EN4204/R EchoStream® Receiver
Installation Instructions - 05617C

1 Quick Start

By following this procedure you can quickly configure receiver. Review the main body of this manual for additional options, features, and a more detailed startup process.

1. Open the receiver housing.
2. Connect the power cabling.
3. Set the frequency band.
4. Press the **Advance** button to select the first transmitter point to program.
5. Press the **Program** button to begin programming the point.
6. Use the **Advance** button to choose a supervision window; press **Program** to complete and advance to the output option.
7. Use the **Advance** button to select the output number; press **Program** to complete and advance to the output type option.
8. Use the **Advance** button to select the output type. If programming the EN4204 press **Program** to complete and advance to the switch type option; if programming the EN4204R, press **Program** to complete and skip to step 10.
9. Use the **Advance** button to choose between normally open and normally closed; press **Program** to complete programming.
10. 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.
11. Press **Advance** to choose the next transmitter point to program.

Caution: Make sure to press **Advance** to choose the transmitter point you want to program. If you press **Program** instead of **Advance**, you will reprogram the first transmitter point.

12. Follow steps 5 through 11 to program the next transmitter point.
13. If programming an EN4204, press **Advance** to choose the fault ouput; if programming an EN4204R skip to step 15.

Note: The EN404R fault outputs can be wired normally open or normally closed using the terminal blocks.

14. Use the **Advance** button to choose between between normally open and normally closed; press **Program** to complete programming.
15. Connect input and output cabling.
16. Mount the receiver.

2 Overview

The EN4204/R 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.

2.1 Inovonics Wireless Contact Information

If you have any problems with this procedure, contact Inovonics Wireless technical services:
- E-mail: support@inovonics.com
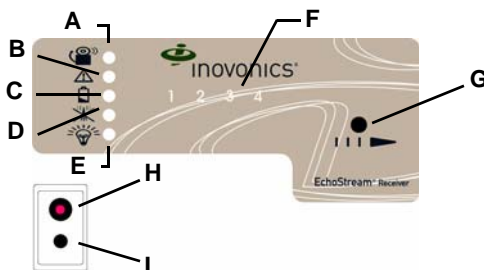- Phone: (800) 782-2709; (303) 939-9336

2.2 EN4204/R 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 the EN4204/R 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.

2.3 EN4204 Internal Components

Figure 2 EN4204 Components
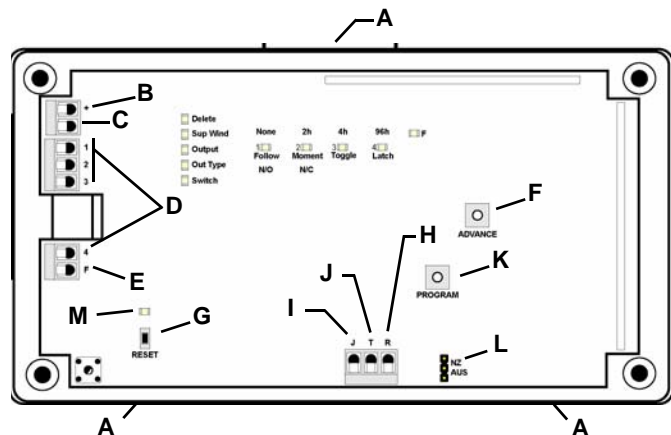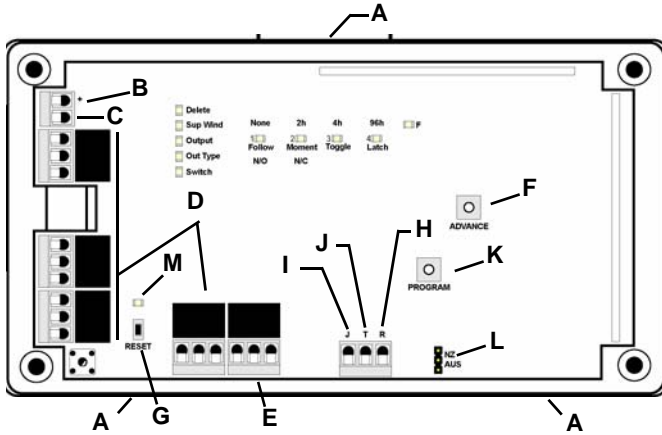
A Housing release tabs	**B** Power (11-14 VDC)	**C** Ground connection
D Output terminals	**E** Fault output	**F** Advance button
G Reset button	**H** Reset input	**I** Jam output
J Tamper output	**K** Program button	**L** Frequency band selection pins
M Decode LED		

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2.4 EN4204R Internal Components

Figure 3 EN4204R Components

A Housing release tabs	**B** Power (11-14 VDC)	**C** GND connection
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** Frequency band selection pins
M Decode LED		

3 Installation and Startup

3.1 Connect Power Cabling

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

1. Use a small screwdriver to press the housing release tab on the top or bottom of the receiver; separate the housing.
2. Connect power cabling to the Power and GND connections.
   - Power source should be 11-14 VDC. Power supply must be unswitched, uninterrupted, and regulated.

