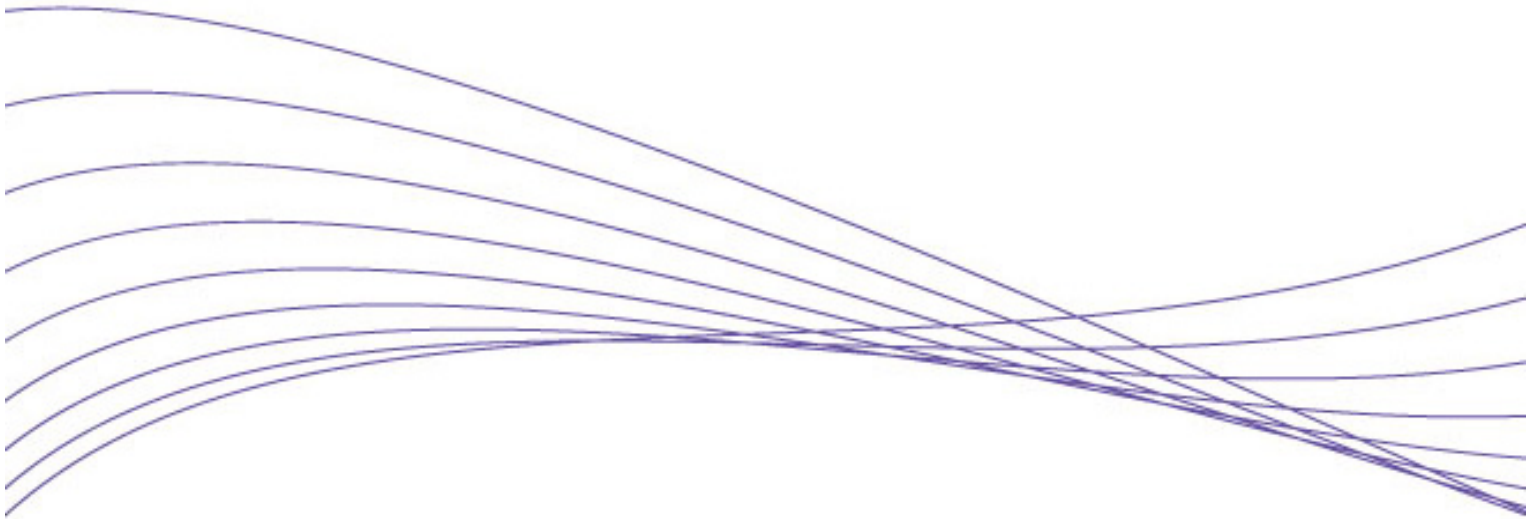


ProCurve Radio Port 220

The ProCurve Radio Port 220, with simultaneous IEEE 802.11a and IEEE 802.11g wireless operation, works in conjunction with ProCurve Wireless Edge Services xl and zl Modules to deliver advanced wireless services. These services enable a highly secure and resilient wireless LAN that dynamically adapts to the demands of a mobile, multi-service network. With per-radio external diversity antenna support, the ProCurve Radio Port 220 is ideal for wireless LAN installations where expanded wireless coverage or physical device placement requires the use of external antennas.



ProCurve Radio Port 220
(J9005A)



ProCurve Radio Port 220

Features and benefits

Mobility

- **Layer 3 radio port adoption:** Network-wide adoption and auto configuration of ProCurve radio ports enable rapid deployment of a wireless LAN with minimal network reconfiguration. ProCurve radio ports traverse layer 3 networks to locate the designated ProCurve Wireless Edge Services Module using information returned in a DHCP offer or as part of a DNS request. Once adopted by the wireless module, each radio port receives all configuration parameters, including security and BSSID information, to enable wireless operation.
- **Layer 2 radio port adoption:** Simply connect each ProCurve radio port to a Power over Ethernet-enabled network port, and the device will be automatically discovered and configured by the ProCurve Wireless Edge Services Module.

