

Digital Data Base Station - EB450

E Series



Features and Specifications

Trio DataCom's EB450 is an advanced Full Duplex Base / Repeater Station that complements the ER450 remote data radio modem. E Series data radio modems are suitable for the most complex and demanding digital high speed Point-to-Point and Point-to-Multipoint (Multiple Address Radio) SCADA and telemetry applications.

Base stations and repeaters are key elements in data radio communication systems and are subject to heavy duty cycle operation. The EB450 delivers highly reliable, continuous full duplex operations at maximum (5W) output power.

The high performance E Series data radio system products also include the EH450 Hot Standby Base / Repeater station.

Features

Radio and Modem

- Fully integrated radio, modem and data multiplexer
- True 19,200 bps over-air data rates
- Fast data turnaround
- Full Duplex Operation
- Broad frequency range with fully synthesized all digital radio design
- 5 watt transmitter output with 100% duty cycle up to maximum temperature specification (-30° to +60°C, +70°C option)
- Housed in a rugged 19" rack mount enclosure
- Insurance against obsolescence with field upgradeable firmware in flash memory
- Extensive front panel LED diagnostic display
- Internal (compact) or external duplexer options
- Digital orderwire option

Data Ports

- Two independent data ports and separate system port
- Compatible with most industry standard data protocols. eg: MODBUS, DNP-3, IEC 870 etc.
- Selectable 300 - 76.8 k bps asynchronous RS-232 interface
- Multistream™ simultaneous data streams allows for multiple vendor devices/protocols to be transported on the one radio network
- Flexible data stream routing providing optimum radio channel efficiency
- Internal repeater operation - buffered store and forward operation
- Unique integrated C/DSMA collision avoidance technology permits simultaneous polling and spontaneous alarm reporting operation in the same system

Network Management and Remote Diagnostic option

(In conjunction with TView+™ GUI)

- Exceptional network management tools
- Over-the-air user configuration
- Transparent Operation-simultaneous with user data
- Separate isolated alarm inputs and outputs
- Network wide operation from any radio terminal

Innovative and sophisticated
digital communications

designs products and solutions

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Radio

Frequency Range: 380-520 MHz (various sub-frequency bands available)

Frequency Splits: Various Tx/Rx frequency splits - programmable

Channel Selection: Dual synthesizer, 6.25 kHz channel step

Channel Spacing: 12.5 or 25 kHz

Frequency Stability: ± 1 ppm (-30 to 60°C ambient, opt. -30 to 70°C) Higher frequency stability options are available (with external GPS reference)

Aging: ≤ 1 ppm/annum

Full Duplex: Full duplex (optional internal or external duplexer available for single antenna operation)

Configuration: All configuration via Windows based software

Transmitter

Tx Power: 5W (+37 dBm) ± 1 dB software adjustable with over-temperature protection. 100% Duty Cycle.

Modulation: Narrow band digital filtered binary GMSK

Occupied Bandwidth: Designed to FCC, ETSI, ACA requirements

Tx Keyup Time: < 1 mSecond

Timeout Timer: Programmable 0-255 seconds

Tx Spurious: ≤ -37 dBm

PTT Control: Auto (on Data) / RTS line (Port A or B) / System Port (Override)

Receiver

Sensitivity: -118 dBm for 12 dB SINAD

Selectivity: Better than 80 dB

Intermodulation: Better than 75 dB

Spurious Response: Better than 80 dB

AFC Tracking: Digital receiver frequency tracking

Mute: Programmable digital mute

Diagnostics (Optional)

Network wide operation from any remote terminal.

Non intrusive protocol - runs simultaneously with the application.

Over-the-air re-configuration of user parameters.

Programmable exception reporting of alarms.

Storage of data error and channel occupancy statistics.

In-built Error Rate testing capabilities.

Connections

User Data Ports: 2 x DB9 female ports wired as DCE (modem)

System Port: RJ45 (front and rear) for diagnostics, configuration and programming

Antenna:
2 x N female bulkhead (separate Tx and Rx ports)
1 x N female bulkhead (with optional internal duplexer)

Power: 2 pin locking, mating connector supplied

LED Display: Multimode Indicators for Pwr, Tx, Rx, Sync, TxD and RxD data LEDs (for both port A and B)

Modem

Data Serial Port #1: RS232, DCE, 600-76,800 bps asynchronous

Data Serial Port #2: RS232, DCE, 300-38,400 bps asynchronous

System Port: RS232, 19,200 bps asynchronous

Flow Control: Selectable hardware/software/3 wire interface

RF Channel Data Rate:
4800/9600/19,200 bps Full duplex

Data Buffer: 16 kbyte of on-board RAM

Bit Error Rate:
 $< 1 \times 10^{-6}$ @ -110 dBm (4800 bps)
 $< 1 \times 10^{-6}$ @ -108 dBm (9600 bps)
 $< 1 \times 10^{-6}$ @ -106 dBm (19,200 bps)

Collision Avoidance: Trio DataCom's unique supervisory channel C/DSMA collision avoidance system

Multistream™: Trio DataCom's unique simultaneous delivery of multiple data streams (protocols)

Data Turnaround Time: < 10 mS

Firmware: Field upgradeable Flash memory

General

Power Supply: 13.8 Vdc nominal (11-16 Vdc)

Transmit Current:
1.3 A nominal @ 1 W
2.5 A nominal @ 5 W

Receive Current: < 230 mA

Dimensions: 19" 2 RU rack mount
485 x 90 x 420 mm

Weight: 5 kg (excluding optional duplexer)

Options

DUPLX450Bx Internal / External Duplexers, Band Reject and Band Pass

EDOVM Digital Order Wire Voice Module

TVIEW+™ Configuration, Network Management and Diagnostic GUI Software

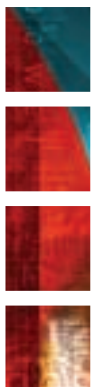
DIAGS/E Network Management and Remote Diagnostics Facilities per Radio Modem (E Series)

Related Products

EH450 Hot Standby Base Station

ER450 Remote Data Radio

95MSR 6 and 9 Port Stream Router Multiplexer



Local regulatory conditions may determine the performance and suitability of individual versions in different countries. It is the responsibility of the buyer to confirm these regulatory conditions. Performance data indicates typical values related to the described unit.

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