



Wideband Radio

R-450C-01

High and scalable network capacity

High end-user data rates

Advanced digital signal processing algorithms

Application of multiple antenna technology

Prioritized and safe transfer of information for special users

Circuit switched (TDM) or packet switched (IP) mode

SDR and SCR (software defined radio and software control radio) technology

R-450C is a mobile, broadband wireless access system designed for the VHF/UHF band. Thanks to its very high data capacities (multiples of 2 Mbps) it is the only truly broadband system of this type currently available on the market. In addition to high data rates offered, R-450C is also extremely robust to jamming, interference and multipath propagation.

Application of base stations as specialized network nodes allowed us to minimize the connection set-up time and message delivery delay. Moreover, such approach allows for optimization of data throughputs and communication ranges due to efficient management of radio resources.

R-450C can be used in the following configurations:

- to realize a broadband, cellular wireless access system, where mobile stations can get access to network resources and use various multimedia services;
- to build a high capacity backhaul network linking command networks at all tactical levels;
- to set-up point-to-point connections including both the stationary links between the base and the mobile station with the use of directional antennas as well as direct links between two mobile stations, without the use of base station.



TECHNICAL PARAMETERS

BASIC FUNCTIONALITIES

Flexible reconfiguration and dynamic adaptation of system parameters to changing environment

Adaptation of modulation and coding schemes

Flexible partitioning of frame resources for uplink and downlink

QoS (Quality-of-Service) profiles and user prioritization

Various multimedia services (voice, videoconference, Internet, email, etc.)

Interoperability with localization systems

Modular and open system architecture

New lightweight and ergonomic case

PARAMETERS

Work frequency scope	225-400 MHz
Number of available radio channels	176
Modulation type	OFDM (BPSK, QPSK, 16QAM)
Channel Size	1-4 MHz
Maximal transmitted power	20 W RMS
Rates	Up to 8 Mbps for subscriber Up to 40 Mbps for radio network

TRANSMITTER PARAMETERS

Transmitter power	43±3 dBm
Adjusting Power of transmitter	Manual: -20...0 dB (±2 dB) Leap 1 dB Automatic: -20...0 dB (±2 dB)
Frequency stability	±5 ppm
Attenuation of unwanted emissions	≥60 dBc
Attenuation of harmonics	≥60 dBc

RECEIVER PARAMETERS

Noise coefficient	<5 dB
Sensitivity	(BER<1e-6) min. -100 dBm/1 MHz/BPSK

INTERFACES

Electrical trunk	G.703 8D0C13W08SN Souriau connector
Optical Ethernet interface	100Base-FX MFM-002RZN or ST connector
GPS	RS-422/232 8D0C11W35SN Souriau connector
Diagnostic	RS-232

POWER SUPPLY

Power supply	+27V (from 19 V to 35 V)
Power consumption	<200 W

OTHER TECHNICAL PARAMETERS

Dimensions (HxWxD)	130x300x340 mm
Weight	<20 kg
Mechanical and climatic classification	Group N.7, N.9, N.11 and N.13-O-II(A and B), acc. NO-06-A101 and NO-06-A103 (MIL-STD-810G compliant) (multi-use and continuous use equipment)
Electromagnetic compatibility	NO-06-A200 (MIL-STD-461F compliant) (KRE-02, KCE-02, KCS-01, KCS-06, KCS-07, KCS-08, KRS-02)
Operating temperature	From -30°C to +60°C
Storage temperature	From -40°C to +65°C
Humidity resistance	95-98% at +40°C

