

PLACE
ONE CENT
STAMP
HERE

David A. McCowan

83-85 Main Street

TORONTO, ONT.

Date.....192.....

DAVID A. McCOWAN
83-85 Main Street
Toronto, Ont.

Dear Sir :

Kindly favor us with a demonstration of Radio Receiving Equipment, see information below.

Kindly mark X opposite Set you would like to hear.

Single Tube Set, complete \$59.00

Double Tube Set, complete \$80.00

Three Tube Set, complete \$105.00

Four Tube Set, complete \$150.00

Five Tube Set, complete \$175.00

Loud Speaking Outfit (price on application)

When will we come ? (date)

If the Set worked satisfactory to you would you favor us
with an order ?

Is your home in the open or surrounded by trees ?

Approximate height of house ?

Remarks—

Name.....

Address.....

which boosts the volume of sound coming through the detector and makes listening in a pleasure. The amplifier consists of amplifying transformers and amplifier tubes in as many steps as desirable. The telephone receivers used with radio receiving sets are wound with much finer wire than ordinary receivers and are much more efficient. They are usually in pairs of watch case form and are connected with a head band so that the operator's hands are free to tune the set.

The Loud Speaker is a unit by itself and can be easily attached to the Radio Receiving Set. It is made up of a large horn which is fitted to a receiver of high resistance. This is attached to the power amplifier, which is a section containing strong amplifier tubes, transformers, etc. When this is connected to the receiving set the volume of sound is greatly increased and it is possible to let gatherings listen as they would if the artists were in their presence.



A Few of the Broadcasting Stations You Will Hear:

Call	Location	Wave-length in meters
CFCA	Toronto, Ont., Canada	400
KDKA	E. Pittsburgh, Pa., U.S.A.	326
KDPM	Cleveland, Ohio, U.S.A.	270
WAAW	Omaha, Neb., U.S.A.	278
WBAD	Minneapolis, Minn., U.S.A.	360
WCBD	Zion, Ill., U.S.A.	345
WDAF	Kansas City, Mo., U.S.A.	411
WDAP	Chicago, Ill., U.S.A.	360
WGR	Buffalo, N.Y., U.S.A.	319
WDAR	Philadelphia, Pa., U.S.A.	395
WGY	Schenectady, N.Y., U.S.A.	380
WHAM	Rochester, N.Y., U.S.A.	360
WHAS	Louisville, Ky., U.S.A.	400
WHAZ	Troy, N.Y., U.S.A.	380
WMC	Memphis, Tenn., U.S.A.	500
WOC	Davenport, Iowa, U.S.A.	484

Write us for a Complete List of Broadcasting Stations.



DAVID A. McCOWAN
83-85 Main Street
Toronto - Canada

OUR SERVICE

The service offered to the prospective purchaser of a Radio Receiving Set in the Province of Ontario by David A. McCowan is a complete service based on good will.

We ask that you will be good enough to fill in the enclosed card and advise us when it will be convenient for you to have one of our men call and give you a demonstration, and which set you wish demonstrated as specified on the card to be returned.

On receipt of this advice from you we will advise you when to expect us, and if you wish us to bring a Loud Speaker along so that the entertainment can be enjoyed by the whole household we would appreciate your kindness if you would invite a few of the neighbours in. By doing this you give us an opportunity of demonstrating our equipment more widely.

This service puts you under no obligation to us whatever. Our man will come and install the equipment in an hour or so and be ready to give you a demonstration. It is impossible to make a perfect installation in so short a time, but you can depend upon it that with proper installation results are more acceptable than ever.

If you wish to purchase the equipment after hearing it, we will install it according to the underwriters' specifications and see that you can operate it properly before we leave you. If the results were not satisfactory and you were disappointed in the demonstration, we will remove it without further obligation.



Fill in the enclosed card to-day and avail yourself of this free demonstration and an opportunity of having an expert install your set.

DAVID A. McCOWAN

RADIO



DAVID A. McCOWAN
83-85 Main Street
Toronto - Canada

SAY IT WITH

* RADIO *

A Gift of One Enjoyed by All!

