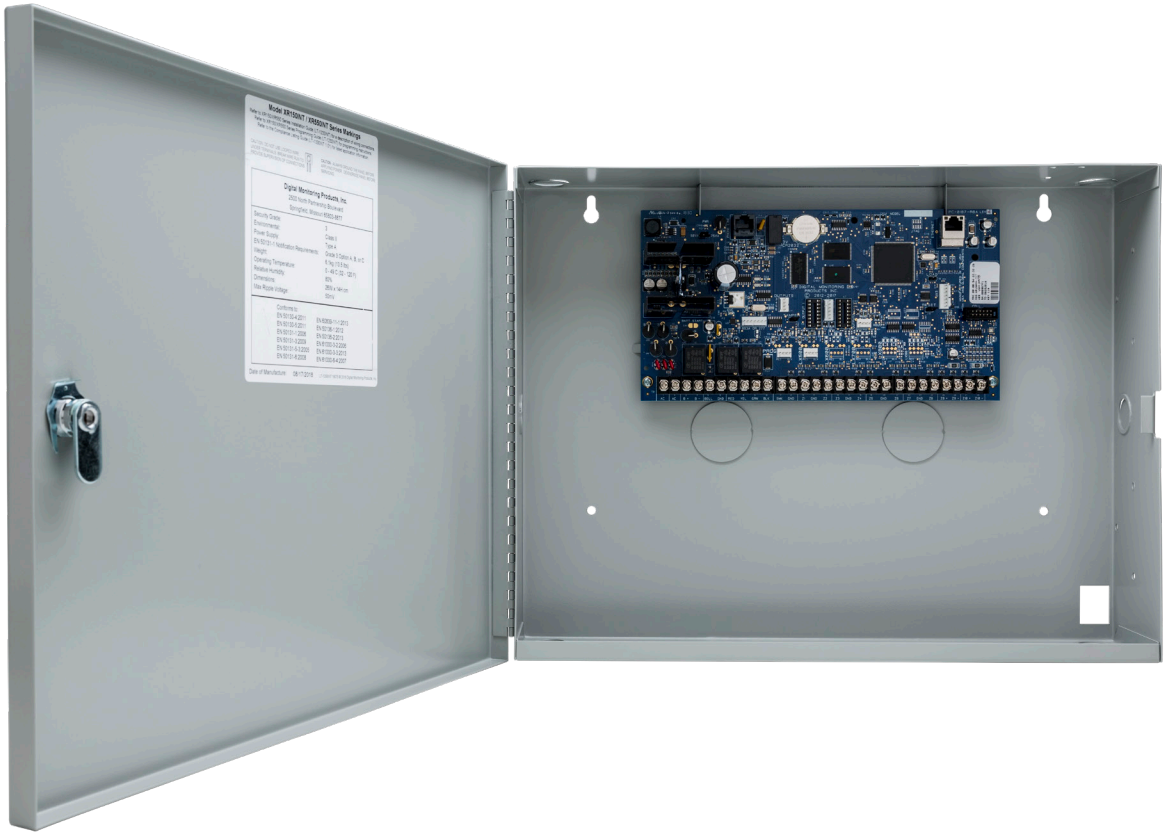


INTERNATIONAL SERIES INSTALLATION GUIDE

XR SERIES

DIGITAL MONITORING PRODUCTS, INC.

MODEL XR150/XR550 INTERNATIONAL SERIES
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 A 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

Information furnished by DMP is believed to be accurate and reliable.
This information is subject to change without notice.

PRODUCT SPECIFICATIONS SUMMARY

Power Supply

Transformer Input:	Model 324INT wire-in — Primary input: 230 VAC, 50 Hz, Secondary output: 18 VAC 100 VA, 400 mA
Standby Battery:	12 VDC, 1.0 Amps Max. charging current Models 365, 366, 368, or 369 Replace every 3 to 5 years
Auxiliary *:	12 VDC output at 1.5 Amp Max
Bell Output *:	12 VDC at 1.5 Amp Max

All circuits are inherent power limited except the red battery wire and AC terminal. *

Communication

- Built-in network communication to DMP Model SCS-1R or SCS-VR Receivers
- Built-in Contact ID communication to DMP Model SCS-1R Receivers
- Can operate as a local panel256-bit encrypted messages to SCS-1R receiver only communicate when using SCS-104 Receiver Line Cards with Version 102 or higher software.

Panel Zones

- Eight 1k Ohm EOL/Dual EOL burglary zones (zones 1 to 8)
- Two 3.3k Ohm EOL powered zone with reset (zones 9 and 10)

Keypad Bus

You can connect up to a total of 16 of the following supervised keypads and expansion modules to keypad bus:

- Alphanumeric keypads
- One-, four-, eight-, and sixteen-zone expansion modules
- Wireless Keypads (maximum of 7)

LX500-LX900 Bus™

You can connect the following devices to the LX-Bus™ connections on the panel:

- Four-, eight-, sixteen-, and single-zone expansion modules
- Relay output expansion modules
- Graphic annunciator modules

Outputs

The XR150INT/XR550INT Series panels provide two Single Pole, Double Throw (SPDT) relay outputs which require the installation of two Model 305 relays, each rated 1 Amp at 30 VDC resistive (power limited sources only).

A Model 431 Output Harness is required to use these outputs.

The panels also provide four open collector outputs rated for 50mA each. The open collector outputs provide ground connection for a positive voltage source. A Model 300 Output Harness is required to use these outputs.

Enclosure Specifications

The XR150INT/XR550INT Series panels are shipped in an enclosure with a transformer, EOL resistors, battery leads, a user guide, and programming sheets.

Enclosure Model	Size	Color(s)	Construction (Cold Rolled Steel)
350INT	44.45 W x 34.29 H x 8.89 D cm	Gray (G) or Red (R)	18-Gauge
350AINT	44.45 W x 34.29 H x 8.89 D cm	Gray (G)	18-Gauge with 16-Gauge door
349INT	31.75 W x 29.21 H x 8.89 D cm	Gray (G)	20-Gauge
352PINT	36.83 W x 81.28 H x 10.16 D cm	Gray (G)	20-Gauge
352XINT	36.83 W x 81.28 H x 10.16 D cm	Gray (G)	16-Gauge

PANEL FEATURES

Description

The DMP XR150INT/XR550INT Series system is made up of an alarm panel with a built-in communicator, an enclosure, battery, one transformer, and keypads. Each panel is a versatile 12VDC, combined access control, burglary, and fire communicator panel with battery backup.

The panels provide eight on-board burglary zones and two on-board 12 VDC Class B powered zones. The powered zones have a reset capability to provide for 2-wire smoke detectors, relays, or other latching devices. Combined current requirements of additional modules may require an auxiliary power supply. Refer to the Power Requirements section in this guide when calculating power requirements.

The panels can communicate to DMP SCS-1R Receivers using digital dialer, cellular, network, or Contact ID communication. Panels using cellular, network, or encrypted communication can also communicate to DMP SCS-VR Receivers.Zone Expansion

Zone Expansion

Each panel provides multiple options for zone expansion:

- 10 on-board zones
- Up to 64 programmable keypad zones
- Up to 500 LX-Bus zones

Using DMP LCD keypad remote zone capability and zone expansion modules, additional zones are available on each panel:

- XR550INT provides up to 574 additional zones
- XR150INT provides up to 142 additional zones

The panel keypad data bus supports up to 16 supervised device addresses with each address supporting up to four programmable expansion zones (64 total).

Using the onboard LX-Bus™ connections, and any combination of single-, four-, eight-, or sixteen-zone expansion modules and single-zone LX-Bus™ detectors, additional zones are available on each panel:

- XR550INT provides up to 500 additional zones (LX500-LX900)
- XR150INT provides up to 100 additional zones (LX500)

Note: Do not use shielded or twisted pair wiring for LX-Bus or Keypad Bus circuits.

Output Expansion

In addition to the two SPDT relays and four programmable open collector outputs on the XR150INT/XR550INT Series panels, you can also connect up to 25 programmable Model 716 Output Expansion Modules to each LX-Bus. These modules can provide an additional 500 or 100 programmable SPDT relays.

