

R-450C Broadband IP Radio (MANET)



The **R-450C** is the latest generation Broadband IP Radios for tactical LAN/WAN and long range communications. It's offering increased transmission capacity and advanced protection measures for tactical applications.

The R-450C is software defined radio. Depending on firmware can work in three different modes:

- **Mobile Ad-hoc Network (MANET)** - allow to build IP mobile network where no base station is distinguished (all nodes are equal). This mode provide: multi-hop transmission with quick reaction to topology changes, automatic modulation adaptation (BPSK, QPSK, 16QAM, 64QAM) and data system rates up to 8Mbps.
- **TDM** - allow to build multipoint and PtMP network with maximum 16 subscribers in stand or movement. It provides system data rate up to 10Mbps with data rate between two subscribers up to 3Mbps.
- **Point To Point** - configuration for long range command posts communication up to 100km and full duplex data rate from 64Kbps up to 1Mbps.

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Technical Specification

General

- frequency range 220-400 MHz NATO band II
- number of radio channels ... 176
- data rates for subscriber up to 8 Mbps in MANET
up to 10 Mbps in TDM mode
up to 1 Mbps in Point to Point mode (Full Duplex)
- radiated power 0.5 up to 20 W (automatic control)
500 W with external amplifier to work with heavy directional antenna in point to point mode
- method of work OFDM, 16QAM, QPSK or BPSK (automatic modulation adaptation, power and frequency selection, depending on distortions and bandwidth occupation)
- interfaces Ethernet 100 FX and 10/100 BT for MANET (multipoint or point to multipoint) method of work
Additionally STANAG 4210 or E1 (G.703 with G.704 frame) for point to point (trunk) method of work
- supply 27V (+10%, - 18%)

Mechanical parameters:

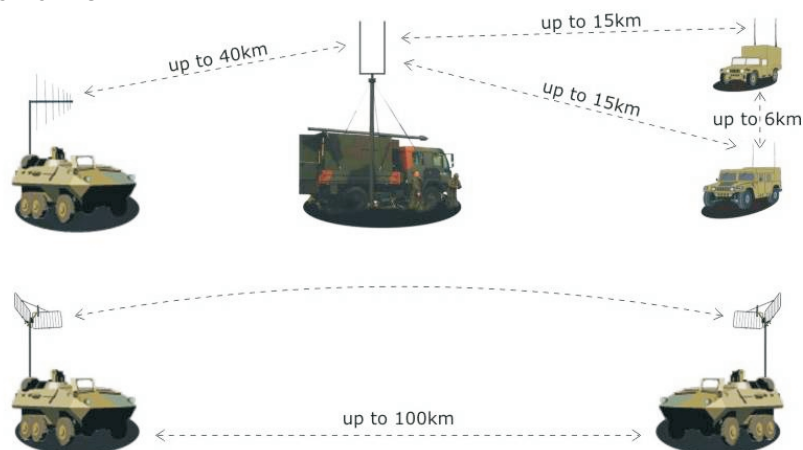
- Dimensions width 430 mm
height 177 mm - without legs (194 mm with legs)
depth 433 + 50 mm (space for cooling)
- Device weight <25kg

Environmental requirements:

- Work temperature from -30 °C up +50 °C
- Storage temperature from -40 °C up +65 °C

R-450C fulfills the following defence norms:

NO-06-A101:2005,
NO-06-A108:2005,
NO-06-A200:2008,



The communication ranges

6 km - between radios in movement

15 km - between radios in movement and radio on stand (base station)

40 km - between radios on stand (24 m high mast, lightweight directional antennas)

100 km - between radios on stand (24 m high mast with 500W antenna amplifiers, heavy directional antennas)