



## R-826 TetraNode Mobile with Inmarsat link

### General Description

TetraNode Mobile is based on the TetraNode Industrial platform, providing high reliability, ultimate configuration flexibility and excellent power efficiency in a small enclosure using ruggedized components. TetraNode Mobile is intended for fast deployment and system backup scenarios.

The Inmarsat satellite link can be used for a variety of applications, including telephony, remote dispatch and connections with other TetraNode networks, providing robust TETRA service beyond the reach of terrestrial communications networks.

Typical users of TetraNode Mobile with Inmarsat include defense organisations, foreign and intelligence services, protection of high officials and VIPs, oil & gas exploration, mining and disaster recovery.

### Technical Overview

TetraNode Mobile is a self-contained solution providing a stand-alone TETRA system. The standard TetraNode Mobile package comes with one or two TETRA carriers, but can also contain base station transceivers for conventional channels and analog trunked radio.

For Inmarsat integration, the system is equipped with ISDN Basic Rate and IP interconnections to the Broadband Global Area Network (BGAN) terminal of choice. The broadband IP capability of the Inmarsat BGAN terminal is used to provide remote dispatch and system interconnection.

In addition, the Voice-data Logging Server (VLS) may be included in the CompactPCI chassis to allow recording of all voice, data and GPS location updates within the network. The VLS provides unmatched performance and functionality in a very small form factor, which is ideally suited for fast deployable networks.

The TetraNode Mobile platform runs the same proven TetraNode software as supplied for the TetraNode High-End platforms, which is deployed in many medium and large mission-critical networks around the world. Most functionalities and redundancy options are available for this platform, running on the same robust Linux operating system, offering a truly reliable and scalable solution.

TetraNode Mobile can operate fully independent, or can be part of a bigger network. Both expansion to multi-site and multi-node configurations are supported.

Interconnection through the On-Demand Intelligent Network Interface (ODINI) adds the benefit of low-latency dispatch operations with immediate PTT response, even over high-latency satellite links.



The two-carrier version of TetraNode Mobile can be equipped with combining for one or two antennas. The two antenna configuration offers RF path redundancy, higher output power at the antenna and two-way diversity reception. The system is equipped with a high stability frequency source for 10 years of operation without the need for GPS synchronisation.

Finally, TetraNode Mobile is equipped with a broad array of maintenance and self-diagnostics features, enabling the system to be remotely managed and facilitating on-site maintenance and troubleshooting.

### Key Features

- Proven reliability
- Flexible platform for up to two TETRA carriers within a very small cabinet
- Full duplex and group communications support through Inmarsat telephony services
- Remote dispatch and system interconnection support through Inmarsat broadband IP services
- Unparalleled scalability due to wide variety of system and feature options
- Ease of configuration and maintenance with true Plug and Play
- Superior RF performance
- Powerful Management, Dispatch and Logging solutions
- Possible to re-use the equipment in standard TetraNode Industrial and High-End radio networks





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### Standard package <sup>6)</sup>

- Single TETRA Base Station transceiver
- Integrated TNX with TetraNode software
- Telephony gateway for ISDN-BRI
- Integrated antenna combining with receiver diversity
- Ultra-high stability frequency reference for 10 years of operation without the need for GPS calibration

### System options <sup>1)</sup>

- Additional TETRA Base Station transceivers
- Transceivers for conventional or analog trunked radio
- Additional telephony gateways for POTS, E&M, ISTN-BRI, ISDN-PRI, QSIG, SIP
- Network Management Station & NodeView
- Line Dispatch Station Gecko & Chameleon
- Voice-data Logging Server & Client
- Redundant TNX