The panels provide Output Schedules for programming the 716 to perform a variety of annunciation and control functions. Also assign the 716 outputs to any panel Output Options such as Fire Alarm, Communication Fail, or Phone Trouble Outputs. Refer to the 716 Installation Guide (LT-0183).Central Station Communication

Monitoring Center Communication

You can program the panel for reporting to DMP SCS-VR or SCS-1R Receivers using digital dialer, cellular, network, or Contact ID communication. The panels connect at the premises to a standard RJ31X or RJ38X telephone jack.

Caution Notes

Throughout this guide you will see caution notes containing information you need to know when installing the panel. These cautions are indicated with a yield sign. 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. 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.

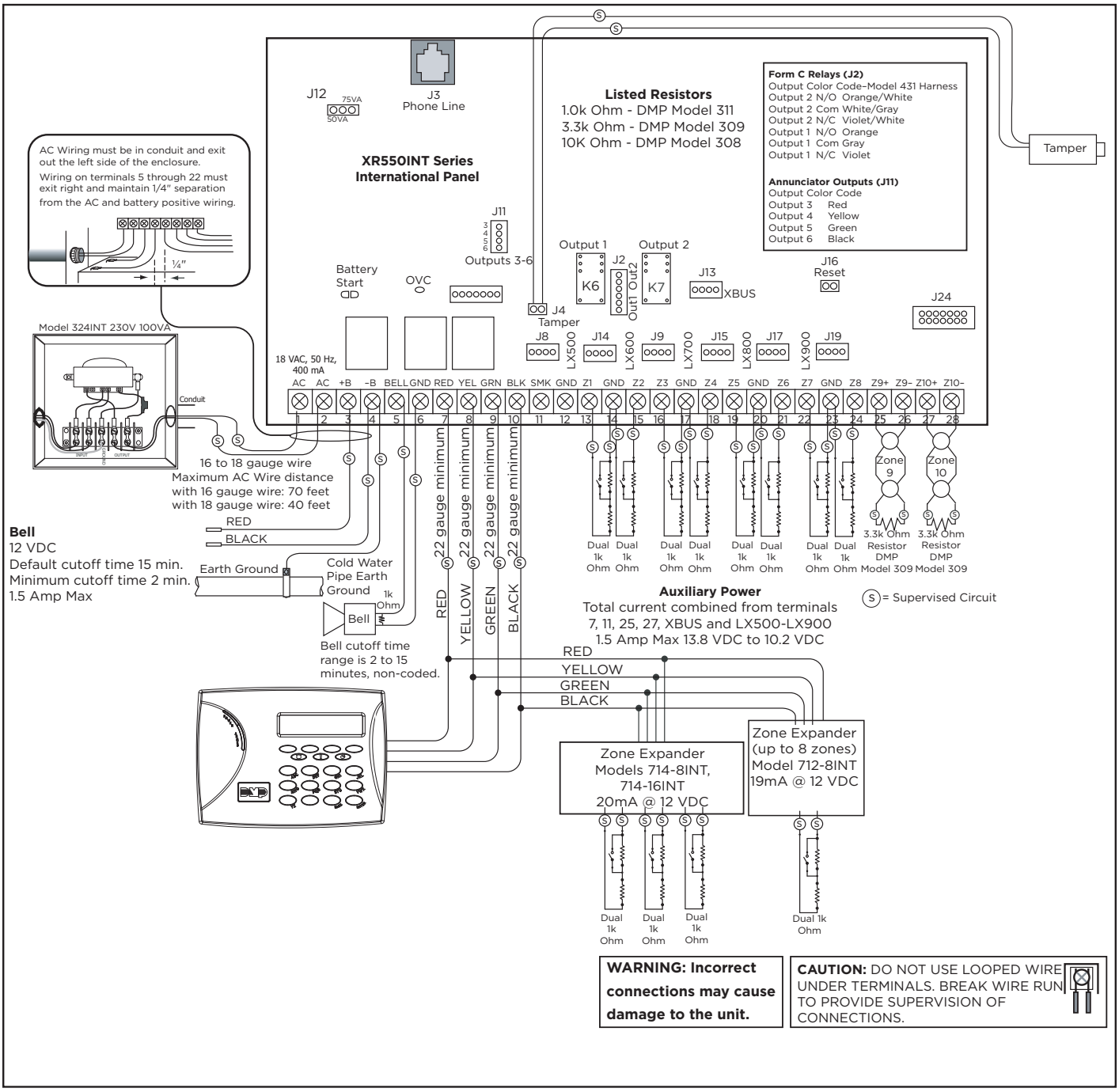
Compliance Instructions

For applications that must conform to a local authorities installation standard or a National Recognized Testing Laboratory certificated system, please see the Compliance Listing Guide LT-1330INT for additional instructions.

SYSTEM COMPONENTS

Specific and Non-specific Wired Interconnections

The XR150INT/XR550INT Series panels diagram below shows some of the accessory modules you can connect for use in various applications. A brief description of each module follows in section 3.3.



XR550INT Series Wiring Diagram

Lightning Protection

Metal Oxide Varistors and Transient Voltage Suppressors help protect against voltage surges on panel input and output circuits. Additional surge protection is available by installing the Model 270 Network Transient Suppression Module.

Accessory Devices

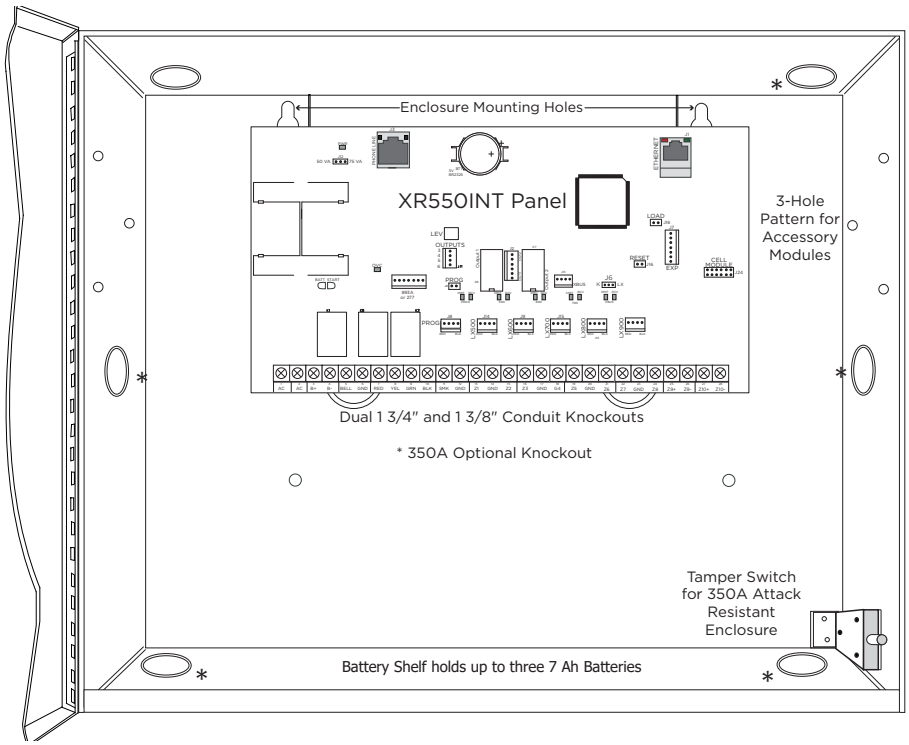
Cellular Communicator Cards	
263LTE-INT-A	Allows you to connect the XR150INT/XR550INT Series panels to any compatible LTE network.
Accessory Modules	
270INT Network Transient Suppression Module	Provides transient surge protection for the ETHERNET Connector.
Expansion Modules	
710INT Bus Splitter/Repeater	Allows you to increase keypad or LX-Bus™ wiring distance to 2500 feet.
714-8INT, 714-16INT Zone Expanders	Provides Class B zones for connecting burglary and non-powered fire devices.
712-8INT Zone Expander	Provides Class B zones for connecting burglary devices.
716INT 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 for use on the LX-Bus only.
734INT, 734NINT Access Control Modules	Provides system codeless entry, and arming and disarming using access control readers.
DMP Two-Way Wireless Devices	
1100XINT Receiver	Supports up to 500/100 devices in residential or commercial wireless operation.
1100RINT Repeater	Provides additional range for wireless devices.
1103INT Universal Transmitter	Provides both internal and external contacts that may be used at the same time to yield two individual reporting zones from one wireless transmitter. Requires EOL resistor for external contact. Provides Disarm/Disable functionality.
1122INT PIR Motion Detector	Provides motion detection with pet immunity.
1128INT Wireless Glassbreak Detector	Provides fully-supervised, low current shock and glassbreak detection coverage up to 20 ft.

