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WEAPONS AND EQUIPMENT**

**Vol. VI
SIGNAL EQUIPMENT**

DEPARTMENT OF THE ARMY

WASHINGTON, D. C.

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FOREWORD

The object of this publication, the sixth volume in a series on foreign military weapons and equipment, is to present essential technical, tactical, and recognition data on all types of signal equipments used by foreign ground forces.

Each item is given the following treatment: (1) a photograph; (2) tactical characteristics, and employment; (3) identification features; (4) technical characteristics.

The publication is in loose-leaf form to facilitate periodic amendment. Supplements and revisions will be issued as new information becomes available.

Items are presented according to the using country. These countries are grouped in the following four sections:

Section I. U. S. S. R.

Section II. Soviet Satellites.

Section III. North Atlantic Pact.

Section IV. Other Countries.

For each country, the various categories of signal equipments are not segregated but are treated as individual items numbered consecutively.

SECTION I U. S. S. R.

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INTRODUCTION

Soviet signal equipment generally is found to be of maximum simplicity consistent with the fulfillment of its required tactical mission. Soviet signal doctrine requires minimum usage of communications facilities, with the result that signal equipment is often of smaller capacity and less complex than foreign equipment intended for a similar installation. In certain cases operator efficiency is impaired somewhat by these simplifications, but, in other cases, eliminations are considered merely to be of nonessentials, since operator ease and comfort are not regarded as of major importance. Ruggedness and ease of maintenance are held to be of prime importance, and these qualities are seldom compromised.

The design of Soviet signal equipment reflects the requirement of simplicity in all phases of Soviet communications practice and equipment. Under this policy, equipment is designed to provide adequate service, but operating aids are held to a minimum and are eliminated wherever possible. Expendable items of equipment are cheap to the point of being crude, as in the case of dry cells, but they perform satisfactorily. Foreign influence, both German and United States, can be seen in current Soviet signal equipment. German thinking is recognized in the fact that certain recent radio sets use but a single tube type; this simplifies the stocking of spare parts, but requires some sacrifice in efficiency. Further German influence can be seen elsewhere, and peculiarities of design characteristics have allowed tentative identification of specific former Wehrmacht project engineers. American influence appears in over-all design and lay-out; certain current Soviet radio sets are almost direct copies of United States sets.

What has been stated of the design of Soviet equipment likewise applies to its construction, especially of recent equipment. Here, ease of construction, ruggedness, and ease of maintenance appear to be prime factors. In some cases, new models of equipment are found to be larger than old models, providing more space for cooling and greater accessibility to components. This is in

contrast to the current American trend toward miniaturization of components. Contrary to popular opinion prior to the outbreak of hostilities in Korea the construction of current equipment is excellent, and developments such as sealed components and their proven capability of mass production using rigid quality control demonstrate American influence. This represents a marked improvement over production practices used at the close of World War II in 1945.

It should be noted that the following list contains many items which are probably obsolete; however, in the absence of concrete information that they are—(a) no longer used (b) not disposed of through salvage, it is felt desirable that they should be included, subject to revision upon receipt of positive intelligence at a future date. This list will include all known signal equipment of Soviet manufacture, whether or not its use by the Soviet armed forces has been definitely established; it is assumed that signal equipment supplied to Satellite nations is at least similar to that in use in the Soviet Army.

Soviet employment of the various means of signal communication depends upon factors of type of formation involved, terrain, and the existing situation. It has been possible, nevertheless, to evolve certain basic principles in the use of the facilities.

a. Wire communication. Facilities included are telephone, telegraph, and teletype, and is the basic means of communication in all echelons of the Soviet ground forces. It reaches maximum volume during defensive or static operations. In offensive operations its use is limited and in all cases, its technical application will be governed by the arm and operational phase. In general, telephone communications will reach down to company level in the infantry and battery level in the artillery; telegraph does not extend below divisional level and teletype is used at corps level and up. Wire security measures include transmission by means of code tables and proper placement of the wire lines. Although the Soviets

flexibility of radio, they still prefer communications whenever possible.

Communication. The Soviets employ mobile, and stationary radio sets. Radio has been given increasing attention. Allocation of radio equipment to the units of the Signal Units has more than doubled since the beginning of World War II. Radio now assumes primary importance during defensive and offensive operation. Similar facilities as they exist for wire communication are applicable to radio transmission. The distribution of radios is as follows: down to the platoon in the infantry and down to battery in the artillery.

Visual Signals. Although visual signals were

extensively used as a means of establishing communication of command and coordination during World War II, their present significance has been considerably reduced. The use of visual signals was instrumental in reducing over-all requirements for radio and wire traffic during combat operations and particularly in the forward elements. The various facilities included rockets, tracer bullets, smoke bombs, signal panels, semaphore, heliograph, light signaling devices (mounted on tanks), and available materials such as boards, limbs, etc. The visual signals are used primarily to indicate disposition of forces, attainment of predetermined phase lines, for artillery support and firing instructions to tanks and artillery.

GLOSSARY OF RUSSIAN TERMS

<i>Cyrillic</i>	<i>Transliteration</i>	<i>Translation</i>
АНТЕННА.....	ANTENNA.....	Antenna
ВНИМАНИЕ.....	VNIMANIE.....	Attention
ВЫКЛЮЧАТЕЛЬ.....	VIKLUCHATEL.....	Switch
ГРОМЧЕ.....	GROMCHE.....	Louder
ДИАПАЗОН.....	DIAPAZON.....	Band
ЗАВОД.....	ZAVOD.....	Factory
ЗВОНОК.....	ZVONOK.....	Bell
ИНДИКАТОР.....	INDIKATOR.....	Indicator
КАЛИБРАТОР.....	KALIBRATOR.....	Calibrator
КОМПЕНСАЦИЯ.....	KOMPENSATSIYA.....	Compensation
КОНТРОЛЬ.....	KONTROL.....	Control
КЛЮЧ.....	KLUCH.....	Key
МИКРОФОН (МИКР.).....	MIKROFON.....	Microphone
НАЖАТЬ.....	NADJAT.....	Press
НАКАЛ.....	NAKAL.....	Filament
НЕПРИЯТЕЛЬ.....	NEPRIYATEL.....	Enemy
ПОДСЛУШИВАЕТ.....	PODSLUCHIVAET.....	Listen
ОБРАТ. СВЯЗЬ.....	OBRAT. SVIAZ.....	Regeneration
ПЕРЕДАЧА.....	PEREDACHA.....	Transmit
ПРИЕМ.....	PRIEM.....	Receive
ПЕРЕДАТЧИК.....	PEREDATCHIK.....	Transmitter
ПРИЕМНИК.....	PRIEMNIK.....	Receiver
НАСТРОЙКА.....	NASTROYKA.....	Tuning
ПИТАНИЕ.....	PITANIE.....	Current
СВЕТ.....	SVET.....	Dial Light
ТЕЛЕФОН (ТЛФ).....	TELEFON.....	Telephone
ТИП.....	TIP.....	Type
ТИШЕ.....	TISHE.....	Quieter
ТЕЛЕГРАФ (ТЛГ).....	TELEGRAF.....	Telegraph
УМФОРМЕР.....	UMFORMER.....	Dynamotor
РАЗГОВОР.....	RAZGOVOR.....	Talk
СТАНЦИЯ.....	STANTSIYA.....	Station

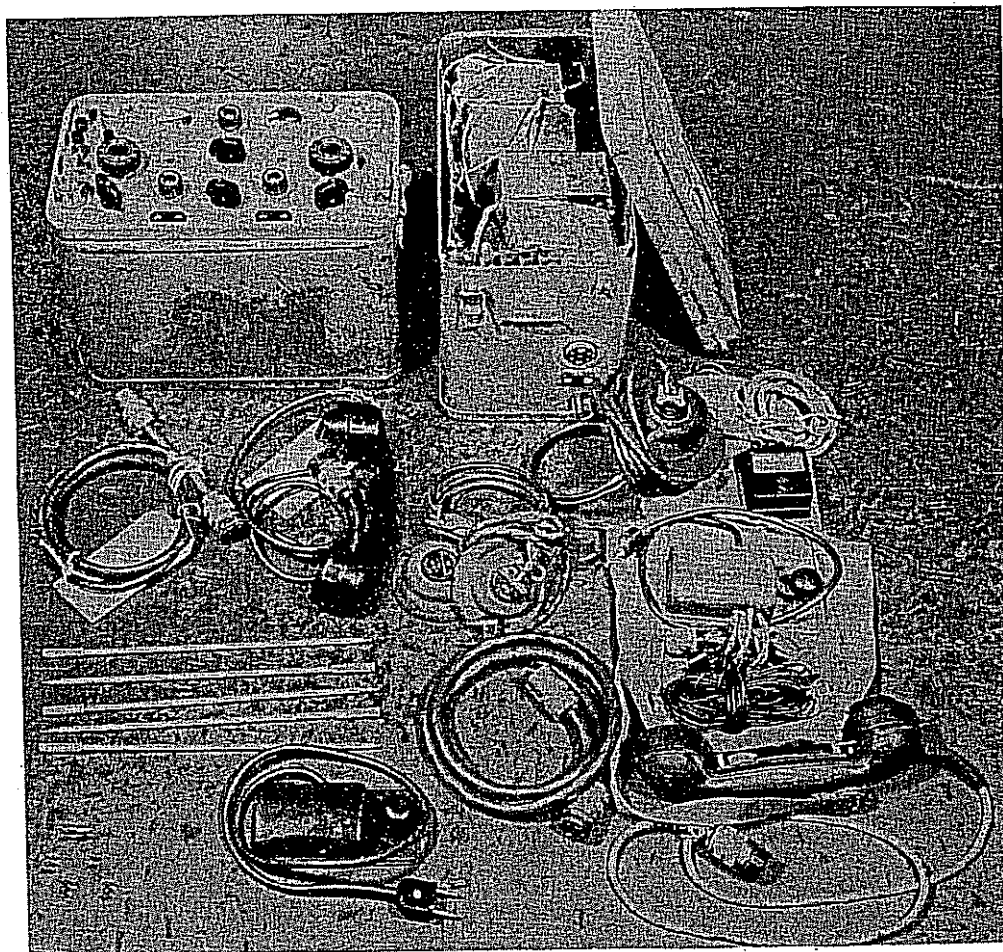
RUSSIAN ALPHABET

<i>Russian</i>	<i>English Transliteration</i>
А	A
Б	B
В	V
Г	G
Д	D
Е	YE (E)
Ж	J
З	Z
И	I
Й	I
К	K
Л	L
М	M
Н	N
О	O
П	P
Р	R
С	S
Т	T
У	U
Ф	F
Х	KH
Ц	Ts
Ч	Ch
Ш	SH
Щ	Shch
Ъ	Hard Sign (no meaning)
Ы	y
Ь	Soft Sign
Э	E
Ю	YU
Я	YA

Radio Set Type RBM-1

ТНН

РБМ-1



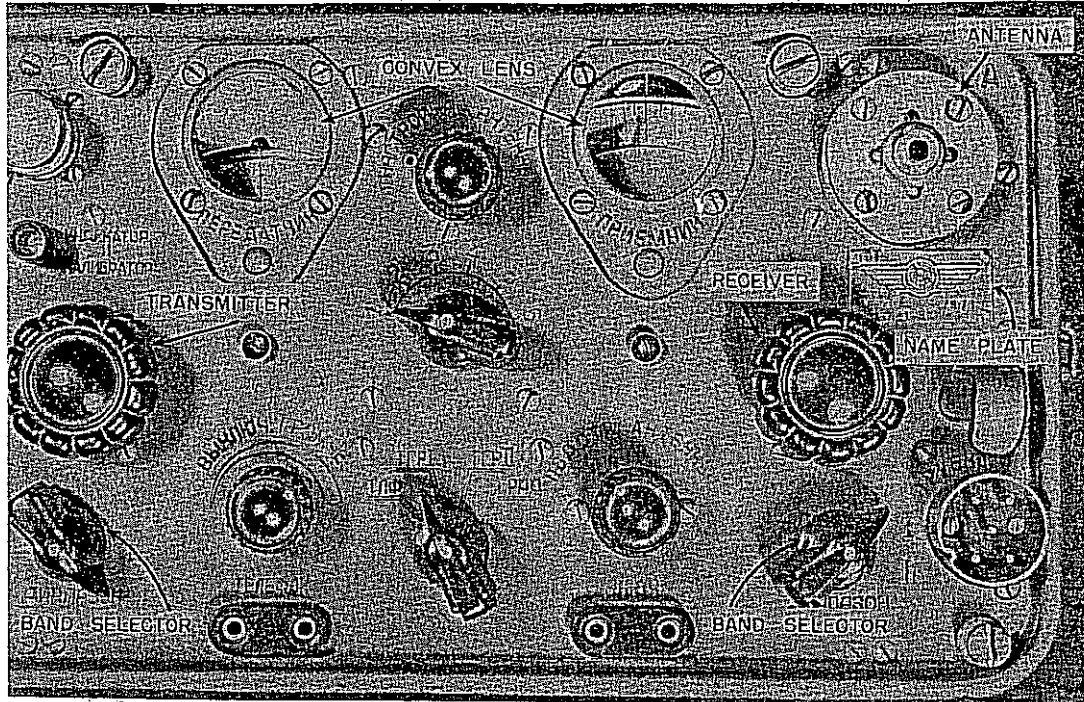
The RBM-1, a two-man pack radio set, is widely used in the lower echelons of Soviet units. It is employed chiefly within infantry divisions, and infantry and artillery regiments down to front-line units. It provides code or voice operation over distances up to 5 miles, and may be operated while on the march or at rest. Effective in hilly or mountainous terrain, this set adequately fulfills its tactical requirements. This portable set consists of two parts—the battery box, weighing 40 lbs. which contains plate and filament batteries and all accessories; and the radio box, weighing

25 lbs. which contains the transmitter-receiver unit.

Ruggedness and simplicity, typical of all Soviet equipment, are seen in this set, and it shows excellent construction. The battery box and the radio box are made of sheet metal, with the control panel of the radio box protected by a metal cover attached with snap catches. Current production of this set reveals many improvements since its extensive use during the latter part of World War II. It is a modification of, and a replacement for, the earlier radio sets RB and RB-M, some of which are still in use.

Radio Set Type RBM-1

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Transmitter-Receiver (RBM-1)	14" x 10" x 7.5"	25 lbs.
Battery Box (UP)	14" x 10" x 7.5"	40 lbs.

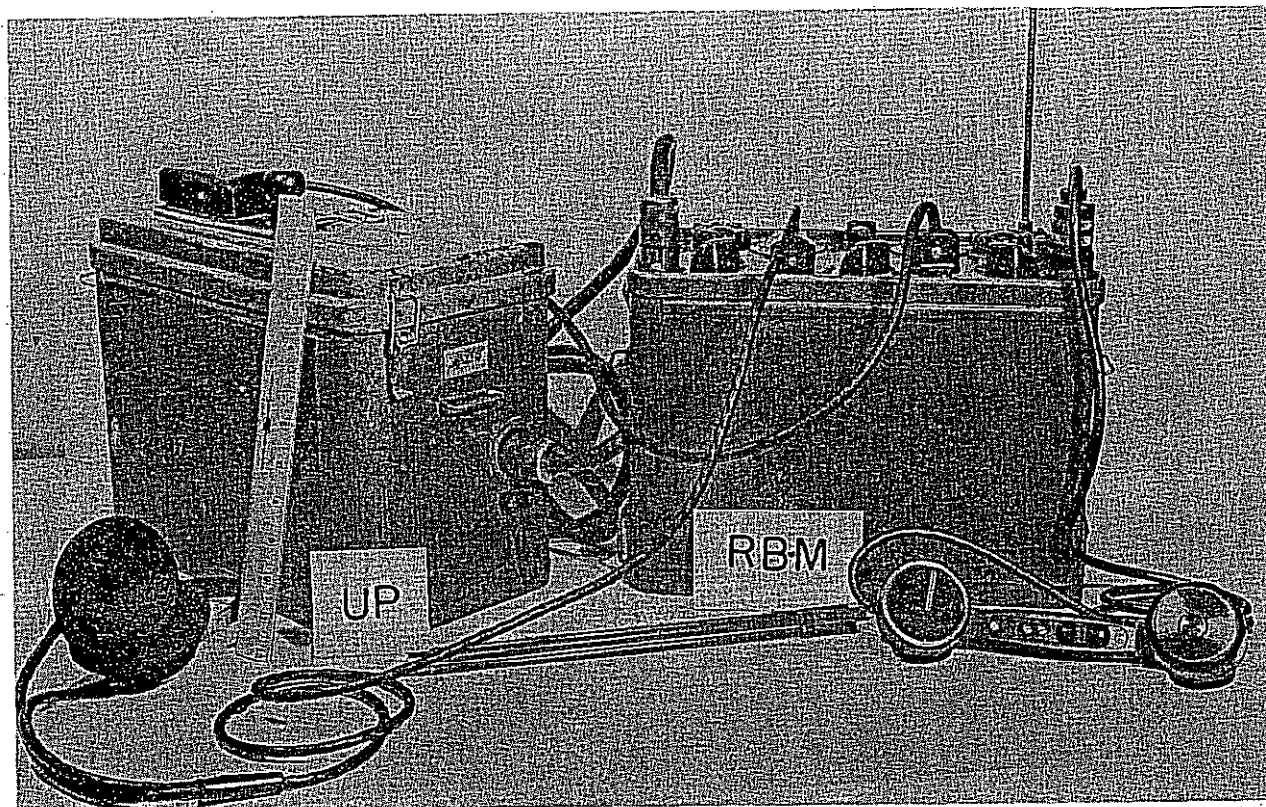
II. TECHNICAL CHARACTERISTICS:

Frequency range	1.5-2.75 mc, 2.75-6.0
Present frequencies	None—continuous tuning
Antennas	5-foot whip with star on top 22-foot whip with star on top 55-foot horizontal doublet
Type of signal	CW or voice
Type modulation	AM
Frequency control	MO with 500 kc crystal calibrator
Power output	0.5 watt (estimated)
Range	1-5 miles
Power source	Plate; 200 v dry batteries, 4-BAS-60, or 3-BAS-80 Fil: 2.5 v storage battery, 2-NKN-22
Tubes	Transmitter; 1-2K2M, 2-8O257 Receiver; 3-2K2M, 1-8O257, 1-SB242

RESTRICTED

Radio Set Type RB-M

РАДИО ТИП РВ-М



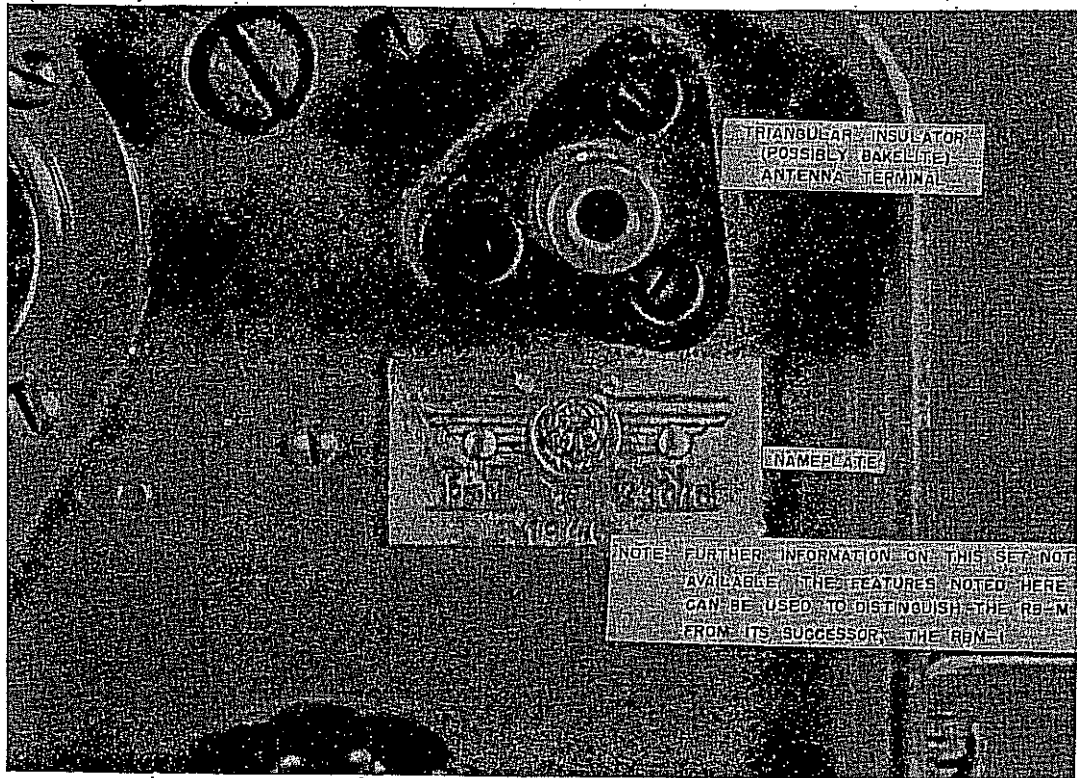
The RB-M is a two-man pack, medium frequency range transceiver. It provides highly mobile, two-way communications by voice or CW in forward areas. It is not operated while in motion. It seems to be as effective as the American SCR-536.

