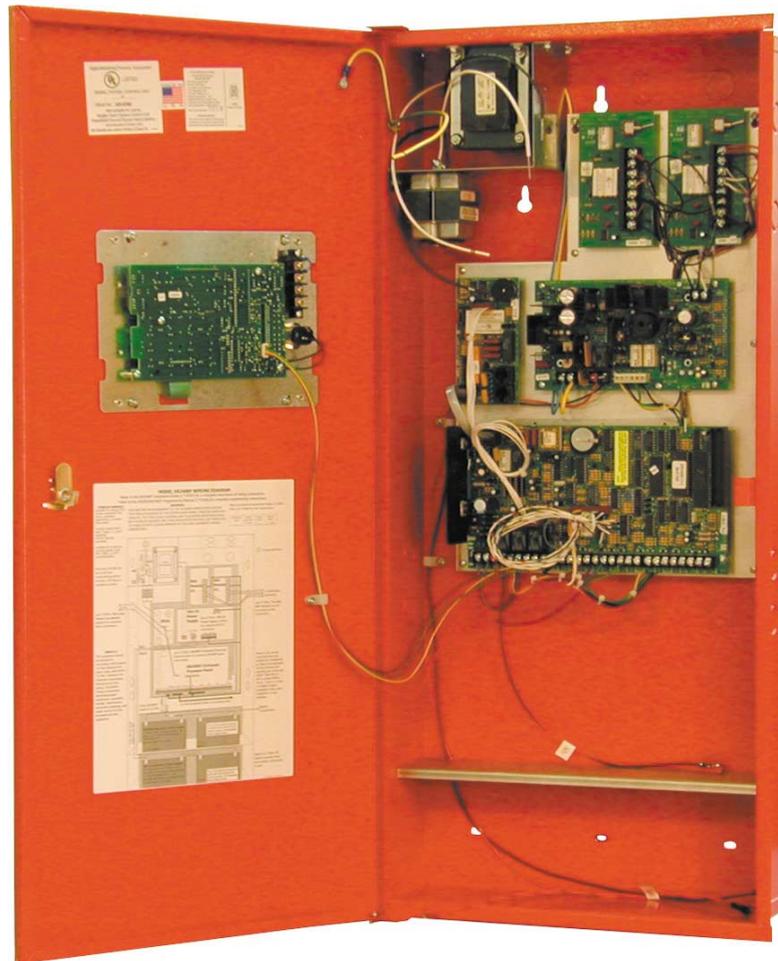


# INSTALLATION GUIDE



## **XR2400F ADDRESSABLE FIRE ALARM CONTROL PANEL**

# **MODEL XR2400F**

## **Addressable Fire Alarm Control Panel**

### **INSTALLATION GUIDE**

#### **FCC NOTICE**

This equipment generates and uses radio frequency energy and, if not installed and used properly in strict accordance with the manufacturer's instructions, may cause interference with radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specification in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the installer is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna

- Relocate the computer with respect to the receiver

- Move the computer away from the receiver

- Plug the compute into a different outlet so that computer and receiver are on different branch circuits

If necessary, the installer should consult the dealer or an experienced radio/television technician for additional suggestions. The installer may find the following booklet, prepared by the Federal Communications Commission, helpful:

"How to identify and Resolve Radio-TV Interference Problems."

This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402

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This information is subject to change without notice.

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## OPERATING INSTRUCTIONS

## Revisions to This Document

This section explains the changes that were made to this document during this revision. This section lists the date the change was made, the section number and section heading, and a quick summary of the change.

Date	Section Number and Heading	Quick Explanation of Changes
4/04	5.4 Notification Appliances 10.1 Interconnect Harness Sections 15.1, 15.3, 15.4 16.7 Standby Battery Calculations	Removed obsolete products and added Models 850S and 850D. Clarified table information. Added keypad models 690F and 790F. Added keypad models 690F and 790F and 734 Wiegand Interface Card. Added/revised current draw information.
5/03	FCC Statement Entire Document 16.7 Standby Battery Calculations 20.1 Terminals 25-26 and 27-28 21.3 Zone Response Time 34.9 Notif. with Strobes and Bells	Adjusted to properly reflect Class A. Added SCS-1R references to the appropriate places. Current Draw on some products adjusted. EOL information clarified. Changed from 160 milliseconds to 167. Wiring Diagram corrected.
10/02	1.2 System Components 1.3 Power Specifications  2.6 Wiring Diagram 3.1 Transformers and AC Power 3.3 16.5 VAC Transformer 13.1 Power Supply  15.1 Wiring Diagram 32.9 Remote Station Protective 34.4 Remote Station Reversing	Updated to 16 VAC 56 VA transformer. Updated to Transformer Input of 16 VAC 56 VA and Standby battery of 12 VDC 28Ah (four Model 367 batteries) with 56 VA transformer. Changed drawing to show 56 VA transformer. Updated to 16 VAC 56 VA transformer. Updated to 16 VAC 56 VA transformer. Updated to 16 VAC 56 VA transformer and Standby battery of 12 VDC 28Ah (four Model 367 batteries) with 56 VA transformer. Changed drawing to show 56 VA transformer. Added the section back to the manual. Added the system diagram back to the manual.
9/02	1.2 System Components 1.3 Power Specifications  2.6 Wiring Diagram 3.1 Transformers and AC Power 3.3 16.5 VAC Transformer 13.1 Power Supply  13.5 LX-Bus™ 15.1 Wiring Diagram  15.4 Mounting Keypads 16.6 XR2400F Power Requirements 20.1 Terminals 25-26 and 27-28 32.9 Remote Station Protective 34.4 Remote Station Reversing	Updated to Model 320 16.5 VAC 40 VA transformer. Updated to Transformer Input or 16.5 VAC 40 VA and Standby battery of 12 VDC 15.4 Ah (two Model 367 batteries) with 40 VA transformer. Changed drawing to show 40 VA transformer. Updated to 16.5 VAC 40 VA transformer. Updated to 16.5 VAC 40 VA transformer. Updated to 16.5 VAC 40 VA transformer and Standby battery of 12 VDC 15.4 Ah (two Model 367 batteries) with 40 VA transformer. Added 462FM. Removed Model 321 and 322 transformers from Figure 13, and changed drawing to show Model 320 transformer. Added 710 and 710F. Removed Model 670 keypad. Added note about sensor reset dropping power to zones 9 and 10. Removed section. Removed system diagram of remote station reversing relay.
3/02	15.5 Connecting Serial Devices 16.6 XR2400F Power Requirements	LX-Bus and Keypad Bus wiring information clarified. iCOM™ Internet Alarm Router added to the Standby Battery Calculations Chart

## Introduction

### 1.1 Overview

The DMP XR2400F Addressable Fire Alarm Control Panel (FACP) is an expandable 24 VDC Fire Alarm Control with built-in DACT and LCD Fire Command Center keyboard with membrane keyswitch. A complete system can provide a total of 494 programmable inputs and outputs for commercial and industrial fire alarm service. The 24 VDC 4 Amp notification appliance power is distributed between two class B style W NAC outputs. Additional NAC outputs can be added with conventional supervision modules or addressable power supply/boosters. Addressable smoke detectors and input modules round out the XR2400F to deliver a truly flexible and expansive fire detection and notification system. The Fire Alarm Control Panel is shipped pre-wired in a red metal enclosure housing the necessary components to monitor and control fire alarm notification appliances. The enclosure's dimensions are as follows: 32" H x 14.5" W x 4" D. The lid adds about 0.5" to each side.

### 1.2 System Components

The XR2400F FACP consists of the following components:

- One Model XR2400F Command Processor panel
- Two Model 866 Class B Style W NAC modules
- One Model 504-24 VDC Power Supply
- One 16 VAC, 56 VA transformer
- Two Model 305 Relays
- One Model 893A Dual Phone Line module
- One Model 630F PCB and membrane switch
- One 28 VAC transformer, TF-0030
- One Model 462N LX-Bus Expansion Card
- One Metal Backplate

### 1.3 Power Specifications

Command Processor:

Transformer Input of 16 VAC 56 VA

Standby battery of 12 VDC 28Ah (56 VA charges up to four 7.7Ah batteries)

Auxiliary power of 12 VDC at 1 Amp

NAC Output of 12 VDC at 1.5 Amp

All circuits are inherent Power Limited except red battery wires.

NAC Output:

24 VDC 4 Amps shared between NACs 1 and 2

### 1.4 Before you begin

Before installing the XR2400F, we recommend you read through the entire contents of this guide.

Familiarize yourself with the features of the panel and the key points to remember during the installation.

Be sure to read and understand all of the caution statements printed in bold italics.

### 1.5 About this Guide

The information in this guide is organized into five sections: Table of Contents, Introduction, Installation, Compliance, and System Wiring Diagrams.

- The Table of Contents at the front lists the headings and subheadings used throughout each section of the guide.
- The Introduction section gives you an overview of the XR2400F and this document.
- The Installation section begins with mounting instructions for the enclosure. Wiring diagrams for each component also appear in this section.
- The Compliance section lists all UL listings the XR2400F currently follows.
- The System Wiring Diagrams provide illustrations of typical XR2400F systems.

### 1.6 How to use this Guide

To locate information about the installation of the XR2400F, go to the Table of Contents at the front of this guide. Find the subject heading that best describes the information you need and turn to the section number shown to the right of the heading. If you cannot find the information you need under that heading, scan through a few of the headings and read the text under those that sound similar.

## Mounting

### 2.1 Mounting the Enclosure

The XR2400F must be mounted in a secure, dry location to protect the unit from damage due to tampering and the elements. The enclosure can be either flush mounted or surface mounted and includes a hinged door with lock. The hole in the enclosure door allows access to the Fire Command Center without opening the door. Figure 1 illustrates the mounting hole locations for the panel's enclosure.

The enclosure's dimensions are 32" tall, 14.5" wide, by 4" deep. The lid adds about 0.5" to each side.

### 2.2 Surface Mounting

The center hole of the enclosure should be attached to a stud in the wall. Due to the weight of the enclosure, especially the batteries, it is extremely important to mount the enclosure on the stud. Attach the two holes beside the center hole to sheetrock to secure enclosure. When mounting the enclosure, be sure to leave room for the panel door to swing open. The door's lock should be easily accessible.

### 2.3 Flush Mounting

The enclosure can also be flush mounted. Use 1" screws to secure the enclosure between two studs using the two sets of holes on the sides of the enclosure. Use the top and bottom holes to secure to horizontal studs, if necessary.

### 2.4 Fire Command Center LCD Keyboard

A Fire Command Center LCD Keyboard has been factory installed on the XR2400F enclosure. Also, a keyswitch has been installed and pre-wired to the left of the keyboard. The user can turn the keyswitch to enable the four functions keys without opening the enclosure door.

### 2.5 Metal Backplate

The XR2400F components are pre-wired and installed on a metal backplate. The backplate can easily be removed to keep components safe during pre-wire activities.

To remove the backplate, disconnect the wires to the batteries, transformers, and the Fire Command Center LCD keyboard. Also remove the AC wires from the 504-24 power supply. From the panel, disconnect the AC wires from terminals 1 and 2. Disconnect the battery wires either from the batteries or the panel terminals 3 and 4. Finally, disconnect the keyboard wires from panel terminals 7, 8, 9, and 10.

Remove the screws securing the backplate to the enclosure. Then loosen the two top screws that the backplate hangs on. After the screws are removed and loosened, lift the backplate up slightly and pull the backplate toward you. When reinstalling the backplate, be sure all connections are secure.

Refer to Figure 2 for an illustration of the backplate and the components. The backplate is shown in light gray.

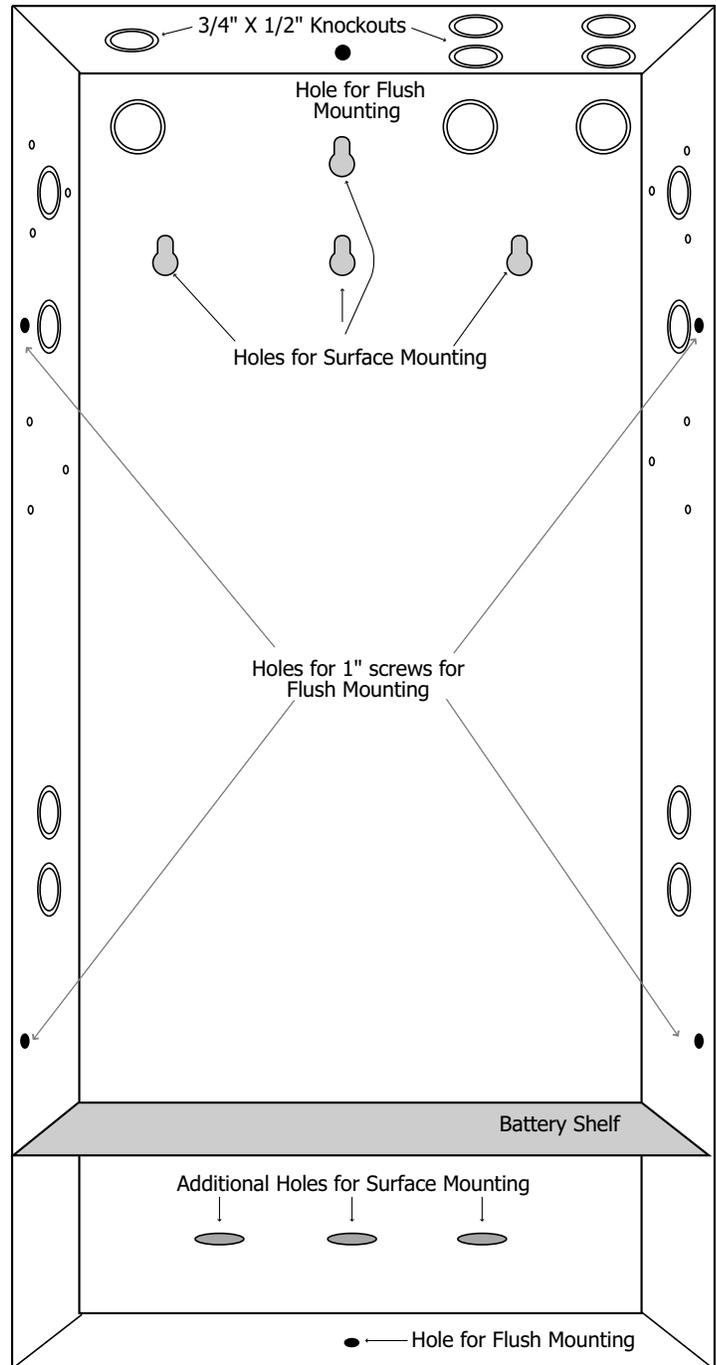


Figure 1: Mounting the XR2400F Enclosure

## 2.6 Wiring Diagram

The XR2400F system below shows the layout of the components. The wires shown in this guide have been factory installed and connected. The dashed lines represent wires that run underneath a component. Detailed wiring diagrams for each supplied component appear in following sections of this guide.

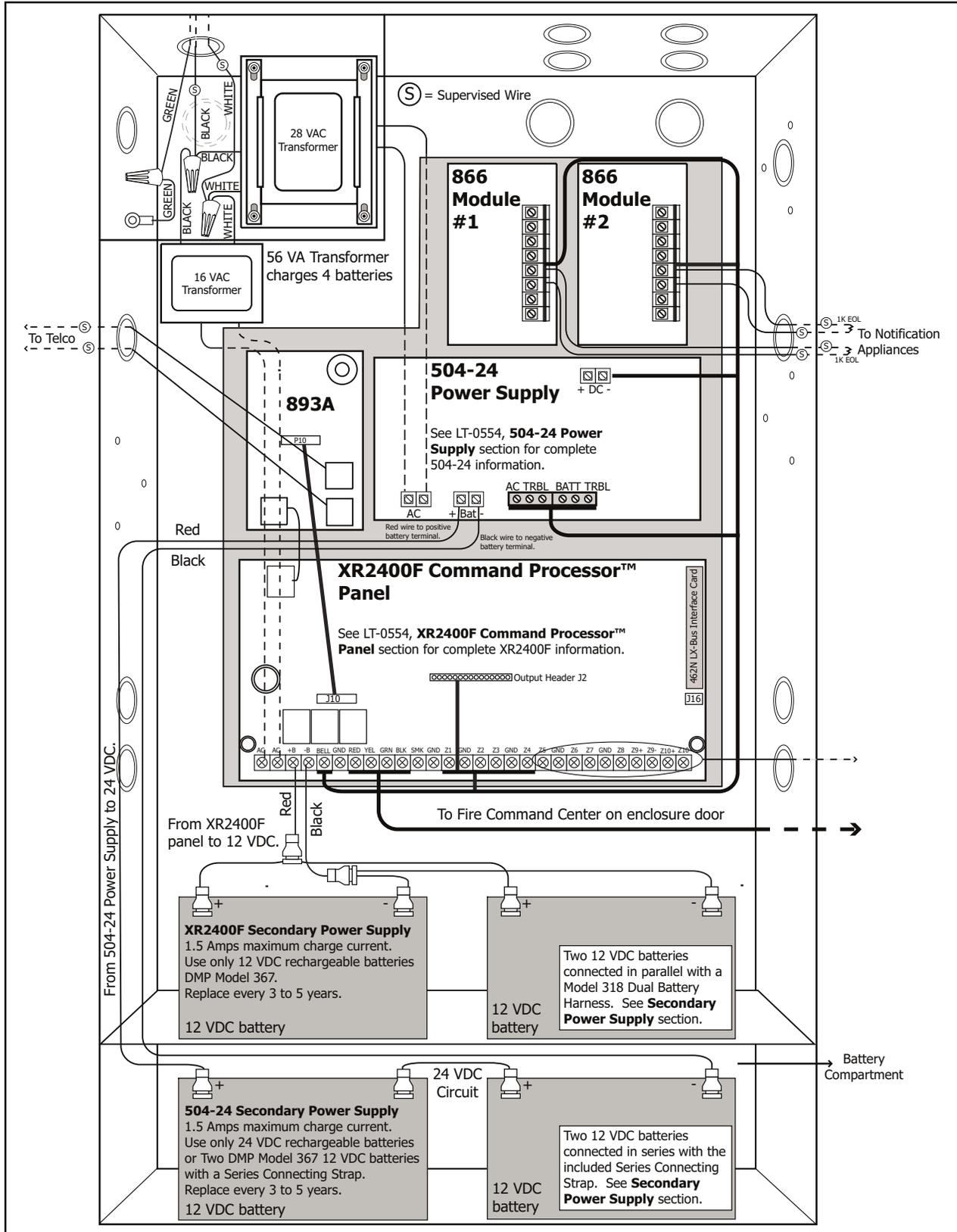


Figure 2: XR2400F System

## AC Connection

### 3.1 Transformers and AC Power Connection

The AC connection should be completed by a licensed electrician.



