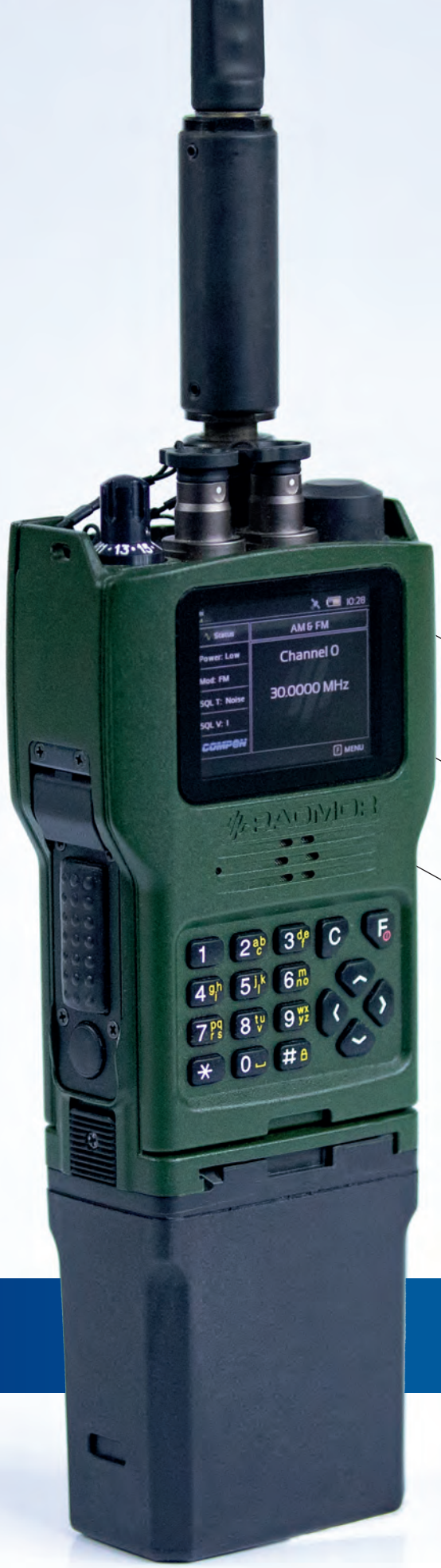
WB GROUP

SOFTWARE DEFINED RADIO

Handheld COMP@N

Radio Communications of the Future



TACTICAL VHF AND UHF COMMUNICATION FOR LAND FORCES

TACTICAL COMMUNICATION VHF FOR AIR FORCE

COMMUNICATION WITH CIVILIAN SERVICES

Wide range of functionalities:

- Basic e.g. voice transmissions broadcast
- Complex e.g. MANET radio / all available functions

Within the family of COMP@N radios it is possible to choose between different waveforms (WF) and range of supported frequencies.

The narrowband system based on COMP@N radios

Current requirements of the modern battlefield, with all limitations of available radio resources, determine the need to use various types of radios working with many types of waveforms (WF). Fulfilling of these expectations is a challenge that can only be achieved by a radio communication system, for which the main goal is to provide a comprehensive implementation of user's services while taking into account the limitations of the planning spectrum.

COMP@N family radios provide a comprehensive security in the range of TRANSEC, NETSEC and COMSEC mechanisms based on AES-256 algorithms and additional usage of SCIP technology (STANAG 5068).

Main services

data services	IP data
	Serial Data
	sensor data
	data for BMS systems → Situation Awareness / GPS
voice services	analog voice
	digital voice (which suports the flat and vertical structure)
management services	remote (e.g. SNMP v3)
	local (e.g. HMI, Fillgun)

Capability to integrate with existing infrastructure elements:
- other radios
- other terminal devices (e.g. user terminal)
- vehicle infrastructure
- wired infrastructure (e.g. LAN)

Effective extension of narrowband system

The flexibility of the system allows for its cooperation with other currently use and future radios and communication systems. In such manner the core of the system is being complemented with additional services and possible operational scenarios. These are i.e. the functionalities offered by:
- VHF tactical radios e.g. 3501, F@STNET
- PRR personal radios e.g. 35010, PERAD
- wideband radios
- satellite communications (SATCOM)
- on-board communication and integration system on the vehicle e.g. FONET
- crypto devices
- multisystem gateways e.g. PIK
- communications with the UAV e.g. FlyEye
- wired network infrastructure

General specification of the handheld COMP@N platform

FM/AM fixed frequency	modulations	FM, AM
	transmission modes	F3E, A3E
	channel	FM: 25 kHz
		AM: 8.33 kHz, 25 kHz
	Squelch	
	№ of channels	1000
	Scan	
	FCS (free channels search)	
General	a large color display	
	auto backlight intensity regulation	
	menu	
	double PTT button	
	backlit keybord	
	Emergency Clear button	
	build-in GPS receiver	
	dimensions (without antenna)	220 x 86 x 44 mm
	weight (with battery)	~ 1000 g
	with amplifier and adapter creates 50 W vehicular set	
RF	frequency range	30 ÷ 520 MHz
	output power	up to 5 W
	3 definable output power levels	
	suppression of harmonics: > 50 dBc	
	frequency stability: ± 1 ppm	
	sensitivity: - 116 dBm (SINAD 20 dB)	
	adjacent channel selectivity ≥ 50 dB	
Interfaces	Audio / PTT	
	RS232	
	Ethernet 10/100	
	USB	
	Side Connector (to work with COMP@N accesorries)	
Enviromental parameters	operational temperature: -32°C ÷ +55°C	
	immersion 1 m for 2 hours	
	MIL-STD-810G	
	EMC MIL-STD-461F	

