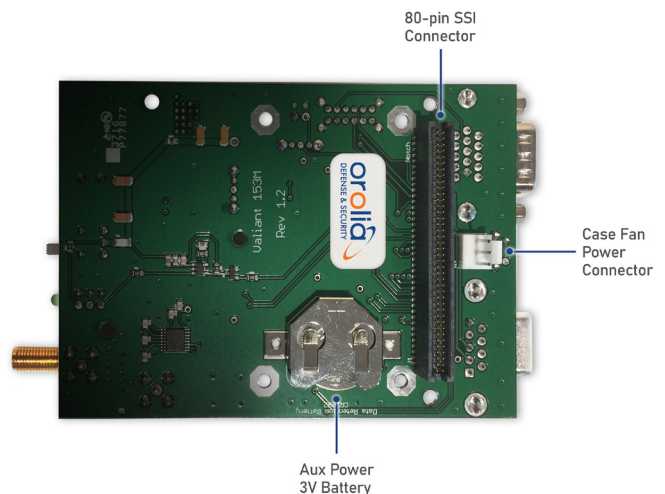
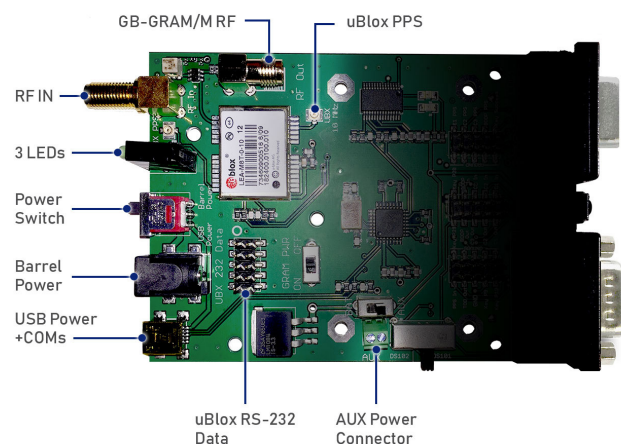
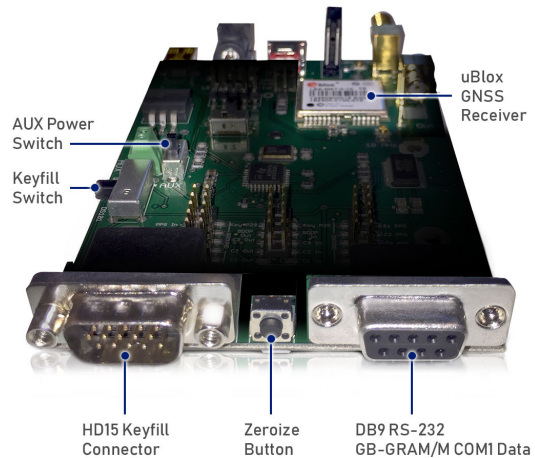


# Valiant 153M

## GB-GRAM/-M Interface Card

### What is Valiant 153M?

Valiant 153M is a GB-GRAM/GB-GRAM-M (GB-GRAM/M) interface card that allows the simultaneous operation and testing of a commercial-off-the-shelf (COTS) receiver and a GB-GRAM/M. Both receivers can be powered and communicate using a single USB mini cable. By integrating a COTS receiver onto the Valiant 153M, users can perform cross checks to determine if the military receiver is connected and communicating data properly. Both receivers communicate via the onboard USB mini or RS-232 serial connectors. The proper operation of the two receivers can be examined using Orolia's software suite, RxStudio. This software suite allows a user to communicate to the receivers simultaneously and visually examine their performance (C/No, SVs tracked, SVs used, LLA, time, code types, assurance, frequency, etc).



## Specifications

<p><b>Compatibility</b></p> <ul style="list-style-type: none"> <li>GB-GRAM Type I</li> <li>GB-GRAM Type II</li> <li>GB-GRAM-M Type I</li> <li>GB-GRAM-M Type II</li> </ul>	<p><b>Size, Weight, Power and Temp</b></p> <p>Size: 4.1" x 2.9" (LxW)</p> <p>Weight: Approximately 60 grams</p> <p>Power: &lt; 0.5W (w/out GB-GRAM/M)</p> <p>Operating Temp: -20° C to +65° C</p>	<p><b>GB-GRAM/M Data with Logic Level (Interface)</b></p> <p>COM1: RS-232 (DB9)</p> <p>COM1: CMOS (10-pin Header)</p> <p>COM2: USB (USB Mini)</p> <p>COM2: CMOS (10-pin Header)</p> <p>COM3: CMOS (10-pin Header)</p> <p>BDDP: CMOS (10-pin Header)</p>
<p><b>RF In</b></p> <p>GNSS RF Input, 3.3V Output</p>	<p><b>USB Power and Communication</b></p> <p>5V 500mA Power Input: USB Mini</p> <p>Provides USB comms to uBlox</p> <p>Provides USB comms to GB-GRAM-M COM2</p>	<p><b>GB-GRAM/M Pulse Per Second Outputs</b></p> <p>COM1, COM2, COM3, and BDDP</p>
<p><b>Three High LEDs</b></p> <p>Bottom: GB-GRAM/M PPS</p> <p>Middle: Ublox PPS</p> <p>Top: Power</p>	<p><b>Keyfill Connector</b></p> <p>DS101 Keyfill Protocol</p> <p>DS102 Keyfill Protocol</p>	<p><b>GB-GRAM/M Auxiliary Power with Switch</b></p> <p>On-board 3V CR2032 Backup Battery</p> <p>Auxiliary Power Connector for Higher Power</p>
<p><b>uBlox GNSS Receiver</b></p> <p>Ublox Zed-F9P</p> <p>GNSS: BeiDou, Galileo, GLONASS, GPS / QZSS</p> <p>Bands: L2OF, L2C, E1B/C, B2I, E5b, L1C/A, L1OF, B1I</p> <p>184-channel Navigation Engine</p> <p>1 Pulse Per Second Output</p> <p>Auxillary UART Ublox Data Output (10-pin Header)</p>	<p><b>Power Switch</b></p> <p>Low Power Mode: 2.5W Max, USB</p> <p>High Power Mode: 20W Max, 5V Barrel</p>	<p><b>GB-GRAM/M Power Switch (POF)</b></p> <p>On/Off Switch for the GB-GRAM/M</p>
<p><b>Barrel Power</b></p> <p>5V 4A Power Input: 2.1mm I.D x 5.5mm O.D</p>	<p><b>GB-GRAM/M RF</b></p> <p>GPS Signals Passed Through</p> <p>Connects to Input of GB-GRAM/M</p> <p>3dB Load On-board</p> <p>DC-Blocked</p>	<p><b>Auxiliary GB-GRAM/M Interfaces</b></p> <p>Keying Pins</p> <p>PPS Input</p> <p>TOD Output</p> <p>Successful Keyfill</p>