

Airborne Industrial Wireless Access Point 802.11b/g Wireless AP and Serial Device Server

APXG-Q5420



The Airborne™ line of industrial wireless device servers, access points, and Ethernet bridges and adapters are built for networking equipment in an array of machine-to-machine (M2M) applications.

Quatech's AirborneAP™ Access Point technology enables M2M equipment to become the center of a self sufficient WiFi network, allowing easy access to equipment data or resources from WiFi-enabled devices, including laptops, tablets and handhelds powered by Android, iOS, or Windows. AirborneAP™

Access Point technology includes secure authentication using WPA2 (AES-CCMP) and a fully functional DHCP server to provide unique addresses for each authenticated client. The Airborne Access Point supports up to 8 clients on a local network.

The ruggedized Airborne™ Access Point, model APXG-Q5420, includes a 10/100 Ethernet port and up to two serial ports. The Airborne™ adapters have the most flexible port configuration options of any device in the market. The Ethernet port supports both bridged and router modes. The serial interfaces provide compatibility with RS232/422/485 devices and allow simultaneous use of all the ports in any serial data configuration. The external AirborneAP™ Access Point also includes a wide range power supply input (5-36 VDC) with terminal block and barrel jack connections packaged in a rugged metal enclosure designed to meet extended operating temperature range (-40°C to +85°C).

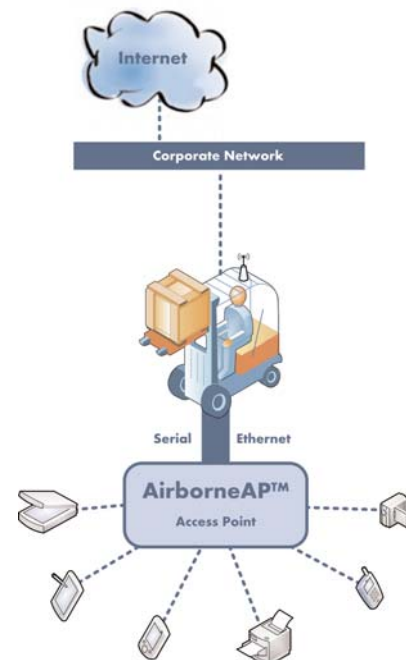
Maximum Protection and Performance

Quatech's ruggedized, industrial serial device servers, access points and Ethernet bridges and adapters are built tough—tough enough to come with a standard 5 year warranty.



The Airborne product line is rated to meet full industrial operating temperature range of -20°C to +85°C. The industrial series also incorporates a variable power supply (5-36 VDC) with screw terminal connectors for easy installation.

Quatech's highly-optimized 32 bit platform delivers superior transmit power and receive sensitivity, leading to greater



KEY FEATURES

- Infrastructure Access Point/Wireless Router/Client
- Supports up to 8 clients
- Extended operating temperature range (-20°C to +85°C)
- Plug-n-Play Serial to 802.11 Connectivity and Ethernet to 802.11 Connectivity
- Enterprise Class wireless security (WPA2-Enterprise, WPA, WEP, EAP) *EAP in client mode only
- Airborne Management Center included for Quatech device discovery, control and management
- Variable DC power supply (5-36 VDC) with screw terminal connectors
- 2 kV serial ESD Surge Suppression
- Airborne SpeedLink roaming for enhanced connection reliability
- Onboard certificate delivery and storage
- Airborne PortFlex capability enables any combination of comm ports (Serial, Ethernet and 802.11 interfaces)
- CE and FCC Part 15 Class B Sub C Approval
- 5 year warranty

range and the highest available throughput rates over both the serial and 10/100 Ethernet interfaces.

Airborne Industrial wireless serial device servers, access points and Ethernet bridges and adapters come standard with integrated 3 dBi omni antennas. Users may also extend the range of the Airborne line by selecting a higher-gain antenna and magnetic mount options (contact Quatech for an approved list).

