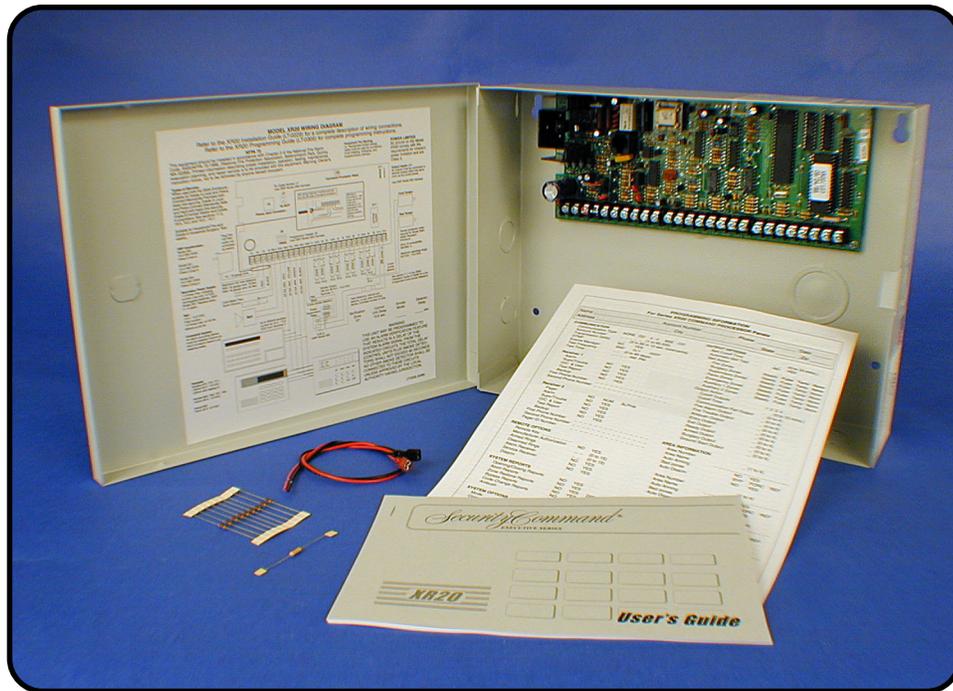


XRSuper6/XR20/XR40 Command Processor™ Panels Installation Guide



**22/26/42 Zone Burglary/Fire/Access Control Panels with
Built-in Communicator**

MODEL XRSuper6/XR20/XR40 COMMAND PROCESSOR™ 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

Stock No. 004-000-00345-4

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This information is subject to change without notice.

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Panel Specifications

1.1 Power supply

Transformer Input: 16.5 VAC 40VA (Models 320 wire-in or 321 plug-in)

16.5 VAC 20VA (Model 324 plug-in)

Standby Battery: 12 VDC 7.0Ah (40VA transformer charges up to 2 batteries)

Auxiliary Output: 12 VDC at 500mA

Bell Output: 12 VDC at 1.5 Amps with 40VA transformer, 600mA with 20VA transformer

Smoke Detector Output: 12 VDC at 100mA

All circuits inherent power limited

1.2 Communication

Built-in SDLC Digital Dialer communication to DMP Model SCS-1 Receivers

Built-in 4-2 communication to non-DMP receivers

Built-in M2E (Radionics Modem IIe) communication to non-DMP receivers (XRSuper6/XR20/XR40 only)

Built-in CID (Contact ID) communication to non-DMP receivers

Any panel can operate as a local system.

1.3 Panel zones

Nine 1k Ω EOL burglary zones (zones 1 to 9), (zones 1 to 5 on XRSuper6)

One 3.3k Ω EOL Class B powered fire zone with reset capability (zone 6 on XRSuper6; zone 10 on, XR20, and XR40)

1.4 Keypads

You can connect up to four supervised keypads to the XRSuper6/XR20 panels and eight supervised keypads on the XR40.

- 16 or 32 character alphanumeric keypads
- 10-zone LED keypads

In addition, the following zone expanders can be added to the XRSuper6/XR20/XR40 panels:

- Four and single point zone expanders
- Single point PIR and glassbreak detectors
- One 738A Ademco Wireless interface for up to 32 points of zone expansion
- One FA426 Wireless receiver for up to 16 points of zone expansion (Two on the XR40)

When using the FA426 Wireless Receiver, the XRSuper6/XR20 allows unsupervised devices to be added to address five.

1.5 Outputs

The XRSuper6/XR20/XR40 panels provide four open collector outputs rated for 50mA each. A Model 300 Output Harness is required. The open collector outputs provide the ground connection for a positive voltage source.

1.6 Enclosure specifications

The XRSuper6/XR20/XR40 panel ships in an enclosure with EOL resistors, battery leads, user's guide, and programming sheet.

Size:	12.5" W x 11.5" H x 3.5" D
Weight:	4 lbs
Color:	Gray
Construction:	20 gauge cold rolled steel

Introduction

2.1 Description

The DMP XRSuper6/XR20/XR40 Command Processor® panels are powerful 12 VDC burglary and fire communicator panels with battery backup. The panels provide nine on-board burglary zones and one on-board 12 VDC Class B powered fire zone. The XRSuper6 provides five burglary and one fire zone. The fire zone has a reset capability to provide for 2-wire smoke detectors, relays, or other latching devices. The panels can communicate to one or two DMP SCS-1 Receivers using SDLC digital dialer, 4-2, or Contact ID (CID) reporting formats. In addition, the XRSuper6/XR20/XR40 can communicate using the Radionics Modem IIe format.

2.2 System configurations

The panels can be programmed to operate as either an All/Perimeter system that provides one Perimeter area and one Interior area, or as a Home/Sleep/Away system that provides one Perimeter, one Interior, and one Bedroom area. The Bedroom area can include any protection devices the user wants disarmed during their sleeping hours and armed in the Away mode. In addition, the XR20/XR40 can operate as a four area system.

2.3 Before you begin

Before installing the panel, 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.

