



Extricom Interference-Free Wireless LAN System

Wireless  
*Wireless On the Move*  
On the Move



## Extricom Wireless LAN System Elevate Your Expectations

### The Extricom Interference-Free Architecture

### Impressive Performance Surprising Simplicity Lowest Cost of Ownership

- Converged Voice, Data, & Video, with Zero-Handoff Mobility
- Plug-and-Play Simplicity, with no RF Cell Planning
- Blanket Coverage for Ubiquitous Service with no Co-Channel Interference
- Guaranteed Connection Rate
- TrueReuse Bandwidth
- Multi-Blanket Operation, in One Infrastructure

### Wireless LAN that changes everything you expect from wireless.

- Easy to deploy and maintain, without the complexities of RF cell planning.
- Delivers both seamless mobility and high capacity.
- Truly built for the enterprise triple play, without performance trade-offs.
- Wireless that behaves like wire.

This is the Extricom Interference-Free™ WLAN System, delivering the flexibility, performance, and simplicity that your enterprise needs for converged data, voice (VoWLAN), and video in ubiquitous WLAN deployments.

### The Mobility Challenge

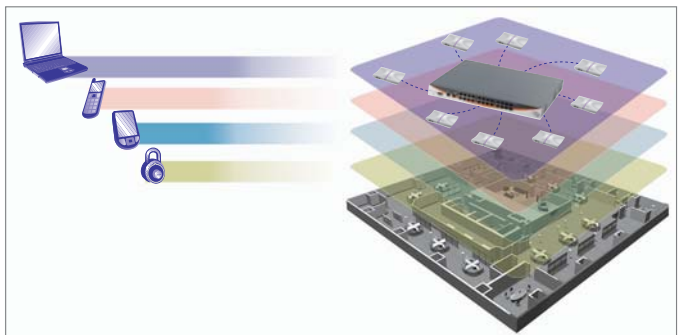
You want to “cut the cord,” but you realize that increased reliance on WLAN raises the stakes. So performance and resiliency of WLAN must increase, while at the same time its complexity and cost of deployment and maintenance must be reduced.

### The Interference-Free Architecture

Extricom achieves all this, with innovation that is based on a simple, yet powerful idea: eliminate the concept of cell-planning, and replace it with the “channel blanket” topology. The solution allows each radio channel to be used everywhere, on every access point, to create blankets of coverage.

Within each channel blanket, there is seamless mobility with no handoff latency, no co-channel interference, robust “wire-like” client connections, and the ability to design for a guaranteed and predictable level of service for all users.

Separate channel blankets give you the unique option of physically segregating different user types (802.11a, b and g), traffic (voice, data and multimedia), and roles (internal user and guest) onto different channels, thereby guaranteeing quality of service.



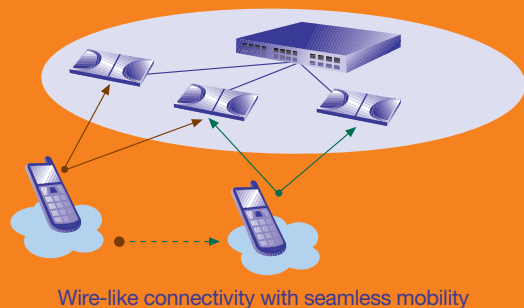
What's more, Extricom's patented TrueReuse™ technology boosts system bandwidth up to ten times over that of competing WLANs.

All this is achieved without the iterative and costly RF cell-planning of traditional WLAN. Coupled with zero-configuration UltraThin™ Access Points, Extricom yields the industry's lowest total cost of ownership.

### Are You Ready to Elevate Your Expectations?

Extricom customers include healthcare providers, schools, hotels, universities, municipal government, and industrial enterprises. Whether it is for increased capacity, support for mobile voice, or the ability to effectively serve diverse groups of users, each has discovered the radical leap in ease of ownership and uncompromising performance that are the trademarks of Extricom's innovation.

## The Interference-Free Architecture



The Extricom solution is based on a fully centralized WLAN architecture, in which the switch makes all of the decisions for packet delivery on the wireless network. In this configuration, the access points (APs) simply function as radios, with no software, storage capability, MAC or IP address. Even the basics of connecting are different: clients associate directly with the switch, not with the AP. The AP acts as an “RF conduit” to rapidly funnel traffic between the clients and the switch.