Connectivity

- **Simultaneous IEEE 802.11a and IEEE 802.11g radio operation:** supports dual-band wireless clients and provides backward compatibility for IEEE 802.11b wireless devices
- **Per-radio external diversity antenna support:** specifically designed for installations where expanded wireless coverage or physical device placement requires the use of external antennas
- **IEEE 802.11h International Telecommunication Union (ITU) compliant:** Dynamic Frequency Selection (DFS) and Transmit Power Control (TPC) are employed to automatically select another channel and adjust transmit power to minimize interference with systems such as radar, if detected on the same channel.
- **International country configuration:** Centrally configured on the ProCurve Wireless Edge Services xl and zl Modules, all ProCurve radio ports automatically adjust to match selected country regulatory requirements.
- **Auto Channel Select (ACS):** helps minimize

radio co-channel interference by automatically selecting an unoccupied radio channel

- **Adjustable output power:** controls cell size for high-density access point deployments

Resiliency and high availability

- **Network self-healing:** In the event of a radio port failure, adjacent ProCurve radio ports adjust transmit power and data rates to maintain wireless LAN coverage.
- **RF detection and interference avoidance:** ProCurve radio ports automatically recalibrate channel assignments to avoid environmental or other IEEE 802.11-based wireless interference.

Security

- **Choice of IEEE 802.11i, Wi-Fi Protected Access 2 (WPA2), or WPA:** locks out unauthorized wireless access by authenticating users prior to granting network access; robust Advanced Encryption Standard (AES) or Temporal Key Integrity Protocol (TKIP) encryption secures the data integrity of the wireless traffic
- **IEEE 802.1X client:** enables secure authentication of ProCurve radio ports on network ports protected by 802.1X port-based authentication
- **IEEE 802.1X:** provides port-based user authentication with support for Extensible Authentication Protocol (EAP), TLS, TTLS, PEAP, and SIM, with choice of AES, TKIP, and static or dynamic WEP encryption for protecting wireless traffic between authenticated clients and the access point
- **Web authentication:** provides authentication for browser-based wireless clients. Built-in login, welcome, and failure Web pages assist users through the login process.
- **RADIUS-based MAC authentication:** a wireless client is authenticated with a RADIUS server based on the MAC address of the client; this is useful for clients that have minimal or no user

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interface

- **MAC address lockout:** prevents configured particular MAC addresses from connecting to the network
- **4 BSSIDs/16 SSIDs per radio:** Multiple wireless broadcast domains with separate security, authentication, and policy configuration per SSID provide access control of network resources based on user authentication and level of trusted security between the wireless user and the network.
- **Neighbor access point (rogue AP) detection:** Each ProCurve radio port simultaneously scans for the presence of other access points while servicing wireless clients. Radio ports can be configured as dedicated RF monitors for continuous monitoring of the RF environment.
- **Inter-station traffic blocking:** prevents communication between client devices associated on the same radio port
- **Closed system:** restricts broadcast of SSID as a security measure to conceal presence of the wireless network

Quality of Service (QoS)

- **Wi-Fi WMM support:** provides QoS functionality in wireless networks by prioritizing wireless traffic from different applications
- **SpectraLink voice priority (SVP) support:** prioritizes SpectraLink voice IP packets sent from a SpectraLink NetLink SVP server to SpectraLink wireless voice handsets to help ensure excellent voice quality
- **Unscheduled Automatic Power Save Delivery (uAPSD):** extends the battery life for Wi-Fi devices such as VoWLAN handsets

Industry-leading warranty

- **Lifetime warranty :** for as long as you own the product, with next-business-day advance replacement (available in most countries)

Services

- 3-year, 4-hour onsite, 13x5 coverage for hardware (UD542E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware (UD543E)
- 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (UD544E)
- 3-year, 24x7 SW phone support, software updates (UF794E)

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Specifications

Ports

1 auto-sensing 10/100 port (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX); Media Type: Auto-MDIX; Duplex: half or full

Physical characteristics

Dimensions 5.75(d) x 9.25(w) x 1.0(h) in. (14.61 x 23.5 x 2.54 cm)
Weight 1.3 lb. (0.59 kg)

Mounting

Ceiling mount (above ceiling tile) or wall mount

Environment

Operating temperature -4°F to 122°F (-20°C to 50°C)
Operating relative humidity 5% to 95%, non-condensing
Non-operating/Storage temperature -40°F to 158°F (-40°C to 70°C)
Non-operating/Storage relative humidity 5% to 95%, non-condensing
Altitude up to 10000 ft. (3 km)

Electrical characteristics

Description Voltage: 48 VDC (PoE)
Maximum heat dissipation 24 BTU/hr (25 kJ/hr)
Current 0.148 A
Power consumption 7 W

