

# New MERCURY

“Around-the-World”

ALL-  
WAVE

# RADIO

## Mercury First All-Wave Receiver Designed in Canada

In 1923 Chas. A. Lowry, a Canadian Radio Engineer of wide and varied experience, designed and produced in Toronto, Canada, the first commercial all-wave super-heterodyne receiver. Thousands of these receivers are still in use and, although now obsolete due to many advances made in the past decade, are still working. Many of these sets have never been serviced in 9 years! We have reports from several owners to the effect that they still consider the old “Mercury Super Ten” a better short-wave receiver than any of the 1933 commercial designs.

In 1929 Mr. Lowry left the old organization and plunged into an extensive study of receiver design and manufacture in one of the largest radio laboratories in the Empire.

After 4 years of intensive study and research, Mr. Lowry has come back to his old love and has designed an entirely new Mercury receiver embodying, in addition to his own, all the best ideas that have been brought forward in the past decade of Radio development.

Although completely radical in design, the New Mercury DeLuxe All-Wave Receiver is not a freak. It is not a receiver that could be machine-produced in large quantities. It is essentially a hand-tooled, custom-built instrument.

No effort has been made by its designer to follow the trend in modern engineering toward the development of catchy gadgets and “sales-levers.”

No feature has been introduced into its design unless such feature possesses some definite tangible contribution to the ultimate aim — the best in radio reception.

No trick circuits have been introduced to save cost or add to the ease of cheap or rapid assembly.

Sound, well tried superheterodyne principles, carefully engineered, employing well made components in stable circuits and with exacting layouts for short leads, and — the most costly and radically new system of “Cellular chassis shielding” have been combined to produce a radio receiver so outstanding in its performance that the only hope competitive receivers can have of approaching its performance will be for their designers to pay us the compliment of copying our engineering.



THE ALL CANADIAN  
CUSTOM BUILT RADIO

# The most advanced engineering backed by 10 years experience incorporated in the new de luxe ALL-WAVE receiver.

The chassis of the receiver is shown on the opposite page. Chromium plating is used on the chassis to prevent rust and to maintain permanent beauty of finish.

## RADIO FREQUENCY SYSTEM

The broadcast and shortwave systems of the Mercury DeLuxe All-wave receiver have been given equal attention. The short-wave feature has not been stressed at the expense of the broadcast performance, nor has short wave efficiency been sacrificed in any single detail for the sake of maintaining competitive performance on the broadcast band.

The broadcast band functions as a highly efficient receiver of fractional microvolt sensitivity and single channel selectivity. It employs "pre-selective" R.F. system which through the co-operation of the very latest and most modern laboratory test equipment, enables the system to be lined up and adjusted for perfect single dial operation with complete freedom from tweets or images and with almost completely uniform sensitivity at all frequencies.

## NEW AND NOVEL METHOD OF CHANGING BANDS

A flip of the band shifting lever and a completely new receiver comes into play — now, a SHORT-WAVE receiver! A new calibrated scale appears in the escutcheon window and a completely new R.F. system comes into action with its own coils, tuning condensers and automatic volume control circuits exclusively designed for short-wave. Each of the four short-wave channels has its own tuning condensers, its own exclusive short-wave coils and associated circuits; only the tubes remain the same for all bands.

A unique design of the R.F. assembly and a gang condenser constructed especially for this receiver, enables each wave band to be considered strictly as a unit with every part matching with its associates, giving the highest possible efficiency.

## PERFECT TONE QUALITY OVER FULL MUSICAL RANGE

The audio channel has been carefully designed so as to produce a minimum harmonic content in the speaker output. Two resistance-capacity coupled Type 56 tubes supply a beautifully pure signal of great range to the powerful 2A3 push-pull output circuit. The sound pressure curve of the speaker output is substantially flat in the single-speaker model and in the dual-speaker model is almost perfectly flat from 30 cycles to well over 8000 cycles. The peaks on the dual-speaker output curve are of less than 3db variation above the theoretical trace of the curve.

