

# Non-line-of-sight :: 900 MHz

The AW900iT and AW900xT allow you to build your own long-range, non-line-of-sight, point-to-point or point-to-multipoint wireless Ethernet solution that can enable fringe Ethernet devices, including SCADA clients, bio-scanners, printers, PCs, VoIP phones, point-of-sale devices, digital signage, or Internet kiosks.

The AW900T solutions offer the ideal combination of price, range, data rate, security, interference avoidance, quality-of-service, and ease-of-use.



## AW900xT Outdoor Radio

Long-range 900 MHz wireless outdoor Ethernet radio transceiver. Contents:

- (1) AW900xT outdoor radio
- (1) AW2 2.5 dBi omni-directional antenna
- (1) 110 VAC to 12 VDC power adapter
- (1) Power over Ethernet injector

Includes AW2 2.5 dBi omni-directional antenna. Recommended upgrades: AW5H-900, AW5P-900, AW10, AW11 (shown), and AW15 – all FCC approved

## AW900iT Indoor Radio

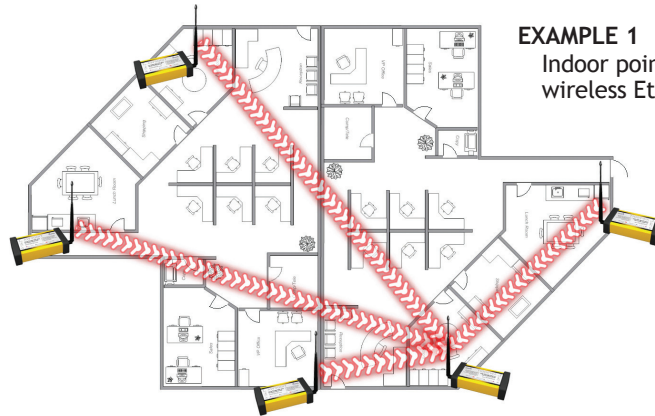
Long-range 900 MHz wireless indoor Ethernet radio transceiver. Contents:

- (1) AW900iT indoor radio
- (1) AW2 2.5 dBi omni-directional antenna
- (1) 110 VAC to 6 VDC power adapter

Includes AW2 2.5 dBi omni-directional antenna. Recommended upgrades: AW5H-900, AW5P-900, AW10, AW11, and AW15 – all FCC approved

## Features

- High RF output power provides maximum foliage or wall penetration
- Does not interfere with Wi-Fi networks
- 128 bit AES encryption with private keys
- Simple plug and play – minimal user programming required
- Radio can be configured as an access point or client
- Install up to 16 clients per access point
- Can operate up to 12 access points simultaneously, each on its own non-overlapping channel
- Does not require an FCC license to operate or install



**EXAMPLE 1**  
Indoor point-to-multipoint wireless Ethernet system

## Range

### OUTDOOR: Up to 1,500' of trees

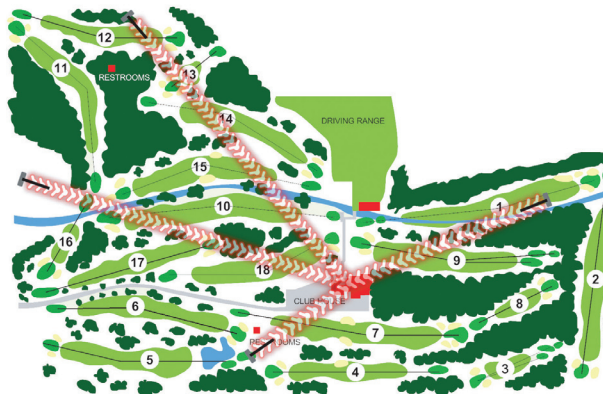
Antennae options:

- AW10, AW11, AW15 directional
- AW2, AW5H-900, or AW5P-900 omni-directional

### INDOOR: Up to 10 building walls

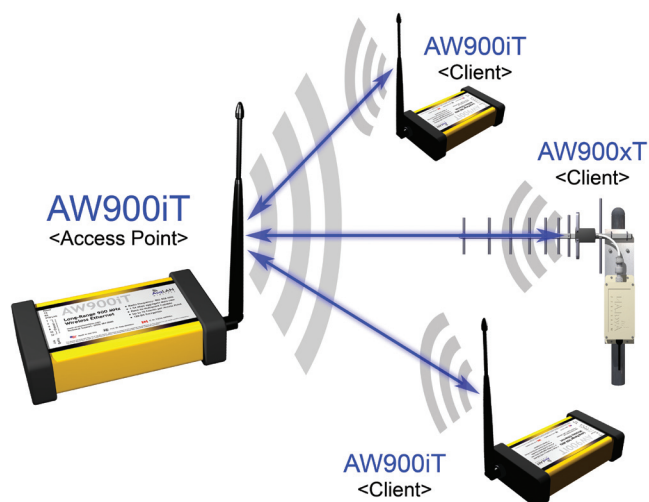
Antennae options:

- AW6 directional
- AW2, AW5H-900, or AW5P-900 omni-directional



**EXAMPLE 2**  
Ultra-long-range, point-to-multipoint wireless system transmitting Ethernet data across golf course

## System diagram



\* There is a limit of 1 Ethernet device connected to each client node. Ethernet switches should not be attached to client nodes. A router can be used in situations where multiple Ethernet devices must share a client radio node. See online support for more information.

## Technical specifications

CHARACTERISTIC	SPECIFICATION / DESCRIPTION
RF transmission rate	1.536 Mb/s
Ethernet throughput	935 Kb/s
Output power	+21 dBm (4 Watts EIRP used with 15 dBi antennae)
Receive sensitivity	-97 dBm at 10e-4 BER (-112 dBm with 15 dBi antennae)
Radio link budget	148 dB with 15 dBi antennae
Range	40 miles LOS with 15 dBi antennae
Radio channels/bandwidth	12 non-overlapping with 2.0833 MHz spacing and 1.75 MHz occupied bandwidth
Manual frequency select	Channel selected with DIP switch
Connector types	RF RPTNC Female / Ethernet RJ45 10BaseT / Power Jack P5-2.1 mm ID
Status LEDs	Power, Ethernet Link, RF RX, RF TX, 4/Channel, and 6/Link Quality
Error correction technique	Sub-block error detection and retransmission
Adjacent-band rejection	SAW receiver filter attenuates cellular and pager interference
Regulator type	Indoor uses linear regulator and outdoor uses switching regulator
Power consumption	<b>Transmit:</b> Indoor – 1.9 W Outdoor – 1.25 W <b>Receive:</b> Indoor – 1.2 W Outdoor – 0.6 W
Voltage	<b>Indoor:</b> 5 VDC-7 VDC <b>Outdoor:</b> Power over Ethernet 9-48 VDC over Ethernet -4/5 positive and 7/8 ground
Temperature range	-40° C to 70° C
Transmit current draw	<b>Indoor:</b> 375 mA <b>Outdoor:</b> 150 mA at 9 VDC 110 mA at 12 VDC 32 mA at 48 VDC
Size	<b>Indoor:</b> 140 x 85 x 30 mm <b>Outdoor:</b> 200 x 80 x 55 mm

## Ordering information

PART NUMBER	DESCRIPTION	CONTENTS
AW900xT	Outdoor long range Ethernet radio	(1) AW900xT outdoor radio, (1) AW2 2.5 dBi omni-directional antenna, (1) power adapter, (1) POE injector
AW900iT	Indoor long range Ethernet radio	(1) AW900iT indoor radio, (1) AW2 2.5 dBi omni-directional antenna, (1) power adapter

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