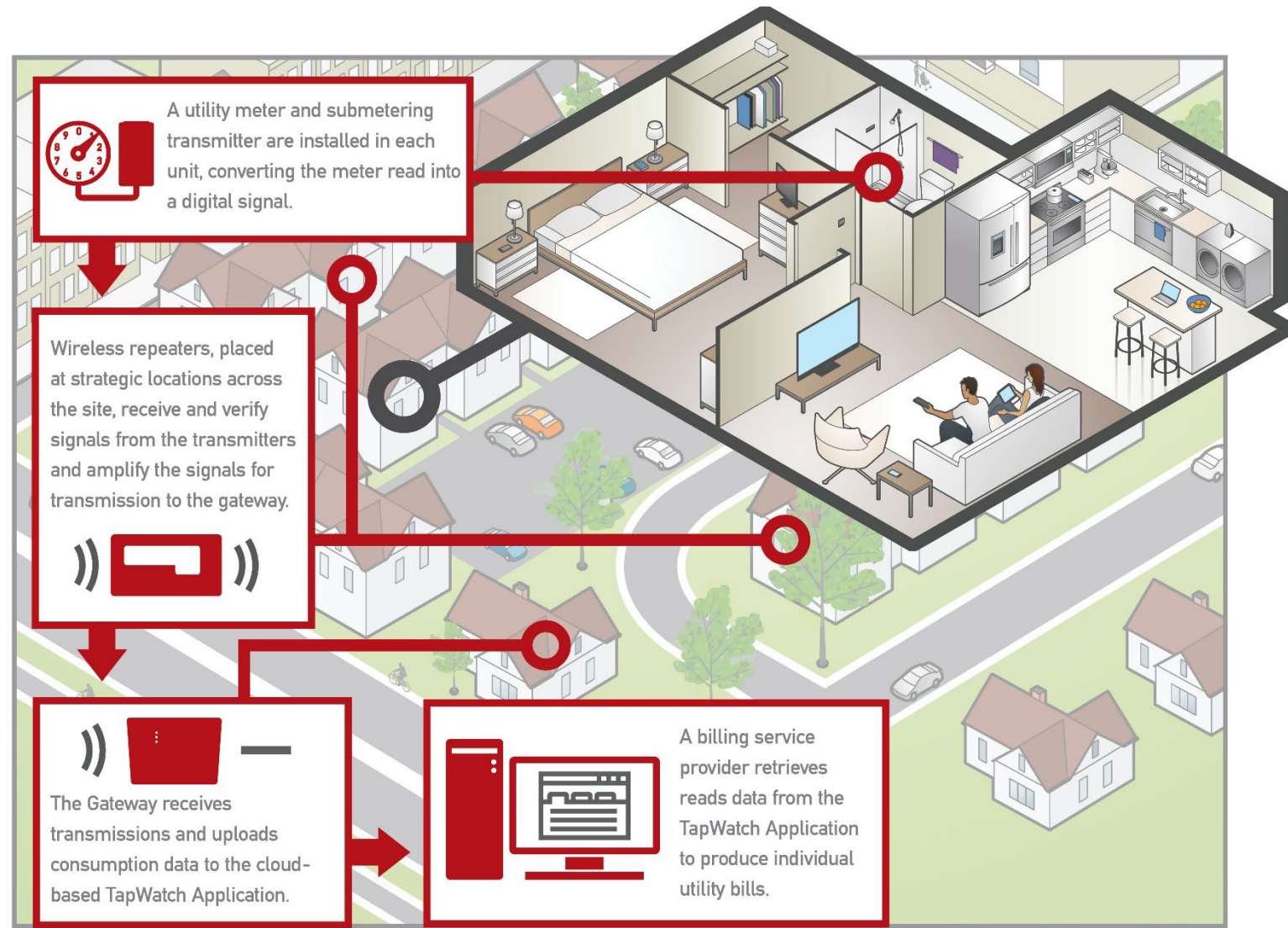




# inovonics®

Installing TapWatch Gateways and  
Repeaters

# Inovonics Submetering



# Commercial Grade TapWatch Gateway



- Combines the receiver and data logger functionality into a single gateway
- Supports over-the-air updates
- Full compatibility with previously installed EchoStream and FA systems
- User interface: Cloud-based TapWatch application
- Power options:
  - Line power via prewired ACC610 transformer
  - Or POE
- Operating environment: 32F to 140F
- Mounting: Mounting screws