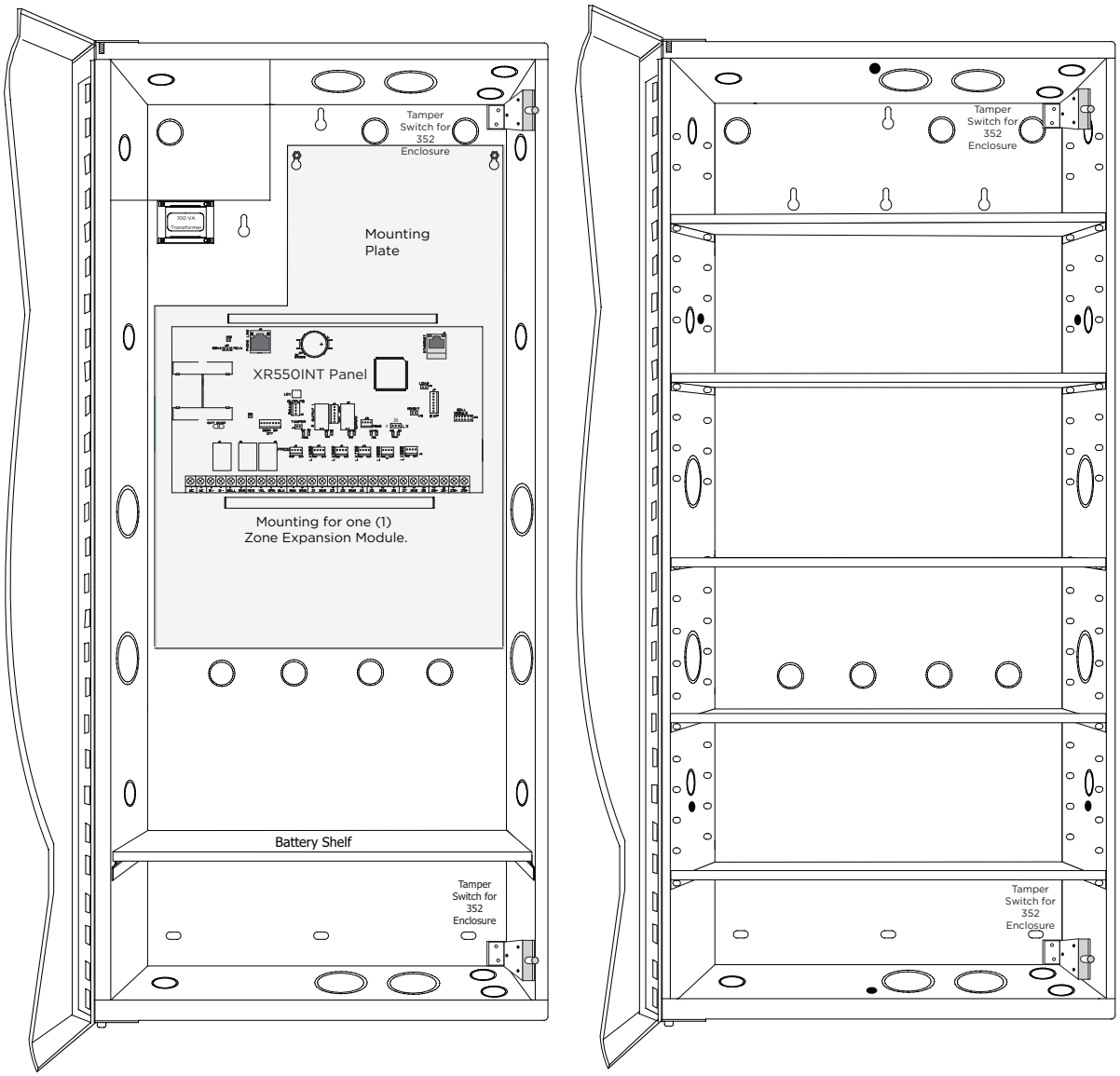
INSTALLATION

Mounting the Enclosure

The metal enclosure for the XR150INT/XR550INT Series panels 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 panel PCB when installing the enclosure. Figure 2 shows the mounting hole locations for the Model 350INT/350AINT Enclosures. Figure 3 shows the Model 352PINT panel cabinet and 352S shelf cabinet for multiple batteries.

The 350AINT Attack Resistant enclosure is factory shipped with one knockout on the top left of the enclosure. As needed, additional knockouts or antenna exits may be added at the time of installation. See Figure 2 for the positions on the enclosure that can be added. Each additional knockout must be filled with conduit.





XR550INT in Model 352XINT Enclosure and Separate 352S Enclosure with Shelves

Mounting Keypads and Zone Expansion Modules

DMP LCD keypads have removable covers that allow you to easily mount the keypad to a wall or other flat surface using the screw holes 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 mounting keypads on solid walls, or for applications where conduit is required, use the Model 695 3.81 cm deep or the Model 696 1.27 cm deep backboxes.

The DMP 716 module is contained in a molded plastic housing with a removable cover. The base provides you with mounting holes for installing the unit to a wall, switch plate, or other surface.

The DMP 712-8INT module may be mounted inside the panel enclosure using the 3-hole pattern and plastic standoffs.

The DMP 714-8INT, and 714-16INT modules are contained in a DMP Model 340 enclosure.

Connecting LX-Bus™/AX-Bus™ and Keypad Bus Devices

Connections for LX-Bus/AX-Bus and Keypads are provided through the PROG, LX500, LX600, LX700, LX800, and LX900 4-pin headers and the keypad bus. Several factors determine the DMP LX-Bus/AX-Bus and keypad bus performance characteristics: the wire length and gauge used, the number of devices connected, and the voltage at each device. When planning an LX-Bus/AX-Bus and keypad bus installation, keep in mind the following information:

1. 1. DMP recommends using 18 or 22-gauge unshielded wire for all LX-Bus/AX-Bus and keypad circuits. Do not use twisted pair or shielded wire for LX-Bus/AX-Bus and keypad bus data circuits.
2. 2. On keypad bus circuits, to maintain auxiliary power integrity when using 22-gauge wire do not exceed 152.4 meters. When using 18-gauge wire do not exceed 304.8 meters. To increase the wire length or to add devices, install an additional power supply that is listed for Fire Protective Signaling, power limited, and regulated (12VDC nominal) with battery backup. Each panel allows a specific number of supervised keypads. Add additional keypads in the unsupervised mode. Refer to the Keypad Bus section for the specific number of supervised keypads allowed.
3. 3. Maximum distance for any one bus circuit (length of wire) is 762 meters 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 762 meters. As wire distance from the panel increases, DC voltage on the wire decreases. Maximum number of LX-Bus/AX-Bus devices on the first 762 meter circuit is 40 devices.
4. 4. Maximum voltage drop between the panel (or auxiliary power supply) and any device is 2.0VDC. If the voltage at any device is less than the required level, add an auxiliary power supply at the end of the circuit. When voltage is too low, the devices cannot operate properly.
5. For additional information refer to the LX-Bus/AX-Bus/Keypad Bus Wiring Application NOte (LT-2031).

Wireless Keypad Association

Program from any Keypad Address

You can program the panel from any 32-character wireless keypad or hardwired keypad connected to the panel's keypad data bus.

