

Quick Start Guide

Console Servers

Models: B098-016 (16-Port), B098-048 (48-Port), B098-016-V (16-Port Cellular Model)

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Package Includes

- B098-Series Console Server
- (x2) C13 to NEMA 5-15P Power Cords, 6 ft.
- (x2) Cat5 Patch Cords, 6 ft.
- (x1) 2.4 GHz SMA Wi-Fi Diversity Antenna
- (x1) B090-A9F Straight-Through Serial Adapter (DB9 to RJ45 F/F)
- (x1) B090-A9F-X Crossover Serial Adapter (DB9 to RJ45 F/F)
- (x1) B090-A9M Modular Serial Adapter (DB9 to RJ45 M/F)
- (x2) Cellular Antennas (B096-016-V only)
- (x1) Magnet-based Coaxial Extension Cable (B096-016-V only)
- Rack-Mounting Hardware
- Quick Start Guide

B098-016-V Model Only

B098-016-V Cellular Model: Follow the steps below before moving on to the Hardware Assembly section of this Quick Start Guide.

1. Using the included Cellular Antennas, screw the first antenna to the CELL (MAIN) and the other to CELL (AUX) for increased signal strength.

Note: If you have purchased a GPS antenna, screw it onto the connector labeled GPS. If cellular strength is an issue, use the included 10 ft. magnet-based coax extension cable for mounting outside of the rack.

2. Insert your carrier-provided Mini-SIM Card into the SIM Card slot. Insert until a click is heard ensuring the card is locked into place.

Note: Insert your Mini-SIM Card with the contacts facing down.

Hardware Assembly

1. If rack-mounted: Attach the included rack-mounting kit to the sides of the console server to be fixed onto the rack.
2. Connect the NET1 port on the console server to your primary network.
3. Connect the NET2 port on the console server to your Out-of-Band (OOB) management network.

Note: The B098-Series also includes Small Form-Factor Pluggable (SFP) ports for **NET1** and **NET2** fiber-optic connections. If an SFP module is plugged in and establishes a working link, the SFP port will activate and the paired RJ45 port will deactivate.

4. For Out-of-Band (OOB) dial-in access, plug an RJ11 cable into the front-facing RJ11 port to connect to the built-in V.92 modem. Plug the other end of the RJ11 cable into a functioning landline port to allow the B098's V.92 modem to dial-out.
5. Connect additional devices to the console server's serial ports (RJ45), USB 3.0 ports and SD card slot.
6. Power on the console server by connecting the included C13 to NEMA 5-15P power cords to the built-in Dual Universal AC power supplies (with automatic failover).

Connect to the Console Server

The B098-Series Console Servers are addressable at one of two IP addresses:

1. Their built-in (default) IP address of 192.168.0.1/24.

or

2. The default IP address the console server's DHCP Client accepts from a DHCP server on your network.

Note: The console server will now respond at both 192.168.0.1/24 and its DHCP-supplied address.

If using a browser on the same network as the console server's **NET1** port (192.168.0.X/24, or the range used by your DHCP server):

3. Enter **https://192.168.0.1/** or **http://[DHCP-supplied address]/** and press **Enter**.

Note: The console server's self-signed SSL certificate "untrusted connection" error will be present.

4. Click through the error to load the console server login page.

5. Login using the default username and password.

Username: root

Password: default

6. Press **Enter**. The console server's interface welcome page will load.

Configuration and management options present themselves in expanded-by-default menus along the left side of the interface. The top-level menus are *Manage*, *Status*, *Serial & Network*, *Alerts & Logging* and *System*.

The remainder of the page lists configuration tasks required to turn the console server into a usable unit. Some of these tasks will be marked as completed due to the console server's factory settings. The procedures in the next section document initial configuration using the menus, rather than the task list.

Setting a Strong, High-Entropy Password for the Root User:

1. Click **Serial & Network > User & Groups**.
2. Click **Edit** for the Root User.
3. Enter a strong, high-entropy password in the Password field.
4. Re-enter the passcode in the Confirm field.
5. Click **Apply**.

Set NET1 Port's Network Configuration Method

1. Click **System > IP**.
2. Click **Network Interface** (if it is not the front-most tab).
3. For the Configuration Method, select either **DHCP** or **Static**.
4. If Static, enter an IP Address and Subnet Mask for the NET1 interface.
5. Click **Apply**.

Set NET2 Port's Network Configuration Method

The NET2 port is set to inactive by default. To activate:

1. Click **System > IP**.
2. Click **Management LAN Interface** to make it the front-most tab.
3. Click the **Deactivate this network interface** checkbox to de-select this option and activate NET2.
4. For the Configuration Method, click either the **DHCP** or **Static**.
5. If Static, enter an IP Address and Subnet Mask for the NET2 interface.

Out-of-band (OOB) – set these for your management network.

IP Passthrough – set these to match an unused private IP range.

6. Click **Apply**.

Note: The console server's firewall determines which protocols and services can be used to access which ports and devices. HTTPS and SSH are enabled to the console server by default. To change access settings for the console server and connected serial ports, click **System > Services**. Then click the **Service Access** tab and adjust accordingly.

