

## 195H Narrowband

The ESTeem 195H Narrowband is the perfect radio solution designed for the rigors and security requirements of the Industrial, Public Safety, and Federal markets when the 217-220 Mhz VHF frequencies are needed for terrain coverage. The ESTeem 195H provides the user Ethernet, Serial RS-232C, RS-422, RS485 and 4-Channel Sensor Interface in a single wireless modem.

The Model 195H is a narrowband compliant licensed radio with ranges over distances 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 internal **Digi-Repeating** feature making all remote locations possible repeater sites.



### Key Features

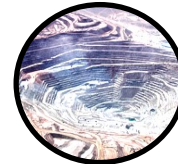
- Protocol Emulation - The 195H Narrowband has protocol drivers for most major PLC manufacturers. This protocol emulation allows transparent operation of the controllers, but allows the use of any 195H in the network to act as a repeater
- Multiple Modes of Operation - Same device can be used for master, repeater and/or remote locations enabling superior network flexibility and scalability
- Secure AES Encryption
- Ethernet and serial interfaces
- Spectrum Analyzer - The 195H Narrowband contains a full feature spectrum analyzer
- Simple configuration
- 10+ Mile range
- 217-220 Mhz



Water/Wastewater



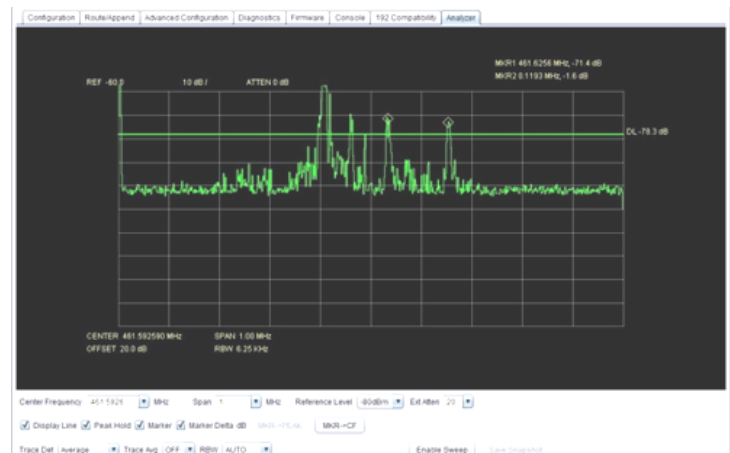
Oil & Gas



Mining

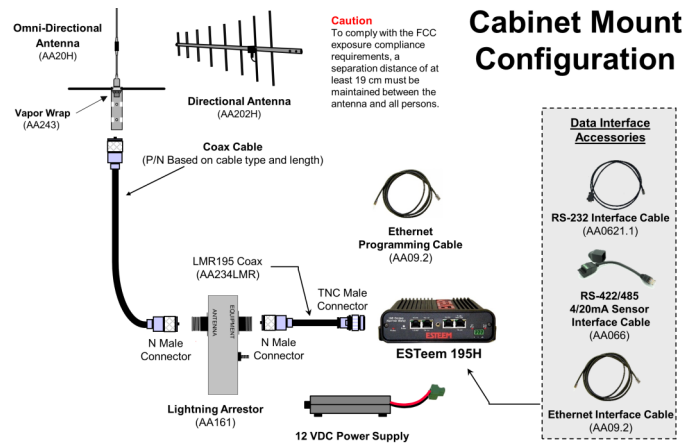
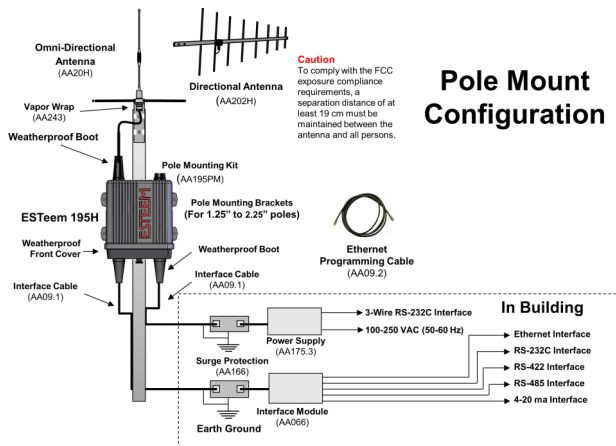


Power & Energy



# 195H Narrowband

ESTeem 195H Specifications	
Frequency of Operation (Software Selectable)	217 to 220 Mhz (6.25Khz, 12.5 KHz, 25 KHz and 50 KHz Channel Spacing)
Frequency Stability, -30C to +60C	+/- 0.25 ppm
RF Data Rates Vs. Channel Spacing	(4.8Kbps @ 6.25KHz), ( 12.5Kbps @ 12.5KHz), (25Kbps @ 25KHz), and (50Kbps @ 50KHz)
Tx Output Power (Software Adjustable)	0.5 to 2 Watts
Tx Output Impedance	50 ohms
Rx Sensitivity	(-114 dBm @ 6.25KHz), (-111 dBm @ 12.5KHz), (-108 dBm @ 25KHz), and (-105 dBm @ 50KHz)
Rx Adjacent Channel Rejection	> 55 dB
Modulation	4-Level GFSK
Forward Error Correction	TCM, Coding Rate 3/4
Data Error Detection	32-Bit Cyclic Redundancy Check
FCC ID	ENPESTEEM195H
LED Indicators	Power (48VDC, 12V-Aux), Status Multi-Color LED (Tx, Rx, Rx-Valid, Rx-Error), RS-232 , RS-485, RS-422 Tx/Rx
Data Packet Information	
Radio Addressing	1-254 Total Units, Digi-repeating allows up to 3 repeaters between end-points
Data Packet Size	1-2000 Bytes
Serial Data Interface Buffer Size	8K bytes Tx / 8K bytes Rx
Power Requirements	
Receive / Without Ethernet Link	120 ma @ 12 VDC
Receive / With Ethernet Link	160 ma @ 12 VDC
Transmit @ 2 Watts RF Output	1350 ma @ 12 VDC
Ethernet Port (10/100)	RJ-45 Female
Serial Data Interfaces (One of four selectable)	RJ-45 Female
Antenna Input/Output	TNC Female Connector
External DC Input Power	Mini-Combicon, 3 pin female
Protocols	
Serial Data Interface, Master PLC mode protocols supported repeater function	Allen Bradley DF1, Opto22, Modbus RTU/ASCII, and Transparent protocols
Ethernet Interface protocols supported for remote access via ARP proxy	ICMP Echo (ping), Modbus/TCP (Aux Voltage, 4-20mA readings, RSSI, MCU Core Temperature), Remote Configuration
Ethernet Interface protocols (direct access only)	Telnet, IP Configuration, Firmware upgrades
Mechanical / Environmental	
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
Options	
Outdoor Pole Mount Kit	AA195PM
48 VDC Power Supply	AA175.3
RJ-45 To DB9 Serial Adaptor	AA0621.1
RJ-45 To Terminal Block Adaptor	AA066
Antennas/Surge Protectors/Cables, etc.	Contact factory for various options (market@esteem.com or 509-735-9092)
Security	AES-256



- Data Interface Accessories**
- RS-232 Interface Cable (AA0621.1)
  - RS-422/485 4/20mA Sensor Interface Cable (AA066)
  - Ethernet Interface Cable (AA09.2)

**ESTeem Industrial Wireless Solutions**

\*Specifications subject to change without notice

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