

## 472 Inovonics™ 900MHz Interface Card

### Description

The 472 Inovonics™ 900MHz Interface Card allows one or two Inovonics FA400-DMP Remote Receivers to be connected to the XR500 Series Command Processor™ panel. FA400-DMP Receivers allow up to 200 panel expansion zones using Inovonics FA series wireless transmitters.

The 472 card also provides a 4-wire LX-Bus™ that supports combinations of the 711, 714, and 715 Zone Expanders, 716 Output Expanders, 717 Graphic Annunciator Modules, and the full range of LX series single-point detectors. When using the 472 card 4-wire LX-Bus™ there are 100 hardwire zones and 100 wireless zones available.

**Note:** When using a 472 card in combination with a 461 Interface Adaptor Card on XR500 Series panels, a Model 350 or 352 Enclosure is required.

### Installing the 472 Inovonics 900MHz Interface Card

**Note:** If you are programming a new panel, be sure to enter Programming mode and select Initialize All before installing the 472 card.



1. **Important!** Remove AC and battery power from the panel before installing the 472 card.
2. Align the 472 Card 50-pin connector with the panel J6 Expansion Connector.
3. Evenly press the 472 into the J6 connector to seat it into place.

### LX-Bus Wiring

The 472 provides one 4-wire harness to connect LX-Bus devices, such as zone expansion modules, detectors, and keypads. Do not connect the 4 wires from the harness to the panel terminals. Also, do not use shielded wire when connecting LX-Bus devices.

### Locating the FA400-DMP Receiver

Prior to installation, DMP recommends using the FA715 Survey Kit to determine transmission characteristics at the application site. The survey kit helps determine optimal location of the FA400-DMP and FA series transmitters.

Generally, it is advisable to install the receiver in a spot central to ALL wireless transmitters. To solve range or transmission problems, install FA575 Real-Time Repeaters as needed.

**Note:** The receivers must be mounted outside of the panel enclosure to ensure optimum signal reception. The FA400-DMP can be mounted next to the panel or at a distance of up to 150 feet per receiver on 22 gauge wire. If possible, install receivers away from large metal objects. Mounting the receiver on metal surfaces impairs performance.

For Commercial Burglary UL listed systems, the FA400-DMP Receiver must be mounted within three feet of the control unit with no intervening walls or barriers.

### Connecting the FA400-DMP Receiver

The Inovonics FA400-DMP Receiver contains an internal 3-position terminal strip. To connect an FA400-DMP to the 472 card, use the 472 wire harness and following the color guide in the table below. Only three of the four wires are used: The Yellow wire is not used. Do NOT use shielded wire.

472 Harness		FA400-DMP Receiver Terminals
Red	connects to	VS
Black	connects to	GND
Green	connects to	OUT
Yellow	is not used.	—

Do not use the receiver without a jumper installed on the three-pin receiver jumper. When using one receiver install the jumper on Receiver 1 position. When using an optional second receiver, set receiver jumpers to Receiver 1 position and Receiver 2 positions, respectively. See Figure 1. The receivers should be mounted at least three feet apart.

