

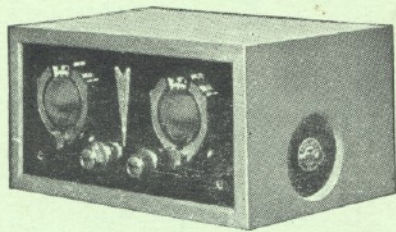
PRINTED IN CANADA

MERCURY

SUPER-TEN

Multi-Wavelength

RECEIVERS

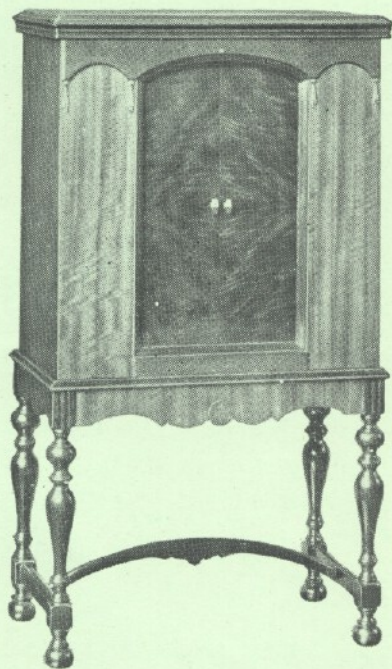


SCOUT MODEL



THE **H.M. KIPP CO.** LTD.
447 YONGE ST.
TORONTO — CANADA

THE *MERCURY SUPER TEN* was originated, designed and manufactured by Canadians. In the past seven years it has been sold and used in many parts of the world. Built to meet rigid receiving conditions in Canada, it is suitable for use anywhere.



MERCURY SUPER TEN CONSOLE

A "One Spot" Super Heterodyne using 10 tubes: 5 screen grid 224's, 3 227's and 2 245's. Single control tuning. Local station switch. Remote control attachment if required.



Toronto, Canada

Dear Radio Friend—

When reading the following information please bear in mind that I assume full responsibility for every word. That is about the best guarantee I can give you that every statement made herein is accurate in detail and truthful in presentation.

This radio business is of the type that requires the personal attention of executives both in the experimenting and development. Let me assure you that the purchase of a Mercury Receiver is not the end of a transaction, but the beginning of a friendship that I personally look forward to with the greatest of pleasure.

Yours very truly,

A handwritten signature in cursive script, appearing to read "H. W. Kipp". The signature is written in dark ink and is positioned above a horizontal line.

Vice-President.

THE H. M. KIPP CO., LTD.

TO anyone interested in short wave reception, we would suggest that they join the *International Short Wave Club of Klondyke, Ohio*. An interesting pamphlet on short wave stations and their activities will be received monthly. Subscription fee is \$1.00 per year.

A few of the "World" stations that have been heard (speech and music) on the MERCURY Receivers in Canada during the past three years.

Bandoeng	15.91 meters	.....	Java
Bangkok	16.90 meters	.....	Siam
Bogota	48.35 meters	.....	Colombia
Buenos Aires	48.30 meters	.....	Argentina
Chelmsford	25.53 meters	.....	England
Eindhoven	31.38 meters	.....	Holland
Georgetown	44.30 meters	.....	British Guinea
Havana	29.98 meters	.....	Cuba
Heredia	30.88 meters	.....	Costa Rica
Huizen	16.88 meters	.....	Holland
Khabarovak	35.00 meters	.....	U.S.S.R.
Kahuhu	25.68 meters	.....	Hawaii
Manila	26.20 meters	.....	P.I.
Melbourne	31.56 meters	.....	Australia
Mombasa	36.74 meters	.....	Africa
Nancy	15.65 meters	.....	France
Prague	58.00 meters	.....	Czechoslovakia
Rugby	16.54 meters	.....	England
Sydney	28.80 meters	.....	Australia
"Yokima"	16.50 meters	.....	Drummondville, Can.

Mercury Standard and Scout Receivers

SINCE the earliest days of the human race the science of communication has engaged the attention of studious minds.

In the early pages of history, we read where men communicated by means of smoking fires, or made sounds travel across the mountains and valleys from skins stretched over a hollow stump and struck with a bone or stick. The Indians of America used these "Tom-Toms" to summon the tribal leaders, and even had a "code" of sounds to direct their warriors.

In ancient Greece and Rome, men of great physical endurance were trained as "couriers" or fast runners, to carry complete messages from one place to another. In many places, the pages of authentic history record the prowess of these messengers. Their patron was Mercury, the winged messenger of the Gods, whose speed, stamina and accuracy they all strove to equal.

