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ACTIVITIES OF AMATEUR RADIO DESIGNERS

N. A. Baykuzov

For the third time since World War II, envelopes containing lengthy descriptions of exhibits are collecting at the address of the Exhibition Committee for the Eighth Correspondence Radio Exhibition.

Of course, the number of entries in any exhibition is not a decisive factor, but the total number of participants is an excellent yardstick of the activity of radio amateurs and of the quality of the work done by local Dosarm organizations.

In 1947, about 400 exhibits were entered in the first postwar Correspondence Radio Exhibition and about 600 the following year. By the end of March 1949, approximately 1,000 had been entered in the Eighth Correspondence Radio Exhibition. Dosarm radio clubs have worked hard to secure a large number of descriptions and to prepare for this exhibition.

The participants are enthusiastic radio amateurs who devote their spare time to building models. Their work is of great interest both to the industrial workers and the managers. It shows the trend of current requirements and suggests methods for satisfying these demands. Moreover, the radio amateur is apt to put much that is new and interesting into his exhibits. This fact has been corroborated in many instances by previous exhibitions.

After the war, our broadcasting apparatus consisted exclusively of second-class superheterodyne receivers which were practically replicas of prewar models. The Radio-Amateurs' Correspondence Exhibitions showed that there was a great demand for crystal receivers, mass-production receivers with only a few tubes and without the short-wave band (unnecessary in most parts of the country), compact radiophonographs, a simple type of television set, etc. Amateur models showed the advantages of replacing

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tube rectifiers with selenium rectifiers, the convenience of push-button switches, reflex circuits, etc. This original, amateur "order" was accepted by the radio industry which is now meeting the demands of the amateurs.

The general character of the exhibits in the current eighth exhibition is extremely interesting. Since they are still continuing to arrive, it is too early to form a definite conclusion, but probably the general character of the groups will not show any essential changes. The most important group is always that of broadcast receivers.

A large percentage of the receiving sets are crystal and mass-type receivers with few tubes, and battery-operated receivers. The increasing number of exhibits in this group indicates; first, that there is a growing demand for simple receiving sets--crystal and battery receivers being in special demand by the rural population; second, that a large and active part of the amateurs are interested in promoting the radiofication of the country. Crystal receivers and sets with few tubes are being turned out in large numbers by Dosarm clubs and amateur circles. Many of the exhibits represent such "series" of receivers, installed in kolkhoz homes and proved in operation.

Another interesting group is that of universal receivers. The demand for such sets stems from the fact that rural electric-power stations in electrified districts do not operate during all the broadcasting hours. Some shut off the lighting mains during peak-load periods. All amateurs did not solve their problems in the same way. Some built sets which operated both on line power and on batteries. Others preferred to use only battery tubes in a receiver equipped with a storage battery and rectifier, and with a vibrator power supply. When station power was available, the storage battery was charged without preventing its simultaneous use to supply the receiver.

These two systems of universal supply for receivers are not the only possibilities. But as yet, although there is great need of other systems experience in building such equipment is lacking. For this reason, amateur experiments along these lines would be very valuable.

Second-class receivers and multitube sets occupy a more modest place in this exhibition than in previous ones. The ratio of receiver types in the various groups is illustrated by the following figures: by 27 March, 52 second-class superheterodyne and 62 crystal sets were entered in the exhibition.

There is a continuous increase in the group of exhibits showing applications of radio techniques and methods in the national economy. This is an excellent index of the trend of amateur work. These exhibits are extremely diverse because the amateur builders are engaged in various fields of the national economy and utilize their experience in radio to aid their professional work. Thus, in this group of exhibits one may see electric therapeutic apparatus, geological and prospecting devices, equipment to determine the moisture content of materials, and many others.

There has been a sharp rise in the number of receiving public-address units and amplifiers. This is another indication of the great demand for such apparatus in clubs, kolkhozes, sovkhoses, and individual enterprises, and also of the growing participation of radio amateurs in radiofication work.

There is an increase in the number of exhibits in the group connected with sources of power supply. Amateurs are devoting much thought to this

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problem since it is of great importance in the radiofication of rural areas. There are a number of entries of homemade wind-driven generators, some of which deserve serious attention.

The section on sound recorders seems larger than in any previous exhibition. Extremely modern and convenient magnetic recorders were the predominating feature in this group. There were many different types, from complicated installations with several motors and separate attachments for recording, reproducing, and "erasing" the records, to "reporter"-type portable recorders with a spring mechanism which can be used while traveling.

The television section is not very large but contains some interesting exhibits, such as extremely simple television sets with ten tubes and with crystal detectors acting as mixers and second detectors. Due to the complexity of television, every step in this direction is important and of great potential value.

The section on measuring apparatus was well represented. It is one of the better-established sections, since radio amateurs are aware of the importance of measuring instruments and auxiliary apparatus in modern set design and construction. There are fewer innovations in this section but the work is more professional. Among the exhibits there are complete testing outfits sufficient to equip a laboratory for radio amateurs or even a repair shop.

An outstanding feature of the group on short-wave apparatus is the large number of transmitters of various power for different categories of short-wave amateurs. There are about 50 of these transmitters, an unprecedented figure for correspondence radio exhibitions. The number of ultrashort-wave exhibits has increased somewhat. This is evidence of the desire of radio amateurs to master this interesting and important band. Up to the end of March, the number of entries in this field exceeded 100 -- the largest number by far in these exhibitions.

The section on visual aids was well represented. It would be impossible to overestimate the value of such aids to the radio technician. They constitute one of the most important factors in training novices.

At the moment, it is impossible to examine individual exhibits as the jury has just begun its work. But even this sketchy outline is enough to show how participation of radio amateurs in the radiofication of the nation is increasing, what a vast field lies before the amateur radio builders, and how well they are finding ways to apply their creative genius, which is of the greatest importance to the country and to the general development of radio techniques.

From every viewpoint the eighth exhibition shows greater progress than any previous exhibition.

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