1 Overview

The EN4080 IP gateway combines the functionality of an Inovonics receiver with the flexibility of an IP appliance, receiving EchoStream data and outputting messages directly to an IP-based application.

2 Installation

1 Review all installation instructions, as well as section 3, "Tips and Notes" on page 3, before beginning installation to ensure you are familiar with the process and have everything you need to install the IP gateway.

2 Record the following information for future reference:
- Record the appropriate MAC addresses from the label on the back of the housing.
- Record the eight-character alphanumeric authorization code from the label on the lower right-hand portion of the printed circuit board, just above the Inovonics logo.

3 Use a Phillips screwdriver to open the IP gateway housing.
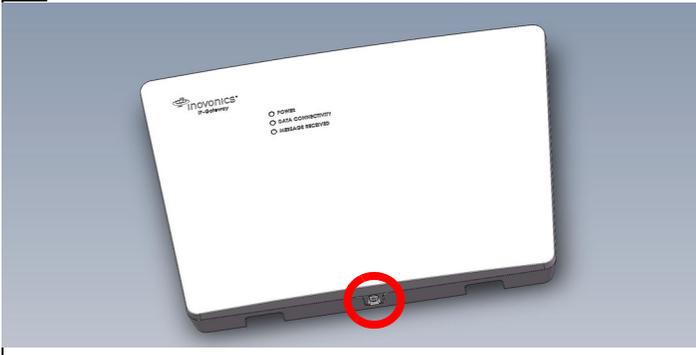

**4** Use the included screws and drywall anchors to flush-mount the IP gateway.
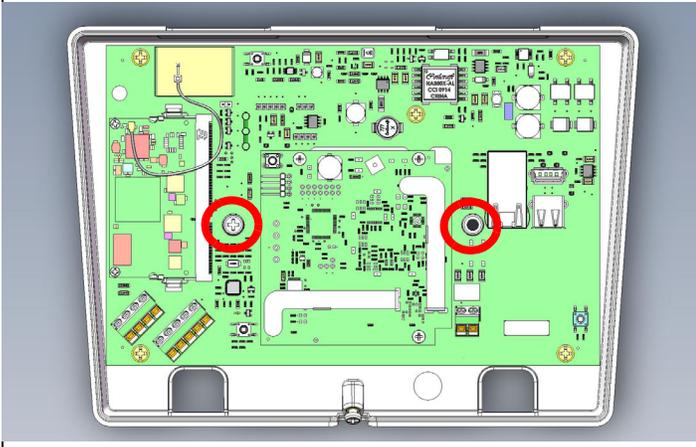
5 Connect power to the IP gateway, routing cabling through the IP gateway housing knockout.
- If using line power, connect a power supply to the power terminal blocks per the power supply manufacturer's instructions. See section 5, "Specification" on page 3 for details.
- If using Power over Ethernet (PoE), connect one end of a RJ45 Ethernet cable to the RJ45 Ethernet jack, and connect the other end to a PoE capable network switch. Ensure 10/100BASE-T Ethernet with Dynamic Host Configuration Protocol (DHCP) network management protocol.
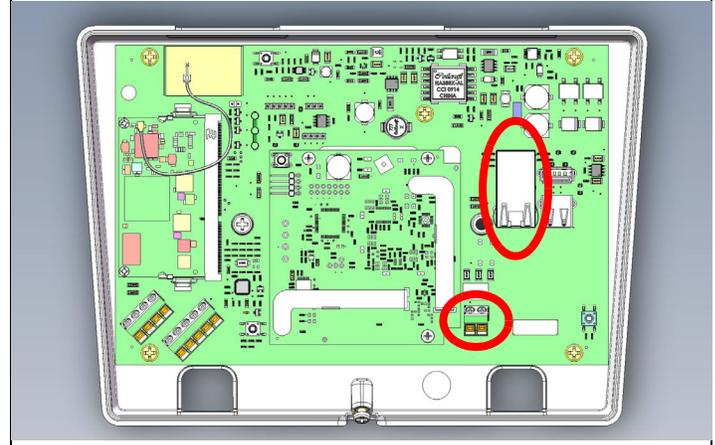