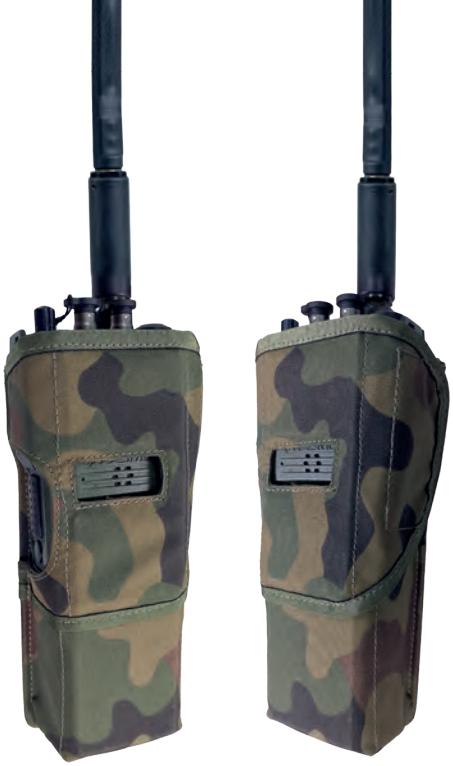
COMP@N H07 Waveforms

DV	operating modes	FH (Frequency Hopping): 100 hop/s
		FF (Fixed Frequency)
	digital voice transmission	
	channel 25 kHz	
	security (AES-256 based)	TRANSEC
		COMSEC
	pre-defined profiles with set of mission parameters (radio data, encryption keys)	
RSD	channel 25 kHz	
	capability to enter data via Ethernet or serial port	
	capability to transmit GPS reports	
	modulation	π/4 DQPSK
	data rate	up to 40 kb/s

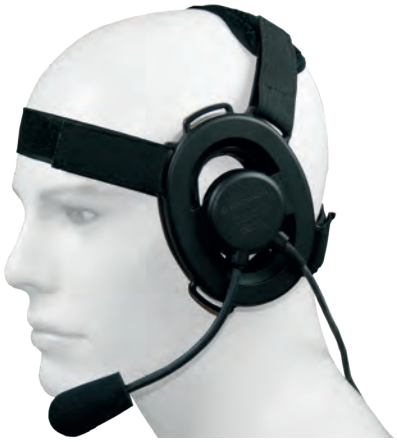
COMP@N H09 Waveforms

BMS IP WF	MANET class waveform	mobile self-configuring and self-organazing network	
		extended range of services (retransmission within waveform – multihop relay)	
		operation in IP networks, build-in IP router, QoS supporting	
W2FH	EPM (Electronic Protective Measures) class waveform	LPD (Low Probability of Detection)	
		LPI (Low Probability of Interception)	
		AJ (Anti-Jamming)	
	operating modes	for BMS IP: 50 hop/s	
		for W2FH: 300 hop/s	
	simultaneous voice and data services		
	voice services	digital voice (np. MELPe 2400, CODEC2)	
		group calls	
		priviledged users	
		priority calls (break-in)	
		multi-hop voice	
	data services	IP data	
		Serial data	
		SA (Situation Awareness) messages	
		GPS reports	
		short text messages	
		sensor data	
		files, video, pictures, mail transmission supporting	
		data retransmission	
	synchronization without GNSS (e.g. GPS)		
	channel	for BMS IP: 50 kHz	
		for W2FH IP: 25 kHz	
	security (AES-256 based)	TRANSEC	
		COMSEC	
		NETSEC	
	data rates	BMS	up to 40 kb/s
		W2FH	up to 3.3 kb/s
	definable frequency range and sub-bands		
	pre-defined BMS IP WF or V2FH profiles with set of mission parameters (radio data, encryption keys)		
	operational in radio silence mode		
	number of networks	20	

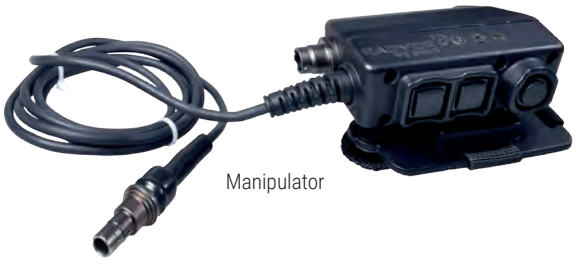
Antennas for various frequency bands



Case



Headsets



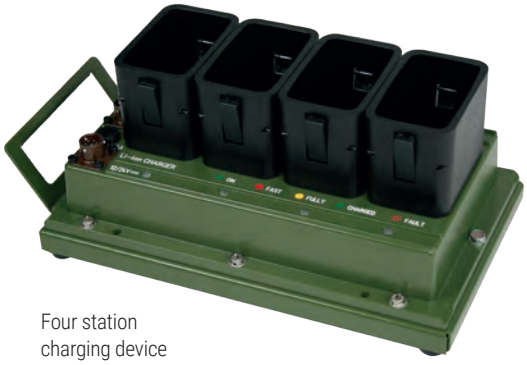
Manipulator

Antennas for various frequency bands

	Antenna 4702/1	Antenna 4702/2	Antenna 4702/3
frequency range	30 ÷ 90 MHz	90 ÷ 250 MHz	220 ÷ 520 MHz
length	1395 ± 25 mm	832 ± 25 mm	491 ± 25 mm
mass	280 ± 50 g	187 ± 50 g	180 ± 50 g

Li-Ion battery
with a charge indicator

One station
charging device



Four station
charging device

FillGun programmer

www.wbgroup.pl

RADMOR
WB GROUP

RADMOR S.A.
ul. Hutnicza 3, 81-212 Gdynia, Poland
t: +48 58 7655 621 | f: +48 58 7655 662
market@radmor.com.pl

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