Would you not think it wonderful if some learned person predicted that in the near future we would be "listening in" right in our own homes to entertainments which were being put on in distant cities and countries, not only listening to the sweetest singers but to the world's greatest orators; that you can hear a sound as faint as the ticking of a watch in New York City. The dream has come true folks, and is being realized in thousands of homes this very day.

No; you don't have to have any special knowledge to tune in. That day has long passed. An average child of ten years can learn to operate the modern Radio Receiving Set in a few hours.

With apparatus less bulky than a phonograph and surprisingly simple to operate the head of the family now stays in evenings and acts as director for that great unseen drama or concert, while the young folks gather up the living-room rug and dance to the most popular music. Grandma's hearing may be very bad, but she will enjoy "listening in" to some of the old-time numbers. Her face will show what it means to her to be able to hear every word of the Sunday Service, the sermon of some great preacher, the well trained choir and the familiar congregational singing.

Every night throughout the year programmes are being broadcast by stations all over the continent. Are you in a position to tune in and enjoy the benefits that can be obtained from these Entertainments, Science, Weather Reports, Sports, Stock Markets, Music, Song and Church Services? They all come to you by just tuning in.

WHAT IT IS

Radio is a general name for wireless, applies more particularly to wireless telephony. The radio telephone is a development of the older radio telegraph or wireless telegraph and by means of it speech and other sounds are transmitted instead of dots and dashes of the telegraph code. So far as the fundamental principles of operation are concerned, the radio telephone and telegraph are closely related. Their chief difference is in the form in which energy is radiated. In radio telephony it is finely molded to correspond to the sounds to be transmitted, whereas in wireless telegraphy it is simply chopped up into lumps to form dots and dashes.

The first important development in the art of transmitting the voice through the ether was the invention of Dr. Lee De Forest, of the remarkable device called the "audion." At the sending station it amplifies the feeble voice effects until they can be heard at distances of a few thousand miles; and at the receiving station it magnifies the very minute currents picked up by the antenna or aerial. Of no less importance was the application of the audion by Edwin H. Armstrong, in 1914, to generate the currents of very high frequencies for producing the electric waves used in radio telephony. The wave length is simply the distance from the beginning of one wave to the beginning of the next, and has nothing whatever to do with the distance covered. Different waves have been assigned various stations to prevent interference as much as possible. Radio waves travel at a uniform velocity of 186,000 miles a second, the same as light.

With these two basic inventions, the research laboratories of the Dominion and of a number of individuals and commercial concerns have brought the radio-telephone to its present stage of development and made a thoroughly practical instrument of it, by means of which concerts, lectures, market reports, children's stories, etc., are broadcasted throughout the country.

A receiving set consists of the antenna or aerial, the tuner, the detector, the amplifiers, and the telephone receivers. The antenna, or aerial, is a wire or wires suspended in the air and insulated from all surrounding objects, being a part of the electrical system by which the electro-magnetic waves are sent or received. The wire leading from the aerial to the apparatus is called the lead-in, and an electrical connection is made from the receiving set to the ground, which may be a water pipe or similar good conductor to the earth. This completes the electrical circuit. The tuner may be either a simple induction coil with taps taken off every few turns to a switch to vary the inductance. A more elaborate coil with both taps and sliders for finer adjustment or a device such as the variometer or the vario-coupler in which a spherical coil mounted on a shaft within another coil can be rotated to increase or diminish the inductance. A variable condenser is usually a part of the tuner and by proper adjustment of these instruments the wave length of the receiving station may be tuned to that of the broadcasting station. The detector is a device for rectifying or making audible the electro-magnetic waves carrying voice or signals in the telephone receiver. Various types of detectors are in use, the crystal detector being the cheapest that can be used; in this type the current is led through a crystal of some mineral possessing rectifying qualities such as galena. Crystal detectors are usually only good for receiving within a radius of 10 to 25 miles, although our factory designed and put on the market in 1922 the McCowan Radio Receiver, using a crystal detector which gave wonderful satisfaction on reception from distant stations. The next form of detector is the vacuum tube or audion detector, which consists in a special form of incandescent lamp. This is the most sensitive form of detector and is from 10 to 30 times more efficient than the crystal. The vacuum tube possesses strong amplifying qualities when used in a regenerative or feed-back circuit. With this type of detector it is possible to add an amplifier