

HiveAP 300 Series

802.11n access points



*The HiveAP 300 series access points from Aerohive Networks are an innovative new class of 802.11n 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 Networks HiveAP 300 series, including the HiveAP 340 and HiveAP 320, is a family of high performing and highly reliable 802.11n access points (APs). The HiveAP 300 series APs provide high performance dual concurrent (2.4GHz and 5GHz) 802.11n (3x3) MIMO as well as dual 10/100/1000 Ethernet ports. Dual Ethernet ports allow the access points to use link aggregation to double performance or ensure reliability with redundant links. This allows the performance advantage of dual radio 802.11n to be seen even when connected through legacy 10/100 switches. When connected to two separate switches, the dual links can be used for redundant data connectivity in case one of the switches fails. The HiveAP 340 adds support for redundant power (PoE) as well.

For a simple and cost-effective solution for outdoor enterprise 802.11n deployments, Aerohive offers an outdoor accessory for the HiveAP 340. With internal thermal management, sunshield and NEMA4X water resistance rating, the outdoor enclosure is designed to enable the HiveAP 340 to be deployed in outdoor and harsh indoor environments. The outdoor enclosure features industry standard outdoor Type-N RF connectors and can be installed using flexible wall or pole mounting options.

Key Software Features & Benefits

SLA Compliance Monitoring and Response

The SLA compliance solution for the HiveAP 300 series brings determinism and visibility into the wireless network. It enables IT administrators to establish, monitor, and deliver throughput service levels for Wi-Fi clients. Different performance SLAs may be established for each class of Wi-Fi client, and the system automatically responds if they are not being met. The solution also dramatically simplifies client performance analysis, isolating problems before users complain and providing rich statistical information on each client and access point.

Wireless VPN

The wireless VPN functionality enables the HiveAP 300 series products to create VPN tunnels to provide secure wireless connectivity to branch offices and telecommuters. Aerohive's wireless VPN is a Layer 2 IPsec solution that is far easier to configure, deploy, and manage than competing solutions. The flexible solution maintains complete HiveAP functionality across the network.

Increased Network Capacity with Airtime Management

Aerohive's Dynamic Airtime Scheduling enables faster clients, like 802.11n laptops, to get equal access to the airtime rather than allowing legacy or slow clients to monopolize the airtime. In addition Dynamic Airtime Scheduling can also track retries and manage upstream traffic to protect the network from misbehaving clients or users. Overall, Dynamic Airtime Scheduling can increase network capacity by up to 10x just by keeping slow or legacy clients from dominating the airtime.

PRODUCT FEATURES

FLEXIBLE HARDWARE DESIGN

- Multiple radios provide concurrent 802.11a/n and 802.11b/g/n connections
 - Allow greater flexibility in deployments
 - Support legacy 802.11b/g and 802.11n at the same time with no degradation in performance
 - Allow automatic mesh backup or dedicated mesh backup based on customers needs
- Flexible environment support allows the ability to deploy a 300 series AP in a variety of environments
 - HiveAP 320 is a Plenum Rated AP designed for indoor, office environments.
 - HiveAP 340 is a Plenum Rated AP designed for all indoor environments.
 - The HiveAP 340 Outdoor Accessory is designed to enable the HiveAP 340 to be deployed in outdoor and harsh indoor environments.
- Supports 802.3af PoE, pre-standard 802.3 at high power PoE, or a standard power adapter

INNOVATIVE DESIGN

- Designed to blend well into an office environment
- Supports flexible deployments in a variety of environments
- Low distraction indicators appear as gently glowing colors rather than bright blinking lights, keeping employees from being distracted while clearly providing status to IT personnel

REDUNDANT DATA

- Dual Ethernet support allows for redundant data
- Dual Ethernet connections also enable link aggregation for legacy 10/100 switches
- Intelligently utilizes whatever power is available at the time and adjusts as these needs change
- Allows customers to use the benefits of 802.11n performance with the use of legacy 10/100 switches

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
- IPsec hardware acceleration supported
- Profile-based split tunneling with NAT support
- Supported across mesh
- RADIUS, DHCP, NTLM, LDAP and NTP can selectively go to local or remote network

SLA COMPLIANCE

- Performance Sentinel – Monitor and automatically trigger actions to resolve limited throughput in the wireless network
- Airtime Boost – Automatically trigger a greater airtime allocation based upon failure of a client to hit a threshold.