All Airborne Wireless Device Servers are built to meet worldwide regulatory requirements. Certifications include FCC, IOC, CE, ETSI, RoHS and WEEE.

Five Layer Security



Protecting enterprise networks is one of the most important challenges undertaken by today's network administrators. Airborne security keeps your data private by using the latest wireless security protocols (WPA2-Enterprise) and SSH tunneling. It protects the network by encrypting configurations and providing an embedded firewall. Today there is no more secure solution for Enterprise class device servers.

Quatech supports the broadest range of EAP processes (including EAP-TLS, EAP-TTLS, PEAP and LEAP). In addition, the Airborne line supports the most flexible certificate delivery and management available in the wireless device market. EAP security protocols are supported on the AirborneAP™ Access Point in client mode only.



SpeedLink™ Roaming

The latest Airborne SpeedLink™ roaming feature further enhances the high level of connection reliability. SpeedLink™ enables mobile devices to roam quickly and freely throughout a wireless network without losing important data. If you're walking around a hospital or driving through a warehouse SpeedLink™ ensures you stay connected.



Flexible for a Broad Range of Applications

Airborne's unique PortFlex™ capability enables users to configure the communication ports independently, in any combination, through a simple setup wizard. Airborne PortFlex™ supports UART, Ethernet and 802.11 interfaces.

Markets

Quatech has delivered high-performance device networking and connectivity solutions around the world since 1983.

Today, Airborne wireless device servers, access points, and Ethernet bridges and adapters operate in a wide-range of M2M applications, including:

- Industrial Automation
- Medical Devices
- Retail/Point of Sale
- Vehicle Telematics
- Military Communications
- Material Handling & Logistics
- Energy Management
- Test & Measurement
- Security & Access Control

Model Selection Guide

Model No.	Interface			WiFi		Security					
	RS-232	RS-422/485	Ports	10/100 Ethernet	802.11b/g	Access Point	WEP (64 & 128 bit)	WPA	WPA2	LEAP	EAP
APXG-Q5420	•	•	2	•	•	•	•	•	•	•	•

Accessories	
PS-SDS	Optional 120VAC/DC power supply, providing 5VDC @ 3w (max)/2.1 mm barrel
ACH2-AT-DP002	2 dBi portable (Rubber duck) antenna (RP-SMA)
ACH2-AT-DP003	5 dBi portable (Rubber duck) antenna (RP-SMA)
ACH2-AT-DP011	5 dBi magnetic mount vehicle antenna, indoor/outdoor



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Airborne Management Center

Managing your Airborne™ products is now simpler, whether you have one or one thousand.

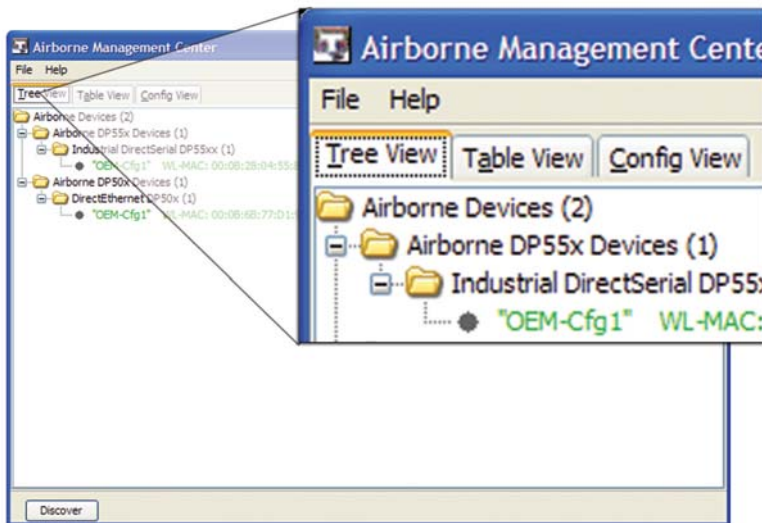
KEY FEATURES

The Quatech Airborne Management Center (AMC) is a device discovery, control and management application that supports individual and group management of all aspects of the devices:

- Firmware updating
- Configuration management
- Access management (passwords)
- Virtual COM port installation

AMC allows a single or group of devices to have their firmware updated in the background.

