Xirrus Wireless Array

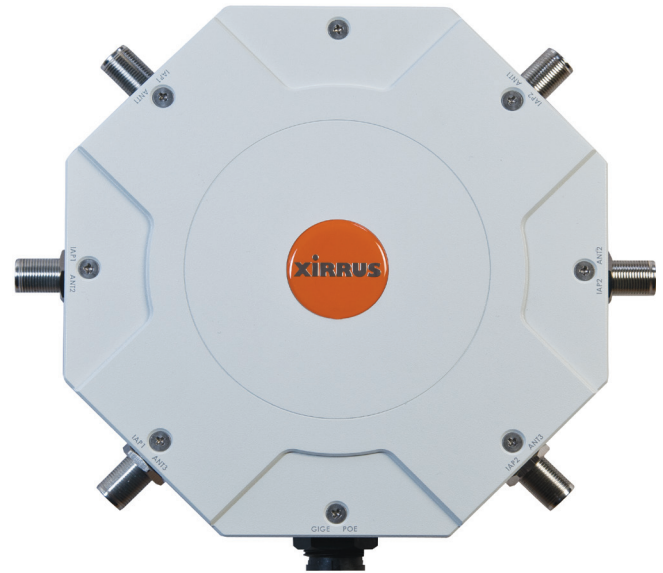## XR-1000H Series

Configurations: XR-1230H

Introducing the Xirrus XR-1000H Series

The Xirrus XR-1000H Wireless Array provides Xirrus Array technology in a hardened case for harsh environments. The unique case design protects the Array electronics from rain, heat, cold, direct sun, and wind. The hardened Array includes two software programmable (2.4GHz and 5GHz) radios with three lightning protected N style connectors each, wireless controller, multi-gigabit switch, firewall, threat sensor and spectrum analyzer contained in a hardened case. The XR-1000H is designed to meet requirements for extending wireless coverage outdoors or in other harsh environments such as playgrounds, campus quads, stadium stands and warehouse freezers. In addition the XR-1000H is an ideal candidate for high speed point-to-point wireless data links directly connecting networks across streets and waterways.

The XR-1000H utilizes software programmable modular APs similar to the Xirrus XR Wireless Arrays, and will support up to 450Mbps 802.11n connections.

At A Glance

- Two software programmable modular access points (2.4GHz and 5GHz), supports up to 450Mbps 802.11n connections
- -40C to +65C rated, weather and dust sealed (IP67/NEMA 6)
- Supports up to 480 users
- Upgradable to future technologies (802.11ac, 802.11ad)

XR-1000H SERIES 2-SLOT CHASSIS
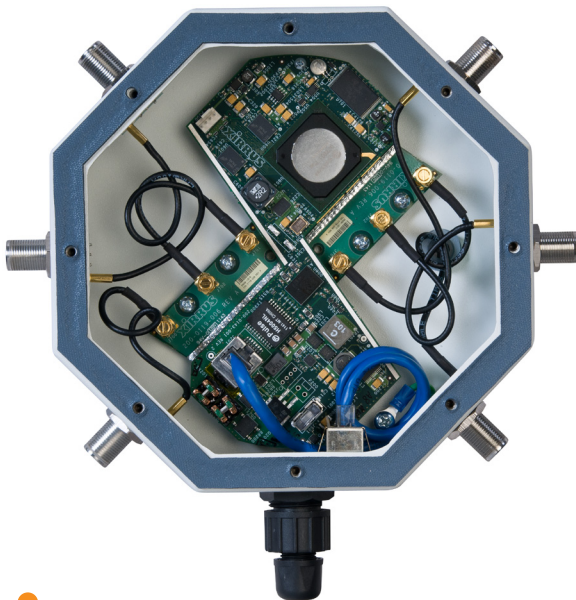
NSP Architecture for Amazing Performance

The architecture of the Xirrus XR-1000H Array is based upon a Network Services Processor (NSP) that delivers uncompromised performance to all associated users. The design allows for hardware based encryption, compression, acceleration, as well as reliable quality of service with uptimes and availability optimized for 802.11n performance and scalability.

Unmatched Upgradability

The Xirrus XR-1000H modular platform ensures support for future wireless technologies and is the first 802.11ac/11ad-ready hardened product available.

NEW FEATURES

Application Control – Firewall, apply QoS, and manage 900+ application types under 15 categories using Layer 7 Deep Packet Inspection and other contextual application detection techniques.

Bonjour Director – Extend Apple Bonjour protocols across Layer 3 boundaries for simple setup configuration of commonly used shared Apple services such as Airplay and Airprint

Bring Your Own Device – Integration with Xirrus Access Manager (XAM) allows guests and employees alike to use non-corporate configured wireless devices while the XR-1000H enforeces appropriate access policies.