SECURITY

- Trusted Platform Module (TPM) – Hardware-based key storage and encryption
- Wireless privacy and authentication 802.11i, WPA, WPA2, WEP, 802.1X, PSK, Wi-Fi Alliance Certified
- Granular user profile-based management defines VLANs, QoS, mobility policies, and

security policies for each user that enters the network

- Encryption: AES, TKIP or RC4 (WEP only)
- Time-of-day and day-of-week access control and SSID enablement
- Up to 8 SSIDs per radio 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

- Built-in customizable captive web portal on HiveAPs for guest access
- External Captive Web Portal Support and Walled Garden allows for easy integration with 3rd party Captive Web Portal solutions
- 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
- QoS assignment per VLAN, user profile, service, and MAC address
- Protocol decoding 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
- Tamper-proof security screw

COOPERATIVE RF MANAGEMENT

- Cooperative channel selection, with DFS2 support
- Station (client) load balancing

- Cooperative transmit power level control

WIRELESS IDS & IDP

- Built-in in-network rogue AP detection
- Integration with AirTight IDS & IDP solution
- Rogue AP mitigation
- Rogue client detection including ad hoc 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

MANAGEMENT

- Central management
 - Management via HiveManager NMS
 - Management via HiveManager Online NMS
 - Management via HiveUI; Manage up to 12 APs from a single HiveAP
- Device Configuration
 - CLI via Telnet, SSHv2, or console
- Virtual Console automatically sets up an SSID with CLI access allows configuration of new APs without the need for serial or ethernet cables
- 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
- Dual Ethernet ports for dual-homed data load connectivity. The HiveAP 340 add support for redundant power (PoE) as well.
- 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

- Built-in client location tracking with topology and heat maps
- Partnership with AeroScout to act as a sensor
- Partnership with Ekahau for location and asset tracking
- Tracks laptops and asset tags