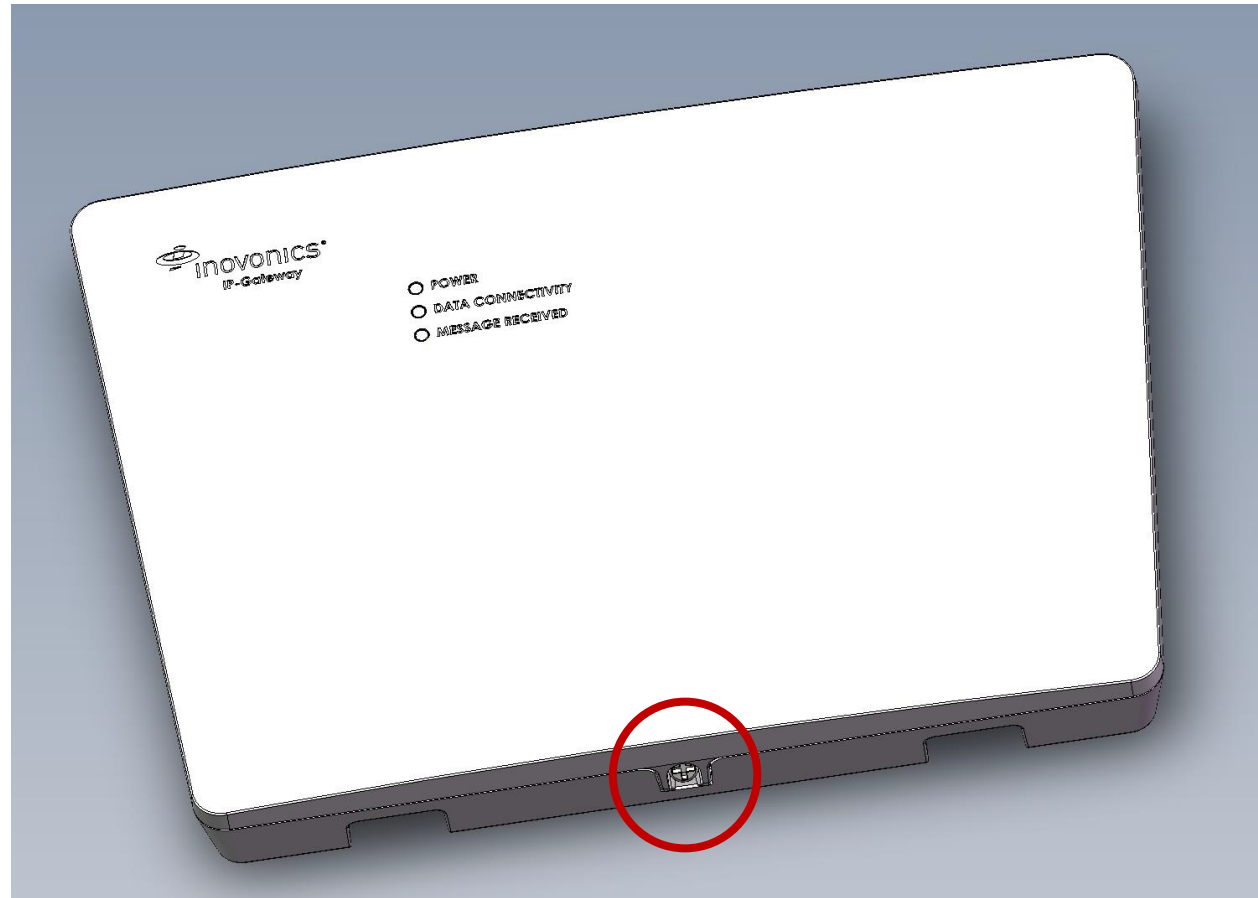
# TapWatch Gateway Placement

1. Determine where you will place the gateway
  - Consider an easily accessible central location
  - With access to line power
  - With access to IP connectivity
  - Indicate location of floorplans to speed install and for future reference
  - Avoid locations that can disrupt the RF signal;  
See [Inovonics Device Installation Recommendations Tech note](#) for more information



# Gateway: Open the Cover

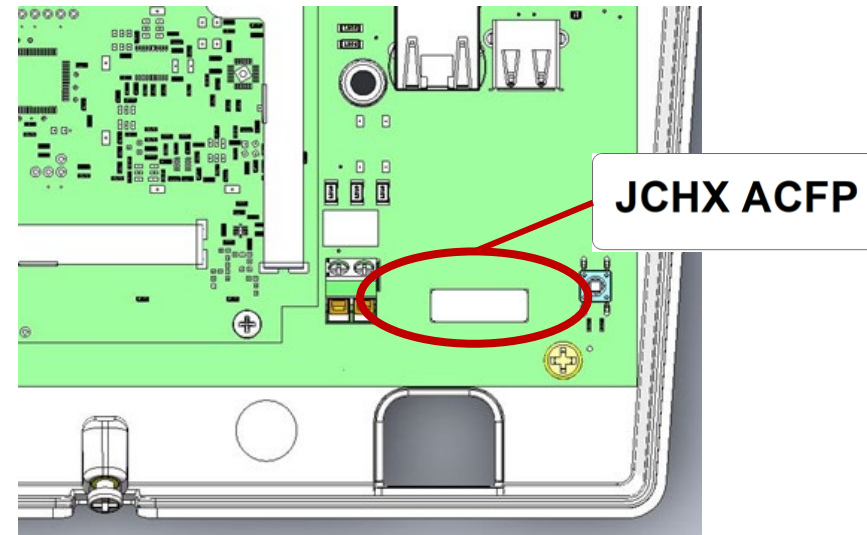
2. Use a Philips screwdriver to open the TapWatch gateway housing





# Gateway: MAC Address and Authorization Code

3. Record the following information for later in the configuration process:
- Record the Ethernet MAC address (Eth0 at right) from the label on the back of the housing.
  - Very Important:** Record the eight-character alphanumeric authorization code from the label on the lower right-hand portion of the printed circuit board (at right).

