



# EE4204 EchoStream® Receiver

## Installation Instructions - 05426F

### 1 Overview

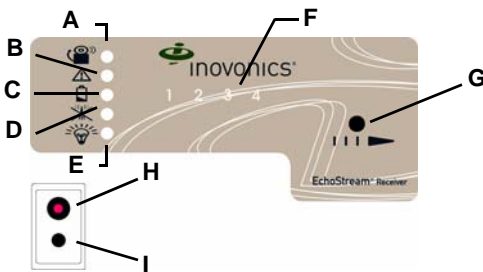
The EE4204 receiver allows you to add up to four transmitters to any application. With diversity reception and advanced signal processing, Inovonics Wireless EchoStream technology is designed to minimize dead spots in transmission areas.

#### 1.1 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

#### 1.2 EE4204 LEDs and Buttons



**Figure 1** Receiver LEDs and Buttons

- A** Alarm LED
- B** Tamper Fault LED
- C** Low Battery Fault LED
- D** Inactive Fault LED
- E** Power LED
- F** Transmitter Number LEDs
- G** Advance Button
- H** Decode LED
- I** Reset Button

Most of the LEDs and buttons perform different function depending on which mode the EE4204 is in.

#### Normal Operation Mode

**Alarm LED:** Lights when any transmitter is sending an alarm transmission.

**Tamper Fault LED:** Lights when any transmitter is sending a tamper transmission.

**Low Battery Fault LED:** Lit when any transmitter has a low battery.

**Inactive Fault LED:** Lit when any transmitter is inactive.

**Power LED:** Lit when receiving power.

**Transmitter Number LEDs:** Lit when the transmitter is in alarm.

**Advance Button:** Press the **Advance** button to enter status review mode.

**Decode LED:** Flashes when any recognizable transmission is received.

This LED is only visible when the pry-out door or cover is removed.

**Reset Button:** Clears the current status for all points and resets all outputs and LEDs. Resets the supervision window timers. This button is only accessible when the pry-out door or cover is removed.

#### Status Review Mode

**Alarm LED:** Lights when the selected transmitter is sending an alarm transmission.

**Tamper Fault LED:** Lights when the selected transmitter is sending a tamper transmission.

**Low Battery Fault LED:** Lit when the selected transmitter has a low battery.

**Inactive Fault LED:** Lit when the selected transmitter is inactive.

**Power LED:** Lit when receiving power.

**Transmitter Number LEDs:** Shows status of the transmitter assigned to that number when lit. Use the advance button to scroll through transmitters.

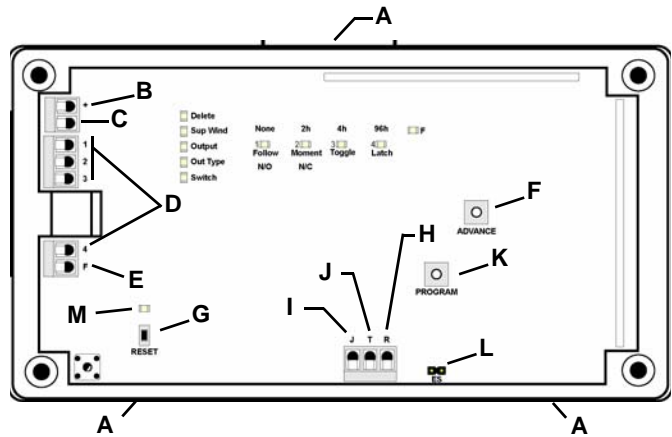
**Advance Button:** Scrolls through transmitters to display status.

**Decode LED:** Flashes when any recognizable transmission is received.

This LED is only visible when the pry-out door or cover is removed.

**Reset Button:** Clears the current status for all points and resets all outputs and LEDs. Resets the supervision window timers. This button is only accessible when the pry-out door or cover is removed.

### 1.3 EE4204 Internal Components



**Figure 2** EE4204 Components

- A** Housing release tabs
- B** Power (11-14 VDC)
- C** Ground connection tabs
- D** Output terminals
- E** Fault output
- F** Advance button
- G** Reset button
- H** Reset input
- I** Jam output
- J** Tamper output
- K** Program button
- L** EchoStream Select compatibility selection pins
- M** Decode LED

### 2 Installation and Startup

#### 2.1 Connect Power Cabling

Before beginning startup, you will have to connect power to the receiver. To connect power to the receiver:

- Connect power cabling to the Power and GND connections.
  - Power source should be 11-14 VDC. Power supply must be unswitched, uninterrupted, and regulated.