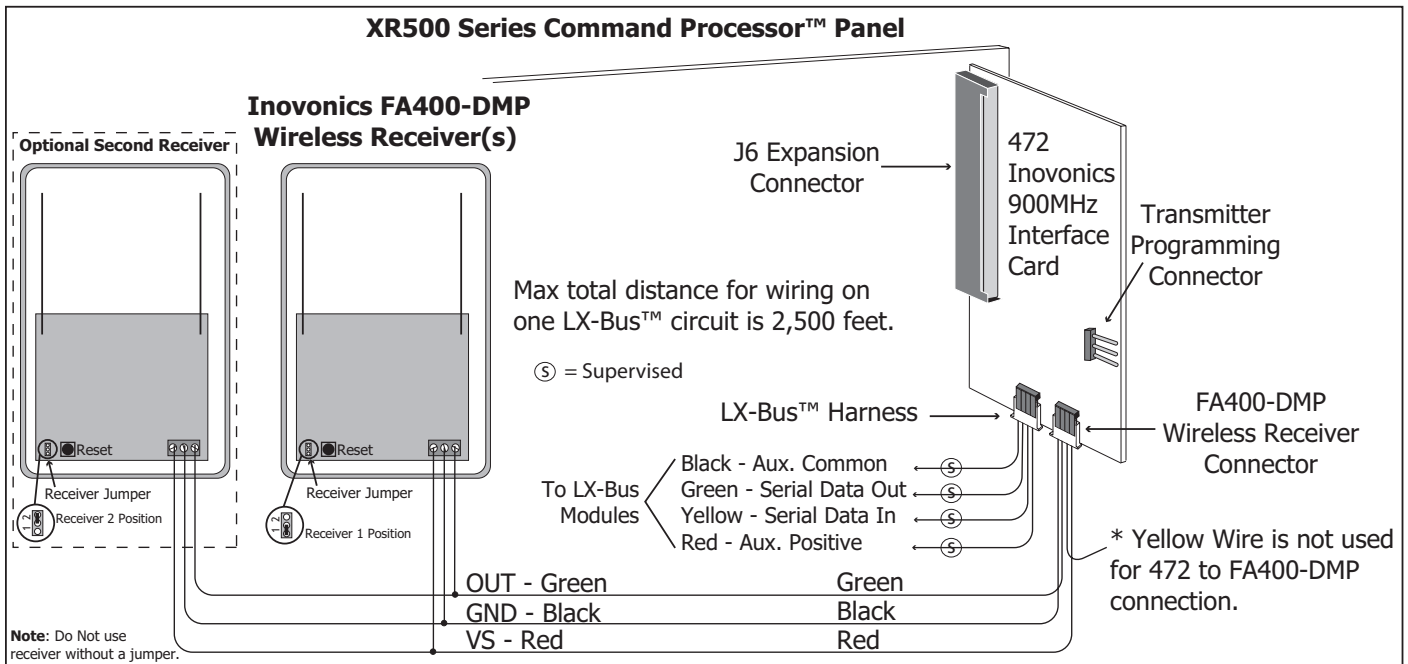


Figure 1: 472 Inovonics 900MHz Interface Card Wiring

## Programming Wireless Zones

After programming the House Code to 99 in System Options and the zone type and area assignment for the wireless zone, program the operating parameters for the wireless transmitters. At the **NEXT ZONE?** prompt, select **NO** to display the wireless zone options. The transmitters connect to the 472 for programming after all zones are programmed. See **Programming Wireless Transmitters**.

**Note:** A panel account number must be programmed before programming the wireless transmitters.

WIRELESS	YES	<b>NO</b>
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### Wireless

Select **YES** if you are programming a wireless zone. Press the **COMMAND** key to continue wireless programming.

CHECK IN TM:	<b>60</b>
NONE	10 30 60

### Check-in Time

You can set wireless transmitters to check in automatically every 10, 30, or 60 seconds or not at all. To change the 60 second default, press any top row Select key to display **NONE 10 30 60**. Press the Select key under the desired check-in time for this zone.

INT CONT	<b>NO</b>	YES
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### Internal Contact

Select **YES** to use an internal contact on the wireless transmitter. Select **NO** to use an external contact. When **NO**, the following two prompts display.

EOL	<b>NO</b>	YES
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### End-of-Line

Select **YES** to supervise an external contact connected to the wireless transmitter. At the contact, install a 2.2k Ohm End-of-Line resistor in parallel for Normally Open contacts and in series for Normally Closed contacts.

NRM OPEN NO YES

**Normally Open**

Select **NO** if the external contact connected to the transmitter is a Normally Closed type.

NEXT ZN? NO YES

Press the **COMMAND** key and select **NO** to program the Alarm Action of the zone you are currently programming. After programming the Alarm Action, the display returns to **ZONE NO: -**. Select **YES** to display **NEXT ZN?** to program another zone. After programming all zones, press the Back Arrow key to go directly to wireless transmitter programming. After all zone programming is completed, connect the individual wireless transmitters to the 472 for programming as defined below.

**Enrolling Inovonics Wireless Transmitters**

PRG XMTR? NO YES

**Program Transmitter**

Select **YES** to program wireless transmitters. Select **NO** to return to **ZONE INFORMATION**.

**Note:** Before programming transmitters, you must program the panel's accurate account number, which determines the transmitter House ID number. If the account number is changed, the transmitter must be reprogrammed to reflect the new House ID number. See the section **Inovonics Transmitter Information** for more information about programming transmitters and the House ID.

CONNECT XMTR: \*\*\*

**Connect Transmitter**

Connect the transmitter, whose zone number displays, to the Programming Connector on the 472 Inovonics 900MHz Interface Card using the ACC620 Programming Cable. **RESET THE TRANSMITTER.** The keypad display prompts you for transmitters starting from the lowest zone number to the highest.

At the **CONNECT XMTR:** prompt, press any top row Select key and enter any wireless zone number (500 to 699 for XR500 Series panels, or 000 for the C100 and FA100 transmitters). After programming all transmitters, press the **COMMAND** key.

CONNECT FA100

**Connect Command Transmitter**

Connect the C100 or FA100 you want assigned to the 472 Card. Press the Alert button on the transmitter to initiate programming. Repeat the programming for each prompt. To use the Alert button on the transmitter as a panic, program **AMBUSH** as **YES** in System Reports.

