

The Tribune Radio News of the Airwaves By Jack Binns

Ethereal Music Will Beguile Sea Voyagers

French Liners Paris and La France To Be Equipped With Loud Speaker Sets in Their Grand Salons

Radio for Kiddies, Too

Paris. With Extra Powerful Equipment, Can Talk to Land 1,500 Miles Away

When the steamship Paris of the French Line sails out of Havre two weeks hence she will be equipped with the most novel apparatus in the history of trans-Atlantic navigation. In the grand salon of the magnificent ship will be installed special loud-speaking telephones, which will be capable of filling the vast hall with music picked out of the ether from the gigantic Eiffel Tower wireless station in Paris and the many radiophone broadcasting stations near the Atlantic coast in this country. In addition to this similar apparatus will be placed in the "Guignol" or Punch and Judy show, so that bedtime stories can be repeated for the entertainment of the tiny tots who happen to be passengers aboard the liner.

The installation arises out of the experiments carried out three months ago by the French Radio Telegraph Company, when high-powered radio telephone transmitting apparatus was placed aboard the Paris and La France. Since that time a series of interesting and important tests have been carried on quietly and successfully, and as a result the receiving equipment for entertainment is to be installed.

The radio equipment on board the steamship Paris is the most powerful of any commercial liner in the world. It consists of a five-kilowatt continuous wave transmitting set, which also is used for radio telephone purposes.

Range of 2,000 Miles

When used for telegraphic purposes in ordinary routine of communication this powerful set has a daylight range of 2,000 miles, and consequently the steamship is in touch with shore at all times during her voyage across the ocean, and for the major part of her trip she is in direct touch with both sides of the Atlantic.

As a radiophone transmitter this set is capable of throwing the human voice broadcast over a radius of 700 miles during daylight, and, of course, over much greater distances during night time, according to the existing conditions. In the tests conducted with the Eiffel Tower station in Paris telephonic communication has been carried on over a distance of 1,500 miles with the apparatus on wave lengths of 1,500 meters.

Many of the radio fans along the Atlantic seaboard will remember the occasion about three months ago when Miss Calve, the prima donna, was aboard as a passenger en route to this country. She gave a special concert on the Sunday afternoon just before the ship arrived in New York harbor.

Concerts Broadcast

The concert was held in the grand salon for the benefit of the sailors' institutions, but her silver tones were picked up by special microphones and transferred on to the radiophone transmitting apparatus in the wireless room broadcast across the stretches of the western Atlantic. At that time the steamship was operating on a 900-meter wave length, and the concert was clearly heard at a large number of seaboard cities.

It was so successful that the French Line, after consultation with the French radio company, has decided to place the necessary receiving equipment so that the passengers can listen to the best music in the world while they are traveling across the Atlantic. In addition to this, arrangements will be made in the near future to equip both the Paris and La France with permanent microphones of special character, so that concerts which are famous and happen to be passengers can be broadcast for the benefit of all who may be within range of the two liners. Special efforts will be made to install the necessary apparatus to reproduce these concerts on wave lengths that can be reached by the majority of receiving equipment now in use in this country.

Passengers Can Talk to Shore

Such is the outline of the plans for the immediate future, so far as these two ships are concerned. There is no doubt that other lines will quickly follow, and it is probable that similar arrangements for important international personages to address in person the vast unseen radio audience with important announcements before they actually reach their landing.

The radiophone wireless equipment on the Paris at the present time in addition to the five kilowatt continuous wave set, includes the standard two kilowatt quenched spark gap set for communication with other ships, and for communication with land-powered shore stations when near the coastline.

The receiving equipment is of the latest type, and so arranged that the operators can listen in on any wave length now in use. The standard receiver consists of four stages of radio-frequency amplification, detector and two stages of audio-frequency amplification in conjunction with the necessary tuning apparatus. There is also the standard form of direction finding apparatus used when the ship is near shore.

