

LINKTROPY[®] 5500

HARDWARE GUIDE



Linktropy® 5500 Hardware Guide

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1 | OVERVIEW

This *Linktropy 5500 Hardware Guide* describes the physical hardware of the Linktropy 5500 WAN Emulator. The companion *User's Guide* describes the installation, configuration, and operation of the Linktropy WAN emulation functionality. A separate *Quick Start Guide* provides a walk-through for first time configuration.



The Linktropy 5500 contains no user serviceable parts. Opening the chassis voids the warranty. If you believe your unit is not functioning properly, see Section 8 for information on obtaining support.

This guide is for the Linktropy 5500 hardware revision –L1.

2 | INCLUDED ITEMS

The Linktropy 5500 shipping carton contains the following items:

- ▶ Linktropy 5500 hardware unit
- ▶ Rack mount brackets (2) and screws (6)
- ▶ Documentation CD
- ▶ Linktropy Quick Start Guide
- ▶ AC power cord (U.S.)
- ▶ RJ-45 to DB-9 serial cable

3 | FRONT AND REAR PANELS

Front Panel



Standard RJ45 Interface Version



Optional SFP Interface Version

The front panel of the Linktropy 5500 contains:

Power LED: Lit green when the unit is powered on. Unlit when power is off

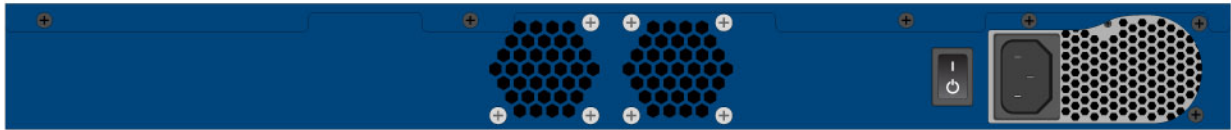
CONSOLE: Console interface using RS-232 with an RJ-45 connector. See Section 7 for a pin-out of the console interface.

MGMT: 10/100/1000baseT Gigabit Ethernet interface with a standard RJ-45 connector for browser-based management of the unit over the network.

LAN A and B: A pair of either 10/100/1000baseT Gigabit Ethernet interfaces with standard RJ-45 connectors or a pair of modular SFP Gigabit Ethernet interfaces. See Section 6 for more details on the optional SFP interfaces.

Emulation interfaces support jumbo frames up to 9 KB.

Rear Panel



The rear panel of the Linktropy 5500 contains:

Power input: Standard IEC C14 socket for power input. U.S. and Canadian customers should use the supplied power cord to connect the Linktropy 5500 to a power outlet. International customers may need to substitute a local power cord with a standard IEC C13 plug. The Linktropy 5500 handles AC power input from 100 to 240 V.

Power switch: Rock the switch to the 1 position to turn on the unit. Rock the switch again to the 1 position and hold for 5 seconds to turn off.

Fan outlets: Hot air is vented through the fan outlets.



Please ensure the space around the fan outlets on the back panel and the air intakes on the front panel remains unblocked to provide adequate airflow and prevent overheating..

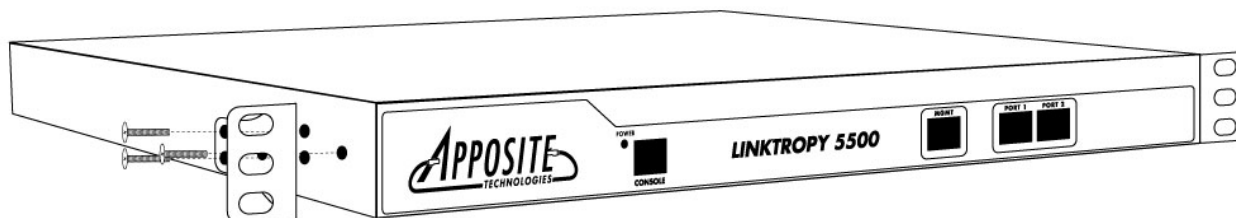
4 | CAPACITY LIMITATIONS

The Linktropy 5500 can forward up to 1 Gbps of packets in each direction, 2 Gbps aggregate, at a maximum aggregate rate of 1 million packets per second. These limits apply regardless of whether emulation is enabled or disabled. These limits are reduced if the unit is in routing mode, or if learning bridge functionality is enabled.

The maximum emulation bandwidth may be limited below the hardware capacity of 1 Gbps in each direction by the device's license key. See the *Linktropy User's Guide* for more details on the license key.

5 | RACK MOUNTING

The Linktropy 5500 includes a pair of brackets for mounting the device into a standard 19" rack. Attach the brackets to both sides of the unit using three of the supplied screws with each bracket as shown in the diagram below.



