PART 8

SOVIET ARMY WIRELESS AND LINE EQUIPMENT

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MI 10
THE WAR OFFICE
APRIL 1955
INTRODUCTION

Most of the signal equipment in use in the Soviet Army is of native origin and of post-war manufacture. Although considerable quantities of signal equipment supplied to the USSR under the lend-lease program is it only rarely that American items are reported in use.

Soviet Army wireless and line equipment is entirely utilized in design, the being an simplicity for ease of manufacture, operation and maintenance. A marked improvement in the quality of post-war equipment, but most items is improved versions of pre-war or wartime basic designs.

Compactness appears to be of secondary importance and that is no code use of miniature components in field wireless sets. Most of the field wireless is in the UHF band. Multichannel radio relay equipment operating in the UHF is are used.
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TRANSMITTER-RECEIVER TYPE RBM, RBM and RBM-S

This is a two man-pack MF-HF transceiver-receiver used for communication Rk Regiments and Artillery units to HQ of units, and sometimes from D Brigade. RBM-1 is the basic model and is in use with some Satellite units.

Points which will help in identification are:

1. Symmetry of the panel layout of RBM-1.

2. In case of RBM-S the power and handset sockets are situated together.

3. Metal case housing set ring for carrying harness, but complete equipment into a wooden small chest. The separate battery case is externally to the transceiver-receiver.

4. Physical data:

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiver</td>
<td>13&quot; x 7&quot; x 15&quot;</td>
<td>27 lbs</td>
</tr>
<tr>
<td>Separate battery pack</td>
<td>15&quot; x 7&quot; x 16&quot;</td>
<td>24 lbs</td>
</tr>
<tr>
<td>Transmitter case</td>
<td>28&quot; x 15&quot; x 12&quot;</td>
<td>50 lbs</td>
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</tbody>
</table>

5. Antennas:

   6 of rod type of 1/2 with 1/8 spreader consisting of five ft mast
   1/2" tubing, joined at one end and screwed into the top end of antenna, or
   15' high mast, or
   For wire whip suspended between two 4' high metal poles.
TRANSMITTER-RECEIVER TYPE RBM, RBM-1
and RBM-5

RBM-1

FRONT PANEL OF RBM-5
TRANSMITTER-RECEIVER TYPE RBM, RBM-1
and RBM-5

COMPLEY SET (including accessories and spare parts)

RBM-1
In Transit Case
TRANSMITTER-RECEIVER TYPE A-7, A-7-A, A-7

This wireless set employs frequency modulation. In addition it is one of the v
sets which operate in the VHF band, working on either side of the lower limit of the
(27-32 mc).

There are several variations in the appearance of the front panel of this series, its
points for identification are:

1. Large semi-circular control dial.
2. Two terminals on left edge of front panel for connection to a telephone
   employed in OPs; maximum range is 1/2 miles of field wire.
3. Aerial, 8' rod with spreaders.
4. Complete station carried by one man in wooden carrying case.
5. Used by artillery brigades and rifle regiments and down to units.
6. Physical data. Size 15 1/2" x 13 1/2" x 7;
   Weight 36 lbs.
TRANSMITTER-RECEIVER TYPE A-7, A-7-A, A-7-B

FRONT PANEL OF A-7-A (early model)

A-7-A
(with accessories)
TRANSMITTER-RECEIVER TYPE A-7, A-7-A, A-7-I

CARRYING CASE
(for all three models)
WIRELESS SET RSB, RSB-BIS, RSB-F

This HF wireless set is used by the Army at Corps and Division as a mobile wireless station. RSB-F may be installed in a GAZ, ZIS-5 or Ford wireless van fitted into a wooden chest. The station includes wireless receiver type US and a power supply equipment.

Points for identification are:

1. The square transmitter case.
2. Large semi-circular tuning dial.
3. Tilted semi-circular tuning dial of receiver type US.
4. Physical data. Transmitter only. Size: 14' x 13' x 8'. Weight: 30 lbs.
5. Aerial. 13' rod or 33' mast.
WIRELESS SET RSB, RSB-BIS, RSB-F

RSB-F TRANSMITTER
WIRELESS SET RSB, RSD-BIS, RSB-F

RECEIVER US
Removed from its case
WIRELESS SET 9-RS

This HF wireless set is fitted in T 24/35 and T 44 tanks, and light and medium SPgs.

The set can be identified by:

1. The metal ventilated cover with the triangular shaped opening to enable receiver to be tuned.
2. Counter tuning dial.
3. Small hinged cover to protect transmitter controls.
4. The receiver unit has a separate type number and is designated 4RM-27.
5. The rotary transformer mounted at top right.

7. Physical data. Size ... 13" x 7" x 82".
   Weight ... 27 lbs overall.

SCHEMATIC LAYOUT OF WIRELESS SET 9-RS
WIRELESS SET 9-RS

TANK HEADSET

AMPLIFIER

RECEIVER

ROTARY TRANSFORMER

TRANSMITTER RECEIVER 9-RS (with covers removed)
WIRELESS SET TYPE RAF-KV, RAF-KV-3

This wireless set is used at Fleet and Army and is operated by a crew of nine men. It is installed in a ZIS wireless vehicle. The set comprises transmitter type MII-K-3 and receiver type US.