Furthermore, Mercury is credited with being a very talented musician, a diplomat and a cultured wit, who entertained the Gods at their meetings and councils. It can readily be understood that in linking MERCURY radio with "Mercury, the Messenger of the Gods," there are many things in common.

For many years the MERCURY SUPER TEN has been one of the leading Canadian sets produced in Canada. Custom built for the discriminating person who wants only the best in radio, the MERCURY has always been manufactured to a standard of perfection.

The MERCURY* uses ten R215A, or peanut tubes as they are commonly called. These tubes are used by the Navy in their superheterodynes, and are rugged, require very low filament current, have extremely long life and are one of the most sensitive tubes ever produced. They are inherently quiet in their operation, very stable and non-microphonic. These tubes are manufactured in Canada by the Northern Electric Company of Montreal, and we can supply them to any part of the world. This tube is ideal for automobile service, where vibration is great and the filaments are subject to severe shock.

The voltage required by the peanut tube is 0.85 to 1.1, and the filament current consumption $\frac{1}{4}$ ampere per hour. When ten of these tubes are used in series parallel, the total filament voltage is 4.5 to 6, with $\frac{1}{2}$ ampere consumption per hour. The maximum milliamperere drain on the "B" current, which is 90 or 135 volts with $4\frac{1}{2}$ or 9 volts "C" bias, is 12 milliamperes. A six volt storage battery, or a four cell Hot-Shot battery, make an ideal "A" supply.

Four stages of intermediate frequency amplification is used. The set is carefully shielded, yet in such a manner as to have very little metal distributed about. Too much shielding depreciates a great deal from the efficiency of reception on the high frequencies. There are two stages of audio amplification—a single stage and the second of push pull. The amplification is very high and sufficient to operate a dynamic or any standard type speaker with good volume and fine quality.

*All MERCURY receivers are licensed under patents controlled by The Canadian Radio Patents Limited.

The MERCURY receiver is capable of covering a range of wavelengths from 9 to 550 meters and up. On the ultra short wavelength bands, namely, 9-22 and 22-32 meters, advantage is taken of a split condenser, which permits the tuning of these two wavelengths by an isolated 3-plate section on a common rotar. When the longer wavelength coils are inserted, there is an extra pin in the coil that automatically connects these two sections together, allowing the set to be used on these series of wavelengths simply by the insertion of the plug-in coils, without any other change whatever. This arrangement leaves the oscillator and tuner coils adjacent to their respective tuning capacities. The selectivity of the MERCURY Scout Receiver on the standard wavelengths of 190 to 550 meters is sharp enough for all practical purposes. It has a 12 to 15 kilocycles separation and provides a reliable means of entertainment when used in the camp, automobile, on the yacht or motor boat. Owing to a highly rejective antenna circuit, the MERCURY Scout Receiver can be classed as a "one spot" receiver. The panel and dials are of Bakelite. There are two of the latter, which allows extremely fine adjustment and manipulation. There is practically no metal in the dials, and the receiver can be quickly and accurately tuned. There is a noticeable absence of metal in the set, except where it is absolutely necessary for shielding, and this feature tends to raise the efficiency of the MERCURY.

The Standard MERCURY has "Jacks" for either loudspeaker or phones. The chassis is 18 in. long x 6½ in. high x 8½ in. deep, and is very rugged and substantially built. There is no body capacity effect whatever. The tuning of the Mercury short wave set is extremely simple—it is not any more difficult to tune and hold on a station than a standard wavelength receiver. The set can be logged, and stations, as long as they stay on their wavelength, will come in at exactly the same place time after time. It does not "pop" into oscillation, but can be run in smoothly. It also can be tuned by the "zero beat" method on weak stations if desired.

Beside the above mentioned Standard model, we are placing on the market a special long and short wave 10 peanut tube set for automobile or portable use. This will be called the SCOUT and is just as efficient as the standard sets, although the chassis will be only 11½ in. long x 5¾ in. high x 7 in. deep. This could almost be called a pocket set, so compact is its construction, yet it has all the efficiency of the larger sets. These receivers can be operated economically on a 4-cell dry battery, and a battery of this type should work the receiver on the "A" supply for a period of 60 hours, intermittent use. For continuous use with dry "A" batteries, we recommend 8 dry cells wired in series parallel.

Plug-in coils can be supplied to cover the wavelengths from 9-22 meters, 22-32, 32-80, 80-190, 190-550 and up to 30,000 if desired, although we do not recommend anything above 550 meters, unless it is for copying code.

