



Features

General

- 902-928 MHz (Unlicensed)
- 630 mW RF Output Power
- 1 to 54 Mbps RF Data Rate
- To 11 Mile Range (@ 11 Mbps)
- Industrial Hardened Case
- Direct Outdoor Pole Mountable
- Extended Temperature Specifications
- Power over Ethernet Cable
- MESHing, Self Healing Network Architecture

Modes of Operation

- Ethernet Networks
 - AP/Bridge, Router and Masquerade
 - Ethernet Bridge Mode
 - Repeater Mode
 - Client Modes (Mobile)
- Serial Networks
 - Point-to-point
 - Point-to-multipoint
 - Repeater Mode
 - Client Modes (Mobile)
- Ethernet and Serial Networks
 - Serial/Ethernet
 - Legacy Product Support
 - Ethernet Network Interface to Serial Devices

Security

- AES Encryption (CCMP)
- Temporal Key Integrity Protocol (TKIP)
- Access Control List (ACL)
- 128/64 Bit WEP Encryption



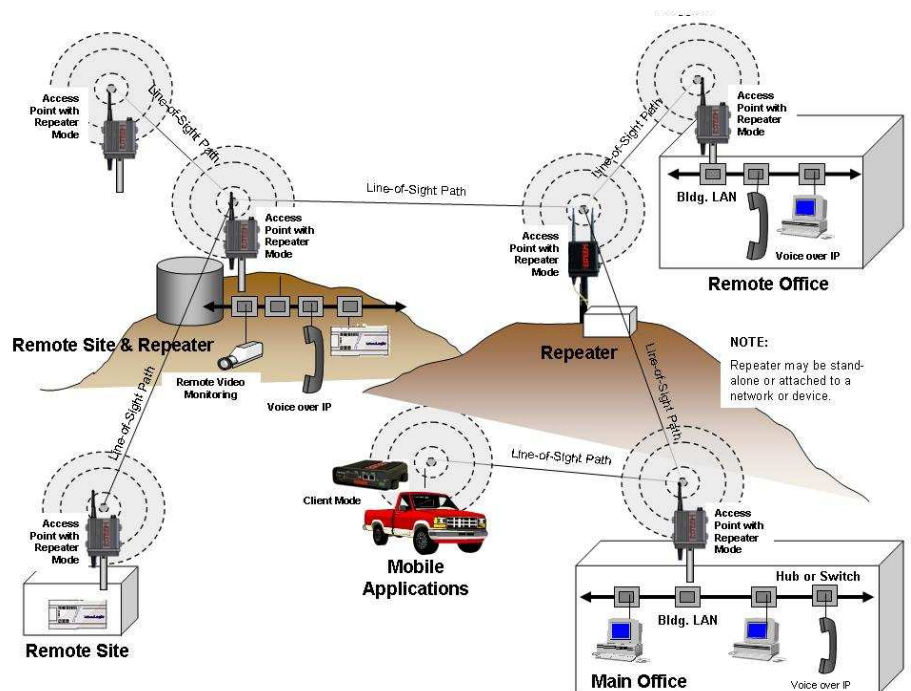
Model 195Ed Series shown with outdoor pole mounting hardware and direct mount antenna.

Wireless Unlicensed Serial/Ethernet Interfaces

The ESTEEM Model 195Ed is the latest generation high speed wireless modem with both Ethernet and serial (RS-232C) interfaces designed for the rigors of the Industrial, Public Safety, and Federal markets. The Model 195Ed is a spread spectrum radio modem operating in the unlicensed 900 MHz frequency band that delivers 1 to 54 Mbps of data rate in high noise environments. Having both Ethernet and Serial ports allows the 195Ed to be the perfect solution to your wireless data needs. Wireless networks over large geographical areas can be a reality using the self-healing MESH Repeater feature. The 195Ed has a *Client Mode* so it can be used as a high powered mobile radio for roaming applications under a 195Ed radio canopy.

