



TRC 9300 / 9500

VHF/FM ECCM VEHICULAR RADIOS

- > **A short / long range offer to equip all types of vehicles (armoured infantry / reconnaissance vehicle, battle tank, light vehicle)**
 - **TRC 9300: 50 W dismantled version - single or dual fit**
 - **TRC 9500: built-in 50 W amplifier configuration**
- > **Wide range of more advanced services (TDMA, Packet radio mode, Tactical network access (ACNRI))**
- > **Very high level of EPM & encryption**
- > **Configurable in shipboard stations for ship to ground communications**
- > **Fully interoperable in all modes with other PR4G radios (handheld, manpack, airborne)**

TRC 9300 TRC 9500



Several 50W stations are available to equip all types of vehicles: armoured infantry vehicle, battle tank, armoured reconnaissance vehicle and light vehicle.

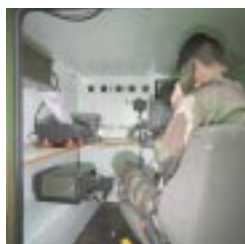
TRC 9300 A/B/C VHF/FM DISMOUNTED VEHICLE STATIONS

Dismounted TRC 9300 vehicular station is composed of one or two TRC 9200 manpack radio, associated with special ancillaries and 50 W power amplifier in various configurations. Available long range configurations are the followings :

- TRC 9300 A: 50W / Single fit / available with or without cosite filters
- TRC 9300 B: 50W+5W / Dual fit / with cosite filters
- TRC 9300 C: 50W+50W / Dual fit / with cosite filters

Vehicular station family offers the here above combination in the same or smaller volume as the AN/VRC - 12/46 and with VIC - 1 adapter. All here above stations are fully interoperable in all modes with handheld, manpack and airborne radio system from the PR4G family. These stations can be equipped with fixed or shock absorber mounts for an easy installation. High gain vehicular antennas are available to support long distance communications. Vehicular audio ancillaries such as loudspeaker or SOTAS intercom system could be also delivered in association with transceivers.

A short range vehicular station (10W) is composed of one TRC 9200 manpack radio with mount and an 12 V to 24 V power supply adapter.



TRC 9500 VHF/FM 50W VEHICULAR RADIO

The TRC 9500 is a compact built-in 50 W power amplifier version of TRC 9200 Manpack to equip vehicle. Its includes also cosite filters to enable installations of several HF (SYSTEME 3000) or VHF radios inside vehicle.

The radio features the same PR4G radio functionalities. It is fully interoperable in all modes with handheld, manpack, vehicular stations and airborne radio system from the PR4G family.

All vehicular stations are compatible with Tactical Message Terminal for e-mail/ file transfer applications including automatic routing throughout HF/VHF networks connected to LAN or PSTN.

Stations can be also used with an external GPS interface for on-the-air broadcasting of GPS positions for situation awareness. Radio can be interfaced with a tactical terminal to display GPS positions on a map.

All digital voice & data traffic is encrypted with the built-in COMSEC, providing highest security level.

A VERY HIGH LEVEL OF EPM PROTECTION AGAINST JAMMING

With three interoperable ECCM modes, Fast Frequency Hopping (FFH), Free Channel Search (FCS) and an automatic mixed FH & FCS mode, the TRC 9300 / TRC 9500 provide the very best response against barrage & follower jamming. (Fig. 1)

With more than 300 hops/s, PR4G vehicular stations are the fastest radios in service today





PROVIDE VOICE & DATA COMMUNICATIONS IN ANY HARSHNESS EW ENVIRONMENTS

TRC 9300 / TRC 9500 radios take benefits of all modes from TRC 9200 manpack radio, providing secure & protected communications to support Digital Battlefield.

Data transmission includes EPM protection by forward correction codes (FEC) and Vocoder (Fig. 2) to maintain effective transmission while jamming usually stops pending communications of weakly protected ECCM radios or fixed frequency radios.

Error-free transmission in FFH mode is achieved with up to 70 % of hopping band being jammed

A mixed voice & data mode based on CSMA* traffic and random scheduler is provided to solve radio networks are shared with voice & data access in multiple point network configuration. CSMA & random scheduler is intended to avoid contention while accessing to the channel.