The transmitter-receiver is mounted as a com-

pact unit in one case, and the batteries in another. Later models are issued with a hand generator. This is a World War II type, believed used in lower echelons of Soviet infantry and artillery regiments. Improved models of this set, manufactured in January 1950, have been captured in the Korean war.

Radio Set Type RB-M

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Transmitter-Receiver	13" x 7" x 10"	22.4 lbs
Storage battery and case	13" x 7" x 10"	32 lbs

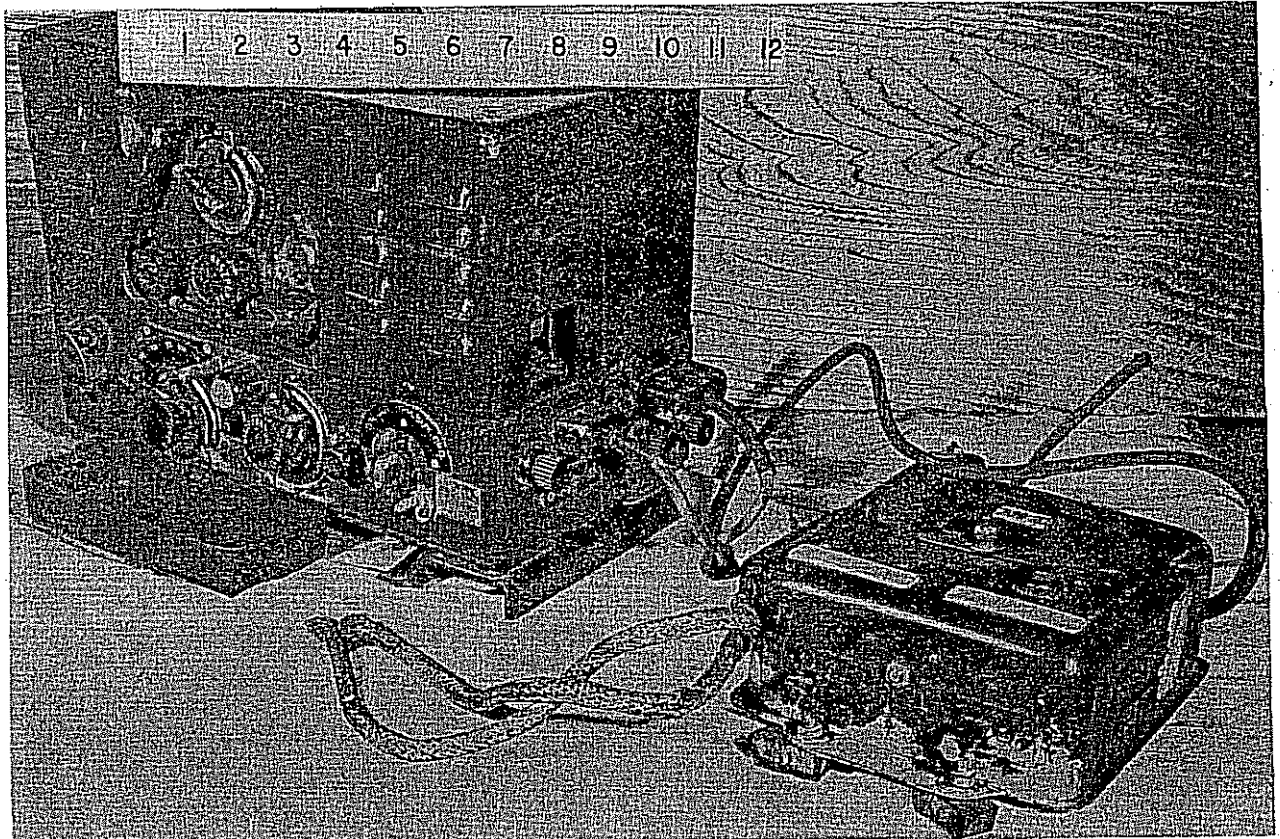
II. TECHNICAL CHARACTERISTICS:

Frequency range	1750-6000 kc, transmitter and receiver
Preset frequencies	None—continuous tuning
Antennas	Dipole—horizontal Pole—short rod Mast—23.1 ft
Type of signal	CW and voice
Type modulation	AM
Frequency control	MO, crystal-calibrated
Power output	3 watts
Range	CW, 6-30 miles; voice, 2-3 miles
Power source	Batteries: Transmitter—BAS 80 or 60 Receiver—Storage battery 2-NKN-22 Hand generator
Tubes	Transmitter; 3—80257 Receiver; 5—2K2M, 1—SB242

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Radio Set Type 9-RS

РАДИО ТИП 9-РС

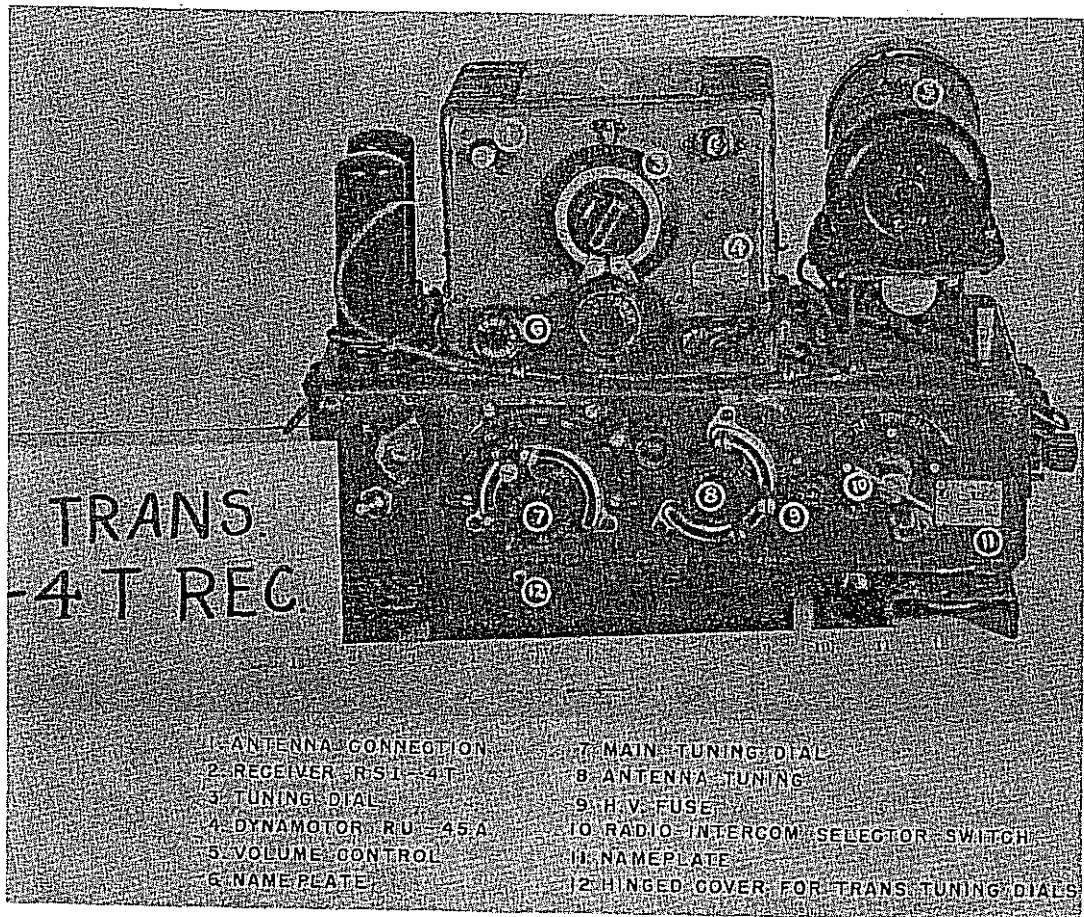


The 9-RS is a vehicular type set used in medium tanks. This set is found permanently installed and interconnected with a TPU-BIS-F or similar intercommunication system. It is similar in use to the 9-R radio set, for intertank and to next higher echelon of command. The receiver section receives voice modulated radio signals only. Some transmitters have provision for transmitting CW code, but no sending key is provided. The whole system can be connected into field telephone lines. Effective range is about 10 to 15 miles on voice.

The set components essemble into a reasonably compact single unit. The transmitter is a flat, low chassis. Its three tubes are mounted on its top, alongside the receiver and dynamotor components. Transmitter controls are protected by a small hinged cover. The unit is protected with a metal ventilating cover. This cover has an unusual triangular shaped opening in the side to provide access to receiver tuning. The receiver has a separate type number, RSI-4T.

Radio Set Type 9-RS

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Complete assembly (9-RS).....	7" x 12" x 8 3/4".....	
Receiver (RSI-4T).....	7" x 7" x 10".....	
Dynamotor (RU-45A).....		

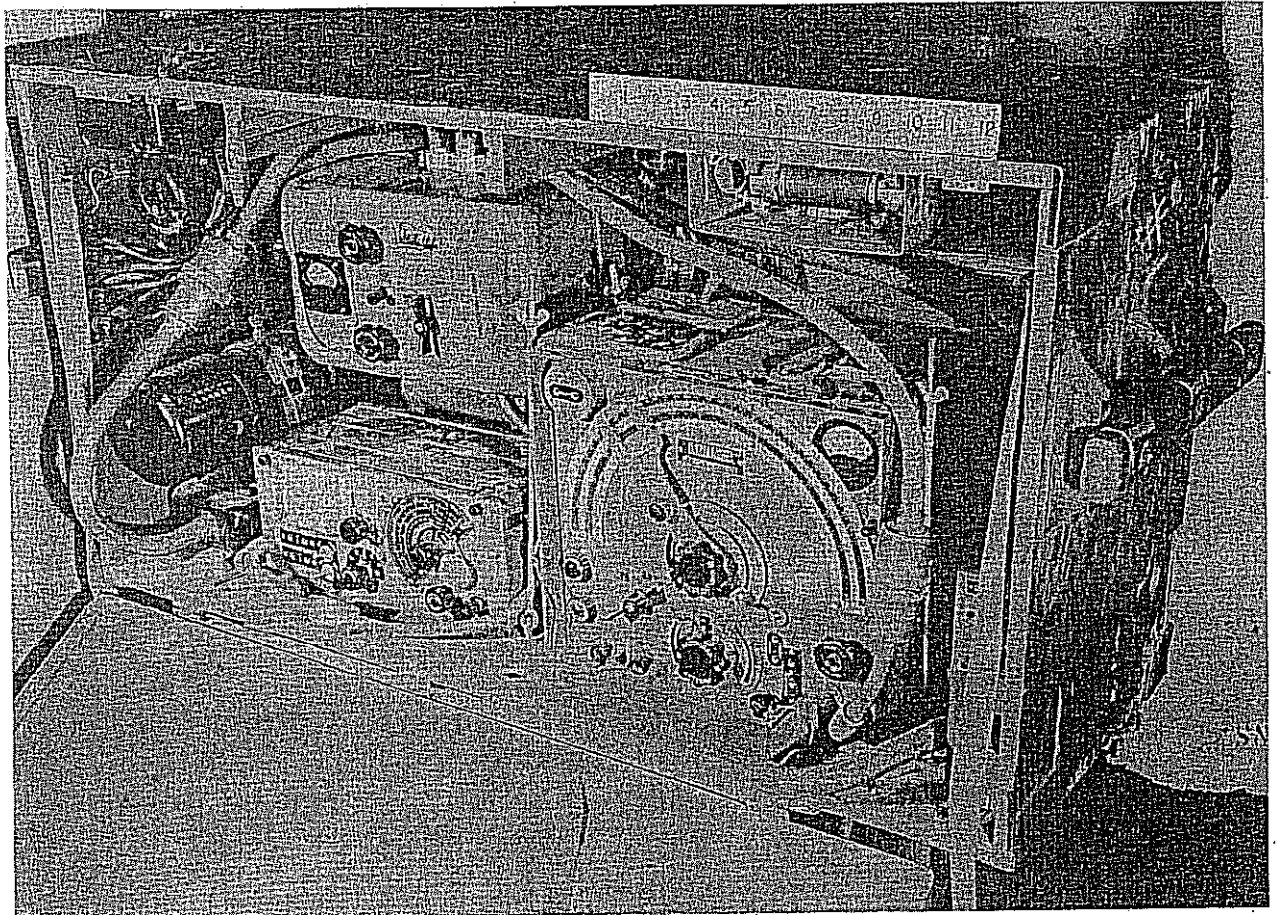
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	Transmitter; 3875 to 5750 kc Receiver; 3700 to 6050 kc
Frequency selection.....	Continuous tuning
Antenna.....	No information, probably whip
Type of signal.....	Voice; transmits CW also
Type of modulation.....	AM
Frequency control.....	MO
Power output.....	10 watts
Range	
Power source.....	Primary; vehicle d-c system Intermediate; dynamotor RU-45A
Tubes.....	Transmitter; 1-6K7; 2-6L6 Receiver; 3-6K7; 1-6A8; 1-6G7; 1-6F6

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Radio Set Type RSB-F

РАДИО ТИП РСБ-Ф



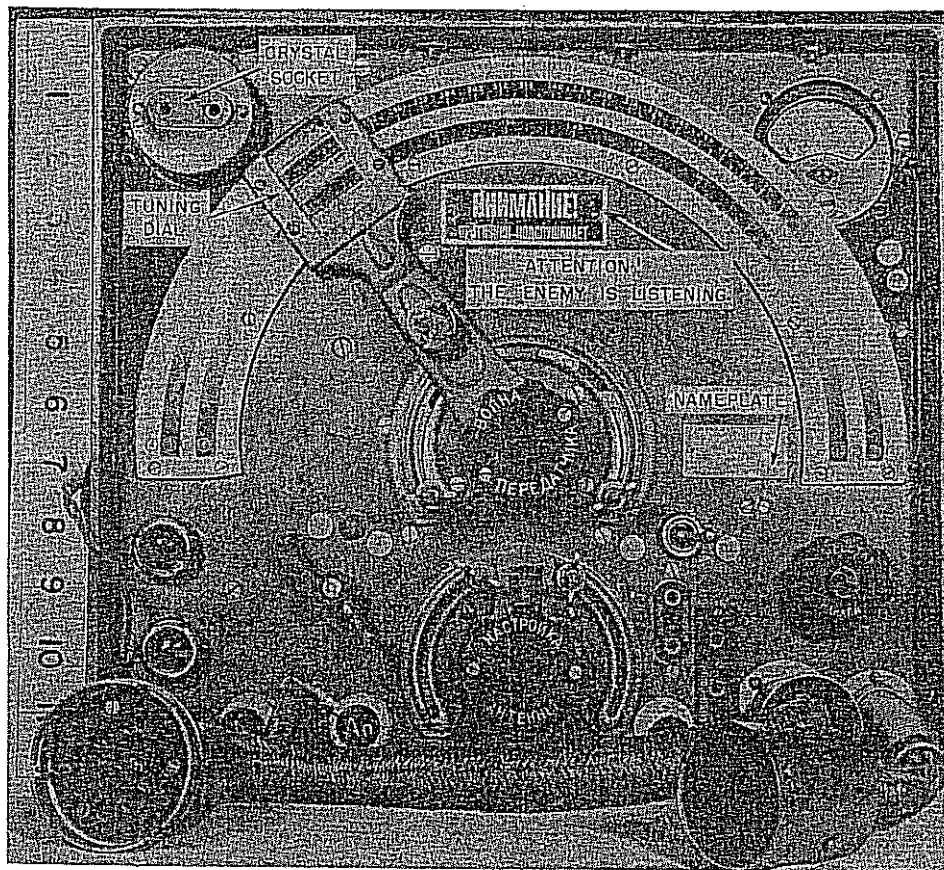
The RSB-F is an RSB type set assembled in a three-axle covered truck of special construction with a whip antenna. It provides mobile, low power medium frequency two-way communications. Designed for command post use, the truck has adjustable tracks for the rear wheels, and may be operated while in motion. Voice range is said to be about 50 miles, and CW range better than 100 miles.

The 50-watt transmitter operates in the 2 to

5 mc range and draws plate power from a 1250-volt dynamotor, which is powered by a 24-volt gasoline engine generator or by a 24-volt storage battery. The two receivers are 8-tube super-heterodyne type and cover the range from 2 to 11 mc. The design is somewhat complicated and requires highly trained operators. The set is manned by one NCO, three operators, and one driver-electrician.