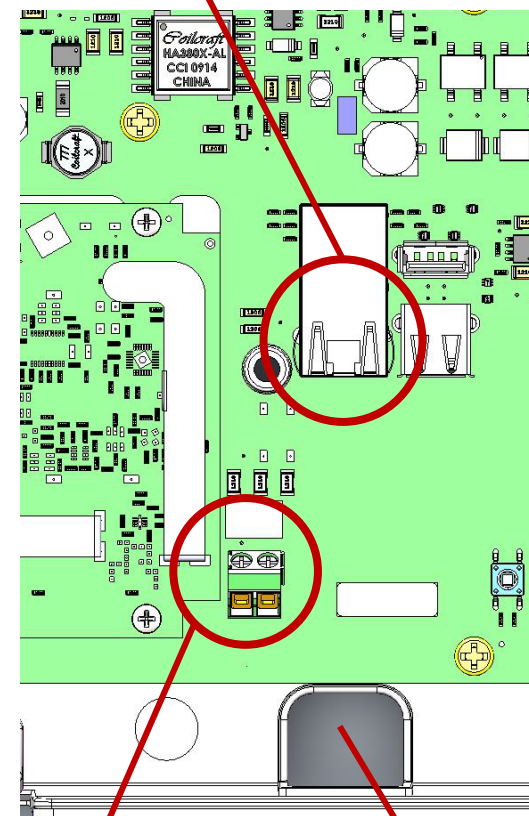


# Gateway: Power over Ethernet

4. Connect power to the TapWatch gateway, routing cabling through the housing knockout.
  - 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.
  - If using line power
    - Connect a power supply to the power terminal blocks per power supply instructions.
    - 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.