Never share the Fire Alarm Control Panel circuit with any other equipment.

The XR2400F comes supplied with two transformers: the 16 VAC 56 VA transformer and the 28 VAC 175 VA transformer. The 28 VAC and the 16 VAC transformers' white leads and black leads must be connected together respectively. These wires must be connected to an unswitched 120 VAC 60 Hz power source with at least 1.85 Amps of available current.

Black wire - attach the black 120 VAC wire to the black wire of the transformers.

White wire - attach the white 120 VAC wire to the white wire of the transformers.

Green wire - attach the green wire lead to the green wire attached to the enclosure.

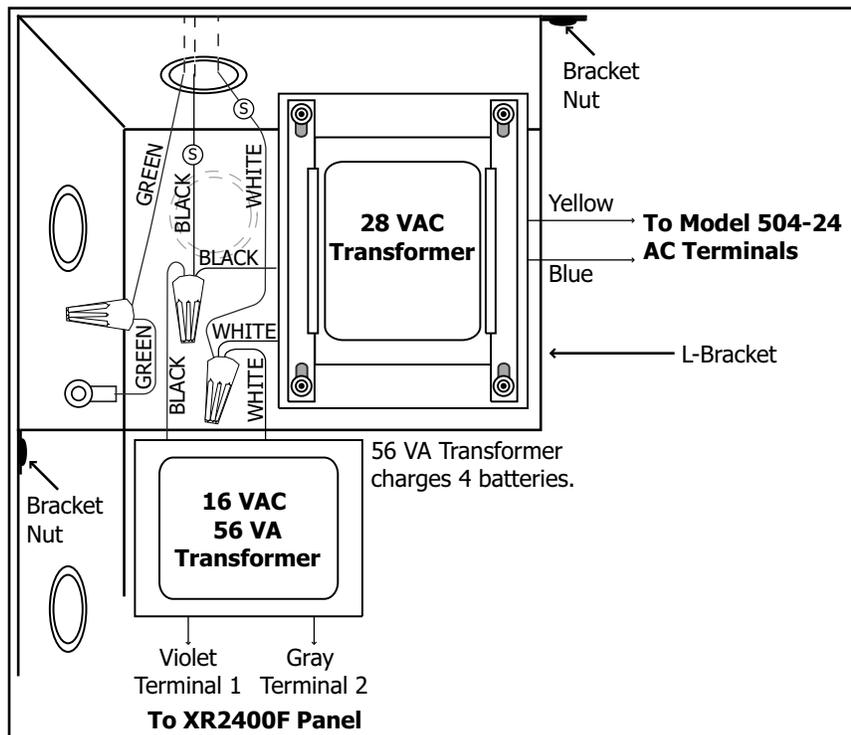


Figure 3: Transformers and AC Power Connection



Always ground the panel before applying power to any devices! Use 18 AWG or larger for all power connections. The XR2400F must be properly grounded before connecting any devices or applying power to the panel. Proper grounding protects against Electrostatic Discharge (ESD) that can damage system components.

### 3.2 28 VAC Transformer

The 28 VAC Transformer supplies power to the AC terminals of the 504-24 Power Supply which is factory pre-wired to the two 866 NAC modules. The 28 VAC is located in the upper right hand corner of the enclosure surrounded by a metal divider. See Figure 3 above and the 504-24 Power Supply section.

### 3.3 16 VAC Transformer

The 16 VAC 56 VA transformer supplies power to the XR2400F panel and is factory pre-wired. See Figure 3: Transformers and AC Power Connection. Also refer to Figure 11: XR2400F Panel Wiring Diagram.

### 3.4 Earth Ground from the XR2400F Panel

Terminal 4 of the XR2400F panel must be connected to earth ground using 14 gauge or larger wire to provide proper transient suppression. DMP recommends connecting to a cold water pipe or ground rod only. Do not connect to an electrical ground or conduit, sprinkler or gas pipes, or to a telephone company ground.

## Secondary Power Supply

### 4.1 Description

The XR2400F system includes pre-wired cables for connecting a 24 VDC battery to the 504-24 power supply and a 12 VDC battery to the XR2400F panel. For 24 VDC battery operation to the 504-24, connect two 12 VDC sealed lead-acid batteries in series using the included series connecting strap. See Figure 4. Observe polarity when connecting all batteries.



Use sealed lead-acid batteries only. Use the DMP Model 367, 12 VDC 7.7Ah sealed lead-acid rechargeable battery. Batteries supplied by DMP or manufactured by Eagle Picher or Yuasa have been tested to ensure proper charging with DMP products.

Gel cell batteries cannot be used with the XR2400F panel.

### 4.2 Battery Connection to XR2400F Command Processor panel

For 12 VDC battery operation to the XR2400F, connect the black battery lead to the negative terminal of the battery. The black battery wire is connected to terminal 4 of the XR2400F panel.

Connect the red battery lead to the positive terminal of the battery. The red battery wire is connected to terminal 3 of the XR2400F panel. See Figure 11 and Figure 2.

You can add a second battery in parallel using the DMP Model 318 Dual Battery Harness. When wiring two batteries with the Model 318 Dual Battery Harness, plug the red male end of the Dual Battery Harness into the red female battery lead from the panel. Plug the black male end of the Dual Battery Harness into the black female battery lead from the panel. Attach both female leads from the Dual Wiring Harness to the two batteries as described above. See Table 3: Battery Calculations.

### 4.3 Battery Connection to the 504-24 Power Supply

The 504-24 is powered by 24 VDC. After connecting two 12 VDC batteries together using the series connecting strap (or after installing one 24 VDC battery) connect the black battery wire to the negative terminal of the 24 VDC battery. The black battery wire is connected to the negative AC terminal of the 504-24.

Connect the red battery wire to the positive terminal of the 24 VDC battery. The red battery wire is connected to the positive AC terminal of the 504-24.

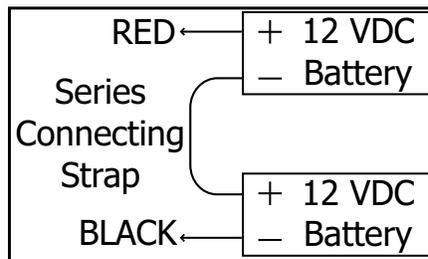


Figure 4: 24 VDC Battery Wiring

See Figure 9 and Figure 2. Also see the Battery Information section.

## Two 866 NAC Modules

### 5.1 Description

Each 866 provides one style W indicating circuit for supervising UL polarized notification appliances, such as bells, strobes, and horns. See Table 1: Notification Appliances for a list of approved notification appliances.

### 5.2 Connection

Each 866 module is pre-installed on the removable backplate using the standard three-hole configuration. The modules are factory pre-wired to each other, the 504-24, and the XR2400F panel. Refer to the figure below and to Figure 2: XR2400F System for wiring connections.

You can connect 24 VDC Notification Appliances to terminals 5 and 6 of each module. Each module provides a zone of notification and can be activated separately.

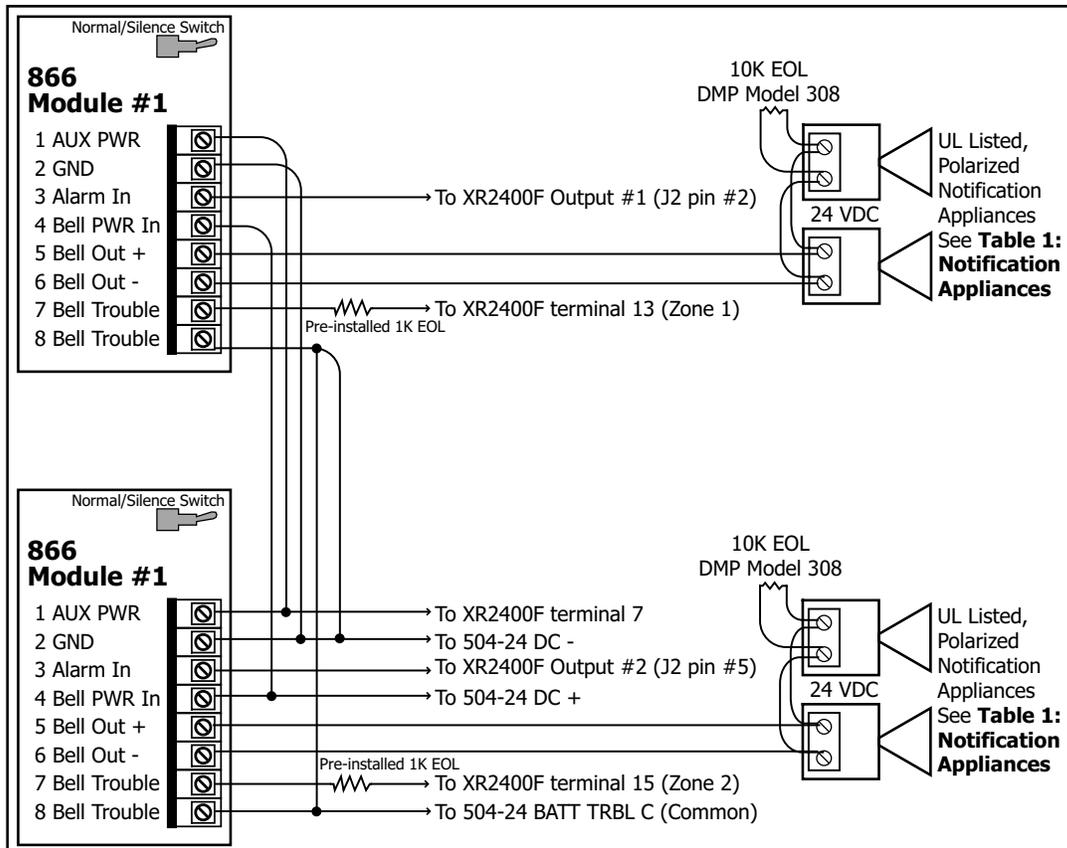


Figure 5: 866 Modules Wiring

### 5.3 Bell Silence/Bell Trouble

A bell silence switch on the 866 module is provided to prevent sounding of the indicating devices when testing the system. When the Silence position is selected, a 15-second delay occurs before the 866 bell trouble contacts (terminals 7 and 8) open. Select the Normal position after testing to return the 866 module to normal operation.

## 5.4 Notification Appliances

The following table indicates the approved notification appliances that can be used with the XR2400F system.

<b>DMP Model</b>	<b>Description</b>
802	12/24 VDC Multi-Tone Horn
802WP-75W	24 VDC Weatherproof Multi-Tone Horn
803	12/24 VDC Standard Horn
850S	Single Action Dry Contact Pull Station
850D	Dual Action Dry Contact Pull Station
806-6	12 VDC 6-Inch Bell
806-10	12 VDC 10-Inch Bell
821	12 VDC Strobe
822	12 VDC Strobe with Retrofit Plate
823	12 VDC Horn Strobe
831	12/24 VDC Single Circuit Sync Module
832	12/24 VDC Dual Circuit Sync Module
901	24 VDC Mini Horn
904	24 VDC Horn
904WP	24 VDC Weatherproof Horn
906-6	24 VDC 6-Inch Bell
906-10	24 VDC 10-Inch Bell
921-MCW	24 VDC Multi-Candela Strobe
922-MCW	24 VDC Multi-Candela Strobe with Retrofit Plate
923-MCW	24 VDC Multi-Candela Horn Strobe
924-MCW	24 VDC Multi-Candela Audible Strobe
924WP-75W	24 VDC Weatherproof Audible Strobe

**Table 1: Notification Appliances**

## 462N LX-Bus™ Expansion Card

### 6.1 Description

The 462N LX-Bus™ Expansion Card provides an additional 100 zones to the XR2400F.

### 6.2 LX-Bus™ Expansion Capability

The 462N card provides a 4-wire LX-Bus™ that allows you to connect up to 100 Model 521LX or 521LXT Addressable Smoke Detectors. Also the LX-Bus™ could connect up to 25 Model 714, 715, and 725 Zone Expanders or 716 Output Expanders, up to six Model 714-16 or 715-6 Zone Expanders, and up to 100 Model 711 and 711E Zone Expanders. Power for the devices is provided through the Black and Red wires of the expansion harness.

### 6.3 Installing the 462N Module

1. Remove AC and battery power from the XR2400F panel before installing the 462N card.
2. Align the 50 pin connector of the 462N with the J6 connector on the XR2400F panel.
3. Press the 462N onto the J6 connector while applying even pressure to both sides.

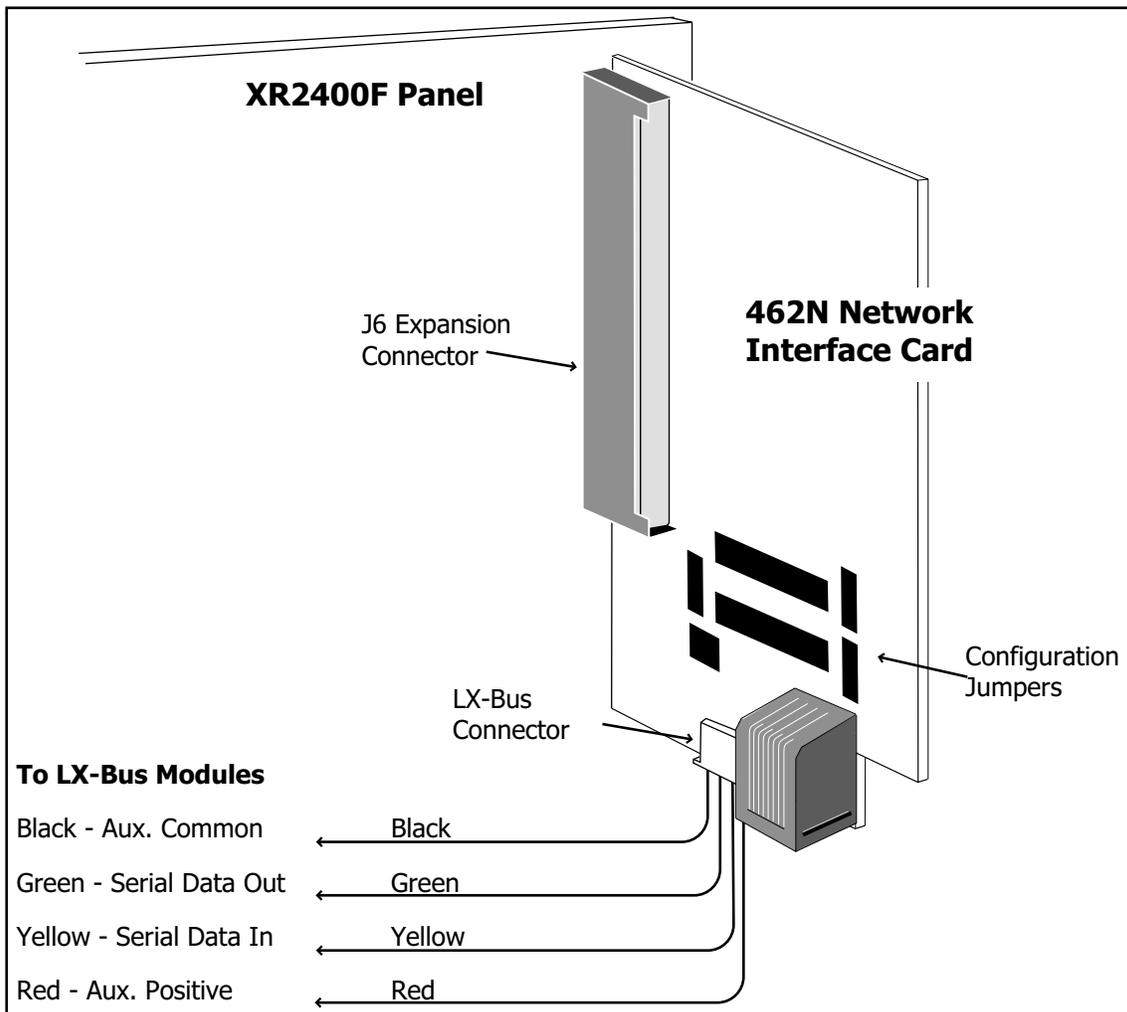
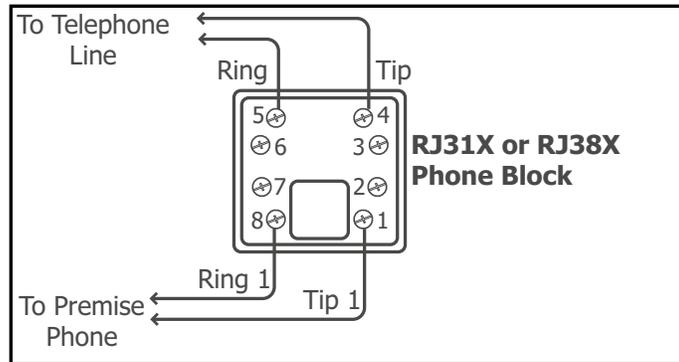


Figure 6: 462N Wiring

## Telephone RJ Connector

### 7.1 Description

Connect the XR2400F system to two lines of the public telephone network by installing two DMP 356 RJ Cables between the RJ31X or RJ38X phone jacks, and the 893's J4 connector (for main line) and J5 (for backup line). Set the 3-pin headers on the XR2400F labeled J11 and J12 to DD for digital dialer, Contact ID, or Modem IIe operation. See 893A Dual Phone Line Module.



**Figure 7: Phone Jack Wiring**

### 7.2 FCC registration

The Model XR200/XR2400F complies with FCC part 68 and is registered with the FCC. Registration number: CCKUSA-18660-AL-R / Ringer Equivalence: 1.1B

### 7.3 Notification

Registered terminal equipment must not be repaired by the user. In case of trouble, the device must be immediately unplugged from the telephone jack. The factory warranty provides for repairs. Registered terminal equipment may not be used on party lines or in connection with coin telephones. Notification must be given to the telephone company of:

- a. The particular line(s) the service is connected to (the specific phone line)
- b. The FCC registration number (CCKUSA-18660-AL-R)
- c. The ringer equivalence (1.1B)
- d. The make, model, and serial number (see the serial # sticker on the panel) of the device

### 7.4 Ground start



Ground start phone service cannot be used on commercial or residential fire applications.

