LES1708A, LES1716A, LES1732A, LES1748A

CONSOLE SERVERS

24/7 TECHNICAL SUPPORT AT 877.877.2269 OR VISIT BLACKBOX.COM

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STEP 1 - Check Kit Contents

PACKAGE INCLUDES

Your package should include the following items. If anything is missing or damaged, contact Black Box Technical Support at 877-877-2269 or info@blackbox.com.

- **(1) LES1708A, LES1716A, LES1732A OR LES1748A CONSOLE SERVER**
- **(1) RACKMOUNT KIT: (2) BRACKETS, (6) SCREWS**
- **(2) POWER CORDS**
- **(2) 6-FT. (1.8-M) CAT5 PATCH CABLES**
- **(4) DB9F TO RJ-45 ADAPTERS**
- **(2) DB9M TO RJ-45 ADAPTERS**
- **(2) LOOPBACK CONNECTORS RJ-45**
- **(1) WI-FI SMA ANTENNA**
- **THIS QUICK START GUIDE**

DEFAULT IP ADDRESS/SUBNET MASK

- **DEFAULT IP ADDRESS: 192.168.0.1/24**

OPTIONAL: DOWNLOAD USER MANUAL

For product specifications and regulatory information, refer to the User Manual. You can download this document from our web site.

1. Go to www.blackbox.com

2. Enter the part number (LES1708A, LES1716A, LES1732A, or LES1748A) in the search box.

3. Click on the product in the "Product Results" page.

4. Click on the "Support" tab on the product page, and select the document you wish to download.

If you have any trouble accessing the Black Box site to download the manual, you can contact our Technical Support at 877-877-2269 or info@blackbox.com

STEP 2 - Connect the Hardware

STEPS TO CONNECT THE HARDWARE

1. Power on the LES1700 Series Console Server. It has dual universal AC power supplies (with automatic failover) built in that plug into the main power.

2. Connect the NET1 port on the Console Server to your network

NOTE: Your Console Server has four physical connections that are logically bundled as two network ports (NET1 & NET2). Each network port consists of a 10/100/1000 copper connection (C) and a fiber-optic small form-factor pluggable (SFP) connection. Only one connection per network port may be active at a time. When no SFP module is present, NET1/NET2 (C) is active.

When an SFP module is plugged in, NET1/NET2 (SFP) becomes active and NET1/NET2 (C) is immediately deactivated.

3. Connect your serial devices to the serial ports numbered 1 to 8/16/32/48.

NOTE: To use out-of-band (OoB) dial-in access, connect the internal modem to the phone line. To use broadband OoB, connect the access device to NET2.

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, and 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 for details). The Console Server also has a 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. See Figure 1 on the next page.

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.

STEP 3 (CONTINUED) - Set Up the Console Server

NOTE: The built-in firewall determines which protocols and services can be used to access which ports and devices. By default, only HTTPS 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, use the Forwarding & Network menu on System: Firewall to permit IP access between devices on a 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.
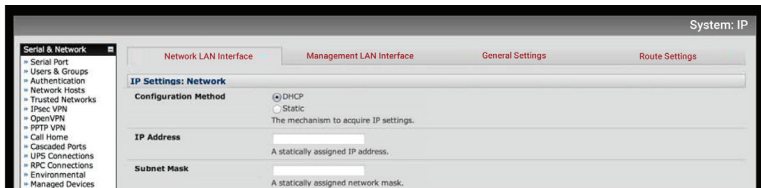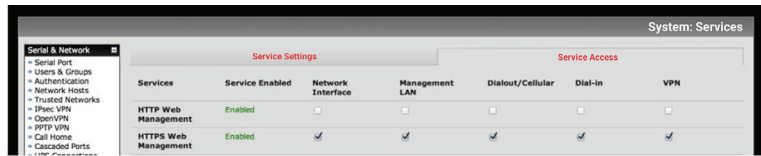

Figure 1. System: IP screen

Figure 2. System: Services screen

STEP 4- Configure Serial and USB Devices

NOTE: In the default X2 pinout mode, most RJ-45 serial devices connect to the Console Server using a straight-pinned UTP patch cable. DTE DB9M and DCE DB9M serial devices connect to the Console Server using the included adapters.

• 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.

NOTE: The cabling pinout for each of the RJ-45 serial ports can be set to be either X2 (Cisco Straight) or X1 (Cisco Rolled) using Port Pinout.

- 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 ports on the front, which can be used for connecting to USB consoles (on UPS supplies or Cisco devices) or for attaching an external USB flash drive for loading updated firmware or configuration files.

STEP 5 - Add Local Users and Groups

- 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), then click Apply.

NOTE: We recommend 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 Wi-Fi System: IP: Wireless Network Interface is inactive by default. It supports Client or Access Point (WAP) mode, using the provided Wi-Fi antenna.

• 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.

• 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 are covered in detail in the User Manual.

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