XMTR PROGRAMMED

**Transmitter Programmed**

Transmitter Programmed displays after the wireless transmitter is successfully programmed into the panel.

**Transmitter Programming Options**

Program Option	100/113	201	202	203S/D	205S/D	206	207	209	200/210	200W/210W	250	570/575
<b>Internal Contact</b>	N/A	No	No	No	No	No	No	No	No	No or Yes	No	N/A
<b>End-of-Line</b>	N/A	No	No	No	No	No	No	No	No or Yes	No or Yes	No or Yes	N/A
<b>Normally Open</b>	N/A	Yes	No	Yes	Yes	No	Yes	Yes	No or Yes	No or Yes*	No or Yes	N/A
<b>Check-in Time</b>	None	10-60	10-60	10-60	10-60	10-60	10-60	10-60	10-60	10-60	10-60	10-60

\* Program the 210W as Normally Open when using an internal contact.

**Inovonics Transmitter Information**

A House ID Number is like an address for Inovonics wireless transmitters so they know with which panel they should be communicating. The House ID Number is based on the last two digits of the panel's primary account number.

Be sure that the panel's primary account number is programmed before programming any wireless transmitters. Because the House ID is based on the account number, entering or changing the primary account number after programming the transmitters will require you to reprogram all of the transmitters.

## Cross Talk

If you have more than one account within a five-mile radius, there is a possibility that “cross talk” can occur. “Cross talk” occurs when transmitters communicate with multiple panels. This is usually due to the transmitters having the same House ID. If you have two panels within a five-mile radius that use wireless zones, be sure that the last two digits of the account numbers are not the same.

For example, ABC Plumbing has a panel with an account number of 12345 that uses wireless zones. The House ID for the wireless transmitters at ABC Plumbing is 45. Two blocks away, XYZ Printing has an account number of 22345 and the panel also uses wireless zones. The House ID for the transmitters for XYZ Printing is 45. Because the two accounts have the same last two digits in the account numbers, the House ID is the same. Therefore, the wireless transmitters “cross talk” and report to both panels bearing the same House ID.

To avoid “cross talk,” panels within a five-mile radius of each other must not have the same two digits in the primary account number. If a “cross talk” issue is already present, you must delete the wireless transmitter zones, enter the proper account number, and then reprogram the wireless transmitters.

## Wiring Specifications for LX-Bus

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


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

Refer to the panel Installation Guide and the LX-Bus/Keypad Bus Wiring Application Note (LT-2031). Also see the 710/710F Module Installation Sheet (LT-0310) for more information.

## Compliance Listing Specifications

### UL Commercial Fire

Any auxiliary power supply used must be regulated, power limited and listed for Fire Protective Signaling.

<p><b>Specifications</b></p> <p>Primary Power    12 VDC from panel          Current Draw    85mA          Dimensions       2.25" W x 5.25" H</p> <p><b>Compatibility</b></p> <p>XR500 Series Command Processor panels          The 472 is required when using the FA400-DMP Receiver</p> <p><b>Listings and Approvals</b></p> <p>Underwriters Laboratories (UL) Listed</p> <table border="0"> <tr> <td>ANSI/UL 864</td> <td>Fire Protection Signaling (LX-Bus only)</td> </tr> <tr> <td>ANSI/UL 985</td> <td>Household Fire Warning</td> </tr> <tr> <td>ANSI/UL 1023</td> <td>Household Burglar</td> </tr> </table>	ANSI/UL 864	Fire Protection Signaling (LX-Bus only)	ANSI/UL 985	Household Fire Warning	ANSI/UL 1023	Household Burglar	<p><b>Inovonics™ Receivers and Transmitters</b></p> <p>FA400-DMP Remote Receiver          EN4200 Remote Receiver (requires ACC8280)          ACC8280 Translater          ENES1233S Single Button Transmitter          FA100 Command Transmitter          FA113 Keychain Remote Control          FA202 Smoke Detector      FA207 Glassbreak Detector          FA203S Necklace Pendant    FA209 Wireless Bill Trap          FA203D Necklace Pendant    FA210 Universal Transmitter          FA205S Belt Clip                FA210W Universal Transmitter          FA205D Belt Clip                FA223S Water-Resistant Pendant          FA206I Inovonics PIR            FA250 High-Power Transmitter          FA206S Sharpshooter™ PIR    FA575 Real-Time Repeater          FA715 Wireless Survey Kit          FA223S LTH Water-Resistant Pendant</p>
ANSI/UL 864	Fire Protection Signaling (LX-Bus only)						
ANSI/UL 985	Household Fire Warning						
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