## 893A Dual Phone Line Module

### 8.1 Description

The 893A is a dual telephone line supervision module that allows the panel to indicate a phone line failure to the premises and the central monitoring station. After the 893A senses a failure on the main line, it switches to the backup, or secondary, phone line. The 893A is installed on the removable backplate above the XR2400F circuit board.

### 8.2 Connection

The 893A connects the panel to the public telephone network by installing a DMP 356 RJ Cable between the XR2400F panel's J3 connector and the 893's J3 connector labeled PANEL. The two communication jumpers must be set to either DD or MPX.

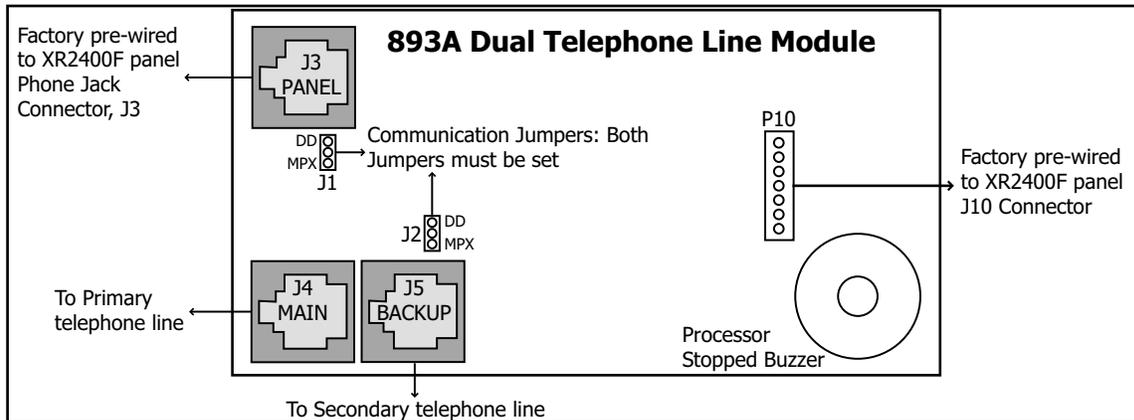


Figure 8: 893A Dual Phone Line Module Wiring

### 8.3 Jumper Settings

There are two sets of jumpers on the 893A module. When setting the module for either DD (digital dialer) or MPX (multiplex), both jumpers must be set.

### 8.4 Digital Dialer/Multiplex

You can configure the 893A to provide two lines of digital dialer or one line of multiplex with digital dialer backup. For multiplex operation both jumpers (J1 and J2) must be set to MPX. Also, jumpers J11 and J12 on the panel must be set to MPX. See XR2400F Command Processor Panel Connection. The XR2400F is preset at the factory for Digital Dialer. The Main modular jack (J4) is used for the primary dialer or multiplex line. The Backup modular jack (J5) is used for the secondary digital dialer line.

### 8.5 Phone Line Monitor

The 893A uses a phone line monitor for the main and backup phone lines. When sending a report, the 893A verifies the main phone line is working before sending. If the line is bad, the module tests the backup phone line. The 893A sends the report on the first working phone line.

The phone line monitor has a 2-minute trouble delay and a 1-minute restore delay. Phone line trouble is displayed in the Fire Command Center LCD Status List as a System Trouble. The Fire Command Center LCD is factory programmed to display system troubles in the Status List.

### 8.6 Processor Fail Buzzer

The 893A module also monitors the panel's CPU and sounds a trouble buzzer whenever either the panel's processor is reset using J16 or the processor stops functioning.

## 504-24 Power Supply

### 9.1 Description

The 504-24 is a power limited, switching power supply that meets UL, CSFM, NFPA, and FCC compliance standards. Model 504-24 is rated for 24 VDC @ 4 Amps maximum and supplies power to the 866 Modules.

### 9.2 LED's

The 504-24 has two status LED's that show the current state of power. The green LED indicates low AC input. The red LED indicates low standby battery power after AC has failed.

### 9.3 504-24 Condition Chart

Condition	Voltage Levels	LED	Status	Condition
AC Trouble	Approx. 102 VAC	AC LED (Green)	On	AC Good
Battery Trouble	Below 23.6 VDC	AC LED (Green)	Off	AC Bad
Battery Restoral	Above 25.0 VDC	DC LED (Red)	On	Battery Good
Battery Cutoff	Below 20.4 VDC	DC LED (Red)	Off	Battery Bad

Table 2: 504-24 Condition and LED Indicators

### 9.4 504-24 UL Listings

For UL 603 Power Supplies for Burglary Alarm Systems and UL 294 Power Supplies for Access Control System applications: Voltage Range of 22.9 to 25.5 VDC.

For UL 1481 Power Supplies for Fire Protective Signaling the following maximum battery standby Ampere hours apply for 24 hours of battery backup:

- Battery Standby Maximum: 49.2Ah
- Output Voltage: 24 VDC
- Output Current: 1.5A standby, 4 Amp alarm

### 9.5 24 VDC NAC Standby Battery Calculations

The following calculation defines the total number of standby battery Amp-hours required to support operation of the NACs and any other devices attached to the 504-24 power supply. From this calculation, assemble the appropriate number of batteries that will just exceed the calculated total Amp-hour requirement. The 866 NACs receive power for internal operation from the XR2400F panel and do not enter in this calculation themselves.

1. Add all standby current values including the power supply operating current.
2. Multiply the total standby current by the number of standby hours needed.
3. Add all alarm current values from the notification appliances attached to the 866 NACs and multiply by 0.25.
4. Add the total alarm mA-hour with the total standby mA-hour and then multiply this number by 0.001.

Power Supply Operating Current		200	mA
Other Standby Current	+	_____	mA
1. Total Standby Current	+	_____	mA
Number of Standby Hours Required	X	_____	hr
2. Total Standby (mA-hr) Required	=	_____	mA-hr
3. Total Alarm Current	=	_____	mA
Total Alarm Current X 0.25 (0.25 = 5 minutes in alarm)	=	_____	mA-hr
Total Standby (Required)	+	_____	mA-hr
Total	=	_____	mA-hr
	X	0.001	
4. Total Required Amp-hours	=	_____	

Table 3: Battery Calculations

## 9.6 Connection

The 24 VDC power supply is completely pre-wired. Refer to the following 504-24 wiring diagram for specific wire connections.

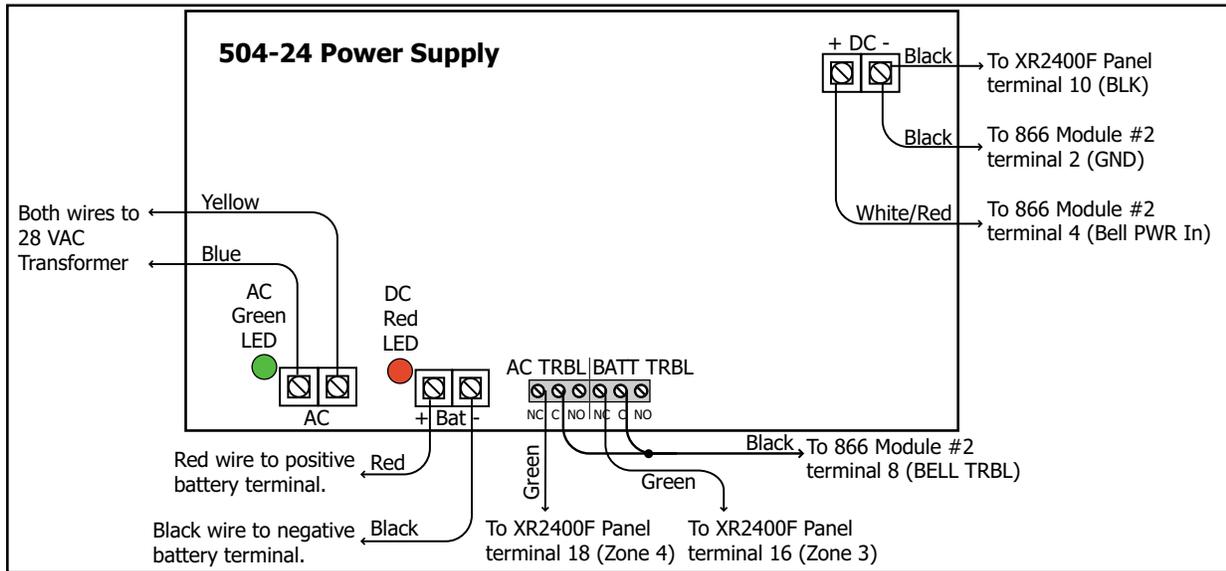


Figure 9: 504-24 Wiring

## Interconnect Wiring Harness

### 10.1 Interconnect Harness

This chart explains the colors of the wires on the Interconnect Wiring Harnesses. It also explains what each wire connects.

Wire Color	Connection From	Connection To
Red	Panel Terminal 7 (DC Power)	866 Module #2 Terminal 1 (Auxiliary Power)
Black	Panel Terminal 10 (Common)	504-24 DC - Negative DC Terminal (Ground)
Brown	Panel Terminal 13 (Zone 1)	866 Module #1 Terminal 7 (Bell Trouble)
Violet	Panel Terminal 15 (Zone 2)	866 Module #2 Terminal 7 (Bell Trouble)
Green	Panel Terminal 16 (Zone 3)	504-24 Battery Trouble Terminal N/O
White	Panel Terminal 18 (Zone 4)	504-24 AC Trouble Terminal N/C
Blue	Panel J2 Pin 2 (Common)	866 Module #1 Terminal 3 (Alarm In)
Orange	Panel J2 Pin 3 (Output 1 N/O)	Panel Terminal 5 (Bell Output)
Yellow	Panel J2 Pin 5 (Common)	866 Module #2 Terminal 3 (Alarm In)
Orange	Panel J2 Pin 6 (Output 2 N/O)	Panel Terminal 5 (Bell Output)
White/Red	504-24 DC + (Positive DC Terminal)	866 Module #2 Terminal 4 (Bell Power In)
Black	504-24 DC - (Negative DC Terminal)	866 Module #2 Terminal 2 (Ground)
Red	866 Module #2 Terminal 1 (Auxiliary Power)	866 Module #1 Terminal 1 (Auxiliary Power)
Black	866 Module #2 Terminal 2 (Ground)	866 Module #1 Terminal 2 (Ground)
Black	866 Module #2 Terminal 2 (Ground)	866 Module #1 Terminal 8 (Bell Trouble)
White/Red	866 Module #2 Terminal 4 (Bell Power In)	866 Module #1 Terminal 4 (Bell Power In)
Black	866 Module #2 Terminal 8 (Bell Trouble)	504-24 Battery Trouble Common Terminal
Black	866 Module #2 Terminal 8 (Bell Trouble)	866 Module #1 Terminal 8 (Bell Trouble)

Table 4: Interconnect Wiring Harness

## Fire Command Center

### 11.1 Description

The XR2400F provides an LCD display and 20-key keyboard for programming and user operation of the system. The Fire Command Center is installed on the enclosure door of the XR2400F. To the left of the keyboard, a keyswitch has been installed and pre-wired. The user must turn the keyswitch to enable the four function keys. See the illustration below.

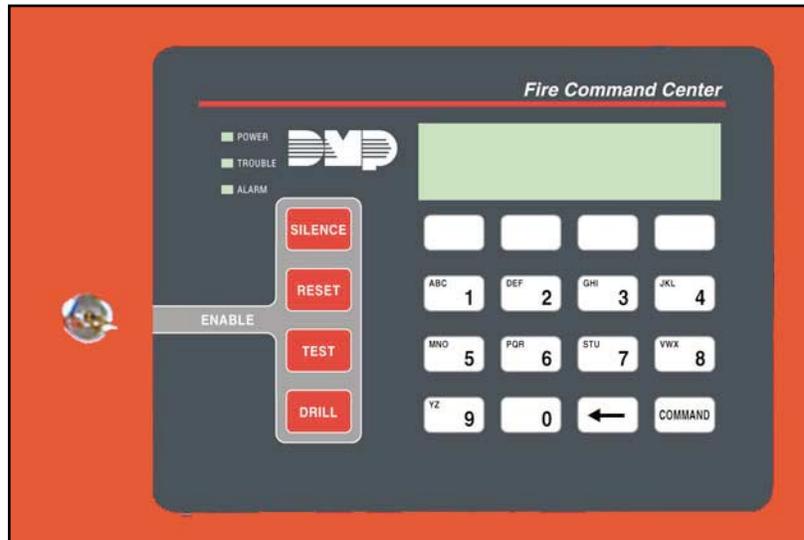


Figure 10: Fire Command Center LCD and Keyboard

### 11.2 Connection

The display and keyboard are factory pre-wired to terminals 7, 8, 9, and 10 of the XR2400F panel. For standby battery calculations, the display draws 100mA of current in normal standby or alarm condition. See Panel Standby Battery Calculations. The keyswitch has been pre-wired to the membrane keyboard.

### 11.3 Remote Fire Command Center

Up to seven Model 630F Remote Fire Command Centers may be remotely attached to the XR2400F system. See the 630F Installation Guide, LT-0562, for complete information.

## XR2400F Command Processor Panel

### 12.1 Description

The DMP XR2400F Command Processor is a versatile fire communicator panel with battery backup. The XR2400F provides eight on-board grounded zones for connection of Model 869 class A zones and two on-board 12 VDC class B style A powered zones. The powered zones have a reset capability to provide for 2-wire smoke detectors, relays, or other latching devices. The XR2400F can communicate to one or two DMP SCS-1 Receivers using multiplex or digital dialer, to one or two DMP SCS-1R Receivers using digital dialer, or to non-DMP receivers using the Contact ID and Modem IIe formats.

### 12.2 Connection

The XR2400F Command Processor panel is factory pre-wired and controls the other components in the system. Refer to the wiring diagram below for wiring. See the following sections for descriptions of additional applications of the XR2400F.

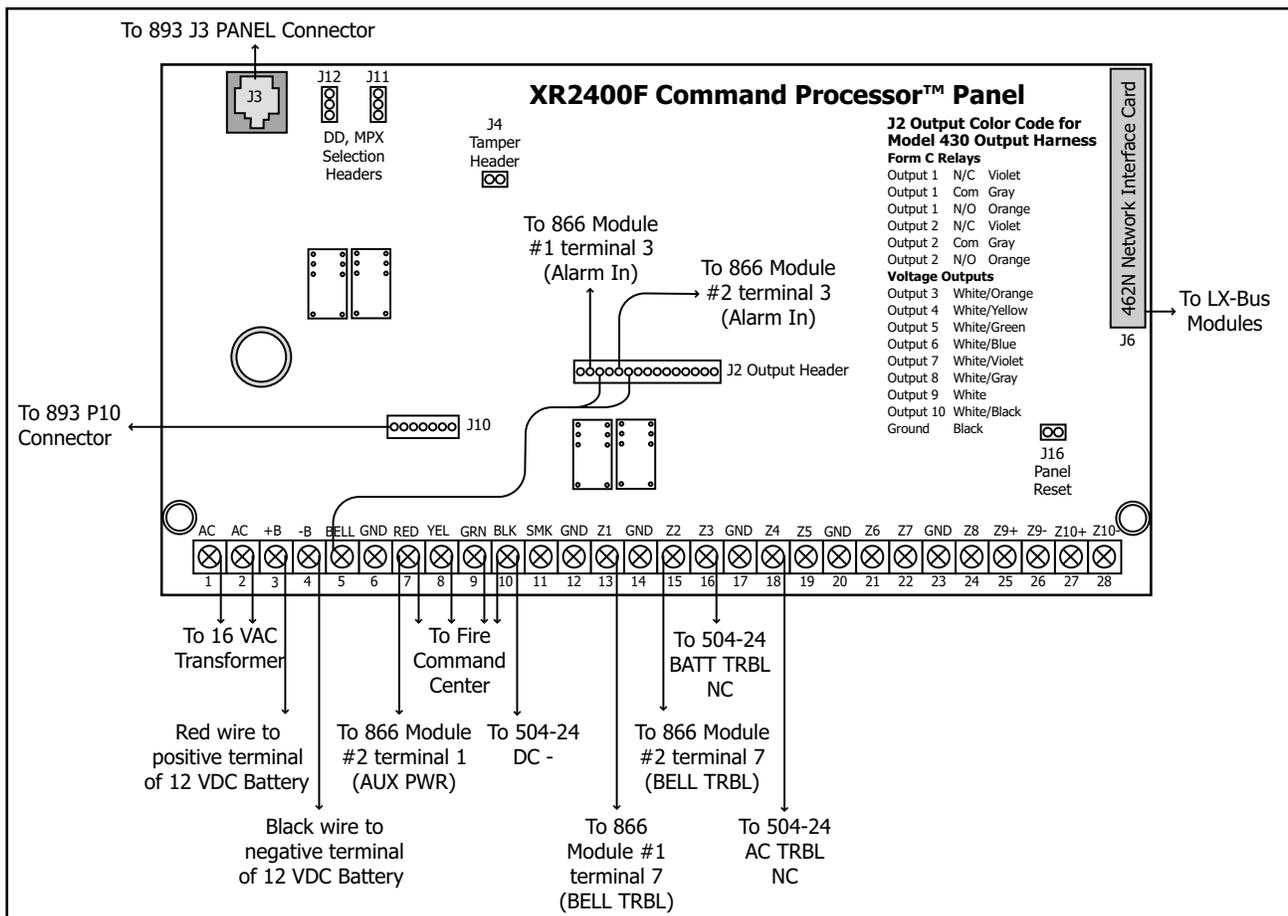


Figure 11: XR2400F Panel Wiring

### 12.3 Relays

The XR2400F is shipped with two Model 305 Relays pre-installed to allow zone alarm control for the 866 NAC Modules. When a fire alarm occurs the bell output is factory programmed to turn on and provide power to the contacts of the relays. Specific zone programming determines whether one or both relays turn on signal voltage to the 866 NACs. This allows control of the NACs by zone.

### 12.4 Zone Reference

The XR2400F has been pre-wired in the factory. The first 866 NAC module connects to Zone 1. The second 866 NAC module connects to Zone 2. Zone 3 connects to the 504-24 power supply.

## **XR2400F Product Specifications**

### **13.1 Power Supply**

Transformer Input: 16 VAC 56 VA

Standby Battery: 12 VDC 28Ah (56 VA charges up to four batteries)

Auxiliary: 12 VDC output at 1 Amp

Bell Output: 12 VDC at 1.5 Amp

All circuits are inherent Power Limited except the red battery wire.

