

# Farm Radio Problems Solved By Engineers

## Self-Powered Sets Are Made Possible For Rural Homes

While progress has been going steadily forward in the development of electric powered radio receivers until they have reached a stage of near perfection, little thought seems to have been given to the development of comparable receivers for the large areas that are still unelectrified.

The reason for this is plain, for of the estimated 29,000,000 homes in this country, some 20,500,000 are electrified. Radio manufacturers have naturally turned their attention to the large and profitable market represented by the greater percentage of the population. However, there are more than 8,500,000 homes that are beyond power line supply, and of this total, approximately 6,500,000 are farm homes.

### Rural Advantages

And radio means more to the rural home than to the city home. It means a vital business service, as well as an important source of entertainment to the farmer; for it brings him news of agricultural markets, timely weather bulletins and practical farming information, as well as diversion. Yet, paradoxically enough, the instruments for receiving those programs are woefully inadequate. Progress in this direction has been almost at a standstill since the days when radio graduated from the ear-phone to the loudspeaker stage. Consequently, these rural homes have either been forced to do without radio service, or use makeshift "noise traps"

## RADIO TO BRING HOME THEATERS, OFFICIAL SAYS

DRAWING aside, for an instant, the veil of secrecy that enshrouds the vast radio laboratories at Camden, New Jersey, Dr. W. R. G. Baker, vice president of the RCA Victor company, has given the world a brief glimpse at the radio marvels of the future which scientists are creating there. The day is near, he says, when every new home costing \$10,000 will have a room somewhere fitted up exclusively for radio-electrical entertainment.

The "Home Theater," he says, will become another American institution. Television and home talkies will share room with a radio news bulletin, and talking books, that read themselves aloud for those who wish to save their eyes. Just as the "Home Theaters" will not interfere with the public theater, the radio bulletin will merely supplement the newspaper, by flashing spot news dispatches and photographs to the home, Dr. Baker said. These are only a few of the wonders being developed. The laboratories that have developed the present day radio sets and phonographs, said Dr. Baker, will bring forth new marvels that may change the whole trend of future life.

hopelessly out of step with the rapid technical advances made in A. C. powered sets.

But now leading engineers have turned their full attention to the requirements of the unelectrified field. Starting out with current conservation as the foundation, they have evolved self-powered receivers that incorporate all the convenience and operating features of the A. C. set with economy of operation, good sensitivity and selectivity and full tone quality and volume.

#### **Widely Developed**

This truly remarkable achievement was made possible by four revolutionary developments, following each other in rapid succession. The first was the development of an extremely long-lived "A" battery utilizing the so-called aircell, which literally breathes life-prolonging oxygen from the air, and will last for approximately a year without replacement. Second, was the development of the 2-volt vacuum tube to be used in conjunction with the new battery. Third, laboratory engineers at Radio Headquarters, in Camden, have developed a remarkable receiving circuit which provides four times the audio output of that obtainable from the usual circuit employing the same tubes and batteries. And fourth, the development of a new permanent field dynamic loudspeaker deriving its field energy from a large permanent magnet, and providing a quality of tone and breadth of volume never before possible in a battery-operated receiver.

The sum total of these achievements has been incorporated in self-powered receivers free from the various weaknesses and inconveniences of the old type, and fully the equal of the electric power radio sets available to the city and town dweller.