

# BANDIT II Hardware Description

## 1<sup>st</sup> of 3 QuickStart Guides for the BANDIT II

This chapter provides information on the hardware for the BANDIT II™. The BANDIT II is a streamlined version of the proven BANDIT™ products.

The BANDIT II complies with the European Union's directive on restriction of hazardous substances (ROHS). This directive places strict controls on pollutants, including the elimination of lead in the manufacturing process.

The BANDIT II is available in a commercial chassis, with a standard hard plastic cover, or an environmentally hardened chassis, with a metal cover. Hardened construction allows the BANDIT II to operate over wide temperature ranges at remote sites that do not use environmental control.

The BANDIT II, like all products in the BANDIT family, uses the ELIOS™ operating system. In addition to its support of virtual private networks (VPNs) and its support of legacy protocols, the BANDIT II can handle all variants of the Supervisory Control and Data Acquisition (SCADA) protocol, both bit- and byte-oriented, with strong encryption of all traffic and complete remote management capabilities.

Figure 1-1 shows the outer shell of a BANDIT II chassis.

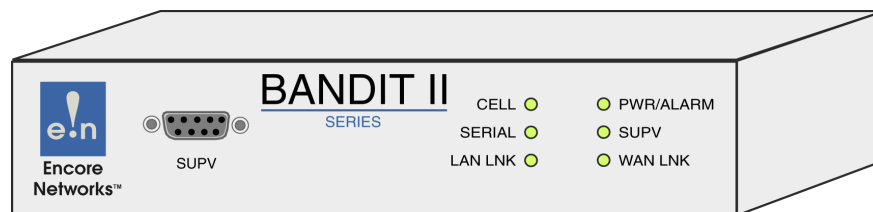


Figure 1-1. BANDIT II Chassis

## 1.1 The BANDIT II Chassis

**Note:** Also see [Section A.3.1, Physical Specifications](#). For chassis and port specifications, see [BANDIT II Hardware Specifications](#).

The BANDIT II is a full-featured desktop model in the BANDIT family, providing both IPsec/SLE VPNs and legacy-protocol support. The BANDIT II offers enhanced performance features and support of up to 30 simultaneous VPN tunnels. Like other BANDIT VPN devices, the BANDIT II's

VPNs support DES and 3DES; in addition, the BANDIT II, the BANDIT III, and the VSR-1200 can also support AES.

The BANDIT II chassis ([Figure 1-2](#)) has a DB9 Supervisory port for connection to a management terminal (such as a PC). The front of the chassis also contains LED indicators for the following items:

- State of the cellular wireless port
- State of the DB25 serial port
- State of the LAN port
- Power and alarm states
- Supervisory DB9 port status
- State of the WAN port

For more information, see [BANDIT II LEDs](#).

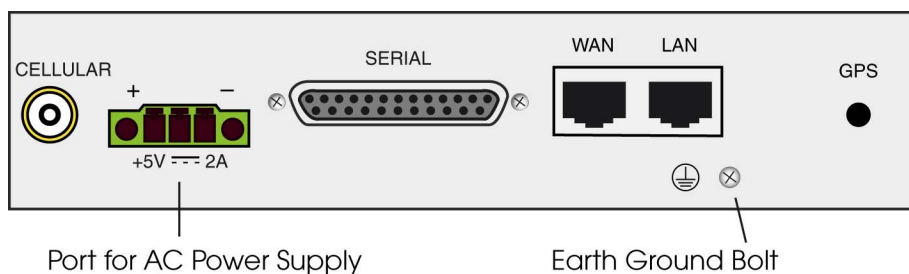
The BANDIT II can hold one internal wireless card for CDMA, EVDO CDMA, HSPA, GPRS GSM, or EDGE GSM wireless networks. The wireless card for the BANDIT II includes an external antenna.



*Figure 1-2. BANDIT II Chassis, Front Panel*

The BANDIT II can accept 12, 24, or 48 volts DC from a DC power source, or it can accept +5 volts DC input at 2 amps from its 110/220 volts AC power supply.

[Figure 1-3](#) through [Figure 1-6](#) show the backs of the BANDIT II chassis models.