### **13.2 Communication**

Built-in dialer communication to DMP Model SCS-1 and SCS-1R Receivers

Built-in multiplex communication to DMP Model SCS-1 Receivers

Built-in Contact ID communication to non-DMP receivers

Built-in Modem IIe communication to non-DMP receivers

893A Dual Phone Line Modules with phone line supervision

Can operate as a local panel

### **13.3 Panel Zones**

Eight 1k Ohm EOL grounded zones (zones 1 to 8). Connect to 869 class A module for burglary applications.

Two 3.3k Ohm EOL Class B (Style A) powered zone with reset (zones 9 and 10)

### **13.4 Remote Annunciator**

You can connect up to seven of the following supervised keypads or expanders to the XR2400F keypad data bus:

- Alphanumeric Fire Command Centers or keypads
- Four and single point zone expanders
- Single point detectors

### **13.5 LX-Bus™**

You can connect the following devices to the LX-Bus provided by the DMP 462N (supplied), 462P, 462FM, 472, and/or 481 Interface Cards up to the maximum number of LX-Bus addresses. See Accessory Devices.

- Model 521LX or 521LXT Smoke Detectors with CleanMe
- Sixteen, eight, four, and single point zone expanders
- Relay output expanders
- Graphic annunciator modules
- Single point detectors

### **13.6 Outputs**

Two SPDT relay outputs (requires two Model 305 relays that are provided on the panel, each rated 1 Amp at 30 VDC resistive). Connect only power limited sources to the relay.

## Expansion

### 14.1 Expansion Zones

Up to 232 additional fire and burglary zones are available on the XR2400F using the remote zone capability of keypads and zone expander modules. The panel's keypad data bus supports up to eight supervised device addresses with each address supporting up to four programmable expansion zones.

Up to 200 zones are available using the Model 460 Interface Adaptor, 462N, 462P, 462FM, 472, or 481 Interface Cards, and any combination of sixteen, eight, four, and single point zone expander modules and single point LX-Bus™ detectors.

Combined current requirements of additional modules may require an additional 504-24 or 502-12 power supply. See section Standby Battery Calculations when calculating power requirements.

### 14.2 Output (Relay) Expansion

In addition to the two SPDT relays and eight voltage outputs on board the XR2400F, you can also connect up to 25 Model 716 Output Expanders to each card's LX-Bus™. These modules can provide an additional 200 programmable SPDT relays. The XR2400F provides 50 Output Schedules you can use for programming the 716 to perform a variety of annunciation and control functions. You can also assign the 716 outputs to any of the panel's Output Options such as Fire Alarm, Communication Fail, or Phone Trouble Outputs.

The LX-Bus also supports the Model 717 Graphic Annunciator Module. Each 717 module supplies 20 switched ground outputs that follow the state of their assigned zones.

**Note:** Do not use shielded wire for LX-Bus and keypad bus circuits.

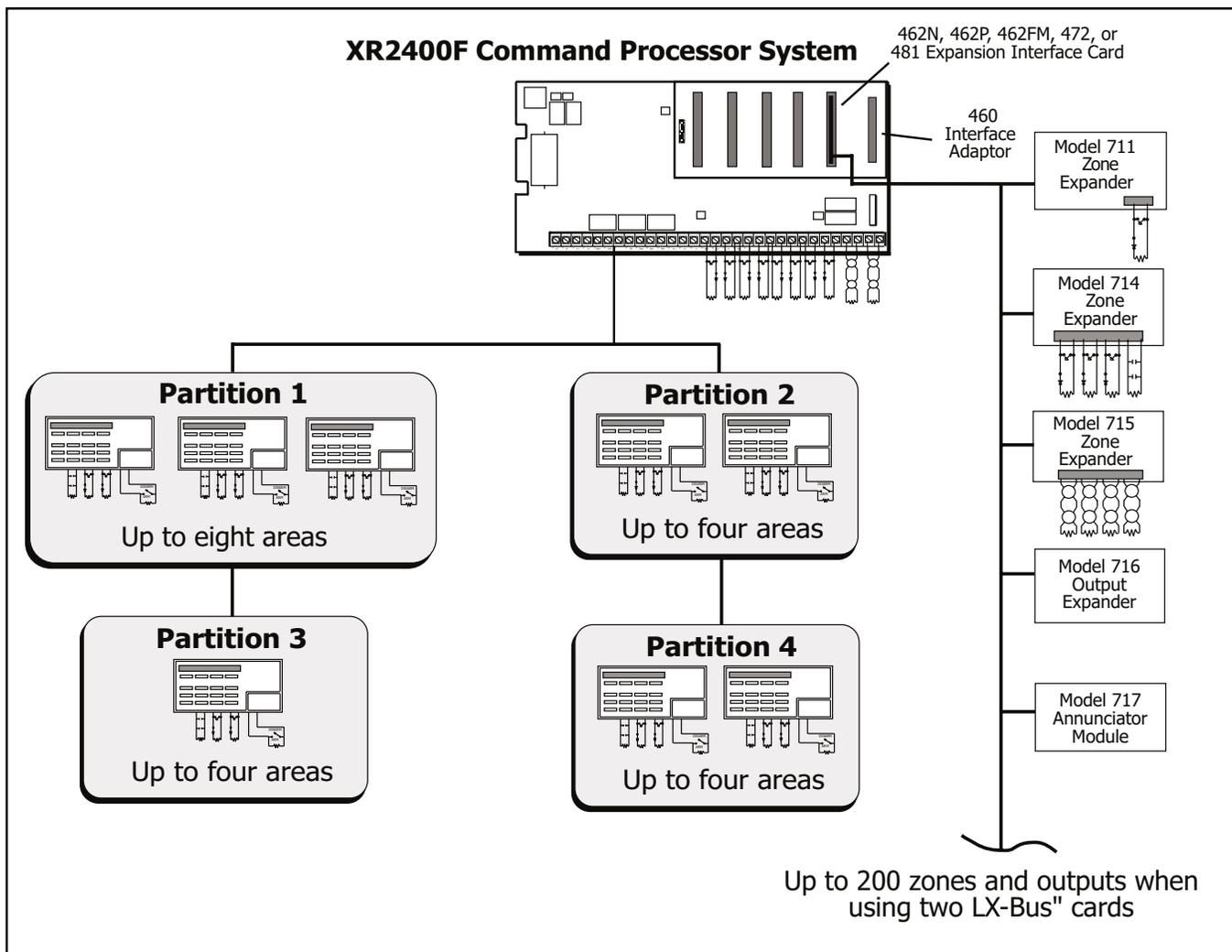


Figure 12: Typical XR2400F System

## Accessory Devices

### 15.1 Wiring Diagram

The XR2400F system below shows some of the accessory modules you can connect for use in various applications. A brief description of each module appears in section 15.3 Accessory Devices.

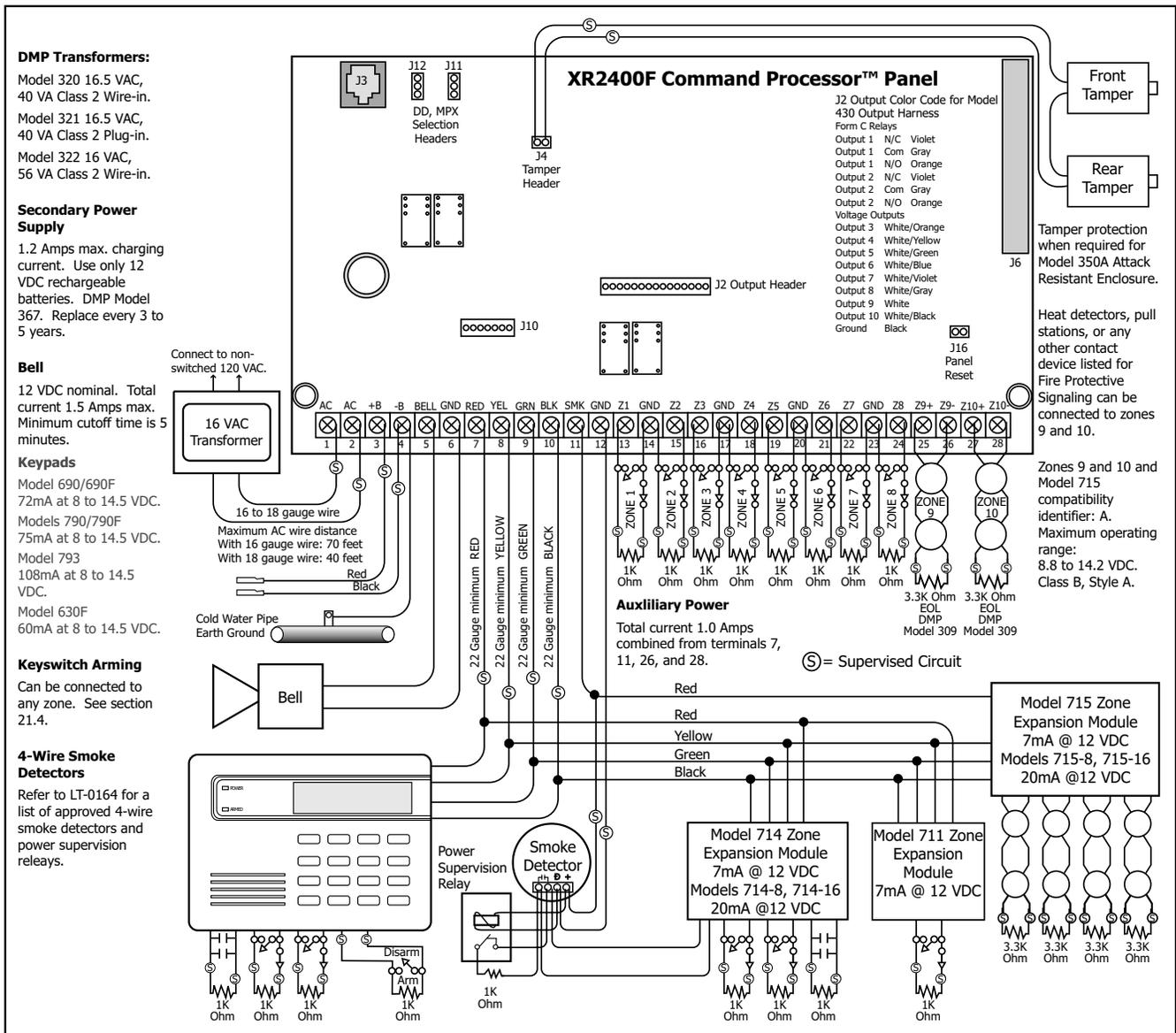


Figure 13: Typical XR2400F Wiring Diagram

### 15.2 Lightning Protection

Metal Oxide Varistors and Transient Voltage Suppressors help protect against voltage surges on input and output circuits of the XR2400F. Additional surge protection is available by installing the DMP 370 or 370RJ Lightning Suppressors.

## 15.3 Accessory Devices

<b>Interface Adaptor and Interface Cards</b>	
460 Interface Adaptor Card	Allows you to connect two or more expansion interface cards to the XR2400F panel. The 461 is an expansion mother board that plugs into the J6 Interface Connector of the panel and is required when using two or more Interface Cards. Use combinations of Interface Cards for expanding zones, network interfacing, local printing, and connecting wireless devices. Requires Model 349, 350, or 350A Enclosure.
462N Network Interface Card	Allows you to connect the XR2400F to any compatible data network and use its communication capability in place of standard dial out telephone lines. The 462N also provides an LX-Bus™ for connecting zone and output expansion modules to the panel. The 462N is listed for Grade AA Burglary communication and supplementary signaling.
462P Printer Interface Card	Allows you to connect the XR2400F to any compatible serial printer providing real-time event recording to the user. The 462P also provides an LX-Bus™ for connecting zone and output expansion modules.
472 Inovonics 900 MHz Interface Card	Provides an interface between the Inovonics FA400-DMP Wireless Receiver and the XR2400F panel. You can use any of the wireless equipment compatible with the FA400-DMP to construct a strictly wireless or combined wireless/hardwire system. Wireless functionality is listed for Household Fire and Burglary. The 472 also provides one LX-Bus™ for connecting zone and output expansion modules.
481 Expansion Interface Card	Provides one LX-Bus for connecting up to 100 zone and output expansion modules.
<b>Zone and Output Expansion Modules</b>	
710/710F Bus Splitter/Repeater	Allows you to increase keypad or LX-Bus™ wiring distance to 2500 feet. Model 710F is for 24 VDC applications.
711/711E Single Point Zone Expanders	Provides one Class B zone for connecting burglary and non-powered fire devices.
714, 714-8, 714-16 Zone Expanders	Provides Class B zones for connecting burglary and non-powered fire devices.
715, 715-8, 715-16 Zone Expanders	Provides 12 VDC Class B powered zones for connecting smoke detectors, glassbreak detectors, and other 2- or 4-wire devices.
725 Zone Expanders	Provides 24 VDC Class B powered zones for connecting smoke detectors, glassbreak detectors, and other 2- or 4-wire devices.
716 Output Expander	Provides four Form C relays (SPDT) and four switched grounds (open collector) for use in a variety of remote annunciation and control applications.
717 Graphic Annunciator Module	Provides 20 zone following annunciator outputs (open collector) for use in a variety of remote annunciation and control applications.
<b>Indicating and Initiating Devices</b>	
865 Supervised Style Y or Z Notification Circuit Module	Provides up to 1.5 Amps of supervised alarm current when using the bell output of the XR2400F panel and up to 5 Amps at 12 or 24 VDC when using a listed auxiliary power supply. The 865 can supervise 2-wire Style Y or W circuits or X circuits for ground faults, opens, shorts, and shorts with individual LED annunciation.
866 Notification Circuit Module	Provides up to 1.5 Amps of supervised alarm current using the bell output of the XR2400F panel and up to 5 Amps at 12 or 24 VDC when using a listed auxiliary power supply. The 866 can supervise Style W circuits for opens and shorts.
867 Style W LX-Bus Notification Circuit Module	Provides up to 1.5 Amps of supervised alarm current using the bell output of the XR2400F panel and up to 5 Amps at 12 or 24 VDC when using a listed auxiliary power supply. The 867 connects to the LX-Bus™ of the XR2400F panel and provides one 2-wire Style W notification circuit for ground fault, open, and short conditions. Individual Bell Relay addresses Bell Ring styles.
869 Dual Style D Initiating Module	Provides two Style D, 4-wire initiating zones for connecting waterflow switches and other non-powered fire and burglary devices.
<b>Accessory Modules and Keypads</b>	
893A Dual Phone Line Module	Allows you to supervise two standard phone lines connected to an XR2400F panel. The 893A module monitors the main and backup phone lines for a sustained drop in voltage and alerts users when voltage drops below 3 VDC.
ePAD Virtual Keypads	Allows users to control the security system from any computer in the world using the Internet.
iCOM Internet Alarm Router	Allows the panel to send signals through the Internet/Ethernet.
iCOM-E High-Security Internet Alarm Router	Allows the panel to send encrypted signals through the Internet/Ethernet.
630F Remote Fire Command Center	Allows you control the panel from various remote locations. You may connect up to eight 630F Remote Fire Command Centers to the keypad bus on terminals 7, 8, 9, and 10.
Security Command LCD keypads	Allows you to control the panel from various remote locations. Connect up to eight supervised Model 690/790, 690F/790F, 791 or 793 Security Command® keypads to the keypad bus (terminals 7, 8, 9, and 10).

**Table 5: Accessory Devices**

## 15.4 Mounting Keypads and Zone Expanders

Security Command keypads have removable covers that allow you to easily mount the keypad to a wall or other flat surface using the screw holes provided on each corner of the base. Before mounting the base, connect the keypad wire harness leads to the keypad cable from the panel and to any device wiring run to that location. Then attach the harness to the pin connector on the PC board, mount the base, and install the keypad cover making sure all of the keys extend through their respective holes.

For the 690/690F keypads, you can use the Model 695 1-1/2" deep or the Model 696 1/2" deep backboxes. For mounting keypads on solid walls, or for applications where conduit is required, use the Model 695 1-1/2" deep or the Model 696 1/2" deep backboxes.

For the 790/790F, 793 keypads, you can use the Model 695 1-1/2" deep or the Model 696 1/2" deep backboxes.

The DMP 710, 710F, 711, 711E, 714, 715, 716, 717, and 725 modules are each contained in molded plastic housings with removable covers. The housing cover contains the module while the base provides you with two mounting holes for installing the unit to a wall, switch plate, or other surface.

## 15.5 Connecting serial devices

Several factors determine the performance characteristics of the DMP LX-Bus™ and keypad bus: the length of wire used, the number of devices connected, and the voltage at each device. When planning an LX-Bus™ and keypad bus installation, keep in mind the following information:

1. DMP recommends using 18 or 22-gauge unshielded wire for all keypad and LX-Bus circuits. **Do not** use twisted pair or shielded wire for LX-Bus and keypad bus data circuits.
2. On keypad bus circuits, to maintain auxiliary power integrity when using 22-gauge wire do not exceed 500 feet. When using 18-gauge wire do not exceed 1,000 feet. To increase the wire length or to add devices, install an additional power supply that is UL listed for Fire Protective Signaling, power limited, and regulated (12 VDC nominal) with battery backup.  
**Note:** Each panel allows a specific number of supervised keypads. Add additional keypads in the unsupervised mode. Refer to the panel installation guide for the specific number of supervised keypads allowed.
3. Maximum distance for any one bus circuit (length of wire) is 2,500 feet regardless of the wire gauge. This distance can be in the form of one long wire run or multiple branches with all wiring totaling no more than 2,500 feet. As wire distance from the panel increases, DC voltage on the wire decreases. Maximum number of LX-Bus devices per 2,500 feet circuit is 40.
4. Maximum voltage drop between the panel (or auxiliary power supply) and any device is 2.0 VDC. If the voltage at any device is less than the required level, an auxiliary power supply should be added at the end of the circuit.

For additional information refer to the 710 Installation Sheet (LT-0310) and or the LX-Bus/Keypad Bus Wiring Application Note (LT-2031).

### **Expansion Interface Cards (Models 462N, 462P, 462FM, 472, 481, and 482)**

The LX-Bus provided on these cards requires only a 4-wire cable between the card and any devices connected to the bus. You can connect devices (zone or output expanders) together on the same cable or provide separate runs back to the cards. Up to 100 zones or relays are available on each LX-Bus.

**Note:** Do not use shielded wire when running an LX-Bus or keypad bus.

## Battery Information

### 16.1 Battery Only Restart

When powering up the XR2400F panel without AC power, it is necessary to short across the CR7 leads to pull in the battery cutoff relay. The leads need a momentary short only. Once the relay has pulled in, the battery voltage holds it in that condition. If the XR2400F panel is powered up with an AC transformer, the battery cutoff relay is pulled in automatically.