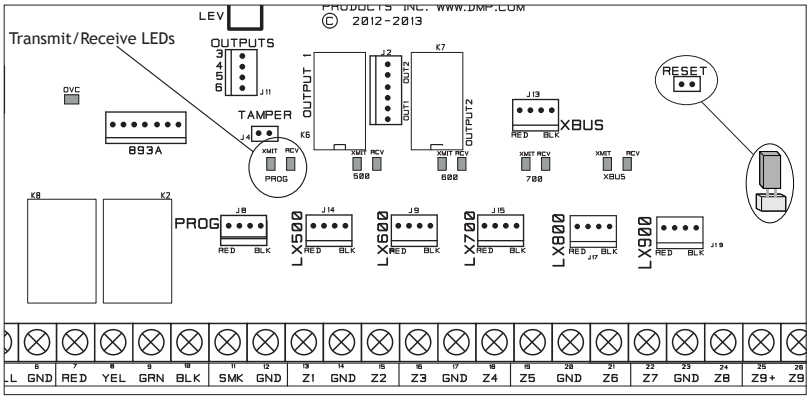
Program from any Wireless Keypad

To enable association operation on a Wireless Graphics Touchscreen keypad (Model 9862INT), access the Options menu through the carousel menu. While in the Options display, press the Installer Options icon. Enter the code 3577 (INST) and press CMD. Press KPD RF to start the RF survey communication. The keypad displays its wireless serial number and RF SURVEY.

To enable wireless keypad association operation, reset the panel three times allowing the keypad bus transmit light to begin flashing between each reset.

For 60 seconds the panel listens for wireless keypads that are in RF Survey mode and have not been programmed or associated into another panel. When the keypad associates with the panel the keypad logo LED turns from Red to Green.

Wireless keypads are assigned to the first open device position in Device Setup automatically based upon the order in which they are detected



XR550INT Showing Reset and Transmit/Receive

PRIMARY POWER SUPPLY

AC Terminals 1 and 2

Connect the transformer wires to terminals 1 and 2 on the panel. Use no more than 21.3 meters of 16 gauge or 12.2 meters of 18 gauge wire between the transformer and the panel.

Always ground the panel before applying power to any devices: The XR150INT/XR550INT Series 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 the Earth ground section.

50VA-75VA 3-Pin Header for Transformer Types

Place the jumper on the left two pins labeled 50VA for a Maximum 2 Amp (Bell+Aux+Smoke+XBUS+LX500-LX900) when using the Model 322/323 56VA, or 327 50VA plug-in transformer (default).

Place the jumper on the right two pins labeled 75VA for a Maximum 3 Amp (Bell+Aux+Smoke+XBUS+LX500-LX900) when using the Model 324/324P 100 VA wire-in transformer.

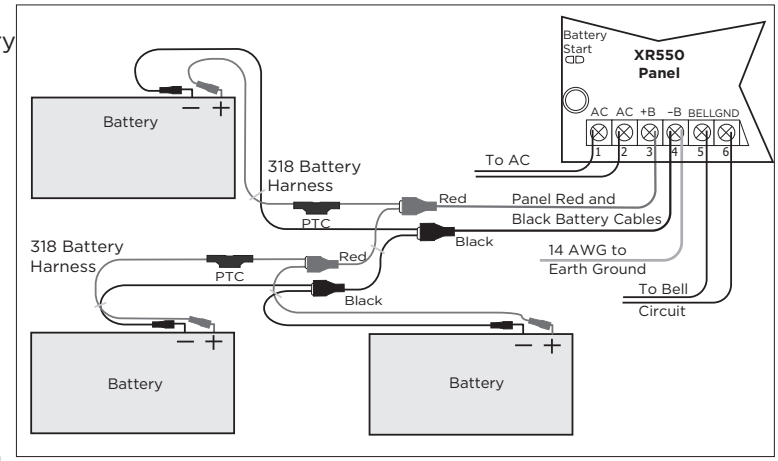
SECONDARY POWER SUPPLY

Battery Terminals 3 and 4

Connect the black battery lead to the negative battery terminal. The negative terminal connects to the enclosure ground internally through the XR150INT/XR550INT Series panels circuit board. Connect the red battery lead to the battery positive terminal. Observe polarity when connecting the battery.

You can add a second battery in parallel using the DMP Model 318 Dual Battery Harness. You can add a second battery in parallel using the DMP Model 318 Dual Battery Harness.

DMP requires each battery be separated by a PTC (Positive Temperature Coefficient switch) in the battery harness wiring to protect each battery from a reversal or short within the circuit.



Wiring Multiple Batteries

Use sealed lead-acid batteries only: Use the DMP Model 364 (12VDC 1.3Ah), Model 365 (12VDC 9 Ah), Model 366 (12VDC 18 Ah), Model 368 (12VDC 5.0 Ah), or Model 369 (12VDC 7 Ah) sealed lead-acid rechargeable battery. Batteries supplied by DMP have been tested to ensure proper charging with DMP products.

GEL CELL BATTERIES CANNOT BE USED WITH THE XR150INT/XR550INT SERIES PANEL.

Earth Ground (GND)

When powering up the panel, terminal 4 can be connected to earth ground (if available) using 14 gauge or larger wire. Additional options are cold water pipe or ground rod. Gas pipes or sprinkler pipes should not be used. Do NOT CONNECT TO AN ELECTRICAL GROUND OR SERVER RACK. A ground connection is not required to provide normal system operation.

Battery Only Start

When powering up the XR150/XR550 International Series panel without AC power, briefly short across the battery start pads 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 XR150/XR550 International Series panel is powered up with an AC transformer, the battery cutoff relay is pulled in automatically.

Battery Replacement Period

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

Discharge/Recharge

The XR150INT/XR550INT Series panels battery charging circuit float charges at 13.8 VDC at a maximum current of 1.5 Amps using a 100 VA transformer. Listed below are the various battery voltage level conditions:

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

Battery Supervision

The XR150/XR550 International Series tests the battery when AC power is present. The test is done every three minutes and lasts for five seconds. During the test, the panel places a load on the battery; if the battery voltage falls below 11.9VDC 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 repeats every two minutes until the battery charges above 12.6 VDC indicating the battery has 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 completed.

Battery Cutoff

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

Power Requirements

During AC power failure, the XR150INT/XR550INT Series panel and all connected auxiliary devices draw their power from the battery. All devices must be taken into consideration when calculating the battery standby capacity. The following table lists the XR150INT/XR550INT Series panel power requirements. You must add the additional current draw of keypads, zone expansion modules, 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 calculate the total ampere-hours required.

Standby Battery Power Calculations	Standby Current	Alarm Current
XR150INT/XR550INT Series Control Panel	Qty 1 x 174mA 174 mA	Qty 1 x 217mA 217 mA
Relay Outputs 1-2 (ON)	Qty _____ 30mA _____	Qty _____ 30mA _____
Switch Grounds 3-6 (ON)	_____ 5mA _____	_____ 5mA _____
Active Zones 1-8	Qty _____ 1.6mA _____	Qty _____ 2mA* _____
Active Zones 9-10	_____ 4mA _____	_____ 30mA _____
2-Wire Smoke Detectors	Qty _____ 0.1mA _____	Qty _____ 0.1mA _____
Panel Bell Output		1500mA mA
	Qty _____	Qty _____
	Qty _____	Qty _____
263LTE-INT-A Cellular Communicator	Qty _____ x 20mA _____	Qty _____ x 20mA _____
1100XINT Wireless Receiver	Qty _____ x 25mA _____	Qty _____ x 35mA _____
860 Relay Output Module (one relay active)	Qty _____ x 34mA _____	Qty _____ x 34mA _____
All four relays active	138mA _____	138mA _____
7060-WINT Thinline Keypad	Qty _____ x 72mA _____	Qty _____ x 87mA _____
Copy Sub-Totals to next page	Sub-Total Standby _____mA	Sub-Total Alarm _____mA

*Based on 10% of active zones in alarm.

