Aero**hive**®
The Best ROI in Wi-Fi

HiveAP **20** Series
802.11a/b/g access points

*The HiveAP 20 series access points from Aerohive Networks are an innovative class of 802.11a/b/g wireless infrastructure equipment called a Cooperative Control Access Point (CC-AP). This cooperative control functionality enables multiple HiveAPs to be organized into groups, called "hives," that share control information between HiveAPs to enable functions like fast L2/L3 roaming, coordinated RF management, security, QoS and mesh networking. This capability enables Aerohive's next generation WLAN architecture to provide all of the benefits of a controller-based architecture **without a controller**.*

THE AEROHIVE HIVEAP 20 AND HIVEAP 28 are a family of highly reliable 802.11a/b/g access points. The HiveAP 20 series combines an enterprise-class access point with cooperative control technology to provide the benefits of a controller-based wireless LAN solution, without requiring a controller or an overlay network. HiveAPs are organized into groups, or "hives", enabling functions like fast L2/L3 roaming, coordinated RF management, security, QoS and mesh networking.

The HiveAP 20 series provides all of the benefits of a controller-based wireless LAN solution, but is easier to deploy and expand, lower cost, more reliable, more scalable, more ubiquitously deployable, higher performing, and more suitable for voice over WLAN than today's controller-based architectures. A hive of cooperative control access points (CC-APs) is able to operate independently without any centralized control or data forwarding. To provide for global policy management and centralized configuration and monitoring of many HiveAPs, the Aerohive Networks HiveManager Network Management System Appliance provides a centralized management instance for the entire wireless network. The HiveManager lowers operating costs by speeding deployment, configuration, and monitoring of the wireless network.

Key Features and Benefits (HiveOS 3.4)

FLEXIBLE HARDWARE DESIGN
- Multi radio provides concurrent 802.11a and 802.11b/g
    — Allows greater flexibility in deployments
    — Allows automatic mesh backup or dedicated mesh backup based on customers needs
- Flexible environment support allows the ability to deploy a 20 series AP in a variety of environments.
    — HiveAP 20 is a Plenum Rated, Indoor/Industrial AP
    — HiveAP 28 is an outdoor, IP67 rated AP
- Supports 802.3af PoE or a standard power adapter

COOPERATIVE CONTROL
- Cooperative fast L2/L3 roaming
- Cooperative RF control
- Aerohive Mobility Routing Protocol (AMRP) for mesh routing
- Tunnel load balancing for L3 roaming

WIRELESS VPN
- Remote office IPSec-based VPN solution
- Profile-based split tunneling with NAT support
- Supported across mesh
- RADIUS, DHCP, NTLM, LDAP and NTP can selectively go to local or remote network

SECURITY
- Wireless privacy and authentication 802.11i, WPA, WPA2, WEP, 802.1X, PSK, WiFi Alliance Certified
- Granular user profile-based management defines SSIDs, VLANs, QoS and security policy for each user that enters the network
- Encryption AES, TKIP or RC4 (WEP only)
- Time-of-day and day-of-week-based access control and SSID enablement
- Up to 32 SSIDs for network segmentation
- On-board stateful-inspection firewall policy enforcement with session state sync with neighbors
- ALG support for SIP, DNS, TFTP and FTP
- Destination-based MAC firewall support
- Tunneled guest networks
- Hive-wide client isolation
- WPA-TKIP Vulnerability Protection

AUTHENTICATION
- 802.1X authentication for WEP, WPA, and WPA2
- Private PSK authentication allows for unique preshared keys (PSK) for each user within a single SSID
- RADIUS support with PEAP, EAP-TLS, TTLS, LEAP and EAP-FAST
- LDAP authentication to directory servers, including OpenLDAP and Novell eDirectory
- Authentication to Microsoft® Active Directory™ with local credentials caching
- Multiple RADIUS server support (per AP, per SSID)
- Built-in RADIUS server
- MAC based RADIUS authentication
- Dynamic Change of Authorization (RFC3576)

CAPTIVE WEB PORTAL
- Customizable captive web portal on HiveAPs for guest access
- RADIUS support for captive web portal
- Microsoft Active Directory authentication for captive web portal

QoS FOR VOICE, VIDEO AND DATA AT THE RADIO
- Powerful QoS features usually only found on high end routers
- Stateful VoIP roaming and failover
- User profile based queuing, scheduling and policing
- Per VLAN, per user profile, per service, per MAC address QoS assignment
- Protocol decode and dynamic port detection for SIP calls
- Full queuing support with 8 queues – strict and weighted round robin queuing mechanisms
- Per VLAN, per user profile, per user, per service rate limiting
- VoIP call admission control (CAC)
- Marking and policing – WMM (802.11e) for wireless, 802.1p and/or diffserv
- WMM Wi-Fi Alliance® certified
- WMM power save (U-APSD)
- Support for Spectralink SVP Protocol