**Note: Do not add line power if you already have Power over Ethernet.**

Ethernet jack



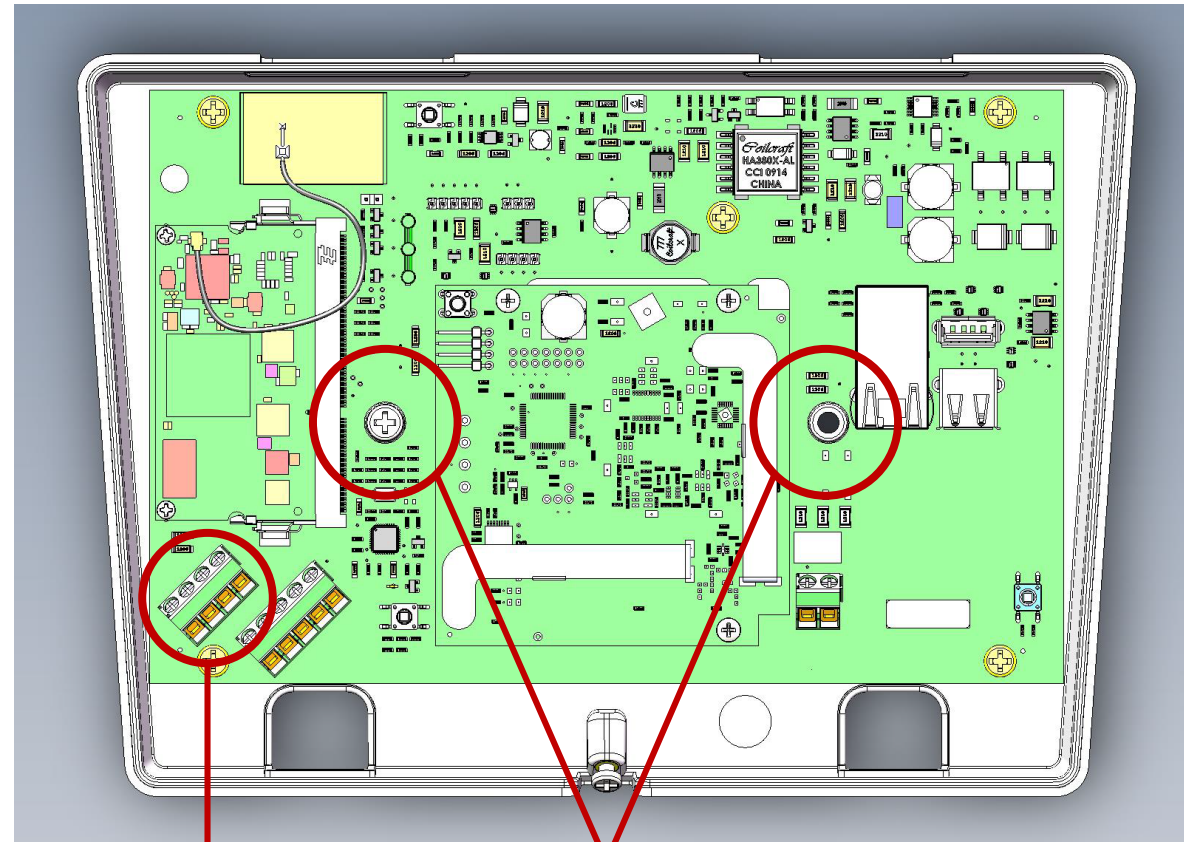
Line power  
terminal blocks

Housing knockout

# Gateway: Mounting

5. Use the included screws and drywall anchors to flush-mount the TapWatch gateway.
  - Refer to the TapWatch gateway installation instructions for Australian and New Zealand configuration instructions.
  - Refer to the TapWatch User Manual for instructions on how to associate a TapWatch gateway to a site.
6. Use a Phillips screwdriver to close the TapWatch gateway housing.

Note: See the TapWatch Gateway Installation Instructions to connect an FA403 via the EXT RECEIVER terminal blocks



EXT RECEIVER

Mounting screw holes

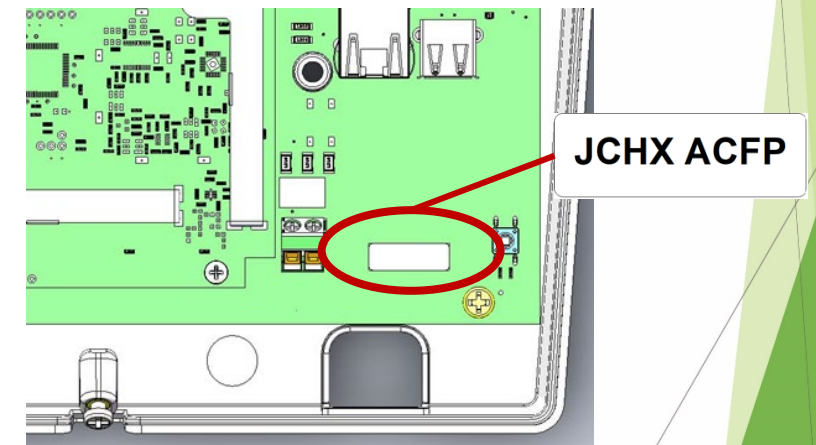


## Converting a DCC or RDL8500 to an EN7580 Gateway

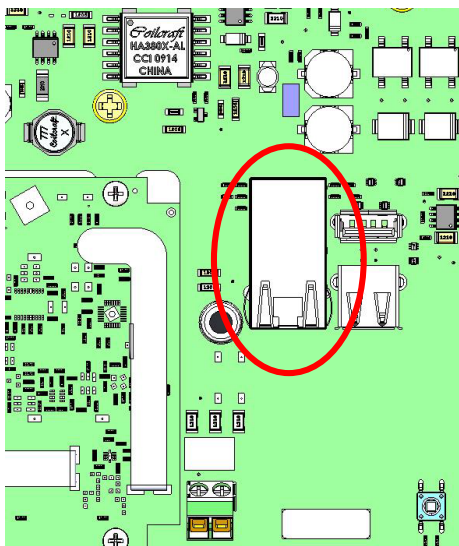
- To make it easy for you to convert your existing RDLs and DCCs over to an EN7580, we ask that you send us the following information to [support@inovonics.com](mailto:support@inovonics.com) and we will migrate the contents of your existing RDL to your new EN7580 for you:
1. RDL serial number and site name if its online
  2. If it is connected via a phone line please send us a backup file of the property
  3. The EN7580 serial number and auth code
  4. The RBC the new gateway will be assigned to



\*on back of EN7580\*



# Setting up Cellular Connectivity

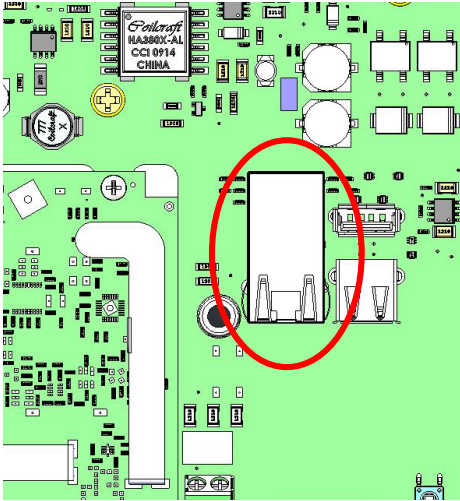


TapWatch gateways can operate at speeds of 2GB and higher. For reference, a site with 500 transmitters will consume 25MB of data per day. Please consult with your cellular carrier to identify the data plan that best suits your needs.