Points of identification:
1. Throat in power amplifier valve compartment—top right.
2. Second door at bottom left to delay compartment.
3. Recessed portion at bottom centre, including hinged cover to fuse compartment.
4. Aerial mast mounted on ZIS vehicle—telescopic, 33 ft high.
5. Receiver type US with short tuning diet.
WIRELESS SET TYPE RAF-KV, RAF-KV-3
1. Aerial Coupling.
2. Aerial Tuning.
3. Waveband Switch (1, 2, 3, 4).
4. Power Amplifier Tuning.
5. System Switch (CW-R). 
6. Door to compartment containing relays.
7. LT Meter.
8. LT Motors Switch.
9. Door to compartment containing 1028.
10. HT meter Switch.
11. HT meter.
12. Microphone Socket.

LEGEND

13. LT Rheostat.
14. Generator " On ".
15. Generator " OFF ".
16. HV Rheostat.
17. Fuses.
18. Control-Transmit Switch.
19. Generator Battery Switch.
20. Power Switch.
21. Telegraph Key.
22. Main Switch Send/Receive.
23. Main Switch.
24. Panel with staff at power correct.
25. Door to PA valve compartment (GKE-500).
WIRELESS SET TYPE RAF-KV, RAF-KV-3
(Included in Zis-151)
WIRELESS RECEIVER TYPE KV-M

This is a communications receiver which is sometimes used for monitoring and intercept purposes. Its frequency range is 1,500-27,000 Kc/s in 5 bands. It is a superhet with 5 RF and 4 IF stages, AGC and crystal calibration diaphragm.

The set can be identified by the following:

1. Swivel dial fitted at top centre of panel.
2. Two clamp handles on either side of panel.
3. Inlaid tuning dial.
4. The set uses 17 valves, type 2K2M.

5. Physical data. Metal case with carrying handles on each end:

<table>
<thead>
<tr>
<th>Size</th>
<th>11&quot; x 15&quot; x 10&quot;</th>
</tr>
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<tbody>
<tr>
<td>Weight</td>
<td>56 lbs.</td>
</tr>
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</table>
WIRELESS RECEIVER TYPE KV-M
RADIO DIRECTION FINDER TYPE PKV-45

This is a transportable HF direction finder using "Adcock" type aerial. Voi
C.W. reception are provided in the frequency range 1-6 to 18-8 MHz in four bank
Points for recognition are:—

1. Unusual shape of goniometer unit.
2. Swivel dial light fitted at top left of main panel.
3. Reversed tuning dial.
4. Two clip handles on either side of front panel.
5. Physical data:—

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiver and goniometer</td>
<td>12&quot; x 23&quot; x 17&quot;</td>
<td>34 lbs</td>
</tr>
<tr>
<td>Wooden tripod case</td>
<td></td>
<td>80 lbs</td>
</tr>
<tr>
<td>Receiver and goniometer</td>
<td></td>
<td>800 lbs</td>
</tr>
<tr>
<td>Complete station</td>
<td></td>
<td>800 lbs</td>
</tr>
</tbody>
</table>

6. Aerial terminals on top of set.
7. Aerial: 4 Vertical dipoles 29’ in length. The active elements are 26’
and supported on insulators 3’ 6” above ground level.
8. Aerial feeders are connected to the centre points of the mast unlike
stations, where the feeders are hinged, or covered by earth mast, and go
to the bottom of the mast immediately above the base insulators.
RADIO DIRECTION FINDER TYPE PKV-45

LEGEND

1. Antenna Terminals.
2. Generator.
3. Mechanical Calibrator.
4. Dial Light.
5. Name Plate.
7. Electrical Calibrants.
8. Dial Light Switch.
10. Volume Control.
12. Filament Resistor.
15. Crystal Filter Switch.
17. Voltmeter.
18. RFO Tong.
19. Input Tuning.
20. Pattern Selector Switch.
RADIO RELAY STATION TYPE RDS-1
(MODELS A TO E)

This is a mobile radio beam relay station made in Easten Germany. The principal items forming the station are:

- Decimetric wireless station RVG-902 (Models A-C).
- Carrier telephony equipment MG-4.
- Carrier telegraphy equipment FT-38.
- Telegrapher ST-15 (see page 15).
- Decimetric telephone DT-920 (see page 33).

The station can be recognized:

1. when on the move by the trailed aerial trailer, with telescopic mast, and when working by the aerial arrays. (A terminal station will probably have one array, and a relay station two or three.)

2. by the command vehicle, which has box body on Studebaker or ZIS chassis.
RADIO RELAY STATION TYPE, RDS-I
(MODELS A TO E)

WIDE BAND DECIMETRIC DIPOLE ARRAY
(models A to D inclusive)

PARABOLIC REFLECTORS
(model E)

HORN AND LENS ARRAY
(very rarely used)
RADIO RELAY STATION TYPE RDS-1
(MODELS A TO E)
DECIMETRIC TELEPHONE TYPE DT-920

This is a small transportable decimetre set manufactured in Eastern Germany. It provides duplex telephony over quasi-optical ranges. There are two models since different frequency bands are used for transmitting and receiving.

<table>
<thead>
<tr>
<th>Model A</th>
<th>Model B</th>
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<tbody>
<tr>
<td>Transmitter</td>
<td>488-512 Mc/s.</td>
</tr>
<tr>
<td>Receiver</td>
<td>546-573 Mc/s.</td>
</tr>
</tbody>
</table>

Points for recognition are:

1. Aerial. This is either:
   (a) directly connected dipole using front and back hinged door of the set to form a reflector.
   (b) dipole array connected to the set by cable up to, approx. 200 ft. long.
   This aerial can be mounted on a building tower or mast to obtain maximum height.

2. Telephone handset connected to set.

3. Physical data:
   Metal waterproof case: 13½" × 14½" × 8½"
   Weight: 4½ lbs.
DECIMETRIC TELEPHONE TYPE DT-920