Model 195Ed Reduces Site Costs

- **New case design.** The new NEMA 4 case design and weatherproofing kit allows the unit to be indoor or outdoor pole mounted in harsh environments. This feature eliminates the enclosure costs needed with other radios.
- **Eliminates costly RF feedlines.** By direct pole mounting you eliminate feedline and installation costs.
- **Reduces Radio Density in large sites.** Eliminating feedlines not only saves cost, but also increases transmitter-radiated power and received signal strength, giving you greater range. Greater range reduces the number of radios needed to cover large areas.
- **External antenna lightning arrestor for the radio is not needed on outdoor sites.** The Model 195Ed has been designed with an integral lightning arrestor to further lower site costs.
- **Lower installation costs.** The simple pole mounting saves installation time, but we didn't stop there, by powering the radio over the low cost Cat 5 Ethernet communications cable at distances to 300 feet and serial cable distances to 50 feet, we helped reduce additional installation time and expense.



Technical Specifications

Model 195Ed

LED Indicators	
Power On/Off	Receiver On/Off
Carrier Detect On/Off	Transmitter On/Off
Link Status On/Off	

I/O Connectors	
Ethernet 10/100Base T (Port 1)	RJ-45 Female
Ethernet 10/100Base T (Port 2)	RJ-45 Female
RS-232C Port (2,400 to 115.2K baud)	RJ-45 Female
RS-232C Programming Port (38.4 K baud)	RJ-45 Female
Antenna Input/Output	TNC Reverse Polarity Female
Remote Input Power	Power Over Ethernet Cable
Direct Input Power	Optional, Header Screw Connector

Transmitter	
Frequency of Operation	902 to 928 MHz Software Selectable 4 Channels
RF Data Rate	1,2,5.5,6,9,11,12,18,24,36,48, & 54 Mbps Fixed or Auto Scaling DSSS/OFDM Modulation
Tx Output Power	250 to 630 mW (Average Power)
RF Output Impedance	50 ohms

Receiver	
Rx Sensitivity @ Frame Error Rate <10%	-72 dBm @54 Mbps to -95 dBm @ 1 Mbps Frame Error Rate <10%

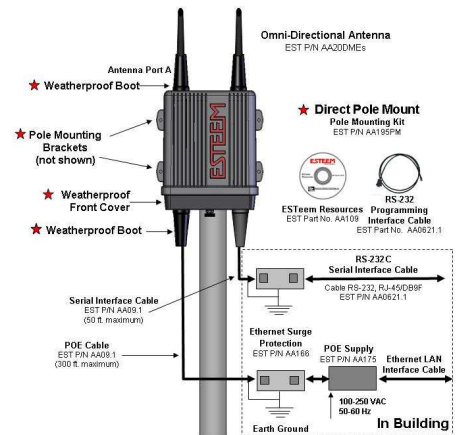
Power	
Power over Ethernet	IEEE 802.3af Standard Power Supply, 48 VDC @ 13 Watts
Power Connector on Unit	10 to 16 VDC
Receive	200 ma @ 12 VDC
Transmit	450 ma @ 12 VDC

Case	
Dimensions	1.9 in. H x 6.7 in. W x 6.2 in. L
Weight	1.25 lbs.
Outdoor Pole Mounting Kit	Optional, EST P/N 195PM

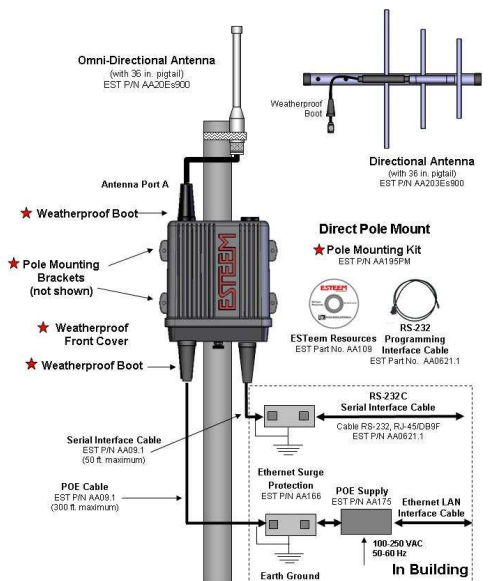
Other	
Warranty	1 Year
Temperature Range	-30° to +60° C
Humidity	95% Non-condensing
FCC Type Acceptance	ENPESTEEM195ED
Industry Canada Type Acceptance	1457-195ED

Specifications Subject to Change Without Notice

Model 195Ed with Direct Mount Antenna and Surge Protection



Model 195Ed with External Mount Antennas and Surge Protection



The unit can also be powered directly from 10 to 16 VDC, .45 amp source using the optional male power connector shown. EST P/N AA195PP.

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