EN6040-T Network Coordinator
Installation Instructions

1 Overview

The EN6040-T 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.

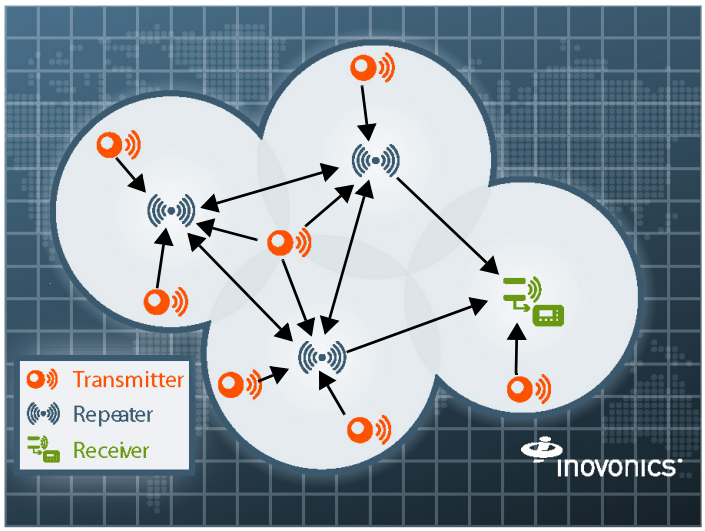

Figure 1 Sample EchoStream system

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*.

Caution: The EchoStream system should be tested weekly to ensure operation. To test, place the system in test mode, activate an end device, and ensure an appropriate response.

1.2 Maximum Number of Repeaters for a UL 2560 Installation

To achieve the 99.99% alarm message reliability required for UL 2560 compliance, system installations must operate within the following limits for end device and repeater counts.

End Devices	Maximum Repeaters
150	397
250	386
350	375
500	360
1000	313
2000	238
3000	184

1.3 Inovonics Contact Information

For product and installation videos visit us at www.inovonics.com/videos or use the QR code below.

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

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

1.4 EN6040-T Network Coordinator Front Panel

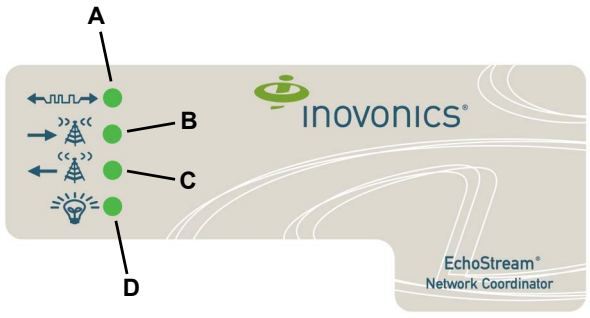

Figure 2 EN6040-T network coordinator front panel

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

Operation LEDs

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

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

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

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

1.5 EN6040-T Network Coordinator Internal Components

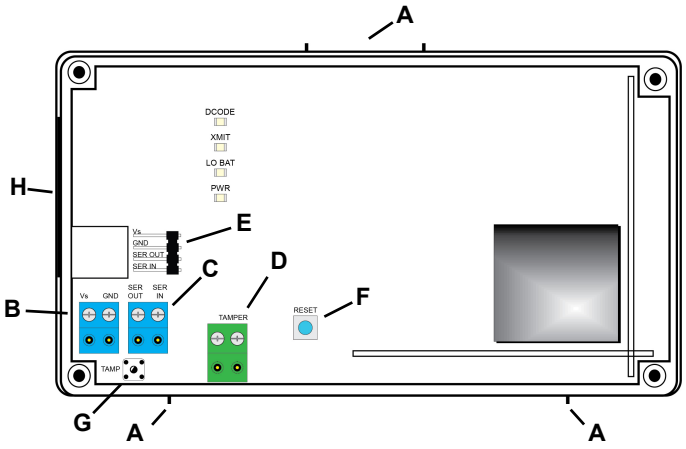

Figure 3 EN6040-T network coordinator internal components

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

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-T network coordinator on long cable runs.

Note: For UL 2560 installations, the included Inovonics ACC653 serial and power cable must be used.

