Base Signalling Unit (BSU II)

The Mobile Knowledge BSU II is an integral part of the Mobile Knowledge family of products and services. Mobile Knowledge is a world leader in Mobile Data Communications, Dispatch and GPS-based vehicle location tracking systems. Mobile Knowledge offers a family of products and services so fleet and vehicle owners can increase mobile worker productivity and improve asset utilization.

Base Signaling Unit (BSU II)

The Mobile Knowledge BSU II is designed to interface Mobile Knowledge's state-of-the art dispatch system to your Base Radio. It is designed for compatibility with a wide variety of mobile applications including taxi, limousine, shuttle, courier and transit.

The Mobile Knowledge BSU II is designed for mobile applications that traditionally use thin data with a high transaction rate. The BSU II outputs message packets over the radio link using the "Slotted Aloha" synchronous data protocol. The communications system operates in a full duplex mode, with the base unit transmitting a packet every 125 milliseconds. The system provides for error detection, single bit error correction and packet merging between the vehicles and the base unit. Packets which cannot be corrected are identified and retransmitted.

Networked with Mobile Knowledge's industry leading mobile data terminals like the series 2000 and series 9000 MDT's, the Mobile Knowledge BSU completes a powerful mobile data communications system.

FAST

"Data-enable" your conventional voice channels and dispatch more jobs with fewer resources

GPS Coordinates appended to every incoming message

Automatic voice fallback mode

FLEXIBLE

Automatic error detection and re-transmit

Operates in full duplex mode

Transmits packets every 125 milliseconds

FEATURE-RICH

Utilizes high efficiency "Slotted Aloha" communications protocol

Rack mountable design for easy installation

Supports 12.5KHz or 25KHz Channel Separation

Mobile Knowledge

BSU II

Base Signaling Unit - BSU II

Product Specifications

Physical

Size	428 mm x 308.6 mm x 80 mm 16.86 in x 12.15 in x 3.15 in
Weight	6.76 kg 15 lbs

Radio Communication Link

Transmission Speed	3600 bps
Modulation Technique	Delay modulation, proprietary coding. Spectral energy concentrated between 900 and 1800 Hz where radio impairments are minimal.
Link Protocol	Synchronous, packetized, controlled contention by message control
Packet Structure	Fixed bit fields, all 8 bits per byte BSU to MDT packet is 216 bits MDT to BSU packet is 232 bits.
Error Control	Combination of byte parity, longitudinal redundancy checks, block checksum, and packet merging
Retransmission Attempts	Failure to receive expected acknowledgement causes BSU to retransmit once after 12 seconds and MDT to retransmit up to four times with a 1-3 second variable delay between transmissions.
Mobile Radio Key-up Period	58 milliseconds to 250 milliseconds available
Sensitivity	99% of data transmissions will be successful over a static radio link, with a received level sufficient to provide 18db SINAD, providing the radio has been interfaced for data according to MKC instructions
Fallback	Radio communications link is switched from data to voice mode for Supervisor/Dispatcher to fleet voice communications.
Alarms	Accepts up to four local alarms. Optional opto-isolated inputs.
Station Identification	Morse code transmission of station identification. 1 kHz tone controlled. Interfaces to base radio modulator and PTT circuitry.
Channel busy Monitor	Indicates detection of a radio frequency signal on the base radio receiver or transmitter frequencies
Internal Controls	Station ID signal level, data transmit level, transmit equalizer, data receive level, receive equalizer

Electrical

Power	Operating voltage 100-250 VAC , 50-60Hz 0.7-0.3A.

Environment

Operating Temperature	-20 ˚C to +70 ˚C /-4 ˚F to 158 ˚F -10 ˚C to +60 ˚C /14 ˚F to 149 ˚F
Relative Humidity	to 90% non-condensing

Dispatch Computer Communication Link

Transmission Speed	4800 bps
Modem Type	CSU/DSU
Link Protocol	Asynchronous, packetized, half duplex
Packet Structure	Variable bit fields Dispatch computer to BSU packet is 1104 bits maximum BSU to dispatch computer is 104 bits maximum
Error Detection	Block error check
Link Control	Implied acknowledge. Retransmission on request. Dispatch computer has overall control, relinquishing it to the BSU for inbound packets. Timeout on relinquished control.

Specifications subject to change.