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 USSR under the lend-lease program are no longer used in the field, the Soviet Army is using in the field wireless and wire-line equipment which is entirely a native design. It is being used for simplicity of manufacture, operation and maintenance, and it has marked improvement in the quality of post-war equipment. But most items are improved versions of pre-war or wartime basic designs, but now in miniature components. Most of the field wireless is in the UHF band. Multichannel radio relay equipment operating in the UHF band are used.
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TRANSMITTER-RECEIVER TYPE RBM, RBM and RBM-5

This is a two-man-pack MF-RF transmitter-receiver used for communical
Role, Regiments and Artillery exchanges to HQ of units, and sometimes from D
Brigade. RBM-I 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-I.

2. In case of RBM-5 the power and handset sockets are situated together
do panel.

3. Metal case having two rings for carrying harness, but complete equipment
into a wooden transit case. The separate battery case is vertically
in the transmitter-receiver.

4. Physical data —
   - Size of receiver: 15" x 7" x 10.5"
   - Separate battery pack: 15" x 7" x 10.5"
   - Weight: 214 lbs
   - Transit case: 29" x 13" x 12.5"
   - Weight: 50 lbs

5. Mounting:
   - A metal angle of 11/2" with the supports consisting of five ft. mats
   - 11/2" high, nailed to one mat and screwed into the top end section, or
   - For use where suspended between two 4' high metal poles.
TRANSMITTER-RECEIVER TYPE RBM, RBM-I, and RBM-5

In operation using Rod Aerial
TRANSMITTER-RECEIVER TYPE RBM, RBM-1 and RBM-5

RBM-1

FRONT PANEL OF RBM-5
TRANSMITTER-RECEIVER TYPE A-7, A-7-A, A-7

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

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

1. Large semi-circular tuning dial.
2. Two terminals on left edge of front panel for connection to a telephone. (If used in O.P. maximum range is 14 miles 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 152” x 132” 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 ve
lled 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

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 SP GS.

The set can be identified by:

1. The metal ventilated cover with the triangular shaped opening to enable receiver to be tuned.
2. Coaxial tuning dial.
3. Small hinged cover to protect transmitter controls.
4. The receiver unit has a separate type number and is designated 8M=7.
5. The rotary transformer mounted at top right.
7. Physical data: Size: 13" x 7" x 81".
   Weight: 27 lbs overall.

SCHEMATIC LAYOUT OF WIRELESS SET 9-RS
RESTRICTED

WIRELESS SET 9-RS

TANK HEADSET

AMPLIFIER

RECEIVER

ROTOR 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 SIR-K-3 and receiver type US.

Points for identification:

1. Hood to power amplifier valve compartment—top right.
2. Second door at bottom left to relay compartment.
3. Recessed portion at bottom centre, including hinged cover to fuse compartment.
4. Aerial mast mounted on ZIS vehicle—telescope, 33 ft high.
5. Receiver type US with short tuning dial.
1. Aerial Coupling.
2. Aerial Tuning.
3. Waveband Switch 1, 2, 3, 4.
4. Power Amplifier Tuning.
5. System Switch (CW-RT).
6. Door to compartment containing relays.
7. LT Meter.
8. LT Moset Switch.
9. Door to compartment containing 1026.
10. HT meter Switch.
11. HT meter.
12. Microphone Socket.
13. LT Rheostat.
14. Generator " On ".
15. Generator " OFF ".
16. HV Rheostat.
17. Fans.
18. Control-Transmit Switch.
19. Generator Battery Switch.
20. Power Switch.
21. Telegraph Key.
22. Main Switch Send/Receive.
23. Main Sh2t.
24. Panel with taking at power correct
25. Door to PA valve compartment (GKE-500).
WIRELESS SET TYPE RAF-KV, RAF-KV-3

(Installed 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 3 bands. It is a superhet with 2 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 stamp handles on either side of panel.
3. Indial tuning dial.
4. The set uses 17 valves, type 2K2M.

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

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<tr>
<th>Size</th>
<th>16&quot; x 15&quot; x 10½&quot;</th>
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<tr>
<td>Weight</td>
<td>55 lbs.</td>
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RADIO DIRECTION FINDER TYPE PKV-45

This is a transportable HF direction finder using "Adcock" type aerial. Vol C.W. reception are provided in the frequency range 1.5 to 18 MHz in four bands. Points for recognition are:

1. Unusual shape of goniometer unit.
2. Swivel dial light fitted at top left of main panel.
3. Reserved tuning dial.
4. Two dump handles on either side of front panel.
5. Physical data:
   - Housing: Receiver and goniometer in a metal case.
   - Dimensions:
     - Receiver and goniometer: 114½ × 23½ × 17½ in.
     - Wooden transit case: 34½ × 34½ × 26½ in.
   - Weight:
     - Receiver and goniometer: 300 lbs.
     - Complete set: 800 lbs.

6. Aerial terminals on top of set.

7. Aerial: 4 Vertical dipoles 29 3/4 in length. The active elements are 36 in and supported on insulators 9 in above ground level.

8. Aerial feeders are connected to the centre points of the mass unlike stations, where the feeders are tapped or covered by earth mast, and go to the bottom of the mast immediately above the base insulators.

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RADIO DIRECTION FINDER TYPE PKV-45

1. Antenna Terminals.
2. Galvanometer.
3. Mechanical Calibrator.
4. Dial Light.
5. Name Plate.
7. Electrical Calibrant.
8. Dial Light Switch.
10. Volume Control.
12. Filament Rheostat.
15. Crystal Filter Switch.
17. Voltmeter.
18. R.F. Tuning.
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:

- Decimeter wireless station R/GO-902 (Models A & E).
- Carrier telegraphy equipment MG-8.
- Carrier telegraphy equipment FT-36.
- Teletypewriter ST-15 (see page 35).
- Decimeter telephones DT-320 (see page 35).

The station can be recognized:

1. when on the move by the towed 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-I
(MODELS A TO E)
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. These are two models since different frequency bands are used for transmitting and receiving.

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<tr>
<th>Model A</th>
<th>Model B</th>
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<tr>
<td>Transmitter</td>
<td>485-512 Mc/s.</td>
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<tr>
<td>Receiver</td>
<td>546-573 Mc/s.</td>
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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: 13" × 14½" × 8½"
   - Weight: 41 lbs.
DECIMETRIC TELEPHONE TYPE DT-920