

NEW RADIO SET TUNES MEDIUM WAVE LENGTHS

Selectivity Featured in Circuit Designed for One Frequency.

A new system of broadcast reception known as the Equasone Circuit, which differs radically from existing type of circuits, has been developed by the Sparks-Withington Company of Jackson, Mich., and Lester Jones of New York City.

The selectivity of the new circuit is constant throughout the broadcasting band, the tuning being just as sharp at 1,500 kilocycles as at 550. Another unique feature is that only one stage of audio frequency amplification is required, the output from the detector being sufficient to operate a twenty-five-watt power tube up to the full capacity of the letter.

As most radio listeners are aware, the existing types of sets suffer considerable variation in selectivity, tuning very much broader at short wave lengths than at long. Consequently, it becomes almost impossible to receive a distant station without considerable interference and background of noise below 250 meters.

Improve Selectivity

It is this state of affairs which has caused the shorter wave lengths to be regarded by broadcasting stations as being decidedly less valuable. It is possible to improve the selectivity of the ordinary types of receiving sets at short wave lengths, but this results in such sharp tuning on the long waves that the tone quality is seriously impaired.

The new system does away with these difficulties by the use of a selector circuit, or band-pass filter, connected directly to the aerial and ground, which permits only one broadcasting channel of ten kilocycles to pass through. This selector circuit has no tubes associated with it and is composed of a recurrent network of inductances.

The band of frequencies to be selected is varied by varying the capacities of a group of condensers in the selector circuit. The width of the band which is allowed to pass through the selector remains practically constant from 1,500 to 550 kilocycles so that the selectivity is just as good on long waves as on short.

The band of frequencies passed through the selector is then amplified by a system of circuits of fixed adjustment which automatically tune themselves to the impressed frequency. Instead of the customary tuning condenser the capacity between the grid and filament of the tube is used.

Capacity Not Constant.

It is well known that this capacity is not constant, but changes with the impressed frequency, the amount depending on the nature of the impedance in the plate circuit of the tube. Hitherto this variation was regarded with annoyance, but in the Equasone Circuit this change in capacity is purposely exaggerated so that it changes with the impressed frequency by just the amount needed to keep the coil connected across the tube tuned to resonance at all times.

The relatively large gain of the amplifier impressed voltages on the detector which are far in excess of those ordinarily encountered so that plate rectification is employed. This method, while less sensitive than grid rectification which requires a grid leak and condenser, has the advantage of being able to handle very large voltages without overloading.

The Em-Roe Sporting Goods Company will have on display a complete line of the new Sparton radios employing the Equasone circuit.

'THUMB-NAIL' SKETCHES OF INDUSTRIES ON AIR

Short Surveys of City Business to Be Fall WFBM Feature.

One of the greatest and most interesting features of the WFBM program this fall will be a brief three-minute resume of the leading industries of Indianapolis. Through questionnaires sent out to these industries, the station has compiled continuities in story form telling what an important part these industries play in the lives of every citizen in the city.

The fact that Indianapolis depends on these industries for its daily bread and that it is not aware of the magnitude of the pay roll nor the points of the world into which Indianapolis products go, this series of talks every Monday, Wednesday and Friday nights should make one of the most interesting features on the program. This information is given to the public through the courtesy of Lucius B. French, general manager of the Western Oil and Refining Company, who is sponsoring the program.

WKBF PUTS STATE FAIR ON AIR DAILY

Morning and Evening Programs Broadcast From Grounds.

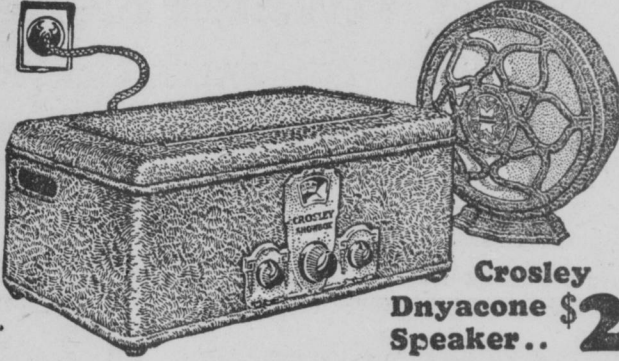
WKBF, Hoosier Athletic Club station, is broadcasting two programs daily from the State fairground this week. A large broadcasting studio has been installed on the second floor of the Administration Bldg., where the programs are being put on air.

The State fair programs will consist of music, race results, announcements of prize winners and special talks of interest for the farmer. An hour's program will be broadcast each morning from 11:30 to 12:30 and half-hour programs in the evening from 6:30 to 7. Programs will be broadcast on Central Standard time.

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**HOW TO JUDGE
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EDGAR H. FELIX

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This booklet is not a write-up of Day-Fan Radio. It tells simply what you should expect of modern A. C. tube radio and how you yourself can determine definitely the quality of any receiver that is being demonstrated.

Stop in for your free copy—it is here for you. Write or phone us if you can't conveniently call. We'll gladly mail it to you.

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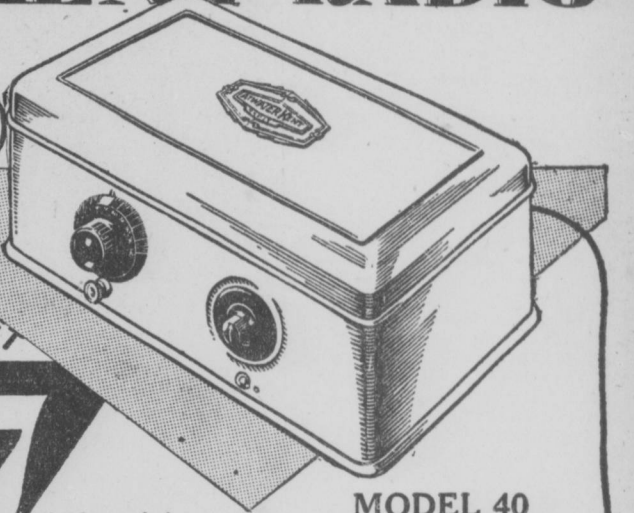
All-Electric Radio

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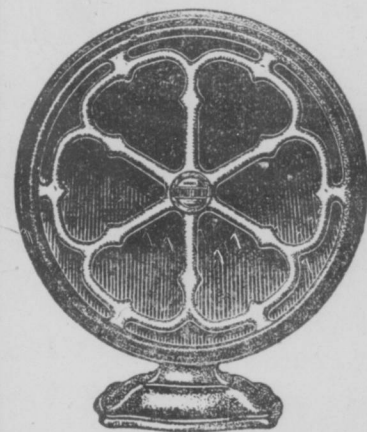
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