Radio Set RSB-F

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

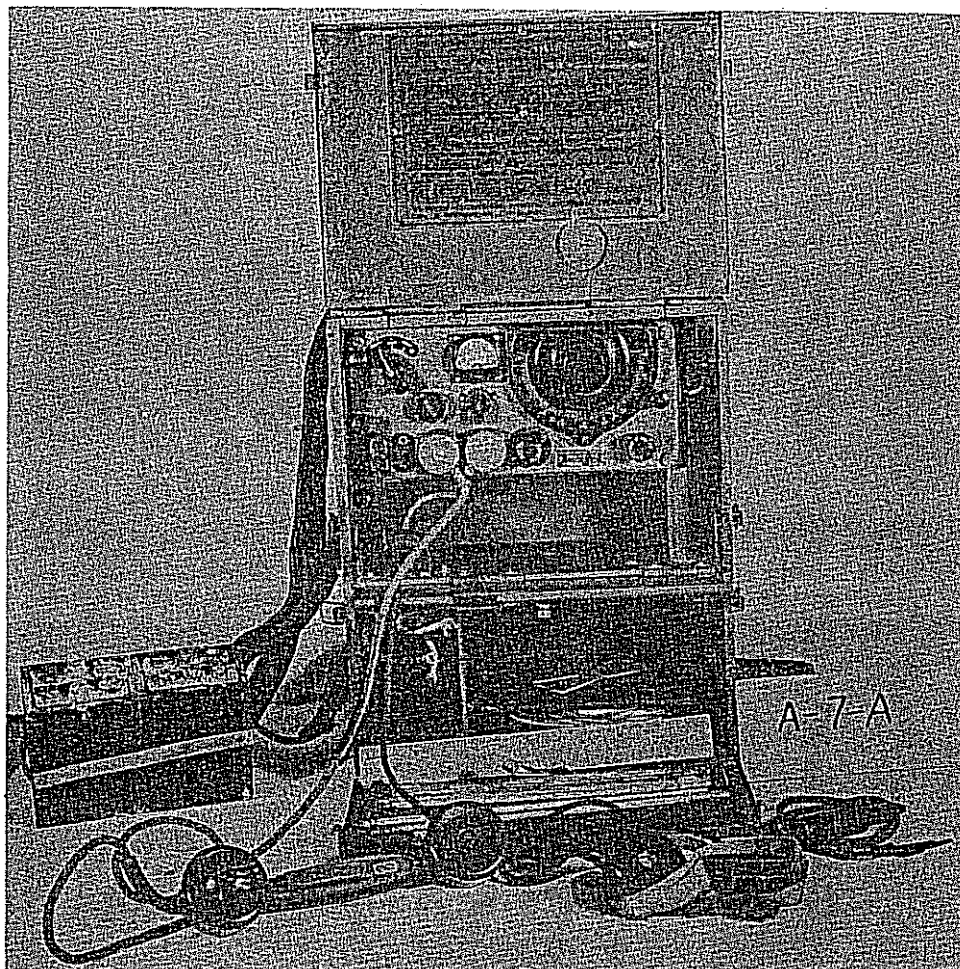
Unit	Size	Weight
Transmitter RSB.....	14½" x 11½" x 8".....	25 lbs.
Receivers (2) US.....	11" x 6" x 6".....	
Dynamotors (2).....		
Storage battery 24 v.....		
Generator, gas engine, 500 watt.....		

II. TECHNICAL CHARACTERISTICS:

Frequency range.....	Transmitter 2-5 mc
Preset frequencies.....	None—continuous tuning
Antennas.....	Rod antenna or whip; 33' mast
Type signal.....	CW and voice
Type modulation.....	AM
Frequency control.....	MO crystal calibrated
Power output.....	50 watts
Range.....	CW, 100 miles; voice, 50 miles
Power source.....	24 v storage battery; 500 watt gasoline engine generator
Tubes.....	Transmitter; 1—GU4, 1—GKE100 Receiver; 4—6K7, 1—6J7, 1—6L7, 1—6F6, 1—6H6

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Radio Set Type A-7-A
РАДИО СТАНЦИЯ ТИП А-7-А

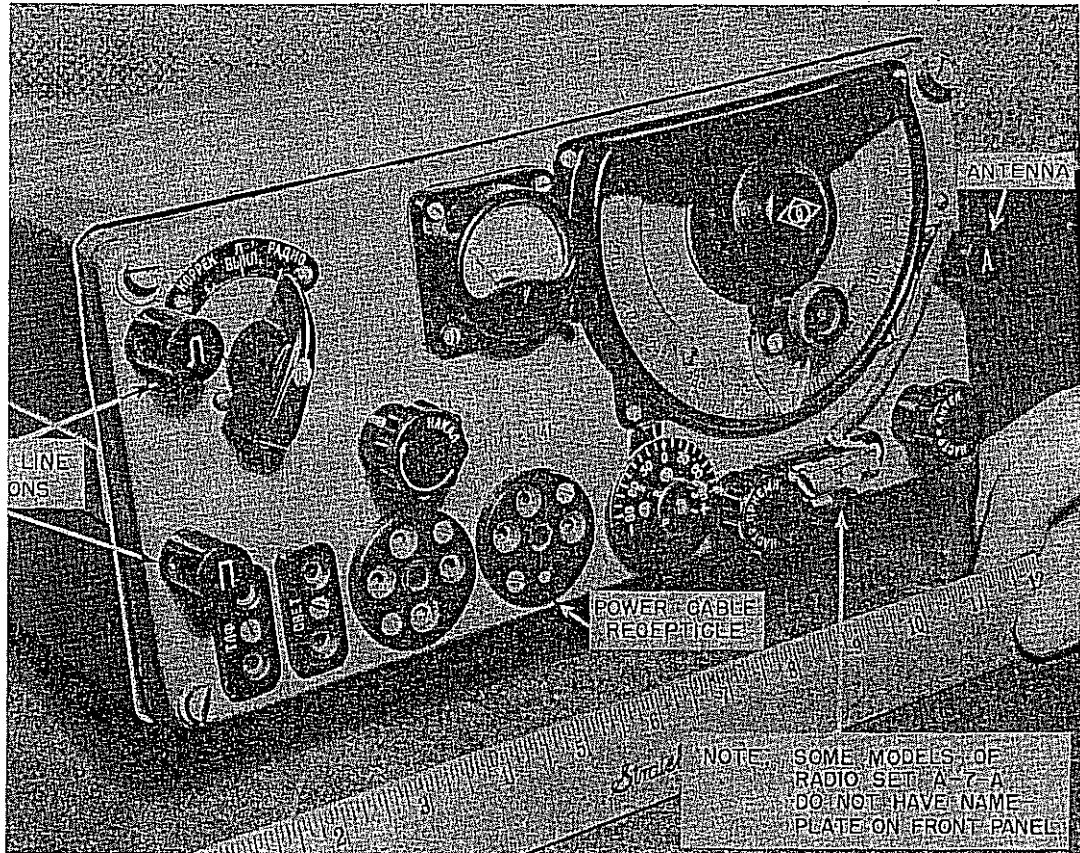


The A-7-A is a one-man pack battery radio set found in Soviet rifle regiments and artillery battalions. It is one of the few frequency-modulated radio sets in use by the Red Army. It provides voice communication over distances up to 6 miles. When employed in observation posts, etc., it can be used as a telephone over a maximum of 1½ miles of field wire. Normal range is obtainable over ordinary terrain, but reduced range is encountered in rough terrain, especially behind hills, in valleys, etc. Under unusual con-

ditions, however, extreme distances may be covered by this set.

A wooden case encloses the entire unit including—batteries, handset, the metal-enclosed transceiver chassis and other accessories. This set is considered satisfactory by Soviet standards. It is believed to reflect 1945 or 1946 Soviet design and production. By American standards, however, its design and construction are decidedly poor.

Radio Set Type A-7-A RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Complete set (Including battery box).	15½" x 13¼" x 7"	46 lbs.

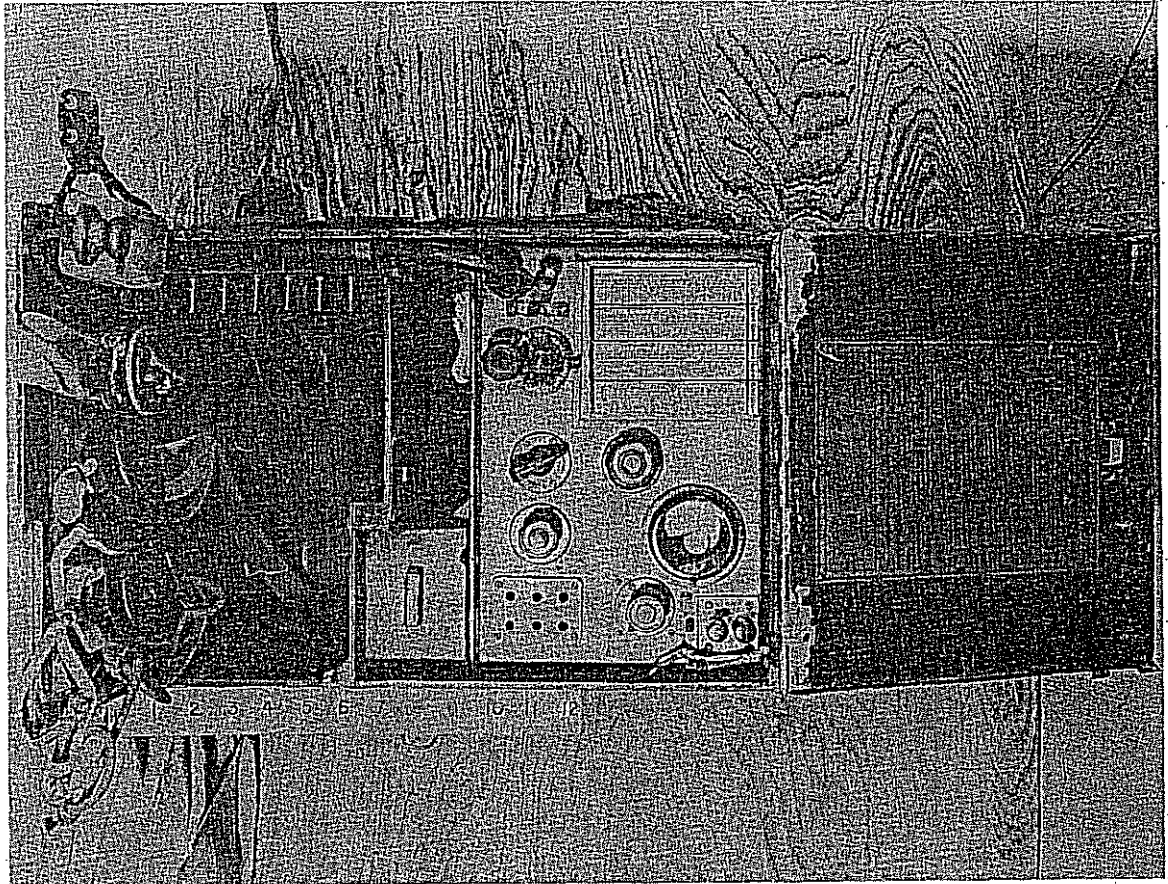
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	27.0-33.0 mc
Present frequencies.....	None—continuous tuning
Antenna.....	8 foot whip
Type of signal.....	Voice only
Type modulation.....	NBFM
Frequency control.....	MO
Power output.....	1 watt
Range.....	6 miles (maximum) as radio; 1½ miles as telephone
Power source.....	Plate; 2 BAS-80 batteries Fil; 2 NKN-22 battery
Tubes.....	Transmitter; 1—8O257, 1—2K2M Receiver; 7—2K2M

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Radio Transceiver Type 13-R

РАДИОСТАНЦИЯ ТИП 13-Р



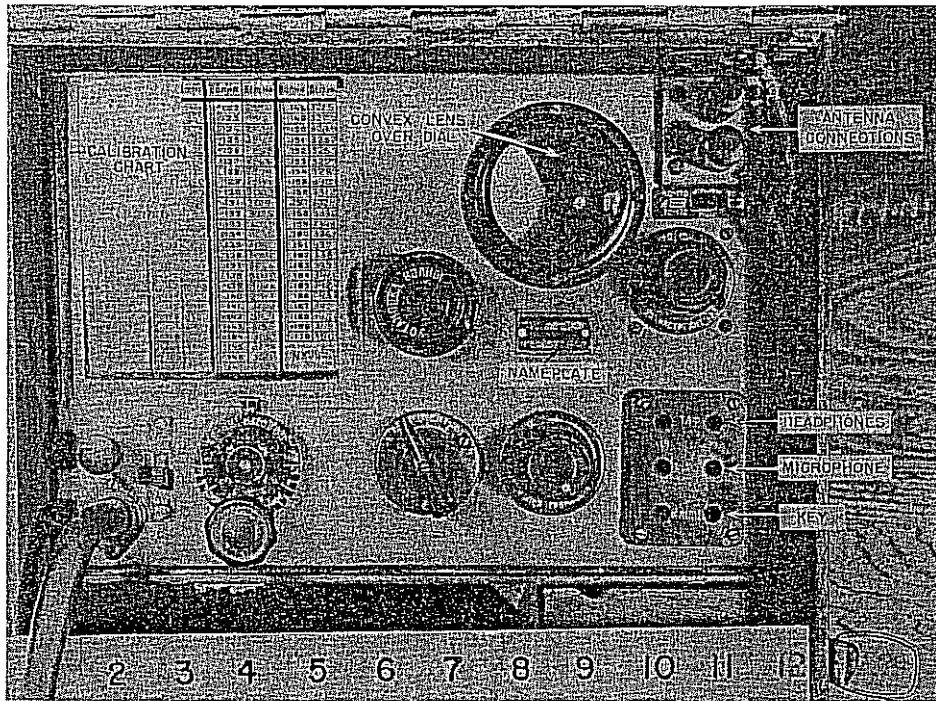
The 13-R, a one-man pack set, is employed at company, battalion and regimental level. It may be used in vehicles. It has a normal operating range on voice of 7 miles with a whip antenna and 11 miles with an inverted "L" type. CW code ranges are 50 percent greater. The set is not designed to operate on the march but can be quickly set up with its 7-foot whip antenna. The basic chassis and all accessories are assembled in an olive drab wooden carrying case with shoulder

straps attached. This case is 18 inches high, 12½ inches wide, 9 inches deep, and weighs, when packed with all accessories and batteries, about 50 pounds.

This radio set is of World War II period, detail of construction is not too good, the set does not stand rough handling; but, operationally it has a good reputation with Soviet troops. Current use in U. S. S. R. is not known, but it is still in use by armed forces of satellite nations.

Radio Transceiver Type 13-R

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Transceiver, chassis only.....	7½" x 11¼" x 7"	
Carrying case, complete.....	18" x 12½" x 9"	50 lbs.

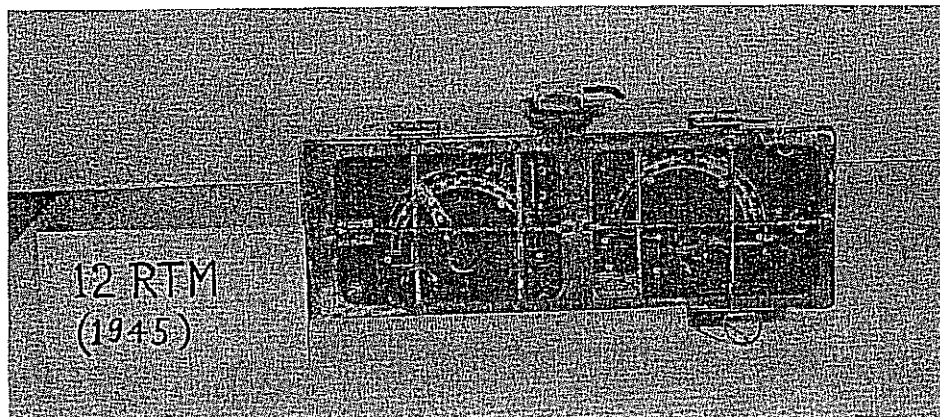
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	1750 to 4250 kc (channels 70-170)
Frequency selection.....	Continuous tuning (some switching and trimming is required to match transmitter to different antennas)
Antennas.....	7-foot whip 36-foot inverted "L" (beam) 11 to 15 ft. in height
Type of signal.....	Code (CW) or voice
Type of modulation.....	A-1 or A-3
Frequency control.....	MO-ECO
Power output.....	2 watts
Range.....	CW, 11 miles and voice 7 miles with whip antenna; CW, 15 miles and voice, 11 miles with open wire "L" antenna
Power source.....	Self-contained batteries; Plate; 5 ea BAS-60 Fil: 4-S or 3-S dry cell or a 2N1KN-10

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Radio Set Type 12-RTM

РАДИО ТИП 12-РТМ



The 12-RTM tank radio set consists of a small receiver and transmitter mounted in the same cabinet. It is a modernized version of the 12-RP which has been adapted for vehicular use within tank, infantry, and artillery units. It covers a frequency range of 1.95 to 6 mc in two bands, and provides voice and CW communications up to

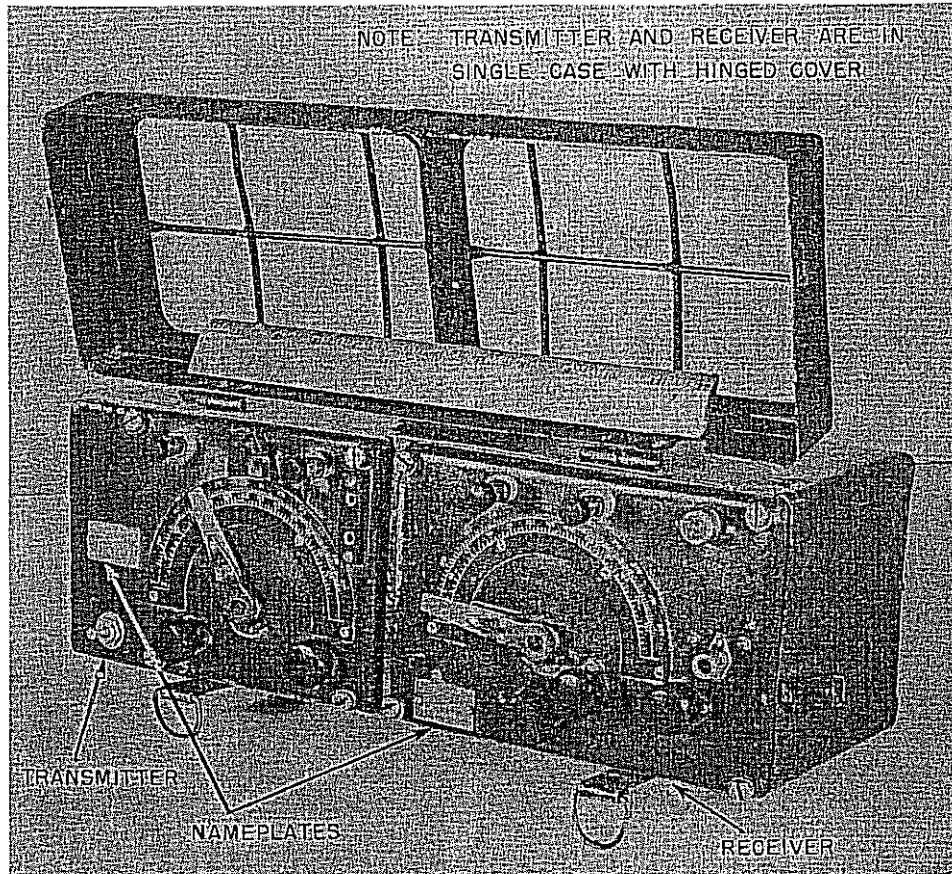
2½ miles. The range is somewhat less for immobile operation.

