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SURVEY OF RADIO RECEIVERS SHOWN AT NINTH ALL-UNION RADIO EXHIBITION

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50X1-HUM

Two basic trends in the thinking of amateur designers were reflected in the receivers shown at the Ninth All-Union Radio Exhibition. The first was the desire to build a high-quality receiver, as revealed by the more qualified amateur designers who have worked for many years on the development of receiving equipment. Console and table-model radio-phonographs, usually including all-wave superheterodyne high-quality receivers, predominated in exhibits of this type.

The latest refinements in modern, high-quality, plant-produced receivers were incorporated in these radio-phonographs. Practically all the receivers had automatic volume control, variable selectivity, devices for interference-free tuning and noise suppression, negative feedback, tone and volume controls, phase-inverting stages, regular and push-button tuning, etc. Some had a special provision for switching the radio on and off at certain times. Most exhibits of this first type were well built and had a pleasing external appearance. Examples of this type of construction are the console radio-phonograph designed by V. V. Chernyavskiy (Barnaul) and the table-model radio-phonograph designed by A. A. Aref'yev (Novosibirsk). In external appearance and care in assembly, Chernyavskiy's set is equal to the best commercial models. Aref'yev's radio-phonograph is a compact nine-tube set. Its receiver, a first-class superheterodyne, has long-, medium-, and short-wave bands.

One notable feature of the Ninth All-Union Radio Exhibition was the finished nature of receiver design and construction. In previous exhibitions, the receivers sometimes had design imperfections in individual units, the

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construction was somewhat careless, and the external appearance was not entirely satisfactory. Of course, even at the Seventh and Eighth All-Union Radio Exhibitions, some exhibits were well built and attractive, but most of the receivers had a homemade appearance.

The second trend clearly evident in the receivers shown at the Ninth All-Union Radio Exhibition was the desire of Soviet amateurs to design a simple, cheap, popular receiver. This radio exhibition was the first at which such a considerable number of battery receivers designed for rural areas were exhibited. Many of these were portable sets and some were miniature vest-pocket receivers.

The fact that many radio amateurs, including many experienced designers, gave their exclusive attention to the development of economical rural radio receivers testifies to their desire to help in early completion of rural radiofication.

The production of economical miniature tubes has aided the amateur designers in this work. For example, the four-tube all-wave portable battery receiver designed by T. E. Paykre (Tallin) uses the miniature tubes 1A1P, 1K1P, 1B1P, and 2P1P. This superheterodyne receiver has the following wave bands: 26-70 m, 207-575 m, and 720-2,000 m. It can be used with either an outdoor or a loop antenna. The total weight of the portable with batteries is 8.3 kg. Another portable battery superheterodyne operating on miniature tubes was designed by A. V. Belyayev (Saratov). This receiver is designed for the long- and medium-wave bands. A NKN-22 storage battery and a BAS-80 dry battery placed inside the case are used for supplying the tubes. The antenna is a rod 240 mm long. There were many similar portables demonstrated at the Ninth All-Union Radio Exhibition.

In addition to portable receivers, many table models were shown, two outstanding examples of which are described below.

The receiver designed by V. A. Toodo (Tallin) is a four-tube battery superheterodyne operating on miniature tubes. It has a provision for switching to economical operating conditions when receiving local radio stations, uses both positive and negative feedback, and has both tone and volume controls. It has long- and medium-wave bands.

The three-tube reflex line superheterodyne receiver designed by V. I. Volkov (Molotov) is pretuned to the three main Moscow stations and to the Sverdlovsk station. The original feature of this receiver is a device which automatically connects and disconnects the line, antenna, and ground at certain times. The automatic device is driven by a small electric motor. It can be set to turn on at a certain hour by pressing one of the 24 knobs placed in a circle at the left side of the front panel. The fact that the automatic device can be set to turn the receiver off or on only at the beginning of a certain hour detracts slightly from its use.

We have given here only a brief survey of a few exhibits which are typical of the main types of receivers shown at the Ninth All-Union Radio Exhibition. Although it is impossible to give a complete survey of the more than 200 different receivers entered in the receiver section of the exhibition, it is hoped that this brief survey will give a general idea of the high technical level of the receiving equipment shown at the exhibition.

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- 2 -

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