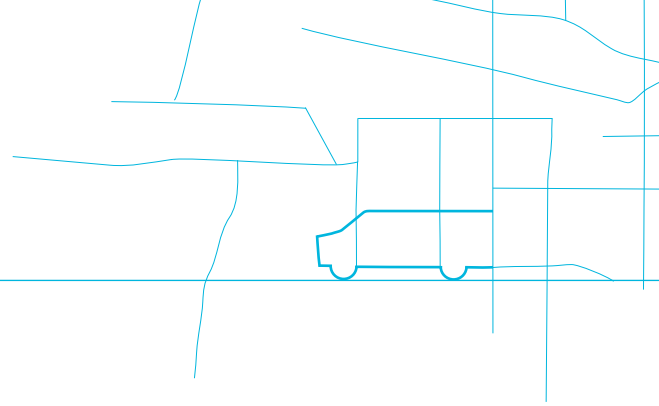




## PRODUCT SPECIFICATION

# MOBILE BASE STATION FOR RAIL



- Multi-Mode Communications Flexibility
- Rugged Design for Use in the Rail Environment
- Compact Design for Smaller Locomotive Profile

The Wireless Matrix Mobile Base Station for Rail takes the technology behind the Mobile Base Station communications platform and ruggedizes it for the challenging operational environment of the rail industry. It integrates multiple forms of communications with all the necessary antennas, processing and communications software needed to access Wireless Matrix's network services. This device is designed to withstand the temperature, shock and vibration conditions inherent in locomotive operations, and with its compact design—less than 4 inches in height—it provides the roof clearance your locomotive needs.

### OPTIONS

#### Network Features

- Cellular
- Satellite (Omnidirectional)
- 802.11b Wireless LAN
  - Untethered laptop access
  - In-yard access
- GPS Receiver (Standard)
  - 12 channel, WAAS capable
  - Accuracy:
    - Horizontal: 2.1m CEM
    - Altitude: 2.5m 2dRMS
    - Velocity: 0.1 m/sec.

#### Embedded Applications

- Automatic Vehicle Location (AVL)
  - Provides vehicle location and status information

#### Interface options

- Ethernet
- RS232
- RS422
- J1708
- 802.11b
- 2 alarm inputs
- 2 open-drain alarm outputs (can be used for remote electronics reset or remote on/off )

#### Range

- Wireless LAN: Range from vehicle of 350 ft. indoor / 2,000 ft. outdoor
- Personal Alert: 150 ft. from vehicle
- Satellite: North America

#### Certifications

- FCC/IC
- PTCRB

### MODEM

#### Physical Characteristics

- 13" x 18.5" base, 3.8" height
- Weight: 16.4 lbs
- Contains up to 4 RF options:
  - Satellite, Cellular, Wireless LAN (802.11b), Personal Alert

#### Environmental

- Temperature range:
  - +65°C to -40°C Satellite only
  - +65°C to -20°C GPRS
  - +140°C short-term
- Meets MIL-STD-810F for Rain, Moisture Resistance, Steady State Humidity and Salt Fog

#### Vibration (up to 1 KHz)

- Random: 2g RMS
- Sinusoidal: 2.5g peak
- Meets ACTS 110 and AARP-MSRP-k standards

#### Mechanical Shock

- 20g peak, 11ms pulse

#### Raw Data Rate

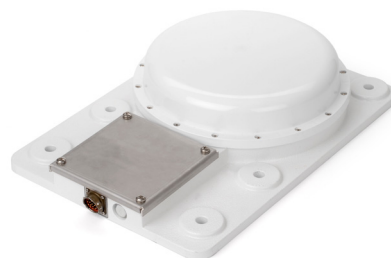
- Satellite: 6,750 bps
- Cellular: 85 Kbps
- Wireless LAN: 1 Mbps

#### Frequency Range

- Satellite: 1,525 - 1,660.5 MHz
- Cellular: 806 - 870 MHz; 891 - 941 MHz, 1.9 GHz
- Untethered Wireless LAN: 2,400 - 2,483.5 MHz

### Power

- Input Voltage: 10 to 24 VDC, 35 VDC MAX, 13.6 VDC NOM
- Supply Current (@ 13.6 VDC)
  - 0.7 A Receive (typ)
  - Satellite: 2.9 A Transmit (typ)
  - Cellular: 1.7 A Transmit (typ)
  - 802.11b: 0.8 A Transmit (typ)
- Average
  - 0.7 A Satellite Only (typ)
  - 1.0 A All Options (typ)



WIRELESS  
**MATRIX**

CONTACT INFORMATION  
13645 Dulles Technology Drive  
#100  
Herndon, VA 20171

WEB ADDRESS  
[www.wirelessmatrix.com](http://www.wirelessmatrix.com)

T 1.888.843.8554  
F 703.262.0380

EMAIL ADDRESS  
[sales@wirelessmatrix.com](mailto:sales@wirelessmatrix.com)

For more information about this product or any of our products and services, please contact Wireless Matrix.

MBUD-0097v3