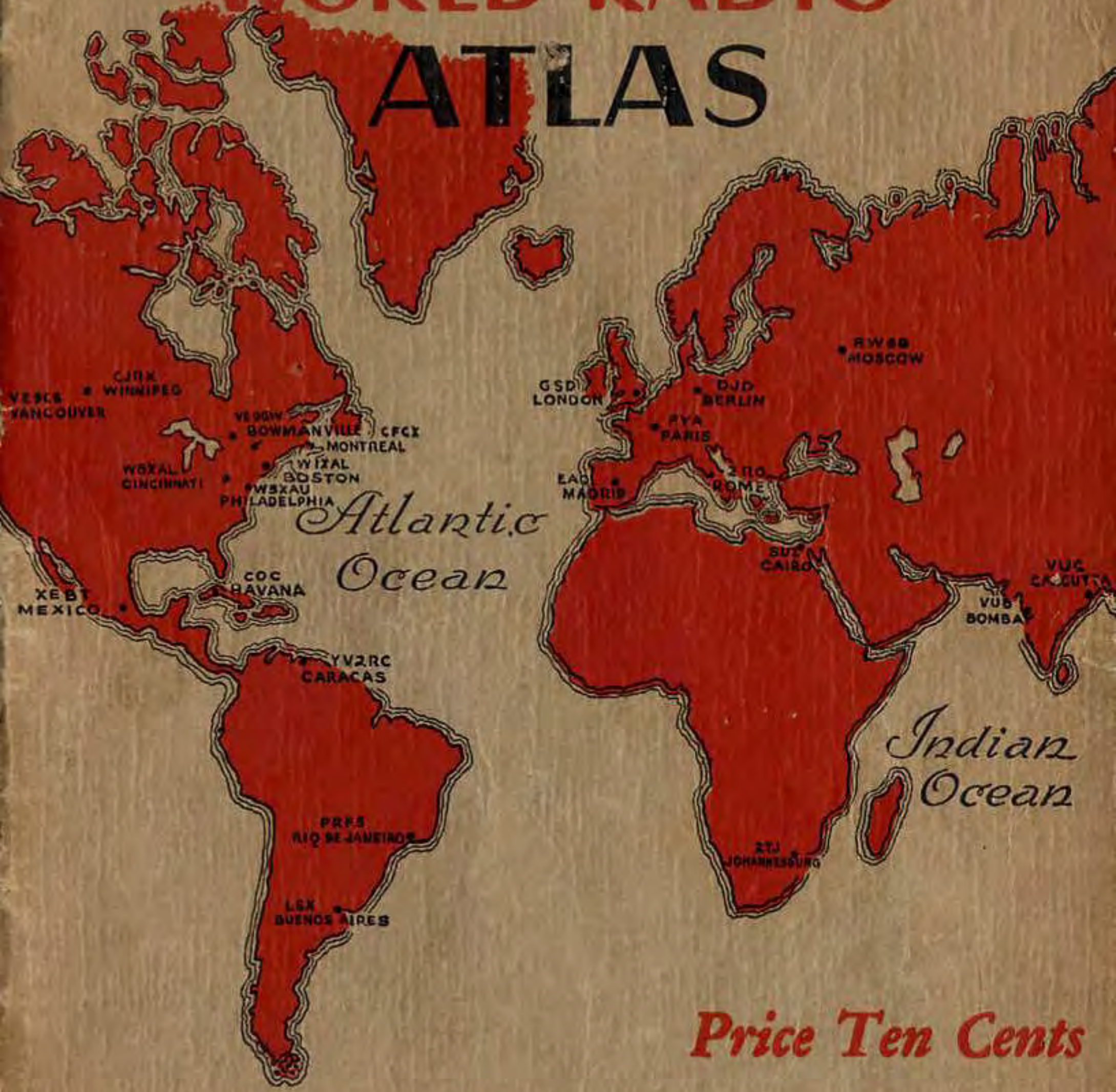


MARCONI

WORLD RADIO

ATLAS

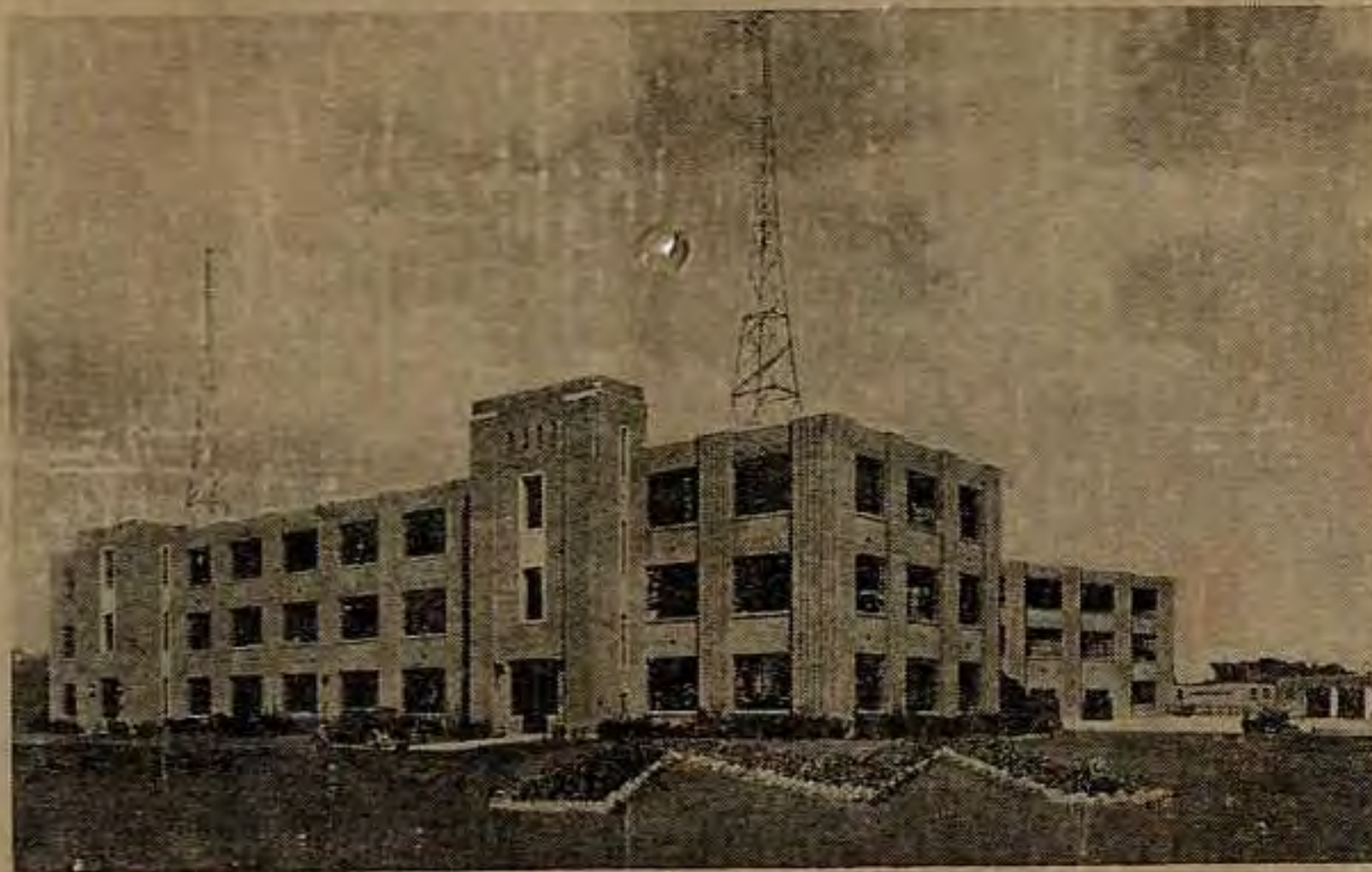


CANADIAN MARCONI COMPANY

MONTREAL

VANCOUVER TORONTO HALIFAX ST JOHN'S NFLD

THE CANADIAN MARCONI COMPANY'S FACTORY



This tremendous factory in Montreal was erected in 1929, in the spring of 1937 a wing was added providing a total of 83,000 square feet of floor space, and nothing illustrates more graphically the consistent growth over the entire history of radio transmission of the Canadian Marconi organization than does this factory.

From November, 1901, when Guglielmo Marconi first received trans-Atlantic wireless signals to this ultra-modern factory, with ability to produce every kind of technical radio apparatus, is a far cry, and the story is filled with romance and hard work, with brilliant ideas and great practical achievement. The great Marconi plant in which these master receivers are built, from raw material to finished product, is thoroughly departmentalized with each department equipped with specialized machinery individually designed for the job it has to do and staffed with workmen whose skill has been developed in the true Marconi tradition. They know their jobs and build to the Marconi ideals.

There is the Tool Department, making all tools needed in the manufacture of Marconi Receivers; the Punch Press Department with its special presses and the battery of oxy-acetylene and spot welders used for sheet stamping, forming and intricate built-up operations in sheet metal design; the Machine and Sheet Metal Shop, planned for precision work; the Paint Shop; the Plating Shop and Chemical Laboratory where the electrolytic and chemical finishing of metal surfaces is carefully controlled; the Winding Department and the Commercial Wiring and Assembly Department where the Marconi-made products of all the others are brought together to emerge as Marconi Receivers. And behind these complete manufacturing resources are the research facilities of a world-wide organization whose life-work has always been the development of radio in all its applications.

SHORT WAVE

The "THRILL BAND" of radio

ALL radio waves travel at the same speed as light... 186,000 miles a second. Each complete radio wave is known as a cycle. The number of waves or cycles sent out each second by a station is called its frequency. "Kilo" means a thousand. Therefore, a kilocycle means a thousand waves, or cycles, a second. A station, for example, is authorized to radiate 6,000,000 radio waves a second, or 6000 kilocycles.