This is the receiver which has enjoyed success in the past three years of short wave rebroadcasting, and is the pioneer commercially built short wave receiver. This set was designed to receive short waves a year before the

broadcasters even started their experimental broadcasts over these high frequencies. During that year the MERCURY was sold as a standard wavelength receiver and for wavelengths above the broadcast range.

In the course of our short wave experience we have tried many kinds of tubes and a great number of hook-ups, but up to the present have found nothing that would compare with the MERCURY for allround, consistent operation on short waves, using the famous R215A tubes. The MERCURY is the set that was used to rebroadcast the bulletins on King George V's condition during his illness and also a series of Australian programmes last year. For 20 consecutive days, CFCA, The Toronto Daily Star, Toronto, Canada, rebroadcast the chimes of Big Ben in London, England, using a standard MERCURY with short wave coils as pick-up link with 5SW, Chelmsford, England.

The Royal Canadian Mounted Police use a number of MERCURY receivers at their stations in the far north, in the Yukon and on the shores of the Arctic. They require them for their long distance reception on the different wavelengths, their extremely low battery requirements and the fact that they are most satisfactory for their range of reception in the daylight.

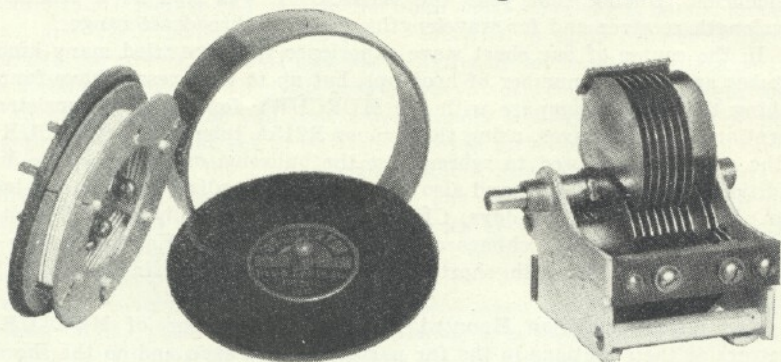
In the far north there is often two months that the sun is never below the horizon and continuous daylight prevails. Under these conditions, owners of MERCURY sets will sometimes pick up stations 2000 miles and more away on the standard wavelengths. It is for such reasons as this that a great many MERCURYS are used in the remote districts of Canada. On the shorter wavelengths it so happens that in these out-of-the-way locations in the north land, reception is of such a wonderful nature that owners of sets can listen in to all parts of the world without any difficulty whatever. They are also so close to the European Stations that the latter come in "over the top" like locals.

The Hudson's Bay Company, with their many trading posts scattered over our great Northland, are purchasing more Mercury sets from time to time. Obviously many of the posts suffer the extremes of isolation, being out of touch with the rest of the world, as well as Canada, for many months at a time. Arrangements are made with the short wave stations in Canada to broadcast news and messages for these outposts at pre-determined periods.

Owing to the extremely low requirements of the ten peanut tubes used in the circuit, an A. B. & C. MERCURY current rectifier can be used very satisfactorily. Our engineers have designed such a piece of apparatus which contains no acids, liquids, chemicals or water and is absolutely a dry eliminator. As the "A" consumption is but $\frac{1}{2}$ ampere per hour, a rectifier of the cuprous type can be used. We find this system has been most satisfactory in the past years in connection with the MERCURY radio sets. This power apparatus is designed only for the MERCURY and is not suitable for other receivers. The mechanism operates in 110-120 volts, 25, 50 or 60 cycle A.C. current supply.

The MERCURY short wave receivers can be furnished in complete built-up chassis form and a cabinet can, if desired, be supplied at extra price.

Oscillator Coil and Tuning Condenser



This photograph shows the Oscillator Coil and a Tuning Condenser.

The coil is designed after the Moorecroft style. We have found through numerous experiments that it is much more efficient than some types of solenoid coils. The spring pins make a firm, lasting and non-corroding contact. Wooden pegs hold the fibre forms together, and the wire is wound on high dielectric strips, so that moisture can have the least possible chance of causing leakages in these coils. The contact of the wire touches this strip.