7063-WINT Thinline Keypad	Qty _____	x 85mA	_____	Qty _____	x 100mA	_____
7070-WINT Thinline Keypad Active Zones (EOL Installed)	Qty _____	x 72mA 1.6mA	_____ _____	Qty _____ Qty _____	x 87mA x 2mA*	_____ _____
7073-WINT Thinline Keypad Active Zones (EOL Installed)	Qty _____	x 85mA 1.6mA	_____ _____	Qty _____ Qty _____	x 100mA* x 2mA	_____ _____
7872-WINT Graphic Touchscreen Keypad Active Zones (EOL Installed)	Qty _____	x 130mA 1.6mA	_____ _____	Qty _____ Qty _____	x 188mA x 2mA*	_____ _____
7873-WINT Graphic Touchscreen Keypad Active Zones (EOL Installed)	Qty _____	x 143mA 1.6mA	_____ _____	Qty _____ Qty _____	x 243mA x 2mA*	_____ _____
734INT Access Control Module Active Zones (EOL Installed) Annunciator (ON)	Qty _____ Qty _____	x 40mA x 1.6mA	_____ _____	Qty _____ Qty _____ Qty _____	x 60mA x 2mA* x 20mA	_____ _____ _____
738Z+INT Z-Wave Interface Module	Qty _____	x 40mA	_____	Qty _____	x 40mA	_____
710INT Bus Splitter/Repeater Module	Qty _____	x 32mA	_____	Qty _____	x 32mA	_____
712-8INT Zone Expansion Module Active Zones (EOL Installed)	Qty _____ Qty _____	x 17mA x 1.6mA	_____ _____	Qty _____ Qty _____	x 17mA x 2mA*	_____ _____
714-8INT, 714-16INT Zone Expansion Module Active Zones (EOL Installed)	Qty _____ Qty _____	x 20mA x 1.6mA	_____ _____	Qty _____ Qty _____	x 20mA x 2mA*	_____ _____
716INT Output Expansion Module Active Form C Relays	Qty _____ Qty _____	x 13mA x 1.6mA	_____ _____	Qty _____ Qty _____	x 13mA x 2mA*	_____ _____
Aux. Powered Devices on Terminals 7 and 11 Other than Keypads and LX-Bus Modules			_____mA			_____ mA

This page only	Sub-Total Standby	_____mA	Sub-Total Alarm	_____mA
Sub-Totals from previous page	Sub-Total Standby	_____mA	Sub-Total Alarm	_____mA
*Based on 10% of active zones in alarm	Total Standby	_____mA	Total Alarm	_____mA

Total Standby_____mA x number of Standby Hours _____ = _____mA-hours

needed _____mA +_____mA-hours

Total Alarm Total _____mA-hours

X .001

= _____Amp-hrs Required

Standby Battery Selection

To choose the type and number of batteries needed for 24, 60, or 72 hours of standby power based on the Amp Hours Required calculation for XR150INT/XR550INT Series Power Requirements, perform the following:

6. 1. Select the desired standby hours required from the table below: 24, 60, or 72 hours
7. 2. Select the desired battery size: Model 368 (12 VDC 5.0 Ah), Model 369 (12 VDC 7 Ah), Model 365 (12 VDC 9 Ah), Model 366 (12 VDC 18 Ah), or Model 364 (12 VDC 1.3 Ah) when used in the Model 341 enclosure.
8. 3. Select a Max. Ah Available number that is just greater than the number calculated in Amp Hours Required.
9. 4. Install the number of batteries shown in the corresponding No. of Batteries required column.

You can use either a Model 327 Plug-in 50 VA or Model 322/323 Wire-in 56 VA with up to 36 Ah of batteries. The Model 324/324P Wire-in 100 VA Transformer may be used with any of the battery choices listed below. For listed installations, batteries can be installed in a DMP Model 349, 350 or 352S enclosure and all wiring shall run through conduit. The enclosure shall be installed to the left of the XR150INT/XR550INT Series enclosure to ensure Battery and AC wire separation.

24 hours of standby power

5.0 Ah Batteries	
Max. Ah Available	**No. of Batteries**
8	2
12	3
16	4
20	5
24	6
28	7
32	8
36	9
40	10

7 Ah Batteries	
Max. Ah Available	**No. of Batteries**
6	1
12	2
18	3
24	4
31	5
37	6
43	7

7.7 Ah Batteries	
Max. Ah Available	**No. of Batteries**
6	1
13	2
20	3
27	4
34	5
41	6

9 Ah Batteries	
Max. Ah Available	**No. of Batteries**
8	1
16	2
24	3
32	4
40	5

18 Ah Batteries	
Max. Ah Available	**No. of Batteries**
16	1
32	2
48	3

48 hours is the typical battery recharge time for any of the Number of Batteries shown in this section.

60 hours of standby power

7 Ah Batteries	
Max. Ah Available	**No. of Batteries**
13	2
20	3
27	4
33	5
40	6
47	7
54	8
60	9
67	10

7.7 Ah Batteries	
Max. Ah Available	No. of Batteries
14	2
22	3
29	4
37	5
44	6
52	7
59	8
67	9

9 Ah Batteries	
Max. Ah Available	**No. of Batteries**
17	2
26	3
34	4
43	5
52	6
61	7
69	8

18 Ah Batteries	
Max. Ah Available	**No. of Batteries**
17	1
34	2
52	3
69	4

60 hours is the typical battery recharge time for any of the Number of Batteries shown in this section.

72 hours of standby power

9 Ah Batteries	
Max. Ah Available	**No. of Batteries**
16	2
25	3
33	4
42	5
50	6
59	7
67	8

18 Ah Batteries	
Max. Ah Available	**No. of Batteries**
16	1
33	2
50	3
67	4

72 hours is the typical battery recharge time required for any of the Number of Batteries shown in this section.

If the Amp Hours Required calculation is greater than any Max. Ah Available number shown on a table, then add power supply(s) to power some system devices allowing the Amp Hours Required calculation to be reduced.

BELL OUTPUT

Terminals 5 and 6

Terminal 5 supplies positive 12 VDC to power alarm bells or horns. This output can be steady, pulsed, or temporal depending upon the Bell Action specified in Bell Options. Terminal 6 is the ground reference for the bell circuit. This supervised output detects 1k Ohms or less as normal. The indicating appliance can supply this resistance. If using a horn or siren, a 1k Ohm 1/2 W EOL resistor (provided) should be added across the bell circuit to provide supervision. See the Notification Appliance section for a list of approved notification appliances and the Wiring Diagrams for connections.

KEYPAD BUS

Description

XR150INT/XR550INT Series panel terminals 7, 8, 9, and 10 are for the keypad bus. You can connect up to 16 supervised keypads to the XR550INT Series panel and 8 supervised keypads to the XR150INT Series panel as well as multiple unsupervised keypads. In addition to DMP LCD keypads, you can also connect any combination of zone expansion modules to the data bus up to a total of 16 devices.

Terminal 7 - RED

This terminal supplies positive 12 VDC Regulated to power DMP LCD keypads and zone expansion modules. Terminal 7 also supplies power for any auxiliary device. The ground reference for terminal 7 is terminal 10.

The output current is shared with the smoke power output on terminal 11 and Zones 9 and 10. Current draw for all connected devices must not exceed the panel maximum current rating. See Power Supply in the Compliance section for maximum current in a fire listed application.

Terminal 8 - YELLOW

Terminal 8 receives data from keypads and zone expansion modules. It cannot be used for any other purpose.

Terminal 9 - GREEN

Terminal 9 transmits data to keypads and zone expansion modules. It cannot be used for any other purpose.

Terminal 10 - BLACK

Terminal 10 is the ground reference for DMP keypads, zone expansion modules, and all auxiliary devices being powered by terminal 7.

Programming (PROG) Connection

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

You may also use the PROG Header to connect Keypad Bus devices. This is an alternative to connecting keypad bus devices to terminals 7, 8, 9, and 10. The programming keypad must be set to address 1.

Keypad Bus LEDs

The two LEDs, located above the PROG header, indicate data transmission and receipt. The left LED flashes green to indicate the panel is transmitting keypad bus data. The right LED flashes yellow to indicate the panel is receiving keypad bus data.

OVC LED(s)

The Overcurrent LED (OVC) lights up red when the devices connected to the Keypad Bus and LX-Bus(es) draw more current than the panel is rated for. The LED(s) turn a steady Red when lit. When the OVC LED(s) light up red, the appropriate LX-Bus(es) and Keypad bus are shut down.

- The OVC LED located to the left of the 893A connector indicates overcurrent for the Keypad Bus (Terminals 7-10 and PROG header), XBUS, and LX500-LX700.
- The OVC LED to the right of the CELL MODULE connector indicates overcurrent for LX800-LX900.

SMOKE AND GLASSBREAK DETECTOR OUTPUT

Terminals 11 and 12

Terminal 11 supplies positive 12 VDC regulated 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.