If the broadcast transmission is of suitable quality and received from a key station (not received through the co-operation of land line network) musical notes of 20 cycles can be heard from the speaker with great volume and pleasing quality.

The audio system is compensated in the region 3000-8000 cycles for the losses in high note response which ordinarily are present in competitive receivers of such great R.F. selectivity. The method of obtaining this and of making certain semi-automatic adjustments to tone control are exclusive to Mercury All-Wave DeLuxe receivers. Where the receiver is to be operated in noisy locations, or when audio noise levels of high frequency character are temporarily present,

the manual tone control can be brought into use without unduly sacrificing true tone quality. The manual tone control on the Mercury is so designed that it operates with greater relative effect on weak radio signals than on strong ones. This happens automatically and eliminates the "boomy" quality that is characteristic of most receivers when operated with tone control turned on full on strong stations.

The various bands are switched by a special multi-point seven-gang switch, employing silver plated contacts and offering a very low distributed capacity. The coils are mounted directly upon the terminals of this specially designed switch so that the long leads normally encountered in short-wave receiver assemblies are eliminated. This design enables us to have much larger values of inductance in the coils giving greatly increased signal strength.

## PERFECTED "CELLULAR SHIELDING"

The exclusive system of shielding gives 100% effective isolation between successive circuits in the R.F. network, and permits higher amplification per tube than is achieved by other systems. This in turn contributes toward less noisy reception on weak stations.

## AIR-TUNED INTERMEDIATE TRANSFORMER

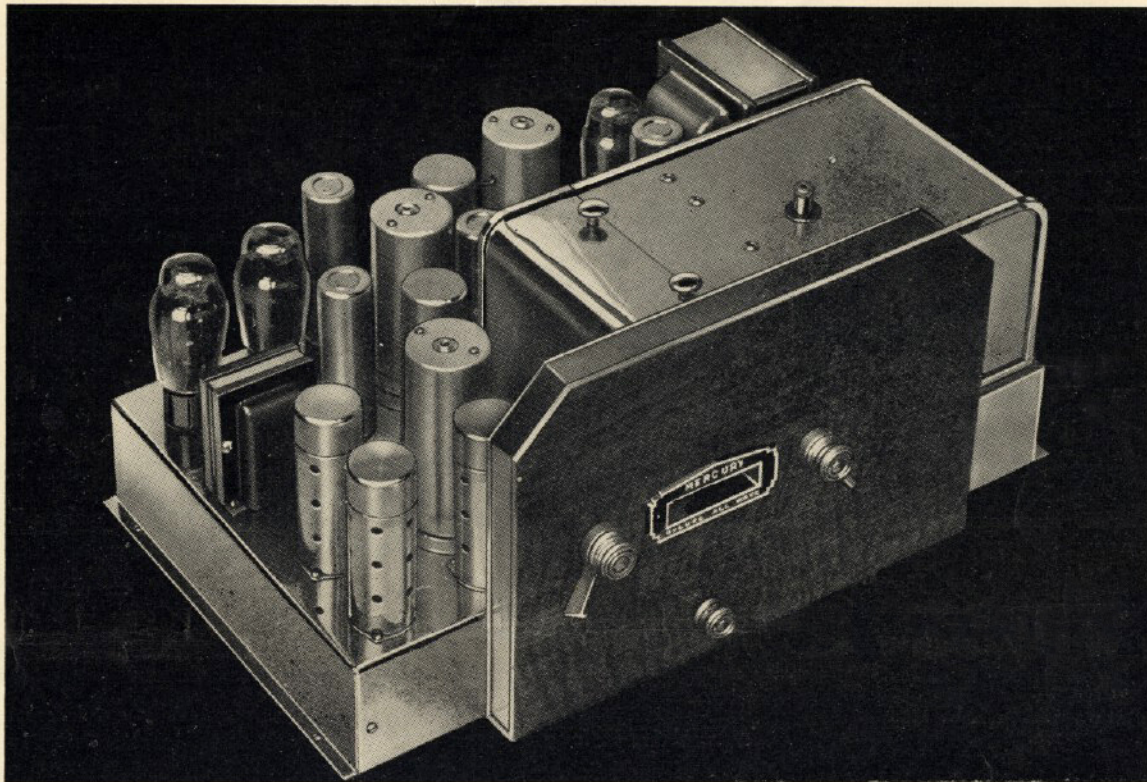
The transformers in the intermediate amplifier are tuned by air-dielectric condensers, and thus afford the great boon of extreme stability of adjustment, uniformity of the resonance curve envelope and freedom from damp weather losses. The condenser dielectric losses being also the lowest that it is physically possible to attain, the amplifier of the transformer is extremely high as compared with transformers using "mica dielectric padders."