### 16.2 Replacement Period

DMP recommends the battery be replaced every 3 to 5 years under normal use.

### 16.3 Discharge/recharge

The XR2400F battery charging circuit float charges at 13.9 VDC at a maximum current of 1.2 Amps using a 40 VA transformer. The total current available is reduced by the combined auxiliary current draw from terminals 5, 6, and 24. The various battery voltage level conditions are listed below:

Battery Trouble:	Below	11.9 VDC
Battery Cutoff:	Below	10.2 VDC
Battery Restored:	Above	12.6 VDC

### 16.4 Battery Supervision

The XR2400F tests the battery when AC power is present. The test is done every 3 minutes and lasts for five seconds. During the test, the panel places a load on the battery and if its voltage falls below 11.9 VDC a low battery is detected. If AC power is not present, a low battery is detected any time the battery voltage falls below 11.9 VDC.

If a low battery is detected with AC power present, the test is repeated every two minutes until the battery charges above 12.6 VDC; the battery restored voltage. If a weak battery is replaced with a fully charged battery, the restored battery will not be detected until the next two minute test is done.

### 16.5 Battery Cutoff

The panel disconnects the battery any time the voltage of the battery drops below 10.2 VDC. This prevents deep discharge damage to the battery.

### 16.6 XR2400F Power Requirements

During AC power failure, the XR2400F panel and all auxiliary devices connected to the XR2400F draw their power from the battery. All devices must be taken into consideration when calculating the battery standby capacity. On the following page is a list of the power requirements of the XR2400F panel. First add the current draw of the devices included in the XR2400F FACP:

- XR2400F Command Processor™ Panel
- The Fire Command Center
- 893A Dual Phone Line Module
- Two 866 NAC modules
- 462N Network Interface

Then add the additional current draw of Remote Fire Command Centers, zone expanders, smoke detector output, and any other auxiliary devices used in the system for the total current required. The total is then multiplied by the number of standby hours required to arrive at the total ampere-hours required.

See the Panel Standby Battery Power Calculations chart on the following page.

## 16.7 XR2400F Standby Battery Calculations

Standby Battery Power Calculations	Standby Current		Alarm Current	
XR2400F Command Processor™ Panel	Qty _____ x	80mA _____ mA		80mA _____ mA
Relay Outputs 1-2 (ON)	Qty _____ x	30mA _____	Qty _____ x	30mA _____
Voltage Outputs 3-10 (ON)	Qty _____ x	5mA _____	Qty _____ x	5mA _____
Active Zones 1-8	Qty _____ x	1.6mA _____	Qty _____ x	*2mA _____
Active Zones 9-10	Qty _____ x	4mA _____	Qty _____ x	30mA _____
2-Wire Smoke Detectors	Qty _____ x	0.1mA _____	Qty _____ x	0.1mA _____
Panel Bell Output				1500mA _____ mA
893/893A Dual Phone Line Module	Qty _____ x	30mA _____	Qty _____ x	50mA _____
460 Interface Adaptor Card		7mA _____		7mA _____
462N Network Interface Card	Qty _____ x	50mA _____	Qty _____ x	50mA _____
462P Printer Interface Card	Qty _____ x	50mA _____	Qty _____ x	50mA _____
472 Inovonics 900MHz Interface Card	Qty _____ x	85mA _____	Qty _____ x	85mA _____
481 Expansion Interface Card	Qty _____ x	15mA _____	Qty _____ x	15mA _____
485 Enhanced Access Control Expansion Card		45mA _____		45mA _____
865 Style y or Z Notification Module	Qty _____ x	26mA _____	Qty _____ x	85mA _____
866 Style W Notification Module	Qty _____ x	45mA _____	Qty _____ x	75mA _____
867 LX-Bus Style W Notification Module	Qty _____ x	30mA _____	Qty _____ x	85mA _____
630F Remote Fire Command Center	Qty _____ x	60mA _____	Qty _____ x	92mA _____
690/690F Security Command Keypad	Qty _____ x	77mA _____	Qty _____ x	84mA _____
Annunciator (ON)				20mA _____
790/790F Security Command Keypad	Qty _____ x	77mA _____	Qty _____ x	84mA _____
Active Zones (EOL Installed)		1.6mA _____	Qty _____ x	*2mA _____
Annunciator (ON)				20mA _____
791 Easy Entry Keypad	Qty _____ x	100mA _____	Qty _____ x	100mA _____
Active Zones (EOL Installed)		1.6mA _____	Qty _____ x	*2mA _____
Annunciator (ON)				20mA _____
793 Easy Entry Keypad	Qty _____ x	92mA _____	Qty _____ x	120mA _____
Active Zones (EOL Installed)		1.6mA _____	Qty _____ x	*2mA _____
Annunciator (ON)				20mA _____
770, 771 Security Command Keypads	Qty _____ x	100mA _____	Qty _____ x	100mA _____
Active Zones (EOL Installed)	Qty _____ x	1.6mA _____	Qty _____ x	*2mA _____
Annunciator (ON)				20mA _____
733 Wiegand Interface Module	Qty _____ x	30mA _____	Qty _____ x	30mA _____
Active Zones (EOL Installed)	Qty _____ x	1.6mA _____	Qty _____ x	*2mA _____
Annunciator (ON)			Qty _____ x	20mA _____
734 Wiegand Interface Module	Qty _____ x	30mA _____	Qty _____ x	30mA _____
Active Zones (EOL Installed)	Qty _____ x	1.6mA _____	Qty _____ x	*2mA _____
Annunciator (ON)			Qty _____ x	20mA _____
736P POPIT Interface Module	Qty _____ x	25mA _____	Qty _____ x	25mA _____
Radionics Popex, POPITs, OctoPOPITs	Qty _____ x	_____ mA	Qty _____ x	_____ mA
738A Ademco Wireless Interface Module	Qty _____ x	75mA _____	Qty _____ x	75mA _____
710 Bus Splitter/Repeater Module	Qty _____ x	30mA _____	Qty _____ x	30mA _____
710F Fire Bus Splitter/Repeater Module	Qty _____ x	40mA _____	Qty _____ x	40mA _____
711, 771E, 714 Zone Expansion Modules	Qty _____ x	7mA _____	Qty _____ x	7mA _____
Active Zones (EOL Installed)	Qty _____ x	1.6mA _____	Qty _____ x	*2mA _____
714-8, 714-16 Zone Expansion Module	Qty _____ x	20mA _____	Qty _____ x	20mA _____
Active Zones (EOL Installed)	Qty _____ x	1.6mA _____	Qty _____ x	*2mA _____
715 Zone Expansion Module	Qty _____ x	7mA _____	Qty _____ x	7mA _____
Active Zones (EOL Installed)	Qty _____ x	4mA _____	Qty _____ x	*30mA _____
2-Wire Smokes	Qty _____ x	.1mA _____	Qty _____ x	.1mA _____
715-8, 715-16 Zone Expansion Modules	Qty _____ x	20mA _____	Qty _____ x	20mA _____
Active Zones (EOL Installed)		4mA _____		*30mA _____
2-Wire Smokes		.1mA _____		.1mA _____
716 Output Expansion Module	Qty _____ x	7mA _____	Qty _____ x	7mA _____
Active Form C Relays			Qty _____ x	28mA _____
717 Graphic Annunciator Module	Qty _____ x	10mA _____	Qty _____ x	10mA _____
Annunciator Outputs			Qty _____ x	1mA _____
521LX, 521LXT, SLRLX Smoke Detectors	Qty _____ x	8.8mA _____	Qty _____ x	*28mA _____
iCOM, iCOM-E Internet Alarm Routers				78.1mA _____
Aux. Powered Devices on Terminals 7 and 11		_____ mA		_____ mA
Other than Keypads and LX-Bus Modules				

\*Based on 10% of active zones in alarm

	Total Standby _____ mA	Total Alarm _____ mA
Total Standby _____ mA x number of Standby Hours needed _____ = _____ mA-hours	Total Alarm _____ mA + _____ mA-hours	Total _____ mA-hours
Cannot exceed 7.7Ah with one Model 367 Battery		
Cannot exceed 15.4Ah with two Model 367 Batteries		
Cannot Exceed 23.1Ah with three Model 367 Batteries		
Cannot exceed 30.8Ah with four Model 367 Batteries		
	X .0001	Required
	= _____ Amp-hrs	

## Bell Output

### 17.1 Terminals 5 and 6

Terminal 5 supplies positive 12 VDC to power alarm bells or horns. The output is rated for a maximum output of 1.5 Amps. This output can be steady or pulsed or temporal code 3 depending upon the Bell Action specified in Output Options. Terminal 6 is the ground reference for the bell circuit.

## Keypad and Zone Expander Bus

### 18.1 Description

Terminals 7, 8, 9, and 10 of the XR2400F panel are for the keypad data bus. In addition to Fire Command Centers and Remote Fire Command Centers, you can also connect any combination of up to eight zone expanders, 5845LX Glassbreak detectors, and 6155LX PIRs to the data bus.

**Note:** Do not use shielded wire for LX-Bus or keypad bus circuits.

### 18.2 Terminal 7 - RED

This terminal supplies positive 12 VDC to power Fire Command Centers and zone expanders. This is also where power for any auxiliary device is supplied. The ground reference for terminal 7 is terminal 10 with the maximum output rated at 1 Amp.

The output current is shared with the smoke detector output on terminal 11 and Zones 9 and 10. All devices totalled together must not exceed the panel's maximum current rating of 1 Amp.

### 18.3 Terminal 8 - YELLOW

Data receive from keypads and zone expanders. It cannot be used for any other purpose.

### 18.4 Terminal 9 - GREEN

Data transmit to keypads and zone expanders. It cannot be used for any other purpose.

### 18.5 Terminal 10 - BLACK

Terminal 10 is the ground reference for Fire Command Centers, zone expanders, and any auxiliary devices being powered by terminal 7.

## Smoke Detector Output

### 19.1 Terminals 11 and 12

Terminal 11 supplies positive 12 VDC to power 4-wire smoke detectors and other powered devices. This output can be turned off by the user for 5 seconds using the Sensor Reset User Menu option to allow latched devices to reset. Terminal 12 is the ground reference for terminal 11.

### 19.2 Current Rating

The Output current from terminal 11 is shared with terminals 7, 26, and 28. The total current draw of all devices powered from the panel must be included with terminal 11 calculations and must not exceed the maximum output rating of 1 Amp.

## Powered Zones for 2-Wire Smoke Detectors

### 20.1 Terminals 25-26 and 27-28

Two resettable Class B (Style A) 2-wire powered zones are provided on terminals 25 through 28 on the panel. For programming purposes the zone numbers are 9 and 10. When using 725 Zone Expansion modules, use UL Listed 6.8k Ohm EOL resistors. The UL compatibility identifier for the zones using 725 Zone Expansion Modules is B. When using 715 Zone Expansion modules, use UL Listed 3.3k Ohm EOL resistors (Model 309). When using all other zone expansion modules, use UL Listed 1.0k Ohm EOL resistors (Model 310). The UL compatibility identifier for the zones is A.

Do not mix detectors from different manufacturers on the same zone.

**Caution:** Performing a Sensor Reset will momentarily drop power to the devices on Zones 9 and 10. The panel will view these zones 10 as “Open” while the power is dropped.

## 20.2 Compatible 2-Wire Smoke Detectors

Manufacturer	Model	Detector ID	Base	Base ID	DC Voltage Range	# of Detectors (12V/24V)	Zone Expansion Modules
Detection Systems	DS230, DS230F	B/A	MB2W, MB2WL	A	8.5-33	10	725
Detection Systems	DS250, DS250TH	B	MB2W, MB2WL	A	8.5-33	10/12	715, 715-8, 715-16, 725
Detection Systems	DS250HD	B	MB2W, MB2WL	A	8.5-33	10	715, 715-8, 715-16
Detection Systems	DS260	B/A	MB2W, MB2WL	A	8.5-33	17	725
Detection Systems	DS282, DS282TH	B			8.5-33	10/12	715, 715-8, 715-16, 725
DMP/Hochiki	SLK-835	HD-5	HSB-200, HSB-200N	HB-55	8-35	7	715, 715-8, 715-16
DMP/Hochiki	SLR-835	HD-3	NS6-100	HB-55	8-35	7/14	715, 715-8, 715-16, 725
DMP/Hochiki	SLR-835B	HD-6			8-35	7/14	715, 715-8, 715-16, 725
Hochiki	SLR-835B-2	HD-6			8-35	14	725
Hochiki	SLR-24, SLR-24H	HD-3	NS4-220	HB-3	15-33	15	725
Hochiki	SIJ-24, DCD-190, DCD-135	HD-3	NS4-220	HB-3	15-33	15	725
Hochiki	SLR-24, SLR-24H	HD-3	NS6-220	HB-3	15-33	15	725
Hochiki	SIJ-24	HD-3	NS6-220	HB-3	15-33	20	725
Hochiki	DCD-190, DCD-135	HD-3	NS6-220	HB-3	15-33	16	725
Sentrol/ESL	429AT, 521B, 521BXT	S09A			6.5-20	12	715, 715-8, 715-16
Sentrol/ESL	429C, 429CT, 521B/BXT	S10A			8.5-33	12	725
Sentrol/ESL	429CRT, 429CST, 429CSST, 521CRXT	S11A			8.5-33	12	725
Sentrol/ESL	711U, 712U, 713-5U, 713-6U, 721U, 721UT	S10A	701E, 70-1U, 702E, 702U	S00	8.5-33	12	725
Sentrol/ESL	731U, 723U	S11A	701E, 701U, 702E, 702U, 702RE, 702RU	S00	8.5-33	12	725
System Sensor	1100, 1400	STD			8.5-33	10	715
System Sensor	1151, 2151	STD	B110PL, B401		8.5-33	10/10	715, 725
System Sensor	1451, 2451TH	STD	B401, B401B		8.5-33	10	715
System Sensor	1451DH	STD	DH400		8.5-33	10	715
System Sensor	2100, 2100T	STD			8.5-33	10	715
System Sensor	2100S, 2100TS	A			8.5-35	12	725
System Sensor	2400, 2400AT, 2400AIT, 2400TH	STD			8.5-33	10	715
System Sensor	2451	STD	B401, B401B, DH400		8.5-35	10	715
System Sensor	DH100P	A			8.5-35	10	725

**Table 6: Compatible 2-Wire Smoke Detectors**

## Protection Zones

### 21.1 Description

Zones 1 to 8 on the XR2400F panel (terminals 13 to 24) are all grounded burglary zones. For programming purposes, the zone numbers are 1 through 8. Terminals 13 to 24 provide connection as listed below.

Terminal	Function	Terminal	Function
13	Zone 1 voltage sensing	19	Zone 5 voltage sensing
14	Ground for Zones 1 & 2	20	Ground for Zones 5 & 6
15	Zone 2 voltage sensing	21	Zone 6 voltage sensing
16	Zone 3 voltage sensing	22	Zone 7 voltage sensing
17	Ground for Zones 3 & 4	23	Ground for Zones 7 & 8
18	Zone 4 voltage sensing	24	Zone 8 voltage sensing

**Note:** Zones 1 through 4 have been pre-wired to the two 866 NAC modules and the 504-24 power supply. All other zones are available.

The voltage sensing terminal measures the voltage through a 1k Ohm End-of-Line resistor to ground. Dry contact sensing devices can be used in series (normally-closed) or in parallel (normally-open) with any of the burglary protection zones.

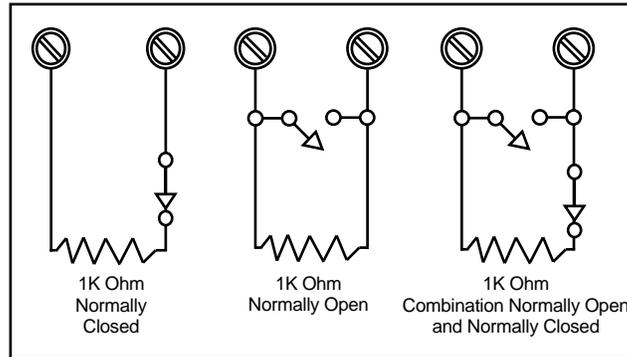


Figure 14: Protection Zone Wiring

### 21.2 Operational Parameters

Each protection zone detects three conditions: open, normal, and short. The voltage and resistance parameters for each condition are listed below:

Condition	Resistance on zone	Voltage on positive terminal
Open	over 1300 ohms	over 2.0 VDC
Normal	600 to 1300 ohms	1.2 to 2.0 VDC
Short	under 600 ohms	under 1.2 VDC

### 21.3 Zone Response Time

A condition must be present on a zone for 500 milliseconds before it's detected by the XR2400F panel. Ensure detection devices used on the protection zones are rated for use with this delay. The zones can also be programmed for a fast response delay of 167 milliseconds.

### 21.4 Keyswitch Arming Zone

Using a keyswitch on an Arming type zone allows you to arm and disarm selected areas without having to enter a user code.

## Dry Contact Relay Outputs

### 22.1 Description

The XR2400F panel provides two auxiliary SPDT relays when equipped with two DMP Model 305 relays in sockets K6 (Output 1) and K7 (Output 2) and a Model 430 Output Harness. Each relay provides one single pole, double throw (SPDT) set of contacts that can be operated by any of the functions listed below:

- 1) Activation by zone condition
  - Steady
  - Pulsing
  - Momentary
  - Follow
- 2) Activation by 24 hour 7 day schedule
  - One on and one off time per day for each relay
- 3) Manually from the Fire Command Center menu
- 4) Communication failure
- 5) Armed area annunciation
- 6) Fire Alarm or Fire Trouble
- 7) Other system conditions. See the Programming Guide (LT-0196).

### 22.2 Contact Rating

The Model 305 relay contacts are rated for 1 Amp at 30 VDC resistive. You can connect auxiliary power to the common terminal of Relay Output 1 by installing the gray harness wire to terminal 7.

### 22.3 Output Harness Wiring

The relay contacts are accessible by installing the DMP 430 Output Harness on the 15-pin header labeled J2. The contact locations on the wire harness are shown below:

Contact	Color
Output 1 normally closed	Violet
Output 1 common	Gray
Output 1 normally open	Orange
Output 2 normally closed	Violet
Output 2 common	Gray
Output 2 normally open	Orange

The relay contacts must be connected to devices located within the same room as the XR2400F panel.

## 12 VDC Voltage Outputs 3 to 10

### 23.1 Description

The XR2400F also provides eight 12 VDC, 50mA resistive voltage outputs on J2 to power external relays or other devices. The voltage outputs are operated from the same functions as Outputs 1 and 2.