In exploring the mysteries of short waves you will sometimes find stations listed by frequency (kilocycles) and other times by wavelengths (metres). To convert kilocycles into metres, simply divide 300,000 by the figure you have. Thus Station RV59, which sends out 6000 kilocycles per second, uses a wavelength of 50 metres (300,000 divided by 6000).

To reduce the size of the numbers used to indicate frequency, sometimes a station in higher frequencies is listed in megacycles. A megacycle is simply a thousand kilocycles. The Moscow station, with a frequency of 6000 kilocycles, may be listed as a 6 megacycles (6000 divided by 1000).

Tuning dials are marked in kilocycles for the lower frequencies, and in megacycles for the higher frequencies. To simplify tuning, the important short wave channels are also indicated on the dial in metres.

There are no definite limits for the short wave, but it is generally understood that short waves, as such, are those represented by the frequencies extending from the upper end of the broadcast band (1500 kilocycles) to the 30,000 kilocycle, or 10-metre wave. All frequencies higher than 30,000 kilocycles are commonly known as ultra short waves, and are not reached by the average short wave receiver for the reason that broadcasting in those frequencies is entirely experimental and of no value to the average listener.

Let us, then, study the general behavior of short waves from the time they are transmitted by the station until they

MARCONI—“*Canada's Finest Radio*”

reach the radio receiver. When these waves leave the transmitting station antenna they radiate upwards as well as horizontally. That part which travels close to the earth is called the ground wave and is quickly absorbed by metal obstructions, hills, etc. The other part is radiated upwards at an angle determined by the design of the antenna and travels in a straight line until, at a point 75 to 125 miles above the earth, it encounters a region known as the Heaviside layer. This area, which contains electrically charged particles, either absorbs the wave or reflects it to earth, depending upon the density of the layer at the time and the frequency of the wave. The wave, if reflected, reaches the earth at some distance, several hundreds of miles, from the transmitting station. The distance between the station and the point of return to the earth is called “skip distance,” and in this area it is not possible to hear the station with any degree of reliability. This explains why a short wave station of relatively low power is often heard with good volume several thousands of miles away, whereas its signal may be completely missing only fifty miles or so from the transmitter.