Centralization of the Wi-Fi environment enables you to deploy 802.11a/b/g channels at every AP, creating overlapping channel

blankets. The channel’s bandwidth is delivered across the blanket’s service area (i.e. the combined coverage of all APs connected to the switch), with interference-free operation and consistent capacity throughout.

Within each channel blanket, the switch avoids co-channel interference by permitting multiple APs to simultaneously transmit on the same channel, only if they won’t interfere with each other.

In summary, the Extricom solution eliminates the traditional performance limitations caused by RF cell planning, co-channel interference, edge users, rate adaptation, mixed b/g devices, and frequent AP-to-AP handoffs.

### Components

The Extricom WLAN System consists of two components: a WLAN Switch connected to a set of UltraThin Access Points. The EXSW-2400, EXSW-1200 and EXSW-800 WLAN Switches enable simple, cost-effective, and scalable deployments, thanks to built-in Power over Ethernet (PoE), hardware-based security capabilities, and on-board Web-based management. The EXRP-20 and EXRP-40 UltraThin APs are high-bandwidth devices, containing multiple 802.11 a/b/g radios. They utilize standard 802.11 Wi-Fi and support any off-the-shelf client network interface card.

## Features And Benefits

### No Cell Planning

With no RF cell planning or RF constraints, Extricom’s APs are deployed wherever needed. The traditional site survey is therefore reduced to just physical equipment installation planning.

### Multi-Layer WLAN

A single set of APs enables deployment of multiple high-data-rate channel blankets with overlapping coverage, resulting in multiplied aggregate capacity. Separate channel blankets also offer the unique ability to guarantee Quality of Service by physically segregating different user types, traffic and roles onto different channels.

### Same Band Operation

An Extricom market-first, multiple WLAN channels, in the same band, can be simultaneously used within the same AP, to form overlapping channel blankets using the same physical set of APs.

### TrueReuse Bandwidth - Optimized Frequency Reuse

Another market-first, TrueReuse technology multiplies the bandwidth of a standard 802.11 channel by dynamically optimizing the reuse of each frequency. Multiple, closely spaced UltraThin APs are permitted to simultaneously transmit on the same channel, without co-channel interference. This results in unparalleled total system bandwidth compared to traditional WLAN solutions. What’s more, TrueReuse bandwidth actually increases as more APs are added, for unmatched scalability of coverage and capacity.

### Zero-Handoff VoWLAN Mobility

Clients move within the channel blanket without experiencing inter-AP handoffs, making zero-latency mobility and “always-connected” voice a reality for WLAN.

### Wi-Fi Collaboration™ - Uplink Diversity

With all APs able to receive on the same channel, the Extricom WLAN provides uplink path diversity for client transmissions, making the system highly resistant to RF instabilities and outside interference.

### Dense AP Deployment for Guaranteed Service Level

APs are deployed in any density convenient to the enterprise, to achieve both blanket coverage and a guaranteed communications rate to all users. In fact, while other solutions shy away from dense deployments because of their inherent RF obstacles, Extricom’s system performance actually increases with AP density.

### Best of Breed Security

Security as enabler, no longer as obstacle. The Extricom Wireless Switch combines 802.11i security with the performance of hardware-based processing. The AP is never a point of possible breach, since all security is performed centrally, and the connection between the Switch and AP is secure. Mobility and security co-exist, without latencies or drops of the encrypted sessions. In addition, Rogue AP scanning is built-in, and gives all the benefits of a dedicated sensor overlay, without the costs.

### Zero Configuration AP

Extricom’s UltraThin APs enable true plug-and-play deployment. With no software inside, each AP requires no configuration and is completely interchangeable. There is no need to reconfigure, reboot, or otherwise maintain the AP.

### Central Power Supply

The Extricom Wireless Switch comes with PoE, eliminating the need for AC power at the AP.