The amplified radio signal is separated from the "carrier" by a smooth, distortionless network employing a diode-tube. Owing to the very great (fractional microvolt) sensitivity of the amplifier enormous power is available at the diode circuit and so an entirely effective and 100% satisfactory automatic volume control is obtained directly from the single diode without having recourse to a separate "A.V.C. tube." Signals are received in Toronto daily from Daventry, England and Zeesen, Germany with such reserve of volume that the sound levels remain almost constant, through the action of our A.V.C. system.

Two aerials are specified for the Mercury DeLuxe All-Wave receiver.

Radio owners the world over are insufficiently conscious of the importance of a good aerial. This is a great pity because in the past, the performance of many really good receivers has been spoiled by failure to provide suitable aerials for their operation.

The Mercury Radio Company feel that it is a matter of great importance for EVERY Mercury DeLuxe All-Wave receiver to perform at its best. Our success in business must be measured by the performance of our product because we rely upon performance of sets in the field rather than upon sales "ballyhoo" for the promotion of our industry.



THE CHROMIUM PLATED CHASSIS OF THE MERCURY DELUXE ALL-WAVE

## OUTSTANDING FEATURES

The New Mercury DeLuxe All-Wave Radio is a totally new receiver of exclusive and radical design. There is no other radio like it anywhere.

Exclusive design features of this receiver can be discussed at considerable length but a synopsis of features only is given hereunder as follows:

**COMPLETE SHIELDING** of entire radio receiving net works.

High frequency and broadcast radio networks and tubes completely enclosed in noise-tight hand-tooled brass casing, chrome plated.

**NOISE SUPPRESSING TRANSMISSION LINE ANTENNA ON BROADCAST WAVE.**

Noise suppressing transmission line antenna on broadcast wave.

**COMPLETE SUPPRESSION OF "IMAGES" AND TWEETS."**

**HIGHLY EFFICIENT AUTOMATIC VOLUME CONTROL** with special tuning indicator, which works on all bands.

**FULL "BAND-SPREAD" TUNING ON HIGH FREQUENCY CHANNELS:** High frequency signals from overseas short-wave stations are tuned in with same ease as ordinary broadcasts. Range 15-550 metres, on 5 channels.

**CALIBRATED SCALE ON ALL BANDS.** Tuning range of receiver divided on five clear-vision scales, hand calibrated and accurately logged.

**RIGID CONDENSER AND AIR-TYPE PADDERS** insure stability of calibrations.

**SWITCHING OF BANDS AND SCALE SELECTORS ARE INTERLOCKED,** and give automatic indication of wave adjustment.

**THE EXCLUSIVE USE OF SINGLE PURPOSE TUBES,** combined with complete shielding, insures smooth control, full stability, extreme fractional microvolt sensitivity and knife-edged station separation.

**SMOOTH NOISELESS LEVEL CONTROL.**

**SPECIAL SENSITIVITY CONTROL** acts as a noise barrier and allows tubes to be operated when desired at the full amplification or, in noisy locations, sensitivity may be reduced by the user to meet local noise conditions.

**CHROME PLATED BRASS AND STEEL PARTS** and exclusive cabinet designs together with quality hand tooling and assembly, ensure highest class performance and freedom from service trouble.

**CORRECTLY ENGINEERED ACOUSTIC SYSTEM** using auditorium type of speaker and Class A amplification ensure finest tone with full range and ample volume.

