

AR20 - Automatic rebroadcast station



PN (RN): 2315.100.02

The AR20 automatic rebroadcast station is a device allowing automatic rebroadcasting in fixed frequency operation modes of transceivers complying with the requirements of the STANAG 4204 standard and of transceivers communicating in frequency hopping modes using HW20 modulation, i.e. RF23, RF20, RF2050.

Operation features

- Automatic rebroadcasting of services in simplex or semi-duplex frequency hopping channel, such as transmission of short text messages, ALERT, authentication, and notification of interruption BREAK IN.
- Automatic rebroadcasting of P2P data communication or according to MIL-STD-188-220 (NET) in simplex or semi-duplex frequency hopping channel.
- Automatic synchronization of all terminal transceivers from the AR20.
- Automatic rebroadcasting of voice communication in simplex or semi-duplex fixed frequency channel or frequency hopping channel.
- Automatic rebroadcasting of data communication in simplex or semi-duplex fixed frequency channel according to MIL-STD-188-220 (NET).
- Automatic rebroadcasting of voice communication in simplex or semi-duplex fixed frequency channel with encryption unit enabled.
- Automatic rebroadcasting of short encrypted FLASH messages in simplex or semi-duplex fixed frequency channel.
- Rapid transition to radio communication between AR20 and terminal transceivers without rebroadcasting to another network.
- Connection to a third radio station, which is a terminal transceiver of another rebroadcast station, while ensuring compatibility of all types of communication in fixed frequency or frequency hopping channels.

Technical parameters

Frequency range	(25–108) MHz (140.025–145.9875) MHz
Frequency range in frequency hopping modes	(30–87.975) MHz
Input and output impedance	50 Ω
Receiver sensitivity	0.7 μ V in (30–90) MHz band 0.6 μ V in (25–30) MHz band 0.5 μ V in (90–108) MHz band (140.025–145.9875) MHz band
Transmitter power	
- nominal	50 W -1/+2 dB at 24 V 50 W -3/+2 dB at 12 V
- reduced	5 W -1/+2 dB

Modulation	FM
Frequency deviation	6.5 kHz or 3.3 kHz
Channel spacing	
(30–108) MHz band	25 kHz, 12.5 kHz and 6.25 kHz
(25–29.975) MHz band	25 kHz
(140.025–145.9875) MHz band	25 kHz, 12.5 kHz
Channel spacing in frequency hopping modes	25 kHz
Compatibility of operation (1.5 m antennas)	(30–90) MHz
Compatibility of operation (30 m antennas)	(25–30) MHz, (90–108) MHz (140.025–145.9875) MHz
Minimum separation between receiving and transmitting frequency	10 %, for 6 dB receiver sensitivity drop
Current consumption during communication, one transceiver transmitting	25 A at 12 V 12 A at 24 V
Current consumption without communication, receiving transceiver	2.8 A at 12 V 1.4 A at 24 V
Power requirements	MIL-STD-1275B
Operating temperature range	-40 °C to +70 °C
Dimensions (without attached cables and cooling unit)	W 430 mm x H 285 x D 225 mm
Weight	max. 30 kg
Climatic resistance	MIL-STD-810E

Set

Automatic rebroadcast station set AR20 - (2315.000.02)

Documentation

RF2050 operating instructions	2310.010.12
RF2050 short operating instructions	2310.011.12
AR20 operating instructions	2315.010.02

Accessories

Rebroadcast unit	RU20 - (2315.110.01)
Frame	(7007.100.72)
AF cable	(1050.601.03)
AF cable	(1050.631.02)
Data cable	(1050.340.01)
Data cable	(1050.341.01)
Power supply cable 3 m	(1050.126.02)
Grounding	(1050.993.01)
Grounding	(1050.993.21)
2.6 m VHF vehicle antenna	(2036.100.23, 2036.100.24)
Groundplane antenna	(2036.100.38)
Discon antenna	(2036.100.68)
Antenna mast	(2036.100.39)
Antenna cable (3 m)	(2011.904.01)
Antenna cable (10 m)	(2011.904.02)

PC interconnection cable (USB)	(1050.299.01)
Data cable (RS232C)	(1050.290.01)
Handset	RF13.3 - (2022.100.52)
Fill gun set	PK20 - (2320.000.02)
Handset holder	(2026.700.01)
CD for modem configuration	(2025.500.51)