6 If using line power, connect one end of a RJ45 Ethernet cable to a RJ45 Ethernet jack, and connect the other end to your LAN to establish Internet connectivity.
- Ensure 10/100BASE-T Ethernet with DHCP network management protocol.
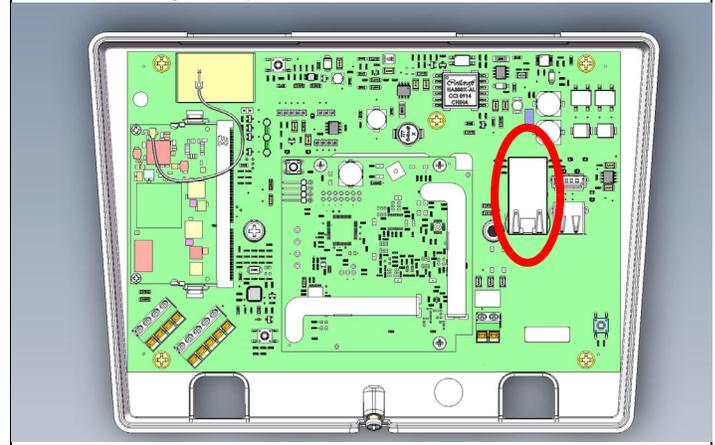
7 The IP gateway is configured for North America; if you are using the device in Australia, New Zealand or Japan:

- Place a selection jumper on the left two pins, marked AUS, to set the frequency range to 915-928 MHz for Australia.
- Place a selection jumper on the right two pins, marked NZ, to set the frequency range to 921-928 MHz for New Zealand or Japan.
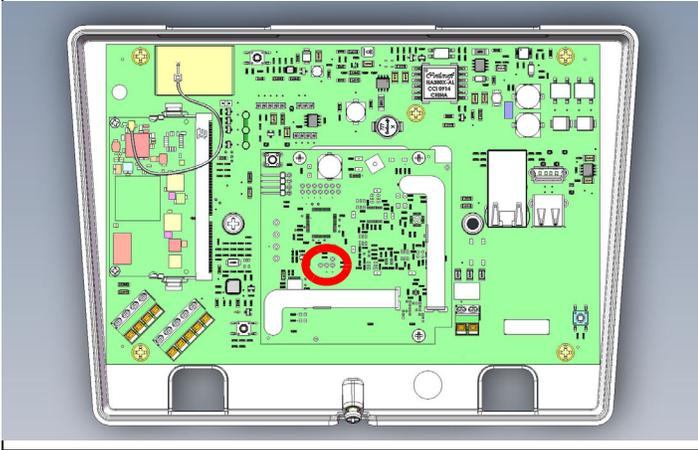
Note: Steps 8 through 13 are generic configuration instructions for the IP gateway. For instructions for your individual license, see the *E*4080 IP Gateway Amazon Web Services MQTT Quick Start Tech Note* or the *E*4080 IP Gateway BACnet/IP Quick Start Tech Note* available in the documentation library at www.inovonics.com.

8 If using an existing EN4080 configuration file, open the configuration file and proceed to step 11; if using a new EN4080 configuration file:

a. Insert a brand-name USB flash drive into either of the IP gateway's USB ports.

b. Download the configuration file to the USB drive by pressing the reset button on the IP gateway.

c. When the red LED is solidly lit or blinking, remove the USB drive.

d. Insert the USB drive into a PC.
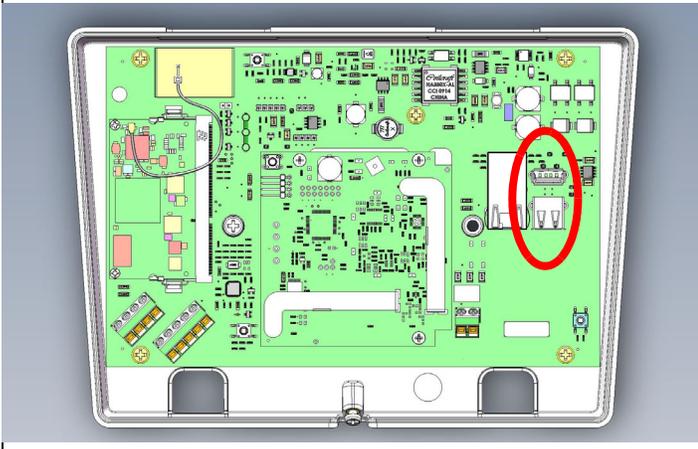
**9** On your PC, open the configuration file from the USB drive.

