



Features

General

- 900 MHz Unlicensed Frequency
- 1 Watt RF Output Power
- 200 Kbps RF Data Rate
- 10+ Mile Range
- 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 Conversion
 - Legacy Product Support
 - Ethernet Network Interface to Serial Devices

Security

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



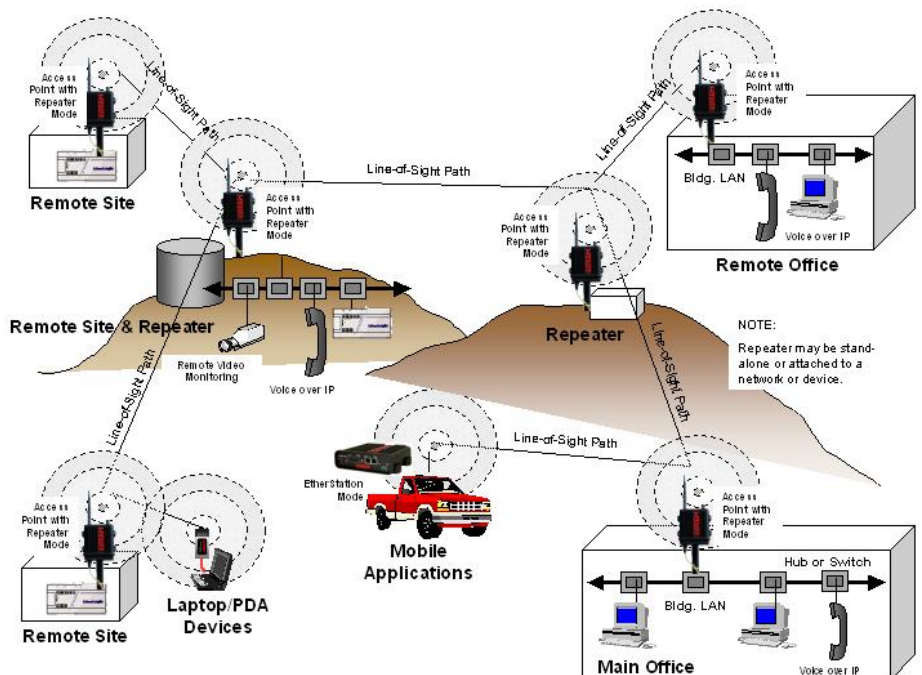
Model 195Es Series shown with outdoor pole mounting hardware and direct mount antenna.

Wireless Unlicensed Serial/Ethernet Interfaces

The ESTEem Model 195Es is the latest generation wireless modem with both Ethernet and serial (RS-232C) interfaces designed for the rigors of the Industrial, Public Safety, and Federal markets. The Model 195Es is a frequency hopping spread spectrum (FHSS) radio modem operating in the unlicensed 900 MHz frequency band that delivers 200 Kbps of data rate over distance greater than 10 miles in high noise environments. Having both a serial and Ethernet port allows the 195Es to be the perfect low cost solution to your wireless data needs. Wireless networks over large geographical areas can be a reality using the self-healing MESH Repeater feature. The 195Es also has a **Client Mode** features so it can be used as a high powered mobile radio in applications roaming under a 195Es canopy.

Model 195Es 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 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 arrestors are not needed on outdoor sites.** The Model 195Es has been designed with an integral lightning arrestor to further save 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 100 feet, we helped to reduce additional time and expense.



Technical Specifications

Model 195Es

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
RF Data Rate	200 Kbps
Tx Output Power	1 Watt
RF Output Impedance	50 ohms

Receiver	
Rx Sensitivity @ Frame Error Rate <10%	-100 dBm @ 200 Kbps

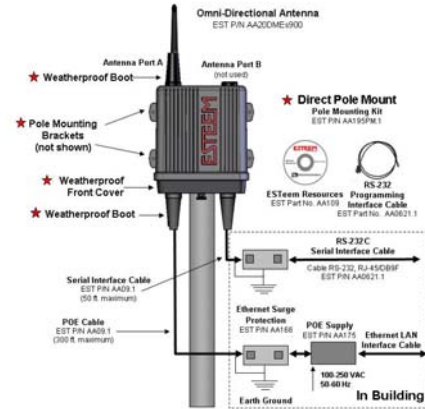
Power	
Power over Ethernet	IEEE 802.3af Standard Power Supply, 48 VDC @ 13 Watts
Power Connector on Unit	10 to 16 VDC
Receive	220 ma @ 12 VDC
Transmit	1000 ma @ 12 VDC

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

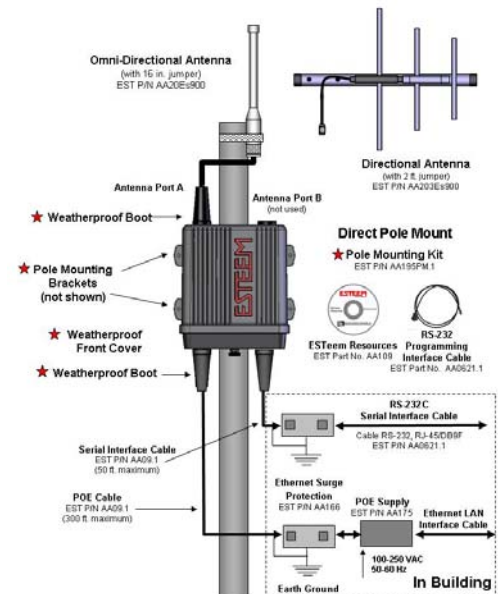
Other	
Warranty	1 Year
Temperature Range	-30° to +60° C
Humidity	95% Non-condensing
FCC Type Acceptance	Pending
Industry Canada Type Acceptance	Pending

Specifications Subject to Change Without Notice

Model 195Es with Direct Mount Antenna and Surge Protection



Model 195Es with External Mount Antennas and Surge Protection



The unit can also be powered directly from 10 to 16 VDC, 1 amp source using the optional male power connector shown. EST P/N AA195PP.



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