In addition to this installation guide, you should also read through and familiarize yourself with these other product documents:

- XRSuper6/XR20/XR40 Programming Guide (LT-0305)
- XRSuper6 Program Information Sheet (LT-0621)
- XRSuper6 Security Command User's Guide (LT-0622)
- XR20 Program Information Sheet (LT-0302)
- XR20 Security Command User's Guide (LT-0303)
- XR40 Program Information Sheet (LT-0493)
- XR40 Security Command User's Guide (LT-0494)

2.4 About this guide

The information contained in this guide is organized into three sections: Table of Contents, Introduction, and Installation.

- The Table of Contents at the front of this guide lists all of the headings and subheadings used throughout each section and the page number where the information can be found.
- The Introduction section gives you an overview of the various components that go into a panel system and diagrams some typical system configurations. This section gives descriptions of the panel, keypads, and accessory modules and provides details on how each of them operate together in the system.
- The Installation section begins with mounting instructions for the enclosure and takes you through the proper way to power up the panel prior to programming.

Caution notes

Throughout this guide you will see caution notes containing information you need to know when installing the panel. These cautions are written with a bold, italicized introductory clause followed by a detailed description of the caution. See the example shown below.

Always ground the panel before applying power to any devices: The panel 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.

Whenever you see a caution note, make sure you completely read and understand its information. Failing to follow the caution note can cause damage to the equipment or improper operation of one or more components in the system.

2.5 How to use this guide

To locate information about the installation of the panel, first go to the Table of Contents at the front of this guide. Find the subject heading that closely describes the information you need and turn to the section number shown to the right of the heading.

The text that follows the heading has been written to provide as much information about the subject as possible. If you can't find the information you need under that heading, try scanning through a few of the headings before and after and reading the text under those that sound similar.

System Components

3.1 Description

The DMP system is made up of an alarm panel with built in communicator, an enclosure, a 16.5 VAC transformer, and a 12 VDC 7.0 Ah battery. You can add Security Command keypads to the system and can also connect auxiliary devices to the panel's open collector outputs to expand the basic system. Combined current requirements of additional modules may require an auxiliary power supply. Refer to the **Standby Battery Power Calculation** section in this guide when calculating power requirements. In addition, up to 32 points of zone expansion can be added to the XR40, 16 points to the XR20, and 16 points to the XRSuper6.

3.2 Wiring diagram

The system wiring diagram in Figure 1 shows some of the accessory devices you can connect for use in various applications. A complete description of each module follows. Zone expanders can be added to the XRSuper6, XR20, and XR40. Wireless interface can also be added to the XRSuper6, XR20, and XR40.

3.3 Lightning protection

Metal Oxide Varistors and Transient Voltage Suppressors help protect against voltage surges on input and output circuits. A transistor is provided for the Smoke Detector Output Circuit (Terminal 11). This transient protection provides additional resistance to electrical surges such as lightning. Additional surge protection is available by installing the DMP 370 or 370RJ Lightning Suppressors.

3.4 Command Processor Accessories

You can connect any combination (up to four on XRSuper6 and XR20, and up to eight on XR40) of Model 670, 770, and 771 vacuum fluorescent, 790, 791, and 793 LCD, or 692 LED Security Command Keypads to the 4-wire keypad data bus provided by the panel on terminals 7, 8, 9, and 10. Also, you can connect Model 714, 715, 714-8, 714-16, 715-8, 715-16 zone expanders to the XR40, XR20, or XRSuper6 keypad bus. Additionally, you can connect one Model 738A Ademco Interface Module or one Model FA426 Wireless Receiver to the XRSuper6, XR20, and XR40 keypad bus. You can connect an additional Model FA426 Wireless Receivers to the XR40 keypad bus.

Introduction

3.5 XRSuper6/XR20/XR40 wiring diagram

The Class 2, Class 3, and power-limited fire alarm circuits are installed using CL3, CL3R, or CL3P, or substitute cable permitted by the National Electric code, ANSI/NFPA 70, and the Class 2, Class 3, and power-limited fire alarm circuit conductors extending beyond the cable jacket are separated a minimum of 1/4 in. or by nonconductive tubing or by a nonconductive barrier.

DMP transformers:
Model 320
16.5 VAC 40VA
Class 2 wire-in

Model 321
16.5 VAC 40VA
Class 2 plug-in

Model 324
16.5 VAC 20VA
Class 2 plug-in

Secondary Power Supply
1.2 Amps max. charging current. Use only 12 VDC rechargeable batteries. DMP Model 367. Replace every 3 - 5 years.

Plug into 120 VAC outlet not controlled by switch.

Bell
10.4 - 13.2 VDC
Total current:
1.5 Amps max. w/ 40 VA
600mA w/ 20 VA

Household System
An alarm sounding device must be installed indoors so that it is clearly heard in all sleeping areas.

Keypads
Models 670, 770, 771
100mA @ 8 - 16 VDC
125mA with display lit

Models 690, 790,
791, 793
100mA @ 8 - 16 VDC

Model 692
75mA @ 8 - 16 VDC

Output Header J11
All outputs must be connected to devices located within the same room as the control panel.

Use DMP Model 300 Harness.