PRODUCT SPECIFICATIONS

HiveAP 320

HiveAP 340

HiveAP 340 Outdoor Accessory

Mounting	<ul style="list-style-type: none"> • Desktop • Wall Mount • Ceiling Tile Clips 	<ul style="list-style-type: none"> • Wall Mount • Ceiling Tile Clips • Suspended Mount • Plenum Mount 	<ul style="list-style-type: none"> • Wall Mount • Pole Mount 1" to 3.5" diameter
Physical Security	<ul style="list-style-type: none"> • Kensington security lock point • Tamper proof security screw 	<ul style="list-style-type: none"> • Kensington security lock point • Padlock lock point 	<ul style="list-style-type: none"> • Padlockable latch
Radios	<p><i>802.11a Radio Specifications</i></p> <ul style="list-style-type: none"> • 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 <p><i>802.11b Radio Specifications</i></p> <ul style="list-style-type: none"> • 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 <p><i>802.11g Radio Specifications</i></p> <ul style="list-style-type: none"> • 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 <p><i>802.11n Radio Specifications</i></p> <ul style="list-style-type: none"> • 2.4–2.5 GHz and 5.150 GHz – 5.950 GHz Operating Frequency • 802.11n Modulation • 20 dBm (100 mW) Transmit Power • Rates (Mbps): MSC0 - MSC15 (6.5Mbps - 300Mbps) • 2x3, 3x3 Multiple-In, Multiple-Out (MIMO) Radio • HT20 and HT40 High-Throughput (HT) Support • A-MPDU, A-MSDU Packet Aggregation 	<p><i>802.11a Radio Specifications</i></p> <ul style="list-style-type: none"> • 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 <p><i>802.11b Radio Specifications</i></p> <ul style="list-style-type: none"> • 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 <p><i>802.11g Radio Specifications</i></p> <ul style="list-style-type: none"> • 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 <p><i>802.11n Radio Specifications</i></p> <ul style="list-style-type: none"> • 2.4–2.5 GHz and 5.150 GHz – 5.950 GHz Operating Frequency • 802.11n Modulation • 20 dBm (100 mW) Transmit Power • Rates (Mbps): MSC0 - MSC15 (6.5Mbps - 300Mbps) • 2x3, 3x3 Multiple-In, Multiple-Out (MIMO) Radio • HT20 and HT40 High-Throughput (HT) Support • A-MPDU, A-MSDU Packet Aggregation 	<p><i>802.11a Radio Specifications</i></p> <ul style="list-style-type: none"> • 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 <p><i>802.11b Radio Specifications</i></p> <ul style="list-style-type: none"> • 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 <p><i>802.11g Radio Specifications</i></p> <ul style="list-style-type: none"> • 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 <p><i>802.11n Radio Specifications</i></p> <ul style="list-style-type: none"> • 2.4–2.5 GHz and 5.150 GHz – 5.950 GHz Operating Frequency • 802.11n Modulation • 20 dBm (100 mW) Transmit Power • Rates (Mbps): MSC0 - MSC15 (6.5Mbps - 300Mbps) • 2x3, 3x3 Multiple-In, Multiple-Out (MIMO) Radio • HT20 and HT40 High-Throughput (HT) Support • A-MPDU, A-MSDU Packet Aggregation
Antennas	<ul style="list-style-type: none"> • 3x Integrated single band, 2.4-2.5 GHz Omni-directional antennas, 2.0 dBi gain • 3x Integrated single band, 5.1-5.8 GHz Omni-directional antennas, 2.0 dBi gain 	<ul style="list-style-type: none"> • 6x RP-SMA antenna connections for external antennas 	<ul style="list-style-type: none"> • 2x N-Type female for external antennas • 3dBi outdoor antennas available
Interfaces	<ul style="list-style-type: none"> • 2x autosensing 10/100/1000 Base-T Ethernet Ports • Power over Ethernet (PoE) capable (802.3af & pre-802.3at) Ethernet Port • Link Aggregation supported via Etherchannel (link aggregation at 10/100 only) • 1x Serial RJ45 port (bits per second:9600, data bits: 8, parity: none, stop bits: 1, flow control: none) • 1x Reset Pinhole 	<ul style="list-style-type: none"> • 2x autosensing 10/100/1000 Base-T Ethernet Ports • 2x Power over Ethernet (PoE) capable (802.3af & pre-802.3at) Ethernet Ports • Link Aggregation supported via Etherchannel (link aggregation at 10/100 only) • 1x Serial RJ45 port (bits per second:9600, data bits: 8, parity: none, stop bits: 1, flow control: none) • 1x Reset Pinhole 	<ul style="list-style-type: none"> • Autosensing 10/100 Base-T Power over Ethernet Port with Lightning Protection (required)
Dimensions (WxHxD)	<ul style="list-style-type: none"> • 7.875 in. W x 1.5 in. H x 7.875 in. D (20 cm W x 3.8 cm H x 20 cm D) 	<ul style="list-style-type: none"> • 8.5 in. W x 1.25 in. H x 8 in. D (21.5 cm W x 3.2 cm H x 20.3 cm D) 	<ul style="list-style-type: none"> • 14.25 in. W x 11.5 in H x 5.875 in D (without antennas) • 14.25 in W x 11.5 in H x 8.25 in D (with brackets)
Weight	<ul style="list-style-type: none"> • 2 lbs (0.68 kg) 	<ul style="list-style-type: none"> • 3 lbs (1.36 kg) 	<ul style="list-style-type: none"> • 12 lbs (includes mounting brackets) • 15 lbs (with HiveAP 340)
Environmental	<ul style="list-style-type: none"> • Operating: 0 to +40°C • Storage: -20 to +70°C • Humidity: 95% 	<ul style="list-style-type: none"> • Operating: -20 to +55°C • Storage: -40 to +80°C • Humidity: 95% 	<ul style="list-style-type: none"> • Operating: -25 to +60°C • Storage: -40 to +80°C • Humidity: 100% • Wind Survivability: >165 mph
Environmental Compliance	<ul style="list-style-type: none"> • UL 2043 	<ul style="list-style-type: none"> • UL 2043 	<ul style="list-style-type: none"> • NEMA 4X,6P
Power Options	<ul style="list-style-type: none"> • 802.3af and/or pre-802.3at Power over Ethernet (PoE) ports with SmartPoE intelligent power management • 48v DC external power adapter (sold separately) 	<ul style="list-style-type: none"> • Dual 802.3af and/or pre-802.3at Power over Ethernet (PoE) ports with SmartPoE intelligent power management. • 48v DC external power adapter (sold separately) 	<ul style="list-style-type: none"> • Passive power over Ethernet
Power Specifications	<ul style="list-style-type: none"> • AC/DC power adapter: <ul style="list-style-type: none"> – Input: 100 – 240 VAC – Output: 48V/0.625A • PoE nominal input voltages: 48 V, 0.35A (802.3af) - 48 V, 0.625A (Pre-802.3at) • RJ-45 power input pins: Wires 4, 5, 7, 8 or 1, 2, 3, 6 	<ul style="list-style-type: none"> • AC/DC power adapter: <ul style="list-style-type: none"> – Input: 100 – 240 VAC – Output: 48V/0.625A • PoE nominal input voltages: 48 V, 0.35A (802.3af) - 48 V, 0.625A (Pre-802.3at) • RJ-45 power input pins: Wires 4, 5, 7, 8 or 1, 2, 3, 6 	<ul style="list-style-type: none"> • 48Vdc @ 0.35A nominal • 48Vdc @ 0.40A maximum

