1 Overview

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

The TapWatch gateways is available in the following configurations:

Part #	Product name	Devices supported
EN7580	TapWatch Gateway	2000
EN7581	TapWatch Gateway Lite	50

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 TapWatch gateway.

**2** Record the following information for later in the configuration process:
- 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 TapWatch gateway housing.

4 Connect power to the TapWatch gateway, routing cabling through the TapWatch 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 10/100/1000BASE-T Ethernet with Dynamic Host Configuration Protocol (DHCP) network management protocol.
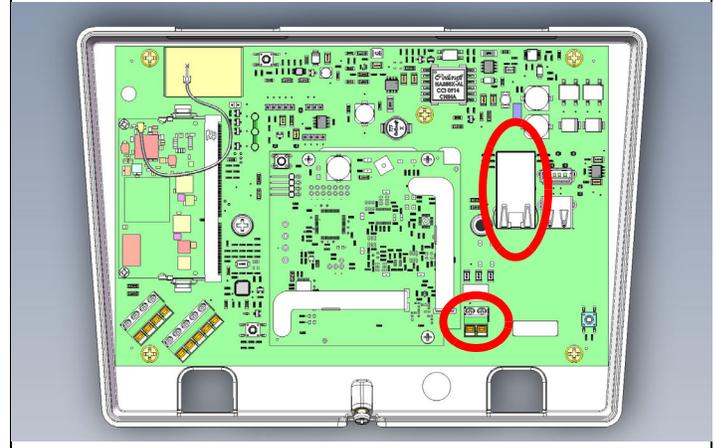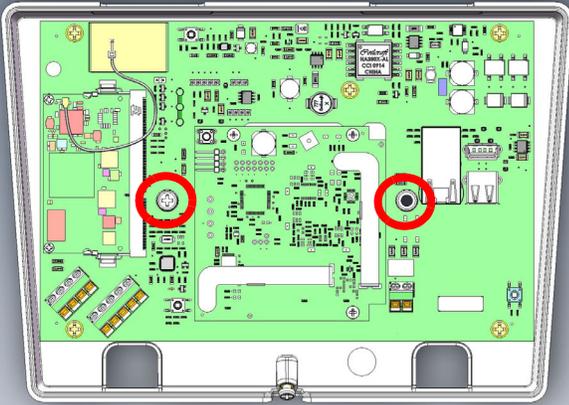

5 If using line power, connect one end of a RJ45 Ethernet cable to a RJ45 Ethernet jack, and connect the other end to your LAN to establish Internet connectivity.
- Ensure 10/100/1000BASE-T Ethernet with Dynamic Host Configuration Protocol (DHCP) network management protocol.
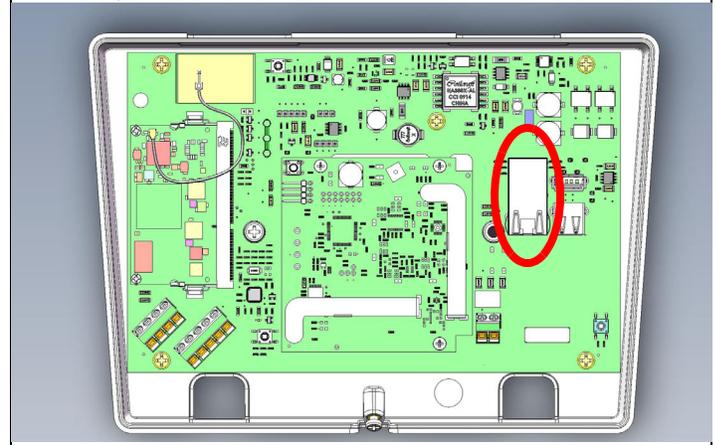
**6**   Use the included screws and drywall anchors to flush-mount the TapWatch gateway.