There is no provision for direct plug-in of microphone or key. Cable receptacles are provided for prepared installation or remote use only.

The set is frequently found in T-34 medium tanks. It is used also by the Hungarian Army and the North Korean forces.

Radio Set Type 12-RTM

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Transmitter Receiver.....	8" x 8 3/4" x 17"	19 3/4 lbs.

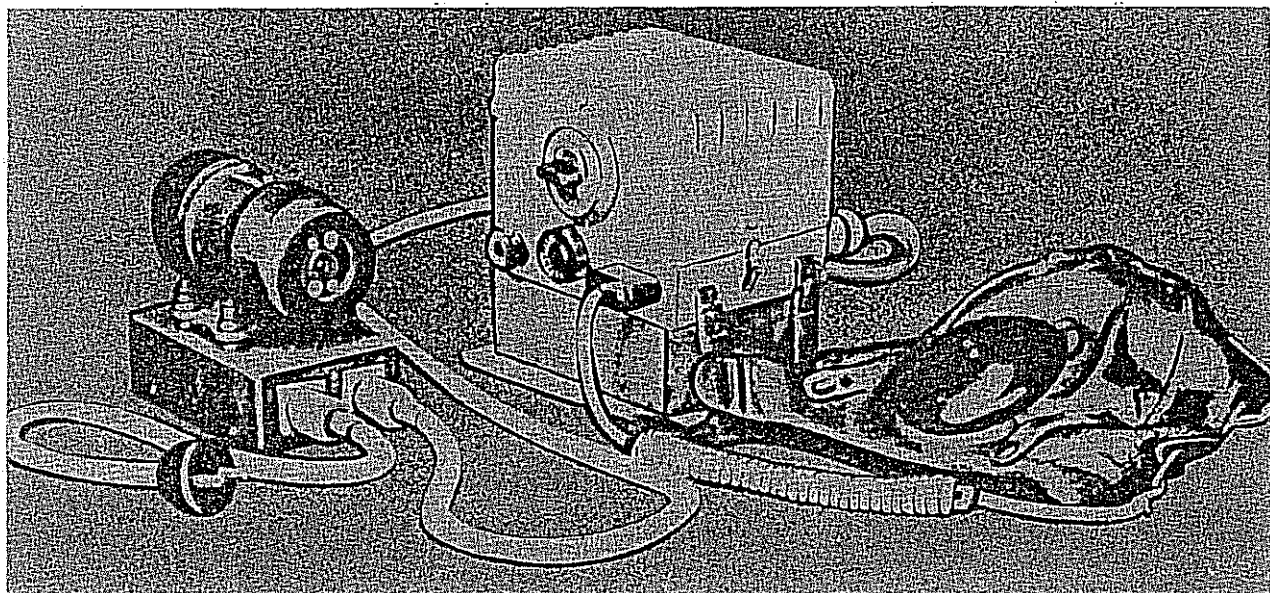
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	1.95 to 8 mc
Frequency selection.....	Continuous
Antennas.....	Vehicular whip
Type signal.....	Voice and CW
Type modulation.....	AM
Frequency control.....	
Power output.....	3 watts
Range.....	2 1/2 miles, stationary; 1.8 miles mobile
Power source.....	Dynamotors and vehicular batteries
Tubes.....	Transmitter; 2-6F6 Receiver; 2-6K7, 2-6A8, 2-6F6

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Radio Set Type RSI-4

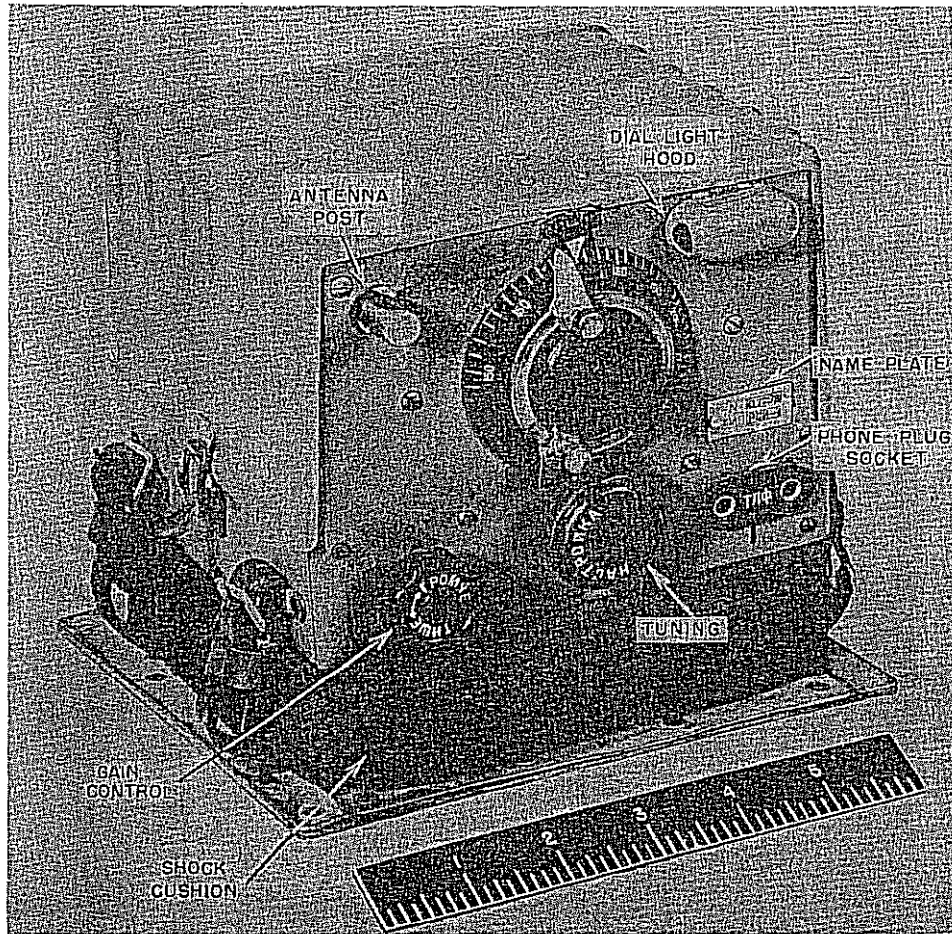
РАДИО ТИП РСИ-4



The RSI-4 is a lightweight airborne radio telephone receiver used for ground-to-air communications. It is the identical receiver that is a com-

ponent of the 9-R tank radio except for possible differences of filament supply voltage. The RSI-4 uses a dynamotor power unit.

Radio Set Type RSI-4 RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Receiver.....	5.9" x 5.9" x 4.7".....	4.4 lbs.
Dynamotor, RU-11A.....	8" x 3 1/4" x 6 1/2".....	8 lbs.

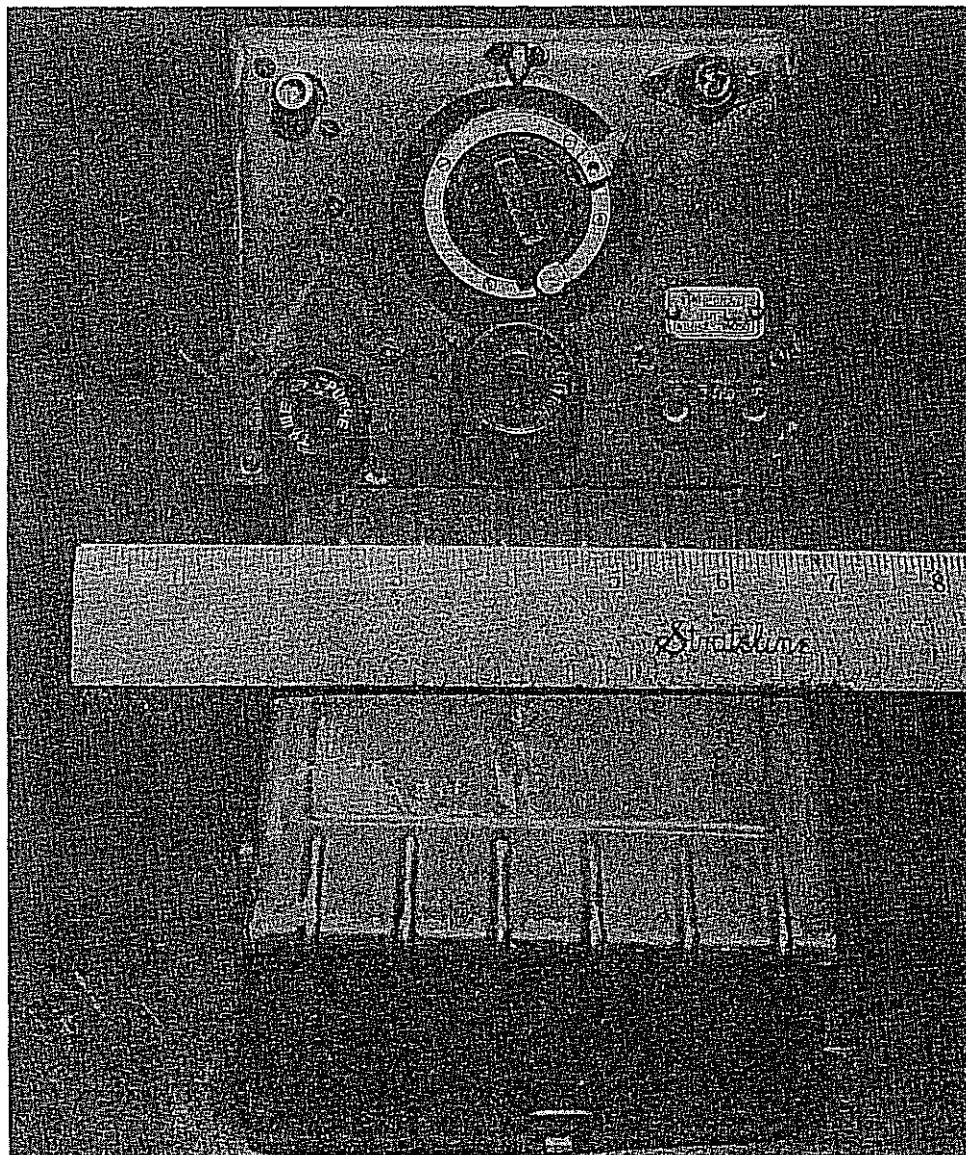
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	3.7-6.05 mc
Frequency selection.....	Continuous tuning
Antennas.....	
Type signal.....	Voice
Type modulation.....	AM
Frequency control.....	
Power output.....	
Range.....	
Power source.....	Dynamotor and aircraft battery
Tubes.....	Transmitter; Receiver; 3-6K7, 1-6A8, 1-6G7, 1-6F6

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Radio Receiver Type RSI-4T

РАДИО ПРИЕМНИК ТИП РСИ-4Т

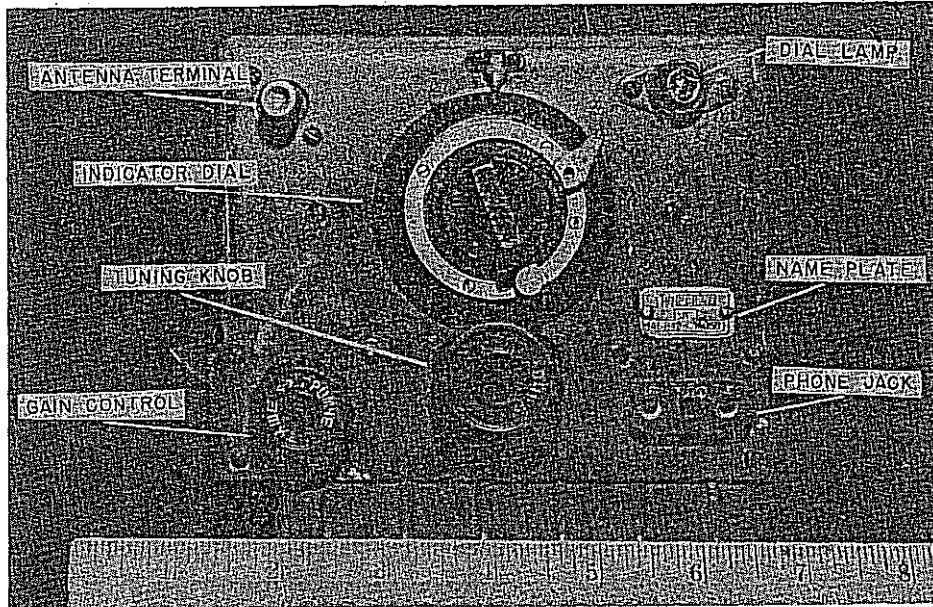


The RSI-4T is a superheterodyne receiver designed for tank use in the frequency range 3.725-6.075 mc. This is a component part of radio set 9-RS and is bolted to the top of the transmitter

and is inclosed in a metal cover. A compact 6-tube set, it may be used separately with a small dynamotor and storage battery.

Radio Receiver RSI-4T

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Receiver RSI-4T	7" x 7" x 10.2"	

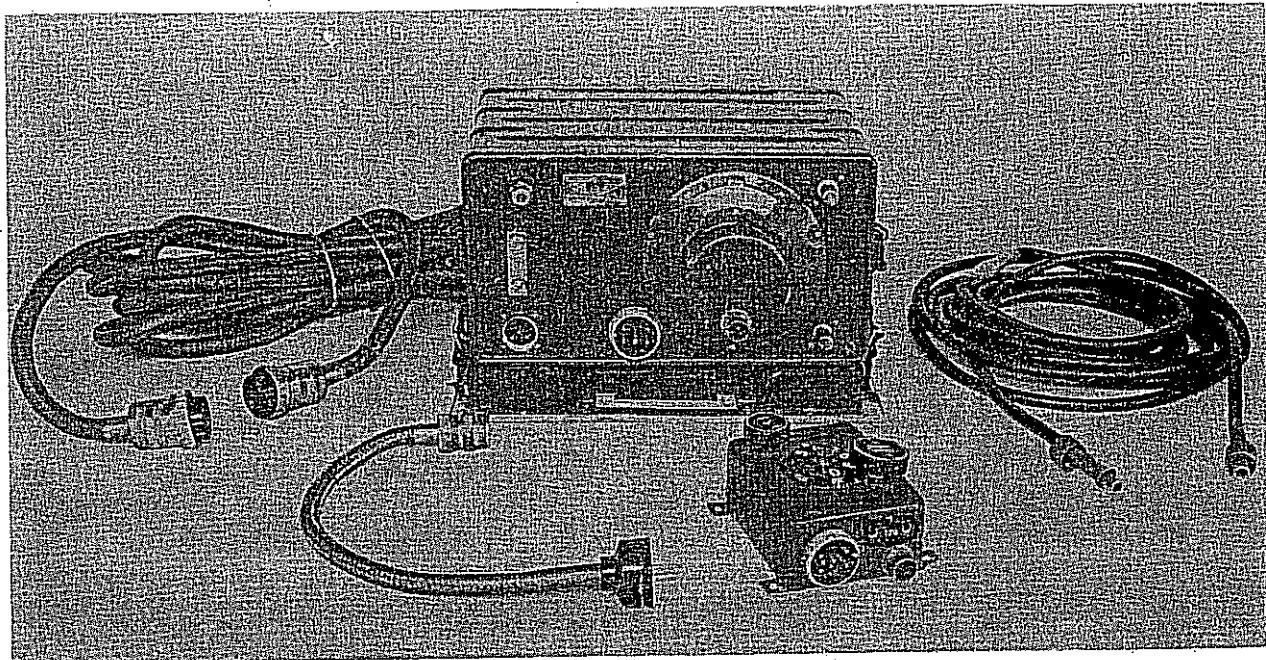
II. TECHNICAL CHARACTERISTICS:

Frequency range	3.725-6.075 mc
Frequency selection	Continuous tuning
Antennas	
Type signal	
Type modulation	AM
Frequency control	
Power output	
Range	
Power source	Dynamotor and battery
Tubes	3-6K7, 1-6AB, 1-6G7, 1-6F6

RESTRICTED

Radio Receiver Type RSI-6M-1

РАДИО ПРИЕМНИК ТИП РСИ-6М-1

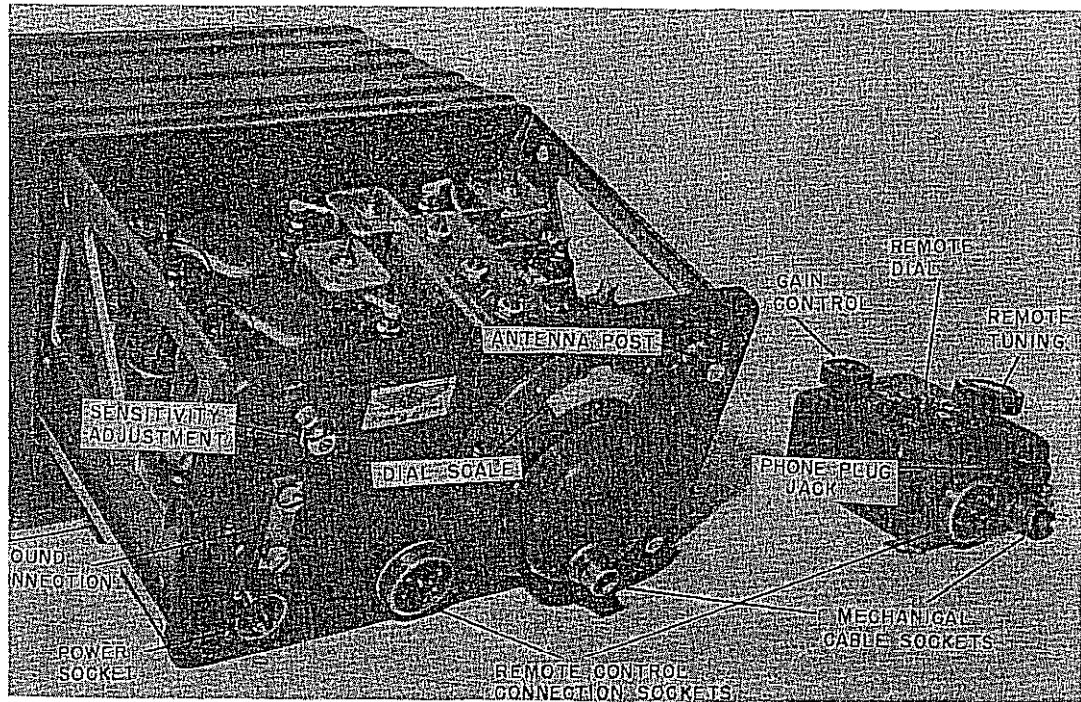


The RSI-6M-1 is a lightweight shock-mounted airborne receiver of good appearance and workmanship, believed to be widely used in Soviet fighter aircraft. Its conventional 8-tube super-heterodyne circuit receives voice or CW signals in the 3.75 to 5 mc. range.