Note: For UL 2560 installations, all cabling must be UL Listed or Recognized, Class 2 wire suitable for the application. If connecting cabling to a DC power source, such as the included transformer, use two-conductor 14-22 AWG stranded-tinned copper, rated 300 volts, 60°C minimum.

1. Use a small screwdriver to press the top housing release tab and separate the housing (Figure 3).
2. Connect the ACC653 serial and power cable to the network coordinator's serial data and power terminal per Figure 4.

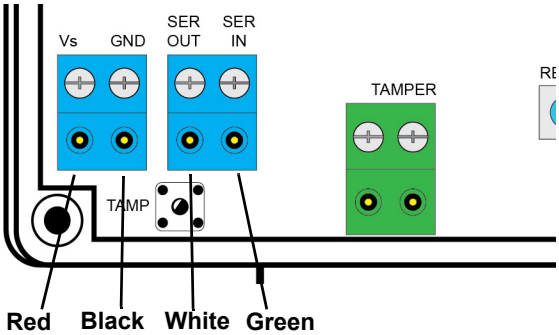

Figure 4 ACC653 serial data and power connections

3. Torque the screw terminals to 3.5 inch-pounds.
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 Mount the EN6040-T Network Coordinator

Caution: Mount the EN6040-T 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-T network coordinator is mounted in an easily accessible location for future maintenance.

Note: To meet UL 2560 requirements, the EN6040-T network coordinator must be mounted in a manner that allows the cable openings to face downward.

1. If using the mounting tape included in the installation packet, apply the tape to the back of the housing and to the wall.
2. If using the mounting screws to mount the EN6040-T network coordinator to drywall, install the drywall anchors included in the installation packet.
3. Use the provided screws to mount the EN6040-T network coordinator.
4. Once the EN6040-T network coordinator has been mounted, close the housing.

3 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: ACC653: serial data and power cord.
Certification: UL 2560 unlisted component.

Note: For UL 2560 installations, Inovonics repeaters must have 20 minute check-in times. Inovonics transmitters must have a minimum of 60 minute check-in times.

Note: In a UL 2560 installation, the EN6040-T network coordinator may be used with completed emergency call systems for assisted living and independent living facilities.

For UL 2560 certified system installations, the following Inovonics EchoStream devices are approved for installation within maximum system configuration limits defined in section 1.2 of this document:

- EN6040-T network coordinator.
- EN5040-20T high power repeater.
- End devices (transmitters) with a minimum 60-minute check-in interval, as follows:
  - Fundamental devices which are subject to UL2560 certification (pendant transmitters and OEM products using the Inovonics RF module).
  - Supplemental devices which are not subject to UL2560 system certification but which may be used within a UL2560 certified system (e.g. universal transmitters and activity sensors).

Note: Users that have achieved certification and will install UL 2560 certified systems are responsible for labeling all fundamental devices with the UL 2560 system certification mark.

Note: Inovonics supports recycling and reuse whenever possible. Please recycle these parts using a certified electronics recycler.

Note: Specifications and data are subject to change without notice.

4 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.

5 FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

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

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.

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

7 Medical Device Interference

Under FDA and FCC guidelines, the responsibility for verifying continuous and safe operation of medical devices such as pacemakers and implanted defibrillators in the presence of electromagnetic interference (EMI) rests with the manufacturer of the medical device. As such, Inovonics does not have the authority or specific device knowledge to conduct or interpret formal tests on their behalf.

Inovonics transmitter devices comply with Part 15 of the FCC Rules and Industry Canada license-exempt RSS standards.

If you have any concerns about the use of Inovonics transmitter devices in the presence of medical devices used by a particular resident or patient, we recommend that you consult with their physician. Another potential source for answers is the medical device manufacturer, who can provide more information as to their compliance with federal guidelines and how they have addressed EMI risk.

8 Radiation Exposure Limits

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme avec ISED RSS-102 des limites d'exposition aux rayonnements définies pour un environnement non contrôlé. Les utilisateurs finaux doivent suivre le fonctionnement spécifiqueinstructions pour satisfaire la conformité à l'exposition RF. Cet émetteur doitne pas être colocalisé ou fonctionner conjointement avec une autre antenne ou émetteur.