3.2 Select the Frequency Band

EchoStream products are able to use a range of radio frequencies, and must be configured for your geographic area. To configure the receiver:

1. Place a selection jumper on the appropriate frequency band selection pins.
   - Leave the jumper off the pins to set the frequency range to 902-928 MHz for North America.
   - Place the jumper on the top two pins, marked NZ, to set the frequency range to 921-928 MHz for New Zealand.
   - Place the jumper on the bottom two pins, marked AUS, to set the frequency range to 915-928 MHz for Australia.

Note: North American is also selected when the jumper is only attached to one pin. This can prevent the jumper from being lost when selecting North America.

2. Cycle power source to reset.

3.3 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 (EN4204 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. 4).:
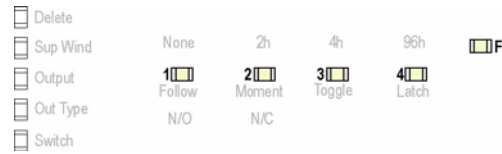
Figure 4 Select the Output to Program

Note: The only programmable parameter on the fault output is whether the output is normally opened or normally closed. If F is selected on an EN4204, the EN4204 automatically advances to the switch option; an EN4204R will not advance.

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 option (Fig. 5).

Figure 5 Select the Supervision Window

5. Use the **Advance** button to select the output number (Fig. 6). Press **Program** to complete and advance to output type option.
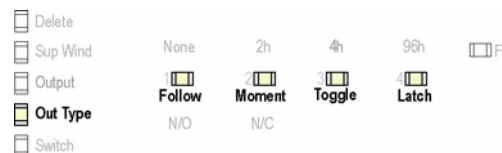

Figure 6 Select the Output Number

6. Use the **Advance** button to select the output type (Fig. 7). 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 7 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. 8). Press **Program** to complete..

Figure 8 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.

3.4 Factory Config

The factory config option is used to restore the EN4204 to it factory defaults.

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

To restore the factory configuration defaults to the EN4204:

1. Hold down the **Reset** and **Advance** buttons.
2. With the buttons held down, cycle EN4204 power.

4 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 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.
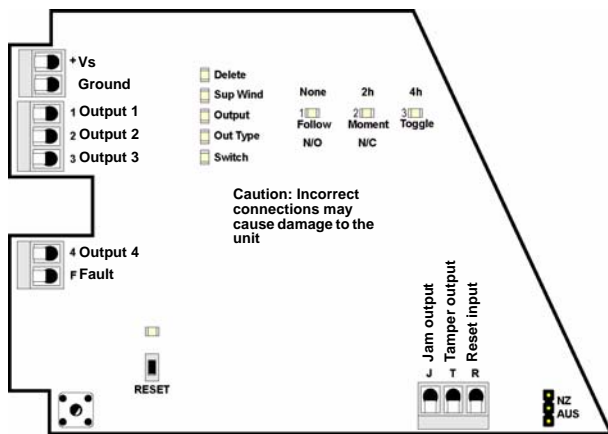5. Close receiver housing.
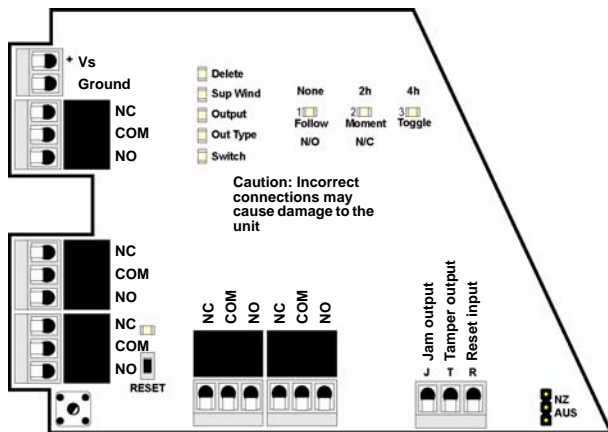

Figure 9 EN4204 Terminals

Figure 10 EN4204R Terminals

4.1 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 appoapriate response.

5 Specifications

Housing: 6.38" x 3.60" x 1.10" (162 mm x 92 mm x 28 mm)
Operating environment: 32°- 140°F (0°- 60°C), 90% relative humidity, non-condensing
Power requirement: 11 - 14 VDC; 150 mA (EN4204), ~400 mA max (EN4204R with all five relays energized)
Current consumption: Approx. 135 mA; approx. ~400 mA max (EN4204R with all five relays energized)
Output specifications: Open collector, drive down to .4V @ 100 mA (EN4204); Form C relay 1A @ 28 VDC, 0.5A @ 30 VAC resistive load (EN4204R); 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: EN4204: four open collector outputs; EN4204R: four Form C relay outputs
Number of fault outputs: EN4204: one open collector output; EN4204R: one Form C relay outputs

6 Warranty/Disclaimer

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.

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.

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