A switching arrangement permits the audio circuit of the receiver to serve as an intercom-

munications amplifier. The component layout has not been crowded to compress the size of the set, which greatly facilitates trouble-shooting. Manufactured by Soviet controlled factories in December 1949, it indicates rapid progress in design and production, well abreast of current military standards.

Radio Receiver Type RSI-6M-1 RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Receiver.....	10½" x 5½" x 7".....	24 lbs.
Remote control unit (power supply).		

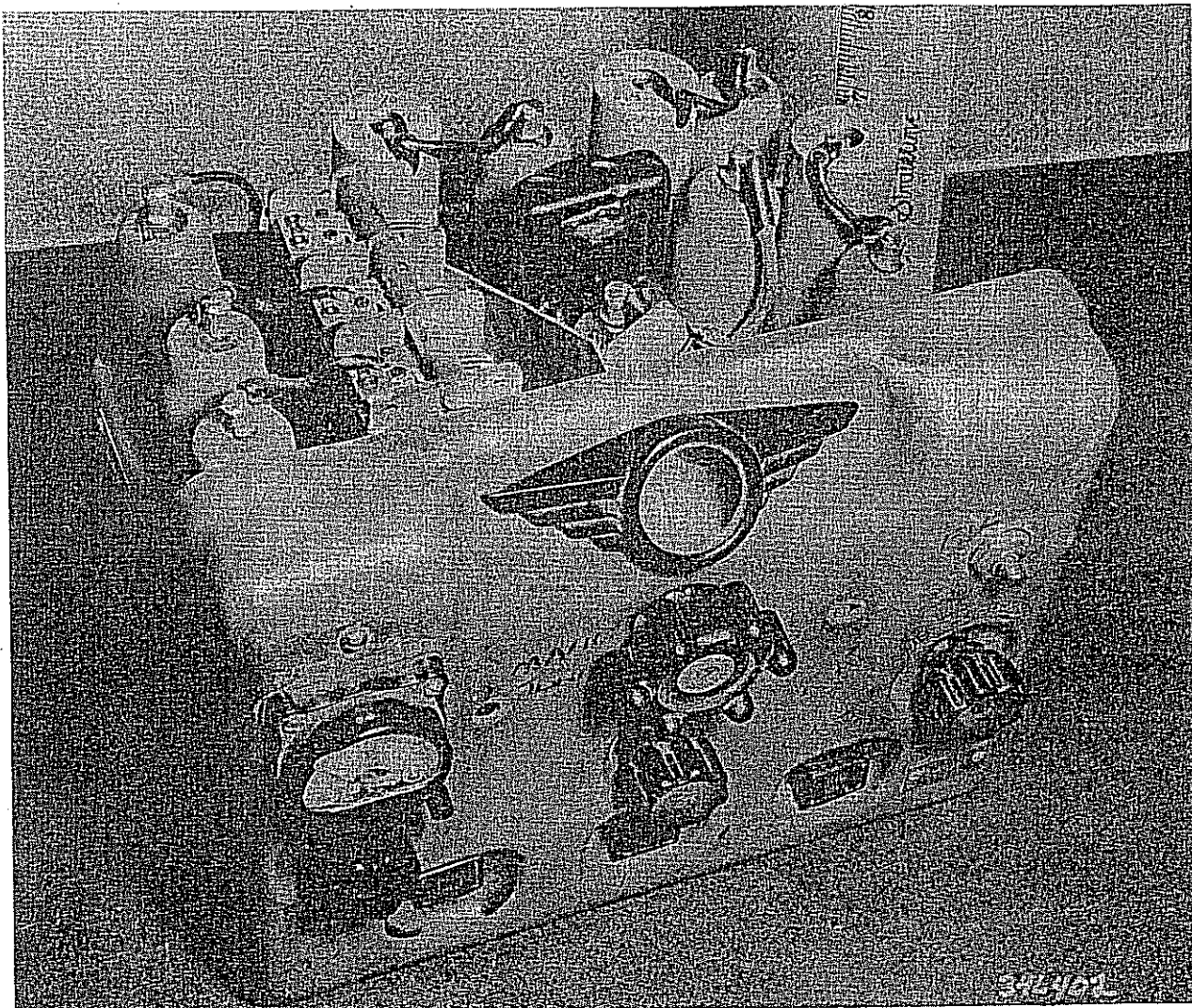
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	3.75-5 mc
Frequency selection.....	Continuous tuning
Antennas.....	
Type signal.....	CW and voice
Type modulation.....	AM
Frequency control.....	
Power output.....	½ watt of audio (estim.)
Range.....	
Power source.....	
Tubes.....	5-6K7, 3-13-P1-M

RESTRICTED

Radio Set Type US-4S

РАДИО СТАНЦИЯ ТИП УС-4С



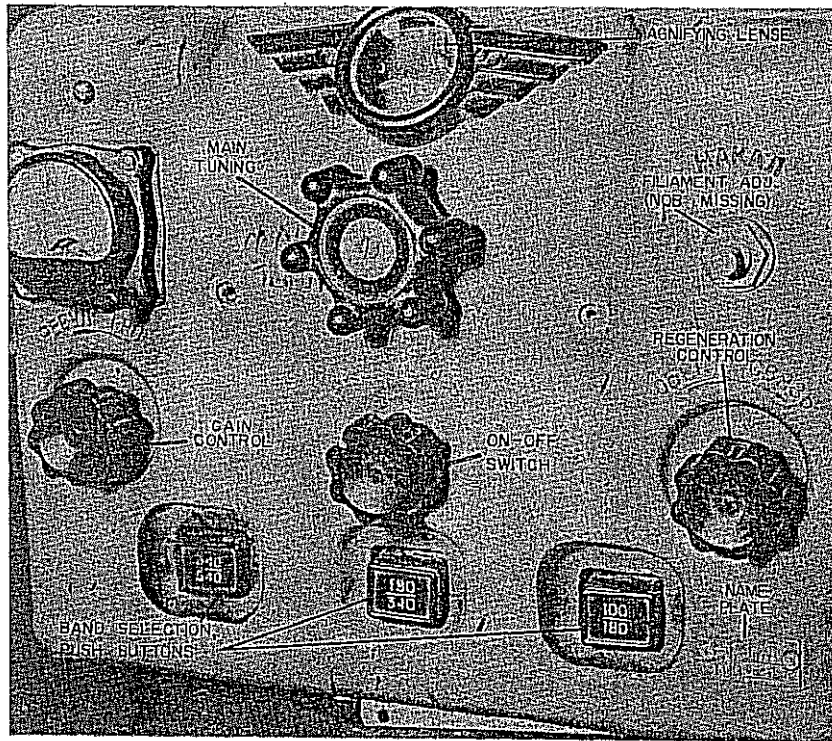
The US-4S is a lightweight receiving equipment of good design and workmanship, suitable for portable field use or vehicular operation. Its frequency range covers 2.5-13 mc in three bands with push button band selection.

The circuit is a somewhat conventional 8-tube superheterodyne type, having 1 RF stage and 3 IF stages. The power supply is separate and

not available to date. Two distinguishing features are a $1\frac{1}{8}$ " lens over the dial aperture and a $1\frac{1}{2}$ " meter (0-300 volts dc), mounted on the front panel outside the case. It is believed this set was manufactured in Russian factories for Soviet military forces and supplied to North Korean military forces for use in the current campaign.

Radio Set Type US-4S

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

<i>Unit</i>	<i>Size</i>	<i>Weight</i>
Receiver.....	7 $\frac{3}{8}$ " x 9 $\frac{3}{8}$ " x 7 $\frac{3}{8}$ ".....	9.25 lbs.
Wooden Case for receiver.....		
Receiver power supply.....		

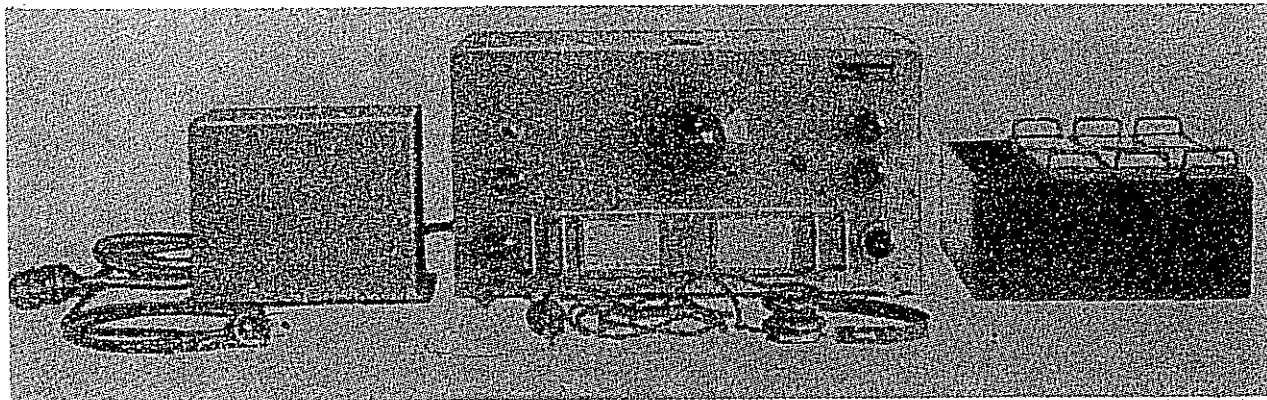
I. TECHNICAL CHARACTERISTICS:

Frequency range.....	2.5-13 mc
Frequency selection.....	Continuous tuning
Antennas.....	
Type signal.....	
Type modulation.....	AM
Frequency control.....	
Power output.....	
Range.....	
Power source.....	Dry battery; vibrator or dynamotor w/veh battery
Tubes.....	

RESTRICTED

Radio Set Type US-4

РАДИО СТАНЦИЯ ТИП УС-4



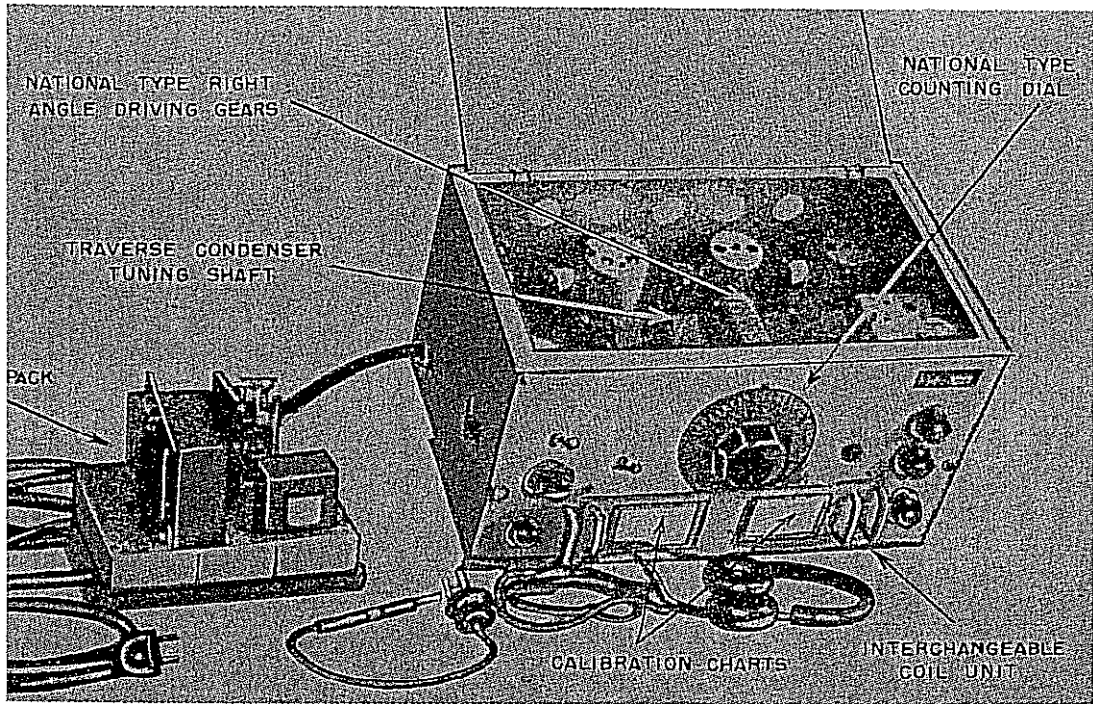
The US-4 is a communications receiver patterned after the American "HRO Jr", built by National Radio Corp., Inc. It covers the band 1500 to 30,000 kc. in five bands and has removable

tuning units. The power supply is separate.

Some parts are from the original American company. Others are from German and Netherland companies.

Radio Set Type US-4

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

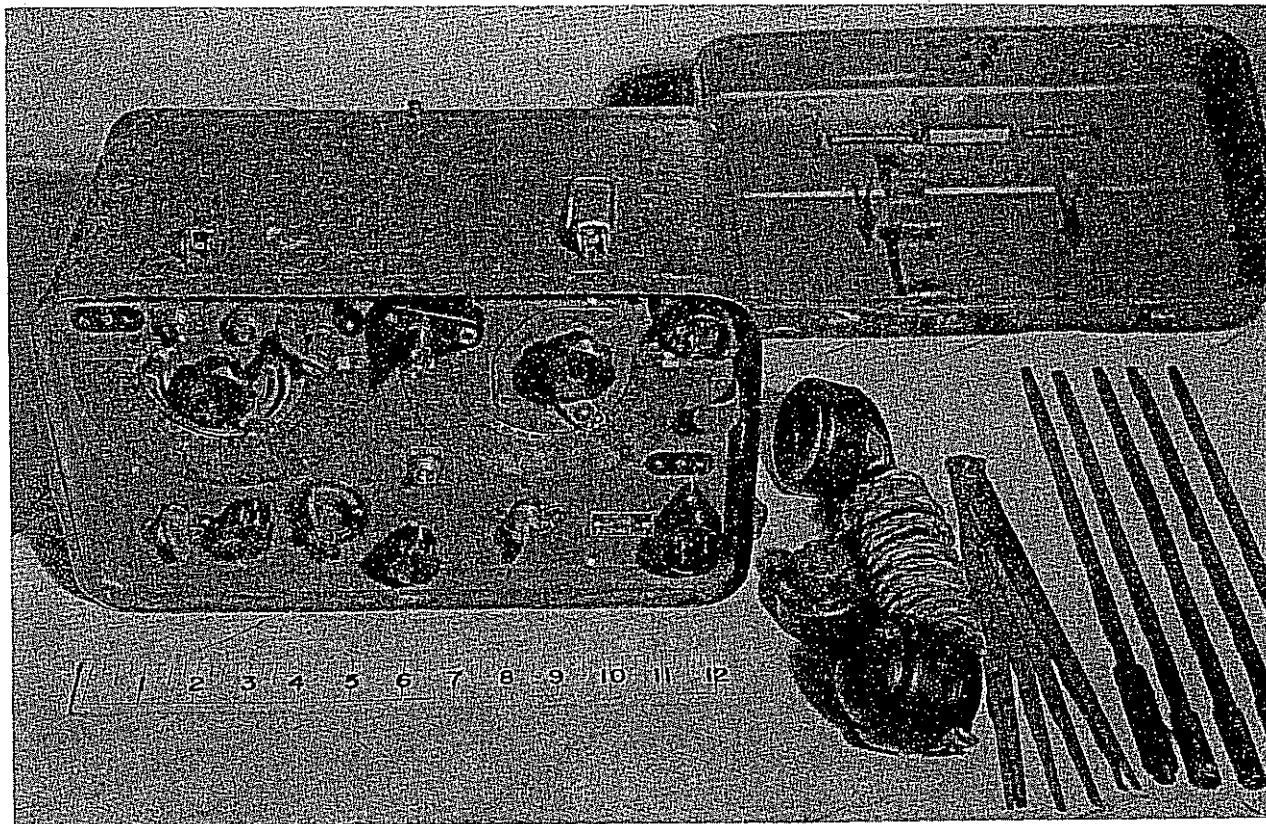
Unit	Size	Weight
Receiver, US-4.....
Power supply.....
Tuning units (4 or 6).....
Receiver.....	52 lbs.

II. TECHNICAL CHARACTERISTICS:

Frequency range.....	1.5-30 mc
Frequency selection.....	Continuous tuning in several bands
Antennas.....
Type signal.....
Type modulation.....	AM
Frequency control.....
Power output.....
Range.....
Power source.....	Storage batteries
Tubes.....

Radio Set Type RB (45)

РАДИО ТИП РВ (1945)



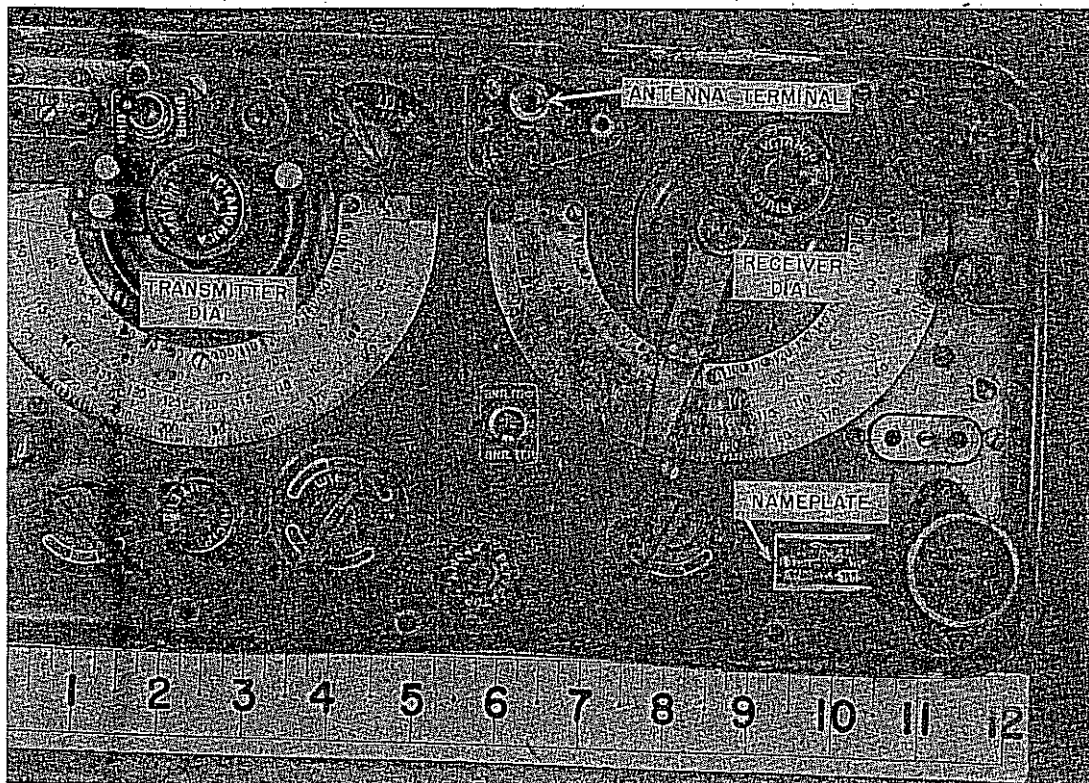
The RB (1945 model) is a two-man pack radio transmitter-receiver used between regimental and battalion levels. It can be used either in voice or CW operation, and has an effective range with the 6-foot whip antenna of about 6 miles on voice and 8 miles with CW code, with a 50-foot dipole antenna, these ranges increase to 18 and 22 miles respectively. Although carried by two men, the set is rather heavy, about 36 pounds for the radio chassis section and at least that for the other section which contains the batteries. It cannot

be operated on the march but it could be put into operation in a few minutes.

