



CM7116, CM7132 & CM7148

Quick Start Guide

Thank you for purchasing the CM7116/32/48 console server. This Quick Start walks you through installation, configuration and local operation. More details are available in the *User Manual*, which can be downloaded from: <http://opengear.com/documentation>

Step 1 Check kit contents



CM7116/32/48
console server



Two UTP cables &
DB9F-RJ45 adapters



1 (-SAC models) or 2
(-DAC models)
power cable(s)

Step 2 Connect the hardware

- Power on the console server. The -SAC models have a universal AC power supply built in, that plugs into the mains. The -DAC models have dual universal AC power supplies (with automatic failover) built in, that plug into the mains.
- Connect the *NET1* port on the console server to your network

Note: *NET2* can connect to a secondary network, e.g. a segregated management LAN, or to the WAN via an external access device for broadband out-of-band (OoB). Alternatively, it can connect to same primary network as *NET1* for redundancy. If you plan to use *NET2*, you can also connect it now.

- Connect your serial devices to the serial ports numbered 1 – 16/32/48

Step 3 Set up the console server

The console server's default IP address is *192.168.0.1* (subnet mask *255.255.255.0*). With a web browser on any computer that is connected to the console server via LAN:

- Enter **https://192.168.0.1** into the address bar
- Log in using the default system user name *root* and the default password *default*, a **Welcome** screen listing the basic configuration steps is displayed

Note: The computer must have an IP address in the same network range (192.168.0.x) as the console server. Alternatively, you can use the *arping* command to set the IP address (refer to the *User Manual* or online *Knowledge Base FAQ* for details). The console server also has DHCP client enabled by default. It will automatically accept any network IP address assigned by any DHCP server on your network, and will then respond at both 192.168.0.1 and its DHCP address.

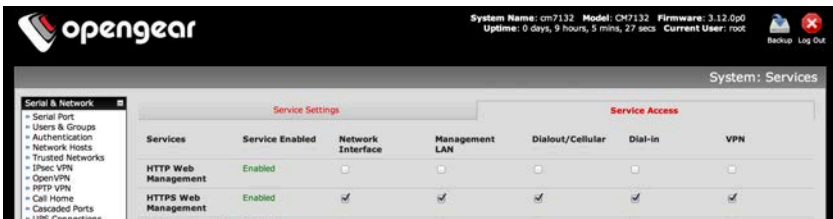
- Select **Serial & Network: Users & Groups** and **Edit** the *Root User*, enter and confirm a new **Password** and click **Apply**
- Select **System: IP** then **Network Interface** and check **DHCP** or **Static** for **Configuration Method**



The second network port (*NET2*) is inactive by default. It can be set up for failover/OoB access (refer to the *User Manual*) or as a management LAN gateway. To activate:

- Select **Management LAN Interface** and uncheck **Disable**
- Enter the **IP Address** and **Subnet Mask** for this segment of the Management LAN (leaving **Gateway** and **DNS** fields blank) – refer to the *User Manual* if you wish to enable the DHCP server or change default firewall/router settings

Note: The console server's firewall determines which protocols and services can be used to access which ports and devices. By default only HTTP and SSH access is enabled to the console server itself. Use the **Service Access** menu on **System: Services** to change settings for the console server itself (and for connected serial ports). Similarly using the **Forwarding & Network** menu on **System: Firewall** you can permit IP access between devices on Network or Management LAN.



Alternatively, to use *NET2* as a redundant connection sharing the same network settings as *NET1*:

- Select **System: IP**, choose an **Interface Aggregation** method and click **Apply**

Step 4 Configure serial & USB devices

Note: Most RJ45 serial devices connect to the console server using a straight UTP patch cable. DTE DB9M and DCE DB9M serial devices connect to the console server using the included 319015 and 319014 adapters respectively. Otherwise, for a list of cabling instructions for common devices, refer to the online *Knowledge Base FAQ*.

- Select **Serial & Network: Serial Port** to display the labels, modes and protocol options currently set for each serial port. By default all serial ports are set in *Console Server* mode (refer to the *User Manual* if other modes are required). To configure a serial port, click **Edit**:
 - Configure the **Common Settings** (Baud Rate, Parity, Data Bits, Stop Bits and Flow Control) to match those of the device being controlled
 - Select the **Console Server** protocols (SSH, Telnet, Web Terminal and RFC2217) that are to be used for the network connection to that port
 - A **Logging Level** may also be set to specify the direction and level of information to be logged for that port
 - Click **Apply**
- Your console server has two USB 3.0 ports on the front, which can be used for connecting to USB consoles (on UPS supplies or Cisco devices) or for attaching external USB flash for loading updated firmware or configuration files

Step 5 Add local users & groups

Note: Alternatively, if you wish to use a remote AAA server to authenticate user access, refer to the *User Manual*.

- For each new user, select **Serial & Network: Users & Groups** and click **Add User**
- Enter a **Username** and enter and confirm a **Password**, and nominate the **Accessible Ports** the user is allowed to access
- To grant limited access to the console server's management UI and CLI, check the **user Group**, to grant full access to the console server's management UI and CLI, check the **admin Group** (by default the user is granted no management access), click **Apply**

Note: It is recommended that you set up a new administrator user (in the *admin* group with full access privileges) and login as this new user for all ongoing administration functions (rather than continuing as *root*).



Step 6 Access device consoles

Your console server is now ready to serve console access on your network. There are many ways to access device consoles, depending on the protocols chosen.

- *SSH* – for console access using your preferred SSH client (e.g. PuTTY, SecureCRT, OpenSSH):
 - To connect to the *pmshell chooser* menu, SSH to the console server and login appending *:serial* to your username, e.g.: *root:serial*
 - To connect directly to a given console, SSH to the console server and login adding the port number or port label to your username, e.g.: *root:port02* or *root:MyRouter*
 - To connect directly to a given serial port, SSH to the console server at TCP port 3000 + the port number, e.g.: *3002* for serial port 2
- *Telnet* – Telnet to the console server at TCP port 2000 + the port number, e.g.: *2002* for serial port 2
- *Web Terminal* – for console access using just your browser, select **Manage: Devices: Serial** and click the port's Web Terminal link

Step 7 Advanced configurations

The console server offers many more advanced functions including:

- ❖ The **Alerts & Logging: Auto-Response** facility monitors serial ports, hosts, user logins, UPSes (Uninterruptible Power Supplies), RPCs (Remote Power Controllers, such as PDUs and IPMI devices) and EMDs (Environmental Monitoring Devices). A broad selection of *Check Conditions* (such serial data patterns, temperature or battery levels) can be specified. When triggered, one or more *Trigger Actions* are performed, e.g. a warning email, SMS, Nagios and/or SNMP alert is sent to a nominated destination.
- ❖ Extensive management of UPSes and RPCs using open source *NUT* and *Powerman* tools. The **Manage: Power** and *pmshell Power Menu* facility enables both administrators and regular users to monitor and control attached PDU power strips, and servers with embedded IPMI BMCs.
- ❖ Connect EMDs to any serial port (with an adapter) and remotely monitor the temperature, humidity, physical access, smoke alarms, etc. Details are provided in the *EMD5000 Quick Start* supplied with the EMD.
- ❖ Historical logs of all communications with serial and network attached devices, system activity, UPS and PDU power status, environmental status, etc. **Alerts & Logging: Port Log** allows this history to be saved locally or remotely. Logs can be viewed from the **Status** and **Manage** menus.
- ❖ Other advanced features, such as remote *Authentication*, *Firewall*, *VPN*, *Serial Port Cascading* and *Command Line* interface, are covered in detail in the *User Manual*.



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