

NETNode-4R

NETNode IP Mesh Radio Phase 4 (Robust) - 2W

Overview:

NETNode IP radios can be combined in a fluid self-forming, self-healing mesh containing up to sixteen radios. The NETNode radios within the mesh exchange data on a single frequency, simplifying frequency management. The entire mesh occupies just 2.5MHz of bandwidth (3.0, 3.5, 5.0, 6.0 and 8.0MHz also available). The NETNode radios employ the unique DTC COFDM modulation scheme and therefore offer excellent RF penetration and performance in the presence of multipath.

The NETNode mesh radios can provide up to 8.8Mb/s of IP data (data rate depends on mode, number of nodes and range between nodes). This available bit-rate can be used to exchange IP data traffic between nodes.

The NETNode can be connected to third party composite cameras using the AVI option and PTZ control can be achieved using the serial interface.



Features and Benefits:

2W transmit power

COFDM waveform for excellent NLOS & multipath performance

Flexible RF channel bandwidths (2.5,3,5,6 MHz)

Range of frequency variants across public and private bands

Up to 8.8Mbps UDP data capacity in a Mesh

Up to 16 nodes in Mesh

Optional AVI upgrade for composite camera input

Optional AES 128/256 encryption**

Product information:

Product Includes:

CA2580	Power/Ethernet External Screened Cable Assembly 5m
CA2581	Control & Data External Screened Cable Assembly 2m
CA2585	Microphone/Headphone and Control/Debug External Screened Cable Assembly 1M

Accessory Options (sold separately):

CAMP TZ*	Pan, Tilt and Zoom camera for NETNode
MISC DR	Mission Commander Control Interface (Levels-Bronze/Silver/Gold)

Related Documents:

DTC P4 Standard Mesh brochure	
Maritime Mesh brochure	
Maritime Mesh white paper	

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Technical specification

Interfaces

RF Interfaces (Antenna 1, 2 and 3)	N-Type (2 x RX, 1 x TX)
Power and Ethernet	Amphenol 38999 Series 3
Control and misc I/O	Amphenol 38999 Series 3
Camera (A/V)	Amphenol 38999 Series 3

Typical Range

NETNode-4R	Line of Sight 60km+ Light urban circa 5km
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RF Interfaces

Antenna 1	Switched transmit antenna
Antenna 2	Receive only antenna
Antenna 3	Receive only antenna

RF and modulation

Output frequency	340 to 470MHz * 450 to 600MHz 1.14 to 1.50GHz 2.00 to 2.50GHz 4.40 to 5.00GHz
Tuning step size	125kHz step
Output power	+34 to 10dBm in 0.25dB steps
Bandwidth	2.5, 3.0, 3.5, 5.0, 6.0 MHz
Mesh capacity	Up to 8.8Mb/s Phase 4
Modulation	COFDM 360 carrier modulation
Carrier Modulation	QPSK/16QAM (adaptive)
FEC rate	FEC1/2
Receive diversity	Maximum Ratio Combining
Receive sensitivity	-98dBm for most robust mode

IP Interface

Primary and secondary Ethernet electrical	100BaseT Ethernet
IP address allocation	DHCP dynamic IP addressing/Static IP
Video and Audio	Multicast VLC compatible
Streaming Format	RTSP Support

A/V Input Option (not included as std)

Video input	Composite or SDI (selectable)
Video format	525 or 625 (PAL or NTSC)
Video encoding	MPEG4
Quality	User selectable quality level
Video bit-rate	2.4Mb/s to 50kb/s (variable)
Resolution	704, 576, 480, 352 or SIF (1/4 Resolution)
Frame rate	Self-selecting 30 to 2F/s
Audio input	Line level or microphone level
Audio sample frequency	48KHz
Audio encoding	MPEG audio layer 1
Audio bit-rate	384 to 64kb/s

Store and Forward options*

Storage format	SD card interface (Secure Digital card)
Record options	Continuous or triggered (Milestone)
Files download	From web browser interface/RTSP
Video / audio clip size	30 seconds

Encryption

Type	AES128 or AES256 (optional)**
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Open Audio comms channel (shared voice channel)

Multi-user audio comms channel	Interface microphone level/headphone o/p
Compression	G726 32kbit audio 8KHz sampling and mute

GPS

Dedicated GPS interface	RS232/RS485
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Data Interface

RS232/RS485 data input (shared with user camera control)	1K2 to 115K2 baud switchable with UDP and TCP routing protocol
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PTZ camera interface (with AVI fitted)

User camera type	PAL or NTSC
User camera control	From Mesh Commander PC application using VISCA, PELCOD or PELCOP from any user supplied desk controller. Requires RS232/RS485 interface
Camera Options	CAMP TZ long range Pan Tilt Zoom

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Technical specification (con't):

Control

Local control	LEDs power and mesh status
Remote control	Mission Commander PC application. Full control of all parameters in a map based application. Web Browser control

Physical

Dimensions	H 160mm (6.29ins), W 160mm (6.29ins), D 60mm (2.36ins)
Mounting options base	Tripod mount and through hole screws
Mounting options adaptation plate	Pole mounting kit
Weight	1.56kg (3.43lbs)

Power

DC input	12-14V
Power Consumed	18W
Output power 2W	+33 to 0dBm in 0.25dB steps (+/- 1dB)

Environment

Temperature range	-10° to 50°C (14° to 122°F)
Sealing	IP66 Minimum

Frequency

045060	450 - 600 MHz
114150	1.14-1.50 GHz
200250	2.00-2.50 GHz
440500	4.40-5.00 GHz

Export of encrypted products is subject to United Kingdom regulatory export controls

Licensing Options

AES128NN	128bit AES Encryption
AES256NN	256bit AES Encryption

*Will be supported in future releases

**Encryption licences are subject to export control.

For further information contact your Sales Account Manager, one of our Regional Sales Offices, or email solent.enquiries@domotactical.com

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