The set is of reasonably rugged construction, moderately simple and fairly dependable. It is housed in two metal cases of similar appearance. The control panel has a removable cover. The transmitter and receiver are tuned by separate dials, each continuously tunable over three adjacent bands. This set belongs to the RB series which has minor variations according to the time of manufacture. It is the predecessor of the modern RBM series.

Radio Set Type RB (45)

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Transmitter and receiver section	8" x 8" x 16½"	36 lbs.
Battery and accessory unit	Approximately the same	

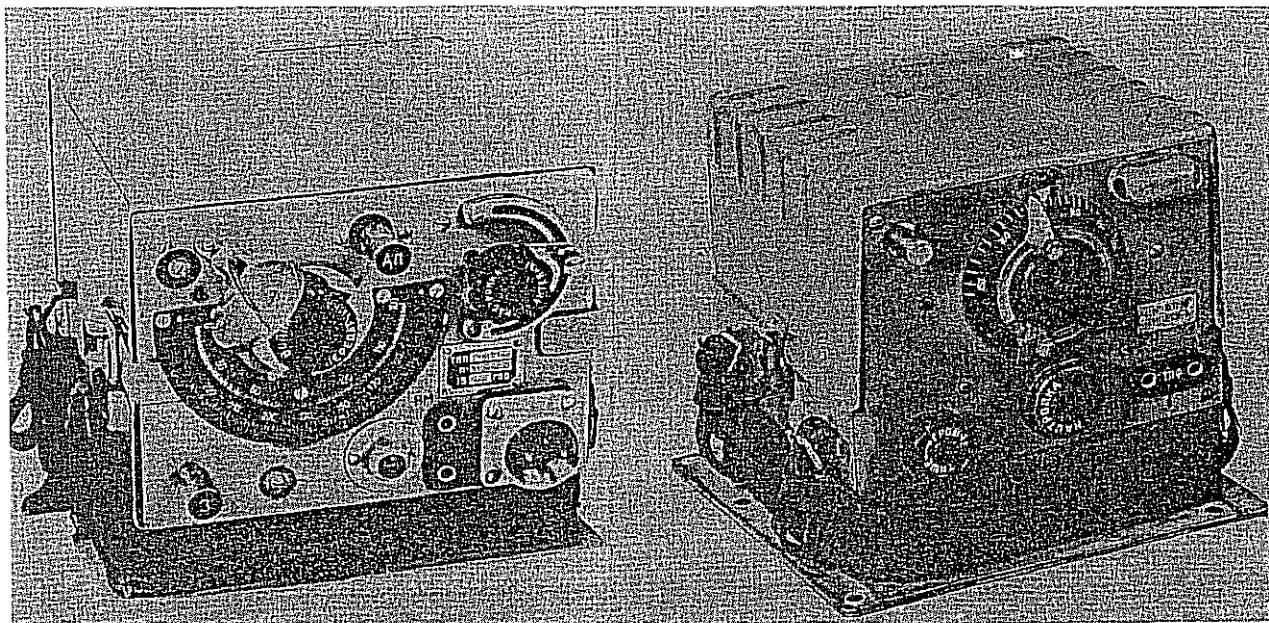
II. TECHNICAL CHARACTERISTICS:

Frequency range	1500-2375 kc; 2375-3750 kc; 3.75-6.0 mc
Frequency selection	3 bands; continuous tuning over each; no preset frequencies
Antenna	8-foot whip, top loaded with "star" 50-foot dipole suspended from 25 foot; masts
Type of signal	Voice, CW
Type of modulation	AM
Frequency control	MO
Power output	1 watt
Range	6 miles voice and 8 miles CW w/whip antenna 18 miles voice and 22 miles CW w/dipole antenna
Power source	Plate; 2 ea BAS-60 batteries FB; 1 ea 2-NKN-10
Tubes	Transmitter; 1-SB245 Receiver; 3-SB241; 1-SB242; 1-SB243; 1-UB240

RESTRICTED

Radio Station Type 9-R

РАДИО СТАНЦИЯ-ТИП 9-Р



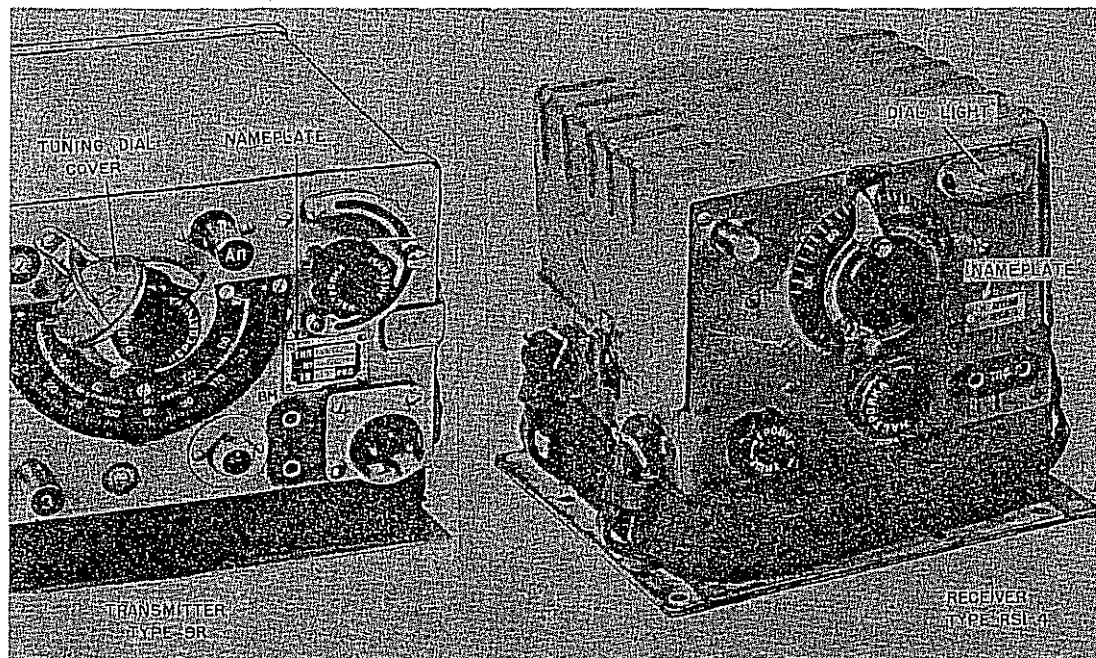
The 9-R is a vehicular transmitter-receiver set, used primarily in heavy and medium tanks. It is a permanent installation and may be connected to an intercommunication system. The set is presumably used for intertank communications and to next higher echelon of command. Normal range is 15 miles with vehicle halted, 11 miles when moving. Only voice modulated signal is used. The set is shock mounted in the vehicle and the 15-foot whip antenna has a flexible mount which allows it to bend 90°. The entire set consists of 5 units—transmitter, receiver, control box,

and two dynamotors, plus microphone, headphones, cables, and antenna. The receiver is a component part of the 9-R set, but it carries a type designation of its own, type RSI-4 (РСИ-4). Pillow or cushion type shock mounts are used on transmitter and receiver components.

Components of this set, with minor modifications are used in aircraft. This set is of World War II vintage. It is currently used, but is probably out of production. It is the predecessor of the modern radio set, type 9-RS(9-PC).

Radio Station Type 9-R

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Transmitter (9-R).....	7" x 7" x 9".....	
Receiver (RSI-1).....	7" x 7" x 10".....	
Control box (9-R).....	5" x 5½" x 3¾".....	75 lbs.
Dynamotor (RUN-30) or (RU-45b).	10" x 7" x 7".....	
Dynamotor (RUN-10) or (RU-11b).	6" x 3½" x 3½".....	

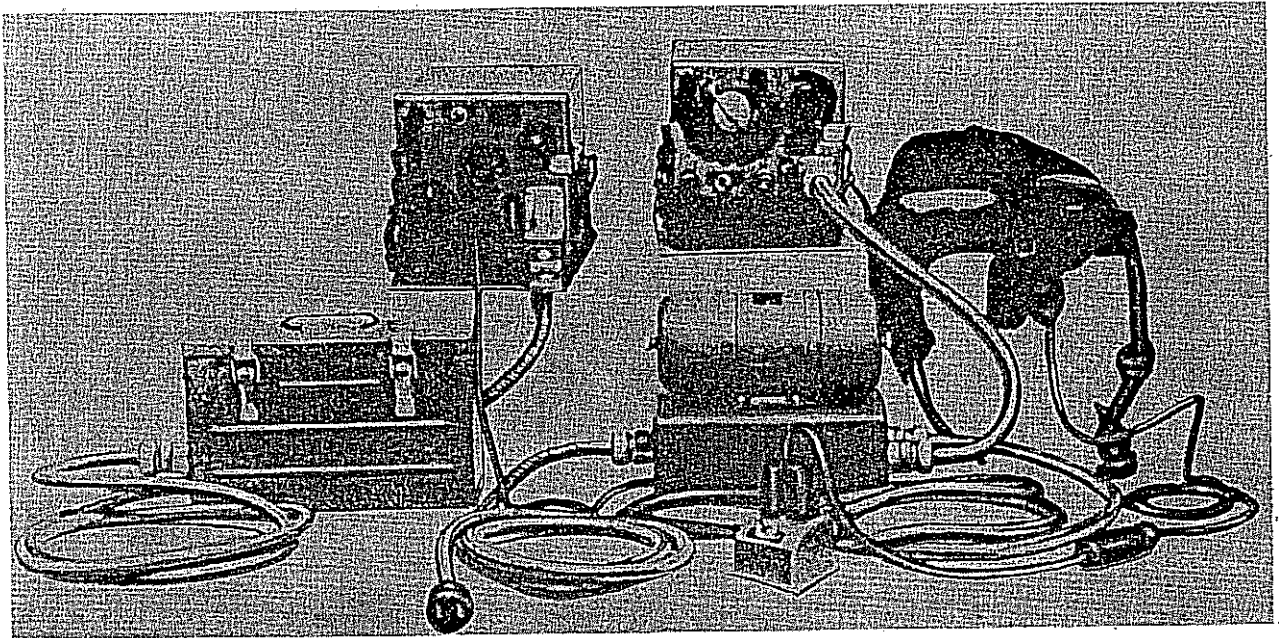
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	Transmitter—4000 to 5625 kc Receiver—3700 to 5800 kc
Antenna.....	15-foot whip antenna
Type of signal.....	Voice
Type of modulation.....	A-3
Frequency control.....	ECO
Power output.....	20 watts
Tubes.....	Transmitter; 2 - 6P3 or 2 - 6L6 Receiver; 3 - 6K7, 1 - 6A8, 1 - 6G7, 1 - 6F6

RESTRICTED

Radio Set Type RSI-3

РАДИО СТАНЦИЯ ТИП РСИ-3

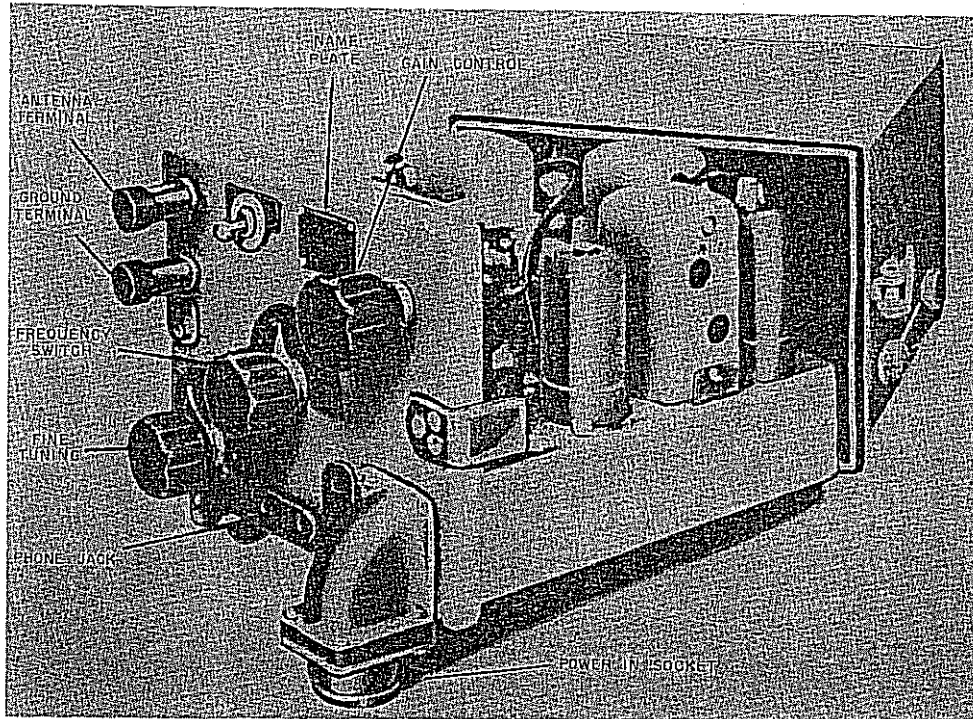


The RSI-3 is a small, lightweight fighter aircraft set of simple circuit design. It is inferior to comparable United States equipment. The set is used for short range air-to-ground communications. The receiver has five fixed frequencies. Operation is only by voice.

Widely used in 1945, the RSI-3 was later replaced by the RSI-4. Both transmitter and receiver have shock mounts.

Radio Set Type RSI-3

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Transmitter, RSI-3.....	Same as receiver (approximately)	
Receiver.....	6.3" x 5.1" x 7".....	4.4 lbs.
Dynamotor.....		
Storage battery.....		

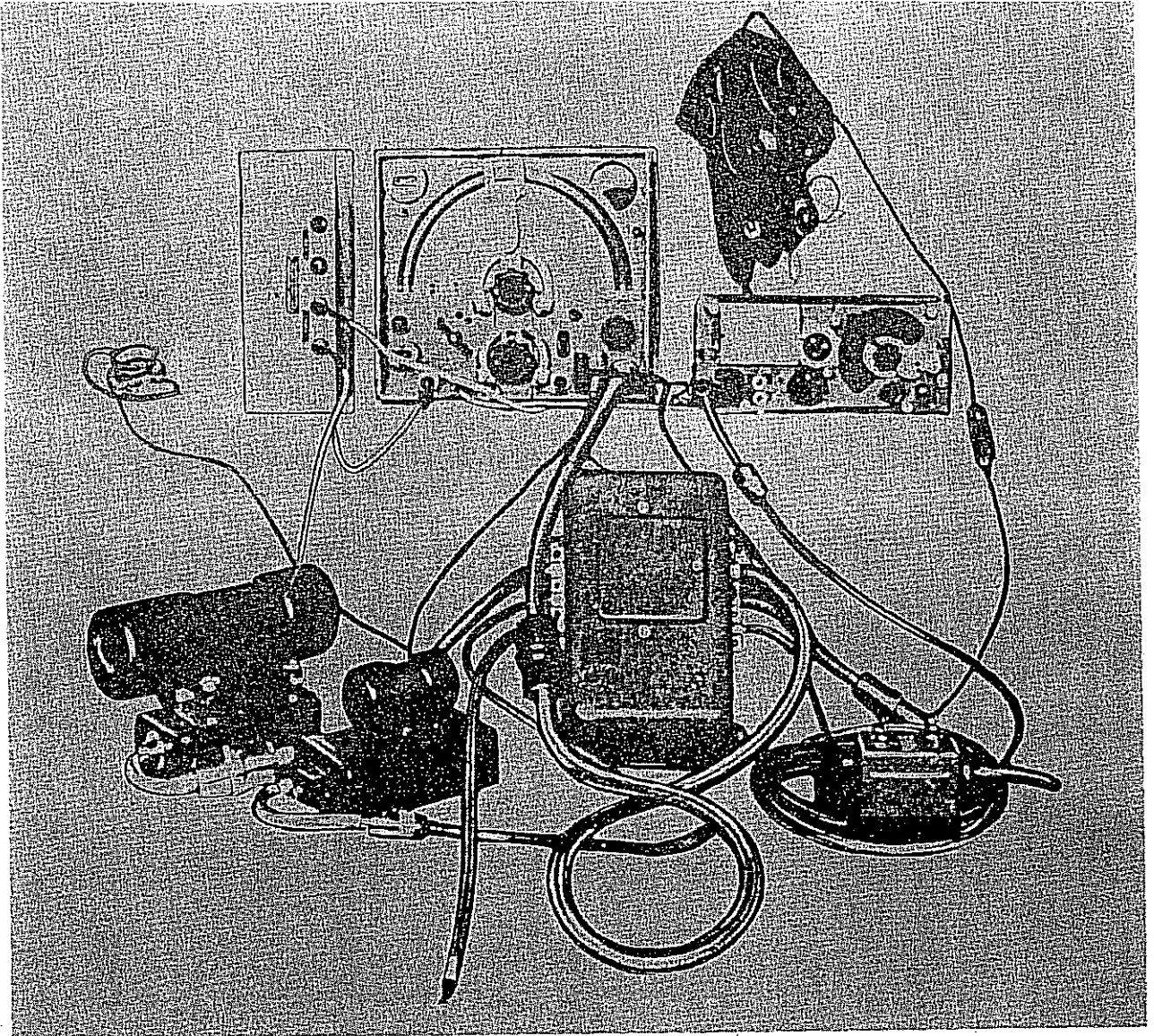
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	Transmitter; 3.5-5 mc Receiver; 3.5-4.4 mc
Frequency selection.....	5 preset channels
Antennas.....	
Type signal.....	Voice
Type modulation.....	AM
Frequency control.....	
Power output.....	3 watts
Range.....	
Power source.....	Dynamotors and aircraft battery
Tubes.....	Transmitter; Receiver; 1—SB 242, 3—SO 241

RESTRICTED

Radio Set Type RSB

РАДИ ОТИШ РСВ



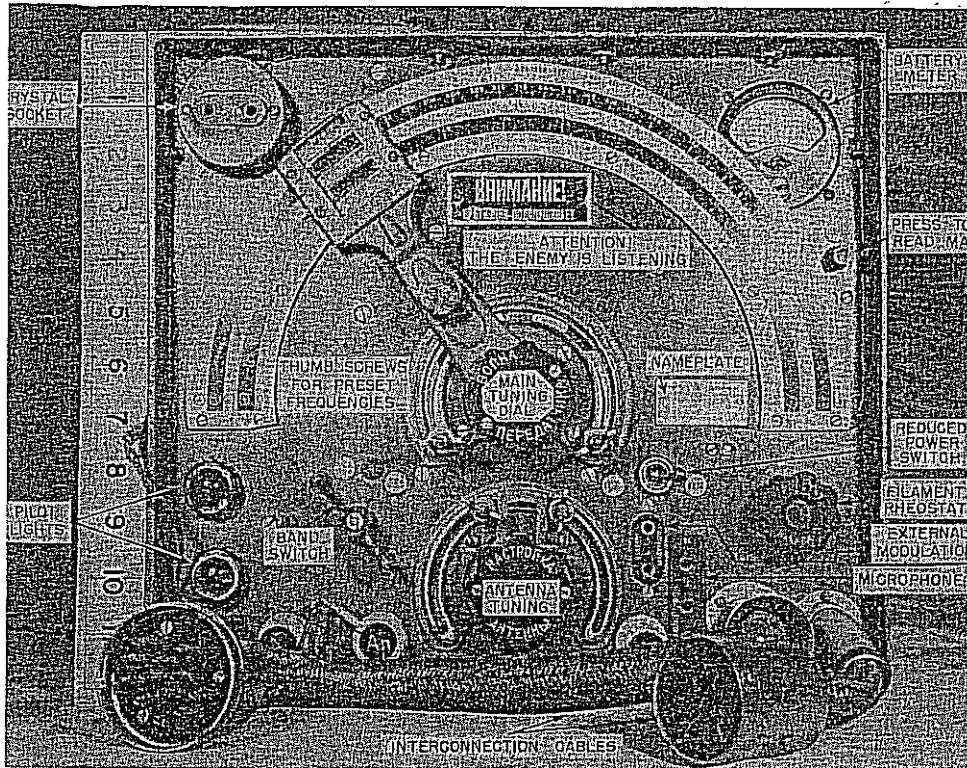
The RSB is a portable, low-power, medium frequency set, used in Division and Corps Headquarters. A general purpose set, built ruggedly for field use, it is sufficiently light in weight for bomber aircraft installation. Operation is fixed or mobile when installed in a light vehicle. Reliable

voice range is about 30 miles, and 125 miles for CW operation.