When connecting any devices to outputs 3 to 10, subtract the current draw of the device from the panel's available auxiliary power.

### 23.2 Output Harness Wiring

The voltage outputs are accessible by installing the DMP 430 Harness on the 15-pin header labeled J2. The output locations are shown below:

Output	Color	Output	Color	Output	Color
3	White/Orange	6	White/Blue	9	White
4	White/Yellow	7	White/Violet	10	White/Black
5	White/Green	8	White/Gray	Ground	Black

Devices connected to the outputs must be located within the same room as the XR2400F panel.

## Reset and Tamper Headers

### 24.1 J16 Reset Header

The reset header is located just above the terminal strip on the right side of the circuit board and is used to reset the microprocessor of the XR2400F. To reset the panel when first installing the system, install the reset jumper before applying power to the panel. After connecting the AC and battery, remove the reset jumper.

To reset the panel while the system is operational, such as prior to reprogramming, install the reset jumper without powering down the system. Remove the reset jumper after one or two seconds.

After resetting the panel, you must begin programming within 30 minutes. If you wait longer than 30 minutes, you will have to reset the panel again.

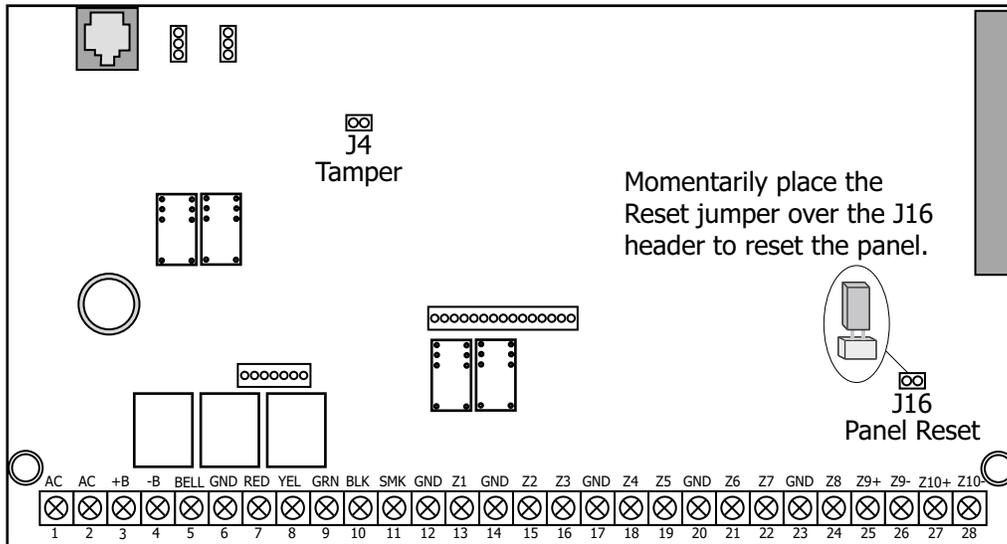


Figure 15: XR2400F Panel Showing Reset

### 24.2 J4 Tamper Header

The J4 header is for use with the optional DMP 306 Tamper Harness. The harness connects to one or more tamper switches mounted inside the panel enclosure to supervise against unauthorized opening or removal of the enclosure. Refer to the wiring diagram on the enclosure door for correct tamper switch wiring.

How the tamper works

If the enclosure is opened or removed while one or more of the system's areas are armed, a panel tamper alarm is indicated. If all areas are disarmed, a panel tamper trouble is indicated.

## Universal UL Burglary Specifications

### 25.1 Introduction

The programming and installation specifications contained in this section must be completed when installing the XR2400F panel in accordance with any of the UL burglary standards. Additional specifications may be required by a particular standard.

### 25.2 Wiring

All wiring must be in accordance with NEC, ANSI/NFPA 70, UL 681, and UL 611 for all burglary installations.

### 25.3 Control outside of protected area

A Potter EVD or Sentrol 5402 should be used in place of a lined cabinet when the panel is installed outside of the protected area.

### 25.4 Police station phone numbers

The digital dialer telephone number programmed for communication must not be a police station phone number, unless that phone number is specifically provided for that purpose.

### 25.5 Bypass reports

The Bypass Reports option must be programmed as YES for all UL burglary applications. See section 6.4 of the XR200 and XR2400F Programming Guide (LT-0196).

### 25.6 System maintenance

Proper installation and regular maintenance by the installing alarm company and frequent testing by the end user is essential to ensure continuous satisfactory operation of any alarm system. Offering a maintenance program and acquainting the user with the correct procedure for use and testing of the system is also the responsibility of the installing alarm company.

### 25.7 Partitions

The partition option may only be used for UL burglary applications when all partitions are used for one subscriber. See section 4.2 and 11.2 of the XR200 and XR2400F Programming Guide (LT-0196). The panel must be tamper protected and Sentrol Model 5402 or Potter EVD listed vibration detectors should be used.

### 25.8 UL Listed Receivers

UL has verified operation with the DMP SCS-1 and SCS-1R, Sur-Gard SG-HLR2-DG, FBII CP220PB, Osborne-Hoffman Quick-Alert, and Radionics D6500 receivers.

## UL 1023 Specifications

### Household Burglar-Alarm System Units

#### 26.1 Bell cutoff

The Bell Cutoff time cannot be less than five minutes. See section 8.2 of the XR200 and XR2400F Programming Guide (LT-0196).

#### 26.2 Entry delay

The maximum entry delay used must not be more than 45 seconds. See section 7.3 of the XR200 and XR2400F Programming Guide (LT-0196).

#### 26.3 Exit delay

The maximum exit delay used must not be more than 60 seconds. See section 13.4 of the XR200 and XR2400F Programming Guide (LT-0196).

#### 26.4 Weekly test

The product should be tested weekly.

## UL 1610 And 1076 Specifications

Central-Station and Proprietary Burglar-Alarm Units

### 27.1 Multiplex network capacity

The total number of panels assigned to a standard MPX receiving line of the SCS-1 Receiver System must not exceed 90. This may be increased to 180 by setting the SNRM option to NO in the SCS-1 Receiver system. This is to allow any signal from a XR2400F panel to be transmitted to the receiver within 90 seconds. This allows Grade AA Multiplex service.

### 27.2 Opening/Closing reports

The Opening/Closing Reports option must be programmed as YES. See section 13.6 of the XR200 and XR2400F Programming Guide (LT-0196).

### 27.3 Closing wait

The Closing Wait option must be programmed YES. See section 7.2 of the Programming Guide (LT-0196).

### 27.4 Proprietary dialer

The Model XR2400F provides Grade A proprietary service when configured as a digital dialer.

### 27.5 AA Network Communication

When HST network communication is used, a dialer line must also be used along with the Model 893 Dual Phone Line Module to supervise the dialer line. The HST network Check-in time must be set from 01 to 06 minutes or AA. This provides AA Central Station Service. See sections 3.2, 3.2.4, and 3.3 of the XR200 Programming Guide (LT-0196).

The Model XR2400F Protected Premises Control Unit is suitable for Grade AA service when configured for multiplex DNET or HST communication with SCS-1/SCS-1R receiving system. This configuration is approved for:

- AMCX - Central Station Alarm Units
- APAW - Police Station Alarm Units
- APOU - Proprietary Alarm Units

This approval is for communication over public data networks, provided that the protected premise (XR2400F) and receiving units (SCS-1/SCS-1R) are listed. Additionally, the network device connected to the 462N Network Interface Card must be listed for UL Fire and Shock hazards.

For combined burglary and fire alarm systems, UL has an established set of requirements that specify certain hardware redundancies and communication protocols to ensure that indications of a fire or burglary are properly transmitted at the time of their occurrence.

Typically in a combined system, two dialer phone lines are dedicated to the alarm. This limits the interruption of normal business phone traffic caused by supervisory communication requirements of the alarm system. With the DMP system communicating over a data network however, this interruption of business phones is avoided by the panel's ability to send its traffic at any time directly over the network. The business phone lines are then used only to send a nightly Recall Test report or the report of an actual alarm to the central monitoring station. This eliminates the monthly expense of two phone lines dedicated to the alarm.

The DMP products meeting the UL requirements include the listed Model 893 Dual Phone Line Module used in supervising two separate analog phone lines and the Model 462N Network Interface Card listed as a supplementary signaling device for commercial fire systems.

If the requirement for the two dedicated phone lines is made by the local AHJ for the purpose of avoiding situations where the burglary/fire alarm system is incapable of communicating, the DMP panels have a built-in ability to seize the phone line and interrupt any call in progress as required by NFPA and UL. Instructions to the system installer for correctly wiring of the telephone jacks is also included in all DMP installation guides as an added measure of ensuring the system's communicating ability.

## UL 1635 Specifications

Digital Burglar Alarm Communicator System Units

### 28.1 System trouble display

The Status List Display must include at least one keypad that displays system monitor troubles. See section 10.1 of the XR200 and XR2400F Programming Guide (LT-0196).

### 28.2 Digital Dialer telephone number

Both programmed telephone numbers must begin with a D or P. See sections 3.17 and 3.18 of the XR200 and XR2400F Programming Guide (LT-0196).

### 28.3 Entry delay

The maximum entry delay used must not be more than 60 seconds. See section 7.3 of the XR200 and XR2400F Programming Guide (LT-0196).

### 28.4 Exit delay

The maximum exit delay used must not be more than 60 seconds. See section 13.4 of the XR200 and XR2400F Programming Guide (LT-0196).

### 28.5 Test time

The Test Time option must be programmed so that the XR2400F sends a report once every 24 hours. See sections 3.8 to 3.10 of the Programming Guide (LT-0196).

### 28.6 Closing wait

The Closing Wait option must be programmed YES. See section 7.2 of the Programming Guide (LT-0196).

## UL 365 And 609 Specifications

Police Station Connected and Local Burglar Alarm Units and Systems

### 29.1 System trouble display

The Status List Display must include at least one keypad that displays system monitor troubles. See section 10.3 of the Programming Guide (LT-0196).

### 29.2 Grade A bell

A Grade A local audible signal appliance must be used.

### 29.3 Bell cutoff

The Bell Cutoff time cannot be less than 15 minutes. See section 8.2 of the Programming Guide (LT-0196).

### 29.4 Automatic bell test

The Automatic Bell Test option must be programmed as YES. See section 8.3 of the Programming Guide.

### 29.5 Line security for Police Connect

Basic line security is provided when the Model XR2400F is configured as a dialer system.

### 29.6 High Line Security

High Line Security is provided when configured as a MPX, DNET, or HST system. When HST communication is used, a dialer line must also be used along with the Model 893 Dual Phone Line Module to supervise the dialer line. The HST Check-in time must be set from 01 to 06 minutes or AA. See section AA Network Communication (27.5). Also see sections 3.2, 3.2.4, and 3.3 of the XR200 and XR2400F Programming Guide (LT-0196).

## Universal UL And NFPA Fire Alarm Specifications

### 30.1 Introduction

The programming and installation specifications contained in this section must be completed when installing the Model XR2400F in accordance with any of the UL or NFPA fire standards. Additional specifications may be required by a particular standard.

### 30.2 Wiring

All wiring must be in accordance with NEC, ANSI/NFPA 70.

### 30.3 Transformer

A wire-in transformer should be used. Use the 16 VAC 40 VA DMP Model 320. The transformer must be mounted within 20 feet of the panel connected by conduit.

### 30.4 End-of-Line resistor

The DMP Model 310 1k Ohm EOL resistor should be used on all 1k Ohm EOL fire zones.

### 30.5 System trouble display

The Status List Display must include at least one keypad that displays system monitor troubles. See section 10.3 of the Programming Guide (LT-0196).

### 30.6 Fire display

The Status List Display must include at least one keypad that displays troubles and alarms on fire type zones. See section 10.4 of the Programming Guide (LT-0196).

### 30.7 Police station phone number

The digital dialer telephone number programmed for communication must not be a police station phone number, unless that phone number is specifically provided for that purpose.

### 30.8 System maintenance

Proper installation and regular maintenance by the installing alarm company and frequent testing by the end user is essential to ensure continuous satisfactory operation of any alarm system. Offering a maintenance program and acquainting the user with the correct procedure for use and testing of the system is also the responsibility of the installing alarm company.

### 30.9 Audible alarm

Fire Type zones should be programmed to activate an audible alarm. The Bell Action for Fire Type zones should not be programmed as "N". See section 8.4.1 in the Programming Guide (LT-0196).

### 30.10 Fire zone programming

If a retard delay is used on a waterflow zone, it cannot exceed 90 seconds and any retard delay in the waterflow initiating devices must be subtracted from the 90 seconds allowed. See sections 14.4 and 14.17 in the Programming Guide (LT-0196). The retard delay should not be used on a zone with smoke detectors.

### 30.11 Style D zones

If required, the DMP 869 Dual Style D Initiating Module provides for connection of two Style D zones to the Model XR2400F. See section Dual Style D Zone Module Installation in System Wiring Diagrams and the 869 Installation Guide (LT-0186) for wiring information.

### 30.12 Video Option

The Video option must be selected as NO when any fire protection is connected to the XR2400F. See section 7.9 in the Programming Guide (LT-0196).

### 30.13 UL Listed Receivers

UL has verified operation with the DMP SCS-1/SCS-1R (SDLC), Sur-Gard SG-HLR2-DG (CID, M2E), FBII CP220PB (CID), Osborne-Hoffman Quick-Alert (CID, M2E), and Radionics D6500 (M2E) receivers.

## UL 985 NFPA 72 (Chapter 2) Specifications

Household Fire Warning System Units

### 31.1 Bell output definition

The Bell Output of the Model XR2400F must be programmed to operate steady on burglary alarms and pulsed or temporal on fire alarms. See section 8 of the Programming Guide (LT-0196).

## UL 864 NFPA 72 (Chapter 9) Specifications

Control Units for Fire-Protective Signaling Systems

### 32.1 Zone restoral reports

The Restoral Reports option must be selected as YES or DISARM. See section 6.3 in the Programming Guide (LT-0196).

### 32.2 Power fail delay

The Power Fail Delay option must be selected as 6 hours. See section 7.6 of the Programming Guide (LT-0196).

### 32.3 Sprinkler supervisory

Any zone used for sprinkler supervisory must be programmed with "SPRINKLR XXX" as the zone name. The last three characters in the zone name may be assigned a number to identify the zone. The Model 893 or 893A Dual Phone Line Module must be used on all sprinkler supervisory systems.

### 32.4 DACT systems

Two phone lines must be used. The two phone lines cannot be ground start or party lines. The 893 or 893A Dual Phone Line Module is used to provide connection of two phone lines to the system. The 2ND Phone Line communication option must be selected as YES. See section 3.3 of the Programming Guide (LT-0196).

Two different phone numbers must be programmed for digital communication. See sections 3.17 and 3.18 of the Programming Guide (LT-0196). The Test Time option must be programmed so that the XR2400F sends a report every 24 hours. See sections 3.8 to 3.10 of the Programming Guide (LT-0196).

Additionally, you can use the 462N Network Interface Card and the HST (Host) Communication type for supplementary communication over digital data networks.

### 32.5 Type 2 and Type 3 Central Station Service

Type 2 and Type 3 Central Station Service can be provided by using MPX communication to the DMP SCS-1/SCS-1R Receiver system. See section 3.2 of the Programming Guide (LT-0196).

### 32.6 Type 1 Central Station Service

Type 1 Central Station Service can be provided by using MPX as the main communication and digital dialer as backup. The 893 Dual Phone Line Module is used to provide connection of the MPX and dialer lines. See section 3.2 of the Programming Guide (LT-0196). If Type 1 Central Station service is provided, the Test Time option must be programmed to send a report every 24 hours. See sections 3.8 to 3.10 of the Programming Guide (LT-0196).

With both Type 1 and Type 2 Central Station service, the total number of panels assigned to a standard MPX receiving line of the SCS-1/SCS-1R Receiver System must not exceed 90. This may be increased to 180 by setting the SNRM option to NO in the SCS-1/SCS-1R Receiver system. This is to allow any signal from a XR2400F to be transmitted to the receiver within 90 seconds.

### 32.7 Local Protective Signaling Systems

The DMP Model 865, 866, or 867 Notification Circuit Module must be used on the bell circuit for detection of shorts and grounds. See sections 25.1 to 25.3 for wiring diagrams. Model 770 series keypads that are used to display troubles for local fire alarm systems must be installed within a DMP Model 777 Keypad Protector. Model 790 series keypads that are used to display troubles for local fire alarm systems must be installed within a DMP Model 777 with 777S 1.0" spacer. Any burglary or other off premises communication must be done with the Model 893 or 893A Dual Phone Line Module.

## 32.8 Proprietary Protective Signaling Systems

The total number of panels assigned to one MPX or DNET receiving line of the DMP SCS-1 Receiver system must not exceed 90. This may be increased to 180 by setting the SNRM option to NO in the SCS-1 Receiver system. This allows any report from a XR2400F to be sent to the receiver within 90 seconds.

## 32.9 Remote Station Protective Signaling Systems

You must provide 60 hours of standby battery. Up to four 12 VDC, 6.5Ah batteries may be used. See section Standby Battery Power Calculations. Two Radionics Model D127 Reversing Relay Modules provide two reversing polarity telephone connections. See section Remote Station Reversing Relay Connection and the D127 Installation Instruction sheet for wiring details. A DMP Model 893 or 893A is used to provide two line dialer communication or Type 1 Multiplex communication.

## 32.10 Fire Protective Signaling Systems with an iCOM™

The XR2400F Panel must be programmed as described below for Fire Protective Signaling Systems using an iCOM™ Internet Alarm Router for communication.

- UL AA must be programmed as NO
- SUB CODE must be programmed as YES
- CHECKIN must be programmed as 1
- RETRY TIME must be programmed as 1
- FAIL TIME must be programmed as 1
- NET TRBL must be programmed as YES

Refer to the iCOM™ Internet Alarm Router Installation Sheet (LT-0587) for more information.