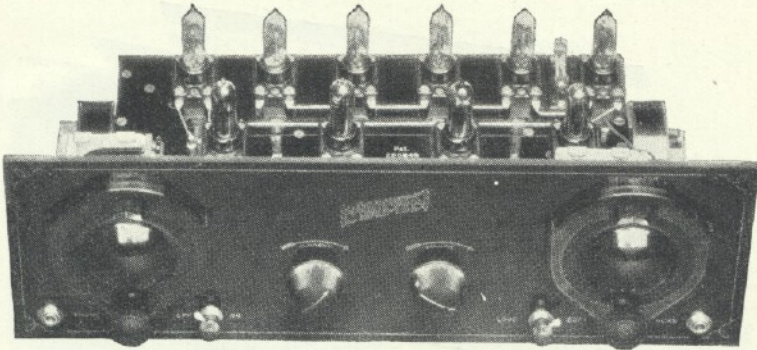
Also shown in this cut is an oscillator tuning condenser. This is a split type and consists of two variable capacities on a common shaft. The 3-plate section is for tuning on the ultra short waves, and the balance of the condenser for the short waves. This condenser also tunes the standard wavelengths from 200-550 meters, when desired, and covers this wave band from 200-550 meters with just the one set of inductances. The means of isolating these two capacities for their respective duties is accomplished automatically when the coils are inserted.

Standard S. W. Mercury Super Ten

The illustration on top of following page shows the layout in general of the "Mercury Super Ten" Short Wave Receiver. There are ten tubes incorporated in the circuit—wired in series parallel—with five tubes in each bank. Their positions are as follows, beginning from the top left side: (1) 1st Detector; (2) 1st stage radio frequency amplification; (3) 2nd stage radio frequency amplification; (4) 3rd stage radio frequency amplification; (5) 4th stage radio frequency amplification; (6) 2nd Detector tube; the first tube in the front row on the left is the first stage of audio, and the next two tubes are the push-pull stages, and the 4th tube is the Oscillator. The tubes used are the Northern Electric R215A type; the filament voltage is 1.1 and the amperage $\frac{1}{4}$. As the ten tubes are wired in series banks of five each and connected in parallel, the voltage required $5\frac{1}{2}$; the amperage, $\frac{1}{2}$. This set operates from a 6-volt storage battery as standard battery equipment.

The two tuning inductances are shown on each end of the radio and audio unit, and are removable. They are readily removable because they are very close to the tuning condensers.

On the panel at the extreme lower left edge is a "jack" for phones, and on the extreme right lower corner is one for the loudspeaker. The



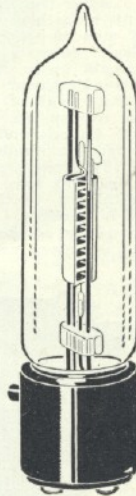
Standard S. W. Mercury Super Ten

switch on the right is the means of throwing in a resistance on local stations when the set is used as a standard wavelength receiver, to cut down the volume. The two knobs in the centre control the oscillations and volume of the receiver, the one on the right being a potentiometer and the one on the left controlling the amount of current fed to the filaments of the radio frequency bank of tubes. The resistance in the other bank of tubes is fixed.

Non-metallic dials are standard equipment and as few metal parts are used in the set as possible.

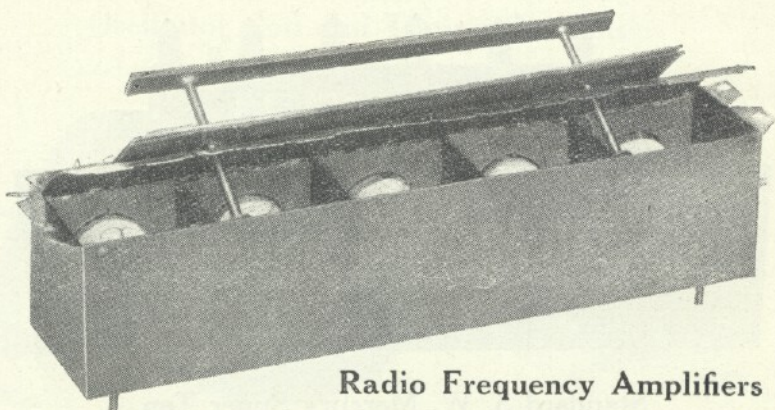
The Peanut Tube

This cut shows the R215A, or, as it is commonly called in Canada, the Peanut tube. In United States this tube is known as the "N" tube and has been used with great success in the Navy superheterodynes. This cut is practically full size, and as the tube is small, it is sturdy and will stand rude shocks and jolts that would ruin or entirely smash a larger type tube. It is one of the most sensitive detectors known. Its elements are very small and the internal capacities low. This tube will operate efficiently at very high frequencies. As the super-heterodyne is a voltage amplifier, this tube is quite capable of handling all the radio frequency current that is developed by even this powerful set, and by using a combination of push-pull and one stage of audio, surprising volume and quality can be secured with the proper combination of these tubes. Cases are known where the peanut tubes have been operated for a period of 10,000 hours and were still active. In view of this, the cost of replacements of tubes is extremely low. No matching is required, as they are very consistent and manufactured to close standards. It is a natural high frequency oscillator.



