

DC Powered Wireless VPN Router Connects Both Serial and IP Terminals

The Encore **BANDIT-Mini™** is a compact wireless VPN router designed to keep legacy host computers and remote terminals operating normally during and after a network migration from leased lines to an IP service. With both Ethernet and cellular wireless WAN interfaces, the **BANDIT-Mini™** provides connectivity over wireline or wireless channels. The wireless capability is particularly attractive for sites where a land line is difficult or expensive to provision for temporary locations, and for applications with low data volume where the monthly charge for cellular telemetry service can be much less than the cost of a POTS line.

The **BANDIT-Mini™** includes:

- ▶ **C:** Integral CDMA cellular wireless interface in addition to IPsec VPN encryption, full IP routing, Ethernet, and serial data ports.
- ▶ **G:** Integral GSM version of the 3-port wireless router in addition to IPsec VPN encryption, full IP routing, Ethernet, and serial data ports.

To order, call Teleprime - 1-847-252-7100 or email - sales@teleprime.com

FLEXIBLE PORTS

All ports on the **BANDIT-Mini™** are configurable as an port, any function. Internally, the **BANDIT-Mini™** treats all ports the same.

- ▶ The standard Ethernet port can be configured as the Wide Area connection on any model. When the cellular link provides upstream connectivity, the Ethernet is available for terminals or other CPE.
- ▶ The serial port is configurable as the four most popular electrical DTE/DCE interfaces. Any of a large number of legacy protocols is selectable on the serial port, with spoofing for those protocols sensitive to network latency. The **BANDIT-Mini™** also supports an external dial modem on this port.
- ▶ The cellular wireless module provides an always-on data connection over the selected cellular service at speeds up to 150 kbit/s. For full details, refer to the CDMA/GSM Wireless Module addendum (http://www.encorenetworks.com/products/datasheets/BANDIT_ds_112204_add.pdf).

An additional, dedicated supervisory port allows local access to the configuration and management functions. The supervisory port can also be used as a second serial port

The **BANDIT-Mini™** is a complete router with all the Internet protocols and management features needed for branch office, retail, and remote sites. It contains a statefull firewall and packet filter to reduce susceptibility to many common attacks. This router adapts to and supports the second migration - when pure-IP devices replace the legacy terminals and hosts, the **BANDIT-Mini™** will continue to provide secure connectivity and extensive remote management capability.

KEY FEATURES

- ▶ Proven ELIOS Operating System
- ▶ Cellular wireless module
- ▶ Spoofing of many legacy protocols
- ▶ Router prioritizes and shapes traffic
- ▶ Statefull firewall, NAT, PrAT
- ▶ Dedicated encryption hardware
- ▶ VLAN tagging
- ▶ All standard router functions: DHCP, bootP, RIP, ACL, NAT, Telnet, TFTP, SNMP, DiffServ, VLAN
- ▶ DC Power inputs: -20 to -66 VDC

KEY BENEFITS

- ▶ Integrates Internet and Legacy protocols with network management features
- ▶ Fast installation in almost any location
- ▶ Cuts response time, increases throughput when older terminals move to new IP network
- ▶ Ensures high performance of key applications
- ▶ Protects network from external attacks; preserves IP addresses
- ▶ Data security with minimal added delay
- ▶ Flexible VPN configurations, standards-based
- ▶ Compatible and interoperable with all standards-based routers and Internet functions; shapes and prioritizes traffic to optimize bandwidth use.

HIGH-PERFORMANCE ENCRYPTION

Dedicated encryption hardware - included as standard in the **BANDIT-Mini™** - speeds the processing to minimize added latency and to avoid loading down the main CPU when operating in an encryption VPN. As an added benefit, the **BANDIT-Mini™** can handle key distribution automatically, via the Internet Key Exchange (IKE) protocol. Keys may be assigned manually as well.

EASY INSTALLATION AND MANAGEMENT

Configuration files set all parameters for the operation of the **BANDIT-Mini™**. These files may be backed up to a server, for later download to the router via TFTP. The same process of downloading a file is one way to set up a new **BANDIT-Mini™**.

Standard protocols such as Dynamic Host Configuration Protocol (DHCP) and bootP simplify IP connectivity when routing is enabled (the default condition). Static IP addresses may be assigned manually.

Configuration for legacy protocols on the serial port can be done from the menu-driven interface on the supervisory port, via a Telnet connection to the same interface, through SNMP (MIB-II), as well as by downloading a config file. All of the supported protocols and their spoofing variants are available in one version of the ELIOS firmware.

Four levels of passwords protect the **BANDIT-Mini** from unauthorized access.

