

## 195 Narrowband Series

The ESTeem 195 Narrowband series is the perfect radio solution designed for the rigors and security requirements of the Industrial, Public Safety, and Federal markets when the VHF & UHF frequencies are needed for terrain coverage. The ESTeem 195 provides the user Ethernet, Serial RS-232C, RS-422, RS485 and 4-Channel Sensor Interface in a single wireless modem. The Model 195 is a narrowband compliant licensed radio with downward compatibility to the ESTeem Model 192C/CHP and 192M/MHP series 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

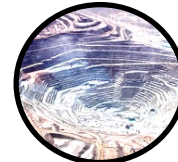
- Protocol Emulation - The 195 Narrowband has protocol drivers for most major PLC manufacturers. This protocol emulation allows transparent operation of the controllers, but allows the use of any 195 in the network to act as a repeater
- Multiple Modes of Operation - Same device can be used for master,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



Water/Wastewater



Oil & Gas



Mining



Power & Energy



# 195 Narrowband Series

ESTeem 195 Specifications			
	195M	195C	195H
<b>Transmitter/Receiver</b>			
Frequency of Operation (Software Selectable)	150 to 174 Mhz (6.25Khz / 12.5 Khz Channel Spacing)	450 to 470 Mhz (6.25Khz / 12.5 Khz Channel Spacing)	217 to 220 Mhz (6.25Khz, 12.5 KHz, 25 KHz and 50 KHz Channel Spacing)
Frequency Stability, -30C to +60C	+/- 0.2ppm	+/- 0.4ppm	+/- 0.45ppm
RF Data Rate @ 12.5Khz channel spacing	12.5Kbps		(4.8Kbps @ 6.25Khz), ( 12.5Kbps @ 12.5KHz), (25Kbps @ 25KHz), and (50Kbps @ 50KHz)
Tx Output Power (Software Adjustable)	0.5 to 4 Watts		0.5 to 2 Watts
Tx Output Impedance	50 ohms		
Rx Sensitivity	-110 dBm		
FCC ID	ENPESTEEM195M	ENPESTEEM195C	ENPESTEEM195H
Industry Canada Type Acceptance	2163 192 195M	2163 192 195C	N/A
LED Indicators	Power (48VDC, 12V-Aux), Status Multi-Color LED (Tx, Rx, Rx-Valid, Rx-Error), RS-232 Tx/Rx, RS-485 Tx/Rx, RS-422 Tx/Rx, Ethernet Activity / Link		
<b>Data Packet Information</b>			
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	8Kbytes Tx / 8Kbytes Rx		
<b>Power Requirements</b>			
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		
Transmit @ 4 Watts RF Output	1540 ma @ 12 VDC		
External DC Power Input	10.8 to 15 VDC		
<b>Input/Output Connectors</b>			
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		
<b>Protocols</b>			
Serial Data Interface, Master PLC mode protocols supported by auto-digi-repeater function	Allen Bradley DF1, Opto22, Modbus RTU/ASCII, and Transparent protocols		
Ethernet Interface protocols supported for remote access via ARP proxy on Master Gateway Unit	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		
<b>Mechanical / Environmental</b>			
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		
<b>Options</b>			
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		