Frequency band and Operating channels

United States 2.412 - 2.462 GHz (11 channels)
5.150 - 5.250 GHz (4 channels)
5.725 - 5.825 GHz (4 channels)
European Union 2.412 - 2.472 GHz (13 channels)
5.150 - 5.250 GHz (4 channels)
Japan 2.412 - 2.484 GHz (14 channels)
5.150 - 5.350 GHz (8 channels)
China 2.412 - 2.472 GHz (13 channels)
5.725 - 5.825 GHz (4 channels)
Singapore 2.412 - 2.472 GHz (13 channels)
5.150 - 5.350 GHz (8 channels)
5.725 - 5.825 GHz (4 channels)
Taiwan 2.412 - 2.462 GHz (11 channels)
5.250 - 5.350 GHz (4 channels)
5.725 - 5.825 GHz (4 channels)
Canada 2.412 - 2.462 GHz (11 channels)
5.150 - 5.350 GHz (8 channels)
5.725 - 5.825 GHz (4 channels)

Radio

FCC Part 15.247; FCC Part 15.407 (US); RSS-210 (Canada); EN 300 328; EN 301 893 (Europe); ARIB STD-T66; ARIB STD-T71; ARIB STD-33

Safety

UL 2043; UL 60950-1; CAN/CSA 22.2 No. 60950-1; IEC 60950-1; EN 60950-1

Emissions

EN 60601-1-2; EN 301 489-1; EN 301 489-17; FCC Part 15.107; FCC Part 15.109; ICES-003 (Canada)

RF Exposure

FCC Bulletin OET-65C; IEEE C95.1; RSS-102

ProCurve Radio Port 220

ProCurve Radio Port 220 (J9005A)

Radio characteristics: IEEE 802.11b

Maximum transmit power: 17.5 dBm (EIRP)

Data rate	11 Mbps	5.5 Mbps	2 Mbps	1 Mbps
Receiver sensitivity	-84 dBm	-87 dBm	-88 dBm	-90 dBm
Transmit power	17.5 dBm	17.5 dBm	17.5 dBm	17.5 dBm

IEEE 802.11g

Data rate	54 Mbps	48 Mbps	36 Mbps	24 Mbps	18 Mbps	12 Mbps	9 Mbps	6 Mbps
Receiver sensitivity	-68 dBm	-70 dBm	-75 dBm	-79 dBm	-81 dBm	-85 dBm	-87 dBm	-88 dBm
Transmit power	12.5 dBm	12.5 dBm	14 dBm	14 dBm	16.5 dBm	16.5 dBm	17 dBm	17 dBm

IEEE 802.11a

Data rate	54 Mbps	48 Mbps	36 Mbps	24 Mbps	18 Mbps	12 Mbps	9 Mbps	6 Mbps
Receiver sensitivity	-68 dBm	-70 dBm	-75 dBm	-79 dBm	-81 dBm	-85 dBm	-87 dBm	-88 dBm
Transmit power	12 dBm	12 dBm	14 dBm	14 dBm	16 dBm	16 dBm	17.5 dBm	17.5 dBm

ProCurve Radio Port 220

Accessories

ProCurve Antenna Lightning Arrester (J8996A)

helps protect access points from damage upon lightning strike to an outdoor access point antenna

Electrical characteristics

VSWR max: 1.4:1

Physical characteristics

Dimensions: 2.4(d) x 0.9(w) x 1.2(h) in.
(6.1 x 2.29 x 3.05 cm)

Notes

Input RF power, 100 MHz/6000 MHz: 250 W/10 W

50 Meg Ohm insulation resistance

Maximum insertion loss of 0.4 dB

ProCurve 14 dBi Yagi Antenna (J8448B)

14 dBi Yagi Antenna enables extended 2.4 GHz point-to-point wireless LAN links between ProCurve access points

Electrical characteristics

Frequency range 1: 2400 - 2500

Gain 1 dBi (with antenna cable): 13.8

VSWR max: 1.7:1

E-Plane (3 dB beamwidth): 30 degrees

H-Plane (3 dB beamwidth): 34 degrees

Impedance (Ohms): 50

RF connector: N-Type (female)

Cable length: 1.7 ft. (0.52 m)