DIVERSIFIED APPLICATIONS

With the full set of legacy functions and all WAN options available by configuration from the same load of the ELIOS firmware, the **BANDIT-Mini™** offers carriers and system integrators great flexibility from a reduced inventory. The same branch router adapts ALC, poll/select, X.25, X.42, QLLC, VISA-II, SNA/SDLC, bisync, and others to any standard IP network.

With true protocol conversion, and not just encapsulation, the **BANDIT-Mini™** can isolate legacy protocols at the remote sites where older terminals have not been replaced. The IP traffic is compatible with applications on mainframes and servers with IP interfaces. An important example is "NCP bypass" where the **BANDIT-Mini™** protocol conversion eliminates the need for the Network Control Protocol software - and Front End Processors.

CONSISTENT MIGRATION PROCESS

While applications vary, the migration procedure remains consistent across many types of leased line networks.

The current legacy network may be built on leased point-to-point or multidrop lines. The data format may be as old as bisync and ALC or as new as frame relay, with X.25, X.42, and QLLC in between. The ELIOS firmware can handle both polled and client-server protocols.

Step 1 is to deploy the IP service to a site and install the **BANDIT-Mini™**. The service may be provisioned over copper loop or cellular wireless, depending on availability and cost at each location. The **BANDIT-Mini™** works with DSL, cable modem, or any other IP service. Wireless modules are available for carrier cellular networks based on CDMA or GSM.

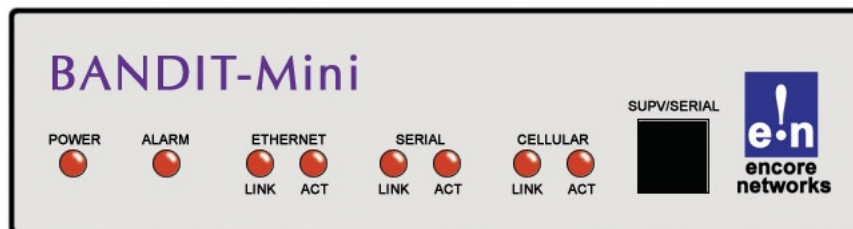
Step 2 (in parallel with step 1) is to configure the host site for IP access. Encore has equipment to convert the IP packets from the network back to the appropriate legacy protocol if necessary, or the host may gain an IP interface.

Step 3 moves individual terminals from the old network to the **BANDIT-Mini™** serial port. Note that it is not necessary to flash cut all terminals on the same multidrop line at once.

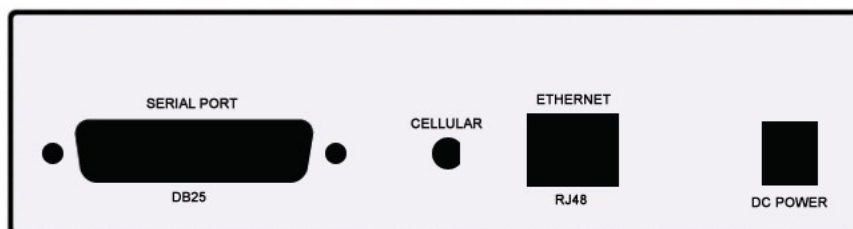
After a network location migrates to IP over cellular wireless for legacy terminals, the addition of new IP devices (replacement terminals or additional equipment) at that site involves only a simple Ethernet connection to the **BANDIT-Mini™**. Both legacy and IP terminals may share the cellular connection.