**TONE CONTROL IS SEMI-AUTOMATIC** and may be manually adjusted from the front panel.

Receiver employs eleven tubes as follows:

Type 5Z3—Power rectifier full wave; universal 25 or 60 cycle 115V.

Type 58—High frequency pre-selector.

Type 57—High frequency detector.

Type 56—Heterodyne frequency changer.

Type 58—First intermediate (467 KC) amplifier.

Type 58—Second intermediate (467 KC) amplifier.

Type 56—Operating as a diode "2nd detector."

Type 56—1st audio stage.

Type 56—2nd audio stage.

2 - 2A3—Push-pull "Class A" audio output.

# Mercury Design

**MAKES  
WORLD'S  
RECORDS**

## PIONEER ALL-WAVE RECEIVER

The Mercury was the first Superheterodyne receiver designed in Canada and the first all-wave superheterodyne designed in Canada. Away back in 1924, a Mercury all-wave receiver was used in the first rebroadcast of a continental station, working in conjunction with the engineers of CFCA, the old Star station in Toronto, the Mercury engineers were successful in picking up and rebroadcasting station G5SW located at Chelmsford England. This rebroadcasting programme was carried on for a period of over 30 days successfully.

Since that early date, Mercury receivers have been constantly improved until we offer today the new Deluxe All-Wave, the last word in radio engineering.

Great numbers of Mercury receivers have been sold in all parts of the world and the absolute ability of these receivers to consistently day after day bring in stations located in all parts of the world is amply proven by letters received by us from these owners.

One owner who lives in Ohio in the United States, has established what we believe is a world's record in the way of long distance consistent reception. He has verified reception from station VK2ME in Sydney Australia of every broadcast without a miss for over 13 months. He has also verified reception from F3iCD, Indo China for 53 consecutive broadcasts. We believe this record will stand for some years to come. When you consider that the owner of this Mercury receiver is located in the United States where there are great numbers of so-called custom receivers to choose from, it proves our claim that this great receiver is in a class by itself.

## BATTERY OPERATED MODELS

For use in districts where there is no electric current available, we can supply battery operated receivers.

Write for details.

## MERCURY DELUXE ALL-WAVE PERFORMANCE

Fine performance is a reflection of fine craftsmanship.

Fine craftsmanship is a religion in both the laboratory and shops of this organization. Mercury Radio receivers give finer, smoother performance because of the pains taken in making them. Our craftsmanship is painstaking, slow and meticulous.

Fine engineering is another dogma to which we religiously adhere. This means sound proven circuits and safe engineering practices.

Each Mercury Deluxe All-Wave receiver is tested on actual foreign reception before leaving the factory. This is no problem, because even in our test laboratory in the heart of Toronto, some foreign station can be heard strongly day or evening, on any Mercury Deluxe All-Wave receiver.

The new Mercury Deluxe All-Wave Receiver totally outclasses all previous Mercury receivers in long distance reception on any wave, in selectivity, in tone quality and in ease of operation.

Owners of previous models of Mercury radio need only be assured that our standards of manufacture and performance are higher than ever before.

Prospective new owners who have not previously owned Mercury radios may take a cue from the fact that owners of old Mercury models bought out our entire first month's production of the new Mercury Deluxe All-Wave radio without even having seen the specifications of the new model which are only now being released.



## New Cabinets Moderne Console No. 621

The design of the new Mercury All-Wave Deluxe console embodies a restrained example of the so-called "Art Moderne."

Actually the design was taken from a photograph of an ornamental case carved in stone and discovered during excavation work in an ancient Egyptian palace of about 3600 B.C. It is therefore really an antique design reflecting the cultural taste in art of an ancient civilization.

The cabinet is built of solid walnut, sides and top, the front of veneer. It is designed so that it is acoustically correct, the bracing and area of the speaker compartment having been specially treated to match correctly the Mercury chassis and speaker system.

Specialists in High-Grade, Custom Built  
ALL-WAVE RADIO RECEIVERS

## Mercury Radio Company

970 College Street

TORONTO - CANADA