*Figure 1-3. BANDIT II Chassis, Rear Panel, for Connection to 110/220V AC Power Supply*

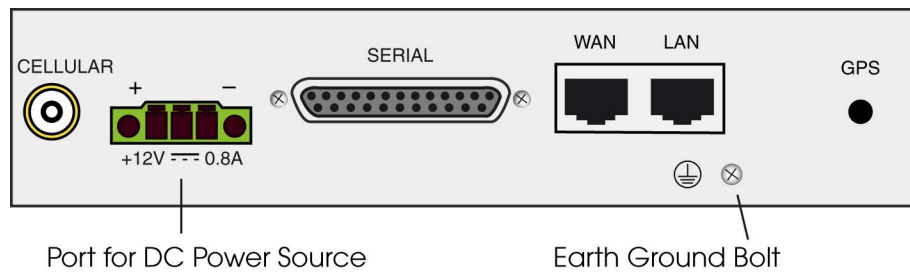


Figure 1-4. BANDIT II Chassis, Rear Panel, for Connection to 12V DC Power Source

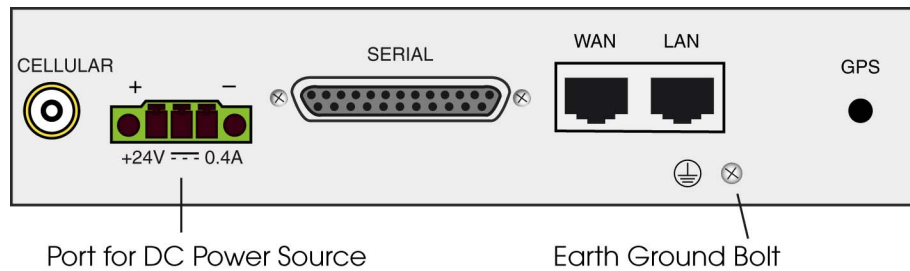


Figure 1-5. BANDIT II Chassis, Rear Panel, for Connection to 24V DC Power Source

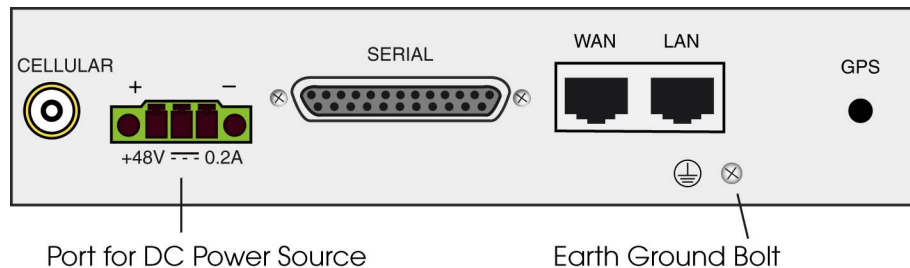


Figure 1-6. BANDIT II Chassis, Rear Panel, for Connection to 48V DC Power Source

The following items are on the back of the BANDIT II chassis:

- A port for an antenna for the cellular wireless card, for connection to a wireless network
- A port for 12, 24, or 48 volts DC power source input or a port for a 110/220 volts AC power supply, converting power input to +5 volts DC at 2 amps
- A DB25 serial port
- A WAN port, typically used as the network uplink to the host
- A LAN port
- An earth ground connection bolt
- A port (not currently used) for future use of a GPS antenna or a second cellular antenna

**Note:** Also see [BANDIT II Hardware Specifications](#).

**Warning:** Always follow safety procedures when working with electrical equipment. See [Basic Safety Guidelines](#).

### 1.1.1 **Throughput**

The BANDIT II chassis has the following system throughput:

- LAN to WAN, without encryption: 9,000 packets/second, with incoming and outgoing traffic at 64 bytes/packet
- LAN to WAN, with encryption and decryption: 1,800 packets/second, with incoming traffic at 50 bytes/packet and outgoing traffic at 100 bytes/packet

### 1.1.2 **Power Supply**

The BANDIT II is available in models that accept power from a DC power source at 12, 24, or 48 VDC or in models that accept power from an industry-standard autosensing 100/240 VAC adapter connected to an AC power source. The BANDIT II's AC power supply converts the AC input power to 5 VDC at 2 amps output for use by the BANDIT II chassis.

### 1.1.3 **Supervisory Port**

A Supervisory cable connects the BANDIT II's DB9 Supervisory port to the DB9 serial port of a computer with a control console (such as a PC), for configuration and monitoring of the BANDIT II via a direct connection.