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 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 24x7x365.

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 a 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-320-N-FCC	HiveAP 320, Plenum Rated, one 802.11b/g/n radio, one 802.11a/n radio, two 10/100/1000, mounting bracket, FCC regulatory domain, without power supply		
AH-AP-340-N-FCC	HiveAP 340, Plenum Rated, one 802.11b/g/n radio, one 802.11a/n radio, two 10/100/1000, mounting bracket, FCC regulatory domain, without power supply		
International HiveAPs			
AH-AP-320-N-W	HiveAP 320, Plenum Rated, one 802.11b/g/n radio, one 802.11a/n radio, two 10/100/1000, mounting bracket, configurable regulatory domain, without power supply		
AH-AP-340-N-W	HiveAP 340, Plenum Rated, one 802.11b/g/n radio, one 802.11a/n radio, two 10/100/1000, mounting bracket, configurable regulatory domain, without power supply		
AP Accessories			
AH-ACC-Serial-DB9	Serial Console Cable	AH-ACC-PWR-CBL-WP-EU	Waterproof EU Power Cord
AH-ACC-Serial-RJ45	RJ45 to DB9 Serial Console Cable	AH-ACC-PWR-CBL-WP-UK	Waterproof UK Power Cord
AH-ACC-PWR-30W-US	30W Power Supply with US power cord	AH-ACC-PWR-CBL-WP-US	Waterproof US Power Cord
AH-ACC-PWR-30W-UK	30W Power Supply with UK power cord	AH-ACC-P-MNT	Pole Mount Kit
AH-ACC-PWR-30W-EU	30W Power Supply with EU power cord	AH-ACC-340-ANT-KIT	HiveAP 340 Indoor Antenna Kit (set of 6)
AH-ACC-INJ-30W-US	30W Indoor Rated PoE Power Injector with US power cord	AH-ACC-ANT-N-Cap	Weatherproof N-Type Cap
		AH-ACC-ANT-N-Tape	Fusion Weatherproof Tape
AH-ACC-INJ-30W-UK	30W Indoor Rated PoE Power Injector with UK power cord	AH-ACC-ANT-N-2G5G	2.4/5Ghz 3dBi Antennas (set of 4)
		AH-ACC-ETH-PROT	Ethernet Lightning Protector for Building Entrance
AH-ACC-INJ-30W-EU	30W Indoor Rated PoE Power Injector with EU power cord	AH-ACC-ODK	Outdoor Enclosure Kit for HiveAP 340
AH-ACC-PWR-CBL-US	US Power Cord	AH-ACC-ODK-ANT-PWR-W	Outdoor Enclosure Kit for HiveAP 340, including antennas, power supply and Ethernet lightning protector
AH-ACC-PWR-CBL-UK	UK Power Cord		
AH-ACC-PWR-CBL-EU	EU Power Cord		
		AH-ACC-ODK-CBL-GLD	Replacement Weatherproof Cable Gland for Outdoor Enclosure Kit