EXSW-2400



EXSW-1200



EXSW-800

## Wireless LAN Switch Specifications

Standards	
WLAN	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11i IEEE 802.11d
Ethernet	IEEE 802.3x, full/half duplex IEEE 802.1q, VLAN tagging
Interfaces	
<b>WLAN Ports (to APs)</b>	
EXSW-800	8 x 100 BaseT Ethernet with IEEE 802.3af PoE (out of band)
EXSW-1200	12 x 100 BaseT Ethernet with IEEE 802.3af PoE (out of band)
EXSW-2400	24 x 100 BaseT Ethernet with IEEE 802.3af PoE (out of band)
<b>LAN Ports (Wired LAN)</b>	
EXSW-800	1 x 100 BaseT Ethernet port
EXSW-1200	2 x 100/1000 BaseT Ethernet port
EXSW-2400	(Second port for future use)
Wireless Performance	
<b>Channel blankets</b>	
EXSW-800	Up to two simultaneous WLAN channel blankets, regardless of band (Two plus rogue AP using EXRP-40)
EXSW-1200 EXSW-2400	Up to four simultaneous WLAN channel blankets, regardless of band
Capacity	Configurable rate for each channel (Up to 54 Mbps)
TrueReuse	Triple the aggregate bandwidth of a b/g/a channel, for effective rate of up to 162 Mbps on a standard channel
Roaming	Intra-switch - 0 mSec, inter-switch < 50 mSec
Management	
User Interface	Secure Web-based Graphical User Interface (GUI)
SNMP	Version 2c
Redundancy	Master-to-backup auto fallback
Logging	Remote and local SYSLOG
Upgrades	Firmware upgrade through Web / CLI
Security	
Encryption	802.11i hardware-based encryption, including: WEP-64 WEP-128 WPA-TKIP / AES (CCMP) WPA2-TKIP / AES (CCMP)
Authentication	RADIUS (802.1x) WPA Pre-Shared Key (PSK) MAC Address-based ACL EAP, TLS, TTLS, LEAP, PEAP, MD5

SSID & VLAN	
SSID	16 SSIDs per channel
VLANs	4096 Ethernet VLANs SSID to VLAN mapping
Regulations Approval	
Safety	UL 60950-1 EN 60950-1 IEC 60950-1 ANATEL Resolution 238
EMC	FCC Part 15 Class B EN 300386 VCCI Technical Requirements, V-3/2001.04 ANATEL Resolution 237
Physical Properties	
Installation options	Rack mount (19" 1U) and desktop
<b>Dimensions (W x H x D):</b>	
EXSW-800	430 x 45 x 240mm    16.9 x 1.8 x 9.5"
EXSW-1200 EXSW-2400	440 x 45 x 395mm    17.3 x 1.8 x 15.5"
<b>Weight</b>	
EXSW-800	3.0 kg    6.6 lbs
EXSW-1200	3.5 kg    7.7 lbs
EXSW-2400	4.5 kg    10.0 lbs
LEDs	Power LAN Activity Activity on AP ports
<b>Power</b>	
EXSW-800	100-240/2A Max PoE to WLAN ports: 15W per port
EXSW-1200 EXSW-2400	100-240/5A Max PoE to WLAN ports: 15W per port
Environmental	
Operational	Temperature: 0°C to 45°C (32°F to 113°F) Humidity: 0% to 90%, non-condensing
Storage	Temperature: - 20°C to +70°C (-4°F to 158°F) Humidity: 0% to 90%, non-condensing
Ordering Information	
EXSW-800	8-Port Extricom Wireless LAN Switch
EXSW-1200	12-Port Extricom Wireless LAN Switch
EXSW-2400	24-Port Extricom Wireless LAN Switch

\* Information is subject to change without prior notice



EXRP-40 (Four-Radio) | EXRP-20 (Two-Radio)

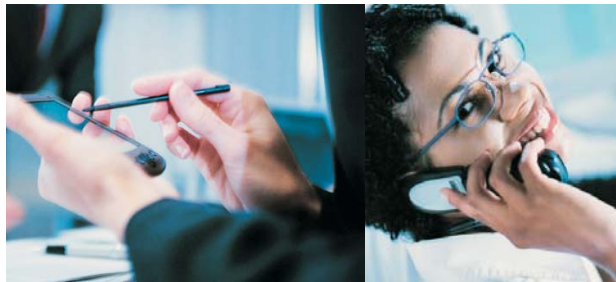
## UltraThin Access Point Specifications