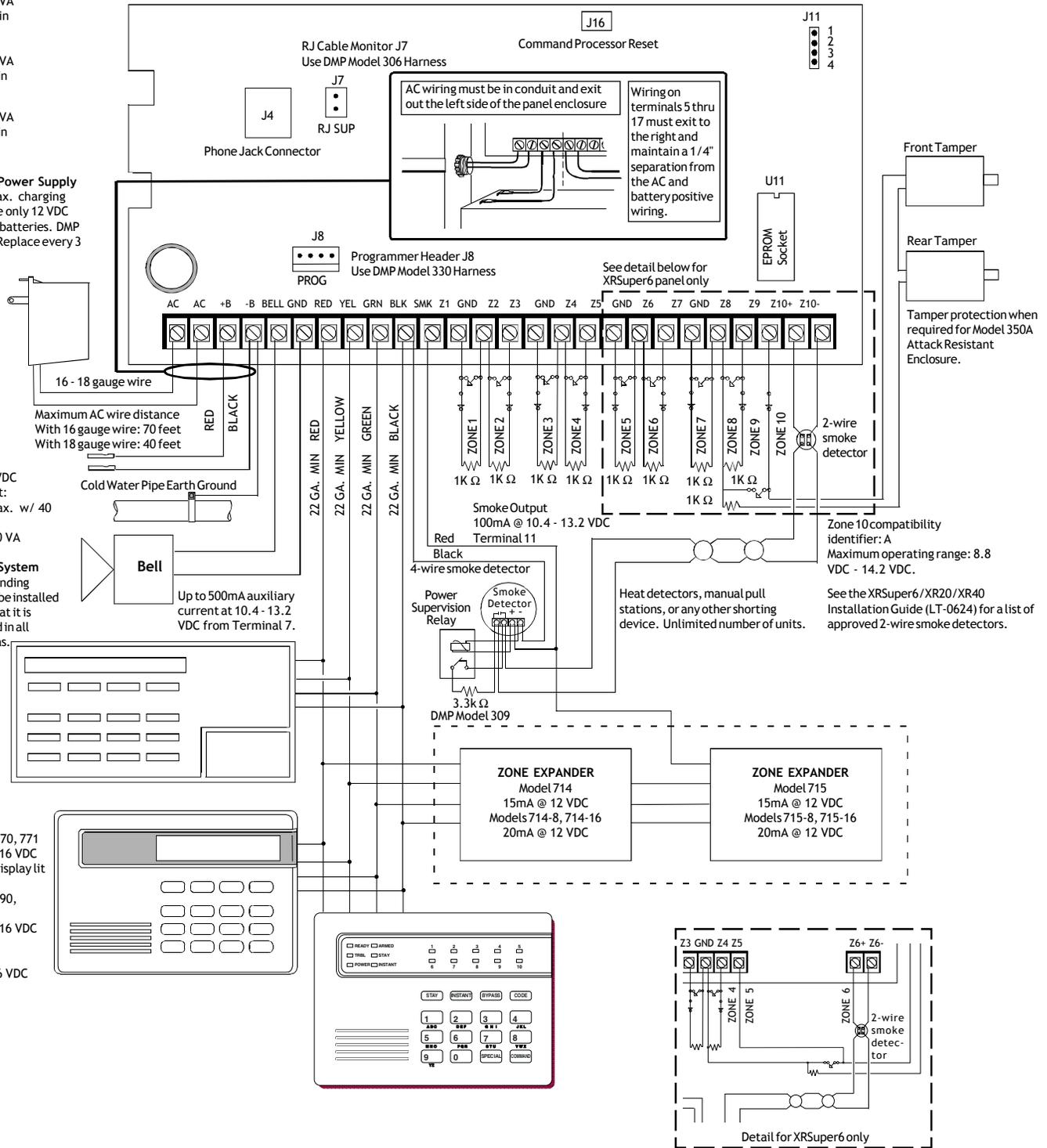


Figure 1

Installation

4.1 Mounting the enclosure

The metal enclosure must be mounted in a secure, dry place to protect the panel from damage due to tampering or the elements. It is not necessary to remove the PCB when installing the enclosure. The PCB may be installed in the standard 340 enclosure, or the optional 349 enclosure, or the optional 350A Grade A enclosure.