The somewhat complicated design requires highly qualified operators. Set is manufactured by Gorki Works #1 (1939) and its components are also used in radio sets RSB-F and RSB-bis.

Radio Set Type RSB

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Transmitter (Type RSB).....	14½ x 11½" x 8"	25 lbs.
Receiver (Type US).....	11" x 6" x 6"	13 lbs.
Dynamotors, 3 (type unknown)...		
Modulator.....		
Battery charging panel.....		

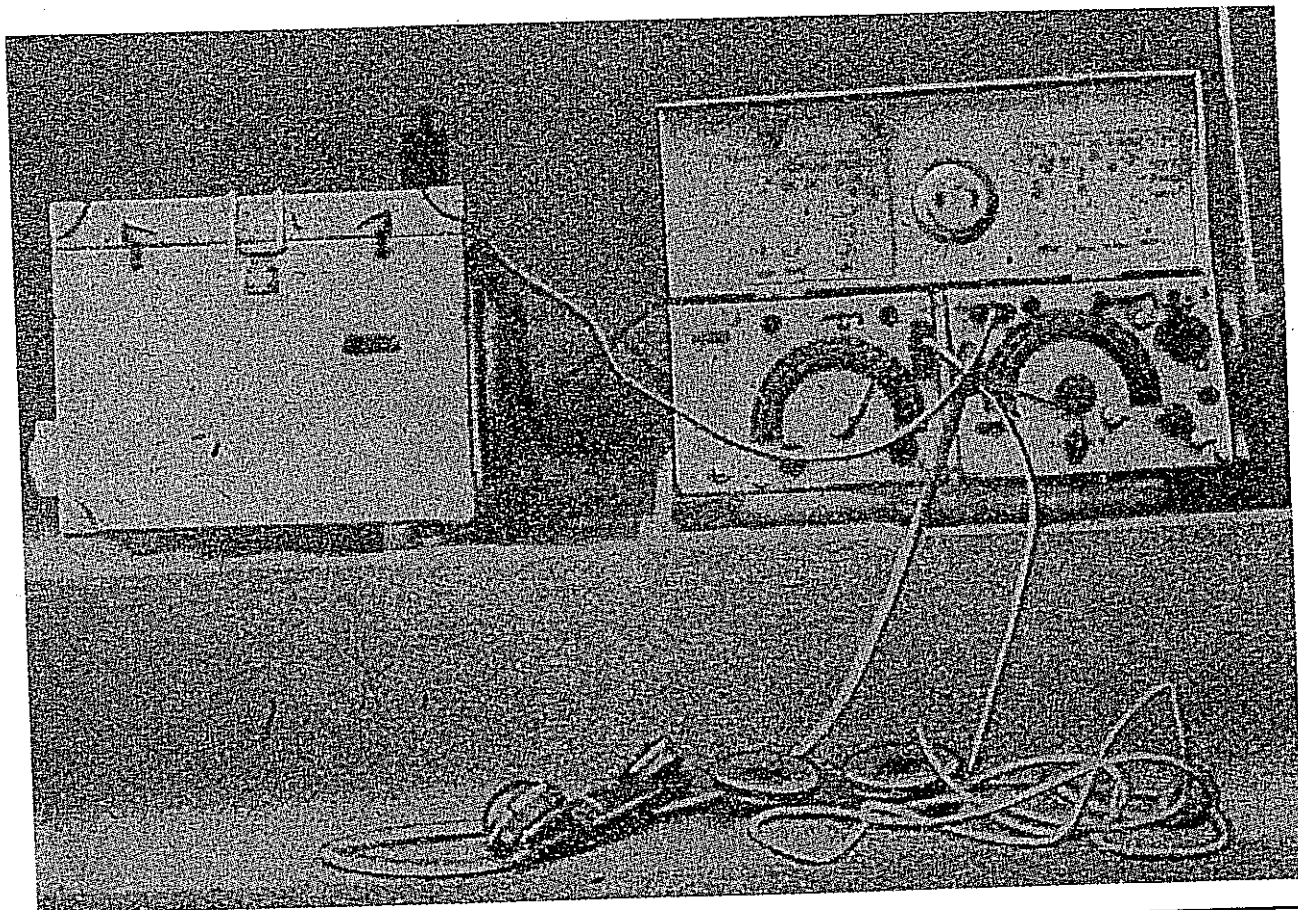
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	Transmitter, 2500-12000 kc Receiver, 175-12000 kc
Preset frequencies.....	None—continuous tuning
Antennas.....	3.3' vertical rod 33' long wire
Type of signal.....	CW or voice
Type modulation.....	AM
Frequency control.....	Crystal calibrated
Power output.....	15 to 100 watts
Range.....	Voice, 30-40 miles; CW, 125 miles
Power source.....	12 or 24 v storage battery
Tubes.....	Transmitter; 1—UG4, 1—SK137 Receiver; 4—6K7, 1—6L7, 1—6L6, 1—6E5, 1—6E6

RESTRICTED

Radio Set Type 12-RP

РАДИО ТИП 12-РП

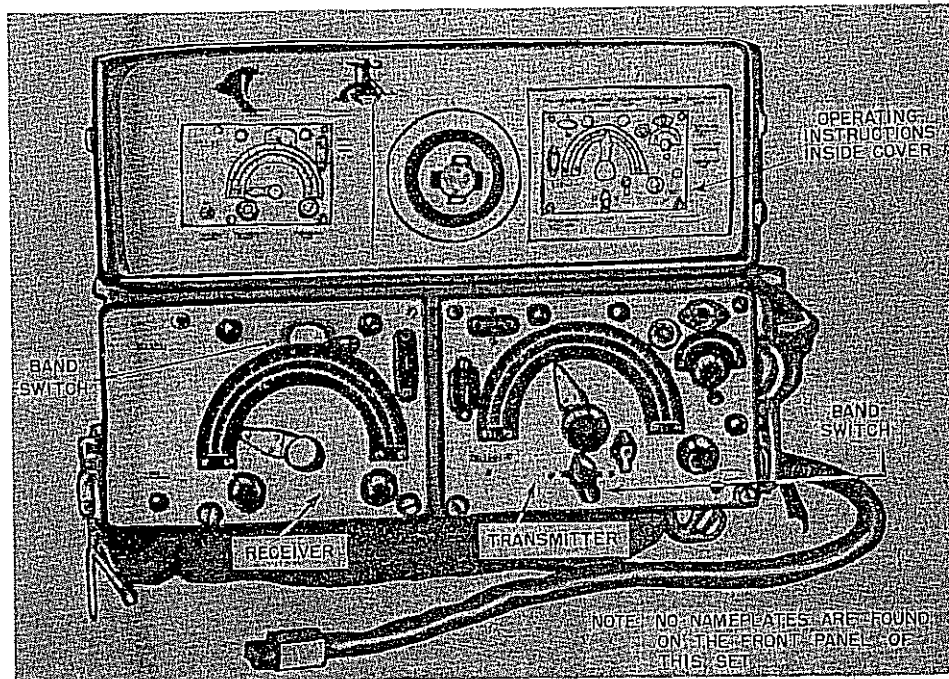


The 12-RP is a two-man pack radio set found within infantry regiments and infantry-tank liaison. It provides voice communication over distances up to 5 miles and CW communication over distances up to 20 miles, depending on antenna type and terrain. It may be operated on the march or at rest. Its use of medium frequencies allows good performance in rugged and mountainous terrain. It is easily carried

It has a transmitter-receiver case and a battery case. The complete set weighs 52 pounds. The construction is sturdy and simple. This set can receive for 20 hours and transmit for 6 hours with a fresh set of batteries. The 12-RP is being replaced by the 12-RTM, which has provision for vehicular operation. However some of the older sets may still be found in use.

Radio Set Type 12-RP

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Transmitter-Receiver.....	10½" x 10½" x 10½"	24 lbs.
Battery Box.....	15½" x 11½" x 10"	28 lbs.

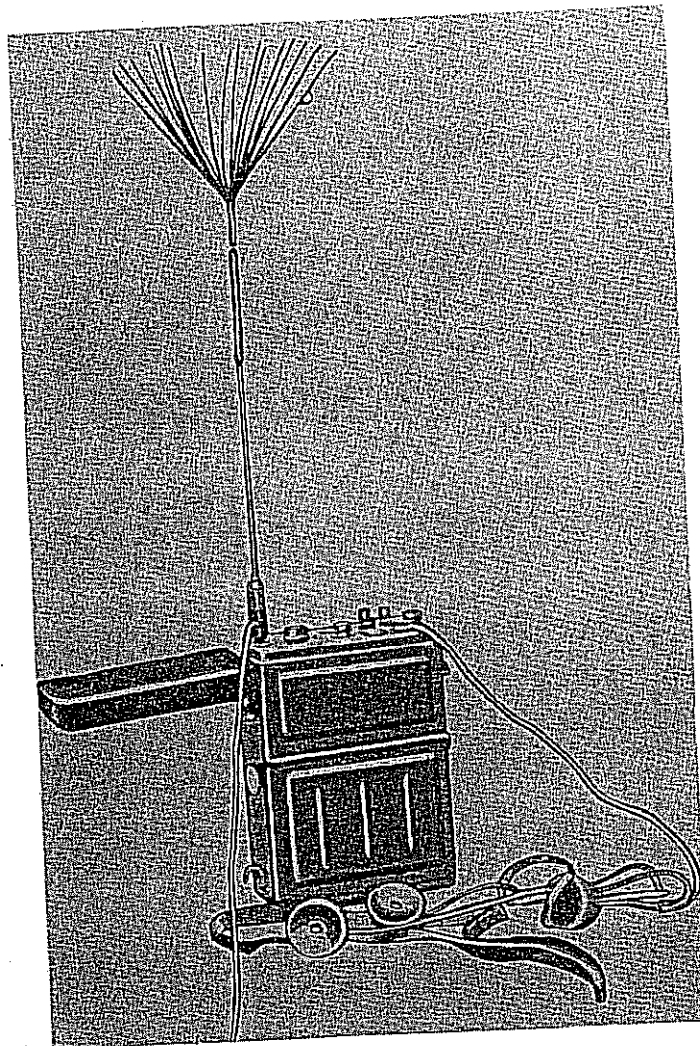
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	1.9-3.4 mc, 3.4-6.0 mc
Frequency selection.....	2 bands; continuous tuning
Antenna.....	8' whip, top loaded with "star" 30' dipole
Type of signal.....	Voice; CW
Type of modulation.....	AM
Frequency control.....	MO
Power output.....	2 watts
Range.....	Voice, 5 miles; CW, 10 miles, whip antenna Voice, 10 miles; CW, 20 miles, dipole antenna
Power source—(battery pack).....	Transmitter; Plate 240 v, Fil., 2.4 v Receiver; Plate 120 v, Fil., 2.4 v
Tubes.....	Transmitter; 2—80257 Receiver; 2—80241, 2—8B242, 1— 8B244

RESTRICTED

Radio Set Type 4R (RBS)

РАДИО ТИП 4Р (РБС)



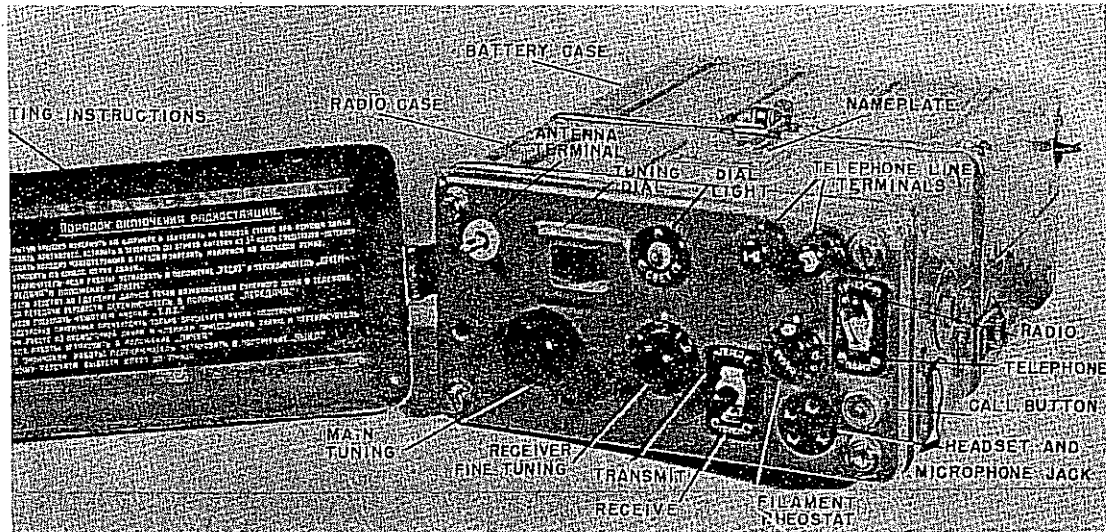
The 4-R (which is identical with the RBS) is a one-man pack radio transceiver and is found in infantry companies at front lines. It can be operated on the march or at rest. It has provision for using it as a field telephone over a wire line. The radio has a 2-mile wire range. Tone telegraph can be used up to 4.5 miles. Due to the line-of-sight characteristics of the VHF radio waves employed in this radio set, performance over mountainous or rugged terrain is

spotty. This set has roughly the same size, shape, and general appearance as the United States "walkie-talkie", SCR-300.

A two-unit construction is used, with the upper metal case containing the radio and the lower metal case containing the batteries; the two units are held together with snap catches. This set is of 1940 vintage and is probably now obsolete, although some units may still be found in the Soviet Army.

Radio Set Type 4R (RBS)

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

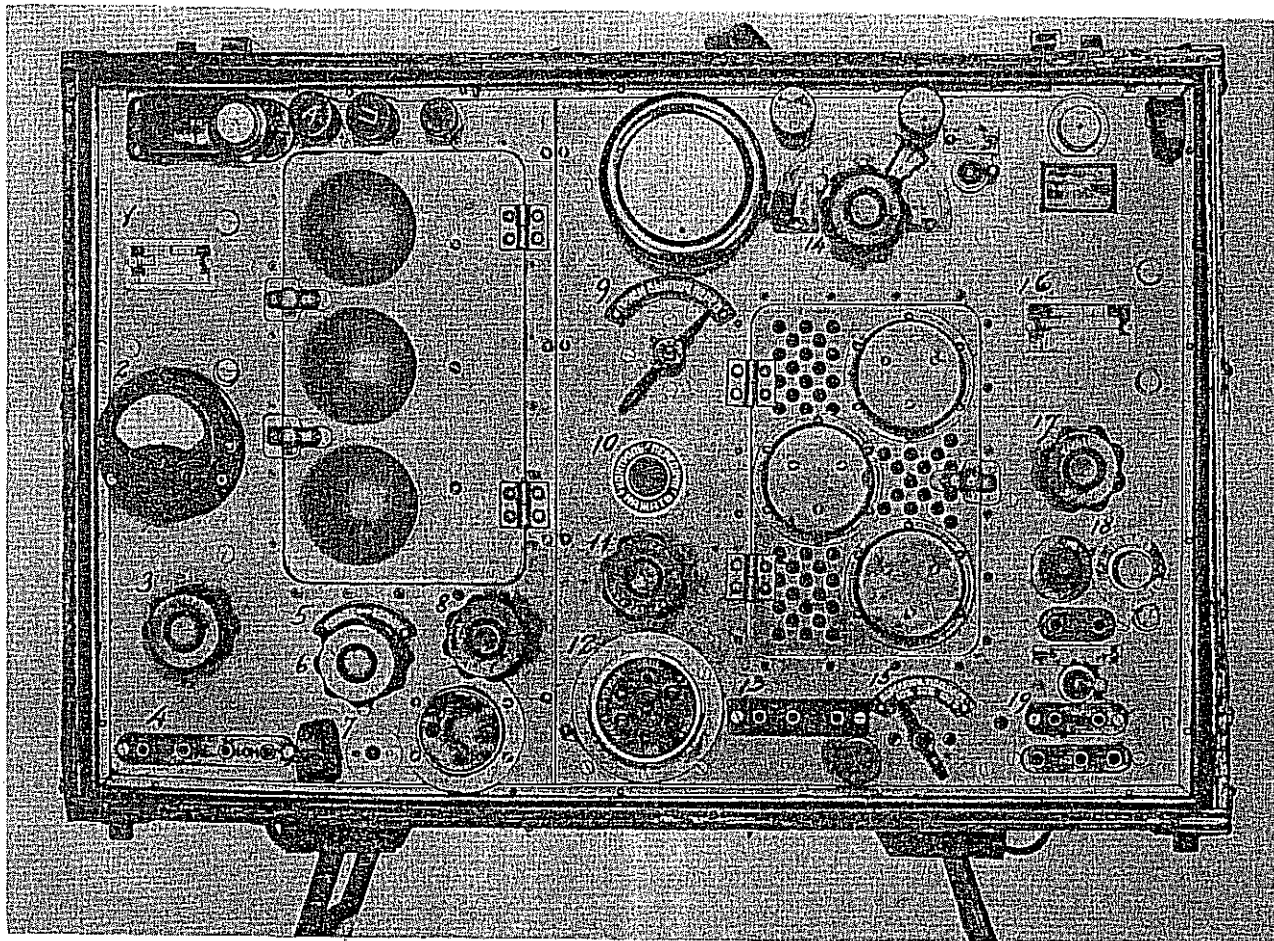
Unit	Size	Weight
Transceiver.....	18" x 11" x 8".....	25 lbs.