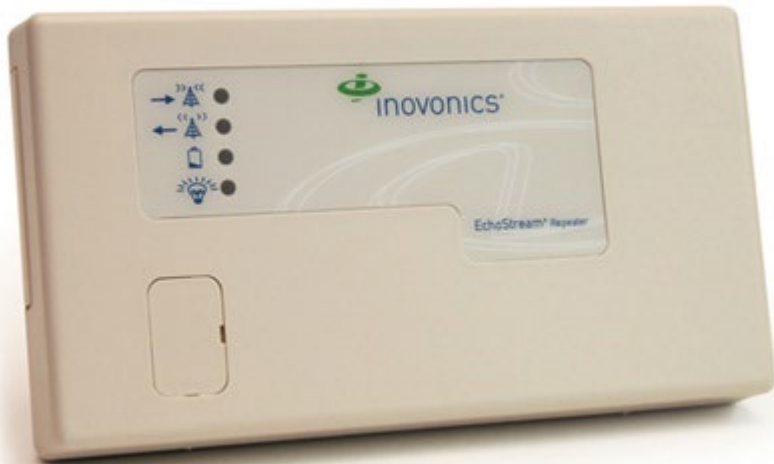
1. Insert the SIM card into the LB2120 per the manufacturer's instructions.
2. Connect the LB2120 to your computer Ethernet directly on the LAN (Yellow) port.
3. Open a browser and connect to <http://192.168.5.1>. This is the modem IP address.
4. When prompted, enter the password from the sticker on the bottom of the modem.
5. Download a copy of the Netgear LB210 installation guide and user manual from [netgear.com](http://netgear.com).
6. Connect the LAN (yellow) port on the modem to the TapWatch gateway.
7. Refer to the TapWatch Application User Manual to complete site set up.

# Setting up Wi-Fi Connectivity



1. Ensure the availability of a WiFi signal where you plan to install the TapWatch gateway.
2. Download the latest driver at <https://www.iogear.com/support/dm/driver/GWU637>.
3. Disconnect your computer from the Internet (Ethernet, WiFi, cellular).
4. Plug the WiFi adapter into your computer's USB and Ethernet ports.
5. Refer to the documentation at <https://www.iogear.com/product/GWU637/> to configure the adapter to a local WiFi network.
6. When you are able to browse the web, unplug the WiFi adapter from your computer's USB and Ethernet ports.
7. Connect the TapWatch gateway to the cloud proxy per the *EN7580 TapWatch Gateway and EN7581 TapWatch Gateway Lite Installation Instructions available at inovonics.com*.
8. Unplug the TapWatch gateway from power and modem.
9. Plug the WiFi adapter into power.
10. Connect the WiFi adapter to the WAN port on the TapWatch gateway.
11. Plug the TapWatch gateway into power.

# Commercial Grade Repeater



- EN5040-T ships with ACC610 transformer, shown
- EN5040 customer supplied power supply
  - Input: AC100-240V, 50Hz-60Hz, 0.3A
  - Output: DC12V, 1.0A
- 50,000 square foot range
- Operating environment: -4F to 140F
- 24 hour+ backup battery
- No programming required
- Self configuring
- Case tamper protection
- ACC610 transformer - Intrinsically safe
- EN5040 available without transformer
- Mounting options
  - Mounting screws
  - Double sided tape
  - ACC650 outdoor enclosure



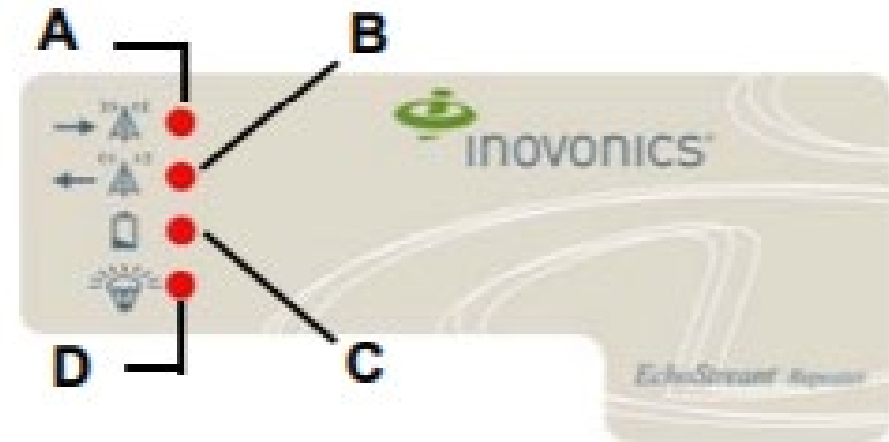
# Repeater: Quantity/Location

1. Determine the number of repeaters your site will require and the installation location for each
  - Consider locations with access to line power
  - Refer to the Quoting Overview presentation in the training library
  - Indicate repeater locations on floorplans to speed the installation process and for future reference
  - Avoid locations that can disrupt the RF signal; See [Inovonics Device Installation Recommendations Tech note](#) for more information