ANTI-THEFT
- Designed to work with Kensington-style locks
- Software anti-theft via protected bootstrap

WIRELESS IDS & IDP
- In-network rouge AP detection
- Rogue AP mitigation
- Rogue client detection including ad-hoc mode clients
- Wireless compliance checking
- Sophisticated L2/L3 DoS protection with a wide range of L2/L3 attack signatures
- Port scan, IP spoofing and IP address sweep protection provides added security, particularly for quarantine and guest networks
- Wide array of security actions including logging, blocking, disassociation and banning to enable the network to automatically respond to threats

COOPERATIVE RF MANAGEMENT
- Cooperative channel selection with DFS2 support
- Station (client) load balancing
- Cooperative transmit power level control

MANAGEMENT
- Central management
  - Management via HiveManager NMS
  - Management via HiveManager Online NMS
- Device configuration
  - CLI via telnet, SSHv2, or console
- Monitoring
  - SNMP v1, v2c and syslog

SERVICES
- DHCP Server and DHCP Relay

MESH
- Flexible radio configuration allows for either interface to be configured as a mesh
- Ethernet bridging support across mesh connections for a single device or workgroup
- Automatic neighbor detection and route determination
- Mesh traffic encrypted with AES
- L2 routing rather than spanning tree used for greater performance and less overhead
- Self-healing enabled by dynamic path selection

HIGH AVAILABILITY
- Full client session synchronization across HiveAPs
- Stateful failover of any HiveAP even in the event of a wire failure
- AAA caching of credentials for remote office survivability
- Mesh failover in the event of wire or switch failure
- Dynamic mesh failover automatically changes access radio to backhaul radio in the event of a wire or switch failure
- Wireless virtual access console
- Track IP or Gateway automatically initiates failover or troubleshooting tools in the event of a failure

LOCATION AND ASSET TRACKING
- Partnership with AeroScout to act as a sensor in an Aeroscout deployment
- Partnership with Ekahau for location tracking
- Tracks laptops and asset tags

	HiveAP 20	**HiveAP 28**
Mounting	• Desk-top (stand) • Wall Mount • Ceiling Tile Clip	• Wall Mount • Pole Mount • Cable Mount
Physical Security	• Kensington security lock point • Tamper proof security screw (optional)	• Security bolts
Radios	*802.11a Radio Specifications* • 5.150– 5.950 GHz Operating Frequency • Orthogonal Frequency Division Multiplexing (OFDM) Modulation • 20 dBm (100 mW) Transmit Power • Rates (Mbps): 54, 48, 36, 24, 18, 12, 9, 6 with automatic fallback *802.11b Radio Specifications* • 2.4–2.5 GHz Operating Frequency • Direct-Sequence Spread-Spectrum (DSSS) Modulation • 20 dBm (100 mW) Transmit Power • Rates (Mbps): 11, 5.5, 2, 1 with automatic fallback *802.11g Radio Specifications* • 2.4–2.5 GHz Operating Frequency • Orthogonal Frequency Division Multiplexing (OFDM) Modulation • 20 dBm (100 mW) Transmit Power • Rates (Mbps): 54, 48, 36, 24, 18, 12, 9, 6 with automatic fallback	*802.11a Radio Specifications* • 5.150– 5.950 GHz Operating Frequency Orthogonal Frequency Division Multiplexing (OFDM) Modulation • 20 dBm (100 mW) Transmit Power • Rates (Mbps): 54, 48, 36, 24, 18, 12, 9, 6 with automatic fallback *802.11b Radio Specifications* • 2.4–2.5 GHz Operating Frequency • Direct-Sequence Spread-Spectrum (DSSS) Modulation • 20 dBm (100 mW) Transmit Power • Rates (Mbps): 11, 5.5, 2, 1 with automatic fallback *802.11g Radio Specifications* • 2.4–2.5 GHz Operating Frequency • Orthogonal Frequency Division Multiplexing (OFDM) Modulation • 20 dBm (100 mW) Transmit Power • Rates (Mbps): 54, 48, 36, 24, 18, 12, 9, 6 with automatic fallback
Antennas	• 2x Integrated dual band, 2.4-2.5 and 5.1-5.8GHz Omni-directional antennas, 2.0 dBi gain • 2x external RP-SMA connections for external antennas	• 4x N-Type antenna connections for external antennas
Interfaces	• 1x autosensing 10/100Base-T Power over Ethernet (PoE) capable (802.3af) Ethernet Port • 1x DB9 Serial port (bits per second:9600, data bits: 8, parity: none, stop bits: 1, flow control: none) • 1x Reset Pinhole	• 1x IP67 rated, autosensing 10/100Base-T Power over Ethernet (PoE) capable (802.3af) Ethernet Port