#### 2.2 Enable EchoStream Select

To meet ETSI requirements, Inovonics has developed a new line of EE 868MHz-only products. These new 868MHz-only products are compatible with older systems that include EchoStream Select (ES) products. If you are using any ES products in your current system, you will need to enable EchoStream Select compatibility on this new 868MHz-only product.

To enable/disable EchoStream Select compatibility:

- To enable compatibility with ES products, place a selection jumper on the ES selection pins.

**Note:** Selection jumpers are included in the EE4204 hardware packet.

- If no ES products are used in your system, remove the selection jumper from the ES selection pins.
- Cycle power.

#### 2.3 Program the Receiver

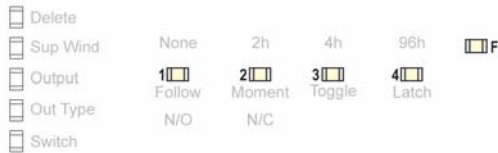
**Note:** If changing programming for a point that already has a transmitter registered to it, there is no need to re-register the transmitter. Changes to point programming are automatically assigned to the transmitter registered to that point.

The default settings are:

Point	Supervision Window	Output	Type	Switch (EE4204 Only)
1	4 hours	1	Follow	N/O
2	4 hours	2	Follow	N/O
3	4 hours	3	Follow	N/O
4	4 hours	4	Follow	N/O
F	N/A	Fault	Inactive is set to follow; low battery and tamper are set to latching.	N/O

To program any of the four transmitter points or the fault output:

1. Use a small screwdriver to press the housing release tab on either side of the receiver; separate the housing.
2. Use the **Advance** button to select any of the four transmitter points or the fault output (Fig. 3):



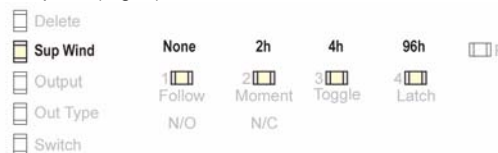
**Figure 3** Select the Output to Program

**Note:** The only programmable parameter on the fault output is whether the output is normally open or normally closed. If F is selected, the EE4204 automatically advances to the switch option.

3. Press the **Program** button to begin programming the point. If no transmitter has been registered to the chosen point, the receiver advances to the supervision window option.

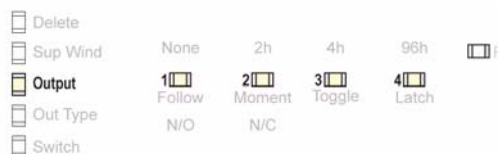
**Note:** If a transmitter has already been registered to the chosen point, the Delete LED lights. Press **Advance** to delete the point and return to normal operation; press **Program** to advance to the supervision window option.

4. Use the **Advance** button to choose a supervision window of None, 2h, 4h and 96h. Press **Program** to complete and advance to the output type option (Fig. 4).



**Figure 4** Select the Supervision Window

5. Use the **Advance** button to select the output number (Fig. 5). Press **Program** to complete and advance to output type option.



**Figure 5** Select the Output Number

6. Use the **Advance** button to select the output type (Fig. 6). There are four output types:

**Follower:** The output reflects the transmitter's alarm status.

**Momentary:** The output turns on for seven seconds, then turns off, regardless of the device status.

**Toggle:** The output changes state each time the device sends a new activation. A minimum of four seconds must elapse before the output can send a new activation.

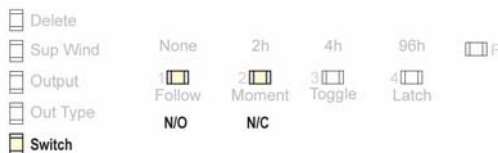
**Latching:** The output turns on when activated and remains on until the receiver is reset.



**Figure 6** Select the Output Type

Press **Program** to complete and advance to the switch type option.

7. Use the **Advance** button to choose between N/O and N/C (Fig. 7). Press **Program** to complete..



**Figure 7** Select the Switch Type

8. All the option LEDs will light and the point you've just programmed will flash. If you wish to register a transmitter to the point you've just programmed, press the transmitter's **Reset** button; otherwise, press **Program** to save programming changes without registering a transmitter.