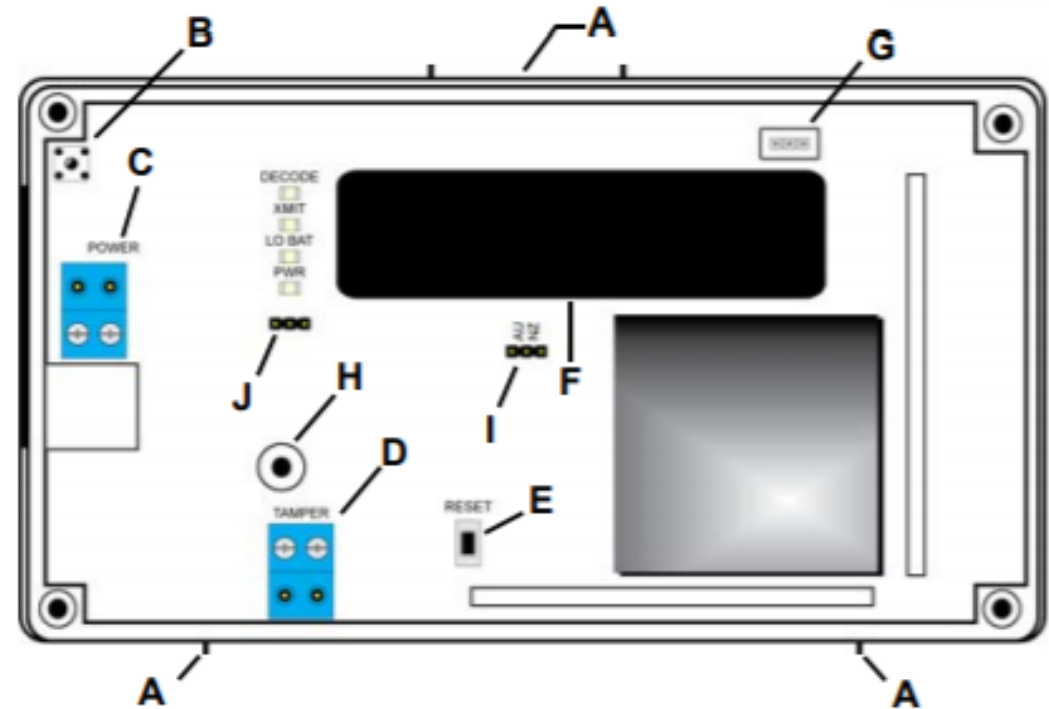
# Repeater: LEDs

- A. Decode LED flashes when any recognizable RF transmission is received.
- B. Transmit LED lit when transmitting an RF transmission.
- C. Low Battery Fault LED lit when the high power repeater has a low battery.
- D. Power LED lit when receiving power. The LED lights green when the unit is receiving line power; red when receiving battery power.



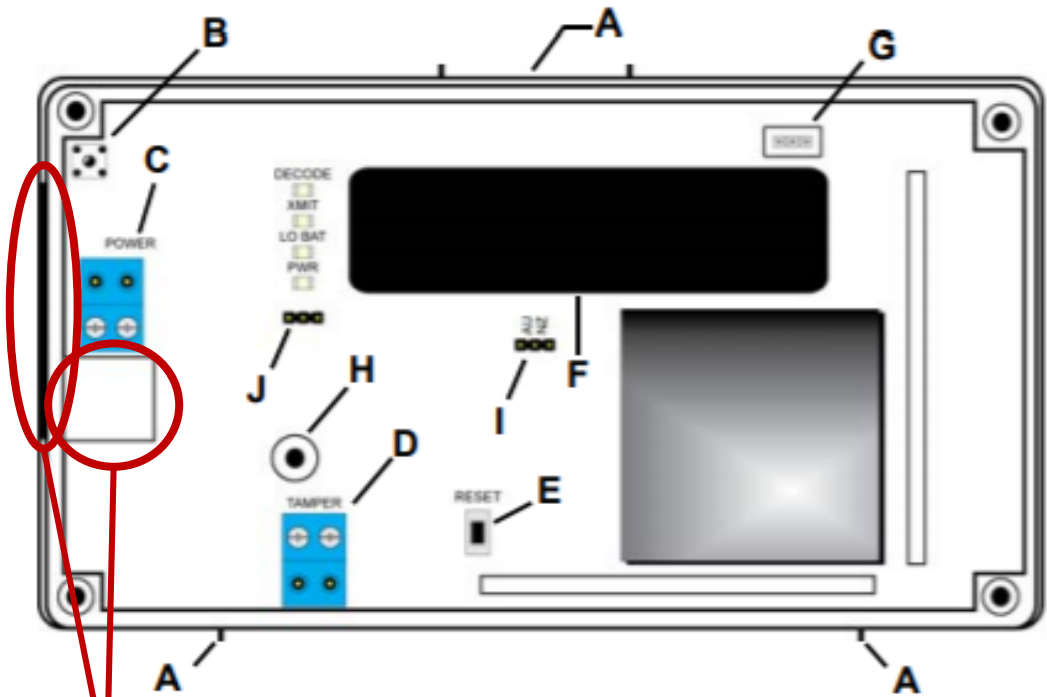
# Repeater: Internal Components

- A. Housing release tabs
- B. Case tamper button spring
- C. Power terminal block
- D. Tamper input (not used for submetering installs)
- E. Reset button
- F. Backup battery
- G. Battery connector
- H. Wall tamper mounting hole
- I. Frequency selection pins
- J. Messaging mode selection pins