Radio! the New Terror to Bandits



The picture shows a couple of police officers in a motorcycle and side car equipped with the new rapid-fire auto bandit machine gun invented by General Thompson. The car is also equipped with a radiophone loop receiver so that the officers can get latest information from Police Headquarters.

National Society Is All but Five States Being Founded by Have Broadcasting Stations at Work The Independents

Radio Broadcasting Society of America Composed of Independent Operators to Oppose Air Monopoly

Owners of the so-called independent broadcasting radiophone stations throughout the country have been busily engaged during the past few weeks organizing the Radio Broadcasting Society of America. According to one of the organizers, more than two-thirds of the owners of such stations are now members of the society.

The following declaration of principles is put forward as the purpose of the new society:

"1. We believe that radio broadcasting is intended to serve the purpose of diffusing happiness, truth, knowledge and good, and in aiming to preserve the uses of radio to this end we invite the affiliation and co-operation of all organizations and persons having this object in view.

"2. We believe that radio communication should at all times be under the regulation of our government and forever so safeguarded by law that it will never fall under the control of any selfish group or monopoly.

"3. We believe that the privilege of 'listening in' should be available to the public and to the American boy at all times without charge, and we call to our standard all amateur and other radio organizations who oppose the proposed system of rental and the monopoly of the sources of supply necessary in constructing radio apparatus.

"4. We believe that all radio patented devices, instruments and improvements should be freely placed upon the market, with due regard for the protection of the inventor, but without operating or receiving restrictions, and to this end we invite into our society all radio engineers, manufacturers, distributors and dealers interested in maintaining an open market and increasing the efficiency of radio transmission and reception.

"5. We believe that broadcasting offers one of the most effective means for encouraging musical genius and for the vocal arts, and for this reason we ask the enlistment of all those engaged in the musical and educational professions, as well as those interested in the development of music and song, to join the society.

"6. We believe that broadcasting stations must assume the same public responsibility and duty in safeguarding the interests of the American people and in maintaining independence of thought and expressions as now devolves upon the American press—that it must remain untrammelled by selfish influences and monopolistic control, and in order that this ideal may be successfully carried out in the field of broadcasting we invite the support and co-operation of all newspapers of America.

"7. We believe that the best interests of radio communication are served by the establishment of numerous local limited-power stations, classified according to service, operating on definite wave lengths, geographically placed at distances far enough apart to minimize interference, and this society pledges itself to assist and encourage the establishment of such stations throughout the country."

Angoran Station Opened

Radio communication is fast being established in the remote parts of the world. A new radio telegraph station has just been completed at Kaisariye, Anatolia, and was officially opened last month, when the Angora government sent a message direct to the Bolshevik station at Moscow. Another station is being constructed in the same country at Marash for the purpose of communicating with other European capitals.

Radio Brings Employment

Hundreds of unemployed have found profitable work since radio began to boom, according to the Federated American Engineering Society. Since January 1 the society has placed in employment more than nine hundred engineers, and continues to place about twenty a day.

Veterans Bureau Broadcasts

News of Jobs for Unemployed

Through the navy broadcasting station at Anacostia (NOF) the Veterans' Bureau of Employment is broadcasting to veteran radio fans opportunities for employment. It is also broadcasting for the benefit of prospective employers of "vets" skilled in various trades and professions who are in search of employment.

California Has Most Stations

California leads all other states in broadcasting. Ohio holds second place and Pennsylvania and New York are about tied for third, according to a bulletin on the geography of radio broadcasting issued by the National Geographic Society, Washington.

Legion Broadcast Station

The first American Legion broadcasting station has been licensed to operate. It is owned by the National Department of the Legion and the call letters WGAT have been assigned to it.

Boy Scouts Operating Large Receiver



The picture shows William Hodson, Troop 108, of Brooklyn, tuning in on a three-coil duo lateral regenerative set with loud speaker attachment.

