

Produced by:

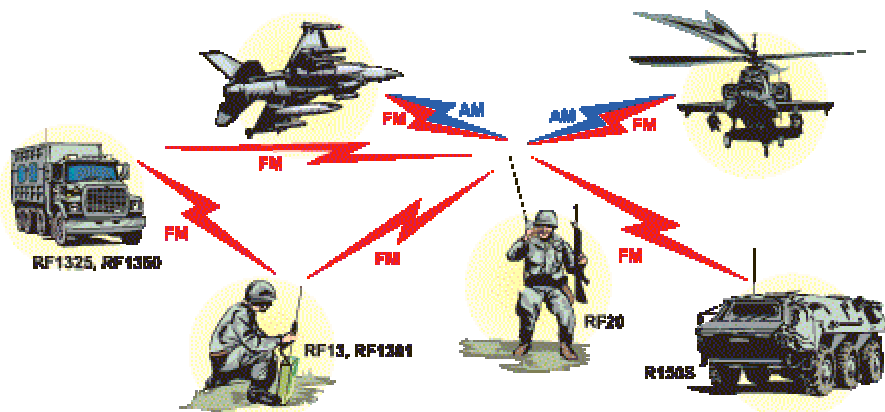
RF 20

Handheld ECCM Transceiver



Determination:

RF20 handheld multiband transceiver with improved resistance to electronic warfare is designated for use at the lowest tactical command levels for all kinds of military units. According to the selected band, the transceiver ensures communication with HF transceivers R-150, VHF transceivers RF13 and airborne transceivers in Aircraft band I.



OPERATION FEATURES

a) Common for all bands and operation modes:

- 9 channel presets within the entire frequency range or random sub-band.
- Operation at fixed frequencies - simplex or semiduplex.
- 150 Hz subtone squelch.
- Automatic check of transceiver operability (BITE) after turning ON (with malfunction indication).
- Emergency erasing of information in channels including built-in digital scrambler.
- Turning off all acoustic signals at the request of operator.
- Backlit display and keypad.
- Indication of voltage level in battery pack.
- Power rating signalisation on display, transmission indication on control panel.
- Transmission inhibition at the request of operator.
- Whispering mode - with increased sensitivity of modulator and reduced output audio power.
- User-friendly dialog control.

b) For HF band:

- Operation at fixed frequencies only.
- Data transmission through external modem at the rate of 4.8 kb/s.
- HLG and HLA monitoring.
- Sending of tone call (1000 ± 200) Hz.

c) For VHF I band:

- Operation at fixed frequencies or with changing the operating frequency in jumps - FH operation in (30.000 to 87.975) MHz band.
- Transmission band for digital transmission of voice or data (16 kb/s).
- Transmission security and communication security (TRANSEC/COMSEC).
- At fixed frequencies: operation with open or encrypted voice with internal digital scrambler. Operation of internal digital scrambler is compatible with digital scrambler of the transceivers RF13 and RF1301.
- Sending and receiving of short coded messages (FLASH) with the identification of transmitting transceiver. Sound indication of the incoming short message.
- Sending of tone call (1000 ± 200) Hz.
- Programming with an external device.
- Keypad programming of one fixed frequency channel.
- Scanning through HLC, HLG, HLA and fixed frequencies of the channel.
- Automatic synchronization or manual synchronization at the request of operator.
- Change of control transceiver on the basis of the situation in network.
- Joining the network later; registering new transceiver in the network.
- FF, FH, DFF, FCS and MIX operation modes.
- Selective phonic operation between two specific network participants.
- Exchanging (sending and receiving) of text messages between specific network participants.
- Sending of warning message to all network participants.
- Verification of authenticity of specific network participant and validation of his/her authorization to access the network.

d) For VHF II band:

- Operation at fixed frequencies.
- Monitoring of aircraft emergency frequency 121.5 MHz.
- Sending of tone call (1000 ± 200) Hz.

e) For VHF III band:

- Operation is done at fixed frequencies.
- Data transmission through external modem at the rate of up to 4.8 kb/s.
- Sending of tone call (1750 ± 25) Hz.

