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MILWAUKEE SCHOOL OF ENGINEERING

1025 North Milwaukee Street, Milwaukee 1, Wisconsin

1961-1962 SOUNDS OF ENGINEERING SCIENCE - WISN and MSOE RADIO PROGRAM

Saturday, 12:25 and 8:25 p.m., Sunday, 8:25 p.m.

PROGRAM #8 - November 11-12, TRANSISTOR TELEVISION IS HERE - William C. Winn

(15 seconds musical introduction)

LAMBERT:

In the past few years, manufacturers have produced relatively small television receivers, attached a carrying handle and optimistically labeled them as portable. Unlike our portable radios, however, it almost requires a circus strong man to carry them from one electrical output to another. Mr. Winn...How long will it be before our engineers develop truly portable TV receivers...the kind that any woman or child can simply tuck under his arm and take to the beach...like his portable radio?

WINN:

Strangely enough, Tom, they are already available in the form of transistor receivers, these transistor sets, which are produced only on a limited scale at the present, are not quite as small as our transistor radios...but they do weigh as little as 15 and 16 pounds. It'll only be a matter of time before mass production makes them available to everyone.

LAMBERT:

Just what is the function of a transistor in these new TV receivers?

WINN:

The transistor, which was developed about 12 years ago by the Bell Telephone Laboratories, is a very small, almost weightless device that does the work of the vacuum tube. As a substitute for the vacuum tube, it amplifies a very weak electrical signal to a level that is strong enough to produce the sound that we hear coming from the speaker. It amplifies these electrical currents through the use of semi-conductor properties.

LAMBERT:

Just what advantages does the transistor have over the vacuum tube?

WINN:

First of all, the transistor is much smaller and lighter than the vacuum tube, thus allowing manufacturers to produce smaller and lighter TV receivers. To give you an idea how small they can be, RCA engineers are producing transistors so minute that 20,000 of them can be placed on a postage stamp. A second ^{its} advantage of the transistor receiver is that ~~xxxx~~ trouble-free life is much greater than that of the vacuum tube. This is because the transistor does not produce heat and therefore, is less likely to burn out. A third advantage is that the transistor consumes very little power and is therefore practical to operate from batteries. In other words, you don't need an electrical outlet.

LAMBERT:

How does the price of the transistor receiver compare with that of the vacuum tube receiver?

WINN: At present, the cost is about the same. However, engineering developments and mass production will soon bring the cost of the transistor receivers below that of present day vacuum tube sets.

LAMBERT: Will the transistor bring about any other changes in the production of television receivers?

WINN: It most certainly will, Tom. One of the biggest innovations in the making, as a result of the transistor, is the picture frame receiver. Can you imagine a very attractive mirror hanging on the wall, that becomes a color television screen at the flick of a switch? Unlike our big, bulky present-day receivers, the picture frame receiver will be a completely portable set, measuring only about three inches in depth. The compact transistor will make it possible for the mirror frame to contain all of the television circuits. They are already in the experimental stage.

LAMBERT: Will the transistor bring about any other innovations in the near future?

WINN: One thing we're all looking forward to is telephone television. Engineers recently designed a simple device which transmits still pictures over telephone lines, thus making it possible to view the person on the other end of the conversation. This device is already being used in industry and at a certain drive-in bank in Waukesha.

LAMBERT: (C L O S E)