Dimensions (WxHxD)	• 8.25 in. W x 1 in. H x 4.9 in. D
	  (21 cm W x 2.5 cm H x 12.5 cm D)
		• 13.7 in. W x 8.3 in. H x 4.3 in. D
		  (35 cm W x 21 cm H x 11 cm D)

Weight	• 1.5 lbs (0.68 kg)	• 9.0 lbs (4.08 kg)
Environmental	• Operating: 0 to +50°C • Storage: -20 to +70°C • Humidity: 95%	• Operating: -40 to +60°C • Storage: -40 to +90°C • Humidity: 95%
Environmental Compliance	• UL 2403	• NEMA 4 • IP67
Power Options	• 802.3af Power over Ethernet (PoE) port • 48v DC external power adapter (sold separately)	• 802.3af Power over Ethernet (PoE) port • 17W internal power supply (cord sold separately)

Power Specifications	• AC/DC power adapter:
	  – Input:100 – 240 VAC
	  – Output: 48V/0.38A
	• PoE nominal input voltages: 48 V, 0.35A
	• RJ-45 power input pins: Wires 4, 5, 7, 8 or 1, 2, 3, 6
		• Internal Power Supply
		  – Input:100 – 240 VAC
		• PoE nominal input voltages: 48 V, 0.35A
		• RJ-45 power input pins: Wires 4, 5, 7, 8 or 1, 2, 3, 6

Warranty

Every Aerohive Networks, Inc. HiveAP is bundled with a limited lifetime hardware warranty and three months of software support. This can be augmented with the Aerohive support offering.

Paid Support

Aerohive's support offering provides what you would expect to keep your wireless network up and running. The standard support offering, purchased separately, includes next day advanced replacement, 24x7 or 8x5 technical support, web and email support access, and software updates. For complete support terms go to www.aerohive.com/support.

Technical Support

The Aerohive support contract provides unlimited access to the Aerohive support team by phone, pager, or online either 8x5 or 24x7 depending on the support contract.

Software Updates

The Aerohive support contract provides software upgrades and updates to HiveOS and HiveManager.

Next Business Day Advanced Replacement

If there is a hardware failure of a device covered by an Advanced Replacement support contract, a new unit will be sent overnight to all locations within the US and Canada assuming the issue is identified by 3:00 PM PST on Monday through Friday. Within the European Union, the issue must be identified by 3:00 PM CET. The replacement product will be received the next day unless the unit is shipped over the weekend in which case it will be delivered on Tuesday, Aerohive holidays excepted. The customer has 30 days to return the replaced unit in a prepaid box.

SKU	Description		
US HiveAPs			
AH-AP-020-AG-FCC	HiveAP 20 ag, Plenum Rated, one 802.11b/g radio, one 802.11a radio, one 10/100, mounting bracket, FCC regulatory domain, without power supply		
AH-AP-020-AG-FCC-P	HiveAP 20 ag, Plenum Rated, one 802.11b/g radio, one 802.11a radio, one 10/100, mounting bracket, FCC regulatory domain, with world power supply and US power cable		
AH-AP-028-AG-FCC	HiveAP 28 ag, Outdoor Rated, one 802.11b/g radio, one 802.11a radio, one 10/100, mounting bracket, FCC regulator domain, without power cord		
International HiveAPs			
AH-AP-020-AG-W	HiveAP 20 ag, two radios, mounting bracket, configurable regulatory domain, without power supply		
AH-AP-028-AG-W	HiveAP 28 ag, Outdoor Rated, two radios, mounting bracket, configurable regulatory domain, without power cord		
AP Accessories			
AH-ACC-Serial-DB9DB9	Serial Console Cable	AH-ACC-ANT-N-2G	2.4GHz N-Type outdoor antenna
AH-ACC-PWR-48V-US	Power Supply with US power cord	AH-ACC-PWR-CBL-WP-EU	Water Proof EU Power Cord
AH-ACC-PWR-48V-UK	Power Supply with UK power cord	AH-ACC-PWR-CBL-WP-UK	Water Proof UK Power Cord
AH-ACC-PWR-48V-EU	Power Supply with EU power cord	AH-ACC-PWR-CBL-WP-US	Water Proof US Power Cord
AH-ACC-PWR-CBL-US	US Power Cord	AH-ACC-ANT-N-Cap	Weather Proof N-Type Cap
AH-ACC-PWR-CBL-UK	UK Power Cord	AH-ACC-ANT-N-Tape	Weather Proof Tape
AH-ACC-PWR-CBL-EU	EU Power Cord	AH-ACC-P-MNT	Pole Mount Kit for HiveAP 28
AH-ACC-ANT-N-5G	5GHz N-Type outdoor antenna		