

NOAA Analog Copper Phone Line Conversion to Cellular

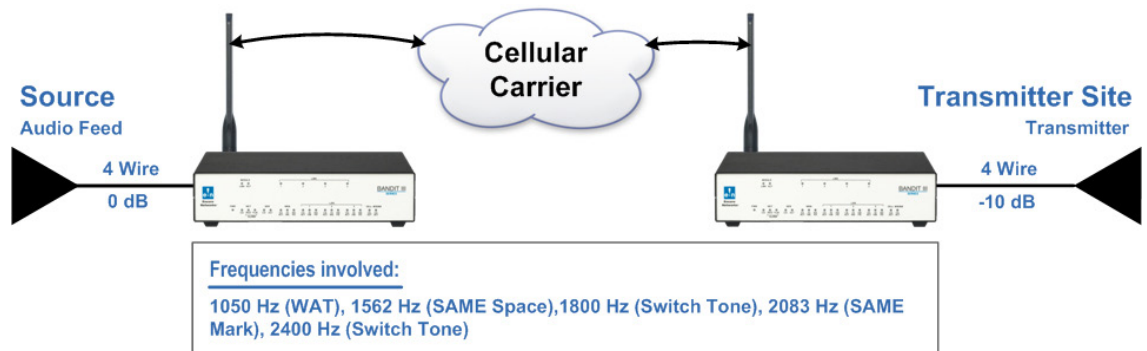
THE PROBLEM

The National Oceanic and Atmospheric Administration (NOAA) mission is to protect life and property, and enhance the United States' economy. NOAA's National Weather Service is the sole official voice of the U.S. government for issuing public safety warnings during life-threatening weather situations. Their technology requires a dedicated 4 Wire analog connection from their source stations to a broadcast point in the field to provide critical emergency information to the public. These circuits require a constant analog carrier tone to be delivered from the source to the transmitter, which is interrupted during voice transmissions. Due to the forthcoming phase out of copper wire line based phone circuits, and these phone lines becoming less dependable and requiring longer time for repair of down circuits – they must be replaced with more economical and reliable service. The problem - how to move the existing analog based signaling system from a copper phone line based service to a cost effective, secure, dependable digital IP backhaul without disrupting the existing network or requiring an expensive forklift up grade?

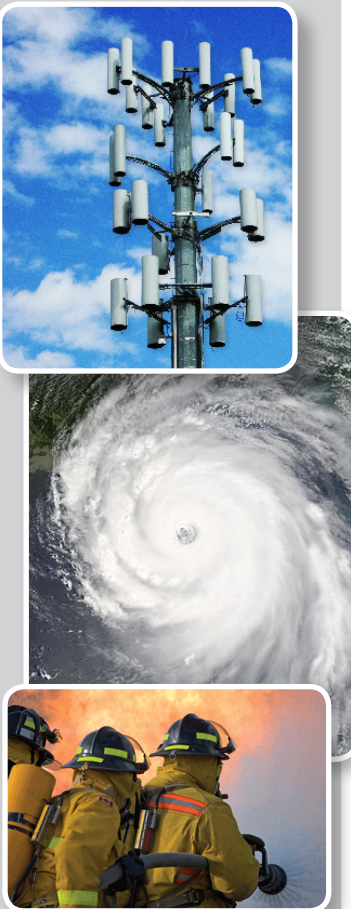
THE SOLUTION

The Encore Networks BANDIT-3™ router providing Internet Protocol (IP), VPN, Firewall, Ethernet Switching, legacy serial protocol with analog circuit interworking using an integrated 3G cell modem. A single box solution that supports traditional 2/4 Wire analog circuit interworking to an IP solution, without changing any equipment in the field while preserving the invested CAPEX. The BANDIT-3™ 4 Wire interface supports the analog tone frequency requirements, while packetizing it for transmission over the 3G cellular network using a secure VPN with IPSEC encryption to ensure end to end security. The switch from a copper phone line to a cellular data connection was done simply by unplugging the existing analog equipment from the copper line and terminating it on the BANDIT-3™. With its Ethernet Switching ports, the BANDIT-3™ is able to deliver IP/Ethernet based services at anytime at a fraction of the cost.