- It will be named en4080-XX-config-YYYYMMDD-HHMMSS.yaml, where XX is the last two hex digits of the Ethernet MAC address, as shown on the label on the back of the house, and YYYYMMDD-HHMMSS is the current date and time.

**10** Enter the configuration information into the .yaml file:

- Enter TXIDs for the transmitters and any repeaters to be registered to the IP gateway, referring to and overwriting the examples provided in the file, separated by commas.
- Enter the desired host name of the remote server where the IP-based application is running.
- As desired, change the default port from port 5500 to another port.
- Configure the network connectivity as desired. By default, only Ethernet is enabled with DHCP; WiFi is disabled. See quickstart guides for configuration details.

11 Save the configuration file onto the USB drive as en4080-config.yaml.

12 Safely eject the USB drive and insert it into either of the USB ports on the IP gateway.
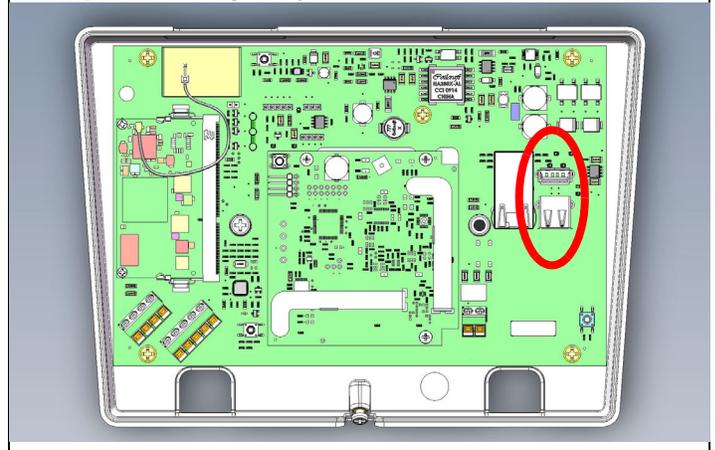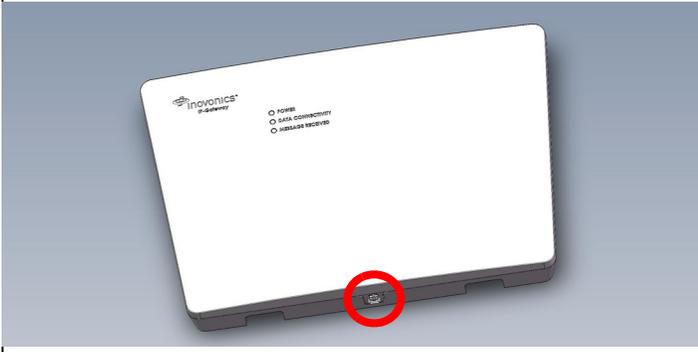

13 Press the reset button on the IP gateway.
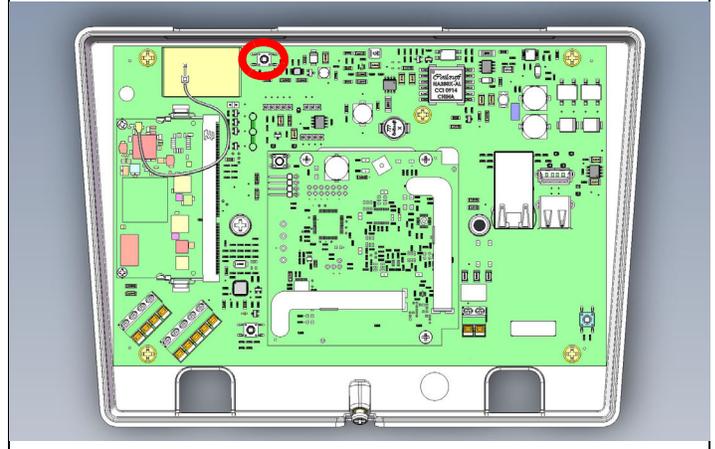
| 14 | When the IP gateway has finished processing the configuration file, indicated by the red LED being solidly lit or blinking, safely remove the USB drive. |

| 15 | Use a Phillips screwdriver to close the IP gateway housing. |

Once the IP gateway is functional and all transmitter TXIDs have been registered, the LEDs will function as follows:

- Green: Blinks when powering up; solid when power up is complete.
- Orange: Blinks while establishing an IP connection; solid when IP connected.
- Red: Blinks upon message receipt from any transmitter.