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Key Benefits

Fully Ruggedized

The XR-1000H meets the requirement of the harshest environments. It can be fully submersed up to 1m in water and is completely dust sealed meeting the requirements for IP67 and NEMA 6 ratings. The product has been tested to operate in temperatures as low as -40˚C and as high as +65˚ (-40˚F to +150ºF).

Flexible

The XR-1000H adds greater deployment flexibility for Xirrus XR-Series Wireless Array network designs. Engineers have greater flexibility in Array placement to maximize coverage and minimize equipment costs. The XR-1000H is the perfect candidate for extending wireless coverage into outdoor common areas, school play areas, central green belts on campus, and parking lots can be easily connected to the network. Mounting in the open, around high school and college sports stadiums is an economical way to provide network connectivity at sporting events. Often extending the network over a terrestrial obstacle requires placing the array on the roof exposed to all the elements. The XR-1000H makes this easy, not requiring any special shielding or infrastructure.

High Performance

The XR-1000H includes 3x3 802.11n radios for up to 450Mbps data rates. The onboard controller avoids excessive network traffic. All association, authentication, and RF management tasks take place on the Array. In addition the Array can be configured to do traffic shaping, filtering, and monitoring with all policies being enforced at the edge of the network. XR-1000 series virtualized firewall, threat sensor and spectrum analyzer providing comprehensive security without the need for additional equipment.

Economical

Software programmable design (2.4GHz and 5GHz on both modular APs) enables significant flexibility in adapting the wireless network to usage changes over time as compared to traditional APs which are fixed by band per radio. The XR-1000H includes all of the functionality of a wireless controller required by many competitors. Stateful firewall, threat sensors, spectrum analysis, and all wireless monitoring and control are performed at the edge in the Array. Modular AP slots enable upgrades to future radio technology like 802.11ac or 802.11ad over time without complete replacement of the product.

Configuration Specifications

	XR-1230H
Chassis Size	8"
AP Slots	2
Populated 802.11n Radios	2
Maximum Wi-Fi Bandwidth	900Mbps
Dedicated Wi-Fi Threat Sensor	Yes
External Antenna Connectors	Up to 6
Maximum Wi-Fi Backhaul	450Mbps
Integrated Switch Ports	2
Gigabit Ethernet Uplink Ports	1
Maximum Associated Users	480
Radio Interface	2.5Gbps PCI-Express
Maximum Power Consumption	38W

Technical Specifications

FEATURE	SPECIFICATIONS
RF Management	In-band per IAP Spectrum Analysis Dynamic channel configuration Dynamic cell size configuration Monitor radio for threat assessment and mitigation Wired and wireless packet captures (including all 802.11 headers) Wired and Wireless Packet Captures Radio assurance for radio self test and healing RF monitor 2.4 & 5.0Ghz Honeypot Control – Increase available 2.4 & 5.0Ghz wireless device density through management of spurious 2.4 & 5.0Ghz association traffic. Ultra Low Power Mode – Maximize wireless channel re-use and increase wireless device density through tight power controls.
Wireless Protocols	IEEE 802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11n

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Xirrus XR-1000H Series Wireless Array

