

## Wireless Solution

ESTeem® wireless modem products provide a "Wireless Solution" by eliminating conventional hard wiring, leased phone lines, or cellular costs.

The ESTeem Model 192C comes with the industry standard RS-232C, RS-422, and RS-485 asynchronous communications ports to give the user a new dimension to "Local Area Networking".

Our packet burst, narrow band, frequency agile, UHF communications products allow the user to create a "Radio Area Network" of up to 255 users on a single frequency. The packet burst communications technique was chosen to give the system very high data integrity in high noise industrial environments. The ESTeem incorporates forward error correction and CRC error checking that provides received data accuracy of greater than one part in 100 million.

## Packet Protocols

By using a Carrier-Sensed-Multiple-Access (CSMA) communication protocol no polling station or token is required in the ESTeem network. When an ESTeem has information to send, it will check to see if the channel is clear before transmitting its packet and await an acknowledge. The ESTeem is a Master/Master system, meaning any ESTeem of the same model type can communicate with any other ESTeem of the same model type.

## Data Privacy

Transmitted data privacy is insured by the use of an interleaving technique of the modulated data, user definable commands for unit addressing, network addressing, and security lock-out of software programming.

## Increased Operating Range

The internal Digi-Repeater feature allows the user to increase operating range by relaying transmissions through a maximum of three ESTeems to reach the destination ESTeem. An ESTeem can operate as an operating node, a repeater node, or both simultaneously for added flexibility.

## User Friendly

The ESTeem has user programmable software to allow the configuration of the unit for any application. These commands are saved in the ESTeem's internal non-volatile memory.



## FEATURES

### Transceiver

- 19,200 bps RF data rate
- 450 to 470 MHz UHF operating frequencies
- Integral Digi-Repeater
- Frequency of operation Software Programmable
- Receiver Squelch Software Programmable
- Remote Programmability of all features over the RF or Infrared Interfaces
- Radio Diagnostic Programs included
- Radio Self-Test
- Packet Monitor
- Received Signal to Noise Ratio
- Received Signal Strength Output (Optional)

### Interfaces

- RS-232C, RS-422, and RS-485 communications ports for hardware interfacing
- Infrared communication port for Local Programming and Diagnostics

### Protocols

- Integral PLC And RTU Protocol Drivers
- Point-to-Point Protocol
- Point-to-Multi-Point Protocol
- Polled With Report-By-Exception Protocol
- Contingent Protocol
- Transparent Protocol

### WARRANTY

- One Year

# Technical Specifications Model 192C



**ESTeem Software Utility Program For**

- Setup/Programming
- Diagnostic Programs
- Interference Testing
- PC Terminal Emulation
- Polling Program
- Site Survey Instructions



**SWITCHES**

- CPU Reset
- RS-232/422/485 Setup

**LED INDICATORS**

- Power On
- Receiver Carrier Detect
- Transmitter Enable
- Link Connect/Disconnect
- Auto Connect Enable
- RS-232/422/485 Framing Error

**I/O - CONNECTORS**

- RS-232C/422/485 - 25 Pin Sub D Female
- Infrared Programming Port
- Antenna Output - TNC
- Input Power - 2 Pin Molex Female

**ADDRESSING RANGE**

- 1 to 254

**DATA INPUT**

- RS-232/422/485 Async
- Selectable 600 to 19,200 baud
- 7 to 8 data bits
- Even, Odd or no parity
- One or Two Stop Bits

**DATA BUFFERS**

- Transmit 4000 bytes
- Receive 4000 bytes

**FLOW CONTROL**

- Hardware or Software

**DATA TRANSMISSION PROTOCOL**

- Carrier Sensed Multiple Access with Collision Detection (CSMA-CD)

**ERROR CHECKING**

- Forward Error Correction and 32 Bit Cyclic Redundancy check (CRC) with Packet Acknowledge and Retry

**FREQUENCY OF OPERATION**

- 450 to 470 MHz.
- 6.25 KHz. Channel Spacing - Software Programmable
- Simplex

**RF POWER**

- 2 Watts (4 Watts optional)

**RF DATA RATE**

- 19,200 bps @ 25 KHz Channel Spacing
- 9,600 bps @ 12.5 KHz Channel Spacing

**RECEIVER SENSITIVITY**

- < 1 uV

**RECEIVER SQUELCH**

- Four Levels - Software Programmable

**MINIMUM RADIO TURN AROUND TIME**

- < 30 ms + Data (W/ACK)
- < 15 ms + Data (W/O ACK)

**POWER REQUIREMENTS**

- 10.8-16 VDC input voltage
- 400 mA Receive
- 1.5 A Transmit (2 w)
- 2.0 A Transmit (4 w)

**SIZE**

- 2.45 in. Height
- 8.16 in. Width
- 9.37 in. Length

**WEIGHT:**

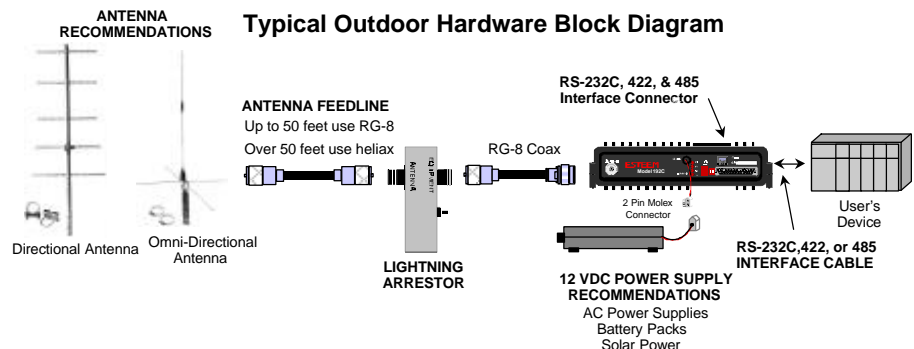
- 5 lbs.

**ENVIRONMENT**

- -30° to 60° C
- 95% Non-condensing

**WARRANTY**

- 1 Year



Specifications subject to change without notice.  
© Electronic Systems Technology, Inc.  
Revised: 13 September, 2002



**ELECTRONIC SYSTEMS TECHNOLOGY, INC.**

415 North Quay Street • Kennewick, WA 99336  
PH. (509) 735-9092 • Fax (509) 783-5475

www.esteem.com