

IM4200-2-DAC-X2-GV/GS/G-US

Cellular Wireless Addendum

This addendum should be read in conjunction with the IM4208/16/32/48-2 Quick Start Guide (QSG). Your IM4200-2-DAC-X2-GV-US comes with an externally connected Sierra Wireless USB 598 (Verizon). Your IM4200-2-DAC-X2-GU-US comes with a Compass 888 GSM/HSPA USB modem.

These console server models (referred to herein as *IM4200-X-G*) each have an internal 16GB flash memory and two additional USB2.0 ports at the rear. They also are supplied with an external antenna with 10 foot extension cable, and a USB cable.

Before powering on the IM4200-X-G:

- Use the USB cable to connect the modem to one of the USB 2.0 ports. It is advisable that the USB modem be Velcro-fastened to the IM4200-X-G case at the rear, or to a vertical upright in the rack. Make sure the Velcro is large enough and is well adhered to both surfaces
- Attach the antenna cable to the TS9 connector on the modem
- For the GSM/HSPA your carrier will provide you with a SIM card that is to be inserted in modem (as detailed in the Compass manual)

Complete to Step 4 (*Configure Serial and Network Devices*) in the IM4208/16/32/48-2 QSG, then connect to your wireless carrier as detailed below.

Connect to the carrier

- Select the **Internal Cellular Modem** tab on the **System: Dial** menu
- For the IM4200-2-DAC-X2-GU Check **Enable** for **Dial-Out Settings-OOB** and enter the carrier's **APN** e.g. for AT&T (USA) simply enter *i2gold*, for T-Mobile (USA) enter *epc.tmobile.com*. Your GSM carrier may have provided you with connection details. However, you generally will only need to enter your provider's APN and leave the other fields blank. If provided a Pin Code you may need to use it to unlock the SIM card.
- For the IM4200-2-DAC-X2-GV follow the provisioning guidelines in the modem manual. These support both OTASP (*Over-the-Air Service Provisioning* where modem specific parameters can be retrieved via a call to a special phone number) and a manual process where the phone number and other parameters can be entered manually e.g.
 - For OTASP, enter *22899 as the number to be dialed (for Verizon)
 - For manual activation enter the **MSL**, **MDN** and **MSID** values. Verizon have been known to use an **MSL** of **000000** and the phone number assigned to the ACM5004-GV as both the **MDN** and **MSID**
- Click **Activate**. If no errors occur you will see a valid phone number being placed in the **NAM Profile Account MDN** field (**Cellular** page on **Status: Statistics**)

- Enable the **Internal Cellular Modem** by entering the carriers phone number (which defaults to **#777**)

For all modems you may need to use alternate DNS servers to those provided by your carrier:

- Check the **Override returned DNS Servers** box and enter the IP of the DNS servers into the spaces provided
- Check **Apply** and a radio connection will be established with your cellular carrier. *Out-of-band access* is enabled, so the cellular modem connection is always ON.

Verify Connection

- Verify the *Connection Status* in the **Statistics - Failover& Out-of-Band** tab is shown as *Connected*. You can also check your allocated *IP address*
- You can measure the received signal strength *RSSI* from the **Cellular Statistics** page on the **Status: Statistics** screen. -99 dbm to -90 dbm = Weak Coverage, -89 dbm to -70 dbm = Medium, -69 dbm or greater = Strong

OoB Access

To directly access the IM4200-X-G *console server*, it needs to have a Public IP address and it must not have SSH access firewalled. Almost all carriers offer corporate mobile data service/plans with a Public (static or dynamic) IP address. These plans often have a service fee attached.

- If you have such a static Public IP address plan, you can now try accessing the IM4200-X-G using the Public IP address provided by the carrier. However, by default, only HTTPS and SSH access is enabled on the OoB connection. So you can browse to the IM4200-X-G, but you cannot *ping* it
- If you have a dynamic Public IP address plan, then a DDNS service will need to be configured. Once this is done, you can then also try accessing the IM4200-X-G using the allocated domain name

By default, most providers supply dynamic Private IP address assignments to cellular devices. This IP address is not visible across the Internet but generally it is adequate for home and general business use.

- With such a plan, the **Failover & Out-of-Band** tab on the **Status: Statistics** page, will show your carrier allocated a Private *IP Address* (i.e. in the range 10.0.x.x, 172.16.x.x or 192.168.x.x)
- For an inbound OoB connection with such a plan, you will need to either use Call Home with a VCMS/CMS6110, or set up a VPN connection

Alternate connection modes

In the default **out of band access mode**, the connection to the carrier cellular network is always on - awaiting any incoming access to the console server or attached serial consoles/network hosts An alternative is **failover mode**. This will tell the internal cellular connection to remain idle in a low power state. Only when primary and secondary probes are not successful will it connect to the cellular carrier (refer to the User Manual). The other alternative is **cellular router mode** (requires firmware 3.3 or later). In this mode the connection to the carrier cellular network is always on, but IP traffic is selectively routed between the cellular connected network and the local Ethernet LANs