

R-826 TetraNode Mobile

General Description

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

TetraNode mobile solution offers many customization options, proving perfectly compliant solutions for a wide range of mission-critical applications. It can operate stand-alone or can be part of a bigger network..

All different R-U10 enclosures have the capacity for max 2 carriers and 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 synchronization.

Additional features

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

With the TetraNode Multipurpose interface a large number of gateway options become available, ranging from single-line analog and ISDN telephony to trunked telephony using QSIG, ISDN-PRI or VoIP, as well as gateways for dispatch and network management.

For Inmarsat integration, the system will be 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.

An additional feature is the Voice-data Logging Server (VLS) which will 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.

There are 3 types of R-10U enclosures

1. Fiberglass in the colors white, black or green
2. Aluminum in colors black green or blue
3. Aluminum with mil spec MIL-STD 810, 4150 and 28800 (IP65)



Key Features

- TEP Proven reliability
- Flexible platform for up to two TETRA carriers within a very small cabinet
- 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

Technical specifications

RF performance

- 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)

Standard package

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

Functionality

Speech Services: Individual Call, Duplex Call, Group Call, Broadcast Call, Telephone Call ²⁾
 Data Services: Status message, Short Data Service, Packet Data single slot ¹⁾, Packet Data multi slot ¹⁾, Circuit-switched Data ¹⁾
 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 ³⁾, Ambience Listening ³⁾, Call Authorized by Dispatcher ³⁾, Call Hold ³⁾, Call Transfer ³⁾, Include Call ³⁾
 Security Services: Authentication, Class 2 Air Interface Encryption ¹⁾, Class 3 Air Interface Encryption ¹⁾, End-to-End Encryption ¹⁾, Remote Disable / Enable ³⁾

System options

- 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
- Telephony gateway for ISDN-BRI

Mechanical, transportable cabinet

- 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_{AC} (50/60 Hz), 24 V_{DC}, -48 V_{DC}
- Input power Typical 40 Watt for TNX and 250 Watt per carrier

Ordering specifications

Deliverable system

- R-826-1- (D) One carrier mobile system
 - R828 TetraNode industrial Switch
 - R-10U (fiberglass or alu Mobile housing)
 - R961 (1 Carrier & RF sub-system)
- R-826-2 -(D) Two carrier system
 - R828 TetraNode industrial Switch
 - R-10U (fiberglass or alu Mobile housing)
 - R962 (2 Carriers & RF sub-system)
 Options : Diversity (D)
- R-10U-X-C (x = 1,2,3 : c= color)
 1. Fiberglass in the colors white , black or green
 2. Aluminum in colors black green or blue
 3. Aluminum with mil spec MIL-STD 810, 4150 and 28800 (IP65) in green

Features / Add-on

S-875 TetraNode Multipurpose Interface
 S-1445 Inmarsat
 R-816 Voice Logging server

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TetraNode Mission Critical Communications