7   The TapWatch gateway is configured for North America; if you are using the device in Australia or New Zealand:

- 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.
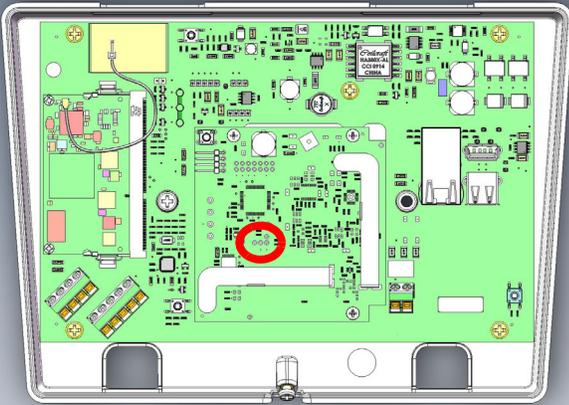

8   If deploying the TapWatch gateway on a site with Frequency Agile (FA) hardware, you will need to connect an FA403 receiver to the TapWatch gateway; if not deploying the TapWatch gateway on a site with FA hardware, skip to step 9.
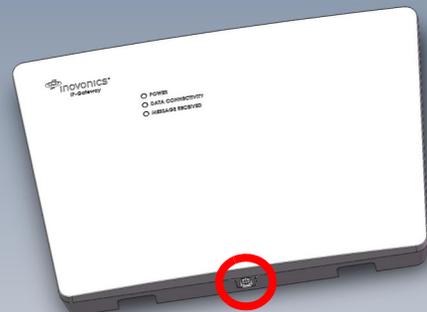
- You will wire the FA403 receiver to the EXT RECEIVER terminal blocks on the gateway shown below.
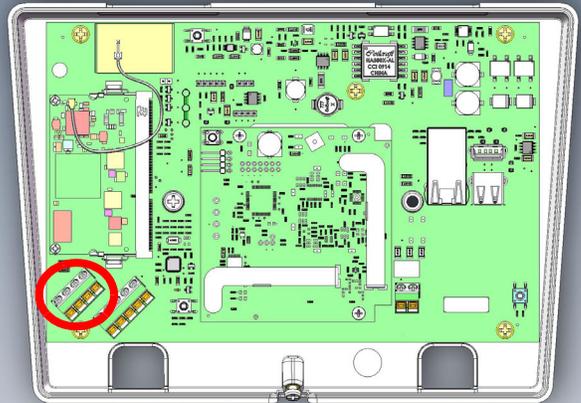
- Use the following wiring diagram to connect the FA403 to the TapWatch gateway:
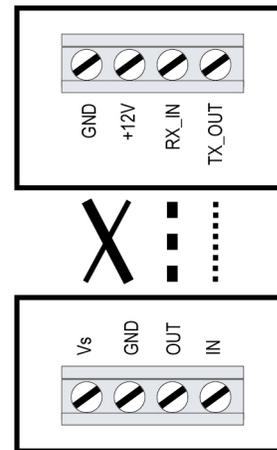
9   Use a Phillips screwdriver to close the TapWatch gateway housing.

10   Refer to the *TapWatch User Manual* for instructions on how to associate a TapWatch gateway to a site, and register repeaters and transmitters to the TapWatch gateway.

Note: The first time you connect a TapWatch gateway to the Internet it will check for and initiate firmware updates. This may take up to 15 minutes and the gateway may experience a re-boot cycle to complete the update.

Once the TapWatch gateway is functional, 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.
- 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 TapWatch 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 TapWatch 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.

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" (242.72 mm x 168.91 mm x 30.68 mm).

Power requirements: Line power: The Inovonics ACC610 transformer, or a 12-14V AC intrinsically safe power supply capable of supplying at least 20VA, or a 12-15V DC power supply capable of supplying at least 20VA; POE: IEEE 802.3af-2003 compliant.

Router requirements: The router must assign addresses via DHCP; the DHCP lease of the router must be set to a non-zero and non-infinite value, and should be set to a value greater than 30 seconds; The router must allow outbound connections on the following ports: DNS (53), HTTPS (443), NTP (123).

Ethernet: 10/100/1000BASE-T, DHCP.

Operating frequencies: EchoStream: 902 - 928 MHz North America, 915 - 928 MHz Australia, 921 - 928 MHz New Zealand; Wi-Fi® and Bluetooth®: 2.4GHz to 2.5 GHz.

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

Regulatory listings: FCC, RoHS.

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 29mm 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.