Wireless High Speed Ethernet and Serial Ports

The ESTeem Model 195Es with *two Ethernet ports* and *one independent Serial RS-232C data port* is the perfect low cost solution 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 depending on the antenna used. Wireless networks over large geographical areas can be a reality using the *Multiple Repeating* feature. The 195Es also has a *Client Mode* feature so it can be used in mobile applications roaming under a 195Es canopy.

Model 195Es Reduces Site Costs

- **Outdoor 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 feed lines.** Direct pole mounting eliminates feedline cost and high signal losses.
- **Lower installation costs.** Simple pole mounting saves installation time and expense.

Software Features

- **High Security AES Encryption.** The 195Es uses the high-security 128-bit AES-CCMP required in most municipal, public safety and federal applications.
- **Simple Network Management Protocol (SNMP).** SNMP is an optional upgrade in the 195Es that can be used for critical network diagnostics and management using the open SNMP protocol.
- **Rapid Spanning Tree Protocol (RSTP – IEEE 802.1d).** The Rapid Spanning Tree Protocol will allow faster recovery times in the ESTeem Mesh networks.
- **Enhanced Network Operation.** The 195E Series includes support for VLAN pass-through and IGMP Snooping to support enhanced network functionality.
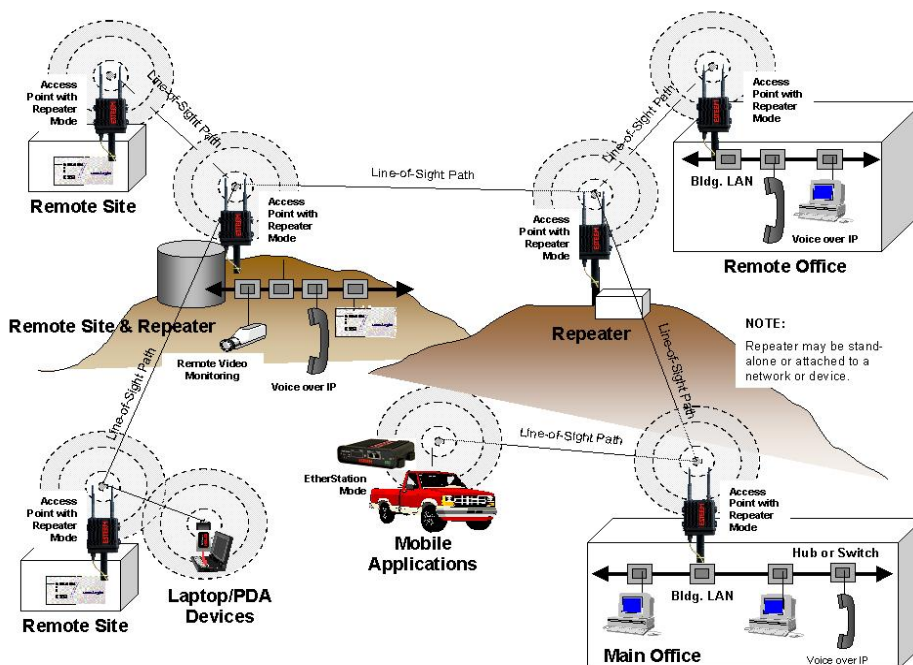
Frequency	RF Data Rate
902 to 928 MHz Unlicensed	200 Kbps

Features
- **10+ Mile Nominal Range**
- **Multiple Repeating Feature**
- **Industrial Hardened Case**
- **Direct Outdoor Pole Mountable**
- **Extended Temperature Specifications**
- **Power over Ethernet Cable (PoE)**
- **Dual Ethernet Ports**
- **Serial RS-232 Communications Port**

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**
  - **Legacy Product Support**
  - **Simulations Ethernet and Serial Devices Connections**

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

Technical Specifications   Model 195Es

ESTeem 195Es Specifications	
Transmiter/Receiver	
Frequency of Operation (Software Selectable)	902 to 928 MHz
RF Data Rate	200 Kbps
Tx Output Power (Software Selectable)	125 mW, 250 mW, 500 mW, and 1 Watt (Pk) (4-levels)
Tx Output Impedance	50 ohms
Rx Sensitivity	-100 dBm
FCC Type Acceptance	ENPESTEEM195ES
Industry Canada Type Acceptance	2163A-19ES
LED Indicators	Power (On/Off) - Carrier Detect (On/Off) - Transmitter (On/Off) - Reveiver (On/Off)
Power Requirements	
Receive	220 ma @ 12 VDC
Transmit	1000 ma @ 12 VDC
PoE Power Supply	(IEEE 802.3af,13 watts) (opt)
External Power Input	10 to 16 VDC @ 1000 ma
Input/Output Connectors	
Ethernet Port 1 (10/100)	RJ-45 Female
Ethernet Port 2 (10/100)	
802.11 Compatibility	n/a
RS-232C Comm Port (2,400 to 115.2 K baud)	RJ-45 Female
RS-232C Programming Port (38,400, N, 8, 1)	
Antenna Input/Outputs	TNC Reverse Female
External DC Input Power	Mini-Combicon, 3 pin female
Case	
Temperature Range	-30° to +60° C
Humidity	95% Non-condensing
Dimensions	1.9 in. H x 6.7 in. W x 6.2 in. L
Weight	1.25 lbs.
Product Warranty	1 Year
Other	
Outdoor Pole Mt. Kit	AA195PM (opt)
PoE Power Supply	AA175 (opt)
External DC Input Power Connector	AA195PP (opt)

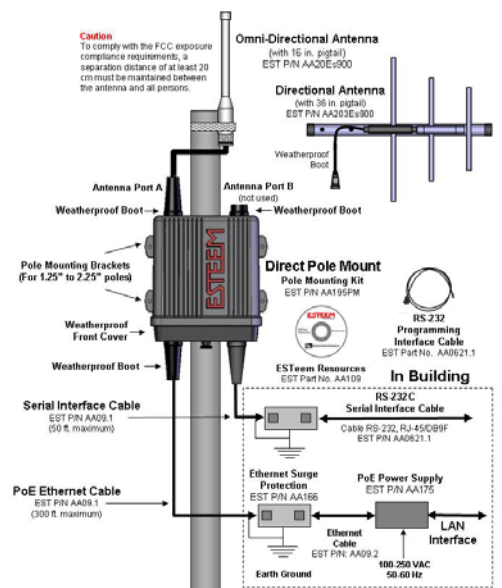Model 195Es Direct Mount Antenna w/Surge Protection
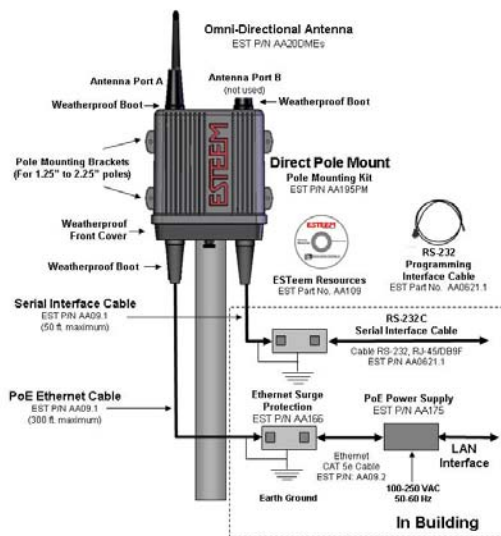
Only single Ethernet connection shown in diagrams.

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.

Model 195Es External Mount Antenna w/Surge Protection

Specifications subject to change without notice

www.esteem.com
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