



EN6040 Network Coordinator Installation Instructions

1 Overview

The EN6040 network coordinator is a gateway that uses reliable frequency-hopping, spread-spectrum technology to coordinate signals between end devices, high-power repeaters and the application controller in a common serial data format.

1.1 Installing an Inovonics Security System

An EchoStream survey kit should be used to establish an EchoStream system. The EchoStream survey kit measures the signal strength of high-power repeater and sensor messages to help optimize your EchoStream system.

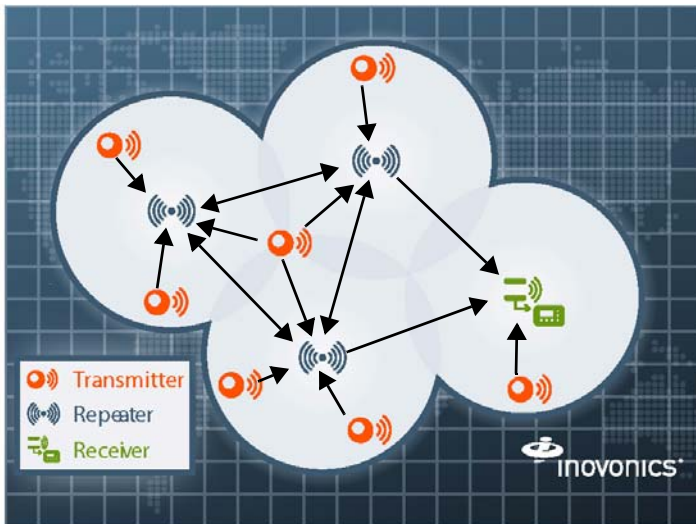


Figure 1 Sample EchoStream system

The EchoStream survey kit provides you with two signal strength measurements: signal level and signal margin.

Signal level

The signal level is the measurement of the overall decibel level of the message.

Signal margin

The signal margin is the measurement of the decibel level of the message, minus the decibel level of any interfering signals. Inovonics equipment should be placed within a facility such that all end-devices produce signal margin readings of at least 4 decibels.

Both the signal level and signal margin are measured in decibels. Because signal strength and signal margin are measured on a logarithmic scale, the difference between a decibel level of 3 (Weak) and a decibel level of 4 (Good) is a much larger difference than it would be on a linear scale.

Note: For more information about the EchoStream survey kit, see the *EN7016SK EchoStream® Survey Kit Installation and Operation Manual*.

1.2 Inovonics Wireless Contact Information

If you have any problems with this procedure, contact Inovonics Wireless technical services:

- E-mail: support@inovonics.com
- Phone: (800) 782-2709; (303) 939-9336

1.3 EN6040 Network Coordinator Front Panel

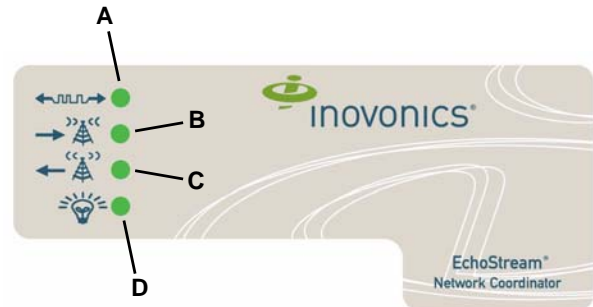


Figure 2 EN6040 network coordinator front panel

A Serial Data LED **B** RF Receive LED **C** RF Transmit LED **D** Power LED

Operation LEDs

Serial Data LED: Lit when the EN6040 network coordinator is receiving or transmitting serial data.

RF Receive LED: Lit when the EN6040 network coordinator is receiving a RF transmission from another Inovonics Wireless device.

RF Transmit LED: Lit when the EN6040 network coordinator is transmitting an RF transmission to an end device or high-power repeater.

Power LED: Lit when the EN6040 network coordinator is receiving power.

1.4 EN6040 Network Coordinator Internal Components

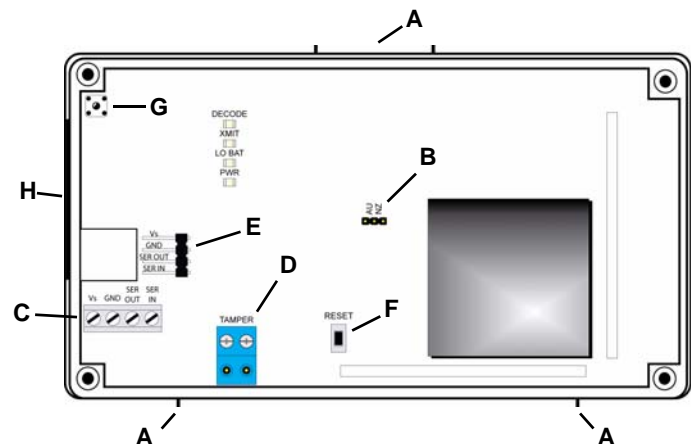


Figure 3 EN6040 network coordinator internal components

A Housing release tab **B** Frequency band selection pins
C Serial data and power terminal **D** Tamper terminal
E Serial data and power port **F** Reset button
G Housing tamper switch **H** Side cabling knockout

1.5 What's In The Carton

- Two drywall anchors
- Two mounting screws
- Two pieces of mounting tape
- One frequency band selection shunt

2 Installation and Startup

2.1 Installation Notes

- These products are designed to be maintained by professional security technicians
- Products are tested for indoor use
- All products should be manually tested weekly

2.2 Connect Power, Serial, and Tamper Cabling

Caution: Long cable runs should not be adjacent to high current power feeds. Keep cable lengths as short as possible to minimize noise pickup. Measure voltage at the EN6040 network coordinator on long cable runs.