THE “HEAVISIDE” LAYER

The height and density of the Heaviside layer varies with the time of day and the season. Because of this, the signals change in strength as the hours pass from daylight to darkness. To overcome this objection, radio engineers have worked out charts which give the wavelength to use at every hour of the day and these charts are followed closely in selecting frequency best suited for any particular broadcasting schedule.

For instance, the waves from 15 to 25 metres give best service during daylight hours, but are practically useless after sundown. When the sun sets, the stations transfer their activities to the 25-to-50 metre waves and continue there until the sun is about to rise again.

So you see how essential it is to consider the prankiness of nature when dealing with short waves. Actually, Mother Nature still holds the upper hand, and her vagaries must be considered seriously if the best results from broadcasts in the lower wave regions are to be obtained.

MARCONI—“*The Greatest Name in Radio*”

Long before the general public took any interest in short waves, the leading scientists of the world were studying their action. Marconi engineers tried many types of antennas and watched their effect on signals sent into space. One of these antennas, called a “directional antenna,” displayed remarkable ability in reaching remote points. These antennas are called “directional” because they aim the signals at the particular spot it is desired to reach instead of spreading them fan-wise in every direction. They are now in world-wide use, and by means of them England and Germany and many other countries are able to send you fine programs with a volume and fidelity that sometimes equal those from local stations... provided you have a modern short wave receiver.

These things indicate how necessary it is to consider the workings of nature as they affect short wave reception. Except for the static which comes from thunderstorms, standard broadcast programs are seldom ruined by upheavals of nature, but the short wave listener has learned that he must make due allowances for such things until science finds a way for us to get around them. Very often crackling, squealing and fading are attributed to disturbances of nature, whereas the trouble is in reality due directly to poor or dying tubes. Have your tubes tested regularly and insure the best reception that Nature will permit and replace defective or worn-out tubes with Marconi RVC Radiotrons.

How to Tune

The new owner should look to the “old faithful” of the dial for his first introduction to short waves. The best “catches” are to be found in the vicinity of 19, 25, 31 and 49 metres. The location of these bands is plainly marked on the dial of all Marconi short wave receivers. After these waves have been exhausted and the user has learned to handle his receiver with reasonable skill, then he can begin his explorations in the other fertile sections of the ether.

In tuning for short waves, the procedure differs but little from that followed when selecting a standard broadcast station, except that the tuning must be more exact. Haphazard twisting of the tuning control is a waste of time. The successful dialist goes after his prey like a scientist seeking a missing element, and does not cease the search until he bags his game.

MARCONI—“*Canada's Finest Radio*”

The first move is to make sure that the station sought is actually on the air at the time. Because foreign broadcasters find it necessary occasionally to shift their schedules and wavelengths, every short wave fan should subscribe to one of the publications catering to this field.

The British Broadcasting Corporation issues a weekly magazine in which all British S.W. broadcast stations are listed and changes noted. The information contained in this magazine is extremely interesting and quite full. The name of the magazine is “World Radio”—and a yearly subscription costs very little.

We have now made sure that the station is on the air. The next step is the location of its wave. In the 31 meter band, let us say, there may be several stations. Their separation, therefore, must be reckoned in fractions of a metre. For instance, DJA, Germany, transmits on 31.38 metres, while VK2ME, Sydney, Australia, works on 31.28 metres, a trifling separation, but ample to give perfect reception when using a short wave set with extremely accurate vernier tuning control and precisely balanced circuit arrangement, equipped with full-powered tubes.

When the approximate dial location is known, the tuning knob must be rotated slightly back and forth and the volume control adjusted until the signal is recognized. Then by closer and still finer tuning the signal is built up to a volume sufficient to identify the station from the call letters or the language used in the announcement.

It is considered good practice to have several such stations in mind so that if the signal of one does not happen to be strong enough at the moment for satisfactory reception, a search may be made for another.

Marconi short wave receivers are equipped with a device called a tone control and in some models a selectivity control. These accessories are invaluable when a program from a distant station is accompanied by atmospheric noises or station interference. Fortunately most of these noises are pitched high in the musical scale, so that by rotating the tone control they may be suppressed without affecting the program. The proper adjustment of these controls is found by practice, and their judicious use sometimes means the difference between success and failure in the search for the best broadcasts on the shorter waves.

Marconi Radiotrons

The production of a Marconi RVC Radiotron involves approximately 1800 distinct operations. Of these 450 or 25% are inspection or testing operations—a fact which indicates the tremendous care taken in the manufacture of these tubes.

Marconi RVC, both glass and metal type Radiotrons are produced in Toronto in one of the most modern radio tube plants in the world, where precision is the watchword. The slightest variation in design would completely disrupt the tube's performance. Actually, the maximum tolerance permitted in any part is only 3/1000 of an inch.

No other manufacturer has ever produced the equal of these Marconi RVC Radiotrons for no other manufacturer has the background of experience or the technical resources of the great Marconi organization.

MARCONI

“*Canada's Finest Radio*”

All the programs—all the time—with studio perfection.

How to Tune in Short Wave Radio Stations

There are a few simple rules that must be followed if you are to tune short wave stations successfully.

1. Remember that short wave tuning is much finer than long wave—slightest fraction of a turn of the tuning knob makes a tremendous difference.
2. Look for stations at the right time and the right place. Conditions for reception vary considerably between daylight and darkness to such an extent that even under the best of conditions certain parts of the dial will be silent at definite times of the day. For example, above 12 megacycles will generally be found useless after dark.

