

Military Navigator II

MULTIPOINT WIRELESS DATALINK WITH EMBEDDED GPS



The Military Navigator II is a weather-proof, high performance wireless datalink designed for operation in harsh environments such as those found in military, seismic, security, marine, and high reliability industrial applications. Available with up to 3 serial ports, a discrete I/O (4 inputs, 3 outputs) and embedded WAAS-enabled GPS, the Military Navigator II is ideally suited for a wide variety of command, control, and communications (C3) systems.

FUNCTIONALITY AND FLEXIBILITY

The Military Navigator II offers a broad range of both locally and remotely configurable parameters and capabilities to satisfy a variety of serial and serial-to-IP communications requirements. Offering flexibility to the system architect, the Military Navigator II datalink can be configured as a master, slave, store and forward repeater or slave/repeater. With up to 115 Kbps of available bandwidth, the network is scalable to accommodate the needs of dynamic systems and can be operated in point-to-point, point-to-multipoint, or TDMA mode.

ROBUST WIRELESS CONNECTIVITY

Employing secure, frequency hopping spread spectrum (FHSS) technology, the Military Navigator II is inherently resistant to interference from other communications equipment.

Empowered with an ultra sensitive yet highly selective, digitally filtered RF receiver, the Military Navigator II provides real-time, robust communication links (up to 60 miles LOS) with high data transfer accuracy rates.

With proven performance in dense RF environments, Intuicom's wireless networks power through the congestion to provide reliable data transport where other technologies fall short.

APPLICATIONS

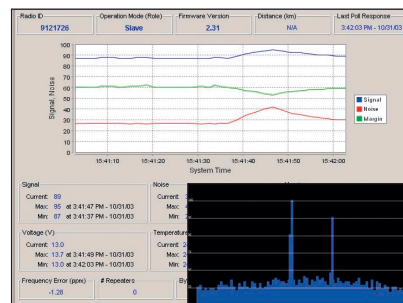
Whether scoring a wargaming exercise in real-time, tracking assets on the range, or collecting data from remote buoys, the Military Navigator II can support your fixed and mobile communications needs.

Applications include:

- Asset tracking
- Sensor Networks
- Security Systems
- Unmanned Vehicles
- Target Tracking & Scoring
- Infrastructure Monitoring
- Unattended Weapons

SYSTEM MANAGEMENT

Network-wide RF diagnostics and spectrum analyzer tools are available for specific models. Data transfer performance, signal strength, and noise figures are among the many parameters that can be monitored.



FEATURES

- Multiple serial and discrete I/O ports
- 115.2 Kbaud throughput
- Embedded WAAS-enabled GPS
- IP gateway
- 60+ mile range (LOS)
- FHSS technology (military or license-free ISM bands)
- Field deployable networks
- Point to point, point to multi-point, or TDMA
- Configurable as a master, slave, slave/repeater or repeater
- Network diagnostics (available on specific models)
- Extended temperature range
- Hi-rel weatherproof aluminum case
- 99.9% reliability

To learn more about enabling wireless networking for your applications, please contact us at:
govt@intuicom.com
 or call (303) 449-4330





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MULTIPOINT WIRELESS DATALINK WITH EMBEDDED GPS

GENERAL SPECIFICATIONS

Enclosure	Waterproof, ruggedized extruded aluminum with mounting flanges
Size	H: 70mm W: 165mm L: 225mm
Weight	1.5 kg
Operating Temperature	-30° C to +75° C
Connectors/Signals	
External Antenna	Type-N female
GPS Antenna	TNC female
Data	Sealed 11-pin Fischer (RS-232) x3
Power	Sealed 2-pin Fischer
Input Voltage	9.5 to 14 VDC (225-400 MHz); 6 to 30 VDC (900 MHz); 9.5 to 30 VDC (2.4 GHz)
Operating Modes	Master, Repeater, Slave, Slave/Repeater, Point-to-Point, Point-to-Multipoint, TDMA, Adaptive Multipoint™

SOFTWARE

Network-wide Diagnostics:

Provides real-time monitoring of master, slaves, and repeaters in a multi-point network. (Available on specific models.)