# Repeater: Connect Power Cabling

- Use a small screwdriver to press the housing release tab (A) to separate the housing.
- Connect power cabling to power terminal block (C) per ACC610 power supply instructions
  - Wire should be two-conductor 20AWG (or larger) stranded-tinned copper with PVC insulation rated to 300 volts at 26°C (80°F).
  - Wire length should not exceed 100 meters (328 feet).
  - Route the cable from the transformer to the unit through the left side of the repeater, or through the oval knock-out section in the rear.
  - Torque screw terminal to 0.25 N-m (2.18 inch-pounds).

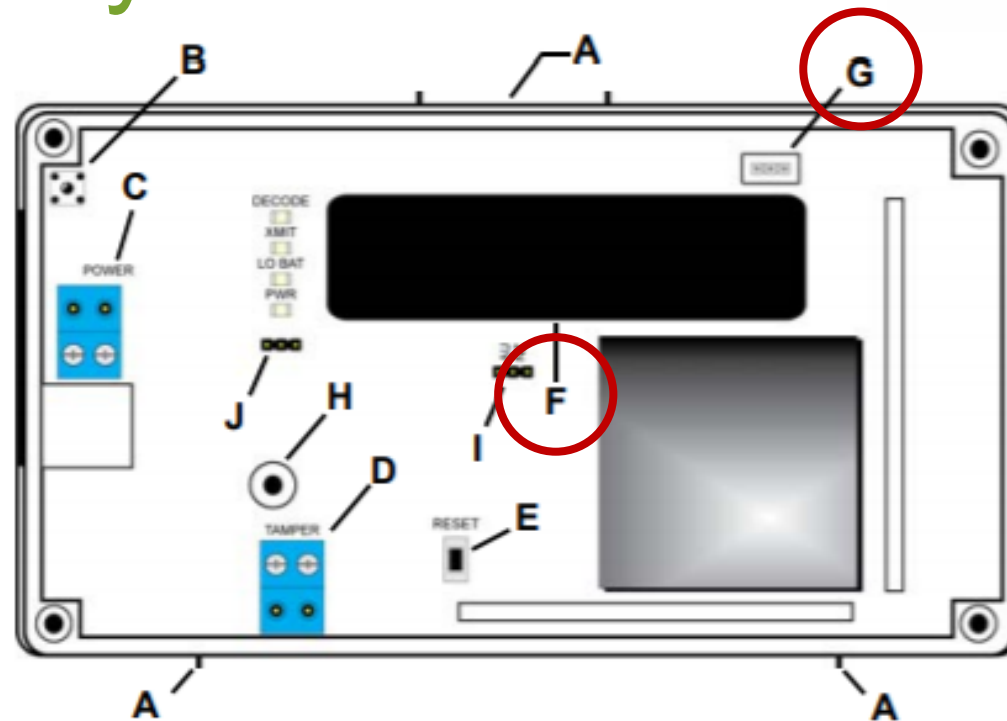


Left side and rear knock outs



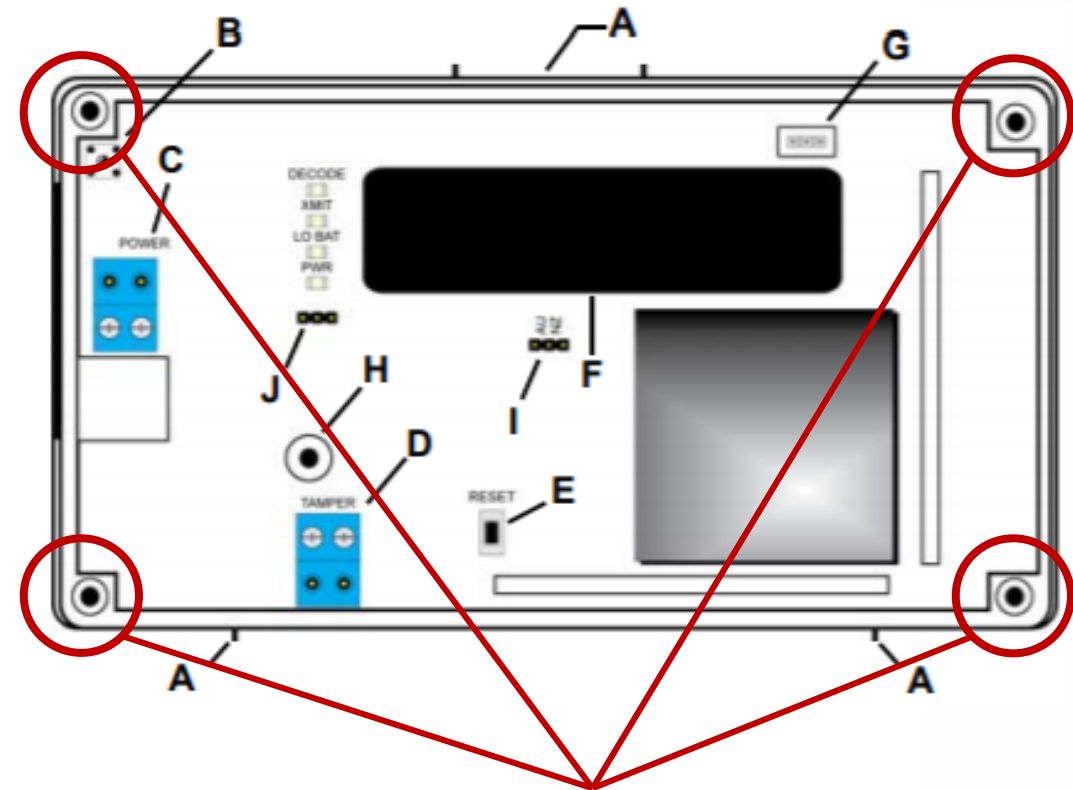
# Repeater: Connect Battery Power

- The repeater ships with a fully-charged backup battery that you will need to connect by plugging the connector cable from the backup battery (F) into the battery connector (G).



# Repeater: Mounting

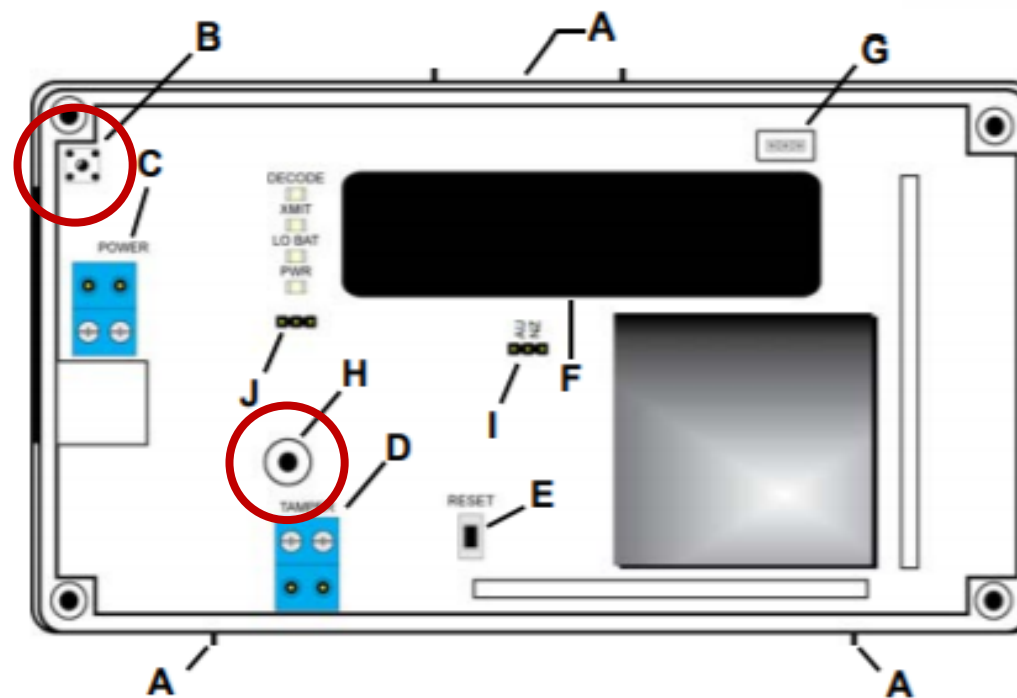
- Use the anchors and screws provided to mount the high repeater in a location accessible for future maintenance.
- See repeater installation instructions for more mounting tips.



Mounting screw holes

# Repeater: Wall and Case Tamper

- Wall tamper is activated if the repeater is removed from the wall with force.
  - To enable wall tamper attach a mounting screw to the wall through the tamper mounting hole (H).
- Case tamper is activated if the front cover is removed.
  - Ensure the tamper spring (B) is in place and makes contact with the housing.
- Close the housing.



# Installation

Register the repeaters and gateway in your TapWatch Application, referring to your [user manual](#) for more information.





# For More Information

- Inovonics Technical Support:
  - [support@inovonics.com](mailto:support@inovonics.com)
  - (800) 782-2709, (303) 939-9336
  
- [Your Inovonics Account Manager](#)
  
- [Inovonics Submetering Partners and Distributors](#)