Physical characteristics

Dimensions: 26.5(d) x 3.75(w) x 1.5(h) in.
(67.31 x 9.53 x 3.81 cm)

Wind surface area: 0.70 sq. ft. (0.07 sq.

m)

Wind survival: 100 mph (160.9 km/hr)

Weight: 1.25 lb. (0.57 kg)

Mounting style: Wall or mast mount

Enclosure: Polycarbonate

Front-to-back ratio (dB): 18

Environment

Operating temperature: -22°F to 131°F
(-30°C to 55°C)

Non-operating/Storage temperature:
-40°F to 149°F (-40°C to 65°C)

External Antenna

ProCurve 3 dBi Dual Band Diversity Antenna (J8997A)

3 dBi multi-band diversity ceiling-mount antenna

Electrical characteristics

Frequency range 1: 2400 - 2500

Gain 1 dBi (with antenna cable): 3

Frequency range 2: 4900 - 5990

Gain 2 dBi (with antenna cable): 4

VSWR max: 2.0:1

E-Plane (3 dB beamwidth): 60 degrees

E-plane radiation plots:

J8997A_2-45Ghz-E-plane.jpg

H-Plane (3 dB beamwidth):

Omnidirectional

H-plane radiation plots:

J8997A_2-45Ghz-H-plane.jpg

Impedance (Ohms): 50

Grounding: DC

RF connector: Reverse SMA (male)

Cable length: 2.75 ft. (0.84 m)

Physical characteristics

Dimensions: 6.16(d) x 3.66(w) x 0.89(h) in.
(15.65 x 9.3 x 2.26 cm)

Weight: 0.5 lb. (0.23 kg)

Mounting style: Ceiling grid

Enclosure: PVC/Acrylic

Environment

Operating temperature: -22°F to 131°F
(-30°C to 55°C)

Non-operating/Storage temperature:
-40°F to 149°F (-40°C to 65°C)

ProCurve 6 dBi 5 GHz Omnidirectional Antenna (J8998A)

5 GHz omnidirectional antenna provides high gain performance for IEEE 802.11a radio of either the ProCurve Access Point 530 or Radio Port 220

Electrical characteristics

Frequency range 1: 5150 - 5875

Gain 1 dBi (with antenna cable): 6.3

VSWR max: 2.0:1

E-Plane (3 dB beamwidth): 17 degrees

E-plane radiation plots:

J8998A-5-5Ghz-E-plane1.jpg

H-Plane (3 dB beamwidth):

Omnidirectional

H-plane radiation plots:

J8998A-5-5Ghz-H-plane1.jpg

Polarization: Linear (vertical)

Impedance (Ohms): 50

RF connector: Reverse SMA (male)

Cable length: 2.75 ft. (0.84 m)

Physical characteristics

Dimensions: 11.56(h) in. (29.36 cm)

Wind surface area: 0.09 sq. ft. (0.01 sq. m)

Wind survival: 120 mph (193.08 km/hr)

Weight: 0.3 lb. (0.14 kg)

Mounting style: Ceiling T-bar, I-beam, or mast

Enclosure: Polycarbonate

Environment

Operating temperature: -22°F to 131°F
(-30°C to 55°C)

Non-operating/Storage temperature:
-40°F to 149°F (-40°C to 65°C)

ProCurve Radio Port 220

External Antenna

ProCurve 7 dBi Dual Band Directional Antenna (J8999A)

7 dBi multi-band directional antenna for use with 2.4 GHz or 5 GHz radios of the ProCurve Access Point 530 or Radio Port 220

Electrical characteristics

Frequency range 1: 2400 - 2500
Gain 1 dBi (with antenna cable): 6.9
Frequency range 2: 4900 - 5990
Gain 2 dBi (with antenna cable): 7.7
VSWR max: 2.0:1
E-Plane (3 dB beamwidth): 66 degrees
E-plane radiation plots:
J8999A-2-45Ghz_E-plane.jpg
H-Plane (3 dB beamwidth): 68 degrees
H-plane radiation plots:
J8999A-2-45Ghz_Hplane.jpg
Polarization: Linear (vertical)
Impedance (Ohms): 50
RF connector: Reverse SMA (male)
Cable length: 2.75 ft. (0.84 m)

