

Objective

- Set up Hughes 9502 Terminal to connect to the Inmarsat network.

Powering Up the terminal

- The 9502 powers up automatically when DC power is applied. It does not have a power button. By default it bypasses antenna pointing, registers with the network and activates a PDP context.
- Once you have applied DC power, the terminal goes through a power-on-self-test that takes approximately 30 seconds and then the *power LED will start flashing* for another 15 seconds.
- If you want to enter pointing mode, *short press (<2 seconds)* the function button within those 15 seconds. If you do not press the Function button, the unit will try to register with the network and set up a PDP context.

Getting a GPS Fix

- Once in pointing mode (all three LEDs flashing green), allow the unit to obtain a GPS fix. If necessary, lay the antenna flat, pointing up to the sky, to give it the best view of the GPS satellites. The *GPS LED will go solid green* once you have a fix. You can then point to the Inmarsat satellite.

Connecting to the BGAN terminal

- Connect a computer to the 9502 for pointing and configuration.
- You can connect your computer directly to the Ethernet port. If you are connecting via the USB port, you must install the Hughes USBLAN driver on your computer (bgan.hughes.com). However, Gen2 9502s running 8.9.x.x firmware use Windows RNDIS and do not require a Hughes driver.
- DHCP is enabled by default.
- Open a browser and type *192.168.128.100* in the address section to access the web interface.

Point the antenna

- Once you have your PC connected to the 9502, monitor the signal on the home page:
 - The status bar on the left of the Web UI will indicate “Pointing”
 - The lower part of the status bar indicates the direction to point the antenna.
- Adjust the antenna to achieve the highest signal, *51 - 55db*. The higher the better.
- Once you have a good signal, lock down the antenna and then *short press (<2 seconds)* the function button to exit pointing mode.
- The unit will now register with the network.

Configuring the Terminal from the Web UI

Settings>IP Address /DHCP:

- The terminal defaults to **NAT** mode. See the User Manual for instructions on *Relay, NAPT or PPPoE modes*.

Connections>Manage APN:

- Check the APN that you want to use is listed at the top under Defined APNs. If not, add it and any user credentials (if required), click *Save* and then highlight it on the left hand side and click *Make Default*.

M2M Settings

Context Watchdog

- Set to **ON**
- *Primary Ping Address* - this needs to be a server address that is within your VPN or if you are routed to the Public Internet, you can use a DNS Server (e.g. 4.2.2.1)
- *Secondary Ping Address* - this needs to be a server address that is within your VPN or if you are routed to the Public Internet, you can use a DNS Server (e.g. 8.8.8.8)
- *Time between pings* – can be set to a little longer than the typical frequency with which data is sent by the terminal. This avoids unnecessary pings adding to your data usage.
- *Ping required*: Recommended setting is No.

Always On Context

- *Always On* context needs to be set to **ON**.
- *Static ACA IP Address* – If your device uses DHCP, leave this field blank or 0.0.0.0. If the device uses a static IP address, enter the static address here. Configure the device with subnet mask 255.255.255.0 and a default gateway of 192.168.128.100.
- *APN Configuration* – defaults to the default APN but you can also select the appropriate APN from the drop down list
- Click on *Apply*
- Click *Reboot* and wait for the terminal to reboot.

Test Your Configuration

- Connect your device to the 9502 via Ethernet. If you want to monitor the unit via the Web UI, connect your computer via the USB port. Ensure that you have the *Hughes USB driver* installed, unless using a Gen2 9502.
- Open the Web UI and go to the Connections>*Manage Context Page*. Once a PDP context has been automatically setup you should see something similar to the example below. The *global IP address* will be listed if you have a data session active.

The screenshot shows the Hughes 9502 Web UI interface. At the top, there is a navigation bar with icons for Home, Connections, Settings, M2M, Security, and SMS. The main content area is titled "Manage Contexts" and displays a table of active connections. The table has columns for Owner, Service, APN, and Global IP. A "Close Selected Connection" button is visible below the table. Below the table, there is a section for "Open a New Connection" with a form to add a new connection, including fields for Owner, Service, and APN, and a "Open Selected Connection" button.

Owner	Service	APN	Global IP
192.168.128.101	Standard	bgan.inmarsat.com	10.186.133.28

Owner	Service	APN
192.168.128.101	Standard	bgan.inmarsat.com

In this example, the connected device is accessible via the Inmarsat network at the private IP address 10.186.133.28.

Switching between M2M and BGAN service

- The 9502 automatically switches between M2M and BGAN service based on the type of SIM inserted. Power off the 9502 before changing the SIM.
- The Web UI indicates that the terminal is enabled for BGAN Services by the **9502B** in the upper left-hand corner of the web pages.