netwave®

HARDENED	PSE	PD	IP67	GIGABIT ETHERNET
-40° TO 70°C	802.3at	802.3af/at	IP67	2

The NetWave® NW7[E] environmentally hardened High Throughput (HT) wireless Ethernet transmission device can be configured through the embedded User Interface as a Client or as an Access Point. This single radio model was designed for high throughput point-to-point or multi-point applications and comes with an integrated 19 dBi, 17° beamwidth antenna. The NW7[E] supports up to 240 Mbps throughput using MIMO technology. The units can be powered by an 802.3af/at PoE compliant device or through a sold-separately PoE injector with the second Ethernet port serving as an IEEE802.3at power source. The NW7 is FCC certified for use in North America and the NW7E is ETSI, DFS and TPC certified for use in the European Union.

FEATURES

› High throughput:
  - Up to 180 Mbps in one direction
  - Up to 240 Mbps total full duplex

› IEEE802.3at PoE Compliant PD

› Over current protection and 3 layers of Ethernet surge suppression on the PD port

› 802.11a/n Compliant

› Distances up to 2 mi (FCC) or 2km (ETSI)

› Environmentally Hardened -40° to +70°C

› Meets class IP67 dust and water immersion protection standards

› ETSI Standards (EU Region only):
  – DFS Dynamic Frequency Selection
  – TPC Transmit Power Control

› Secure transmission: WPA2 – AES or TKIP encryption

› ComNet Antenna alignment feature eases installation and setup

› RF Spectrum Survey Tools

› Antenna Alignment Tools

› LED array displays unit operational status along with received signal strength

› Radio Internal Components covered by Lifetime Warranty.

› Enclosure covered by Three Year Warranty.

APPLICATIONS

› High Throughput Back Haul Link for installations that require connecting to more than one Ethernet device

› Ideal for PoE Camera connectivity

› Simple to deploy and cost-effective alternative to physical connections to Ethernet edge equipment

› Integration of Ethernet where right-of-way issues mandate wireless communications

› ITS traffic signalization networks and Video Detection Systems (VDS)

› Multicast traffic-based video systems

› ITS roadside and city center CCTV surveillance, and surveillance of high-value or mission-critical assets

› Wireless communications in manufacturing, petrochemical refineries, wastewater treatment facilities, and other industrial automation and control applications operating in harsh or out-of-plant environments

› Electrical substation video and perimeter surveillance

Environmentally Hardened
High Throughput Wireless Ethernet Device

SPECIFICATIONS

5GHz Wireless Radio

EIRP	NW7 (FCC): Up to +36dBm for point to multipoint deployments, +49dBm for point to point deployments with MAC-lock feature enabled NW7E (ETSI): +30dBm
RF Output	30dBm Rated Transmitter
Operational Frequency	5180MHz – 5825MHz, Region-dependent. Not all frequencies are supported in all regions. Contact ComNet for frequencies supported in your region.
Bandwidths	20 and 40MHz

Internal Antenna

Antenna	Internal 19dBi Dual Polarized Directional
Gain	19dBi
Azimuth	17° Horizontal/Vertical
Elevation	17° Horizontal/Vertical

Connectors

Gigabit Ethernet	2 × RJ-45, Sealed Cable Gland

Software Features

Addressing	Static IP / DHCP Client / DHCP Server
SNMP	V3
Telnet Server	Syslog
Dynamic DNS	802.1q VLAN support
Embedded Firewall	QoS support
Ability to Assign Static Routes	NTP Client

Spanning Tree Protocol support
802.1x Port-Based Network Access Control
User-Configurable Watchdog and Auto-Reboot Mechanism
Multi-Level Configuration and Monitoring Login Accounts
User Configurable Long Range Parameters

Power

Operating Power	42 to 57 VDC
Power Consumption	8 W Max (with no PD load connected to port 2)
PD Power	IEEE802.3af/at PD compliant
PSE Power	IEEE802.3at PSE compliant

Mechanical

Indicating LEDs	Power On Ethernet Link Signal Strength
Size (L × W × H)	10.6 × 10.6 × 2.9 in (27 × 27 × 7.5 cm)
Shipping Weight:	<4.4 lb / 2 kg

Environmental

MTBF	>100,000 hours
Operating Temp	-40° C to +70° C
Storage Temp	-40° C to +85° C
Relative Humidity	5% to 95%, non-condensing[1]

Warranty

Internal Components	Lifetime
Enclosure	3 Year

AGENCY COMPLIANCE

FC PART 15 COMPLIANT   CE   RoHS

Low Power Consumption

ORDERING INFORMATION

| Part Number	Description
NW7	Individual Hardened Single Radio, Two Gb Ethernet Ports, One internal 19dBi 17° beamwidth directional antenna, includes pole mounting assembly, Port 1 Supports 802.3af/at **PD PoE Power**, Port 2 provides IEEE802.3at **PSE PoE Power**, FCC certified for use in NA Region
NW7E	Individual Hardened Single Radio, Two Gb Ethernet Ports, One internal 19dBi 17° beamwidth directional antenna, includes pole mounting assembly, Port 1 Supports 802.3af/at **PD PoE Power**, Port 2 provides IEEE802.3at **PSE PoE Power**, ETSI certified for use in EU Region
Included Accessories	Mounting Hardware Kit (For Pole Mounting Only)
Options	NWBKT - Articulating Wall or Pole Mounting Kit. Supports up to 3in/76mm diameter poles. (Sold Separately) [1] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory) CNGE1IPS - 35W PoE Injector (sold separately)

NOTE: In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

NW7[E]