OPERATING CHARACTERISTICS

Filament Current.....	0.25 ampere (maximum)
Filament Voltage.....	0.85 to 1.10 volts
Detector Plate Voltage.....	22 to 45 volts
Amplifier Plate Voltage.....	90 to 135 volts
Amplifier Grid Voltage.....	-9
Amplification Constant	9
Output Impedance.....	15,000 ohms
Mutual Conductance.....	400 microhms

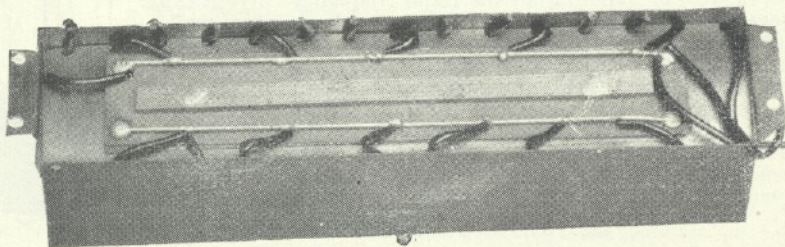


Radio Frequency Amplifiers

Here is another view of the R.F. unit, showing the method of controlling the oscillating point of the receiver. The coils are held in place by forms, and a convex copper shield with a scalloped edge is placed over them. The leads from the coils are then brought through in their respective places. This shield, as can be seen, is convex and does not come in contact with the interior shielding of the catacomb when resting in position before the adjusting bar is worked into position. This bar, as shown, has two brass screw studs fastened to same, which go through holes in the bottom of the unit. This is then pulled down until a tension is put on the brass convex cover, and the whole is then mounted into the set.

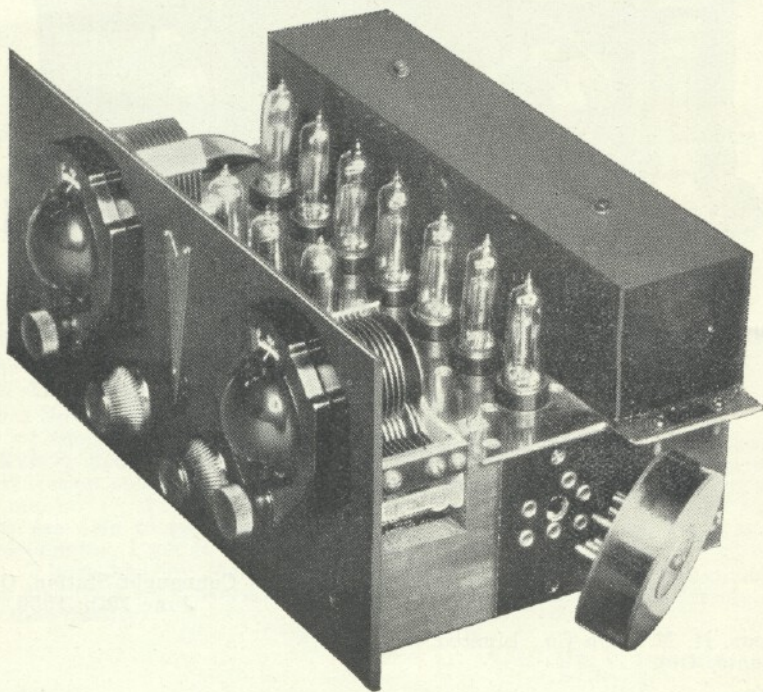
After the receiver has been completely wired and is on test, adjustments are then made with both these studs that come through the bottom of the catacomb, and by the adjustment of nuts on these, a pressure is placed on this convex shield. This governs the amount of "leak" between the individual coil compartments and by this means the amplifier can be brought up to exactly the point of oscillation or held just below it as required. With these two adjustments it is possible to manipulate this intermediate frequency amplifier to its highest peak of efficiency. After this has been secured the adjusting nuts on the bottom of the copper box are sealed. No further attention is necessary. This device is patented in both Canada and United States—in Canada under the number 226,848, and in United States under the number 1,697,923.

The coils are of the honeycomb construction and are manufactured to a certain standard which they have to pass before being placed in the receiver. This is accomplished by special machinery which has been developed for the purpose. The coils are as closely matched as is possible. A highly efficient type of coupling is used between the primary and secondary of these coils, upon which depends the selectivity of both the ultra short, short, and standard wavelengths of the MERCURY.