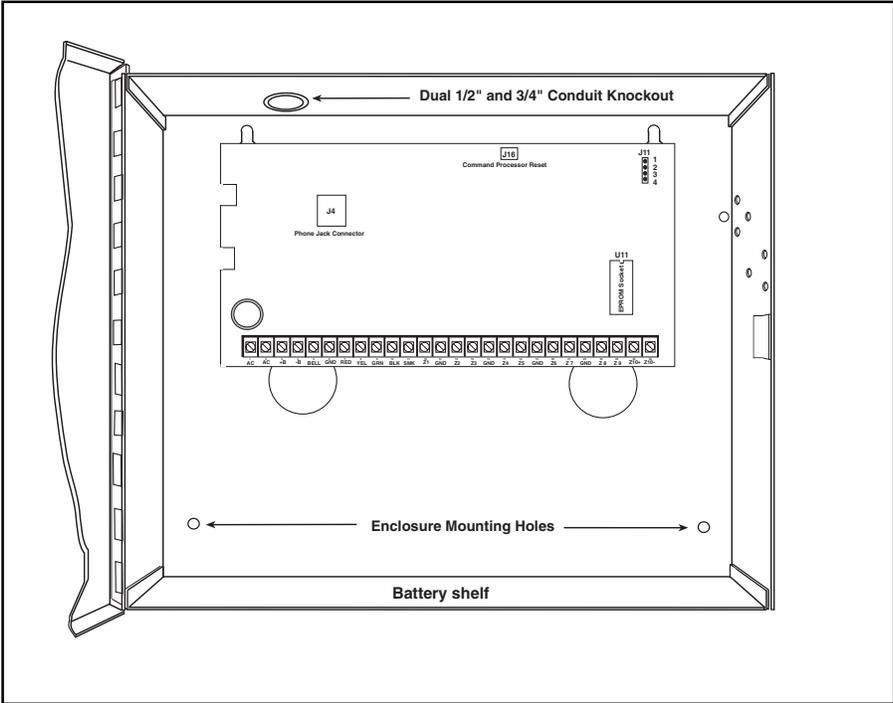


Figure 2: XRSuper6/XR20/XR40 in standard 340 enclosure

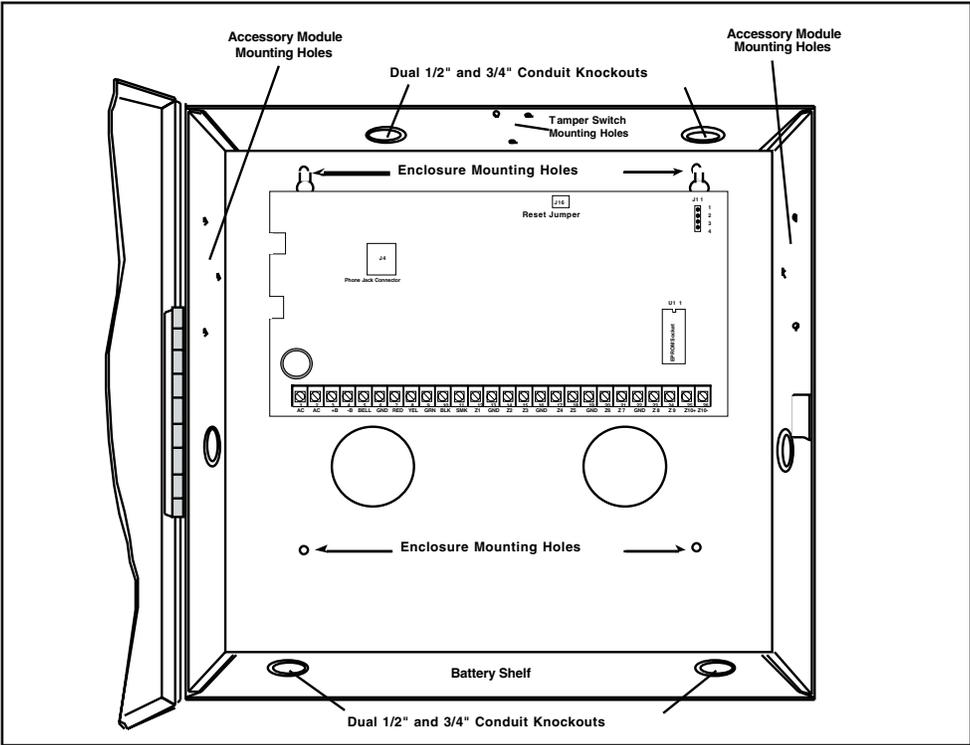


Figure 2A: XRSuper6/XR20/XR40 in optional 349 Enclosure

4.2 Mounting keypads

Security Command keypads have removable covers that allow you to easily mount the base to a wall or other flat surface using the screw holes provided on each corner.

For mounting keypads on solid walls, or for applications where conduit is required, use a DMP 695, 696, 775, or 776 keypad conduit backbox.

4.3 Wiring keypads

Keypad data bus

The keypad data bus consists of a 4-wire cable that provides 12 VDC power, data in, data out, and a panel common. You can connect keypads in parallel on one 4-wire cable or provide a separate cable run back to the panel for each keypad.

Three factors determine the performance characteristics of the keypad bus: the length of wire used, the number of devices connected, and the voltage at each device. You can connect devices in parallel on the same cable, or provide separate runs back to the panel.

When planning a keypad bus installation, keep in mind the following three specifications:

1. **Maximum distance** for any one keypad bus circuit (length of wire) is 2,500 feet.
2. **Maximum number of devices** per 2,500 feet circuit is 40. This number can be increased to 50 if the wire run remains less than 2,000 feet.
3. **Maximum voltage drop** between the panel (or auxiliary power supply) and any device is 2.0 VDC. For example, if the voltage across the red and black wires at the panel is 13.8 VDC, the voltage measured at each device on the circuit must be equal to or greater than 11.8 VDC.

If the voltage at any device, including a 710 module, is less than the required level, an auxiliary power supply should be added at the end of the circuit. The voltage drop can be reduced by increasing the gauge of wire used on the circuit. The 2.0 VDC rule applies to keypad data bus circuits powered either by the panel or by an auxiliary power supply.

Note: To troubleshoot voltage drop, read the voltage of the last device on the keypad bus.

Refer to the 710 Bus Splitter/Repeater Installation Sheet, LT-0310 (Document No. 0310 on DMP Fax) for information concerning keypad wiring distances and capacities.

Primary Power Supply

5.1 AC terminals 1 and 2

Connect the transformer wires to terminals 1 and 2 on the panel. Use no more than 70 ft. of 16 gauge, or 40 ft. of 18 gauge, wire between the transformer and the panel.

Always ground the panel before applying power to any devices: The panel 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. See Earth ground, in the **Secondary Power Supply** section.

5.2 Transformer types

The larger transformer for the panel is 16.5 VAC 40VA, which provides up to 1.5 Amps of bell output current, 500mA of auxiliary current, and 100mA of smoke detector output. You can use either the Model 320 wire-in or 321 plug-in transformer with the panel. The total current available is limited by the total battery standby requirements of the installation. When the DMP Model 324 16.5 VAC 20VA plug-in transformer is used, the bell output current is reduced to 600mA.

The transformer must be connected to a 120 VAC 60 Hz commercial power outlet that is not controlled by a wall switch. **Never share the transformer output with any other equipment.**

Secondary Power Supply

6.1 Battery terminals 3 and 4

Connect the black battery lead to terminal 4 on the panel and to the negative terminal of the battery. The negative terminal connects to the enclosure ground internally through the panel circuit board. Connect the red battery lead to terminal 3 on the panel and to the positive terminal of the battery. **Observe polarity when connecting the battery.** The panel can charge up to two batteries.

Use sealed lead-acid batteries only: Use the DMP Model 367, 12 VDC 7.0Ah 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 XRSuper6/XR20/XR40 PANEL.

6.2 Earth ground

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

6.3 Replacement period

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

6.4 Discharge/recharge

The panel battery charging circuit float charges at 13.9 VDC at a maximum current of 1.2 Amps using a 40VA transformer. The total current available is reduced by the combined auxiliary current draw from terminals 7, 11, and 25. The various battery voltage levels are listed below:

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

6.5 Battery supervision

The panel tests the battery once every hour when AC power is present. The test lasts for five seconds. A load is placed on the battery and if its voltage falls below 11.9 VDC a low battery is detected. If AC power has failed, 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 faulty battery is replaced with a fully charged battery, the restored battery will not be detected until the next two minute test is done.

6.6 XRSuper6/XR20/XR40 power requirements

During AC power failure, the panel and all auxiliary devices connected 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 panel. Add the additional current draw of Security Command keypads, smoke detector output, and any other auxiliary devices used in the system for the total current required. The total is then multiplied by the total number of standby hours required to arrive at the total Ampere/hours required.

