

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 (1.25MHz to 10.0MHz 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 14.6Mb/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 AVI variant can be connected to third party composite cameras and PTZ control can be achieved using the serial interface.



Product Information:

NETNode-4R Product Includes

CA0406*	Control and data cable
CA2240*	Microphone/headphone and control/debug cable
CA3229	Screened XLR power/Ethernet cable (see options)
CA3256	Short bananas to XLR power cable

* Screened cables supplied as standard with UHF variants - see options

NETNode-4R-AVI Product Includes

As for NETNode-4R plus: CA0477	Robust AV cable 2m
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Accessory Options (sold separately)

AP000481	UK IEC power supply cable for use with CA0649
AP001483	US IEC power supply cable for use with CA0649
AP004634	EU IEC power supply cable for use with CA0649
AP007192	AU IEC power supply cable for use with CA0649
CA0649	12VDC power supply unit - for use with CA3229
CA2581	Control/data screened cable 2m
CA2585	Mic/head and control/debug screened cable
CA3185	GPS and talkback cable
CA3254	5m XLR to XLR extension for use with CA3229
CA3255	10m XLR to XLR extension for use with CA3229
CAMPZ	Pan-tilt-zoom camera for NETNode
MISCDR	Mission Commander control application
NETBAT-R	Battery pack, 14.8V (5.2Ah) 6-pin amphenol
NETR-MB	NETNode Robust mounting bracket

Related Documents

100115	NETNode Phase 4 User Guide
100130	NETNode Phase 4 Operations Guide

Features and Benefits:

2W transmit power

COFDM waveform for excellent NLOS & multipath performance

Flexible RF channel bandwidths (1.25, 1.5, 1.75, 2.5, 3, 3.5, 5, 6, 7, 8 and 10MHz)

Range of frequency variants across public and private bands

Up to 14.6Mbps UDP data capacity in a Mesh

Up to 16 nodes in Mesh

AVI variant for composite camera input

Built in encryption (DES as standard, AES128/256 available subject to Export Control)

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Technical Specification:

Interfaces

RF interfaces (antenna 1 and 2)	N-Type (1 x TX/RX, 1 x RX)
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

Line-of-sight	60km+
Light urban	Circa 5km

RF Interfaces

Antenna 1	Switched transmit antenna
Antenna 2	Receive only antenna

RF and Modulation

Tuning step size	125kHz step
Output power	+34 to 10dBm in 0.25dB steps
Bandwidth	1.25, 1.5, 1.75, 2.5, 3.0, 3.5, 5.0, 6.0, 7.0, 8.0 and 10.0MHz
Mesh capacity	Up to 14.6Mb/s
Modulation	COFDM 360 carrier modulation
Carrier modulation	QPSK/16QAM (adaptive)
FEC rate	FEC 1/2
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 (AVI variant)

Video input	Composite
Video format	525 or 625 (PAL or NTSC)
Video encoding	MPEG-4
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 2FPS
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

Open Audio Comms Channel (shared voice channel)

Multi-user audio comms channel	Interface microphone level/headphone output
Compression	G726 32kbit audio 8kHz sampling and mute

Encryption

Type	DES as standard, AES128 or AES256 (both optional)
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GPS

Dedicated GPS interface	RS232/RS485
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Technical Specification (con't):

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 (AVI variant)

User camera type	PAL or NTSC
User camera control	From Mission Commander using VISCA, PELCOD or PELCOP from any user supplied desk controller. Requires RS232/RS485 interface
Camera options	CAMPTZ long range pan-tilt-zoom

Control

Local control	LEDs power and mesh status
Remote control	Mission Commander - control of all parameters in a map based application Web browser control

Power

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

Physical

Dimensions	H 160mm (6.30ins), W 160mm (6.30ins), D 60mm (2.36ins)
Mounting options base	Tripod mount and through hole screws
Mounting options - adaptation plate	Post mounting kit
Weight	1.56kg (3.43lbs)

Environment

Temperature range	-10°C to +50°C
Sealing	IP66 minimum

Frequency

034047*	340-470MHz
045060*	450-600MHz
114150	1.14-1.50GHz
200250	2.00-2.50GHz
440500	4.40-5.00GHz

Licensing Options

AES128NN	128bit AES encryption
AES256NN	256bit AES encryption

*Will be supported in future releases

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

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

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