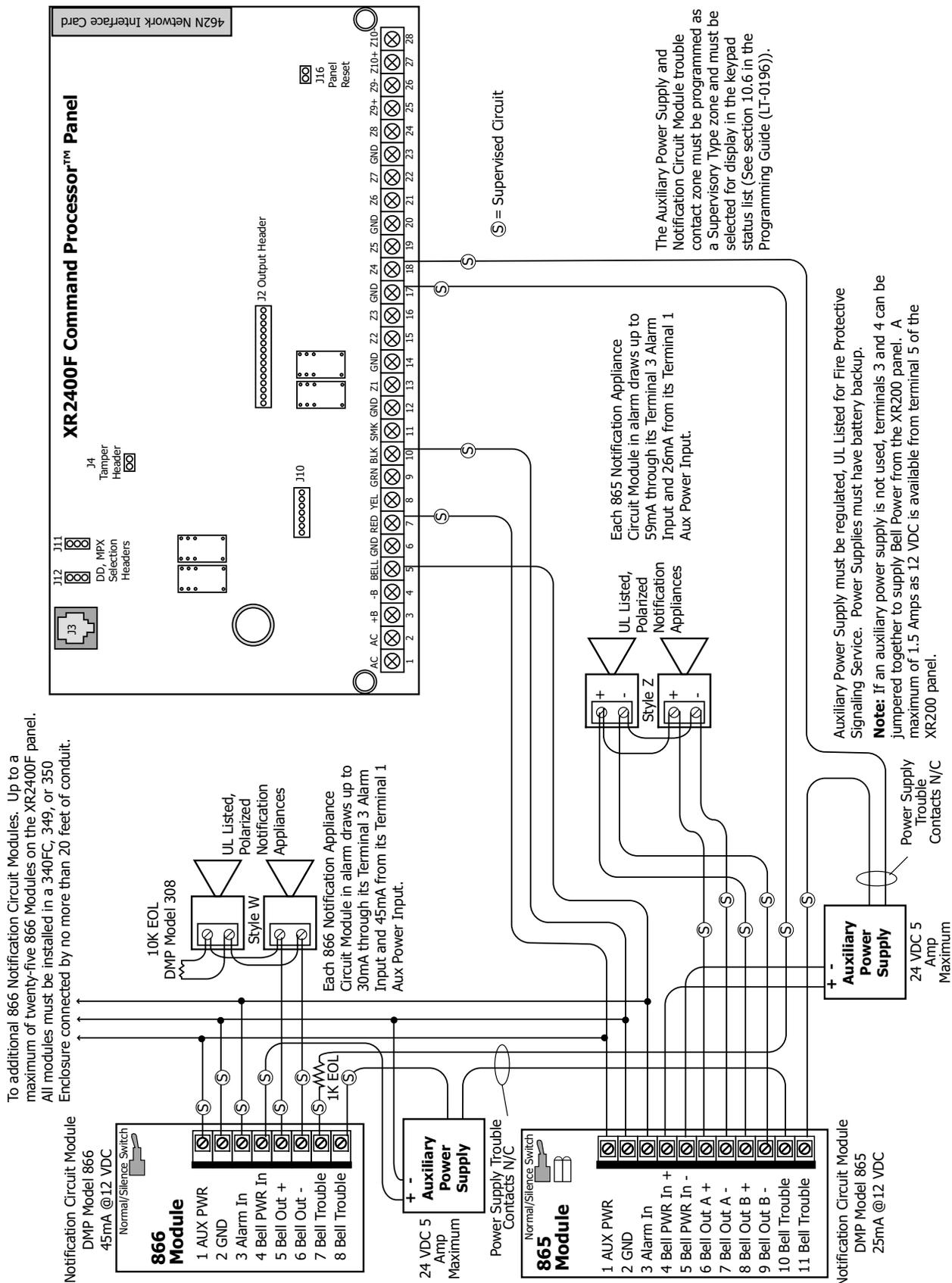
## California State Fire Marshal Specifications

### 33.1 Bell output definition

The Bell Output of the XR2400F panel must be programmed to operate steady on burglary alarms and pulsed, temporal, or California School Code on fire alarms. See sections 8.4.1 and 8.4.2 of the Programming Guide (LT-0196).

System Wiring Diagrams

34.1 Multiple Notification Circuit Modules

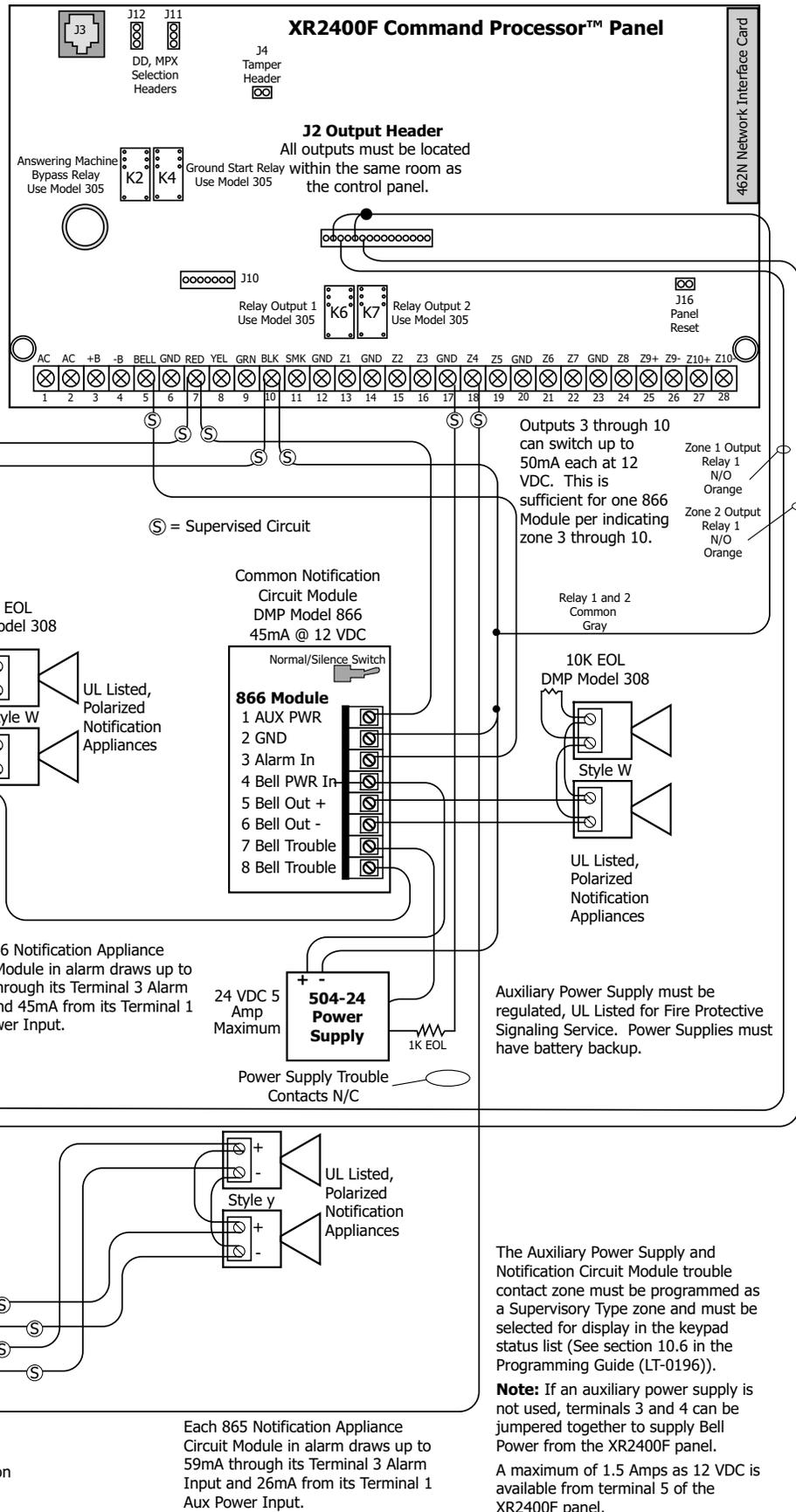


## 34.2 Multiple Notification Circuit Modules for Zoned Annunciation

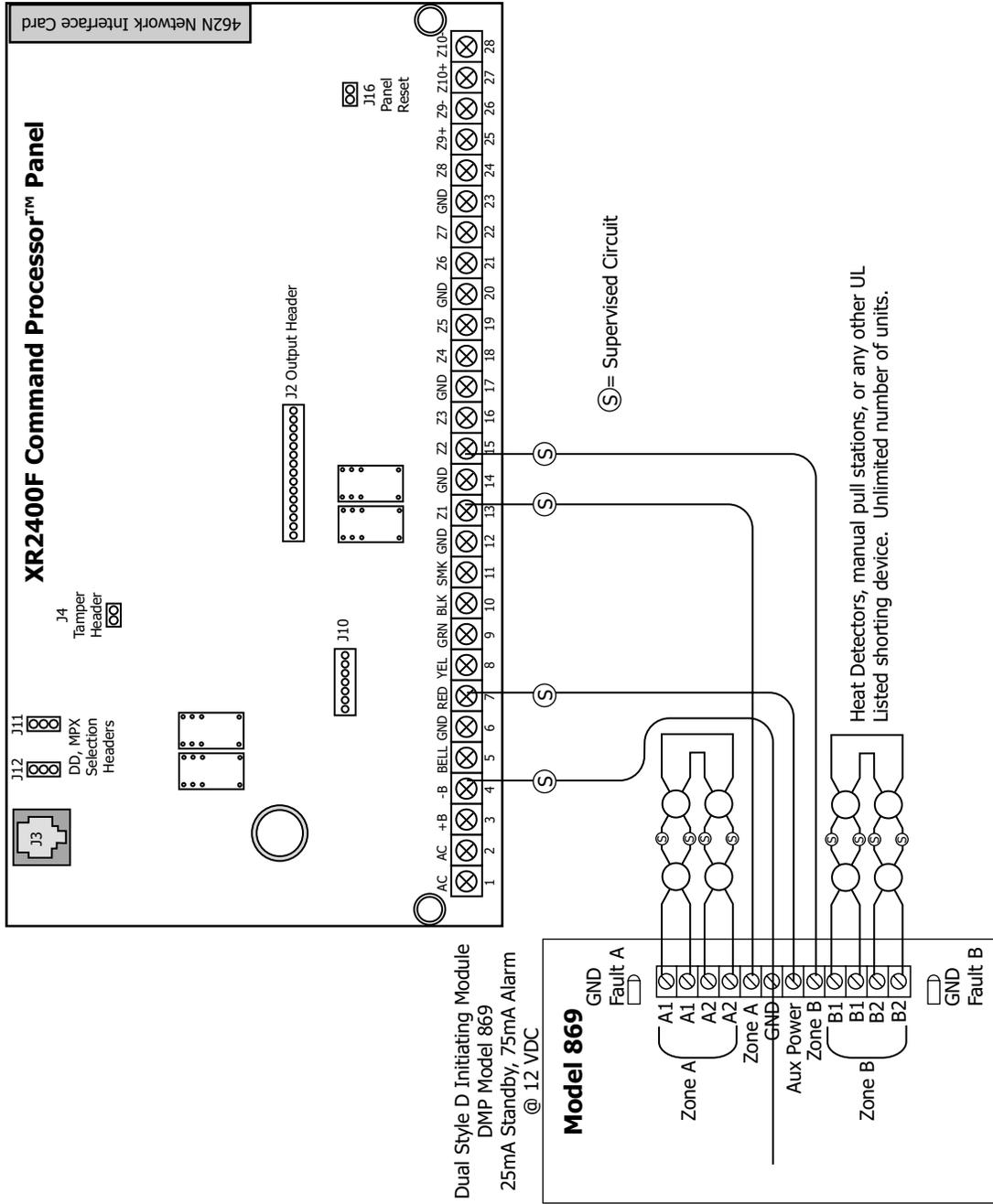
To additional Zone 1 Notification Circuit Modules.

Install up to a maximum of twenty-five 866 Modules by using the relay outputs available on the XR2400F panel.

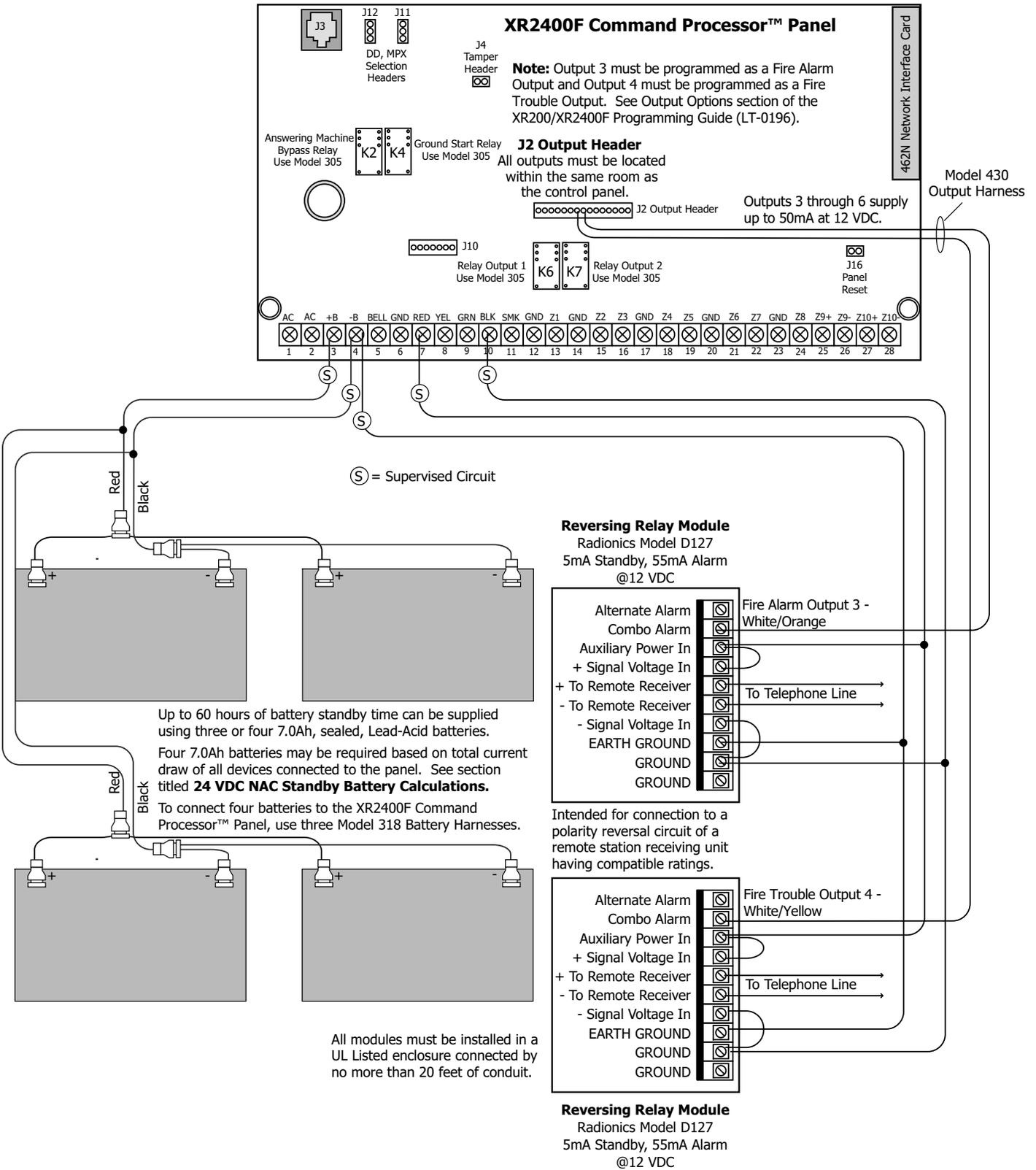
All modules must be installed in a 340FC, 349, or 350 Enclosure connected by no more than 20 feet of conduit.



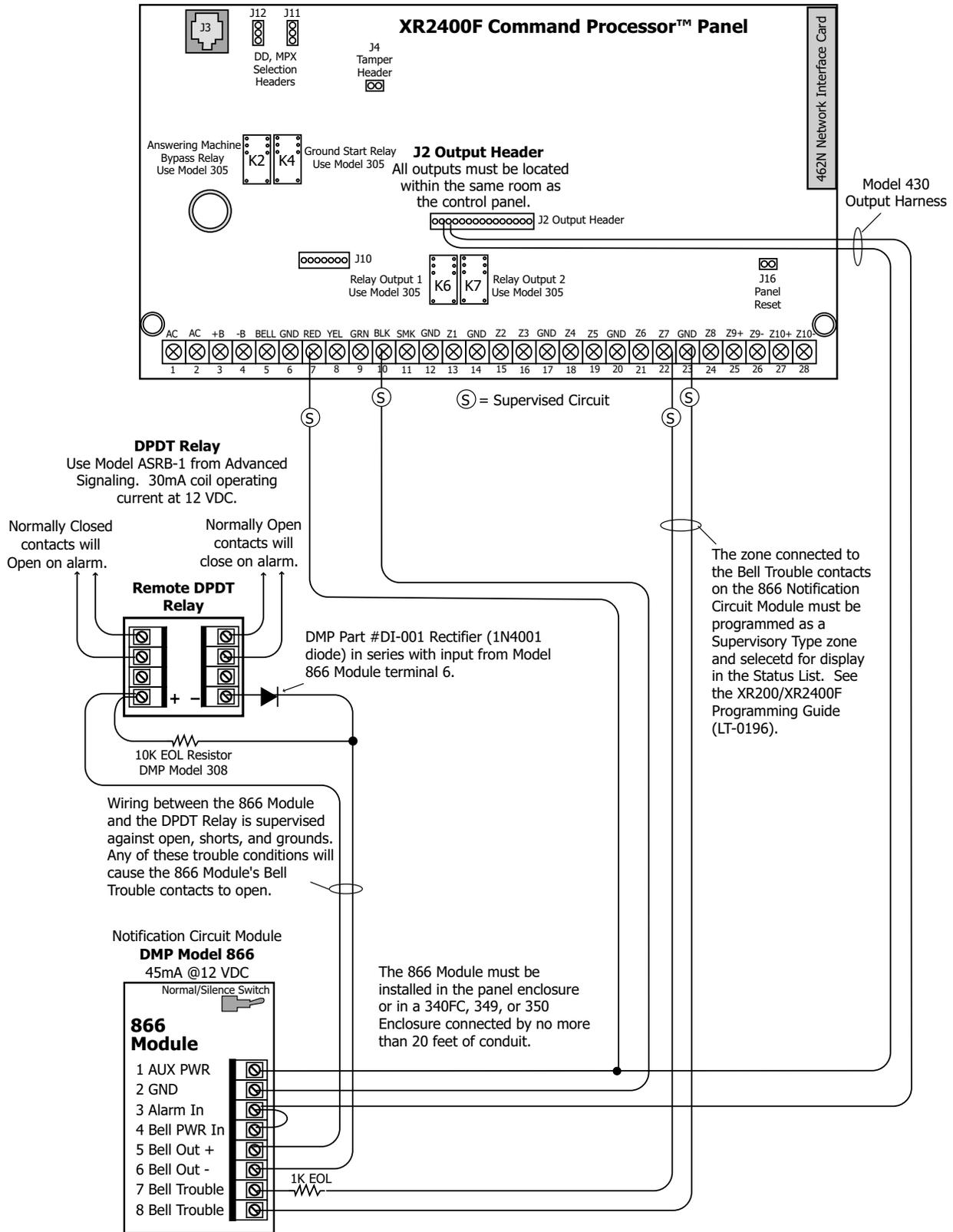
34.3 Dual Style D Zone Module Installation