FEATURE	SPECIFICATIONS	
Wired Protocols	IEEE 802.3 10BASE-T, IEEE 802.3.u 100BASE-TX, 1000BASE-T, 802.3ab 1000BASE-T IEEE 802.1q – VLAN tagging IEEE 802.1AX – Link aggregation	IEEE 802.1d – Spanning tree IEEE 802.1p – Layer 2 traffic prioritization IPv6 Control – Increase wireless device density through control of unnecessary IPv6 traffic on IPv4-only networks.
Channel Support 2.4GHz (channels available based on country code selected)	1 2 3 4 5 6 7 8 9 10 11 12 13 14	
Channel Support 5GHz (channels available based on country code selected)	UNI I – Non-DFS channels 36 40 44 48 UNI I DFS channels 52 56 60 64	UNI II DFS channels 100 104 108 112 116 120 124 128 132 136 140 UNI III Non-DFS channels 149 153 157 161 165
Management Interfaces	Command line interface Web interface (http / https) Xirrus Management System (XMS)	
Management	SNMP v1, v2c, v3 RFC 854 Telnet RFC 1155 Management Information for TCP/IP Based Internets RFC 1156 MIB RFC 1157 SNMP RFC 1212 Concise MIB Definitions RFC 1213 SNMP MIB II RFC 1215 A Convention for Defining Traps for use with the SNMP RFC 1350 TFTP RFC 1643 Ethernet MIB RFC 2030 Simple Network Time Protocol SNTP RFC 2578 Structure of Management Information Version 2 (SMIv2) RFC 2579 Textual Conventions for SMIv2 RFC 2616 HTTP 1.1 RFC 2665 Definitions of Managed Objects for the Ethernet Like Interface Types	RFC 2674 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and Virtual LAN Extensions RFC 2863 The Interface Group MIB RFC 3164 BSD Syslog Protocol RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3) RFC 3416 Version 2 of the Protocol Operations for the Simple Network Management Protocol (SNMP) RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP) RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) RFC 3584 Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework RFC 3636 Definitions of Managed Objects for IEEE Xirrus Private MIBs Integration with Splunk for accurate search and analysis of intra-organizational IT events Netflow Export v9 and IPFIX compatibility allows for IP traffic statistics collection
Carrier Applications	Passpoint Certification	
RFC Support	RFC 768 UDP RFC 791 IP RFC 2460 IPV6 (Bridging only) RFC 792 ICMP	RFC 793 TCP RFC 826 ARP RFC 1122 Requirements for internet hosts – communication layers RFC 1542 BOOTP
Security	WPA IEEE 802.11i WPA2, RSN RFC 1321 MD5 Message-digest algorithm RFC 2246 TLS protocol version 1.0	RFC 3280 Internet X.509 PKI certificate and CRL profile RFC 4347 Datagram transport layer security RFC 4346 TLS protocol version 1.1
Encryption Types	Open, WEP, TKIP-MIC: RC4 40, 104 and 128 bits SSL and TLS: RC4 128-bit and RSA 1024 and 2048 bit modular AP	
Authentication	IEEE 802.1x RFC 2548 Microsoft vendor-specific RADIUS attributes RFC 2716 PPP EAP-TLS RFC 2865 RADIUS Authentication RFC 2866 RADIUS Accounting RFC 2867 Tunnel Accounting RFC 2869 RADIUS Extensions RFC 3576 Dynamic Authorizations extensions to RADIUS RFC 3579 RADIUS Support for EAP RFC 3748 EAP-PEAP	RFC 5216 EAP-TLS RFC 5281 EAP-TTLS RFC 2284 EAP-GTC RFC 4186 EAP-SIM RFC 3748 Leap Pass through RFC 3748 Extensible Authentication Protocol Web Page Authentication • WPR, Landing Page, Redirect • Support for Internal WPR, Landing Page and Authentication • Support for External WPR, Landing Page and Authentication

Regulatory Compliance	CE Mark
	Safety:
	  UL 60950-1:2003
	  EN 60950:2000
	  EMI and susceptibility (Class A)
		U.S.:FCC Part 15.107 and 15.109
		Canada: ICES-003
		Europe: EN 55022, EN 55024
		EN 60601-1-2
		EN 301 893 V1.6.1

Physical Specifications	Dimensions (no connectors): 2.75 x 8 x 8 in. Dimensions (connectors) 2.75 x 10 x 10 in.	Weight: 3.6lb Does not include mounting bracket
Environmental Specifications	Operating Temperature: -40 to +65C	

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Ordering Information

PART NUMBER	DESCRIPTION
Configured Models	
XR-1230H	Hardened XR Wireless Array model configuration consisting of 2 slot chassis with integrated controller, two 450Mbps 802.11n modular APs, and ArrayOS operating system
Software Licenses	
AOS-APPCON	Application Control license enabling Deep Packet Inspection (DPI) for application visibility and control on 1 modular Access Point
Certified Antennas	
ANT-DIR-MIMO-01	2.4GHz/5GHz, 14dBi dual polarized panel MIMO antenna. Does not include antenna cables. Order 3 ANT-CAB-400-2-MM cables or supply equivalent.
ANT-OMNI-MIMO-01	2.4GHz/5GHz, 6dBi omni-directional MIMO antenna. Includes three 3 foot antenna cable pigtails with male N connectors.
	Contact Xirrus support for additional antenna selections.

Support & Maintenance

Xirrus is committed to the success of our customers and provides warranties and support options to best fit your needs. Xirrus XR Series Wireless Arrays ship from the factory with a 5-year hardware warranty. For further information on the Xirrus hardware warranties, software support and premium support offerings visit:

http://www.xirrus.com/Support/Warranty-Support

About Xirrus

To organizations who depend on wireless access to transform their business, Xirrus is the wireless network solution provider that provides the world's most powerful, scalable, and trusted solutions. Through product invention and system design, commitment to customer success, and the industry's best price performance, Xirrus gives you confidence that your wireless network performs under even the most demanding circumstances. Headquartered in Thousand Oaks, CA, Xirrus is a privately held company.

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1.800.947.7871 Toll Free in the US
+1.805.262.1600 Sales
+1.805.262.1601 Fax
2101 Corporate Center Drive
Thousand Oaks, CA 91320, USA

To learn more visit:
xirrus.com or
email info@xirrus.com