TECHNICAL SPECIFICATIONS

Architecture	ELIOS™ operating system; high performance RISC-based processor and IP QoS enforcement.
Port Interfaces	One Ethernet 10/100 auto-sensing RJ-45 connector for WAN IP traffic One Serial port; RS-232, DCE/DTE for legacy applications. Baud rate: Up to 64Kbps sync, 115.2 Kbps async One Supervisory port for network management (can also be used as a second serial port) Cellular Module (GSM or CDMA)
IP Routing	Static IP routing, dynamic RIP V1/2 routing; IP fragmentation/reassembly; DHCP client/relay/server; Bootp, GRE, IP QoS, ICMP/ARP, Telnet, UDP, TCP and IP filtering
IP VPNs	Support of up to 30 simultaneous tunnels; User and port based tunnels; tunnel initiation, pass-through, multiplexing and termination; standard IPsec encryption (RFC2401); GRE (RFC 1701); Selective Layer Encryption for VPN over satellites (SLE); DES (56bit) and 3DES (168 bit) encryption; ESP (RFC2406) and AH (RFC 2402) encapsulation; HMAC MD5 (RFC2403) and HMAC SHA-1 (RFC 2404) authentication; IKE(RFC 2409), ISAKMP(RFC2408) and PKI (X.509) key exchange; CEP & Digital Certificates and DH groups; compatible with other IPsec VPN clients; SLE to IPsec tunnel switching.
Legacy Protocols	Protocol conversion and spoofing, Bisync 2780/3780, and 3270/3275 protocol; Burroughs Poll-select/TC 500/700 (async and sync), half duplex/full duplex support; 208-byte-style modem support; SDLC, HDLC, VISAIL, XID (SNA), SNA, X.25, QLLC, CDLC, and X.42
Product Compatibility	<i>Hosts:</i> Unisys ClearPath; LX & NX Series; Unisys A Series; Tandem S Series; Lottery FEP-GTECH GTX <i>Terminals:</i> Burroughs and Unisys; ET1100, T-27, UT200, IBM-compatible PC with Poll Select emulation, GTECH lottery terminals. <i>Check Sorting Machines:</i> Unisys DP500 (Poll Select), DP1000 and DP1800 Series (2780/3780 Bisync), Sync and Async modem, VRU with Poll Select, Poll Select printer devices. <i>ATM Cash Machines:</i> NCR models; 5088, 5674, 5685, 5688, 5875, Personas 86; Diebold models; 911, 1060, 1062, 1072, 1073i, 1073ix and 1074. <i>EFT Processor connectivity:</i> TCP/IP, X.25, SNA, 2780/3780 Bisync
Network Management	Out-of-band via a supervisory port; in-band via Telnet, SNMP (MIB II) and SNMP traps; multi-level password protection, TFTP for software upgrades and configuration management, event logging and extensive statistics on all protocols. Integrated data scope and port capture capabilities.
Physical Specifications	<i>Height:</i> 1.7 in. (4.32 cm); <i>width:</i> 6.1in. (15.49 cm); <i>depth:</i> 6.2 in. (15.75 cm); <i>weight:</i> 1.5 lb. (.68kg) <i>Power (external):</i> 20 to 66 VDC <i>Temperature:</i> 32 to 104 degree F (0 to 40 degree C.) <i>Humidity:</i> 10% to 85% non-condensing <i>Altitude:</i> Up to 10,000 ft. (3,048 m)
Agency Compliance	<i>Safety:</i> ANSI/UL std. No. 60950, 3 rd Edition (U.S Safety) CAN/CSA-C22.2 No. 60950 (Canadian Safety) EN 60950, European Safety (CE Mark) <i>Emissions:</i> FCC Part 15, Sub-Part B, Class A (U.S) EN 55022: 1998 (Europe) <i>Immunity:</i> EN 55024: 1998 (Europe)



Front View



Back View

CDMA Specifications:

- ▶ Antenna Interface: 50 Ohm SMA Female
- ▶ EVRC, 13kQCELP
- ▶ Data rates up to 153 kbps forward and reverse
- ▶ Circuit Switch (IS707-A.4)
- ▶ Packet Data (IS707-A.5)
- ▶ AMPS (Analog) voice
- ▶ RUIIM (for China only – see R-UIM Interface)
- ▶ OTASP, OTAPA
- ▶ IOTA
- ▶ Wireless interface: CDMA2000 (IS-2000)
- ▶ Band (CDMA2000) – (Dual Band)
 - Band class 0 (TX: 824 ~ 849 MHz/ RX: 869 ~ 894 MHz)
 - Band class 1 (TX: 1850 ~ 1910 MHz/ RX: 1930 ~ 1990 MHz)

GSM/GPRS Specifications:

- ▶ Dual Band EGSM/GPRS
- ▶ Module (EGSM 900/1800 MHz, EGSM 850/1900MHz) designed for M2M and Compliant with ETSI GSM Phase 2+ standard
- ▶ Class 4 (2W @ 900 MHz)
- ▶ Class 1 (1W @ 1800 MHz)
- ▶ Data circuit asynchronous, transparent and non transparent up to 144000 bits/s
- ▶ Fax group 3 (Class 1 and 2)
- ▶ GPRS packet Data features
- ▶ GPRS Class 2 or Class 10
- ▶ Coding Schemes: CS1 to CS4
- ▶ PBCCH support

Safety and Governmental Agency Approval :

The CDMA module shall comply with the following standards or guidelines:

- ▶ IEC950, for electrical safety
- ▶ UL950, for electrical safety
- ▶ FCC Part 15
- ▶ FCC Part 22 (800 MHz), Part 24 (1900 MHz)
- ▶ CSA for Canada
- ▶ CDG 1, 2 (IS-98D, IS-898)
- ▶ CDG 3 (application specific)

Power Inputs:

- ▶ DC Power Inputs: -20 to -66 VDC