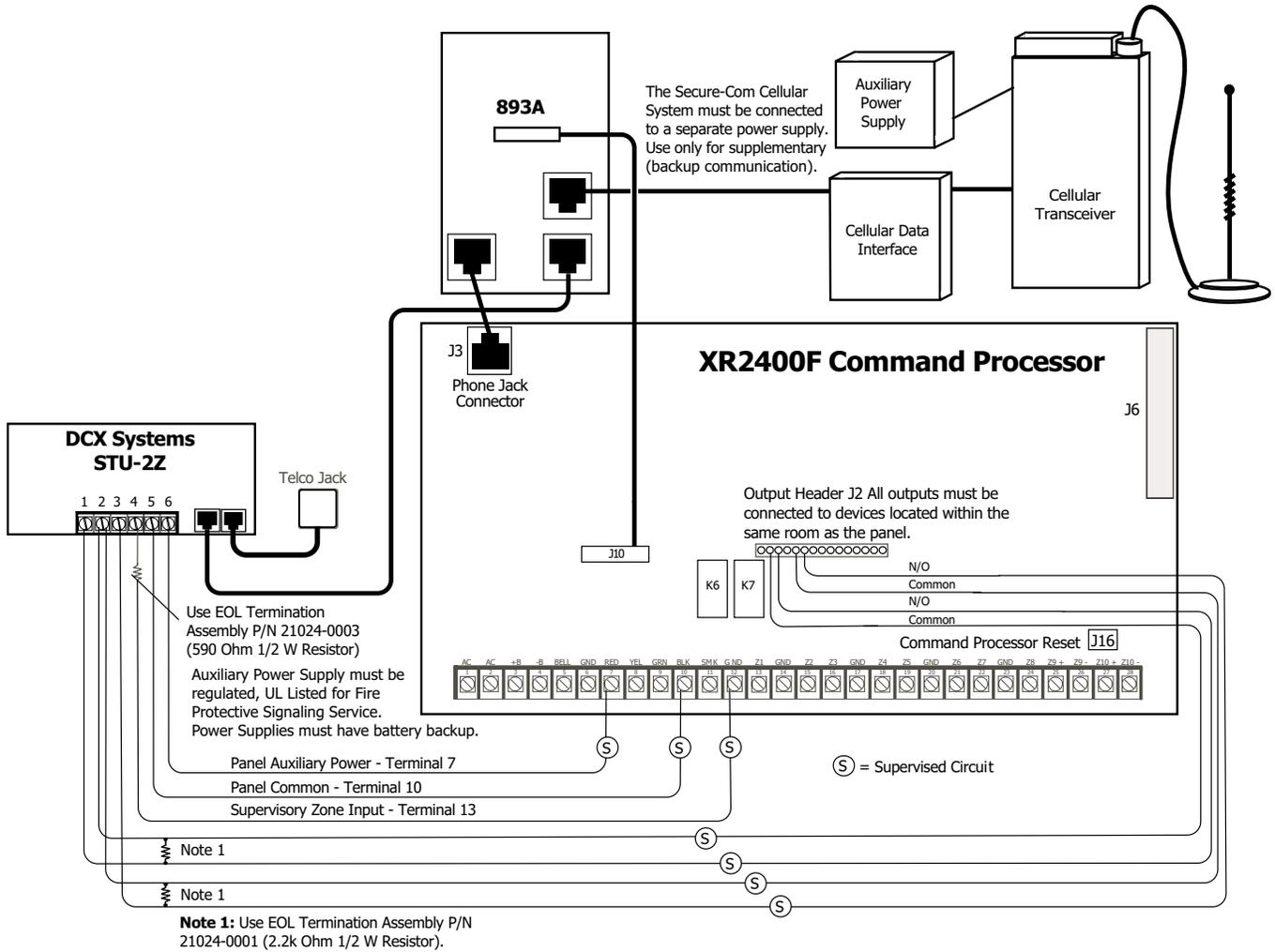
## 34.4 Remote Station Reversing Relay Connection



## 34.5 Supervised Remote Relay

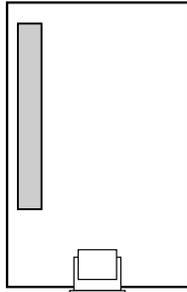


## 34.6 Cellular Backup Installation for Derived Channel Burglary

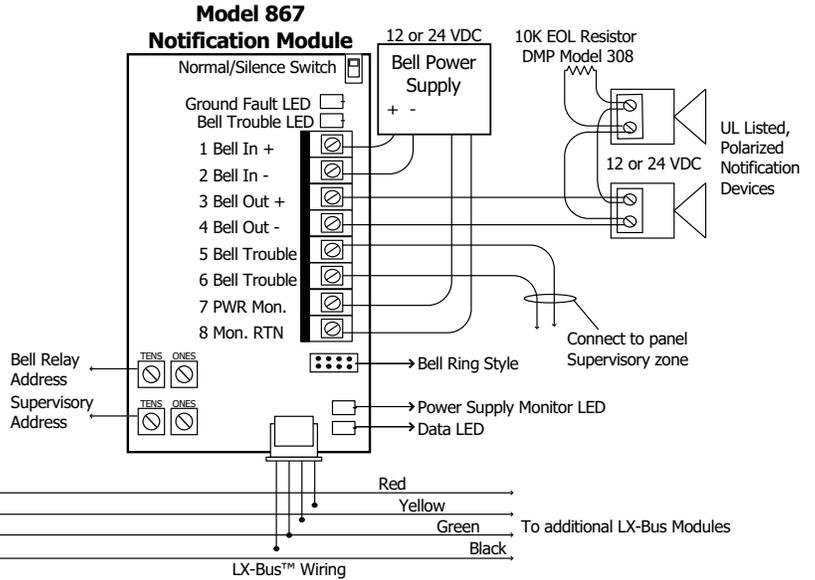


## 34.7 LX-Bus™ Module Connection

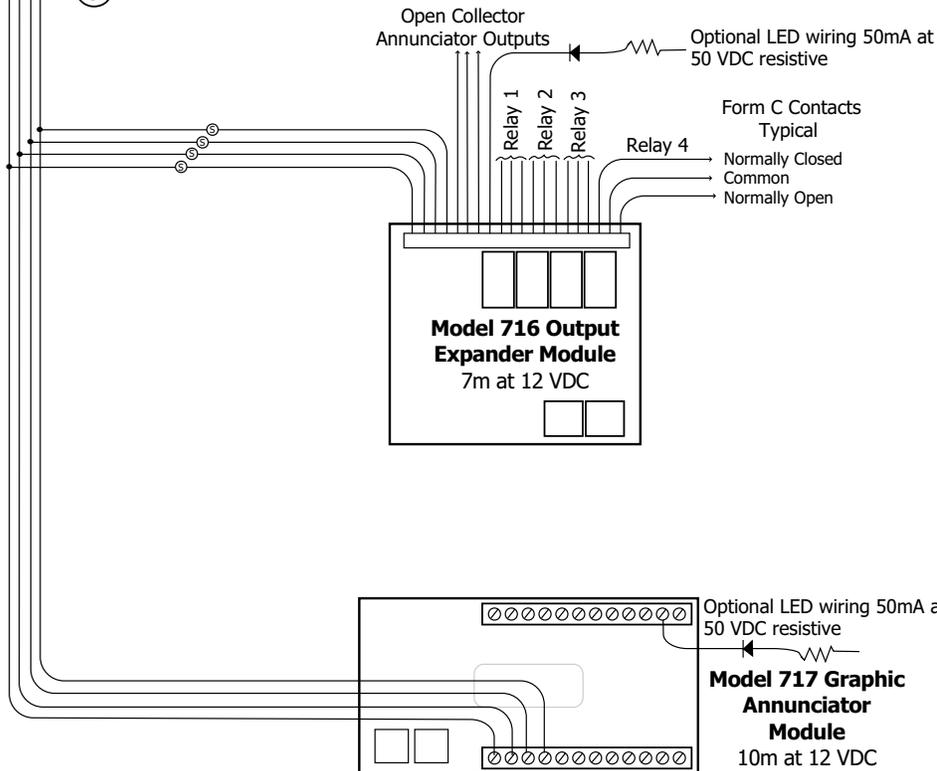
**LX-Bus Expansion  
Interface Card**  
DMP Models 462N, 462P,  
472, or 481



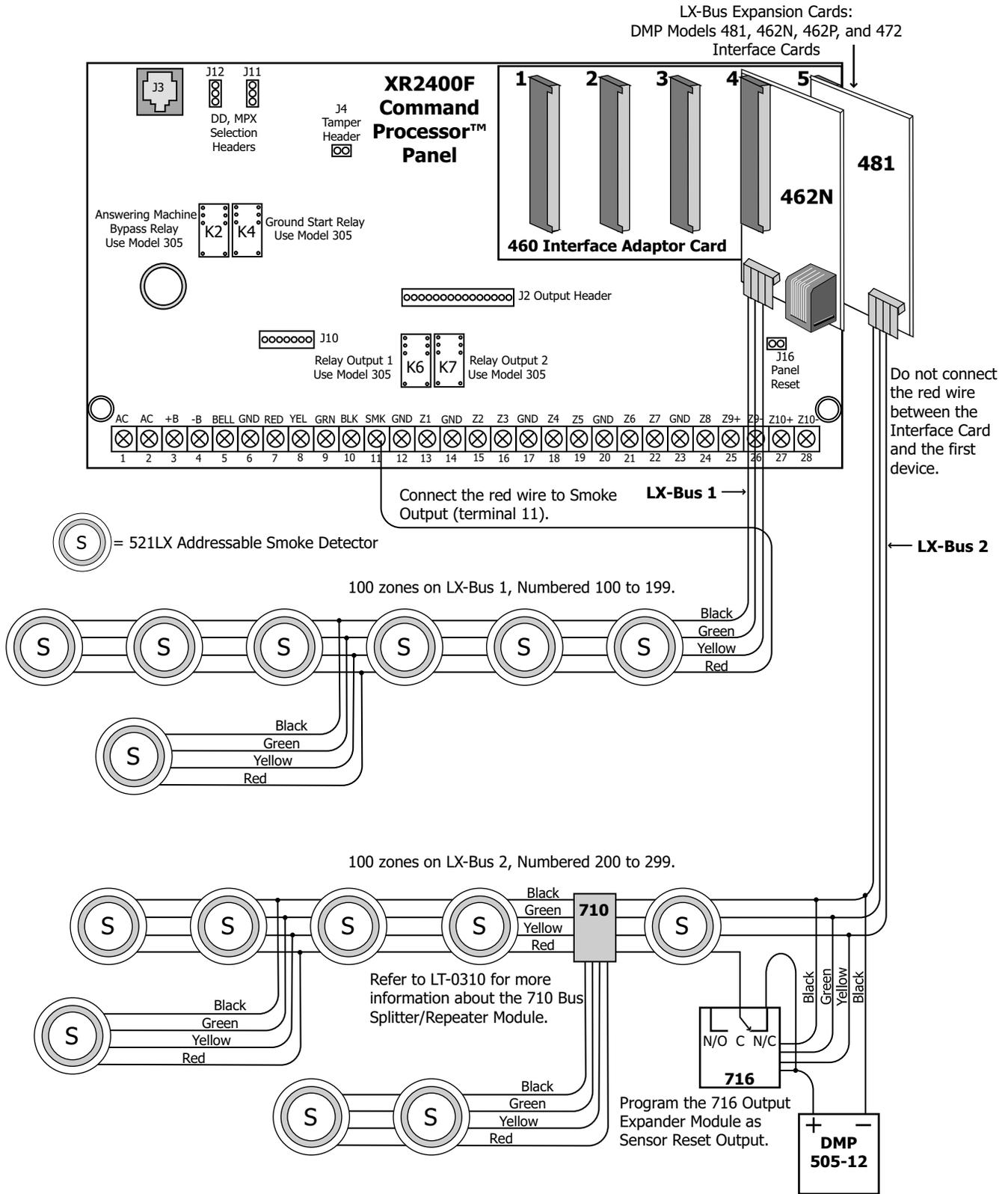
Each LX-Bus Module must have its own independent address ranging from 00 to 99. A Supervisory zone must be programmed into the XR2400F to properly supervise each module.



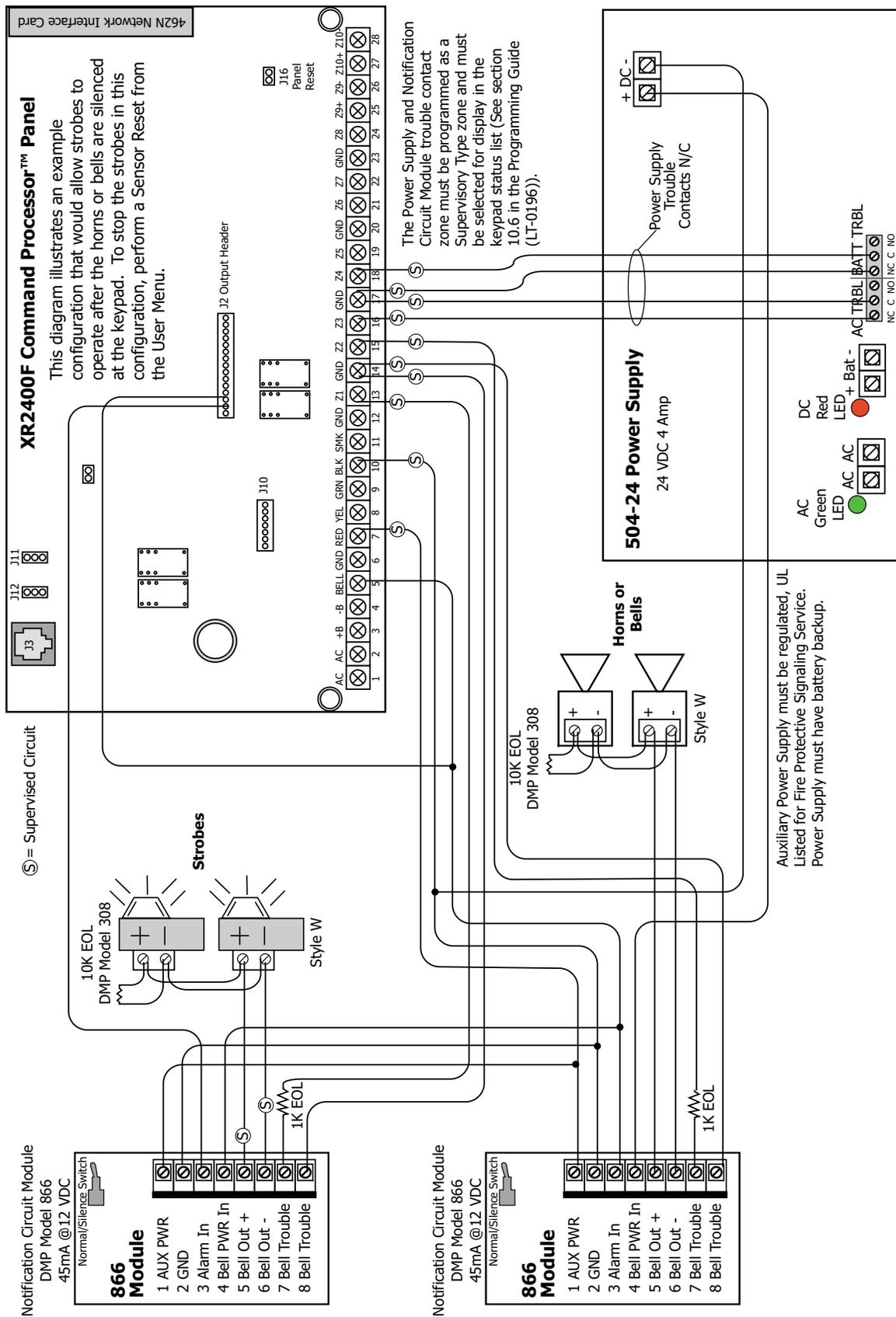
(S) = Supervised Circuit



## 34.8 Second LX-Bus™ with Auxiliary Power Supply



34.9 Multiple Notification Circuits with Strobes and Bells



## OPERATING INSTRUCTIONS

XR2400F Addressable Fire Alarm Control Panel

### **NORMAL STANDBY CONDITION**

When the system is in the normal standby condition, the display shows either the time of day or a blank display.

### **ALARM CONDITION**

When the system is in an alarm condition, the display shows the alarmed zone name(s) followed by an alarm display.

### **Keyswitch operation**

In order to use the four function keys, the keyswitch must be turned to the enable position.

### **ALARM SILENCE**

To silence the alarm while the bell or siren is sounding, press the key labeled "Silence" or enter your code number and press the COMMAND key. This silences the alarm but does not cancel any alarm reports to the central station.

### **RESETTING DETECTORS**

To reset a smoke or other detector, press the key labeled "Reset" or enter the User Menu by pressing the COMMAND key until MENU? NO YES appears in the display. Press the top row key under YES. The display shows ENTER CODE: - . Enter your code number and press COMMAND. The display now shows ALARM SILENCE?. Press the COMMAND key until SENSOR RESET? appears in the display. Press any top row key.

### **TROUBLE CONDITION**

When a device is in a trouble condition, the keyboard tones and displays the zone or device name followed by TRBL. Press any top row key to silence.

### **SYSTEM TESTING**

You should test the security system periodically to ensure proper operation. You can do this by pressing the key labeled "Test" or through a function in the User Menu. After entering the User Menu, press the COMMAND key until SYSTEM TEST? displays. Press any top row key. The system bell, battery, and communication to the central station system is then tested.

### **ALARM SERVICE**

If service is required for this system, please contact:

Company \_\_\_\_\_

Address \_\_\_\_\_

Telephone \_\_\_\_\_

The operating instructions above should be attached to the front, or framed and located adjacent to, the Fire Alarm Control Panel or a Remote Fire Command Center.

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