In general, the most successful periods of reception are as follows:

- Night**— 12 to 5 megacycles (25 metres and over).
Evening— 16 to 9 megacycles (19 metres to 32 metres).
Afternoon— 16 to 12 megacycles (19 metres to 25 metres).
Morning— 19 to 12 megacycles (16 metres to 25 metres).

Try the Easy Stations First

| Mega-cycles | Stations | Time (E.S.T.) |
|----------------------|------------------------|--------------------------------------------|
| 6.02 DJC | Zeesen, Germany..... | 12.45 to 4.30 p.m. 9 p.m. to 11.30 p.m. |
| 9.51 GSB | Daventry, England..... | 6 p.m. to 8 p.m. |
| 9.56 DJA | Zeesen, Germany..... | 5.00 a.m. to 7.30 p.m. |
| 9.59 VK2ME | Sydney, Australia..... | 9 a.m. to 11 a.m. |
| 9.86 EAQ | Madrid, Spain..... | 5.30 p.m. to 7.30 p.m. |
| 11.76 DJD | Zeesen, Germany..... | 12.45 to 4.30 p.m. 9 p.m. to 11.30 p.m. |
| 11.81 12RO | Rome, Italy..... | 1.15 p.m. to 6 p.m. |
| 11.86 GSE | Daventry, England..... | 9.00 a.m. to 1.00 p.m. |
| 11.72 & 11.90 FYA | Pontoise, France..... | 3.00 p.m. to 6 p.m. |

On some days, if atmospheric conditions are bad it is difficult to get all foreign stations clearly—but a good percentage of the time you can listen to the dance bands of Paris, the orchestras of Berlin, or the tangos of Cuba without difficulty. There is just enough element of uncertainty to World Reception to add that same thrill you experience when fishing. To catch a fish at every cast would spoil the sport.

How to Get Verifications from Foreign Stations

All foreign stations will, upon request, send you a verification card or letter, if you write and inform them that you have heard one of their programs. You must be careful in requesting verification, to state the day, date and time you received the program. State, if possible, the name or the initials of the announcer and give a brief description of the program. For instance, we show a sample card made out to station EAQ, Madrid.

STAMPS

With this card you must send a self-addressed envelope—with return postage affixed. For return postage from any country in the British Empire you can buy at your post office an Empire return postage coupon for 5c.; for other foreign countries an International Return postage coupon costing 12½c.; and for U.S. short wave stations a stamp is not usually needed as they will acknowledge at their own expense.

As a start you are certain to be able to identify and send cards to such stations as Daventry, England; Zeesen, Germany; Pontoise, France. Just make out the address on the envelope in a similar manner to this: "Radio Broadcasting Station, EAQ Madrid, Spain."

Date _____

Please send me at your earliest convenience verification card
of your radio station EAQ

I heard Organ Music from Carmen
(music, speech, organ, call letters, etc.) a.m.
from your station at 4.30 p.m. Canadian E.S.T. or P.T.
M.T.
C.T.
A.T.

Name JOHN SMITH

Address 00 Bloor N.
Hamilton, Ont.,
Canada

SAMPLE

SHORT-WAVE STATIONS THAT REBROADCAST STANDARD PROGRAMS

Most of the network broadcasts of national interest are simultaneously broadcast on one of the powerful short-wave stations. This is helpful to listeners in localities where atmospheric conditions interfere with reception on the standard broadcast band. Below is a list of the "key" stations of the several standard broadcast networks, with the corresponding short-wave stations which rebroadcast their programs.

| UNITED STATES | | | UNITED STATES—Cont'd | | | CANADA | | | |
|------------------|---------------------------|--------------------------|----------------------|---------------------------|-----------------------------------|------------------|-------------------------|---------------------------|-------------------------|
| Standard Station | Short-Wave Relay Stations | | Standard Station | Short-Wave Relay Stations | | Standard Station | | Short-Wave Relay Stations | |
| Call Letters | Call Letters | Frequency (Mega-cycles) | Call Letters | Call Letters | Frequency (Mega-cycles) | Call Letters | Frequency (Kilo-cycles) | Call Letters | Frequency (Mega-cycles) |
| WLW | W8XAL | 6.06 | KDKA | W8XK | { 6.14 11.87 15.21 21.54 | CFCF | 600 | CFCX | 6.00 |
| | | | | | | CHNS | 930 | VE9HX | 6.11 |
| WJZ | W3XAL | { 6.10 17.78 | WBZ | W1XK W1XAL | { 9.57 11.79 | CFCN | 1030 | VE9CA | 6.03 |
| WGY | W2XAF W2XAD | { 9.53 15.33 | | | | CRCV | 1100 | VE9CS | 6.07 |
| WABC | W2XE | { 6.12 11.83 15.27 | WCAU | W3XAU | { 6.06 9.59 | CJGX | 1390 | CJRO CJRX | 6.15 11.72 |
| WENR | W9XF | 6.10 | | | | Canadian Network | CRCX | 6.09 | |
| WCFL | W9XAA | 6.08 | | | | | | | |



Selection of the Short-Wave Stations of the World operating between 84.67 and 13.92 metres

Station listings contained herein are as correct as it is possible to make them at the time of going to press. Due to changes in frequency, time and stations constantly being made, however, it cannot be considered infallibly correct.