WLAN Standards	
WLAN	IEEE 802.11b, 2.4GHz (short/long preamble support) IEEE 802.11g, 2.4GHz (pure mode, mixed mode) IEEE 802.11a, 5GHz
Spectrum	
Number of Simultaneous Channels	Up to four (EXRP-40), Up to two (EXRP-20) using any combination of 802.11 a/b/g
802.11a Available channels limited by local regulation 13 non-overlapping channels (US) 5.15-5.25 GHz 5.25-5.35 GHz 5.505-5.725 GHz 5.725-5.850 GHz	802.11b/g Available channels limited by local regulation 3 non-overlapping channels (US) - 2.402-2.472 GHz 3 non-overlapping channels (ETSI) - 2.402-2.482 GHz 4 non-overlapping channels (Japan) - 2.402-2.494 GHz
Supported Rates	
802.11a	6, 9, 12, 18, 24, 36, 48, and 54 Mbps
802.11g	6, 9, 12, 18, 24, 36, 48, and 54 Mbps
802.11b	1, 2, 5.5, and 11 Mbps
Transmission Power (mean, measured at radio output)	
802.11a	Max: 17 dBm
802.11b	Max: 17 dBm
802.11g	Max: 15 dBm
Receive Sensitivity	
802.11a 6 Mbps: -88 dBm 9 Mbps: -87 dBm 12 Mbps: -86 dBm 18 Mbps: -84 dBm 24 Mbps: -81 dBm 36 Mbps: -77 dBm 48 Mbps: -73 dBm 54 Mbps: -69 dBm	802.11b/g 1 Mbps: -91 dBm 2 Mbps: -88 dBm 5.5 Mbps: -87 dBm 6 Mbps: -89 dBm 9 Mbps: -88 dBm 11 Mbps: -85 dBm 12 Mbps: -87 dBm 18 Mbps: -85 dBm 24 Mbps: -82 dBm 36 Mbps: -79 dBm 48 Mbps: -74 dBm 54 Mbps: -71 dBm
Rogue AP Detection	
Infrastructure	Dedicated radio per AP
Functionality	Automated, continuous monitoring
Additional Features	Configurable "white list" of allowed BSSIDs Energy Detector

Antenna Specifications	
Each Radio	Two (2) internal omni-directional diversity antennas
Internal Antenna - Gain	0 dBi
Regulations Approval	
Safety	UL 60950-1 EN 60950-1 IEC 60950-1
EMC	FCC Part 15 class B EN 301 489 VCCI Technical Requirements, V-3/2001.04
Radio (including modular approval)	FCC Part 15 C FCC Part 15 E EN 300 328 EN 301 893 Japan Type Certificate: Article 2, clause 1 ANATEL Resolution 365
Physical Properties	
Dimensions (W x H x D) EXRP-20 / EXRP-40	195 x 125 x 45mm      7.7 x 4.9 x 1.8"
Weight EXRP-20 EXRP-40	0.40 kg      0.9 lbs 0.45 kg      1.0 lbs
Installation Options	Horizontal (desktop) Vertical (wall mount)
LEDs EXRP-20 EXRP-40	Power LAN Activity 2 x WLAN Activity (2 colors) 4 x WLAN Activity (2 colors)
Power	PoE (IEEE 802.3af) Power Supply (optional): 48VDC
Environmental	
Operational	Temperature: 0°C to 45°C (32°F to 113°F) Humidity: 0% to 90%, non-condensing
Storage	Temperature: - 20°C to +70°C (-4°F to 158°F) Humidity: 0% to 90%, non-condensing
Ordering Information	
EXRP-20	Extricom UltraThin Access Point with Dual 802.11 a/b/g radios, internal antennas
EXRP-40	Extricom UltraThin Access Point with Quad 802.11 a/b/g radios, internal antennas

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2006 ITWeek  
Vendor of the Year



2006 Fierce  
WiFi Fierce 15



2006 Internet Telephony  
Product of the Year



2006 TechWorld Wireless  
Product of the Year