

AT AR20 Automatic Rebroadcast Station

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The AT 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. AT RF23, AT RF20, AT 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 AT 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 30-87.975 MHz
Frequency range in frequency hopping modes Input and output impedance Receiver sensitivity	50 Ω 0.7 μV in (30–90) MHz band 0.6 μV in (25–30) MHz band 0.5 μV in (90–108) MHz band (140.025-145.9875) MHz band
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Transmitter power: - nominal - reduced	50 W –1/+2 dB at 24 V 50 W –3/+2 dB at 12 V 5 W –1/+2 dB
Modulation	FM
Frequency deviation	6.5 kHz or 3.3 kHz
Channel spacing (30-108) MHz band (25-29.975) MHz band (140.025-145.9875) MHz band	25 kHz, 12.5 kHz and 6.25 kHz 25 kHz 25 kHz, 12.5 kHz
Channel spacing in frequency hopping modes	25 kHz
Compatibillity of operation (1.5 m antennas)	(30-90) MHz
Compatibillity 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	25A at 12V 12A at 24V
Current consumption without communication, one receiver transceiver	2.8A at 12V 1.4A at 24V
Power requirements	MIL-STD-1275B
Operating temperature range	-30°C to +60°C
Dimensions (without attached cables and cooling unit)	W 430 mm x H 285 mm x D 225 mm
Weight	max. 30 kg
Climatic resistance	MIL-STD-810E

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