The very best TDMA solution available with ECCM protection

TDMA (Time Division Multiple Access) mode provides TRC 9300 / TRC 9500 with robust communications perfectly suited for early warning & weapon systems. Cycling time slots enable rapid exchange of data in support of detection, tracking & fire control sequences. TDMA mode takes benefits of high degree of FECs to ensure high level of integrity required for communication in a weapon system (Fig. 3)

THE WIDEST RANGE OF ADVANCED COMBAT RADIO CNR SERVICES

TRC 9300 / TRC 9500 vehicular radios take benefits of all combat radio CNR services from TRC 9200 manpack radio. This makes a complete PR4G system with handheld, man-pack, airborne versions to support most of digital battlefield requirements.

* Carrier Sense Multiple Access

Mix Mode ►



Fig. 1: In mixed FH&FCS mode, radio automatically selects the more appropriate mode, FFH or FCS, according to EW environment.

Vocoder ►

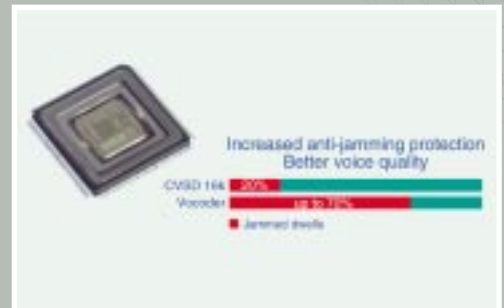


Fig. 2: Illustration of vocoder benefits compared to 16 kbps CVSD voice mode.

TDMA ►



Fig. 3

TRC 9300 / TRC 9500

GENERAL CHARACTERISTICS

Frequency band	30 to 88 MHz, 25 kHz, spacing / 2,320 channels	
STANAG 4204-compliant	F3 modulation	
FF Modes	Analog Fixed Frequency (AFF) Digital Fixed Frequency (DFF)	
ECCM Modes	Fast Frequency Hopping (FFH) Free Channel Search (FCS) Mixed FH + FCS mode (MIX)	
Power supply	From 18 to 33 V DC, 26 V nominal	
Consumption	Reception	≤ 800 mA (TRC 9300 A), ≤ 870 mA (TRC 9500)
	Transmission 50W	≤ 9 A (TRC 9300 A), ≤ 8.8 A (TRC 9500)
Dimensions (W x H x D)	TRC 9300	225 x 165 x 350 mm
	TRC 9300 A/B/C	405 x 225 x 340 mm
	TRC 9500	300 x 138 x 340 mm
Temperature range	Operational from - 40° C to + 70° C MIL-STD-810 E	
Humidity	95 % at 35° C, MIL-STD-810 E	
Watertightness	Immersion-proof under 1m of water during 2 hours, MIL-STD-810 E	
EMI/EMC	MIL-STD-461 C	

TRANSMISSION & RECEPTION CHARACTERISTICS

RF output power	50 W, 5 W, 0.5 W
Frequency stability	± 2 ppm
Harmonic radiation	Protection better than 50 dB for 50 W
Spurious radiation	Protection better than 80 dB
Sensitivity	(S + N) / N ratio better than 21 dB for a - 113 dBm RF signal (20 dB for TRC 9500)

INTERFACES

Audio	AF output power: Loudspeaker: 0.5 W / 4 Ω Earphone: 10 mW / 300 Ω (20 mW TRC 9500) Audio bandwidth: Voice: 300 to 3,000 Hz at 2 dB
Data	MIL-STD-188 / 114 or RS 232 data interface
External GPS interface (NMEA)	Direct connection of GPS receiver for periodic position reporting (option)

PERIPHERALS / ANCILLARIES

A wide range of peripherals and ancillaries enables to tailor varied operational configurations:

- > Multiservice terminal (TRC 1731A)
- > Tactical Wireless Terminal (IBF 125)
- > Tactical Data Terminal
- > Intercom system (SOTAS)
- > Frequency & Key Management Tools (FKMU/FKLU)
- > Smart Handset (TRC 9750A)
- > Fill-Gun (TRC 9724)
- > Handset, Loudspeaker, Headset
- > Fixed or shock absorber mounts
- > High gain antennas for vehicle and mast



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