3 Tips and Notes

3.1 Installation Notes

- These products are designed to be maintained by professional technicians.
- Products are tested for indoor use.
- Inovonics recommends registering and testing end devices prior to installation, using a floor plan or something similar to indicate installation locations. Consider marking or applying descriptive labels to the end device cases to ensure proper installation. Conduct a site survey with an Inovonics survey kit prior to installation to assist with RF gateway, repeater and end device placement.
- Use a brand name USB flash drive with a FAT32 (vfat) filesystem for configuration.
- The IP gateway configuration file is YAML formatted. See yaml.org for details.
- If using line power, keep cable length to less than 10 feet to minimize noise pickup.
- To resolve connectivity issues, check for loose/disconnected cabling, ensure power to Ethernet routers and/or switches, and connect a laptop to the Ethernet cable attached to the IP gateway's RJ45 port and attempt to open a web site. If you are still unable to establish an Internet connection, contact a facility IT representative.
- Metal will reduce radio frequency (RF) range. Mount the IP gateway in a location removed from metal, including duct work, wire mesh screens, IT closets, metal boxes, and etc. For additional information, see the "EchoStream Device Installation Recommendation" tech note at www.inovonics.com.

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

4 Questions

📞	(800) 782-2709; (303) 939-9336
✉	support@inovonics.com
🌐	www.inovonics.com
▶	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.

5 Specification

Dimensions: 9.556" x 6.65" x 1.208" (243 mm x 169 mm x 31 mm).

Power requirements: Line power: The Inovonics ACC610 transformer, or a 12-14V AC intrinsically safe power supply capable of supplying at least 16W, or a 12-15V DC power supply capable of supplying at least 15W; POE: IEEE 802.3af-2003 compliant.

Ethernet: 10/100 BASE-T, DHCP, static IP.

WiFi: 802.11b/g/n, 2.4GHz, WPA/2-Personal, DHCP, static IP.

Operating frequencies: EchoStream: 902 - 928 MHz North America, 915 - 928 MHz Australia, 921 - 928 MHz New Zealand; Wi-Fi® and Bluetooth®: 2.400 GHz to 2.485 GHz.

Operating environment: Temperature: 32°F to 140°F; humidity: Up to 90% non-condensing.

Regulatory certifications: FCC, RoHS, RCM, ISED.

6 Regulatory Compliance

6.1 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:

- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

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

6.2 FCC Part 15 and Innovation, Science and Economic Development Canada (ISED) Compliance

This device complies with part 15 of the FCC Rules, and ISED 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 that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR Innovation, Sciences et Développement économique 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.

6.3 Radiation Exposure Limits

FCC

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm during normal operation and must not be co-located or operating in conjunction with any other antenna or transmitter.

ISED

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This transmitter must be installed to provide a separation distance of at least 20 cm from all persons and 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. Cet émetteur doit être installé à au moins 20 cm de toute personne et ne doit pas être colocalisé ou fonctionner en association avec une autre antenne ou émetteur.

6.4 Wi-Fi and Bluetooth Module

This device includes an LSR Sterling-LWB module (FCC ID: TFB-1003 / ISED ID: 5969A-1003) and an LSR FlexNotch 2 dBi Antenna, PN 001-0015.

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by LSR may void the user's authority to operate the equipment.

To comply with FCC and ISED RF exposure limits for general population / uncontrolled expose, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures.

7 Open Source Software Notice and Information

To obtain the source code under GPL, LGPL, MPL, and other open source licenses that is contained in this product, please contact Inovonics technical services. In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are also available.