This photograph shows the Radio Frequency unit and the method of bringing the leads out. This unit is mounted immediately adjacent to the row of radio frequency tubes to the rear of the receiver, and the grid and plate connections are 1 inch long. This cut shows the adjustment bar pulled down into position and the catacomb ready to mount.

Mercury Scout Model Chassis

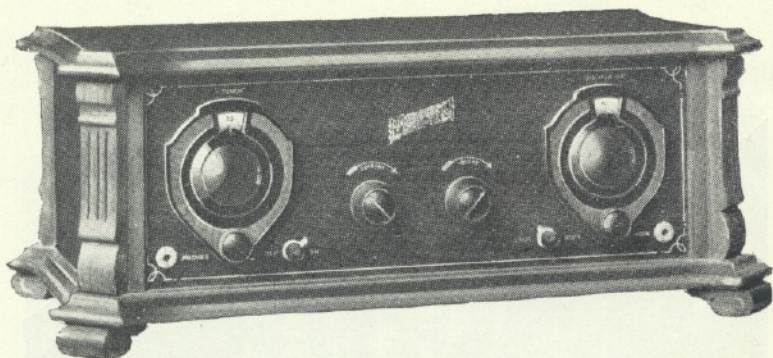


This photograph shows the perspective view of the Mercury SCOUT Model chassis. This chassis has removable inductances, as it will be noted, and also a powerful and sensitive radio frequency amplifier with an adjustable shield. The two adjusting nuts can be seen on top of the receiver. These, of course, have been sealed, as no further adjustments are required.

The split oscillator condenser is shown on the right, also the removable coil. In this model, ten peanut tubes are used. Their relative positions are as follows: at the left hand top rear row is the 1st Detector, and the following four tubes are the 1st, 2nd, 3rd and 4th stages of radio frequency; the 6th tube is the 2nd Detector, and the 7th tube is the Oscillator; the three front tubes are coupled to 2 stages audio amplification. The two tubes on the right are connected in parallel to the second stage. Push-pull is not used in this machine. This receiver is built in a most compact form.

This set has cable attachments for battery use, and can be used as an all-electric receiver by the application of a special rectifying unit for 60, 50 or 25 cycle, 110-120 and 220-240 volt A.C. current. The manufacturers can supply this, but any 6-volt standard eliminator will do.

However, for extreme DX reception we recommend the use of batteries in connection with this receiver. This will obviate all the residual hum prevalent in A.C. short wave sets. Eight dry cells in series parallel will operate this set for a period of 150 hours of intermittent use.



STANDARD MERCURY

Short or Long wave receiver in a DeLuxe Jewel Box, solid walnut cabinet, strongly constructed.

Some Interesting Comments

ENTIRELY UNSOLICITED

[COPY]

Connaught Station, Ont.
June 10th, 1930.

Messrs. H. M. Kipp Co., Limited,
Toronto, Ont.

Gentlemen:—

Today I received 2ME, Sydney, Australia, from 6.15 a.m. until they signed off at 7.15 a.m.

This afternoon I received G5SW on London broadcast for over an hour, and also had W6XN, Oakland, Cal., at intervals for nearly an hour.

All the above stations came in very clearly and with good volume on the loud-speaker. The reception was on your Mercury Super Ten on short wave 28.8, 25.53 and 23.85 meters respectively.

I consider this pretty much a record day for variety. I might add that the "youngest" tube in my Set is going on three years old.

I have had 2ME on several occasions and G5SW and W6XN are almost like locals as they are very easily picked up. I have had Berlin, Germany on several occasions and a number of other foreign stations that I have not been able to identify.

My set is the two dial Peanut tube type.

Yours very truly,

(Sgd.) W. C.

(name furnished on request)

[COPY]

Biscotasing, Ont., Canada.
Feb. 9, 1930.The H. M. Kipp Co., Ltd.,
Toronto, Ont.

Gentlemen:—

I am writing you a few lines to let you know that I am getting wonderful reception on my Mercury Super Ten which I purchased from you.

I get stations from all over the world and wish to say that I have never heard such a good radio and I am more than pleased with it.

Yours very truly,

(Sgd.) ALPHONSE MICHAUD.

[COPY]

Box 1644, Timmins, Ont., Canada.
Feb. 5, 1930.The H. M. Kipp Co., Ltd.,
447 Yonge St., Toronto, Ont.

Dear Sirs:—

I thought you might be interested in knowing that I had picked up VK2ME, Sydney, Australia, on my Mercury Super Ten. I am enclosing verification substantiating my claim and would thank you to return same to me.

Am able to get radio reception all day long, if not on the standard wavelengths, I get it on the 22-32 meter band.