APPLICATION DIAGRAM



Specifications subject to change without notice. Copyright Encore Networks 2011



Emergency Response

Technical Specifications

Physical Ports

► Serial

- 1 universal DB25 port (RS232)
- Optional four DB25 ports (RS232)
- 1 RS232 console

► Modem - Optional

- integrated 56Kbps V.90/92 with PPP support (PAP/CHAP)

► Ethernet

- 4 10/100 Base T - 3 switched and 1 configurable

► Expansion Slot

- Dual Port Fiber Module – Multimode or Single Mode SFPs
- Single T1/E1 CSU/DSU channelized/unchannelized
- Dual T1/E1 CSU/DSU channelized/unchannelized
- 56/64k CSU/DSU
- Ethernet DMZ
- Single Port High Speed Serial (V.35, RS 485, RS 422)
- Dual Port 4 Wire E&M
 - 600 ohm input impedance
 - Adjustable transmit and receive gain in 0.2 dB steps
 - Transmit at 6 dB
 - Receive at 5 dB
 - Idle Channel Noise, C-message Weighted < 18 dBrc0
 - Supports the following CODEC types:
 - ITU G.726 - 16/24/32 kbps
 - Selectable frame size
 - Automatic Clock recovery for end-to-end synchronization

► Alarm Port

- Programmable alarm indicators

► Optional Cellular Modem

- EVDO

Security Appliance Features

- Integrated router/firewall/VPN
- DMZ LAN port
- NAT
- VPN (up to 30 tunnels)
 - IP Sec (RFC 2401) with DES, 3DES and AES (256)
 - GRE (RFC 1701)
 - Internet Key Exchange - IKE (RFC 2409)
- Selective Layer Encryption (SLE)

Protocols

► WAN

- Frame Relay (RFC1490)
- Asynchronous PPP

- Synchronous PPP
- X.25
- MLPPP
- MPLS

► IP

- IP Routing (RIP v1/v2) or static routing
- DHCP client/server/BootP/Relay
- IP QoS and traffic prioritization
- IP fragmentation/reassembly
- IP routing over VPN
- VRRP (RFC3768)

► Ethernet

- 802.1q VLAN tagging
- PPPoE

Serial Legacy Support

- Up to 5 DB25 ports supporting EIA/TIA RS485, RS232, RS422
- Supports any asynchronous or synchronous traffic over IP.
- Legacy Protocol

Electrical

- 10 Watts maximum
- DC: 12VDC, 24VDC, 48VDC, 130VDC, 250VDC
- AC: 100-240VAC, 50-60Hz (with external adapter)

Environmental

- Operating: -40°C to +85°C
- Storage: -40°C to +85°C
- Humidity: 5 to 95%, non-condensing

Mechanical

- Height:** 2.375" (6.0 cm)
- Width:** 10.375" (26.4 cm)
- Depth:** 7.5" (219.1 cm)
- Weight:** 2.25 lb. (1.02 kg)

Standards Compliance

RoHS Compliant

EMC

- FCC Part 15
- EN 55011/CISPR II
- IEC 61850-3
- IEEE 1613

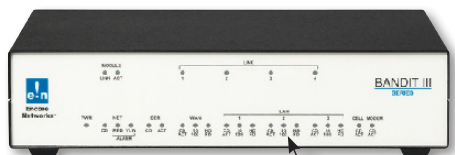
Product Safety

- UL/CSA 60950-1
- CAN/CSA-C22.2 No. 60950-1-03
- EN 60950-1

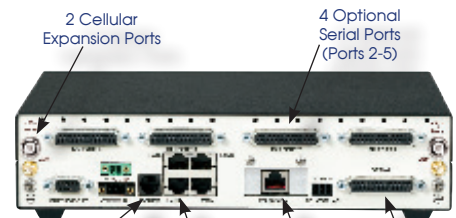
Part Number

- B3000-0000-0000-0

BANDIT 3™ Front and Rear Views



All Port Status LEDs



2 Cellular Expansion Ports

4 Optional Serial Ports (Ports 2-5)

V90/V92 Modem

4 Ethernet 10/100 Base TX Ethernet Ports

Expansion Port 1

Integral Serial Port (Port 1)

