

BreadCrumb® ME 2

Portable Wireless Mesh Network Node

APPLICATIONS

► MINING

For open pit and underground mines, BreadCrumb® devices form a resilient network for mine monitoring and control. Typical applications include Miner Tracking, Emergency Rescue, Voice communications (VoIP), Dispatch, Routing, Health Monitoring and Video.

► MILITARY

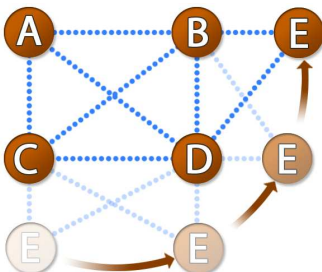
With battery power, rugged enclosures, single-switch operation and robust security, BreadCrumb® devices are perfect for military applications such as Perimeter Security, Sensor Data Collection, Video Surveillance, Convoy Security, RFID Tracking & more. Depending on BreadCrumb® model, security options range from WEP, WPA2, SecNet 11® to FIPS 140-2.

► FIRST RESPONDERS

BreadCrumb® devices form an instant secure network for emergency response, disaster relief, RFID tagging, voice communications (VoIP), PDAs, laptops, video and sensor applications. The included Ethernet port can provide Internet access through satellite or microwave links.

InstaMesh®

InstaMesh is an advanced protocol developed by Rajant that allows for continuous & instantaneous routing of wireless and wired connections. It enables complete network mobility, robust fault tolerance, high throughput and low latency, with zero maintenance and administration. The BreadCrumbs combine InstaMesh with support for standards in wireless access, security, network monitoring, QoS and much more.



In this diagram, the Rajant mesh network adapts to the changes caused by the movement of Node E. New links are established in real-time keeping the network available, intact and secure.

Because Rajant uses primarily Layer-2 and does not use a root node or LAN Controller, mobility and bandwidth are maximized. Multiple gateways and secure mesh-to-mesh authentication are also supported.

Rajant BreadCrumb® ME2

The Rajant BreadCrumb® ME2 is a rugged wireless transmitter-receiver that forms a mesh network (using InstaMesh®) when used in conjunction with other BreadCrumb® devices. This portable wireless mesh network node supports an open-standard IEEE 802.11 b/g radio with up to two antennas to enable data, voice and video applications and requires only a single switch to operate.



BreadCrumb® ME2 Benefits

- Self-healing for resilient connections & high availability
- Rugged & portable for applications in extreme situations
- Open system IEEE 802.11 standards for compatibility with millions of commercial off-the-shelf (COTS) client devices such as laptops, PDAs, IP cameras, sensors, VoIP phones & other IP devices
- Runs InstaMesh® so that the network quickly adapts to moving network elements
- Battery-powered for mobile applications
- High bandwidth availability for data, voice & video applications
- Single switch & self-configuring operation for fast & easy deployments

BC | Commander® Management Tool

The included BC | Commander software tool is used to configure, manage and monitor your Rajant network.

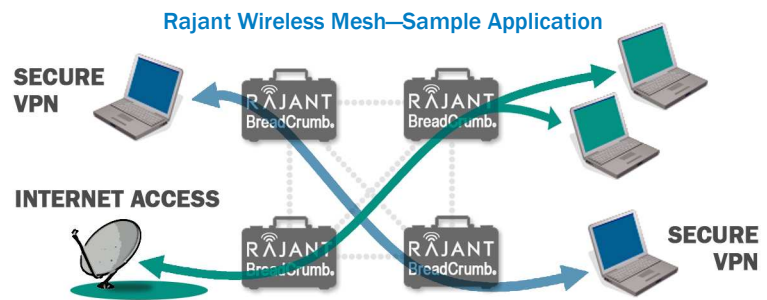
- Topology maps show BreadCrumb® and client device connections and parameters
- BreadCrumb®/client device channel, frequency, MAC address, IP address, nickname assignment, signal and noise levels and time-since-last-update
- Channel and link speed of connections
- Manual radio, SSID, DHCP, reach-back, gateway & port forwarding, access control, security, and encryption settings



Rajant BreadCrumb® ME2



BreadCrumb® ME2



WIRELESS

Radios	(1) IEEE 802.11 b/g
Integrated Antenna (s)	NA (External only)
External Antenna Connector (s)	(2) SMA (f)
Frequency	2.402–2.472 GHz/U.S. (Varies with country)
Modulation	DSSS: DBPSK @ 1 Mbps , DQPSK @ 2 Mbps, CCK @ 5.5 and 11 Mbps OFDM @ 6, 12, 24, 36, 48 and 54 Mbps
RF Output Power	26 dBm 1-24 Mbps; 21 dBm for 54 Mbps;
Receive Sensitivity	1 Mbps: -97 dBm +/- 2 dB 54 Mbps: -74 dBm +/- 2 dB
Range	2.4 km (1.5 mi) (Range can vary due to antenna type, non-line-of-sight, obstruction and RF noise factors)

NETWORK AND SECURITY

Ethernet	(1) IEEE 802.3, 10/100 Mbps, RJ-45 with cable
Managed Network Features	VLAN and QoS support. Access Point, Bridge, Gateway, DHCP, NAT & Port Forwarding
Security	Full support of IEEE 802.11i. AES-256 on Backbone; Access Control Lists; WEP; WPA; WPA2; Compatible with Layer-2 and Layer-3 client/server & peer-to-peer security solutions

POWER

Input Voltage	6–15 VDC
Power Consumption	4.8 Watts @ 12VDC nominal (9.66 Watts peak @ 12VDC with full UDP transfers)
Battery	7.4V / 2100 mAh Internal Battery; 9V (External battery optional)

PHYSICAL

Dimensions	17.8cm x 11.3cm x 3.75cm (7" x 4.45" x 1.475")
Weight	0.75 kg (1.65 lbs)
Temperature	Storage: -40°C to 80°C (-40°F to 176°F) Operating: -20°C to 60°C (-4°F to 140°F)
Humidity	95% (non-condensing)

Warranty	1 Year
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► www.rajant.com



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