Dimensions: 5.16(d) x 5.16(w) x 1.37(h) in. (13.11 x 13.11 x 3.48 cm)
Wind surface area: 0.12 sq. ft. (0.01 sq. m)
Wind survival: 120 mph (193.08 km/hr)
Weight: 0.5 lb. (0.23 kg)
Mounting style: Flush wall mount, articulating wall, or mast
Enclosure: PVC/Acrylic
Front-to-back ratio (dB): 10

Environment

Operating temperature: -22°F to 131°F (-30°C to 55°C)
Non-operating/Storage temperature: -40°F to 149°F (-40°C to 65°C)

Physical characteristics

ProCurve 14 dBi 5 GHz Directional Antenna (J9000A)

indoor/outdoor 14 dBi 5 GHz wide-band, high-gain directional antenna extends IEEE 802.11a coverage for point-to-point or point-to-multi-point wireless bridging

Electrical characteristics

Frequency range 1: 5150 - 5875
Gain 1 dBi (with antenna cable): 13.3
VSWR max: 2.0:1
E-Plane (3 dB beamwidth): 27 degrees
E-plane radiation plots:
J9000A-5-5Ghz_E_Plane.jpg
H-Plane (3 dB beamwidth): 29 degrees
H-plane radiation plots:
J9000A-5-5Ghz_H_Plane.jpg
Polarization: Linear (vertical)
Impedance (Ohms): 50
Grounding: DC
RF connector: Reverse SMA (male)
Cable length: 2.75 ft. (0.84 m)

Dimensions: 4.16(d) x 4.16(w) x 1.37(h) in. (10.57 x 10.57 x 3.48 cm)
Wind surface area: 0.12 sq. ft. (0.01 sq. m)
Wind survival: 120 mph (193.08 km/hr)
Weight: 0.7 lb. (0.32 kg)
Mounting style: Flush wall mount, articulating wall, or mast
Enclosure: PVC/Acrylic
Front-to-back ratio (dB): 17

Environment

Operating temperature: -22°F to 131°F (-30°C to 55°C)
Non-operating/Storage temperature: -40°F to 149°F (-40°C to 65°C)

Physical characteristics

ProCurve 5 dBi Indoor/Outdoor Omnidirectional Antenna (J8441A)

5 dBi indoor/outdoor high-gain omnidirectional antenna with ceiling T-bar, I-beam, and mast mount

Electrical characteristics

Frequency range 1: 2400 - 2500
Gain 1 dBi (with antenna cable): 4.4
VSWR max: 1.7:1
E-Plane (3 dB beamwidth): 31 degrees
H-Plane (3 dB beamwidth): Omnidirectional
Polarization: Linear (vertical)
Impedance (Ohms): 50
RF connector: Reverse SMA (male)
Cable length: 2.75 ft. (0.84 m)

Wind surface area: 0.08 sq. ft. (0.01 sq. m)
Wind survival: 125.1 mph (201.13 km/hr)
Weight: 0.30 lb. (0.14 kg)
Mounting style: Ceiling T-bar, I-beam, or mast
Enclosure: Polycarbonate

Environment

Operating temperature: -22°F to 131°F (-30°C to 55°C)
Non-operating/Storage temperature: -40°F to 149°F (-40°C to 65°C)

Physical characteristics

Dimensions: 11.5(h) in. (29.21 cm)

External Antenna

ProCurve 8 dBi Outdoor Omnidirectional Antenna (J8444A)

8 dBi outdoor omnidirectional antenna

Electrical characteristics

Frequency range 1: 2400 - 2500
Gain 1 dBi (with antenna cable): 7.4
VSWR max: 1.5:1
E-Plane (3 dB beamwidth): 12 degrees
H-Plane (3 dB beamwidth):
Omnidirectional
Polarization: Linear (vertical)
Impedance (Ohms): 50
RF connector: Reverse SMA (male)
Cable length: 2.75 ft. (0.84 m)

Physical characteristics

Dimensions: 25.25(h) in. (64.14 cm)

Wind surface area: 0.11 sq. ft. (0.01 sq. m)
Wind survival: 125 mph (201.13 km/hr)
Weight: 0.5 lb. (0.23 kg)
Mounting style: Mast
Enclosure: Polycarbonate

Environment

Operating temperature: -22°F to 131°F
(-30°C to 55°C)
Non-operating/Storage temperature:
-40°F to 149°F (-40°C to 65°C)

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