Configuring Managed Devices

1. Select **Serial & Networks > Serial Port** to display the labels, modes and protocol options for each serial port.

Note: By default, all serial ports are in disabled mode.

To configure a port:

2. Click **Edit**.
3. Set the Common Settings (Baud Rate, Parity, Data Bits, Stop Bits and Flow Control) for Port X to match the device connected to serial Port X.
4. To enable remote access to the device, check the **Console Server Mode** radio button in **Console Server Settings**, and click the checkboxes for allowed protocols (e.g. Telnet, SSH, Web Terminal and RFC2217).
5. Set a Logging Level

Level 0 - Turns off logging for the selected port

Level 1 - Logs all User connection events to the port

Level 2 - Logs all data transferred to and from the port and all changes in hardware flow control status and all User connection events

Level 3 - Logs all data transferred from the port and all changes in hardware flow control status and all User connection events

Level 4 - Logs all data transferred to the port and all changes in hardware flow control status and all User connection events

Note: The 5 logging levels DO NOT represent a progression from no logging to logging everything. Take note of what each logging level records and assign a logging level to each port accordingly.

6. Click **Apply**.

Note: A serial's port's pinout can be set to Cisco Straight (X2: the default) or Cisco Rolled (X1) using Port Pinout. In X2 mode, most serial devices connect via UTP RJ45 patch cable.

Connecting to Wi-Fi

The B098-Series Console Servers include Wi-Fi, which supports either Client or Access Point (WAP) mode. This interface is inactive by default. To activate:

1. Attach the included 2.4 GHz SMA Wi-Fi diversity antenna to the Wi-Fi (MAIN).

Note: To increase the Wi-Fi signal strength, connect a second antenna to the Wi-Fi (AUX).

2. Click **System > IP > Wireless Network Interface**.
3. Set the Wireless Network Interface to active.

Connect the Cellular Modem (B098-016-V Only)

Before proceeding, make sure your carrier-provided SIM card has been installed.

1. Click **System > Dial**.
2. Click the **Internal Cellular Modem** tab.
3. To the right of Enable Dial-Out, check the **Allow outgoing modem communication** radio button.
4. Enter your carrier's Access Point Name (APN) in the **APN field**.
5. If alternate DNS servers other than your carrier's servers need to be used, enable Override DNS, check the **Override returned DNS Servers** checkbox and enter your DNS address in the DNS server 1 and DNS server 2 fields.

Note: Your carrier may provide other connection details. In general, only the APN is needed and the other fields can be left blank. If a pin code was provided, use it to unlock the SIM card.

6. Click **Apply Modem Dial Settings**. A data connection will be established with your carrier.

Note: The connection status can also be determined from the CELL LED. When OFF - no connection established, BLINKING - searching for service. RAPIDLY FLASHING - established connection with your cellular carrier.

Check the Cellular Modem's Connection Status (B098-016-V Only)

You can view the status of your cellular modem at any time.

1. Click **Status > Statistics**.
2. Click the **Fail & Out-of-Band** tab to verify the connection status.
3. Note the Always on Out-of-Band – Internal Cellular Modem's Connection Status is connected.
4. Note the modem's allocated IP Address and whether it is a public or private IP address.

Check the Cellular Modem's Signal Strength (RSSI) (B098-016-V Only)

1. Click **Status > Statistics**.
2. Click the **Cellular Statistics** tab.
3. Note the RSSI (received signal strength indication) coverage value:

| Signal Measurement | Signal Quality |
|--------------------|------------------|
| ≤ -100 dBm | Unacceptable |
| -99 to -90 dBm | Weak-to-medium |
| -89 to -70 dBm | Medium-to-strong |
| ≥ -69 dBm | Very strong |

Other Modes and Functions

Please refer to the Owner's Manual for details on advanced features, such as configuration, PDU and UPS power management, environmental monitoring, logging and auto-response alerts.

Warranty and Product Registration

4-Year Limited Warranty

Tripp Lite warrants its products to be free from defects in materials and workmanship for a period of four (4) years from the date of initial purchase. Tripp Lite's obligation under this warranty is limited to repairing or replacing (at its sole option) any such defective products. To obtain service under this warranty, you must obtain a Returned Material Authorization (RMA) number from Tripp Lite or an authorized Tripp Lite service center. Products must be returned to Tripp Lite or an authorized Tripp Lite service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment, which has been damaged by accident, negligence or misapplication or has been altered or modified in any way.

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FCC Notice, Class B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications to this equipment not expressly approved by Tripp Lite could void the user's authority to operate this equipment.

WEEE Compliance Information for Tripp Lite Customers and Recyclers (European Union)



Under the Waste Electrical and Electronic Equipment (WEEE) Directive and implementing regulations, when customers buy new electrical and electronic equipment from Tripp Lite they are entitled to:

- Send old equipment for recycling on a one-for-one, like-for-like basis (this varies depending on the country)
- Send the new equipment back for recycling when this ultimately becomes waste

Tripp Lite has a policy of continuous improvement. Specifications are subject to change without notice.



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