

CLASSIFICATION **CONFIDENTIAL**

CENTRAL INTELLIGENCE AGENCY  
INFORMATION FROM  
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT  
CD NO.

[Redacted]

50X1-HUM

COUNTRY USSR  
SUBJECT Scientific - Radio, receivers  
HOW PUBLISHED Monthly periodical  
WHERE PUBLISHED Moscow  
DATE PUBLISHED Apr 1949  
LANGUAGE Russian

DATE OF INFORMATION 1949  
DATE DIST. 12 Apr 1951  
NO. OF PAGES 3  
SUPPLEMENT TO REPORT NO.

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF ESPIONAGE ACT 50 U. S. C. 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. REPRODUCTION OF THIS FORM IS PROHIBITED.

THIS IS UNEVALUATED INFORMATION

SOURCE

Radio. No 4. 1949. pp 30-32, 54-56, ([Redacted])

50X1-HUM

DESIGN AND OPERATION OF  
O-V-1 SIMPLE RURAL RADIO RECEIVER

DESIGN OF THE O-V-1 RADIO

[Redacted]

50X1-HUM

G. Markov

A mass-produced rural radio should be simple, cheap and economical, with provision made for operation either on a crystal detector or on one tube. The article below describes a receiver, intended for new radio amateurs, which meets these qualifications.

Circuit

The receiver (see appended schematic diagram) is of the tuned rf super-regenerative type with two tubes [designated O-V-1 according to USSR nomenclature]. It has variable tuning over the long- and medium-wave broadcast bands.

The first tube operates as a grid detector with variable feedback control and the second tube is the audio amplifier. In either case, it is possible to use a Type 2K2M, 2Zh2M, or 80-241 tube in any combination. The first two tubes are more economical in power consumption since they use half the filament current that the 80-241 consumes.

Power Supply

For normal operation, the power supply consists of one Type BAS-80 battery and one Type BNS-MVD-500 filament battery. With 75 volts on the plates, the total plate current is about 80 ma. The life of the BAS-80 battery is at least 6 months, while that of the filament battery is not less than one year. However, the receiver will continue to function at reduced plate voltage (30-40 v) although volume will be correspondingly reduced.

**CONFIDENTIAL**

CLASSIFICATION **CONFIDENTIAL**

STATE	<input checked="" type="checkbox"/> NAVY	<input checked="" type="checkbox"/> NSRB	DISTRIBUTION						
ARMY	<input checked="" type="checkbox"/> AIR	<input checked="" type="checkbox"/> FBI							

**CONFIDENTIAL**

CONFIDENTIAL

50X1-HUM

If greater volume is required, the plate voltage may be increased to 120 v and filament voltage, to 2 v. In this case it is necessary to use one and a half BAS-80 batteries and two BNS-MVD-500 batteries (a 10-15 ohm filament rheostat will also be required).

In some cases, the set can be operated on one tube, with the second tube disconnected and a crystal telephone receiver plugged into jack T<sub>2</sub>. For headphone operation, resistor R<sub>3</sub> must be removed from jack T<sub>2</sub>. The more sensitive crystal headphones would be better in this case. If the crystal telephone receiver is to be plugged into jack IS (for receiving distant stations), then it is necessary to connect a 50,000-ohm fixed resistor in parallel with this jack.

If desired, or in the event that batteries are unavailable, the receiver may be used as an ordinary crystal set by plugging in a crystal detector or a "tsvitektor" into jack D, and crystal headphones into jack T<sub>1</sub>. Resistor R<sub>1</sub> must be disconnected if electromagnetic headphones are used.

Parts

Homemade parts of the receiver include the band-range coil, the choke, and the band switch S. Other parts of the receiver are factory made. The layout of parts on the wooden chassis is designed for utmost simplicity.

50X1-HUM

## OPERATION OF THE O-V-1

50X1-HUM

[Another article in the same issue of Radio gives construction details for the O-V-1 receiver. The article goes into details of operation, including the general principles involved and the function of each separate part. Through such detailed analysis, the article points out, new amateurs will be able to use substitute parts where the need arises, and will also be able to improve their receivers at a later date.]

The remainder of the article explains elementary radio principles and traces the rf and af paths in the O-V-1 receiver.]

[Sketch follows]

- 2 -

CONFIDENTIAL

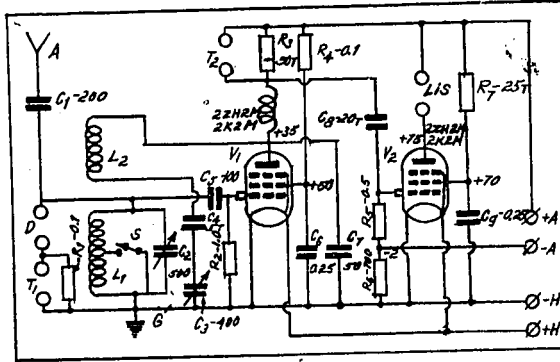
**CONFIDENTIAL**

**CONFIDENTIAL**

CONFIDENTIAL



50X1-HUM



Approved for Release

- E N D -

CONFIDENTIAL

**CONFIDENTIAL**