I have had my Mercury for over two years and would not change it for another I have heard, and I really believe it has no equal for distance or tone quality.

Yours very truly,

(Sgd.) MR. P. DOUGALL.

[COPY]

Belfountain, Ont., Canada.
March 11th, 1930.The H. M. Kipp Co., Ltd.,
447 Yonge St., Toronto, Ont.

Dear Sirs:—

I was listening to the broadcast on my Mercury Super Ten from New Zealand to New York, and I tuned in on WEA F, New York, and the noise was so bad that I could hardly hear what was being said, so I changed to the short wave, 22-32 meter coils, and I picked up the broadcast at once, and I can honestly say that I did not get the least bit of noise, and reception came through as clear as a bell. Five of the tubes in my set have been in use since I purchased the set two years ago, and when the New York announcer said the signals were fading, I could hear every word from station VK2MA (Melbourne, Australia) quite plain. I do not know what time WEA F signed off, but I was listening until 8.25 a.m. Eastern Standard Time and I heard all the broadcast from the time I picked it up at 5.00 until 8.00.

I wish to make it clear that I was using the short wave coils, 22-32 meters, and heard nearly every word from New Zealand and Australia.

Yours truly,

(Sgd.) T. POWELL.

A Few Ultra Short Wave Stations

- | | | |
|-------|--------|---|
| 11.55 | 25,960 | —G5SW, Chelmsford, England, Experimental. |
| 13.04 | 23,000 | —W2XAW, Schenectady, N.Y. |
| 13.97 | 21,460 | —W2XAL, New York. |
| 14.62 | 20,500 | —W9XF, Chicago, Ill. (WENR). |
| 15.45 | 19,400 | —FRO, FRE, St. Assise, France. |
| 15.50 | 19,350 | —.....Nancy, France, 4 to 5 p.m. |
| 15.91 | 18,850 | —PLE, Bandoeng, Java. Broadcasts Wed., 8:40 to 10:40 a.m. Telephony with Kootwijk (Amsterdam) |
| 16.11 | 18,610 | —GBU, Rugby, England. |
| 19.56 | 15,340 | —W2XAD, Schenectady, N.Y. Broadcasts Sun., 2:30 to 5:40 p.m.; Tues., Thur. and Sat. noon to 5 p.m.; Fri. 2 to 3 p.m.; besides relaying WGY's evening program on Mon., Wed., Fri. and Sat. evenings. General Electric Company. |
| 19.66 | 15,250 | —W2XAL, New York, N.Y. |
| 19.71 | 15,220 | —W8XF (KDKA) Pittsburg, Pa. Tues., Thurs., Sat., Sun., 8 a.m. to noon. |
| 23.35 | 12,850 | —W2XO, Schenectady, N.Y. Antipodal program, 9 p.m. Mon. to 3 a.m. Tues.; noon to 5 p.m. on Tues., Thurs. and Sat. General Electric Co. |
| 25.24 | 11,880 | —W8XK (KDKA) Pittsburgh, Pa., Tues., Thurs., Sat., Sun., noon to 5 p.m., and Sat. night Arctic programs. Television Mon. and Fri., 2:30 p.m., 60 lines, 1200 r.p.m. |
| 25.53 | 11,750 | —G5SW, Chelmsford, England. 7:30-8:30 a.m. and 2-7 p.m., except Saturdays and Sundays. Also 7-9 p.m. Mondays and Wednesdays. Tests with W2XO 12-1 a.m. Mondays and Thursdays. |
| 25.60 | 11,690 | —CJRX, Winnipeg, Canada. 5:30 p.m. on till 8:30. Mon., Wed., Fri.; 10:30 Tues.; 11:00 Thurs.; midnight Sat. Sundays 11:30 a.m. to 1 p.m.; 10-11 p.m. |
| 26.00 | 11,530 | —CGA, Drummondville, Canada. |
| 28.80 | 10,410 | —VK2ME, Sydney, Australia. Irregular. On Wed. after 6 a.m. Amalgamated Wireless of Australia, Pennant Hills, N.S.W. |
| 30.88 | 9,700 | —NRH, Heredia, Costa Rica. 10:00-11:00 p.m. Amando Cespedes Marin Apactado 40. |
| 31.10 | 9,640 | —7LO, Nairobi, Kenya, Africa. 11:00 a.m. to 2 p.m. Relays G5SW, Chelmsford, frequently from 2 to 3 p.m. |
| 31.28 | 9,580 | —VK2FC, Sydney, Australia. Irregularly after 4 a.m. N.S.W. Broadcasting Co. |
| 31.38 | 9,550 | —.....Konigswusterhausen, Germany. 10 to 11 a.m., 11:30 a.m. to 2:30 p.m., and 3 to 7:30 or 8:30 p.m. Relays Berlin. |
| 31.48 | 9,530 | —W2XAF, Schenectady, New York. Mon., Tues., Thurs. and Sat. nights, relays WGY from 6 p.m. General Electric Co. |
| 31.56 | 9,500 | —VK3LO, Melbourne, Australia, irregular. Broadcasting Co. of Australia. |
| 32.06 | 9,350 | —CM2MK, Havana, Cuba. |
| 32.50 | 9,230 | —FL, Paris, France (Eiffel Tower) Time signals 3:56 a.m. and 3:56 p.m. |