TYPICAL APPLICATIONS

High Throughput Point-to-Point Topology (Shown with PoE Cameras)

Legend

- (((— Wireless
- —— Cat5
- → Power
- ↔ Ethernet
- P1 Port 1 PD
- P2 Port 2 PSE
- ≈ 50Ω Coax
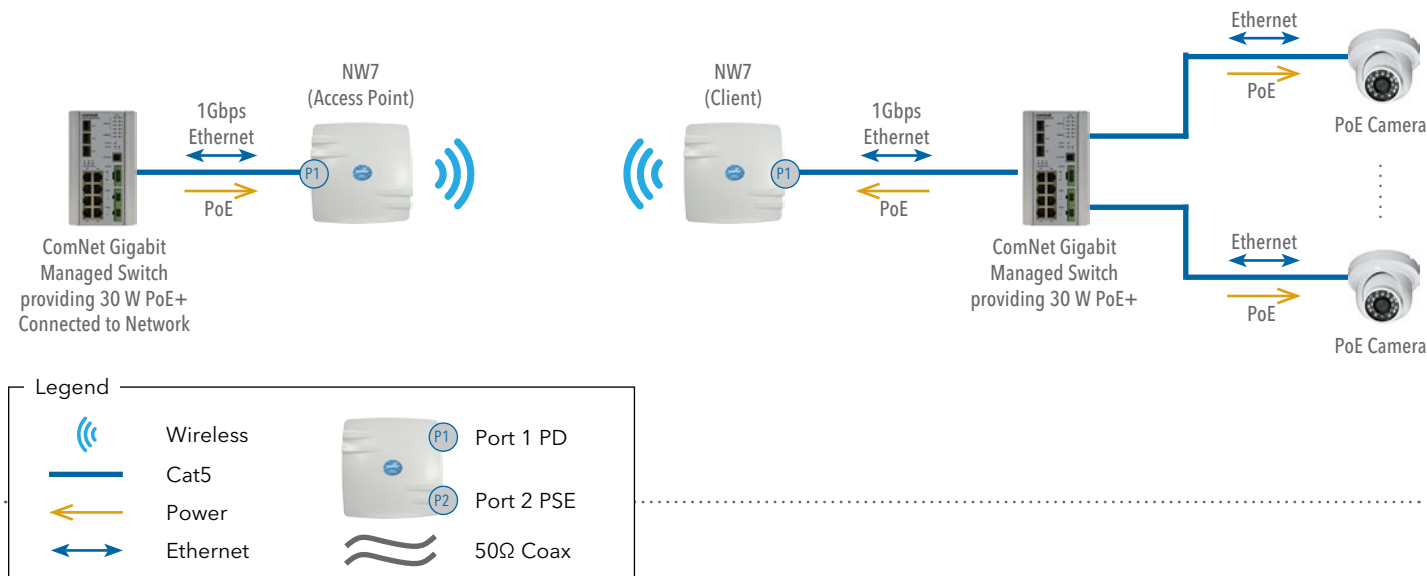
Point-to-Point Topology (Shown with PoE Injector and PoE Powered Cameras)

24 Apr 2017
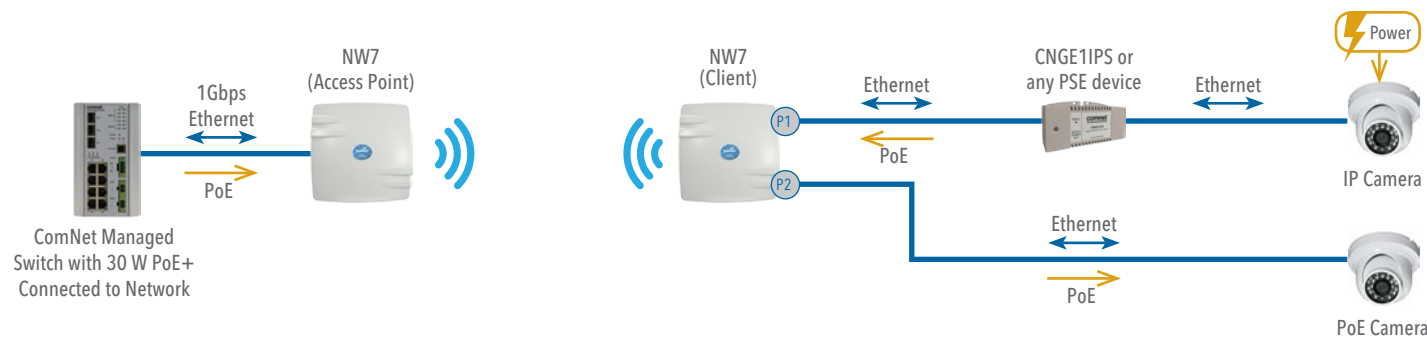
TYPICAL APPLICATIONS (CONT'D)

Multiple Remote Camera Topologies

NW1 (Client) — PIM or other PSE device — Power — IP Camera
Ethernet / Ethernet / PoE

PC — NVR — 1Gbps Ethernet / PoE — NW7/IA870 (240 Mbps Access Point)

Legend

Wireless		P1	Port 1 PD
Cat5		P2	Port 2 PSE
Power			50Ω Coax
Ethernet			

ComNet Gigabit Managed Switch providing 30 W PoE+ Connected to Network — 1Gbps Ethernet / PoE — NW7 (Access Point) — P1

NW10DR (Client) — P1 — PoE+ — NWAVBSA1 External Antenna

CNGE1IPS or any PSE device

NW1 (Client) — PIM or other PSE device — Power — IP Camera
Ethernet / Ethernet / PoE

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