

R-450B1 Radio Relay



The **R-450B1 radio relay** line has been designed for setting HCLOS, high capacity line of sight. It operates in Band IV (4400 do 5000 MHz) and is the cutting edge state-of-the-art example of the latest generation of the software radio.

The **R-450B1** LOS may be applied in stationary systems as well as in field shelters of communications systems of all levels. It allows establishing of long range trunks of 256 to 34368 kbps data rates at the typical 30 km range for the single span.

The radio relay lines utilise heavy masts which can be erected within the 100m distance from the shelter. Therefore, the radio line has been divided into a Ground Block (R-450B1 BBU) and a Radio Block (R 450B1 RFU), which can be connected by a 200 m long fiber optic cable.

High stability heavy masts allow to use antennas of high directive gain and small beam width, owing to which the radio lines are highly spectrum effective and resistant to accidental and deliberate disruptions. In order to achieve the maximum spectrum efficiency and, at the same time, resistance to disruptions, the radio lines use several types of modulation.

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System parameters

General

■ operating frequency range	4 400 - 5 000 MHz
■ number of RF channels	4800
■ channels spacing	125 kHz
■ minimum duplex gap	75 MHz
■ modulations	CP-FSK2r, QAM (QPSK), 16QAM+FEC, Stanag 4212
■ radio channel transmission rate	256, 512, 1024, 2048, 8448, 34368 kbps
■ interfaces	optical
■ EOW channel	16 kbps CVSD
■ EOW interfaces	from micro telephone and to loudspeaker
■ management maximum distance between	from PG-4 operators console (keypad and display are on the BBU's front plate), locally from a PC connected through the RS-232C port. or remotely through a handheld system.
■ BBU & RFU	200 m (100 m typically, 200 m optionally)

Transmitter

■ maximum power	33 ± 2 dBm
■ power regulation range:	
automatically	-20...0 (±2) dB
Manually	-20...0 (±2) dB, 1 dB step
■ frequency stability	±5 ppm
■ attenuation of unwanted emissions	>70 dBc
■ attenuation of harmonic emissions	>70 dBc

Receiver

■ internal noise	<7 dB
■ attenuation of image frequencies	>60 dB
■ scanner operating range	full band, measurement range -100 dBm ... -40 dBm

Other

■ mechanical – climatic group	N7-UZ-II-(A and B) according to NO-06-A101:2005 and NO-06-A103:2005
■ operating temperature range	-30° C / +50° C
■ storage temperature range	-40° C / +60° C
■ weight	BBU 16 kg. RFU 20 kg
■ power supply	27V (22~30V).
■ power consumption	<150 W