A Few Short Wave Stations

- 35.00 8,570—**HKCJ**, Manizales, Colombia.
- 37.36 8,030—**NAA**, Arlington, Va. Time signals 8:55-9.
- 38.00 7,890—**VPD**, Suva, Fiji Islands.
- 38.30 7,830—**PCV**, Kootwijk, Holland, after 9 a.m.
- 39.70 7,550—.....S.S. "Bremen."
- 40.20 7,460—**YR**, Lyons, France. Daily except Sun., 11:30 a.m. to 12:30 p.m.
- 41.00 7,310—.....Paris, France ("Radio Vitus") Tests.
- 41.70 7,190—**VK6AG**, Perth, West Australia. Between 6:30 and 11 a.m.
- 43.00 6,870—**EAR 110**, Madrid, Spain. Tues. and Sat., 5:30 to 7 p.m., Fri. 7 to 8 p.m.
- 44.30 6,770—**VRY**, Georgetown, British Guiana. Wed. and Sun., 7:15 to 10:15.
- 48.35 6,200—**HKC**, Bogota, Columbia.
- 48.74 6,155—**W9XAL**, Chicago, Ill. (**WMAc**) and **Airplanes**.
- 48.83 6,140—**KDKA**, East Pittsburg, Pa. Tue., Thur., Sat., Sun., 5 p.m. to midnight.
- 49.31 6,080—**W2XCX** Newark N.J. Relays **WOR**.
- 49.50 6,060—**W8XAL**, Cincinnati, Ohio. Relays **WLW**.
- 49.67 6,040—**W9XAO**, Chicago, Ill. (**WMAQ**).
- 49.97 6,000—**ZL3ZC**, Christchurch, New Zealand. 11 p.m.-midnight.
- 54.51 5,500—**W2XBH**, Brooklyn, New York City (**WBBC**, **WCGH**).
- 61.22 to 62.50 meters—4,800 to 4,900 kc. **Television**.—**W8XK**, Pittsburg, Pa.; **WIXAY**, Lexington, Mass.; **W2XBU**, Beacon, N.Y.;—**WENR**, Chicago, Ill.
- 74.72 4,105—**NAA**, Arlington, Va. Time signals 8:55-9 a.m., 9:55-10 p.m.
- 97.53 3,076—**W9XL**, Chicago, Ill.
- 142.9 to 150 meters—2,000 to 2,100 kc. **Television**.—**W2XCL**, Brooklyn, N.Y., Mon., Wed., Fri., 9 to 10 p.m.;—**W9XAA** Chicago, Ill.;—**W2XBS**, New York, N.Y., frame 60 lines deep, 72 wide. 1,200 R.P.M.;—**WIXAE**, Springfield, Mas ;—**W8XAU**, Pittsburg, Pa; **W6XAM**, Los Angeles;—**W2XBU**, Beaccon, N.Y.;—**W3XAK**. Bound Brook, N.J.;—**W3XK**, Washington, D.C. Daily except Sun., 8 to 9 p.m.;—**WPY**, Allwood, N.J.;—**W10XU**, Airplane.

All schedules Eastern Standard Time: Add 5 hours for Greenwich Mean Time.

We cannot guarantee the absolute accuracy of this list, but it is as close as we have been able to check it.

GUARANTEE



ALL MERCURY SUPER TEN Radio Receivers are guaranteed against defective workmanship and material. Any parts claimed defective and returned for our inspection must come to us transportation prepaid. Goods must not be returned without our permission. Misuse, abuse or negligence are not guaranteed against. This guarantee applies only to parts or materials supplied by us, and is in effect for 90 days after date of purchase.

The H. M. KIPP CO. Ltd.

The purchase of a Mercury Superheterodyne Receiver does not mark the close of a transaction, but only the beginning. Only through the co-operation of Manufacturer, Dealer and Purchaser can ultimate satisfaction be attained.