

XBee Short Range Radio Transceiver

This package includes the components needed to communicate with the Wave Glider's built in 2.4GHz short range Xbee (802.15.4) radio transceiver.

Xbee is substantially faster than the Iridium satellite channel and it doesn't cost anything to use. So it is a convenient way to load large files (such as firmware upgrades) and is useful for operating indoors while setting up the vehicle.

With the enclosed transceiver and accompanying software, you can access the Wave Glider's debug console and you can route telemetry between WGMS (our web user interface) and the Wave Glider.

To use Xbee, your Wave Glider needs to be within about 100 feet (30 meters) of the computer with the USB Xbee transceiver and software.

What follows is a brief outline of the steps needed to use Xbee. The System Administration Manual (included as a PDF on the enclosed CD) has a chapter describing the procedure in detail.

Setting up XBee

1. Turn on the Wave Glider.
2. Connect the Xbee USB Adapter to one of the USB ports on your computer.
3. Install the requested drivers.
4. Install the Xbee Relay software on your computer.
5. Configure the XBee Relay.

>> See section 4.4 of the *System Administration Manual* for detailed instructions on configuring the relay.

6. Start the relay.

Using XBee with Hosted WGMS

Hosted WGMS users will need to take additional steps to configure the relay to act as a command and telemetry relay. If all you want to do is run the debug console, you do not need to take the following steps.

1. Contact customer support and request a VPN certificate.
2. Download OpenVPN and configure it to route to the Hosted WGMS servers.

>> See section 4.5 of the *System Administration Manual* for more information.

3. Start VPN.

4. Start the relay.

An Important Note About Turning off the XBee Relay

1. Turn off XBee on the Wave Glider by sending the XBee Off command. The Wave Glider will switch to using Iridium as its communication channel.
2. Press Stop to halt the XBee relay software (or close the application)

This will ensure that the XBee relay is correctly shut down and that the Wave Glider will successfully use Iridium communications once XBee is shut down.