

**DIGITAL
& COMMUNICATION
TECHNOLOGY**

AR20 AUTOMATIC REBROADCAST STATION



- **Voice rebroadcasting including secured communication**
- **Internal digital services rebroadcasting**
- **Data rebroadcast**



MESIT
defence

The AR20 automatic rebroadcast station is a device that provides automatic rebroadcasting in fixed frequency operation modes of transceivers that meet the requirements of STANAG 4204 standard, and of transceivers communicating in frequency hopping modes using the HW20 waveform, i.e. RF20, RF2050, RF13250, RF1302E, RF1302.

AR20 has the following properties:

- Automatic rebroadcasting of voice communication on simplex or semi-duplex, fixed frequency or frequency hopping channels
- Automatic rebroadcasting of data communications on simplex or semi-duplex fixed frequency channels according to MIL-STD-188-220
- Automatic rebroadcasting of P2P data communication on simplex or semi-duplex frequency hopping channels
- Automatic rebroadcasting of voice communication on simplex or semi-duplex fixed frequency channels with active encryption unit
- Automatic rebroadcasting of short encrypted FLASH messages on simplex or semi-duplex fixed frequency channels
- Automatic rebroadcasting of services on semi-duplex or simplex frequency hopping channels, such as transmission of short text messages, ALERT messages, authentication, notification of broadcasting interruption (BREAK IN)
- Automatic synchronization of all terminal transceivers from the AR20 rebroadcast station
- Rapid transition to direct communication between the AR20 and a terminal transceiver without rebroadcasting to another network
- Optional addition of a third transceiver that is a terminal transceiver of another rebroadcast station, while compatibility of all types of operation on fixed frequency and frequency hopping channels is ensured

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 µV in (30 - 90) MHz band
0.6 µV in (25 - 30) MHz band
0.5 µV in (90 - 108) MHz; (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 & 6.25 kHz
(25 - 29.975) MHz band 25 kHz
(140.025 - 145.9875) MHz band 25 kHz, 12.5 kHz
frequency hopping modes 25 kHz

Compatibility of operation (antennas spacing):

1.5 m (30 - 90) MHz
30 m (25 - 30; 90 - 108; 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) 430 x 285 x 225 mm (w x h x d)

Weight max. 30 kg

Climatic resistance MIL-STD-810E

Unit components

RF2050 EPM mobile transceiver 2310.100.11 (2 units)

RU20 rebroadcast unit 2315.110.01

Rebroadcast unit 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 cable (3 m) 1050.126.02 (2 pcs)