| Metres | K.C. | Call | Station Location | Approximate Schedule (E.S.T.) |
|--------|------|--------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 84.67 | 3543 | CR7AA | Mozambique (E. Africa) | Mon., Thurs., Sat. 1.30-3.30 p.m. |
| 75.0 | 4000 | CT2AJ | Ponta Delgada (Azores) | Wed., Sat. 5.00-7.00 p.m. |
| 70.2 | 4273 | RV15 | Kharbarovsk (U.S.S.R.) | Daily 1.00-9.00 a.m. |
| 67.11 | 4470 | YDB | Sourabaya (Java) | Daily 10.30 p.m.-1.30 a.m. |
| 58.31 | 5145 | OKIMPT | Prague (Czechoslovakia) | Experimental. |
| 51.28 | 5850 | YV5RMO | Maracaibo (Venezuela) | Daily 5.00-9.00 p.m. |
| 50.42 | 5950 | HJ4ABE | Medellin (Colombia) | Daily 11.30 a.m.-1.30 p.m. |
| 50.26 | 5969 | HVJ | Vatican City | Sun., Tues., Thurs., 6.30-10.00 p.m., also Daily 2.00 p.m.-2.15 p.m. |
| 50.16 | 5980 | HIX | Santa Domingo (W. Indies) | Sunday 5.00 a.m. also. Daily 7.00 a.m. |
| 50.0 | 6000 | RW59 | Moscow (U.S.S.R.) | Sun. 7.00-8.00 a.m. |
| 49.96 | 6005 | CFCX | Marconi Montreal (Canada) | Daily 3.00-6.00 p.m. |
| 49.96 | 6005 | HJ3ABH | Bogota (Colombia) | Daily ex. Sun. 8.00 a.m.-1.00 a.m. |
| 49.92 | 6010 | COC | Havana (Cuba) | Sun. 9.00 a.m.-11.15 p.m. No schedule announced. Daily 4.00-6.00 p.m., 8.00-10.00 p.m., also Sun. 11.30 p.m.-1.30 a.m. |
| 49.85 | 6018 | ZHI | Singapore (Malaya) | Mon., Wed., Thurs. 6.00-8.30 p.m. |
| 49.83 | 6020 | DJC | Zeesen (Germany) | Sun. 10.30 p.m.-12.10 a.m. Daily 5.30-10.30 p.m. |
| 49.75 | 6030 | HP5B | Panama City (C. America) | Daily 12 noon-4.30 p.m. |
| 49.75 | 6030 | VE9CA | Calgary (Canada) | Daily 12 noon-1.00 p.m. 8.00 p.m.-10.30 p.m. |
| 49.67 | 6040 | WIXAL | Boston (U.S.A.) | Thurs. 9.00 a.m.-2.00 a.m. Sun. 12 noon-12 mid. Sun. 5.00-7.00 p.m. |
| 49.67 | 6040 | PRA8 | Pernambuco (Brazil) | Fri., Wed. 7.30-8.45 p.m. |
| 49.59 | 6050 | GSA | Daventry (England) | Daily 3.00-7.30 p.m. |
| 49.5 | 6060 | W8XAL | Cincinnati (U.S.A.) | Daily 7.00 a.m.-3.00 p.m. 11.00 p.m.-1.00 a.m. |

*For Hours of Empire Transmissions from Daventry, see page 11.

Short-Wave Stations of the World—Cont'd.