Installation

6.7 XRSuper6/XR20/XR40 STANDBY BATTERY POWER CALCULATIONS

	Standby Current	Alarm Current
Command Processor Panel	50mA _____ mA	50mA _____ mA
Active Zones 1-9	Qty _____ x 1.6mA _____ mA	Qty _____ x *2mA _____ mA
Active Zone 10 (zone 6 on XRSuper6)	4mA _____ mA	30mA _____ mA
2-Wire Smoke Detectors	Qty _____ x .1mA _____ mA	Qty _____ x .1mA _____ mA
Bell Output		1500mA max. _____ mA
770 and 771 Keypads	Qty _____ x 100mA _____ mA	Qty _____ x 100mA _____ mA
Active Zones (EOL installed)	Qty _____ x 1.6mA _____ mA	Qty _____ x *2mA _____ mA
Annunciator (ON)		Qty _____ x 20mA _____ mA
690, 790, 791, and 793 Keypads	Qty _____ x 100mA _____ mA	Qty _____ x 100mA _____ mA
Active Zones (EOL installed)	Qty _____ x 1.6mA _____ mA	Qty _____ x *2mA _____ mA
692 Keypads	Qty _____ x 30mA _____ mA	Qty _____ x 70mA _____ mA
710 Bus Splitter/Repeater	Qty _____ x 30mA _____ mA	Qty _____ x 30mA _____ mA
711 or 714 Zone Expander	Qty _____ x 7mA _____ mA	Qty _____ x 7mA _____ mA
Active Zones (EOL installed)	Qty _____ x 1.6mA _____ mA	Qty _____ x *2mA _____ mA
715 Zone Expander	Qty _____ x 7mA _____ mA	Qty _____ x 7mA _____ mA
Active Zones (EOL installed)	Qty _____ x 4mA _____ mA	Qty _____ x 30mA _____ mA
2-Wire Smokes	Qty _____ x .1mA _____ mA	Qty _____ x .1mA _____ mA
714-8 or 714-16 Point Zone Expanders	20mA _____ mA	20mA _____ mA
Active Zones (EOL installed)	Qty _____ x 1.6mA _____ mA	Qty _____ x *2mA _____ mA
715-8 or 715-16 Point Zone Expanders	20mA _____ mA	20mA _____ mA
Active Zones (EOL installed)	Qty _____ x 4mA _____ mA	Qty _____ x 30mA _____ mA
2-Wire Smokes	Qty _____ x .1mA _____ mA	Qty _____ x .1mA _____ mA
733 Wiegand Interface	30mA _____ mA	30mA _____ mA
Active Zones (EOL installed)	Qty _____ x 1.6mA _____ mA	Qty _____ x *2mA _____ mA
Annunciator (ON)		20mA _____ mA
738A Ademco Wireless Interface w/Receiver	75mA _____ mA	75mA _____ mA
FA426 16 Point Receiver	50mA _____ mA	50mA _____ mA
740/741/743 SC Keypads	Qty _____ x 50mA _____ mA	Qty _____ x 100mA _____ mA
Active Zones (EOL installed)	Qty _____ x 1.6mA _____ mA	Qty _____ x *2mA _____ mA
Annunciator (ON)		Qty _____ x 20mA _____ mA
Auxiliary Powered Devices on Terminals 7 and 11 (Other than keypads)	_____ mA	_____ mA
	Total Standby _____ mA	Total Alarm _____ mA
Total Standby _____ mA x number of standby hours needed _____ = _____ mA/hours <div style="text-align: right;"> Total Alarm + _____ mA/hours Total _____ mA/hours x .001 _____ = _____ A/hours required </div>		
* Based on 10% of active zones in alarm condition		

Bell Output

7.1 Terminals 5 and 6

Nominal 12 VDC is supplied by terminal 5 on the panel to power alarm bells or horns. The output is rated for a maximum of 1.5 Amps with a 40VA transformer and 600mA with a 20VA transformer. This output can be steady, pulsed, or Temporal Code 3 depending upon the Bell Action specified in Output Options programming. Terminal 6 is the ground reference for the bell circuit.

Keypad Data Bus

8.1 Description

Terminals 7, 8, 9, and 10 of the panel are designated as the keypad data bus. In addition to keypads, the XRSuper6/XR20/XR40 allows the connection of any combination of zone expanders, 5845LX Glassbreak Detectors, and 6155LX PIRs, to the data bus up to the maximum of four devices. The XRSuper6 allows the connection of four zones on address one.

8.2 Terminal 7 - RED

Nominal 12 VDC is supplied at terminal 7 to power Security Command keypads and zone expanders. This is also where power for any auxiliary device is supplied. The ground reference for terminal 7 is terminal 10. The maximum output is rated at 500mA. All auxiliary devices totaled together must not exceed the panel's maximum current rating of 500mA.

8.3 Terminal 8 - YELLOW

Data receive from keypads and zone expanders.

8.4 Terminal 9 - GREEN

Data transmit to keypads and zone expanders.

8.5 Terminal 10 - BLACK

Terminal 10 is the ground reference for Security Command keypads, zone expanders, and any auxiliary devices being powered by terminals 7 and 11.

8.6 Programming Connection

A locking 4-pin header (J8) is provided to connect a keypad when using a DMP Model 330 Programming Cable. This provides a quick and easy connection for programming the panel.

Smoke and Glassbreak Detector Output

9.1 Terminal 11

Nominal 12 VDC at 100mA maximum (shared by terminal 25) is supplied at terminal 11 to power 4-wire smoke detectors or other auxiliary powered devices. This output can be turned off by the user for 5 seconds using the Sensor Reset Menu Option. Terminal 10 is the ground reference for terminal 11.

Burglary Zones

10.1 Description

The XR20/XR40 terminals 12 to 24 are the nine burglary zones. For programming purposes, the zone numbers are 1 to 9. The zone configurations on terminals 12 to 24 are described below. The XRSuper6 terminals 12 to 18 are the five burglary zones with terminal 16 providing the ground for zone 5.

Terminal	Function	Terminal	Function
12	Zone 1 voltage sensing	19	Ground for zones 5 & 6
13	Ground for zones 1 & 2	20	Zone 6 voltage sensing
14	Zone 2 voltage sensing	21	Zone 7 voltage sensing
15	Zone 3 voltage sensing	22	Ground for zones 7, 8, & 9
16	Ground for zones 3 & 4 (& 5 on XRSuper6)	23	Zone 8 voltage sensing
17	Zone 4 voltage sensing	24	Zone 9 voltage sensing
18	Zone 5 voltage sensing		

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

10.2 Operational parameters

Each burglary protection zone detects three conditions: open, normal, and short.