- Directly launch web browser for devices from AMC
- Supports cloning device configurations across groups of units
- Records configuration changes for automatic update logging
- Remembers all discovered devices and maintains a database of their configuration
- Allows unauthorized devices to be marked as rogue
- Automatically informs user of new and unmanaged devices
- Manages all DP100, DP500 and DP550 devices
- Predefined device configuration templates available
- JAVA application included that will run on Windows, Linux and MacOS platforms



The Quatech Airborne Management Center (AMC) brings Enterprise class device discovery, management and control to the world of M2M wireless devices. This advanced device management application enables single-click maintenance of your entire population of deployed products.

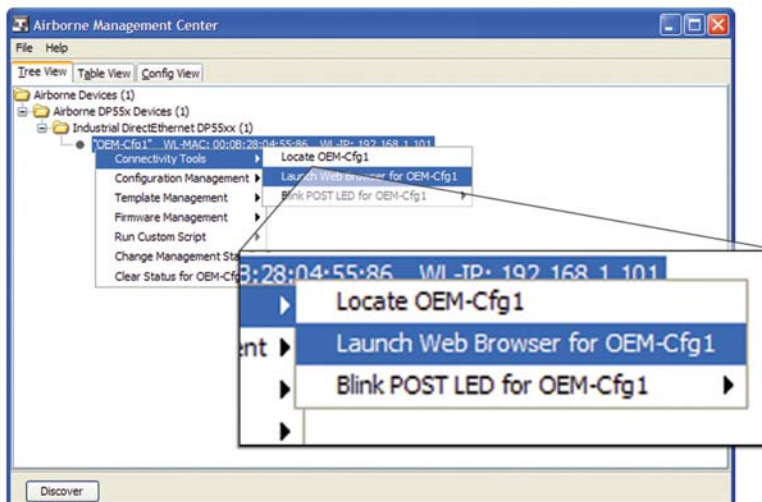
From either the directory or table based views, you can:

- Update firmware and configurations
- Deliver certificates and private keys
- Access and monitor groups of devices

AMC Command Set

With just a single click, AMC provides access to a range of commands and functions:

- Locate modules
- Launch web browser
- Blink POST LED
- Refresh, display and edit configs
- Install VCOM Driver
- Set preconfigured passwords
- Add and manage templates
- Update module firmware and Uboot
- Restart module
- Manage or unmanage
- Remove modules
- Set modules to rogue



VCom port drivers can be installed with one click, enabling the use of legacy software to communicate with networked devices seamlessly through Comm Port Addresses (i.e., com1, com2) in the system's device manager. Quatech's VCom driver takes care of routing virtual comm ports to the network devices.

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Specifications

Access Point

Infrastructure Access Point/Wireless Router/Client
Supports up to 8 clients

Wireless Technology

IEEE 802.11b/g, WiFi compliant

Wired Interface

RS-232
RS-422
RS-485
MEI (2 wire)
10/100 Ethernet (auto sense):
- Infrastructure Bridge Mode
- NAT3 Router Mode
Software selectable

Frequency

2.4 ~ 2.4835 GHz (US/Canada/Europe)
2.4 ~ 2.497 GHz (Japan)

Modulation Technology

DSSS, CCK, OFDM

Modulation Type

DBPSK, DQPSK, CCK, BPSK, QPSK,
16QAM, 64QAM

Network Access Modes

- Access Point
- Infrastructure
- Ad Hoc

Channels

USA/Canada: 11 channels
Europe: 13 channels
France: 4 channels
Japan: 14 channels
13 channels - 11g