**Note:** All of the alert LEDs will turn off when the receiver has received the transmitter's registration message, and the point number LED will light for two seconds. The registration is not complete until all LEDs turn off and the point number lights, indicating the receiver has received the transmitter's registration message. If this does not occur, press **Reset** on the transmitter again.

## 2.4 Factory Config

The factory config option is used to restore the EE4204 to its factory defaults.

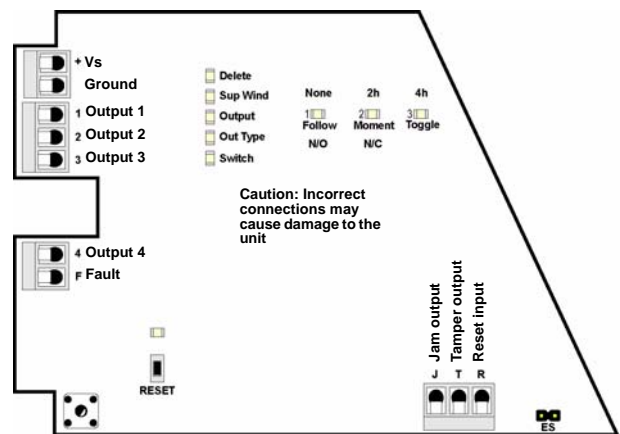
**Caution:** The factory config will erase all programmed point, output, and language information.

To restore the factory configuration defaults to the EE4204:

1. Hold down the **Reset** and **Advance** buttons.
2. With the buttons held down, cycle EE4204 power.

## 3 Connect Input/Output Cabling

1. Connect cabling to the tamper output.
  - The optional tamper output is a normally open (N/O) output that reports receiver case tamper to an external device.
2. Connect cabling to the jam output.
  - The optional jam output is a normally closed (N/C) output that opens when noise thresholds on all transmission channels remain above a predetermined value for any 30 seconds in any 60 second window. The jam output is set to the follow output type.
3. Connect cabling to the reset input.
  - The optional reset input circuit permits installation of a remote momentary normally open (N/O) switch to clear faults, unlatch outputs and reset the receiver to a normal state.
4. Connect cabling to the output terminals.
5. Close receiver housing.

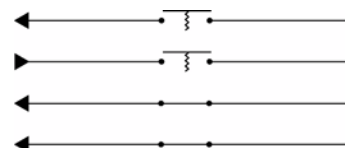


**Figure 8** EE4204 Terminals

## 3.1 Mount the Receiver

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

1. Use the provided anchors and screws to mount the receiver in a location accessible for future maintenance.
2. Perform a walk test, activating each transmitter assigned to the receiver and ensuring an appropriate response.



**Figure 9** Tamper, Reset, and Jam Circuits

## 4 Specifications

**Housing:** 162 mm x 92 mm x 28 mm (6.38" x 3.60" x 1.10")

**Operating environment:** 0°- 60°C (32°- 140°F), 90% relative humidity, non-condensing

**Power requirement:** 11 - 14 VDC; 150 mA

**Current consumption:** Approx. 135 mA

**Output specifications:** Open collector, drive down to .4V @ 100 mA; N/O receiver case tamper contact closure, N/C receiver jam output indication.

**Input specifications:** A low is less than .5 V; a high is greater than 2.5 V. Reset input: Contact closure, momentary low.

**Receiver type:** Frequency hopping spread spectrum

**Number of points/transmitters:** Four

**Number of alarm outputs:** Four open collector outputs

**Number of fault outputs:** One open collector output

### 4.1 Means of Conformity

Inovonics Wireless Corporation declares that the product listed above is in conformity with the essential requirements and provisions of the following Council Directives:

- R&TTE Directive
- Low Voltage Directive
- EMC Directive

and conforms to the following standards:

- EN 300 220 Receiver Class 1, Environmental Category 1
- EN 60950
- EN 301 489

## 5 Warranty/Disclaimer

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**Caution:** Changes or modifications to this unit not expressly approved by Inovonics Wireless Corporation may void the installer's authority to operate the equipment as well as the product warranty.

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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.

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**Note:** E-mail support@inovonics.com for a copy of the CE Declaration of Conformity.

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