Spectrum Analyzer:

A tool to evaluate the RF environment and assist in transceiver configuration. (Available on specific models.)

IP Gateway Server:

Provides data streams with a TCP/IP interface for easy integration with third party applications.

WIRELESS TRANSCEIVER

SPECIFICATIONS	MILITARY VHF/UHF	LICENSE FREE 900 MHZ	LICENSE FREE 2.4 GHZ
Frequency Range	225-400 MHz	902-928 MHz	2.4-2.4835 GHz
Transmitter			
Output Power	4 Watts (User Adjustable)	1 Watt (User Adjustable)	500 mW (User Adjustable)
Range, Line of Sight	60+ Miles	60 Miles	20 Miles
Modulation	Spread Spectrum, GFSK	Spread Spectrum, GFSK	Spread Spectrum, GFSK
Occupied Bandwidth	230 KHz	230 KHz	230 KHz
Spreading Method	Frequency Hopping (FHSS)	Frequency Hopping (FHSS)	Frequency Hopping (FHSS)
Hopping Patterns	15 per band, 105 total, user selectable	15 per band, 105 total, user selectable	15 per band, 45 total, user selectable
Hopping Channels	2 to 112, user selectable	50 to 112, user selectable	75 to 80, user selectable
Hopping Bands	7, user selectable	7, user selectable	3, user selectable
Receiver			
Sensitivity	-103 dBm at 10 ⁻⁶ BER	-108 dBm at 10 ⁻⁶ BER	-108 dBm at 10 ⁻⁶ BER
Selectivity	40 dB at fc ± 230 KHz; 60 dB at fc ± 460 KHz	20 dB at fc ± 115 KHz; 60 dB at fc ± 145 KHz	20 dB at fc ± 115 KHz; 60 dB at fc ± 145 KHz
System Gain	140 dB exclusive of antennas	140 dB exclusive of antennas	135 dB exclusive of antennas
Data Transmission			
Error Detection	32 Bit CRC, retransmit on error	32 Bit CRC, retransmit on error	32 Bit CRC, retransmit on error
Data Encryption	Substitution, dynamic key	Substitution, dynamic key	Substitution, dynamic key
Data Rate*	115.2 Kbps (full duplex)	115.2 Kbps (full duplex)	115.2 Kbps (full duplex)
Data Protocol (standard)	RS-232	RS-232	RS-232
Power Consumption (max RF output power setting)	@12 VDC	@12 VDC	@12 VDC
Idle	450mA	122mA	131mA
Receive	700mA	136mA	150mA
Transmit (average)	3A (@ full 4W TX power)	272mA	355 mA

*Assumes 75% frequency availability, no repeater

GPS

WAAS Enabled	Yes	Speed	514 m/s (1000 knots)
Channels	10+2 SBAS Configuration	Altitude	18,288 m/s (60,000 ft.)
Frequency	L1 C/A code	Standard NEMA Outputs	GGA, GSV, GSA, RMC, VTG, GLL, ZDA
Update Rate	1 Hz update rate	DGPS Input	RTCM-104 v2.2; Message 1, 3, 9
PPS Output	Yes	Acquisition Time	<10 sec (hot); <150 sec (cold)
Position Accuracy	1m (WAAS/EGNOS Horiz. CEP); <1m (DGPS Horiz. CEP); 3m (Autonomous Horiz. CEP)	Reacquisition Time	1-2 sec.

INTUICOM INC.
 1880 SOUTH FLATIRON COURT • BOULDER, CO 80301 • USA
 T 303-449-4330 • F 303-449-4346
 E-mail: govnt@intuicom.com • www.intuicom.com



NOTE: Specifications subject to change without notice