Current Rating

The Output current from terminal 11 is shared with terminals 7, 25, 27, and LX500-LX900.

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.

PROTECTION ZONES

Terminals 13–24

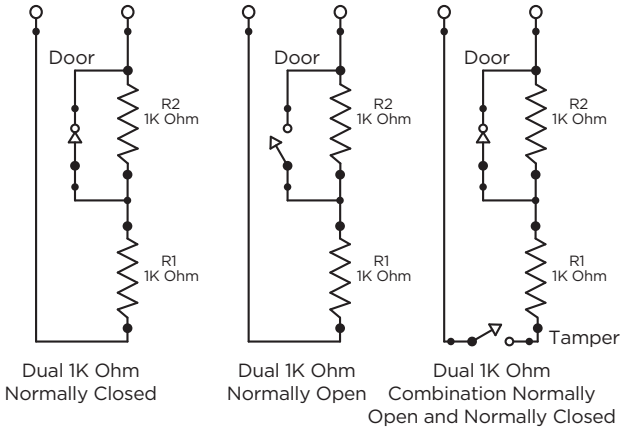
Zones 1 to 8 (terminals 13 to 24) on the XR150INT/XR550INT Series panel are all grounded burglary zones. For programming purposes, the zone numbers are 1 through 8. Listed below are terminal 13 to 24 connection functions.

Terminal	Function	Terminal	Function
13	Zone 1 voltage sensing	19	Zone 5 voltage sensing
14	Ground for Zones 1 and 2	20	Ground for Zones 5 and 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 and 4	23	Ground for Zones 7 and 8
18	Zone 4 voltage sensing	24	Zone 8 voltage sensing

The voltage sensing terminal measures the voltage across a 1k Ohm End-of-Line resistor to ground. Use DMP Model 311 1k Ohm resistors. Dry contact sensing devices can be used in series (normally-closed) or in parallel (normally-open) with any of the burglary protection zones.

Operational Parameters

Each protection zone detects three conditions: Open, Normal, and Short. Listed below are voltage and resistance parameters for each condition:



Protection Zone Contact Wiring

Zone Voltages Using 2.2k Ω Resistors	
State	Voltage
Short	0 - 2.1 VDC
Normal	2.2 - 2.9 VDC
Open	≥ 3 VDC
Applies to zones 1-9 on XR Series panels with Version 193 firmware and higher	

Zone Response Time

A condition must be present on a zone for 500 milliseconds before it is detected by the XR150INT/XR550INT Series panel. Ensure detection devices used on the protection zones are rated for use with this delay. Zones 1-10 can also be programmed for a fast response delay of 160 milliseconds.

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.

POWERED ZONES FOR 2-WIRE SMOKE DETECTORS

Terminals 25–26 and 27–28

Panel terminals 25 through 28 provide two resettable Class B, Style A, 2-wire powered zones. For programming purposes the zone numbers are 9 and 10.

Note: The maximum wire length for either zone 9 or zone 10 is 3000 feet using 18 AWG or 1000 feet using 22 AWG. The maximum voltage is 13.8 VDC and the maximum normal standby current is 1.25 mA DC. The maximum line impedance is 100 Ohms. The maximum short circuit current is 56mA.

When using zone expansion modules, use Model 309 EOL resistors. The compatibility identifier for the zones is A.

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

Performing a Sensor Reset momentarily drops power to the devices on Zones 9 and 10. The panel views these zones (9 and 10) as “Open” while the power is absent.

DRY CONTACT RELAY OUTPUTS

Description

The XR150INT/XR550INT Series panel provides two programmable auxiliary SPDT relays when equipped with two DMP Model 305 relays in sockets OUTPUT 1 and OUTPUT 2 and a Model 431 Output Harness on the OUT1-OUT2 6-pin Header. Each relay provides one SPDT set of contacts that can be operated by any of the functions listed below:

- Activation by zone condition: Steady, Pulsing, Momentary, and Follow
- Activation by 24-hour 7-day schedule: One on and one off time a day for each relay
- Manual activation from the DMP keypad menu
- Communication failure
- Armed area annunciation
- Fire Alarm, Fire Trouble or Supervisory
- Ambush Alarm
- Exit and Entry timers
- System Ready
- Late to Close
- Panic Alarm
- Ready
- Armed
- Disarmed
- Burglary
- Phone Trouble
- Device Fail
- Sensor Rest
- Closing Wait

Contact Rating

The Model 305 relay contacts are rated for 1 Amp at 30VDC (allows .35 power factor). Connect auxiliary power to the Relay Output 1 common terminal by installing the gray harness wire to terminal 7. Current draw for all connected devices must not exceed the panel maximum current rating.

Model 431 Output Harness Wiring

The relay contacts are accessible by installing the DMP 431 Output Harness on the 6-pin OUT1-OUT2 header. OUTPUT 2 uses the top three prongs, and OUTPUT 1 uses the bottom three prongs. The wire harness and contact locations are shown below:

• **Contact**	• **Color**
• Output 2 normally open	• Orange with White Stripe
• Output 2 common	• White with Gray Stripe
• Output 2 normally closed	• Violet with White Stripe
• Output 1 normally open	• Orange
• Output 1 common	• Gray
• Output 1 normally closed	• Violet

The relay contacts must be connected to devices located within the same room as the XR150INT/XR550INT Series panel.

ANNUNCIATOR OUTPUTS

Description

The four programmable annunciator outputs can be programmed to indicate the activity of the panel zones or conditions occurring on the system. Annunciator outputs do not provide a voltage but instead switch-to-ground a voltage from another source. The outputs can respond to any of the conditions listed in the Description section for Dry Contact Relays. Maximum voltage is 30VDC @ 50mA.Model 300 Harness Wiring

Model 860INT Relay Module

Connect a Model 860 Relay Module to the OUTPUTS header on the XR150INT/XR550INT Series panel to provide relays for outputs 3-6.

Use these relays for electrical isolation between the alarm panel and other systems or for switching voltage to control various functions. Power is supplied to the relay coils from a single wire connected to the panel auxiliary power terminal 7. The module includes one relay and provides three additional sockets for expansion of up to four relays. Mount the 860 inside the panel enclosure using the 3-hole pattern and plastic standoffs. Refer to the 860 Module Install Sheet (LT-0484) as needed.

Relay Contact Rating: 1 Amp at 30 VDC (allows .35 power factor)

WIRELESS BUS EXPANSION

Description

The Wireless Bus (XBUS) header provides connection for the 1100XINT Wireless Receiver. The XBUS provides up to 500 wireless zones numbered 500-999. Refer to the 1100XINT Wireless Receiver Install Guide (LT-1822INT) for complete information.

- XR150INT provides up to 100 wireless zones
- XR550INT provides up to 500 wireless zones

Wireless Bus LEDs

The two LEDs, located above the XBus header, indicate data transmission and receipt. The left LED flashes green to indicate the panel is transmitting data. The right LED flashes yellow to indicate the panel is receiving data.

LX-BUS™/AX-BUS™ EXPANSION

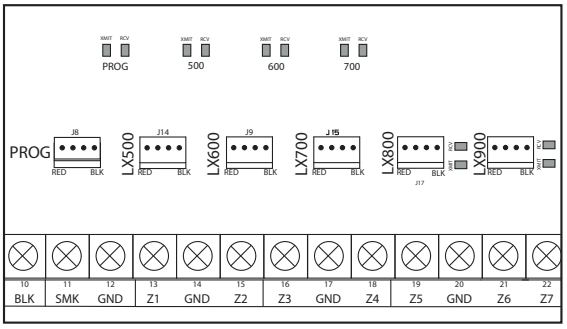
LX-Bus/AX-Bus Headers

XR Series control panels are capable of providing zone, output, and access control expansion by connecting hardware modules to the AX/LX-Bus headers on the control panel. XR150INT panels are manufactured with one LX-Bus header labeled LX500. AX-Bus operation does not apply to XR150INT panels. XR550INT panels are manufactured with five AX/LX-Bus headers labeled LX500-LX900.

LX-Bus (XR150/XR550)

LX-Bus operation is compatible with hardwired zone and output expanders. Each LX-Bus represents 100 addresses.

