



Homeland Security & Critical Infrastructures

MR4000 MULTI TECHNOLOGY ROUTER

The MR4000 is a powerful and flexible routing platform built upon the VS4000 TETRA/TEDS vehicular radio. MR4000 complements TETRA capabilities by adding 2G/3G, LTE communications and Wi-Fi connectivity for a broad range of mobile and fixed applications.

NEW DEVICES FOR NEW CHALLENGES

The raising importance of data communications with the need to handle multimedia data and access application in an easy way, are determining the need of new devices that support first responders activity in a flexible way without compromising with security and robustness that are characterizing PMR radios.

The company designed the MR4000 to bring the power of broadband communications in professional arena. It supplies mission critical TETRA voice communications services together with data services that rely on heterogeneous radio vectors: TETRA, TEDS, Wi-Fi and LTE.

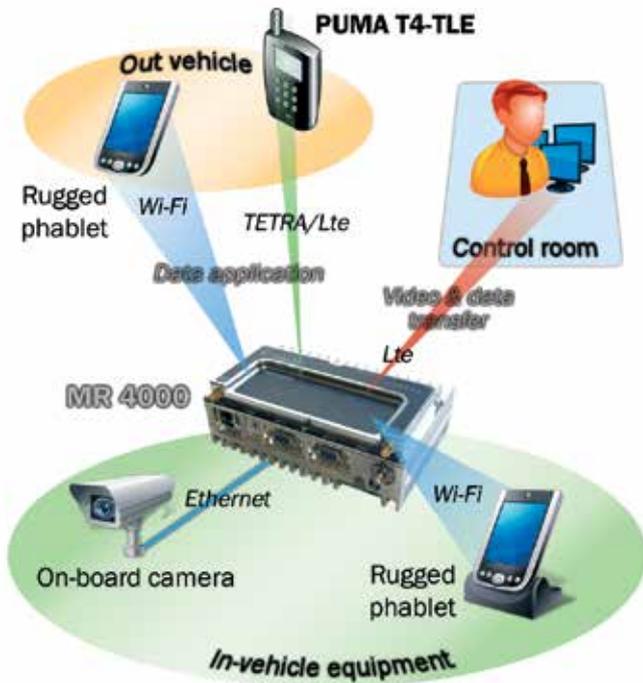
Flexibility in configurations

MR4000 can be applied in vehicular applications where, beside traditional analog FM and TETRA services, LTE capability can support broadband applications such as mobile video surveillance or other video applications.

The CAN bus interface allows a tight integration with the vehicle and the possibility to send car-related information to a remote control centre. Car installation is completed by the FPG3 Plus front panel providing easy-to-use MMI interface.

Information collected locally, via internal sensors or aggregating external data coming via Wi-Fi can be forwarded to a remote control centre using TETRA/TEDS or 3G/4G radio connections. Choice of radio vector can be either static or determined upon the type of traffic.

MR4000 can also be the heart of a fixed or radio dispatcher stations adding broadband capability and video support to traditional narrow-band applications. Employed in a broadband network, MR4000 can provide resiliency to data communications (even in a degraded way) relying upon TETRA-DMO services in case of main network failures.



KEY POINTS

- Linux based software platform
- Full TETRA TMO/DMO voice and data capabilities including DMO repeater and gateway function
- Multi slot PD and TEDS communications
- LTE data communications
- GPS/Glonass for enhanced location services
- LAN, USB, CAN bus interface
- SD card for local storage
- Application framework/API for 3rd party development
- SD card for local storage
- Remote configuration capability (SW/FW upgrade)

TECHNICAL DATA

Frequency bands	TETRA: 380MHz to 470MHz and 806MHz to 870MHz
	FM: 400MHz
	LTE: 800, 900, 1800, 2100, 2600MHz (Band 1, 3, 7, 8, 20)
	UMTS: Band 1, 2, 5, 8
	GSM/GPRS/EDGE: 850, 900, 1800, 1900MHz
	Wi-Fi: 2.4GHz
Protocols	TETRA: TMO, DMO, Repeater, Gateway
	TEDS
	LTE
	Wi-Fi
Security support	Air Interface Encryption (TEA1, 2, 3)
	End-to-End Encryption (with applique)
Modulation	$\pi/4$ DQPSK (TETRA1 systems)
	4-QAM, 16-QAM and 64-QAM (TETRA2 systems)
	FM/PM (conventional system)
RF Power class	TETRA Class2 (10W)
	(ETSI EN 300 394-1)
	LTE: max 32dBm
Receiver class	TETRA class A+B ETSI EN 300 392-2
Channel spacing	TETRA: 25KHz (step 6,25KHz)
	TEDS: 50KHz;
	FM: 12.5KHz and 25KHz
	LTE: 1.4, 3.5, 5, 10, 15, 20 MHz
Power Supply	nominal 12 Vdc [10.8 - 15.6 Vdc]
	nominal 24 Vdc [20.8 - 28.8 Vdc]
Power absorption	2A@12Vdc

Mechanical characteristics

Structure	Die-cast aluminium element
Dimensions (W x H x D)	170mm x 60mm x 80mm excluding antennas
Weight	500g

Environmental specifications

Climatic conditions	EN 300 019-1-5 Class 5.1 "Protected Installation"
Operating temperature	-10 °C to +55 °C (extended range -20 °C +70 °C as option)
Storage temperature	-40 °C to +85 °C (ETSI EN 300 019-1-1, Class 1.3)
	Humidity: EN 300 019-1-1 Class 1.3
Transportation	-40 °C to +85 °C (ETSI EN 300 019-1-1, Class 2.3)
	Humidity: EN 300 019-1-2 Class 2.3 ("Public transportation")
Dust and rain protection	CENELEC EN 60529 class IP20 (Additional IP requirements for specific installations shall be met with ad hoc housing)
Salt and fog	MIL-STD-810 F by test method 509.4
Radio electric conformance	ETSI EN 303 035-1 (TMO)
EMC	ETSI EN 301 489-18 (TETRA)
EC marked	Marked
RoHS	Compliant

For more information please email infomarketing@selex-es.com

Selex ES S.p.A. - A Finmeccanica Company

Via delle Officine Galileo, 1 - 50013 Campi Bisenzio (FI) - Italy - Tel: +39 055 89501 - Fax: +39 055 8950600

This publication is issued to provide outline information only and is supplied without liability for errors or omissions. No part of it may be reproduced or used unless authorised in writing.

We reserve the right to modify or revise all or part of this document without notice.

2015 © Copyright Selex ES S.p.A.

www.selex-es.com

SIS MM08545 6-15