After you give the BANDIT II an IP address, you can, if you wish, configure and monitor the BANDIT II over the LAN. This frees the DB9 Supervisory port for use as an additional serial port for legacy applications.

For specifications of the DB9 serial port, see [Section A.1.1, DB9 Supervisory Port](#), in *BANDIT II Hardware Specifications*.

### 1.1.4 **Standard Network Ports**

The following sections discuss the BANDIT products' port connections to network devices.

- [Section 1.1.4.1, Ethernet Ports](#)
- [Section 1.1.4.2, Serial Port](#)
- [Section 1.1.4.3, Wireless Port](#)

**Note:** The BANDIT's data ports can be configured in the software. The data rates for synchronous and asynchronous data ports are shown in [Table A-4](#) and [Table A-5](#).

#### 1.1.4.1 **Ethernet Ports**

The BANDIT II has one WAN Ethernet port and one LAN Ethernet port. Each 10-Base-T/100-Base-T Ethernet connection is implemented over unshielded twisted-pair (UTP) wire, using a standard RJ45 connector. [Figure A-2](#) shows the RJ45 connector pins. [Table A-2](#) lists the RJ45 pin configuration.

See the following sections:

- [Section 1.1.4.1.1, The WAN Ethernet Port](#)
- [Section 1.1.4.1.2, The LAN Ethernet Port](#)

### 1.1.4.1.1 The WAN Ethernet Port

Table 1-1 lists the WAN port's interface options.

*Table 1-1. WAN Port Interface Options*

Standard
<ul style="list-style-type: none"><li>• BANDIT II: 10/100-Base-T, with an RJ45 connector</li></ul>

### 1.1.4.1.2 The LAN Ethernet Port

Table 1-2 shows the interface options for the LAN port.

*Table 1-2. LAN Port Interface Options*

Standard
<ul style="list-style-type: none"><li>• BANDIT II: 10/100-Base-T, with an RJ45 connector</li></ul>

The LAN Port has the following IP features:

- Static routing
- Standard RIP V1, V2 routing
- Prioritization on Layers 2 and 3
- DiffServ marking and classification for end-to-end prioritization
- IP Quality of Service
- Dynamic bandwidth allocation
- 802.1q VLAN tagging
- VRRP (RFC 3768)
- Fragmentation and reassembly (MTU) LAN
- DHCP server, client, relay; Bootp
- SNMP, MIB II
- ARP; Proxy ARP
- Routing over VPN tunnels
- Dynamic split tunneling

### 1.1.4.2 Serial Port

The BANDIT II uses a DB25 serial port.

Table 1-3 lists the BANDIT II's DB25 serial port interface options. Table 1-4 lists the BANDIT II's DB25 serial port protocol options. For the BANDIT II's DB25 serial port pin configuration, see Table A-3. Use the BANDIT II software to set the DB25 serial port as DCE or DTE.

**Table 1-3. BANDIT II DB25 Serial Port Interface Options****Standard**

- Serial:
  - RS-232 (256 kbps sync, 230 kbps async)

**Table 1-4. Serial Port Protocols**

Protocol	Features Supported
Frame Relay	<ul style="list-style-type: none"> <li>• Link Management               <ul style="list-style-type: none"> <li>- LMI, CCITT, Q.933 Annex A;</li> <li>- ANSI T1.617 Annex D</li> </ul> </li> <li>• IP over Frame Relay</li> <li>• CIR Enforcement</li> <li>• Fragmentation FRF12</li> <li>• Fast Connection</li> <li>• Prioritization</li> <li>• Unicasting</li> <li>• Multicasting</li> </ul>
PPP, Multilink PPP	<ul style="list-style-type: none"> <li>• Sync PPP</li> <li>• Async PPP</li> <li>• MLPPP</li> <li>• PAP</li> <li>• CHAP</li> </ul>
IP	<ul style="list-style-type: none"> <li>• IP over PPP</li> </ul>
X.25	<ul style="list-style-type: none"> <li>• All standard IP features</li> <li>• All standard X.25 features</li> </ul>

**1.1.4.3 Wireless Port**

The BANDIT II has one internal wireless port. The BANDIT II can use a CDMA, EVDO, GSM HSPA, GSM GPRS, or GSM EDGE wireless card. For more information, see [Wireless Cards for BANDIT Products](#).