British Radio Held Up by Squabbling

Manufacturers Unable to Agree Upon Mutual Policy for Erection and Operation of Broadcast Stations

Receiving Sets Licensed

Government Waits Decision of Radio Companies to Form Development Policy

By Warre B. Wells
From The Tribune's London Bureau

LONDON, June 20.—England's entrance into the radio era is postponed indefinitely, due to the failure of the firms manufacturing receiving sets to agree upon the broadcasting scheme. The British radio amateur, in increasing numbers, is all set to listen in, but for the time being is precious little for him to listen in on. The British government, having recanted its earlier policy of indifference, now is eager to give every possible assistance to the nationwide development of radio. But everything is deadlocked by the inability of the companies interested to come to terms among themselves.

Postmaster General Kellaway explained the position Friday in introducing in the House of Commons the wireless telegraphy and signaling bill. He laid stress on the need for some sort of control of wireless telegraphy and telephony, but he was quick to assure the House that there was no intention of hampering inventive genius. The bill, he pointed out, did not propose in any way to withdraw from the public the advantages of wireless telephony. On the contrary, the effect would be, by insuring its proper use, to assist its development. The bill, he added, left full scope to inventive genius by allowing the erection of experimental stations in proper hands.

Ten Thousand Stations

At present some 9,500 receiving licenses had been issued and 400 licenses for transmitting and receiving sets had been issued. Permission was readily given for receiving stations, and he looked forward to a very rapid increase in the number of applications for receiving licenses. The great difficulty in the way of transmission, and it was the unregulated use of licenses for transmission that had led to the chaos in the United States government, was making very drastic proposals, he said.

While this was the attitude of the government, the Postmaster General regretted to say that the conditions under which broadcasting would be permitted had not yet been decided. It was never contemplated that it should be done by the postoffice itself; its part was that of securing the freest possible play for the ingenuity and initiative of all concerned. He added that two or three months ago, when the question became one of real practical importance, he called together all the firms who had shown themselves interested in the matter, and asked them to come to an agreement under which they thought the practice of this new science should operate. So far, he said, he had not received any proposal, but he hoped agreement would be reached.

Firms Unable to Agree

In radio circles here, however, the Postmaster General's faint optimism as to the prospects of agreement is not generally shared. Two or three meetings already have been held of representatives of the twenty-three firms who met him a month ago and were asked by him to formulate a scheme. So far, it is understood here, they have been unable to agree even upon the fundamental principles of broadcasting. The question was debated as to type or types of instrument for receiving to be manufactured or sold in the United Kingdom, but on this the representatives present could come to no effective decision.

The position at the moment seems to be one of complete stagnation. Apparently nothing will be done until the interests of the twenty-three firms there seems little prospect of that within the next few weeks at all. The chief, if not the only, difficulty, it appears, is the financial one. The firms manufacturing the apparatus are not so much interested in recouping themselves for the capital outlay upon the broadcasting plant and the expense of maintenance.

Questions of precedence among the various concerns might be got over by the official permission for more than the eight transmitting stations at present allowed. An authority has stated that twenty or more stations would not be impossible, but that difficulty does not seem seriously arisen. The Postmaster General's position is that he cannot move until the broadcasting concerns make their recommendations, but it is his decision that there must be no manufacturing monopoly.

Hard Tubes Must Be Used

Question—1. Can I use UV-201 and UV-201 vacuum tubes in the Armstrong regenerative circuit with grid leak and grid condenser?—A. H.

Answer—You cannot, under any circumstances, use the UV-201, because of its high capacity for extra apparatus and careful adjustment, it is not worth the trouble necessary to use such good results when you can get the same results with what you do not employ more than 60

First Aid for the Radio Fan

Notes on Super-Regenerative Sets; Winding Non-Inductive Resistance; How the Grounded Loop Operates

Material for Armstrong Set

Question—1. I find difficulty in procuring some of the material for use in connection with the Armstrong super-regenerative circuit. Will you please direct me to what type of commercial products are available for the following: (1) Whether they can be readily assembled at home. If it is possible to make them, will you give me the necessary instructions? (2) Whether it is possible to make them at home. If it is possible to make them, will you give me the necessary instructions? (3) Whether it is possible to make them at home. If it is possible to make them, will you give me the necessary instructions?

