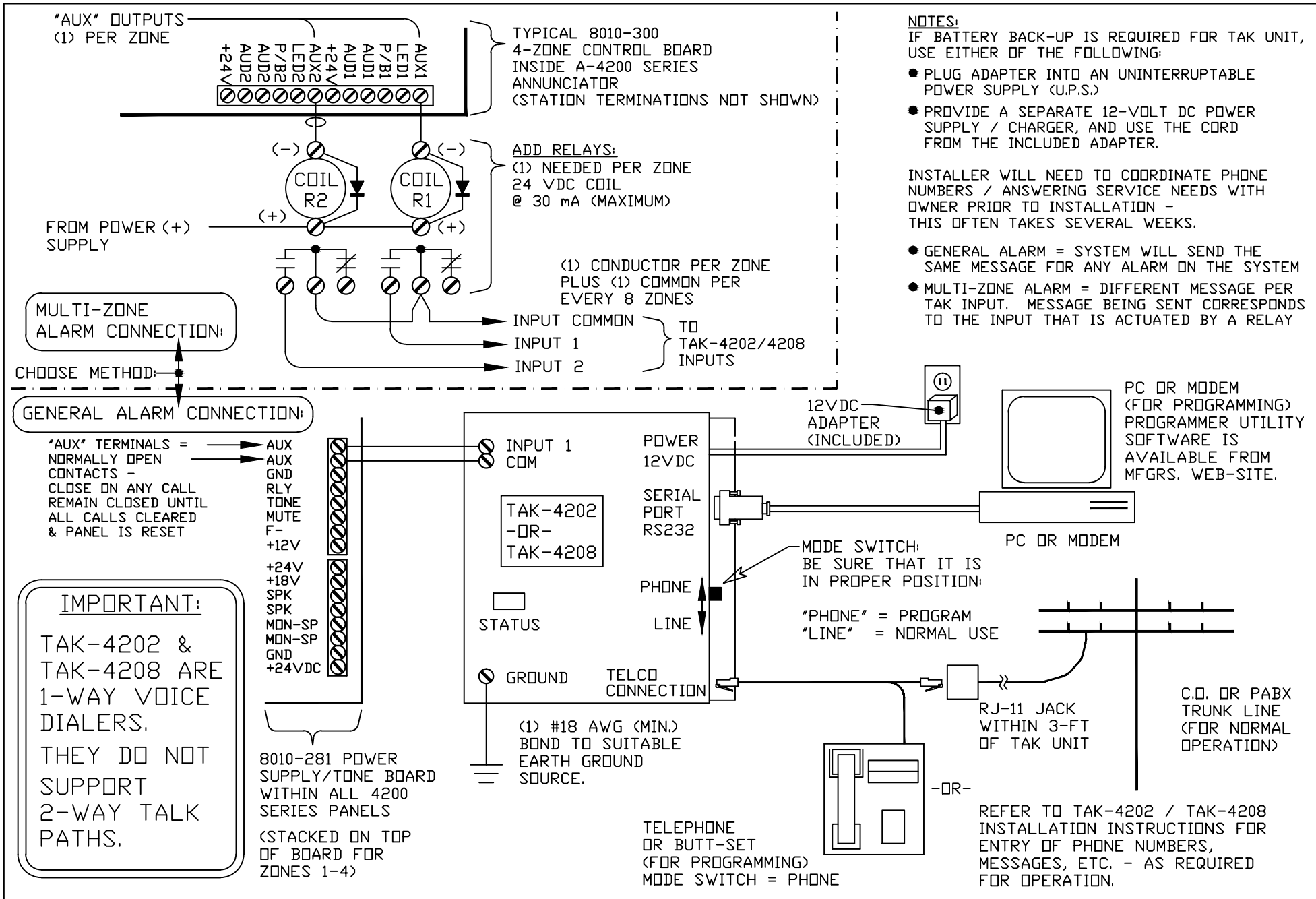
NOTE: A 3 PLUG WIRE HARNESS IS USED ON MODELS A-4204 THROUGH A-4212. PLUG IN CONNECTORS ARE USED AS REQUIRED.

ON MODELS A-4216 AND LARGER, MULTIPLE WIRE HARNESS ASSEMBLIES ARE USED AS REQUIRED.



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

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	<b>TITLE: FACTORY WIRING HARNESS</b>			<b>DRAWING # 90027-13</b>		<b>D4200W-E</b>



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**DATE:** MAY 22, 2013  
**TITLE:** TELEPHONE ACCESS KIT

**SYSTEM:** 4200 RESCUE ASSISTANCE  
**DRAWING #** 90068-13 **DTAK4200W**