- • LX500, provides zones/outputs 500-599 (XR150INT, XR550INT)
- • LX600, provides zones/outputs 600-699 (XR550INT only)
- • LX700, provides zones/outputs 700-799 (XR550INT only)
- • LX800, provides zones/outputs 800-899 (XR550INT only)
- • LX900, provides zones/outputs 900-999 (XR550INT only)



LX-Bus Headers and LEDs

AX-Bus (XR550):

AX-Bus operation is compatible only with XR550INT control panels and DMP Model 734INT Wiegand Interface door access modules. The 734INT provides one Form-C relay output and four expansion zones. AX-Bus operation is not compatible with addressable zone and output expanders. Each AX-Bus represents predetermined addresses for 734INT operation: 16 addresses for 734INT door relay outputs, and 64 addresses for 734INT expansion zones.

AX-BUS AVAILALBE ADDRESSES AND 734INT ZONE NUMBERS

Keypad Bus		AX500		AX600		AX700		AX800		AX900	
Device/ Door	Zones	Device/ Door	Zones	Device/ Door	Zones	Device/ Door	Zones	Device/ Door	Zones	Device/ Door	Zones
		501	501-504	601	601-604	701	701-704	801	801-804	901	901-904
2	21-24	505	505-508	605	605-608	705	705-708	805	805-808	905	905-908
3	31-34	509	509-512	609	609-612	709	709-712	809	809-812	909	909-512
4	41-44	513	513-516	613	613-616	713	713-716	813	813-816	913	913-916
5	51-54	517	517-520	617	617-620	717	717-720	817	817-820	917	917-920
6	61-64	521	521-524	621	621-624	721	721-724	821	821-824	921	921-924
7	71-74	525	525-528	625	625-628	725	725-728	825	825-828	925	925-928
8	81-84	529	529-532	629	629-632	729	729-732	829	829-832	929	929-932
9	91-94	533	533-536	633	633-636	733	733-736	833	833-836	933	933-936
10	101-104	537	537-540	637	637-640	737	737-740	837	837-840	937	937-940
11	111-114	541	541-544	641	641-644	741	741-744	841	841-844	941	941-944
12	121-124	545	545-548	645	645-648	745	745-748	845	845-848	945	945-948
13	131-134	549	549-552	649	649-652	749	749-752	849	849-852	949	949-952
14	141-144	553	553-556	653	653-656	753	753-756	853	853-856	953	953-956
15	151-154	557	557-560	657	657-660	757	757-760	857	857-860	957	957-960
16	161-164	561	561-564	661	661-664	761	761-764	861	861-864	961	961-964

Device Addressing

Addressable expanders and door controllers identify themselves to the control panel by their programmed address, which allows the panel to uniquely identify devices. An addressable device's address determines which numbers the zones, outputs and door controllers will be assigned in programming. Refer to the device's installation guide for addressing information.

LX-Bus/AX-Bus LEDs

The two LEDs, located above each LX-Bus/AX-Bus header, indicate data transmission and receipt. The left LED flashes green to indicate the panel is transmitting LX-Bus/AX-Bus data. The right LED flashes yellow to indicate the panel is receiving LX-Bus/AX-Bus data.

OVC LEDs

The Overcurrent LED (OVC) lights red when the devices connected to the Keypad Bus and LX-Bus(es) draw more current than the panel is rated for. The LED(s) turn a steady red when lit. When the OVC LED(s) lights red, the appropriate LX-Bus(es) and Keypad Bus are shut down.

- The OVC LED located to the left of the 893A connector indicates overcurrent for the Keypad Bus (Terminals 7-10 and PROG header), XBUS, and LX500-LX700.
- The OVC LED to the right of the CELL MODULE connector indicates overcurrent for LX800-LX900.

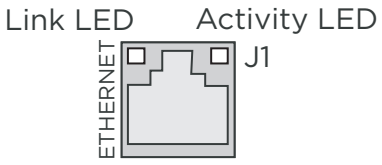
ETHERNET CONNECTOR (PANELS WITH NETWORK ONLY)

Description

The ETHERNET Connector is available on the XR150INT/XR550INT with network or encryption to connect directly to an Ethernet network using a standard patch cable. The ETHERNET Connector supports 100 Mb/s full duplex operation and the maximum impedance is 100 Ohms.

Ethernet LEDs

The two LEDs, located on the top edge of the ETHERNET Connector, indicate network connection. The left Link LED lights up yellow when connected to a 100 Mb network and is off when connected to a 10 Mb network. The right, Activity LED lights up green to indicate a valid receive connection from the host network.



ETHERNET and LEDs

Network Transient Suppression

The Model 270 Transient Suppression Module provides surge suppression from the Ethernet network for the protection of DMP Panels. Refer to the Model 270 Installation Sheet (LT-1316) for complete information.

PHONE LINE RJ CONNECTOR

Description

Connect the panel to the public telephone network by installing a DMP 356 RJ Cable between the panel PHONE LINE connector and the RJ31X or RJ38X phone block. The maximum impedance is 100 Ohms.

To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord, such as DMP Model 356 Series Phone Cords.

893A or 277 Connector

If using an 893A Dual Phone Line Module or Model 277 Trouble Sounder, connect them to the 893A OR 277 connector on the panel. Refer to the 893A Installation Sheet (LT-0135) or 277 Installation Sheet (LT-1304) for complete information.

Notification

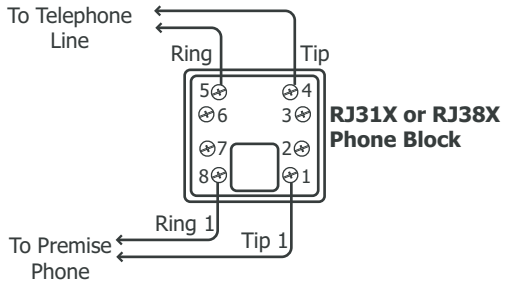
The user must not repair registered terminal equipment. In case of trouble, immediately unplug the device from the telephone jack. The factory warranty provides for repairs. Registered terminal equipment may not be used on party lines or in connection with coin telephones. Notify the telephone company with the following information:

1. The particular line(s) where the service is connected
2. The FCC registration number as listed in Section 17.5
3. The ringer equivalence
4. The device make, model, and serial number

Phone Line Monitor

The XR150INT/XR550INT Series panels have a built-in telephone monitor that monitors the phone line voltage to verify the connection to the central office. The table and image below identify the phone block pin layout, wire numbers, and colors.

Wire Number	Wire Color
1	Gray
2	Orange
3	Black
4	Red
5	Green
6	Yellow
7	Blue
8	Brown



Phone Jack Wiring

The wires on the RJ31 that feed pins 4 and 5 should be the ONLY wires on the D-marc. All other house phone wiring should be tied to pins 1 and 8 coming back from the RJ31.

Dial tone must come into RJ31X on pins 4 and 5 and go back to house phones from pins 1 and 8. Follow these steps to determine if panel is seizing the line:

5. Unplug phone cord from RJ31X
6. Place butt-set on pins 4 and 5
7. Listen for dial tone. With dial tone present, lift either wire from pins 1 or 8.
8. Listen for dial tone again. If the dial tone is present, RJ31X wiring is correct. If no dial tone is present, the RJ31X wiring is backwards. Rewire so dial tone is coming IN on 4 and 5.

If you still have trouble with the phone line, you may need to replace the RJ cord. If the dial tone is still not present, swap out the RJ31X phone block.

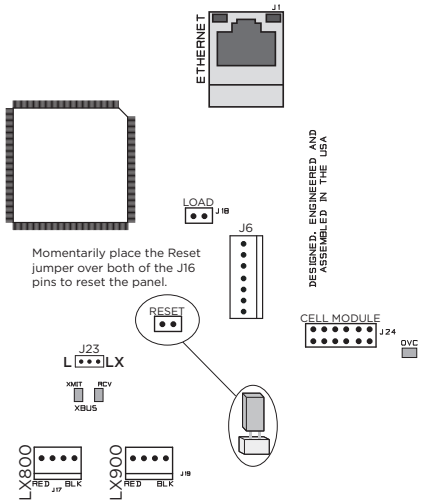
RESET AND TAMPER HEADERS

RESET Header

The RESET header is located to the left of the EXP Expansion Header on the right side of the circuit board and is used to reset the XR150INT/XR550INT Series microprocessor. 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, for example, prior to reprogramming, install the reset jumper without powering down the system. Remove the reset jumper after one or two seconds.