The parameters for each are listed below:

Condition	Resistance on zone	Voltage on right 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

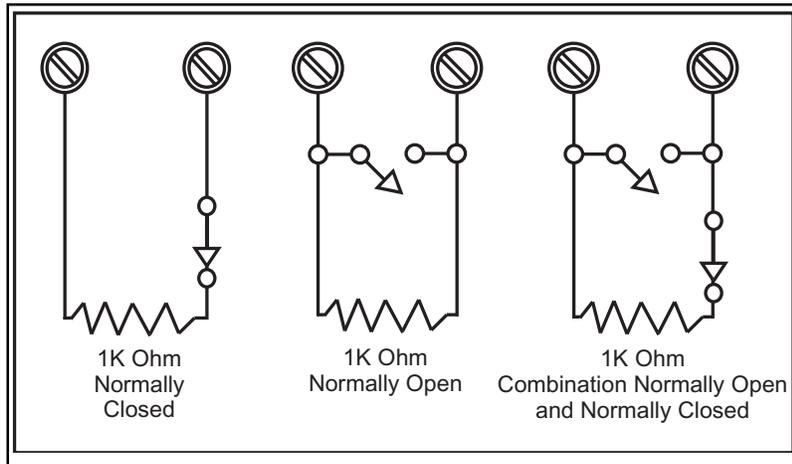


Figure 3: Protection zone contact wiring

10.3 Zone response time

A condition must be present on a zone for 500 milliseconds before it is detected by the panel. Ensure detection devices used on the protection zones are rated for use with this delay.

10.4 Keyswitch arming zone

Momentary keyswitches

You can use a momentary keyswitch on a zone programmed as an Arming type for use in arming and disarming the system without a code.

Powered Zone for 2-Wire Smoke Detectors

11.1 Terminals 25 and 26

A resettable 2-wire Class B powered zone is provided on terminals 25 (positive) and 26 (negative) of the panel. For programming purposes, the zone number is 10 on the XR20/XR40 and zone 6 on the XRSuper6. The zone uses a Model 309, 3.3k Ohm EOL resistor (provided with the panel) and has an operating range of 8.8 to 14.2 VDC.

Power is dropped from zone 10 any time a Sensor Reset is performed on the panel. Whenever non-Fire and non-Supervisory zone types are used on zone 10, make the appropriate adjustments to the zone's Armed Action to prevent false alarms from occurring.

The UL compatibility identifier is: A.

Manufacturer	Model	Detector ID	Base	Base ID	# of Detectors	XR Panel	Zone Expander
Detection Systems	DS282	B	None	N/A	10	10/20	715, 715-8, 715-16
Detection Systems	DS282TH	B	None	N/A	10	10/20	715, 715-8, 715-16
Detection Systems	DS250	B	MB2W	A	10	10/20	715, 715-8, 715-16
Detection Systems	DS250TH	B	MB2W/MB2WL	A	10	10/20	715, 715-8, 715-16
Detection Systems	DS250HD	B	MB2W/MB2WL	A	10	10/20	715, 715-8, 715-16
DMP/Hochiki	SLK-835	HD-5	HSB-200, HSB-200N	HB-55	7	6/10/20	715, 715-8, 715-16
DMP/Hochiki	SLR-835	HD-3	NS6-100	HB-55	7	6/10/20	715, 715-8, 715-16
DMP/Hochiki	SLR-835B	HD-6	None	N/A	7	6/10/20	715, 715-8, 715-16
Sentrol/ESL	429AT	S09A	None	N/A	12	10/20	715, 715-8, 715-16
Sentrol/ESL	521B	S09A	None	N/A	12	10/20	715, 715-8, 715-16
Sentrol/ESL	521BXT	S09A	None	N/A	12	10/20	715, 715-8, 715-16
System Sensor	1100	STD	None	N/A	10	20	715
System Sensor	1151	STD	B110LP	N/A	10	20	715
System Sensor	1400	STD	None	N/A	10	10/20	715
System Sensor	1451	STD	B401, B401B	N/A	10	10/20	715
System Sensor	2100	STD	None	N/A	10	10/20	715
System Sensor	2400	STD	None	N/A	10	10/20	715
System Sensor	2451	STD	B401, B401B, DH400	N/A	10	10/20	715
System Sensor	1451DH	STD	DH400	N/A	10	10/20	715
System Sensor	2100T	STD	None	N/A	10	10/20	715
System Sensor	2400AT	STD	None	N/A	10	10/20	715
System Sensor	2400AIT	STD	None	N/A	10	10/20	715
System Sensor	2400TH	STD	None	N/A	10	10/20	715
System Sensor	2451TH	STD	B401, B401B	N/A	10	10/20	715

Figure 4: Compatible 2-wire smoke detectors

Annunciator Outputs

12.1 Description

The four annunciator outputs can be programmed to indicate the activity of the panel's zones or conditions occurring on the system. **Annunciator outputs do not provide a voltage but instead switch to ground voltage from another source.** The outputs can respond to any of the conditions listed below:

- | | |
|--|----------------------------|
| 1) Activation by zone condition: Steady, Pulse, Momentary, or Follower | 7) Exit and Entry timers |
| 2) Manually from the Security Command keypad | 8) System Ready |
| 3) Communication failure | 9) Ground start activation |
| 4) Armed area annunciation | 10) Cellular Backup |
| 5) Fire Alarm or Fire Trouble | 11) Late to Close |
| 6) Ambush alarm | |

12.2 Harness wiring

The open collector outputs are accessible by installing the DMP 300 Harness on the 4-pin header labeled J11. The output locations are shown below. For UL applications, devices connected to the outputs must be located within the same room as the panel.

Output	Color	Wire	Output	Color	Wire
1	Red	1	3	Green	3
2	Yellow	2	4	Black	4

12.3 Model 860 Relay Module

You may connect a Model 860 Relay Module to the panel to provide relays for the annunciator outputs. These relays can be used for electrical isolation between the alarm panel and other systems or for switching voltage to control various functions. The module includes one relay and provides three additional sockets for expansion of up to four relays. A 4-wire harness is also provided that connects the Model 860 to the DMP panel.

The 860 mounts inside the panel enclosure using the 3-hole mounting configuration. Plastic standoffs are provided with the module for ease of installation. Power is supplied to the relay coils from the panel's keypad bus.