| Metres | K.C. | Call | Station Location | Approximate Schedule (E.S.T.) |
|--------|------|--------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 49.5 | 6060 | W3XAU | Philadelphia (U.S.A.) | Daily 8.00-11.00 p.m. |
| 49.5 | 6060 | OXY | Skamleback (Denmark) | Daily 1.00-7.00 p.m. Sun. 11.00 a.m. also. |
| 49.42 | 6070 | OER2 | Vienna Experimenta | Daily 9.00 a.m.-5.00 p.m. |
| 49.4 | 6072 | CT1AA | Lisbon (Portugal) | Tues., Thurs., Sat. 4.30-7.00 p.m. |
| 49.33 | 6080 | W9XAA | Chicago (U.S.A.) | Sun. 2.00-3.30 p.m. |
| 49.33 | 6080 | CP5 | LaPaz (Bolivia) | Daily 7.45-9.15 p.m. |
| 49.3 | 6085 | 2RO | Rome (Italy) | Mon., Wed., Fri. 6.00 p.m.-7.30 p.m. |
| 49.26 | 6090 | VE9BJ | St. John, N.B. (Canada) | Daily 7.00-8.30 p.m. |
| 49.26 | 6090 | VE9GW | Bowmanville (Canada) | Mon., Tues., Wed. 3.00 p.m.-12 mid. Thurs., Fri., Sat. 7.00 a.m.-12 mid. Sun. 1.00-9.00 p.m. |
| 49.2 | 6097 | ZTJ | Johannesburg (S. Africa) | Daily ex. Sun. 11.30 p.m.-12.30 a.m., 3.30-7.00 a.m., 9.00 a.m.-3.00 p.m. Sat. to 4.45 p.m., Sun. 8.00-10.15 a.m., 12.30-3.00 p.m. |
| 49.18 | 6100 | W3XAL | Bound Brook (U.S.A.) | Mon., Wed., Sat. 5.00-6.00 p.m. also Sat. 12.-mid.-1.00 a.m. |
| 49.18 | 6100 | W9XF | Chicago (U.S.A.) | Daily ex. Mon., Wed., Sun. 4.00 p.m.-2.00 a.m. |
| 49.1 | 6110 | VUC | Calcutta (India) | Daily 2.06-3.06 a.m. Irregular 8.06-11.36 a.m. Sat. from 7.36 a.m. Sun. 11.36 p.m.-2.36 a.m. Irregular 7.36 a.m.-10.36 p.m. |
| 49.1 | 6110 | GSL | Daventry (England) | Daily ex. Sun. 10.30 a.m.-12.30 p.m. |
| 49.08 | 6112 | YV2RC | Caracas (Venezuela) | and 4.00 p.m.-10.00 p.m. |
| 49.02 | 6120 | VQ7LO | Nairobi (Kenya Colony) | Sun. 9.30-10.30 a.m. Daily 11.00 a.m.-2.00 p.m. Sat. to 3.00 p.m. Mon., Wed., Fri. 5.45-6.15 a.m. also Tues. 3.00-4.00 a.m. Thurs. 8.00-9.00 a.m. Sun. 12.45-2.00 p.m. |
| 49.02 | 6120 | YDA | Bandoeng (Java) | Daily 5.30-10.00 a.m. |
| 49.02 | 6120 | W2XE | Wayne (U.S.A.) | Daily 6.00-11.00 p.m. |
| 48.92 | 6132 | ZGE | Kuala Lumpur (Malaya) | Sun., Tues., Fri. 6.40-8.40 a.m. |
| 48.86 | 6140 | W8XK | Pittsburg (U.S.A.) | Daily 4.30 p.m.-1.00 a.m. |
| 48.78 | 6150 | CSL | Lisbon (Portugal) | Daily 6.00-7.30 a.m., 1.00-5.00 p.m. |
| 48.78 | 6150 | YV3RC | Caracas (Venezuela) | Daily 3.30-8.30 p.m. |
| 48.78 | 6150 | CJRO | Winnipeg (Canada) | Daily 7.00 p.m.-12 mid. Sat. 4.00 p.m.-1.00 a.m. also Sun. 5.00-10.30 p.m. |
| 48.4 | 6198 | CTIGO | Parede (Portugal) | Daily ex. Tues. 7.20-8.30 p.m. |
| 47.50 | 6316 | HIZ | Santo Domingo (W. Indies) | Sun. 11.30 a.m.-1.00 p.m. Daily 4.40-5.40 p.m. |
| 47.05 | 6375 | YV4RC | Caracas (Venezuela) | Sun. 11.00 a.m.-12.30 p.m. |
| 46.69 | 6425 | W3XL | Bound Brook (U.S.A.) | Daily 4.30 p.m.-10.30 p.m. |
| 46.52 | 6447 | HJ1ABB | Barranquilla (Colombia) | Experimental. 7.00-10.00 p.m. |
| 46.21 | 6490 | HJ5ABD | Cali (Colombia) | Daily 4.30 p.m.-10.30 p.m. |
| 46.0 | 6520 | YV6RV | Valencia (Venezuela) | Daily 12 noon-1.00 p.m., 6.00-10.00 p.m. |
| 45.31 | 6620 | PRADO | Riobamba (Ecuador) | Fri. 9.00-10.40 p.m. |
| 45.0 | 6667 | HC2RL | Guayaquil (Ecuador) | Sun. 5.45 p.m.-7.45 a.m. Wed. 9.15 p.m.-11.15 p.m. |
| 42.02 | 7140 | AJ4ABB | Manizales (Colombia) | No schedule announced. |
| 41.8 | 7177 | CR6AA | Lobito (Angolia) | Wed., Sat. 2.30-4.30 p.m. |
| 38.48 | 7797 | HBP | Radio Nations, Prangins (Switzerland) | Sat. 5.30-6.15 p.m. |
| 37.33 | 8035 | CNR | Rabat (Morocco) | Sun. 3.00-5.30 p.m. |
| 36.5 | 8214 | HCJB | Quito (Ecuador) | Daily ex. Sun., Mon. 7.45-11.45 p.m. Sun. 4.45-11.15 p.m. |
| 32.88 | 9134 | HAT4 | Budapest (Hungary) | Sat. 6.00-7.00 p.m. |
| 31.8 | 9428 | COH | Havana (Cuba) | Daily 11.00 a.m.-12 noon, 5.00-6.00 p.m., 8.00-9.00 p.m. |
| 31.58 | 9500 | PRFS | Rio de Janeiro (Brazil) | Daily 5.30 p.m.-6.15 p.m. |
| 31.55 | 9510 | GSB | Daventry (England) | Wed. 5.00-6.30 a.m. |
| 31.54 | 9518 | VK3ME | Melbourne (Australia) | Sat. 5.00-7.00 a.m. |
| 31.48 | 9530 | LKJI | Jeløy (Norway) | Daily 5.00 a.m.-8.00 a.m. |

*For Hours of Empire Transmissions from Daventry, see page 11

Short-Wave Stations of the World—Cont'd.