TECHNICAL PARAMETERS

Frequency range	25.000 MHz to 145.9875 MHz
Frequency ranges	
HF	(25.000 to 29.975) MHz
VHF I	(30.000 to 107.975) MHz
VHF II	(117.975 to 140.000) MHz
VHF III	(140.025 to 145.9875) MHz
Modulation type	FM - HF, VHF I, VHF III bands AM - VHF II band
Channel spacing	
HF band	25 kHz
VHF I band	25 kHz; 12.5 kHz; 6.25 kHz
VHF II band	8.33 kHz
VHF III band	25 kHz; 12.5 kHz
Preset channels	10
Number of channels monitored in all operation modes	3 (two adjustable, third fixed at 121.500 MHz)
Max. number of programmable networks	6
Nominal input/output impedance	50 ohm
Voice operation F3E	according to STANAG 4204
Operation modes	FF - fix frequency FH - frequency hopping DFE - digital fixed frequency FCS - free channel search MIX - mixed mode
Operation time min. 10 hours at the duty cycle transmission : reception : stand-by	1 : 1 : 10 with BP1301 NiCd battery pack
Time of autonomous synchronization	42 hours
Power supply	
Nominal supply voltage	7.2 V
Limit supply voltage	6.5 V to 9.5 V

TRANSMITTER PARAMETERS:

Transmitter nominal output for FM	2 W
Transmitter nominal output for AM	1 W
Transmitter decreased output for FM	0.2 W
Transmitter decreased output AM	0.1 W
Harmonics suppression	min. 40 dB
Spurious suppression at > 25 kHz mistuning	min. 60 dB

RECEIVER PARAMETERS:

Sensitivity	0.5 μ V at 12 dB SINAD
Loudspeaker output power	200 mW
Audio bandwidth	
F3E operation	(300 to 3 000) Hz
DATA operation	(10 to 11 000) Hz

MECHANICAL PROPERTIES AND RESISTANCE:

Weight transceiver	0.66 kg
Weight battery pack	0.30 kg
Dimensions transceiver [W x H x D]	91/76 mm x 217 mm x 44 mm
Dimensions battery pack [W x H x D]	76 mm x 63 mm x 41 mm
Operating temperature range	-30 °C to +60 °C
Immersion	1 m depth
Average ranges in a medium undulated and wooded terrain at nominal power	
with short tape antenna AS1301	0.8 km
with long tape antenna AL1301	5 km

RF20 TRANSCEIVER BASIC SET (2300.000.02)

RF20 ECCM HANDHELD TRANSCEIVER	POWER SUPPLY BAG (7020.116.01)
BP1301 BATTERY PACK 2 pieces	RF20 OPERATOR'S MANUAL (2300.010.02)
0.5 m AS1301 SHORT TAPE ANTENNA	RF20 SHORT OPERATING INSTRUCTIONS (2300.011.02)
1.1 m AL1301 LONG TAPE ANTENNA	
RF20 TRANSCEIVER BAG (6000010032)	
RF20 SET BAG (6000010033)	

ANCILLARIES

HP1301 NiMH BATTERY PACK	RF13.51 HEADSET
NA1301 POWER SUPPLY ADAPTER	RF13.52 HEADSET (VOX)
ND1301 DOUBLE CHARGER	RM1301 HANDHELD MICROPHONE/SPEAKER
NU1301 UNIVERSAL CHARGER	PK20 FILL GUN
NS1301 STANDARD CHARGER ADAPTER	FG13 FILL GUN
NK1301 TRICKLE CHARGER ADAPTER	EU13 ENCRYPTION UNIT
NS13 STANDARD BATTERY CHARGER	KZ1301 TESTING DEVICE ADAPTER
RF13.8 HANG-UP ANTENNA	KZ13 TESTING DEVICE
MD13.2 RADIO MODEM	

DEPLOY



For more information, please contact:



OMNIPOL a. s.
Nekázanka 11, 112 21 Prague 1
Czech Republic



EN ISO 9001:2000
Certifikát č. 04100 10809/00-E01

Phone: +420 224 011 120, Fax: +420 224 012 240
E-mail: omni25b@omnipol.cz, <http://www.omnipol.cz>