II. TECHNICAL CHARACTERISTICS:

Frequency range.....	33.25—40—50 mc
Preset frequencies.....	None—continuous tuning
Antenna.....	4' whip with cluster on top
Type of signal.....	Voice or tone telegraph
Type modulation.....	AM
Frequency control.....	MO
Power output.....	5 watts
Range.....	Voice, 2 miles; tone telegraph, 4.5 miles
Tubes.....	1—UB240, 1—SB244, 1—S0241, 1—S0247

Radio Station Type 5-AK-1M

РАДИО СТАНЦИЯ ТИП 5-АК-1М



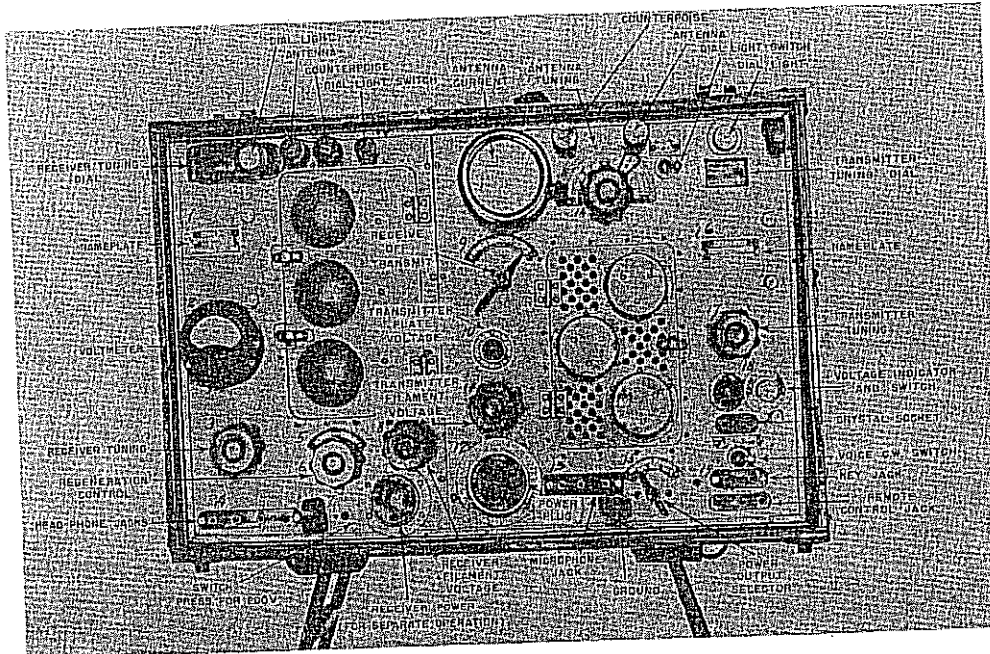
The basic unit of the 5-AK-1M radio is transmitter 20-KV-1 and receiver 5-RKU assembled in one case. It is a mobile radio station widely used at regiment and higher headquarters. It is also used at division tank and artillery headquarters. It may be installed in trucks, busses, passenger automobiles and 2- and 4-wheel horse-drawn carts. It can be pack carried by three animals. With the 18-foot portable "umbrella net" antenna the set has a voice range of 30 miles, and 50 miles CW code. When mounted on a

truck with a flat type antenna, used in motion, the range is reduced to 12 miles voice, 25 miles CW code. In addition to the basic transmitter-receiver component, there is a power component housing dynamotor, dry batteries and operating accessories; antenna kit, spares kit, several storage batteries, and for motorized units a charging generator and a charging control panel.

This set is a late model in the 5-AK series, and has components common to others of the series.

Radio Station Type 5-AK-1M

RECOGNITION FEATURES



CHARACTERISTICS

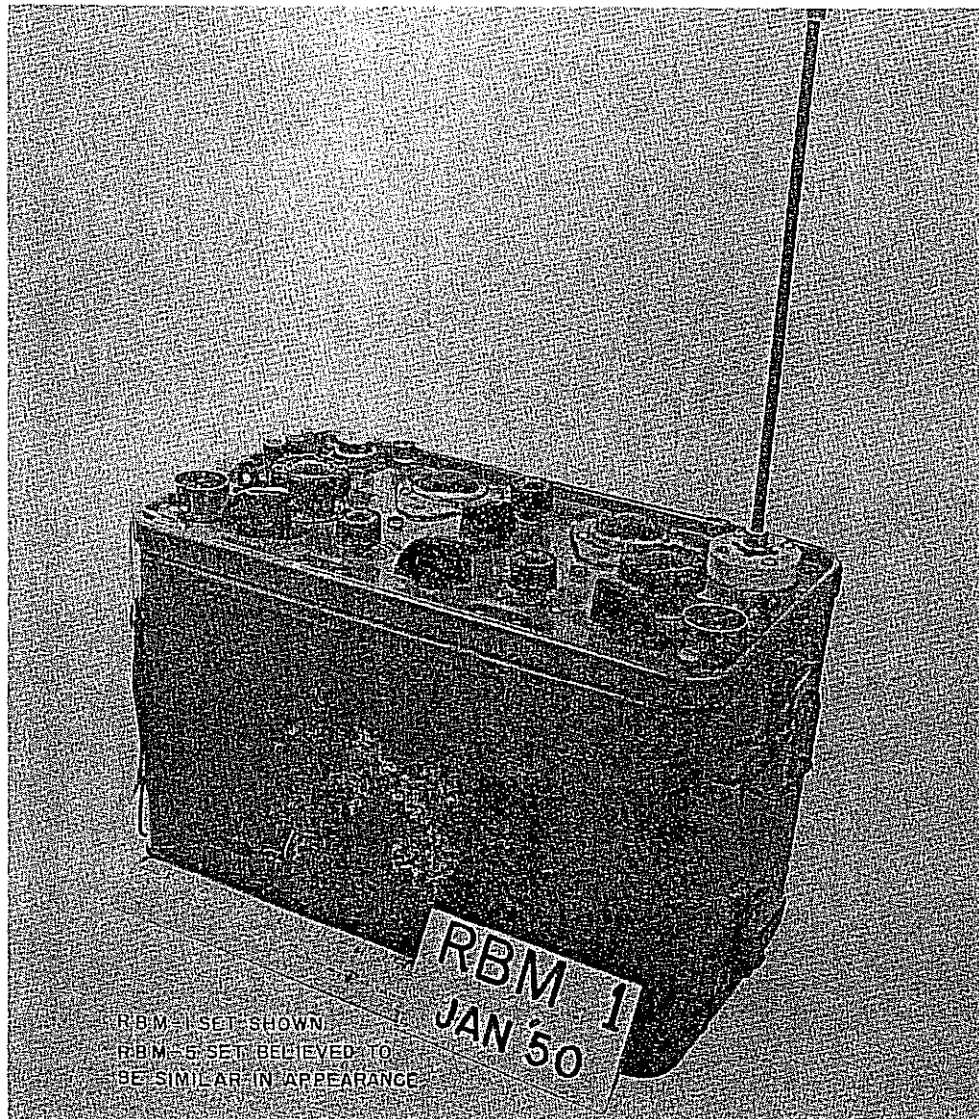
Item	Size	Weight
Unit (20-KV-1)-Receiver	21" x 13 1/4" x 10 1/4"	45 lbs.
Accessories	22" x 14" x (approx)	48 1/2 lbs.
Batteries (5-NKN-45)		66 lbs.
Motor (5-NKN-60)		114 1/4 lbs.
Kit	40 inches long	26 lbs.
Controls		21 lbs.
		11 lbs.
		20 lbs.
Control Panel	12" x 7" x (approx)	8 1/2 lbs.
Generator (GM-71)		

II. TECHNICAL CHARACTERISTICS:

Frequency range	Transmitter; 3250 to 4750 kc Receiver; 3250 to 5250 kc
Frequency selection	Continuous tuning
Antennas	Umbrella net dipole—33 ft. wide and 18 1/4 ft. high, truck mounted "flat top" or plain "L".
Type of signal	Voice and CW code
Type of modulation	Amplitude
Frequency control	Crystal or MO
Power output	20 watts
Range	12 to 30 miles voice 25 to 50 miles CW
Power source	Transmitter; 5-NKN-45 or 5-NKN-60 storage batteries through RUN-75 dynamotor Receiver; Storage batteries and 2 type BAG-80 dry batteries
Tubes	Transmitter; 3-GK-20 Receiver; 3-SB-112, 2-UB-110

Radio Set Type RBM-5

РАДИО ТИП РБМ-5



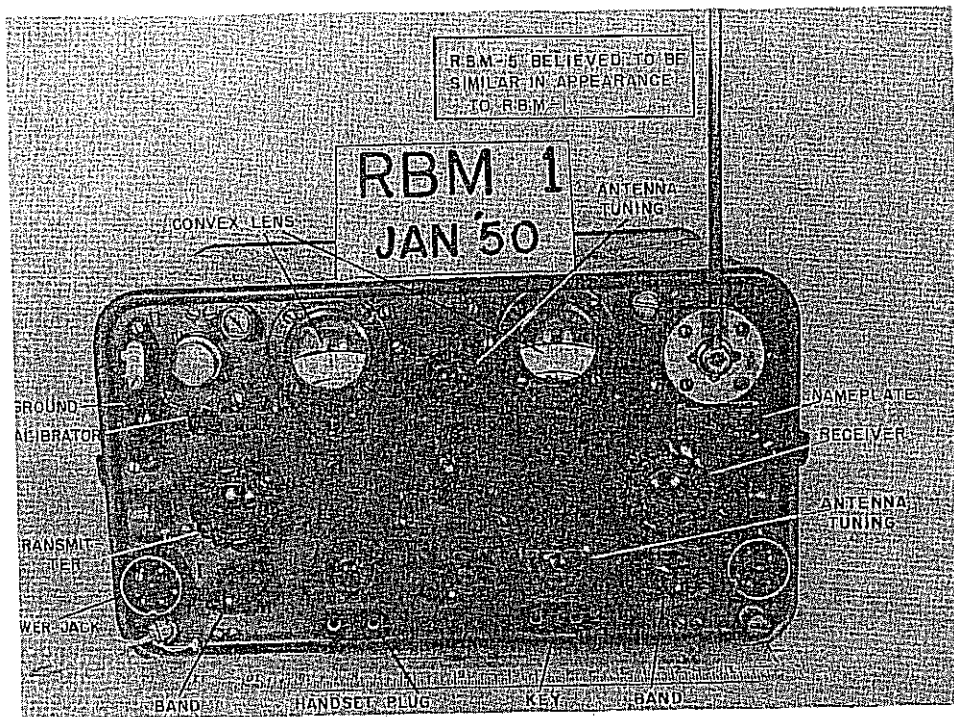
The RBM-5 is a late model, two-man pack, transmitter-receiver station. It provides voice and CW code communications within division and lower echelons down to front line units. With 5-foot "star" top field antenna, normal range for voice is 5 miles, with 55-foot single wire dipole, this range increases to 10 miles. A 22-foot "star" top whip may be used to increase this range to 16 miles. CW ranges are about double those for

voice. This set is a more powerful version of the RBM and RBM-1 series.

The transmitter-receiver unit is believed to be housed in a metal case and be very similar in appearance to the others of the series. Power for the transmitter is provided by a HAND-CRANKED GENERATOR INSTEAD OF BATTERIES.

Radio Set Type RBM-5

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

	Unit	Size	Weight
Transmitter-Receiver.....			
Power supply.....			
Accessories.....			

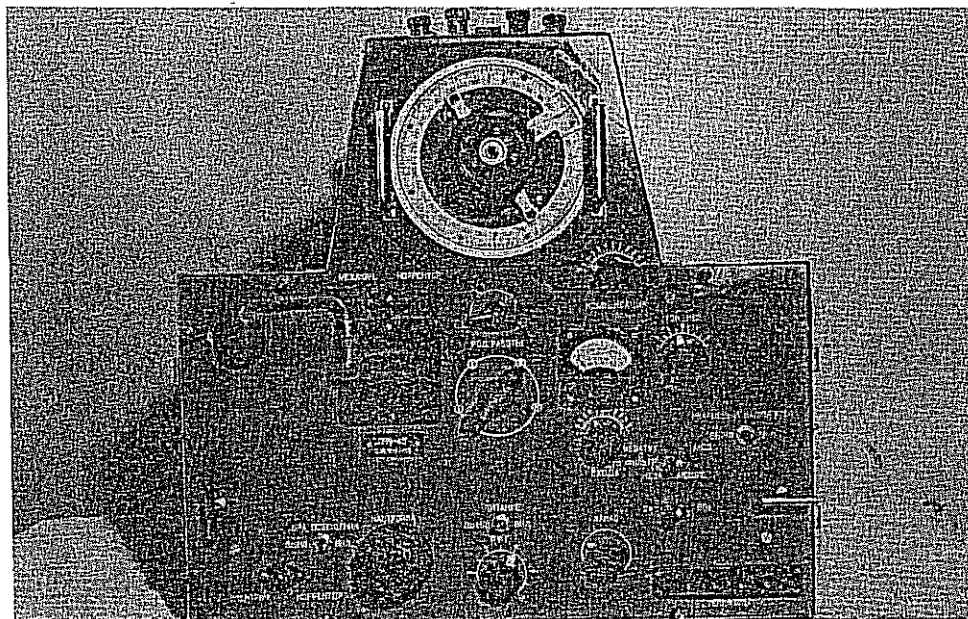
II. TECHNICAL CHARACTERISTICS:

Frequency range.....	1750 to 3250 kc 3250 to 6000 kc
Frequency selection.....	Continuous tuning over two bands
Antennas.....	5', 5 section rod with "star" top loading 55' center fed horizontal wire dipole
Type of signal.....	Voice and CW code
Type of modulation.....	Amplitude
Frequency control.....	MO
Power output.....	
Range.....	5 miles, voice; 10 miles CW with 5' rod 10 miles, voice; 20 miles CW with 55' dipole 16 miles, voice; 32 miles CW with 22' rod
Tubes.....	Transmitter; 1 ea 2K2M, 1 ea 90-257, 1-2P6M Receiver; 3-2K2M, 1-80257, 1-SB242

RESTRICTED

Radio Direction Finder Type PKV-45

РАДИО ЦЕЛЕНАТОР ТИП ПКВ-45



The PKV-45 is a transportable, high-gain, direction-finding radio receiver. Its 12-tube superheterodyne circuit and design are similar to those of the American Hammarlund "Super-pro." The circuit includes three RF stages and four IF stages. Voice and CW reception are provided in the frequency range 1.5 to 16.8 mc in four bands.

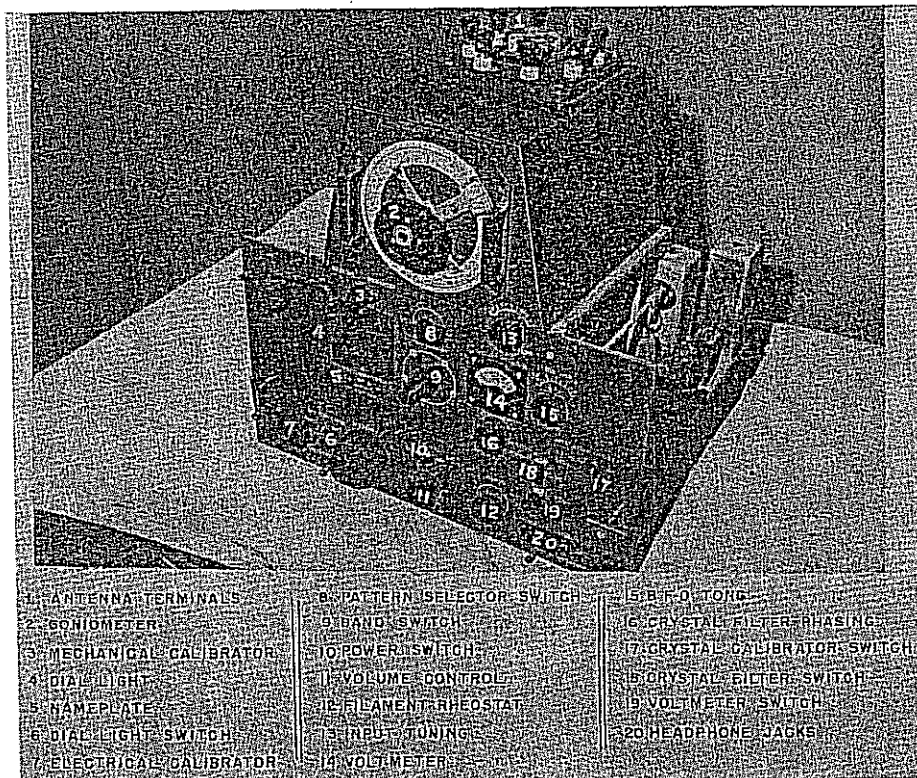
A four-position switch provides for antenna-lobe switching or straight radio receiving. A rheostat is provided for adjusting heater voltage. The audio section has a gain control and the output is terminated in a high impedance to permit aural or visual indication.

The goniometer or azimuth indicating coupling unit is removable to permit change of coupling units for different frequencies. It is of conventional mechanical design, closely resembling World War II German equipment. Each of the four segments of the variable coupler is coupled to a segment of antenna. Design of goniometer indicates probable use of an Adcock type antenna. Accuracy appears to be about 1°.

Over-all efficiency is poor compared to similar American equipment which features instantaneous indication of azimuth with greater frequency range and sensitivity.

Radio Direction Finder Type RKV-45

RECOGNITION FEATURES



CHARACTERISTICS

I. PHYSICAL DATA:

Unit	Size	Weight
Receiver RKV-45.....	34½" x 23¾" x 20½"	80 lbs.
Antenna.....		
Power supply.....		

II. TECHNICAL CHARACTERISTICS:

Frequency range.....	1.5-16.8 mc
Frequency selection.....	Continuous tuning over four bands
Antenna.....	
Type signal.....	Voice and CW
Type modulation.....	AM
Frequency control.....	
Power output.....	
Range.....	
Power source.....	(Conventional power supply or battery pack)
Tubes.....	12-2K2M

RESTRICTED