### Functionality

- Speech Services: Individual Call, Duplex Call, Group Call, Broadcast Call, Telephone Call <sup>2)</sup>
- Data Services: Status message, Short Data Service, Packet Data single slot <sup>1)</sup>, Packet Data multi slot <sup>1)</sup>, Circuit-switched Data <sup>1)</sup>
- Supplementary Services: Priority Call, Emergency Call, Call Identification, Talking Party Identification, Dynamic Group Number Assignment, Call Forwarding, Late Entry, Barring of Incoming & Outgoing Calls, Discreet Listening <sup>3)</sup>, Ambience Listening <sup>3)</sup>, Call Authorized by Dispatcher <sup>3)</sup>, Call Hold <sup>3)</sup>, Call Transfer <sup>3)</sup>, Include Call <sup>3)</sup>

### Functionality (continued)

- Security Services: Authentication, Class 2 Air Interface Encryption <sup>1)</sup>, Class 3 Air Interface Encryption <sup>1)</sup>, End-to-End Encryption <sup>1)</sup>, Remote Disable / Enable <sup>3)</sup>

### RF performance <sup>4)</sup>

- Frequency bands 344 – 370, 380 – 400, 410 – 430, 450 – 473, 806 – 870 MHz
- Tx power after duplexer 44 dBm (25 Watt)
- Static sensitivity -119 dBm (3% BER)
- Two channel diversity gain +5.5 dB (dynamic)

### Mechanical, transportable cabinet <sup>5)</sup>

- Dimensions (W x H x D) 535 x 535 x 700 mm (with closed cabinet)
- Weight 60 kg (with 1 carrier)

### Environment

- Operating temperature 0 °C to 50 °C
- Humidity 5 to 85 %, non-condensing

### Power supply

- Input voltage options 90 to 240<sub>AC</sub> (50/60 Hz), 24 V<sub>DC</sub>, -48 V<sub>DC</sub>
- Input power Typical 40 Watt for TNX and 250 Watt per carrier

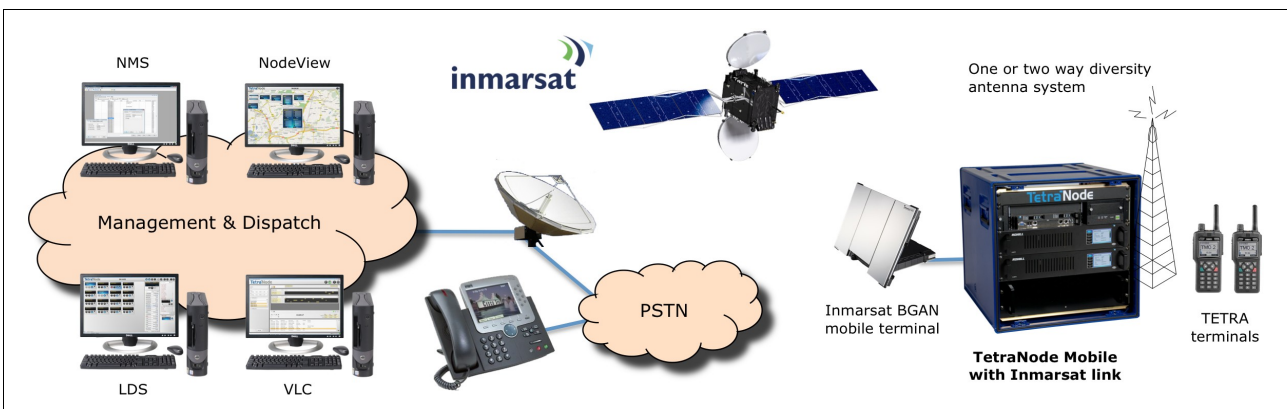
<sup>1)</sup> Optional <sup>2)</sup> Telephony Gateway required

<sup>3)</sup> Line Dispatch Station required

<sup>4)</sup> See BSS2/BSS4 product sheet for more detailed information

<sup>5)</sup> Other custom-designed enclosures are available on request

<sup>6)</sup> Inmarsat BGAN terminal not included in standard delivery



TetraNode system architecture on basis of TetraNode Mobile with Inmarsat link



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