Wireless Data Rate

802.11b = 11, 5.5, 2, 1 Mbps
802.11g = 54, 48, 36, 24, 18, 12, 9, 6 Mbps

Network Protocols

TCP/IP, ARP, ICMP, DHCP, DNS, UDAP,
TFTP, UDP, PING, HTTP, FTP

Receive Sensitivity

54 Mb/s = -69dBm
6 Mb/s = -86dBm
1 Mb/s = -86dBm

Wireless Security

Open
WEP 64 & 128 bit
WPA-PSK (TKIP)
WPA2-PSK (AES)
802.1x (EAP)
WPA-Enterprise
WPA2-Enterprise
EAP-TLS/MSCHAPV2
EAP-TTLS/MSCHAPv2
EAP-TTLS(MD5)
EAP-PEAPv0/MSCHAPv2
LEAP
- Zero host security footprint
- Advanced certificate storage & management
(*Enterprise and EAP in client mode only)

Secure Communications

- SSH and SSL tunneling
- Encrypted configuration

Antenna

RP-SMA antenna connector
Integrated omni-directional 3dBi antenna

Supply

5-36 VDC+/-5%, 500mA (MAX)

Power Consumption

2.5W @ 5VDC

Supply In-rush Current

3000mA (MAX) for 20ms

Power Connector

2-position terminal block
2.1mm barrel jack

DC Characteristics

Operating current = 190mA @ 5VDC (Typ.)
PS-Poll mode = 140mA @ 5VDC (Typ.)

Connectors

2 x DE-9 (DB-9)
1 x RJ-45 socket
1 x RP-SMA

Enclosure

Ruggedized metal (Black)
DIN rail mounting adapter

Dimensions

120.14 mm x 120.12 mm x 29.21 mm
(4.89" x 4.73" x 1.15")

Regulatory Approvals

FCC Part 15.247, Class B Sub C Modular Approval
Industry Canada RSS-210
CE
ETSI EN300-328 v1.7.1
ETSI 60950-1
Directive 2004/108/EC
ETSI EN 55022:2006 + A1:2007 (emissions)
ETSI EN 55024:1998 + A1:2001
ETSI EN 55024:1998 + A2:2003 (immunity)
FCC Part 15 Subpart B:2007
- Part 15.107(b) (conducted emissions, Class A)
- Part 15.109(g) (radiated emissions, Class B)
Industry Canada ICES-003:2004, Issue 4
AS/NZS CISPR 11:2004 (Australia/New Zealand)
RoHS and WEEE Compliant

Environmental

Operating temperature: -20°C to +85°C
Storage temperature: -55°C to +150°C
Relative humidity: 5% to 95% (non-condensing)

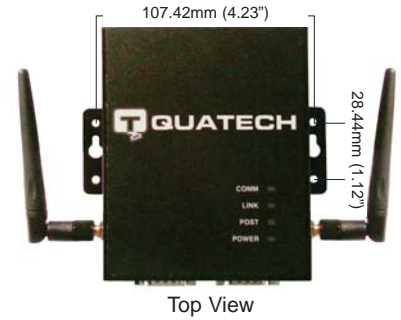
LED Indicators

4 Indicator LEDs (POWER, POST, LINK, COMM)
Site survey mode

Airborne Management Center

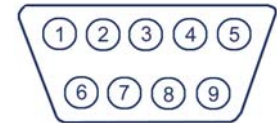
- Fully supported
- Device identification
- Enhanced discovery
- Configuration management
- Firmware update
- VCOM install

Mechanical Outline



Serial Connectors

DB-9 Male, External View



Signal Information

DB-9 Pin #	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	NC	RxD+	RxD+	NC
2	RxD	RxD-	RxD-	-Tx/-Rx
3	TxD	TxD+	TxD+	+Tx/+Rx
4	NC	TxD-	TxD-	NC
5	GND	GND	GND	GND
6	NC	RTS-	NC	NC
7	RTS	RTS+	NC	NC
8	CTS	CTS+	NC	NC
9	NC	CTS-	NC	NC