Leakage in "B" Batteries

Question—1. Is there any drain on the "B" battery when the Clamper tubes are not lighted? In other words, is it necessary to break the high voltage circuit by series switch when the set is not in use? 2. What is meant by the statement that "resonance coils are not as necessary as a variable capacitor set for 20-meter work"? Does this refer to signals available at distance covered or sharpness of tuning?—A. K.

Answer—1. There should not be any current flow in the "B" battery when the filaments of the tubes are not lighted, but you will find that the inclusion of a series switch when the set is not in use will be of great assistance in a lot of ways, and will cut down any possible leakage that might otherwise occur. 2. The statement that resonance coils are not as necessary as a variable capacitor set for 20-meter work refers particularly to sharpness of tuning and general handling of the set. This is due to the fact that the inductances in the resonance coils are not at all adjustable, and in order to vary the oscillating circuits it is necessary to do so by means of variable condensers, and when we get down to short waves it means that we must have a minimum amount of capacity needed to get down into resonance with the short wave and consequently the capacity coupling is at its lowest value. For this reason they are not as efficient as the variable capacitor set on short waves.

Stations Heard

Question—Will you kindly print in your Sunday Radio what stations BY4 and B04 are?—A. H.

Answer—Station BY4 is that of J. E. Hodge, 911 Abercorn, Savannah, Ga. Station B04 is that of E. Mau, 51 Elizabeth Street, Atlanta, Ga. I am giving you these stations because I imagine you may have had a slight mistake in reading the call letters, as there are no stations BY4 and B04. The only stations listed with the combination of these three letters are those that I have given above.

Eliminating Static

Question—We have a 2000 radio set. We have heard from Pittsburgh, Philadelphia, New York, Newark, and other cities. We can always get it. The other night we had a very bad static. Can you tell us whether there are any new inventions that we can use to get rid of static? We are using a 2000 radio set. We are using a 2000 radio set. We are using a 2000 radio set.

Answer—I think that what you have mistaken for static is really regeneration, caused by not having the correct adjustment on the Vernier handle. This handle must be adjusted very carefully, and very, very slowly. If you hear a hissing sound and then begin to vary the Vernier handle you will find that it will go either up or down the scale. If it starts from a very high pitch and goes down to a very low one, you will get it to the point where it stops altogether, and if you carry it a little further you will find that it starts in at a very low pitch and then ascends to the high pitch and then descends to the low pitch. It is just between the two low pitches or the two low notes. It is at that point that the music will be at its best.

When you reach the position you intend to reduce the amount of current flowing through the filaments of your vacuum tubes by adjusting the rheostat handles until the music is absolutely clear and free from any static, you will find that the static will be eliminated. You can, however, eliminate a lot of the unnecessary noise in the receiver by using the following stations that you ask information about are the following: 2XJ, Western Electric Company, Deal Beach, N. J.; 2XZ is not listed; 2Y, Wallace Brook, Schenectady, N. Y.; 2XU, Western Electric Company, New York City; 2XY is not listed and WJL is not contained in any of the lists we have in this office.

Continental Code Used

Question—1. Should a triangular aerial lead be used in a continuous wire or should the ends be separated and the lead-in taken from one end? 2. What kind and what size coils will I need to be able to tune 600 and 12,000 meters, with a crystal detector? 3. What code is used in commercial, Western and amateur communication?—P. W. S.

Answer—1. If you use a triangular aerial 75 feet long the lead-in should be taken from one end and the other end left free. 2. The wire should be No. 14 bare copper. 3. Since you desire such a long range in wave lengths I would suggest that you use honey-comb coils for the primary and secondary in your set. In this case you will need for the 600-meter primary a 75-turn coil of No. 14 wire and for the 12,000 meters you will need 1,250 turns in the primary and 750 in the secondary. In both cases you will need a variable condenser of .001 mfd. capacity for use with the coils. 4. Continental code is used in all wireless telegraph work.