1. Use a small screwdriver to press the top housing release tab and separate the housing (Figure 3).
2. If using the Inovonics ACC643 serial and power cable to connect the EN6040 network coordinator, connect it to the serial data and power port (Figure 3).
3. If using a serial data and power cable of your own design, connect it to the serial data terminal (Figure 3). Cabling should meet the following specifications:
 - A maximum cable length of 50 feet (15.25 meters).
4. If an external tamper switch is needed, connect a cable to the tamper terminal (Figure 3). Tamper cabling should meet the following specifications:
 - A maximum cable length of 50 feet (15.25 meters).
5. Route the cabling through the side cabling knockout (Figure 3).

2.3 Select the Frequency Band

EchoStream products are able to use a range of radio frequencies, and must be configured for your geographic area. This product ships with a default frequency range of 902-928 MHz for use in North America. If you are using the product in North America, skip to section 2.4, "Mount the EN6040 Network Coordinator"; if you are using the product in Australia or New Zealand, you will need to configure the EN6040 network coordinator.

6. Place a selection jumper on the frequency band selection pins appropriate to your geographic area (Figure 3).
 - Place the jumper on the right two pins, marked NZ, to set the frequency range to 921-928 MHz for New Zealand
 - Place the jumper on the left two pins, marked AUS, to set the frequency range to 915-928 MHz for Australia.
7. Press the reset button to complete configuration (Figure 3).

2.4 Mount the EN6040 Network Coordinator

Caution: Mount the EN6040 network coordinator in a location removed from metal. Metal objects (duct work, wire mesh screens, boxes) will reduce RF range.

Note: A best practice is to ensure the EN6040 network coordinator is mounted in an easily accessible location for future maintenance.

8. If using the mounting tape included in the installation packet, apply the tape to the back of the housing and to the wall.
9. If using the mounting screws to mount the EN6040 network coordinator to drywall, install the drywall anchors included in the installation packet.
10. Use the provided screws to mount the EN6040 network coordinator.
11. Once the EN6040 network coordinator has been mounted, close the housing.

3 US Patent Numbers

- 7,154,866
- 7,554,932
- 7,746,804

4 Specifications

Housing dimensions: 165 mm x 89 mm x 25 mm (6.5" x 3.5" x 1")

Weight: 161 g (5.7 oz)

Power requirement: 10-14 VDC at 200mA

Radio: Inovonics Wireless EchoStream

Operating frequency: 915-928 MHz (Australia), 921-928 MHz (New Zealand), 902-928 MHz (USA)

Operating environment: -20 - 60°C (-4° - 140°F), 90% relative humidity, non-condensing

Accessories: ACC643: serial data and power cord

5 Television and Radio Interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

6 FCC Part 15 and Industry Canada Compliance

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

7 Warranty and Disclaimer

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Inovonics Wireless Corporation ("Inovonics") warrants its products ("Product" or "Products") to conform to its own specifications and to be free of defects in materials and workmanship under normal use for a period of thirty-six (36) months from the date of manufacture. Within the warranty period, Inovonics will repair or replace, at its option, all or any part of the warranted Product. Inovonics will not be responsible for dismantling and/or reinstallation charges. To exercise the warranty, the User ("User", "Installer" or "Consumer") must work directly through their authorized distributor who will be given a Return Material Authorization ("RMA") Number by Inovonics. Details of shipment will be arranged directly through the authorized distributor.

This warranty is void in cases of improper installation, misuse, failure to follow installation and operating instructions, alteration, accident or tampering, and repair by anyone other than Inovonics.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express, or implied. There is no warranty by Inovonics that Inovonics product will be merchantable or fit for any particular purpose, nor is there any other warranty, expressed or implied, except as such is expressly set forth herein. In no event shall Inovonics be liable for an incidental, consequential, indirect, special, or exemplary damages, including but not limited to loss of profit, revenue or contract, loss of use, cost of down time, or interruption of business, nor any claim made by distributor's customers or any other person or entity.

This warranty will not be modified or extended. Inovonics does not authorize any person to act on its behalf to modify or extend this warranty. This warranty will apply only to Inovonics Products. Inovonics will not be liable for any direct, incidental or consequential damage or loss whatsoever, caused by the malfunction of Product due to products, accessories, or attachments of other manufacturers, including batteries, used in conjunction with Inovonics Products.