Relay Contact Rating: 2 Amps at 30 VDC

Telephone RJ Connector

13.1 Description

Connect the panel to the public telephone network by installing a DMP 356 RJ Cable between the panel's J4 connector and the RJ31X or RJ38X phone jack.

Phone Cable Monitor

A two pin header labeled RJ SUP (J7) is provided to allow monitoring of the telephone cable connected between the panel and a RJ38X jack (pins 2 and 7 jumpered). Attach a DMP Model 306 Harness between J7 and any available zone. The pins of J7 are connected via the telephone cable to 2 and 7 of the RJ38X jack. The RJ38X jack provides a jumper between pins 2 and 7 which completes the circuit.

When the zone is programmed for a Supervisory type (SV) and the telephone cable is removed, the keypad will display the zone in trouble and produce a steady tone.

13.2 FCC registration

The panel complies with FCC part 68 and is registered with the FCC.

Registration number: CCKUSA - 18660 - AL - R

Ringer Equivalence: 1.1B

13.3 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 with the following information:

- The particular line(s) the service is connected to
- The FCC registration number
- The ringer equivalence
- The make, model, and serial number of the device

13.4 Ground start

To configure the panel for ground start operation, you must install the appropriate ground start module and program one of the panel's available annunciator outputs for Ground Start operation. Refer to the panel Programming Guide for complete programming information. This option must not be selected on a UL listed system.

Reset Jumpers J16

14.1 Description

There are two reset jumpers located at the top right of the panel's circuit board labeled RESET. Momentarily shorting these jumpers allows you to reset the microprocessor. Resetting the panel allows you to enter the panel's internal programmer.

To reset the panel when first installing the system, place the blade of a slotted screwdriver across the two reset jumpers after applying power to the panel.

To reset the panel while the system is operational (for example, prior to reprogramming), you can short the jumpers without powering down the system.

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

UNIVERSAL UL BURGLARY SPECIFICATIONS

15.1 Introduction

The programming and installation specifications contained in this section must be completed when installing the XRSuper6/XR20/XR40 in accordance with any of the UL burglary standards. Additional specifications may be required by a particular standard.

15.2 Wiring

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

15.3 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.

15.4 Bypass reports

The bypass reports option must be programmed as YES for all UL burglary applications. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

15.5 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.

15.6 Cross zoning

Zones used for cross zoning must be installed to allow detection of the same event. Cross zoning shall not conflict with UL 681 or 1641.

15.7 Ground Start

Ground Start phone lines must not be used for UL listed systems.

15.8 UL Listed Receivers

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

UL 1023 SPECIFICATIONS

Household Burglar-Alarm System Units

16.1 Bell cutoff

The bell cutoff time cannot be less than five minutes. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

16.2 Entry delay

The maximum entry delay used must not be more than 45 seconds. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

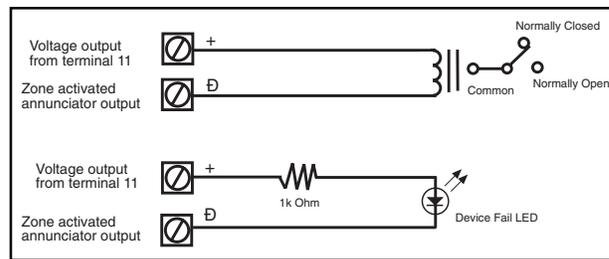
16.3 Exit delay

The maximum exit delay used must not be more than 60 seconds. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

16.4 Zone expansion on 4-wire bus

When expansion zones are used, the keypad and zone expander 4-wire bus must be limited to three feet in length unless an external communication fail indicator is added. A 12 VDC relay may be wired as a communication fail indicator. To install, connect the negative side of the indicator to one of the panel's annunciator outputs and the positive side to the smoke power (terminal 11 of the panel). See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

In addition to the wiring described above, a 24-hour zone must be programmed to activate the appropriate annunciator output.



UL 1610 and 1076 SPECIFICATIONS

Central-Station and Proprietary Burglar-Alarm Units

17.1 Opening/Closing reports

The Opening/Closing Reports option must be programmed as YES. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

17.2 Automatic bell test

This option must be programmed as YES. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

17.3 Proprietary dialer

The Model XRSuper6/XR20/XR40 provides Grade A proprietary service when configured as a digital dialer.

UL 1635 SPECIFICATIONS**Digital Burglar Alarm Communicator System Units****18.1 Digital Dialer telephone number**

Both programmed telephone numbers must begin with a D or P. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

18.2 Entry delay

The maximum entry delay used must not be more than 60 seconds. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

18.3 Exit delay

The maximum exit delay used must not be more than 60 seconds. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

18.4 Test frequency

The Test Frequency option must be programmed so that the panel sends a report once every 24 hours. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

18.5 Automatic bell test

This option must be programmed as YES. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

18.6 Grade B Central Station

Grade B Central Station service can be provided under UL 1635 by adding a Grade A local audible signal appliance and placing the Model XRSuper6/XR20/XR40 panel into the Model 350A Grade A Attack Resistant Housing.

UL 365 and 609 SPECIFICATIONS**Police Station Connected and Local Burglar Alarm Units and Systems****19.1 Entry delay**

The maximum entry delay used must not be more than 60 seconds when using the Model 349A Grade A housing. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

19.2 Grade A bell

A Grade A local audible signal appliance must be used.

19.3 Bell cutoff

The bell cutoff time cannot be less than 15 minutes. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

19.4 Automatic bell test

The Automatic Bell Test option must be programmed as YES. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

19.5 Grade A Mercantile

For Grade A Mercantile and Police Station Connect operation the Model XRSuper6/XR20/XR40 must be mounted in a Grade A attack resistant housing, (DMP Model 350A).

19.6 Mercantile Safe and Vault

When the DMP Model 350A housing is used, the panel provides operation as a mercantile safe and vault alarm. Bell Supervision and wiring must be in accordance- with UL 681. If the panel is mounted outside the safe or vault, tamper protection and the Sentrol Model 5402 or Potter EVD listed vibration detectors should be used. The XRSuper6/XR20/XR40 does not provide operation as a Bank Safe and vault alarm.