Using Light Circuit for V. T.'s

Question—Can I use 110-volt D. C. cut down by means of a rheostat connected in series with the filament of a vacuum tube and supply the plate current?—E. A. H.

Answer—This, of course, can be done, but from a practical point of view it is absolutely unsatisfactory, due to the fact that the commutator ripple of the direct current generator will be reproduced and multiplied by the vacuum tubes in your telephone circuit. This disagreeable rattle, which spoils the music and speech, cannot be entirely eliminated, although it can be considerably reduced by means of appropriate filter circuits. As this entails an awkward and expensive apparatus, it is not worth the trouble when you can get the same results with what you do not employ more than 60

High-Frequency Amplification Is Discussed

Advantages Radio Frequency Amplification Pointed Out and Its Drawbacks Are Considered in Detail

Capacity in Vacuum Tube

Important Factor on Short-Wave Work Because of Extra High Frequencies

Within the last two months the subject of radio-frequency amplification has been considered by an ever-growing number of radio fans. This increased interest has been caused by the new types of apparatus that have been placed on the market and the somewhat vague discussions of the principle involved. Under the circumstances, therefore, I propose this week to outline what the advantages of radio-frequency amplification are, and what are the drawbacks to its application.

In the first place, as is well known by this time, there are two types of amplification. First, radio amplification; and second, audio amplification. The first consists of amplifying very high frequency oscillating electrical currents, which act as carrier waves in radio communication. The second applies to the voice currents that are carried along upon oscillating currents.

For all practical purposes no more than two stages of audio-frequency amplification can be successfully used, because of the fact that this type of amplification, dealing with audible sounds, amplifies all of the inherent noises existing in the apparatus itself, and when more than two stages are attempted, these extraneous noises become objectionable and seriously interfere with the quality of the reproduced speech and music.

Will Build Up Signals

The advantages of radio-frequency amplification are the following: With this system it is possible, by the use of multi-stage amplifiers, to build up high-frequency oscillating currents, no matter how weak they may be before these currents are passed through the detector tube for rectification. The detector tube itself cannot operate on electrical oscillations that are below a certain value in strength. Under the circumstances, therefore, it is quite possible to receive over vast distances by means of radio-frequency amplification, through the simple expedient of building up weak currents received by the aerial until they are strong enough to be passed through the detector.

There are several drawbacks to this system when we deal with short-wave reception. These drawbacks do not affect long-wave radio, and it is for that reason that we know just what the advantages of radio-frequency amplification really are. When we come to short waves, however, an entirely different situation exists. This is due to the fact that on short waves the oscillating currents alternate with terrific frequencies, ranging anywhere from 800,000 cycles a second upward. At this frequency capacity effect becomes very pronounced, and is one of the main causes of trouble in applying amplification on short waves.

Vacuum Tube Acts as Condenser

Take, for instance, the vacuum tube. The wires connecting the grid and plate elements in the tube itself are insulated from each other through the glass holder at the bottom of the tube. Glass is a material that has very high dielectric constant, and consequently there is a very definite amount of capacity in the vacuum tube itself, which varies considerably in different vacuum tubes, despite the fact that they are all manufactured on a quantity production basis.

From this, it will be readily seen that even where we get a radio-frequency transformer, which is excellent with one tube than it will with another, and as a result of this extreme care must be taken in controlling a set composed of radio-frequency amplification.

On the short waves, theoretically speaking, it would be necessary to tune each stage of radio-frequency amplification into resonance with the incoming wave. In other words, there should be a circuit of inductance and capacity between each radio-frequency amplification vacuum tube, so arranged that it can be varied and put into resonance with the signals it is desired to receive.

In a subsequent article I intend to go into further detail about this interesting phase of radio reception, giving some particular pointers with regard to its use for the guidance of those faintly designed it will operate better than to carry out experiments with it.

Radio Iceberg Warnings

Iceberg warnings are sent out daily from the Danish Government station at Hvalstrand, giving reports of the position and movement of bergs in Danish territorial waters.

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