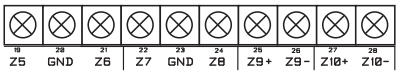
After resetting the panel, begin programming within 30 minutes If you wait longer than 30 minutes, you must reset the panel again.



XR550INT Series Panel Showing the RESET Jumper

TAMPER Header

The TAMPER 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 enclosure opening or removal. 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 areas are armed, a panel tamper alarm is indicated. If all areas are disarmed, a panel tamper trouble is indicated.

CELLULAR MODULES

CELL MODULE Header

The CELL MODULE header is located to the right of the EXP Expansion Module on the right side of the circuit board and is used to connect the DMP Model 263LTE Cellular Communicator. This provides a fully supervised alarm communication path for the XR150INT/XR550INT panel.

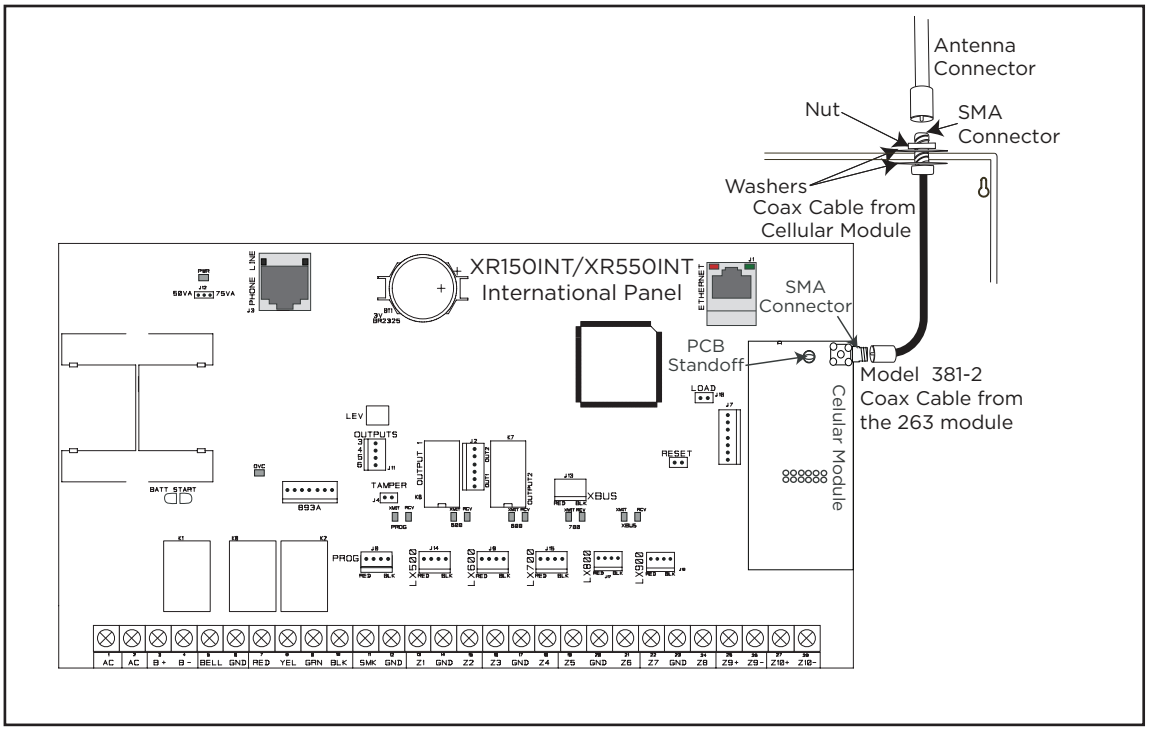
Module Installation

1. Insert the PCB standoff end with flanges into the standoff hole in the panel PCB.
2. Align the PCB standoff with the standoff hole in the module PCB.
3. Press the module PCB card 12 pin connector onto the CELL MODULE connector on the panel while applying even pressure to both sides of the board to fully seat the module.

Do not misalign the cell module 12 pin connector onto the cell module header. If needed, the PCB can be removed from the enclosure to allow placement of the cell module.

Connecting the Antenna

1. Attach a 381 cable to the SMA connector on the cell module.
2. Position one of the supplied washers onto the other end of the 381 SMA connector and push the threaded end through an enclosure knockout.
3. Position the second washer onto the threaded end extending through the knockout and secure the nut.
4. Attach the included 383 antenna to the SMA connector. As an alternative, an antenna coax can be connected directly to the cell module SMA connectore when the coax enters the enclosure via conduit.



Cellular Module Installation

WI-FI CONNECTION

763 Module to EXP Header

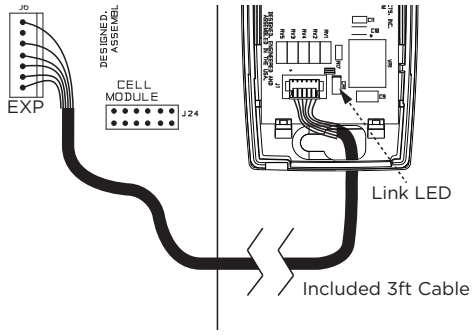
The 763 Wi-Fi Module allows you to add Wi-Fi alarm signal communication to XR150INT/XR550INT Series panels. The 763 connects to the 7- pin EXP header on compatible panels using the included cable and operates at 12 VDC from the panel power supply.

Connecting the 763

Power must be removed from the panel prior to connecting the 763 to the XR150INT/XR550INT Series EXP header. Damage to the panel may occur. The included cable connects to the 763 6-pin header.

Status LED

The 763 provides a Green link LED that displays constant to indicate network communication.



763 to XR150/XR550 Series

Mounting the 763

Install the 763 away from metal objects. Do not mount the 763 inside or on a control panel metal enclosure. Mounting the module on or near metal surfaces impairs performance.

The enclosure for the module should be mounted using the supplied screw in the mounting hole. Mount the enclosure in a secure, dry place to protect the communicator from damage due to tampering or the elements. It is not necessary to remove the PCB when installing the enclosure.

1. Remove the cover.
2. Connect the included cable to the 763 6-pin header.
3. Hold the transmitter base in its mounting location.
4. Place the supplied screw into the mounting hole location to secure the housing to the surface.

INTERNATIONAL CERTIFICATIONS

Intertek (ETL) Listed

EN 50130-4:2011+A1:2014	Alarm systems. Electromagnetic compatibility. Product family standard: Immunity requirements for components of fire, intruder, hold up, CCTV, access control and social alarm systems.
EN 50130-5:2011	Alarm systems. Environmental test methods.
EN 50131-1:2006+A1:2009	Alarm systems. Intrusion and hold-up systems. System requirements.
EN 50131-3:2009	Alarm systems. Intrusion and hold-up systems. Control and indicating equipment.
EN 50131-5-3:2005+A1:2008	Alarm systems. Intrusion systems. Requirements for interconnections equipment using radio frequency techniques.
EN 50131-6:2008	Alarm systems. Intrusion systems. Power supplies.
EN 50136-1:2012	Alarm systems. Alarm transmission systems and equipment. General requirements for alarm transmission systems.
EN 50136-2:2013	Alarm systems. Alarm transmission systems and equipment. Requirements for Supervised Premises Transceiver (SPT).
EN 61000-3-2:2006+A1+A2	Electromagnetic compatibility (EMC) — Part 3 – 2: Limits — Limits for harmonic current emissions.
EN 61000-3-3:2013	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection.
EN 61000-6-4:2007	Emission standard for industrial environments.

Intertek

DOCUMENTATION

Security Grade:	3
Environmental	Class II
Power Supply:	Type A
Power Input	18 VAC,50 Hz,400 mA,Class II
EN 50131-1	
Notification Requirements	Grade 3 Options A, B, or C
Weight:	6.1 kg
Environmental Class:	II
Operating Temperature:	0°C - 49°C
Relative Humidity:	80%
Dimensions:	26 cm W x 14 cm H
Max Ripple Voltage	50 mV

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