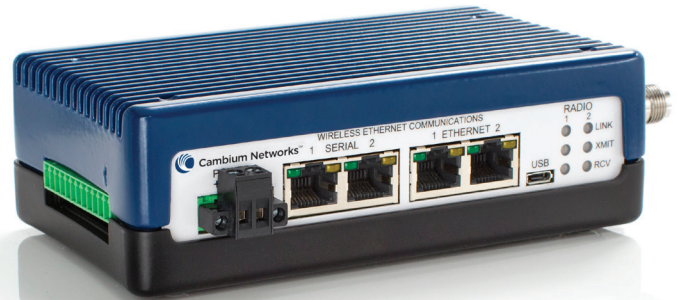


cnReach™ N500 700 MHz Radio

For outdoor critical infrastructure operations, cnReach transports process monitoring and control data from the remote sensor back to the operations center supporting real-time automated decision making and on-going analytics. Covering large geographic areas, hard to reach terrain and challenging spectrum environments, cnReach delivers reliable, secure connectivity to the petrochemical, electric utility, water/wastewater/stormwater and transportation industries. cnReach eases the migration to modern networks by combining legacy serial and analog/digital I/O with TCP/IP and Ethernet connectivity.



cnReach N500 700 MHz Radio

Fully integrated into a 'single pane-of-glass' management platform (cnMaestro™) cnReach helps bridge the IT/OT sides of complex organizations. Combining cnReach's licensed and unlicensed narrow-band radios with Cambium Networks' broadband technologies, industrial organizations are delivering end-to-end Industrial Internet of Things solutions today.

- Licensed 700 MHz (cnReach is also available in 900 MHz licensed and unlicensed in a single radio)
- Secure communications with AES 128/256-bit encryption with password authentication
- Highly reliable communications with access point synchronization and adaptive modulation
- Single and dual radio configurations for advanced relay and store-and-forward applications.
- Extensive I/O capabilities easing the transition from serial to all-IP networks with multiple serial ports, Ethernet ports and analog/digital I/O built-in.
- Sophisticated network planning with LINKPlanner, a no-charge planning tool enabling network designers to predict both capacity and availability of networks crossing all of Cambium's technologies.
- Supported by cnMaestro software for monitoring the status of entire networks carrying traffic across sensors

PRODUCT	PRODUCT DESCRIPTION	MODEL NUMBERS
	N500 700 MHz Single	NB-N500710A-US
	N500 700 MHz Single with IO	NB-N500711A-US
	N500 700 MHz Dual	NB-N500720A-US
	N500 700 MHz Dual with IO	NB-N500721A-US
	N500 IO Expander	NB-N500001A-US

DEPLOYMENT TOPOLOGIES

- Point to Point (PTP)
- Point to Multipoint (PMP)
- Repeater (REP) - Single or Dual Radio
- Stand-alone IO Expander

RADIO PERFORMANCE

Frequency Range	757-758 MHz and 787-788 MHz
Output Power	10 mW to 5W (10 dBm to 37 dBm)
Step Size	10 mW
Modulations	MSK / QPSK / 8PSK / 16QAM / 32QAM
Capacity	10 kbps to 1 Mbps
Channel Bandwidths	12.5 / 25 / 50 / 100 / 200 / 250 kHz
Range	Up to 70 miles

RECEIVE SENSITIVITY	12.5 KHZ CHANNEL		25 KHZ CHANNEL		50 KHZ CHANNEL	
	Rx Sensitivity (dBm)	Capacity (kbps)	Rx Sensitivity (dBm)	Capacity (kbps)	Rx Sensitivity (dBm)	Capacity (kbps)
MSK	-113	10	-113	19	-110	39
QPSK	-109	23	-107	36	-108	71
8PSK	-104	34	-102	52	-99	101
16QAM	-100	45	-98	70	-93	137
32QAM	-94	57	-93	87	-93	175

RECEIVE SENSITIVITY (ISM MODE)	100 KHZ CHANNEL		200 KHZ CHANNEL		250 KHZ	
	Rx Sensitivity (dBm)	Capacity (kbps)	Rx Sensitivity (dBm)	Capacity (kbps)	Rx Sensitivity (dBm)	Capacity (kbps)
MSK	-108	76	-108	153	-104	194
QPSK	-103	160	-102	320	-101	403
8PSK	-97	240	-94	480	-95	605
16QAM	-91	320	-91	640	-91	806
32QAM	-87	400	-87	800	-87	1008

DATA CAPABILITIES

Packet handling	Layer 2 bridge
	Layer 3 static routes
	VLAN support
Error Correction	Up to 32-bit CRC, Retransmit on error
Data Encryption	128/256-bit AES
I/O and Serial Data Access	Optional I/O allows seamless integration of Modbus RTU, Modbus TCP and DNP3 protocols

MANAGEMENT

Web-based Interface via HTTP/HTTPS
LINKPlanner integration (capacity and availability planning)
Remote Management via SNMP
cnMaestro integration (roadmap)
Support for configuration files, remote software upgrades
Built-in diagnostic tools via web interface such as RF Ping and RF Throughput

INTERFACES

Ethernet Interfaces	2 x RJ-45
	10/100BaseT, Full Duplex, rate auto negotiated (802.3 compliant)
Serial Interfaces	2 x RJ-45
	RS-232/422/485, up to 230.4 kbps
Analog/Digital I/O (optional)	8 pins for analog input/output and digital input/output
RF / Antenna	TNC RF connectors (1 or 2 depending on single or dual-radio configuration)

POWER

Input	10-32VDC with reverse polarity protection					
Power Consumption (12VDC average)	3W Output			5W Output		
	Transmit	Receive	Idle	Transmit	Receive	Idle
<i>Single Radio Configuration (mA)</i>	593	430	292			
<i>Dual Radio Configuration (mA)</i>	620	467	311			
IO Expander (mA)	293 mA					

PHYSICAL

Dimensions	6.625" x 3.45" x 1.835" (168 mm x 876 mm x 466 mm)	
Weight	Single Radio Configuration	1.54 lbs. (0.70 kg)
	Dual Radio Configuration	1.61 lbs. (0.73 kg)
DIN Rail Mount	optional	

ENVIRONMENTAL

Operating Temperature	-40C to +60C
Humidity	95% operating humidity @ 40C non-condensing
HAZLOC	UL-Approved to Class 1 / Div 2

REGULATORY

UL	Approved
FCC ID	Z8H89ft0026
IC ID	109W-0025