| Metres | K.C. | Call | Station Location | Approximate Schedule (E.S.T.) |
|--------|-------|-------|---------------------------------------|-------------------------------------------------------------------------------------------------|
| 31.48 | 9530 | W2XAF | Schenectady (U.S.A.) | Daily 6.30-11.00 p.m. Sat. 2.00 p.m.-5.00 p.m. also. |
| 31.45 | 9540 | DJN | Zeesen (Germany) | Daily 3.45-7.15 a.m., 8.00-11.30 a.m., 5.15-10.30 p.m. |
| 31.38 | 9560 | DJA | Zeesen (Germany) | Daily 8.00-11.30 a.m., 5.15-9.00 p.m. |
| 31.36 | 9565 | VUB | Bombay (India) | Sun. 8.30-10.30 a.m. Wed., Thurs., Sat. 11.30 a.m.-12.30 p.m. Monday irregular. |
| 31.35 | 9570 | WIXK | Springfield (U.S.A.) | Daily 7.00 a.m.-1.00 a.m. |
| 31.32 | 9580 | GSC | Daventry (England) | Daily ex. Sun. 3.15 a.m.-7.30 a.m. |
| 31.32 | 9580 | VK3LR | Lindhurst (Australia) | Daily 12 noon-7.00 p.m. |
| 31.28 | 9590 | W3XAU | Philadelphia (U.S.A.) | Sun. 1.00-3.00 a.m., 5.00-9.00 a.m., 9.30-11.30 a.m. |
| 31.28 | 9590 | VK2ME | Sydney (Australia) | Sun. 5.30-6.15 p.m. No schedule announced. |
| 31.27 | 9595 | HLB | Radio Nations, Prangins (Switzerland) | Tues., Thurs., Sat. 7.45-9.15 p.m. |
| 31.25 | 9598 | CTIAA | Lisbon (Portugal) | Thurs. 4.00-6.00 p.m. |
| 31.13 | 9637 | 2RO | Rome (Italy) | Sun. 7.00-9.00 a.m. |
| 31.0 | 9677 | CTICT | Lisbon (Portugal) | Daily 5.15-7.30 p.m. |
| 30.43 | 9860 | EAQ | Madrid (Spain) | Sat. 1.00-3.00 p.m. also. |
| 29.04 | 10330 | ORK | Ruyssedele (Belgium) | Daily 1.30-3.30 p.m. |
| 25.6 | 11720 | FYA | Paris, Radio Coloniale (France) | Daily 7.00-10.00 p.m., 11.00 p.m.-1.00 a.m. |
| 25.6 | 11720 | CJRX | Winnipeg (Canada) | Daily 7.00 p.m.-12 mid. Sat. 4.00 p.m.-1.00 a.m. also. |
| 25.57 | 11730 | PHI | Eindhoven (Holland) | Sun. 5.00-10.30 p.m. also. Daily ex. Tues., Wed. 8.00-10.30 a.m. Sun., Sat. to 11.30 a.m. |
| 25.53 | 11750 | GSD | Daventry (England) | Daily 12 noon-4.30 p.m. |
| 25.49 | 11770 | DJD | Zeesen (Germany) | Daily 6.00 p.m.-7.30 p.m. |
| 25.45 | 11790 | WIXAL | Boston (U.S.A.) | Mon., Wed., Fri. 6.00 p.m. |
| 25.42 | 11801 | 2RO | Rome (Italy) | Daily 3.00-5.00 p.m. |
| 25.36 | 11830 | W2XE | Wayne (U.S.A.) | Daily 4.30-10.00 p.m. |
| 25.29 | 11860 | GSE | Daventry (England) | Daily 11.15 a.m.-2.15 p.m., 3.00-6.00 p.m. |
| 25.27 | 11870 | W8XK | Pittsburg (U.S.A.) | Sun. 10.00-11.00 p.m., 6.00-7.00 a.m., 10.00-11.00 a.m. |
| 25.23 | 11880 | FYA | Paris, Radio Coloniale (France) | Sun. 9.00-11.00 a.m., 3.00-4.00 p.m. |
| 25.0 | 12000 | RW59 | Moscow (U.S.S.R.) | Sun. 10.00-11.30 a.m., 1.00-2.15 p.m. |
| 25.83 | 12082 | CTICT | Lisbon (Portugal) | Sun. 10.00-11.30 a.m. |
| 24.2 | 12396 | CTIGO | Parede (Portugal) | Tues., Thurs., Fri. 1.00-2.15 p.m. |
| 23.39 | 12830 | CNR | Rabat (Morocco) | Sun. 7.30 a.m.-9.00 a.m. |
| 22.94 | 13075 | VPD | Suva (Fiji) | Daily ex. Sun. 12.30-10.00 p.m. |
| 19.84 | 15123 | HVJ | Vatican City | Daily 5.00 a.m., 10.30-10.45 a.m. |
| 19.82 | 15140 | GSF | Daventry (England) | Daily 3.45-7.15 a.m. |
| 19.74 | 15200 | DJB | Zeesen (Germany) | Daily 8.00 a.m.-4.15 p.m. |
| 19.72 | 15210 | W8XK | Pittsburg (U.S.A.) | Experimental. |
| 19.71 | 15220 | PCJ | Eindhoven (Holland) | Daily 7.00-11.00 a.m. |
| 19.68 | 15243 | FYA | Paris, Radio Coloniale (France) | Daily 10.50 a.m.-1.30 p.m. |
| 19.67 | 15250 | WIXAL | Boston (U.S.A.) | Daily 11.00 a.m.-1.00 p.m. |
| 19.66 | 15260 | GSI | Daventry (England) | Daily 11.30 p.m.-1.00 a.m. |
| 19.64 | 15270 | W2XE | Wayne (U.S.A.) | No schedule announced. |
| 19.63 | 15280 | DJQ | Zeesen (Germany) | Daily 2.30-3.30 p.m. |
| 19.6 | 15300 | CP7 | La Paz (Bolivia) | Sun. 8.00-9.00 a.m. |
| 19.56 | 15330 | W2XAD | Schenectady (U.S.A.) | Daily 11.00 a.m.-5.00 p.m. |
| 19.52 | 15370 | HAS3 | Budapest (Hungary) | Daily 8.00-11.30 a.m. |
| 17.33 | 17310 | W3XL | Bound Brook (U.S.A.) | Daily ex. Tu., Wed. 8.30 a.m.-10.30 a.m. |
| 16.89 | 17760 | DJE | Zeesen (Germany) | Sun. 10.30-11.10 a.m. |
| 16.88 | 17770 | PHI | Huizen (Holland) | Sat. 10.30-11.30 a.m. also. |
| 16.87 | 17780 | W3XAL | Bound Brook (U.S.A.) | Daily ex. Sun. 9.00-10.00 a.m. |
| 16.86 | 17790 | GSC | Daventry (England) | Tues., Thurs., Fri. 3.00-4.00 p.m. also. |
| 13.97 | 21470 | GSH | Daventry (England) | Daily 7.00-9.00 a.m. |
| 13.93 | 21530 | GSJ | Daventry (England) | |
| 13.92 | 21549 | W8XK | Pittsburg (U.S.A.) | |

*For Hours of Empire Transmissions from Daventry, see page 11.