6 | SFP INTERFACES

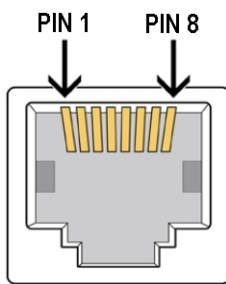
The Linktropy 5500 is optionally available with Gigabit Ethernet small form-factor pluggable (SFP) interfaces, also known as mini-GBIC, for the LAN A and LAN B interfaces. SFP interfaces are modular and support both fiber-optic and copper-based cabling depending on the installed transceiver. Standard fiber and copper transceivers are available from a variety of vendors.

Select an appropriate transceiver type based on network and cabling requirements. Slide the transceiver into the SFP port until it clicks into place.

The SFP interfaces only support 1 Gbps full duplex transfer mode regardless of whether the transceiver is copper or fiber-optic based.

7 | CONSOLE INTERFACE

Console access to the Linktropy 5500 is through the RJ-45 interface on the front panel labeled “CONSOLE.” An RJ-45 to DB-9 cable is included with the unit to connect the device to a standard PC serial port. The pin-out for the RJ-45 interface is shown below:



| Pin | Definition | Pin | Definition |
|-----|------------|-----|------------|
| 1 | CTS/RTS | 2 | DTR |
| 3 | TxD | 4 | GND |
| 5 | GND | 6 | RxD |
| 7 | DSR | 8 | CTS/RTS |

To connect to the console, use a terminal or a computer running terminal emulator software such as HyperTerminal or PuTTY, and set the following parameters:

- 9600 baud
- 8 data bits
- No parity
- 1 stop bit
- Disable flow control

8 | APPOSITE SUPPORT

The Linktropy 5500 comes with a one year hardware warranty and one year of support and maintenance. Extended maintenance packages are available from Apposite or your local Linktropy reseller.

If you believe your unit is not functioning properly and is under warranty, please upgrade to the latest firmware release. If the problem persists, please contact Apposite Support at:

support@apposite-tech.com
1.310.477.9955 ext. 2

When contacting Apposite Support, please include the following information:

- ▶ Linktropy model
- ▶ Serial number
- ▶ Your e-mail address and phone number
- ▶ Installed firmware version
- ▶ A detailed description of the problem



Do not attempt to fix any hardware problem yourself. The Linktropy 5500 contains no user serviceable parts. Opening the chassis voids the warranty.

APPENDIX A

Specifications

| Capacity | | |
|----------------------------|-----------|--|
| Max. Emulation Rate | | 1 Gbps full duplex |
| Max. Packet Rate | | 1,000,000 packets per second |
| Interfaces | | |
| Network | | 2 x 10/100/1000baseT Copper Gigabit Ethernet or 2 x SFP Gigabit Ethernet |
| Management | | 1 x 10/100/1000baseT Copper Gigabit Ethernet |
| Console | | 1 x RS-232 |
| Environmental and Physical | | |
| AC Input Voltage | | Auto ranging 100 VAC to 240 VAC |
| AC Input Frequency | | 50 to 60 Hz |
| AC Input Current | | 4.0 A Max. 0.4 A Typical |
| Power Draw | | 45 Watts |
| Dimensions | | 17" W x 10.9" D x 1.75" H (1 RU) 431 mm W x 277 mm D x 43.5 mm H (1 RU) |
| Weight | Product | 8.5 lbs. (3.9 kg) |
| | Shipping | 13 lbs. (6 kg) |
| Temperature | Operating | 32° to 104°F (0° to 40°C) |
| | Storage | -4° to 158°F (-20° to 70°C) |
| Humidity | Operating | 5% to 95% (non-condensing) |
| | Storage | 5% to 95% (non-condensing) |
| Certifications | | FCC Class A, CE, RoHS |
| Warranty and Support | | |
| Hardware warranty | | 1 year |
| Support and Maintenance | | 1 year, including all firmware upgrade |

APPENDIX B

Regulatory

Federal Communications Commission Notice

This equipment has been tested and verified to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be required to take whatever measures may be required to correct the interference at their own expense.

Canadian Notice / Avis Canadien

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

CE Certification

The product described in this manual complies with all applicable European Union (CE) directives, including EU Directives 1999/5/EC Radio Equipment and Telecommunications Terminal Equipment and 2002/95/EC Restriction of Hazardous Substances (RoHS).

APPENDIX C

Linktropy End User License Agreement

The Apposite Technologies, Inc. (“Apposite”) Linktropy product includes the Linktropy hardware (“Hardware”), software embedded in the Hardware (“Software”), including any upgrades, modified versions, updates, additions and copies of the Software, and related explanatory materials (“Documentation”). Collectively, the Hardware, Software, and Documentation are the “Product.”

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