19.7 Line security for Police Connect

Basic line security is provided when the Model XRSuper6/XR20/XR40 is configured as a dialer system.

UNIVERSAL UL and NFPA FIRE ALARM SPECIFICATIONS

20.1 Introduction

The programming and installation specifications contained in this section must be completed when installing the Model XRSuper6/XR20/XR40 in accordance with any of the UL or NFPA fire standards. Additional specifications may be required by a particular standard.

20.2 Wiring

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

20.3 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.

20.4 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.

20.5 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 the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

20.6 Fire zone programming

Fire zones must be programmed to activate a trouble on open conditions and an alarm on short conditions. The swinger bypass function must not be used on any fire zones. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

20.7 Ground Start

Ground Start phone lines must not be used for UL listed systems.

20.8 UL Listed Receivers

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

UL 985 NFPA 72 (chapter 2) SPECIFICATIONS

Household Fire Warning System Units

21.1 Bell output definition

The bell output of the Model XRSuper6/XR20/XR40 must be programmed to operate steady on burglary alarms and pulsed on fire alarms. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

21.2 Indicating Circuit Supervision

The DMP Models 865 and 866 Notification Circuit Module must be used on the bell circuit for detection of shorts and grounds.

CALIFORNIA STATE FIRE MARSHAL SPECIFICATIONS

22.1 Bell output definition

The bell output of the Model XRSuper6/XR20/XR40 must be programmed to operate steady on burglary alarms and temporal on fire alarms. See the XRSuper6/XR20/XR40 Programming Guide (LT-0305).

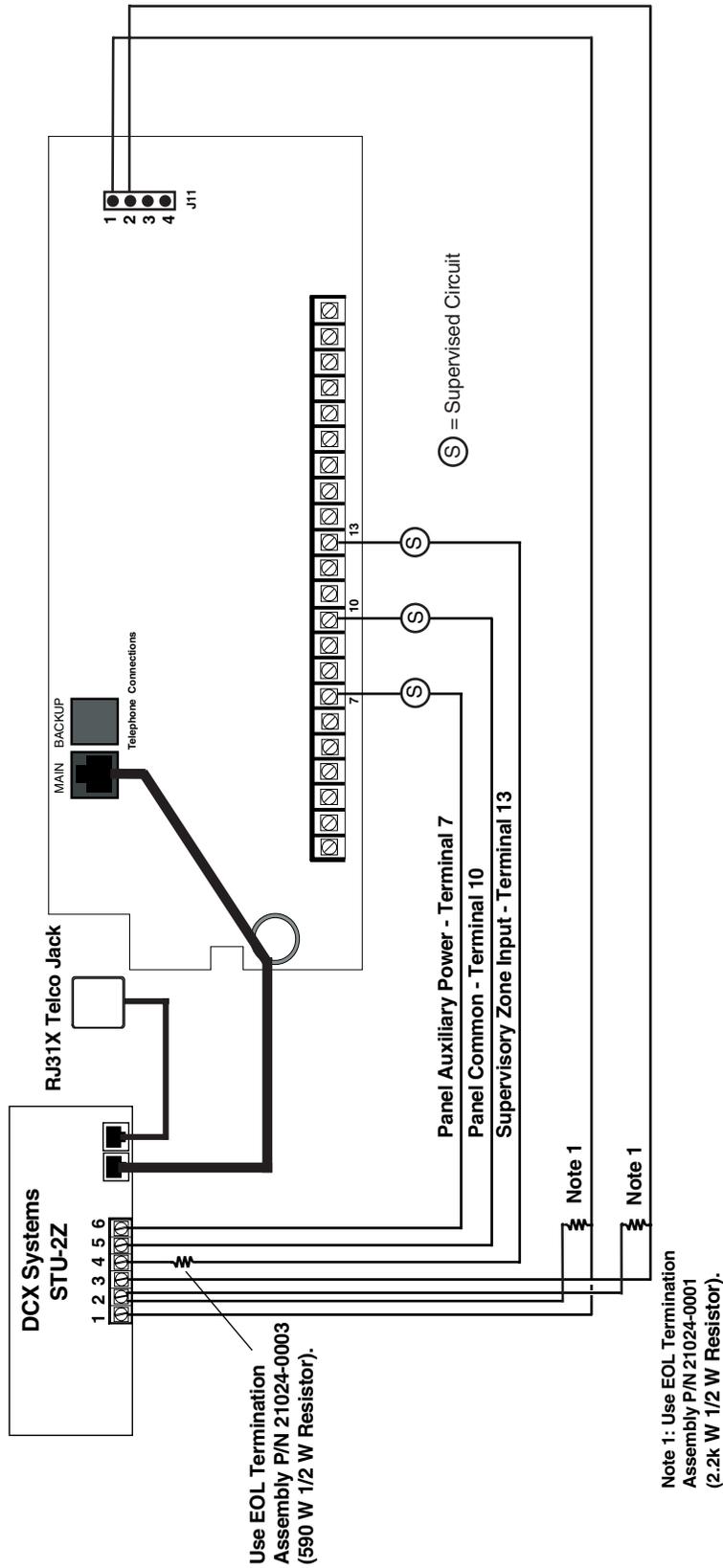
23.1 Troubleshooting Section

Description

This section of the Installation Guide provides troubleshooting information for use when installing or servicing an XRSuper6/XR20/XR40 system.

Problem	Possible Cause	Solution
Security Command keypads display " SERVICE REQUIRED"	J16 reset jumper is installed. Open or short on the green data wire to the keypad. Bad keypad or zone expander.	Remove the J16 reset jumper. Check for broken or shorted wires between the keypad and panel. Replace with a new or repaired keypad or zone expander.
Keypad display is not functional. When a key is pressed, only a short beep is emitted.	Open or short condition on the yellow data wire. Bad keypad or zone expander.	Check for broken or shorted wires. Replace with a new or repaired keypad or zone expander.
Keypad beeps when keys are pressed but won't allow the user to arm or enter the User Menu.	Two or more keypads are assigned to the same address.	Set each keypad to a different address to match the Device Setup programming.

24.2 Installation for Derived Channel burglary



Digital Monitoring Products

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