SCHEDULE EMPIRE TRANSMISSIONS FROM DAVENTRY

(All times shown are Eastern Standard Time and subject to change)

| Transmission | Call | SUNDAY | | MONDAY | | TUESDAY | | WEDNESDAY | | THURSDAY | | FRIDAY | | SATURDAY | |
|--------------|------------------------------------------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|
| | | From | To | From | To | From | To | From | To | From | To | From | To | From | To |
| No. 1 | GSO-GSB GSD-GSG | Mid'n't 2.15am | 9.00am | Mid'n't 2.15am | 9.00am | Mid'n't 2.15am | 9.00am | Mid'n't 2.15am | 9.00am | Mid'n't 2.15am | 9.00am | Mid'n't 2.15am | 9.00am | Mid'n't 2.15am | 9.00pm |
| No. 2 | GSH-GSG GSJ-GSO | 5.45am | 9.00am | 5.45am | 9.00am | 5.45am | 9.00am | 5.45am | 9.00am | 5.45am | 9.00am | 5.45am | 9.00am | 5.45am | 9.00pm |
| No. 3 | GSH-GSF GSJ-GSG | 9.15am | 12 Noon | 9.15am | 12 Noon | 9.15am | 12 Noon | 9.15am | 12 Noon | 9.15am | 12 Noon | 9.15am | 12 Noon | 9.15am | 12 Noon |
| No. 4 | GSG GSI-GSD-GSB GSB GSF-GSG-GSO | 12.20pm | 3.45pm | 12.20pm | 3.45pm | 12.20pm | 3.45pm | 12.20pm | 3.45pm | 12.20pm | 3.45pm | 12.20pm | 3.45pm | 12.20pm | 3.45pm |
| No. 5 | GSD-GSF GSP-GSO | 4.00pm | 6.00pm | 4.00pm | 6.00pm | 4.00pm | 6.00pm | 4.00pm | 6.00pm | 4.00pm | 6.00pm | 4.00pm | 6.00pm | 4.00pm | 6.00pm |
| No. 6 | GSB-GSC GSI-GSD | 6.20pm | 8.30pm | 6.20pm | 8.30pm | 6.20pm | 8.30pm | 6.20am | 8.30pm | 6.20am | 8.30pm | 6.20am | 8.30pm | 6.20am | 8.30pm |
| | | 9.00pm | 11.00pm | 9.00pm | 11.00pm | 9.00pm | 11.00pm | 9.00pm | 11.00pm | 9.00pm | 11.00pm | 9.00pm | 11.00pm | 9.00pm | 11.00pm |

Empire Station Wavelengths:

GSB 31.55 M. GSD 25.53 M. GSI 19.66 M. GSO 19.76 M.
GSC 31.32 M. GSF 19.82 M. GSH 13.97 M. GSJ 13.93 M. GSP 19.6 M.

Broadcast Stations of the U.S.A.—Cont'd.

Broadcast Stations of the U.S.A.—Cont'd.

Table listing broadcast stations for the left page. Columns include Call, K.C., Power Watts, Location, State, Call, C.K., Power Watts, Location, and State. Stations listed include KGFF, KGFG, KGFI, KGFJ, KGFK, KGFL, KGFW, KGFH, KGFX, KGGC, KGGF, KGGM, KGHF, KGIH, KGHL, KGIR, KGIW, KGKB, KGKL, KGKO, KGKY, KGLO, KGLB, KENC, KGNF, KGNO, KGO, KGU, KGV, KGY, KHBC, KHJ, KHQ, KHSL, KHUB, KICA, KID, KIDO, KIDW, KIEM, KIEV, KINY, KIRO, KIT, KIUJ, KIUL, KIUN, KIUP, KJBS, KJR, KLAH, KLCN, KLO, KLPM, KLRA, KLS, KLUF, KLX, KLZ, KMA, KMAC, KMBC, KMED, KMJ, KMLB, KMMJ, KMO, KMOX, KMPC, KMTR, KNEL, KNET, KNOW, KNX, KOA, KOAC, KOB, KOBH, KOCA, KOH, KOIL, KOIN, KOL, KOMA, KOMO, KONO, KOOS, KORE, KOTN, KOVC, KOY, KPAC, KPDN, KPLC, KPLT, KPO, KPOF, KPFC, KPQ, KPRC, KQV.

Table listing broadcast stations for the right page. Columns include Call, K.C., Power Watts, Location, State, Call, K.C., Power Watts, Location, and State. Stations listed include WAZL, WBAL, WBAP, WBAX, WBBA, WBBB, WBBE, WBBL, WBBM, WBBR, WBBZ, WBCM, WBN, WBE, WBEQ, WBF, WBL, WBLN, WBN, WBNX, WBNY, WBOQ, WBOY, WBR, WBRB, WBRM, WBT, WBTM, WBZ, WBA, WCAE, WCA, WCAP, WCA, WCAU, WCA, WCAZ, WCB, WCBM, WCB, WCCO, WCF, WCHS, WCHY, WCKY, WCL, WCLM, WCM, WCNW, WCO, WCOB, WCOP, WCP, WCRW, WCS, WCHS, WDAE, WDAF, WDAH, WDA, WDAY, WDBJ, WDB, WDEL, WDE, WDEY, WDN, WDD, WDR, WDSU, WDW, WDW, WEA, WEAF, WEAN, WEBC, WEB, WEBR, WEDC, WEE, WEEI, WEEU, WEG, WEHS, WEL, WELL, WEMP, WENR, WEOA, WESG, WEST, WEV, WEW, WEXL, WEXP, WFAA, WFAB, WFAM, WFAS, WFBC, WFBG, WFBL, WFBS, WFBR, WFDE, WFIL, WFLA, WFO, WFOY, WGAL, WGAN, WGR, WGG, WGB, WGB, WGC, WGES, WGH, WGL, WGN, WGN, WGPC, WGR, WGR, WGT, WGY, WHA, WHAM, WHAS, WHAT, WHAZ, WHB, WHBB, WHBC, WHBF, WHBI, WHBL, WHBQ, WHBU, WHBY, WHDF, WHDH, WHDL, WHB, WHEC, WHEF, WHFC, WHIO, WHIS, WHJB, WHK, WHKC, WHLB, WHN, WHO, WHOM, WHP, WIBA, WIBG, WIBM, WIBU, WIBW, WIB, WIC, WIL, WILL, WILM, WIND, WINS, WIOD, WIP, WIRE, WIS, WISN, WJAC, WJAG, WJAS, WJAX, WJAY, WJBC, WJCK, WJBL, WJBO, WJBR, WJBW, WJBY, WJDX, WJED, WJEM, WJIM, WJJD, WJMS, WJNO, WJNR, WJRD, WJSV, WJW, WJZ, WKAG, WKAR.

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