



BBU unit



RFU unit

R-460S

The IV band radio relay R-460S

Today's battlefield is characterized by simultaneous operation of hi-tech electronic systems, which include the systems of communication, weapon control, survival, C3I and C4ISR. Therefore, there is a growing need to transfer a large amount of data including video, voice and user data. The Radio Relay R-460S responds to those needs.

The Digital Radio Relay R-460S belongs to the latest generation of High Capacity Line of Sight radio relays (HCLOS) for the IV band. It offers up to 1 Gbps Ethernet capacity and it is also equipped with advanced algorithms to protect against jamming, interference and interception of information.

R-460S is easy to use and maintain thanks to WWW interface and built-in automation (e.g. automatically set maximal transmission power). In addition, R-460S can be managed remotely with the use of HMI, console, SSH, SNMPv3 or an external application installed on a PC.

It is highly integrated, easily reconfigurable and modular, designed with the aim to fulfill the demanding military requirements. Thanks to applied software defined radio technologies (SDR), various transmission modes can be used or implemented in the future. This highly integrated, modular, software controlled device was designed to fulfill strong requirements of military technical kind of and strategic applications in broadband communications systems.

The R-460S is divided into two units: RFU units installed on the mast and BBU unit installed under the mast or inside the shelter. Thanks to that the Radio Relay can be used with a lightweight mast.

TECHNICAL PARAMETERS

BASIC FUNCTIONALITIES

Operation in the IV band within the frequency range from 4.4 GHz to 5 GHz
Possibility of packet transmission up to 100 Mbps in the IV band

GENERAL PARAMETERS

Frequency range	4.4 GHz+5.0 GHz
Channel Spacing/Bandwidth (max.)	1 MHz /40 MHz

COMMUNICATION RANGE

For speed rate of 100 Mbps	≥ 20 km
Modulation schemes	QAM (QPSK), 16QAM, 64QAM, 128QAM
Access protocol	FDD

TRANSMISSION CAPACITY

Bit rate for Fixed Frequency	2, 8, 17, 34, 52, 68, 100 Mbps
Bit rate for FH	2, 4, 8, 16 Mbps (option)
FEC	Reed Solomon algorithm Viterbi algorithm of the efficiency 1/2, 1/3, 7/8 selected depending on the quality of the link

RESISTANCE TO INTERFERENCES

Frequency hopping	300 hoops/s in a point-to-point mode Antennas of directional characteristics High selectivity of the receiver transmitter
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TRANSMITTER

Power output	34 dBm (max)
The range of the power regulation	From 0 dB to -20 dB
The automatically regulated power	The power level optimized for the quality of the link and the level of interferences (0+-20 dB)
The manually regulated power	Yes
Voice communication	EOW (Engineering Order Wire) Digital transmission with encryption

MANAGEMENT

SNMPv3	WWW
Console	SAMI
Remote HMI	External managing application

POWER SUPPLY

Power supply	22-54 VDC or 230 VAC (external power supply)
Power consumption	<120 W

OTHER TECHNICAL PARAMETERS

Dimensions RFU (HxWxD)	340x269x136 mm
Dimensions BBU (HxWxD)	330x245x48 mm
Weight RFU	<10 kg
Weight BBU	<4 kg
Mechanical and climatic classification	Group N.7-O-II(A and B), acc. to NO-06-A101+108 (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 +50°C
Storage temperature	From -40°C to +65°C
Humidity	95-98% at +40°C

TRANSMISSION SECURITY

Encryption	Built-in
Encryption mode	AES 256

INTERFACES

Optical Ethernet Interface	1000Base-SX FM-002RZN (MFM-49-07-011-5-0.5-LC) connector
Wavelength	850 nm
Transmitter power	-9,5 dBm ± 0 dBm
Receiver sensitivity	-17 dBm
Speed rate	1 Gbps
Electrical Ethernet Interface (optional)	1000Base-T RJ45 connector
Speed rate	1 Gbps
Electrical trunk (optional)	E1
Throughput	2 Mbps

The mentioned parameters are non-binding specification. Transbit sp. z o.o. reserves its right to change technical parameters of the product without notice.

