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ADELAIDE, OCTOBER 1, 1924.

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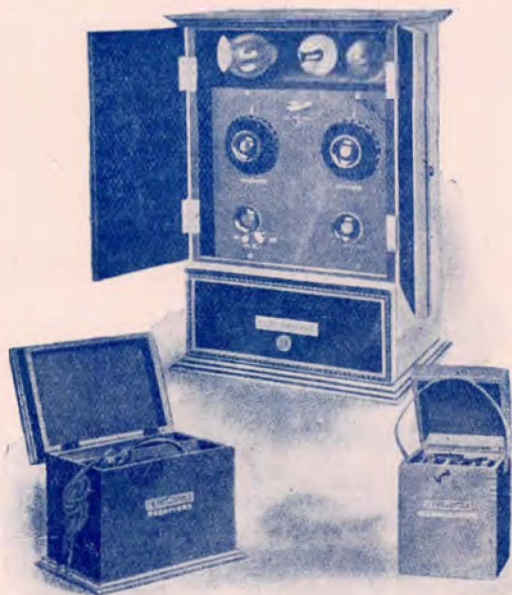
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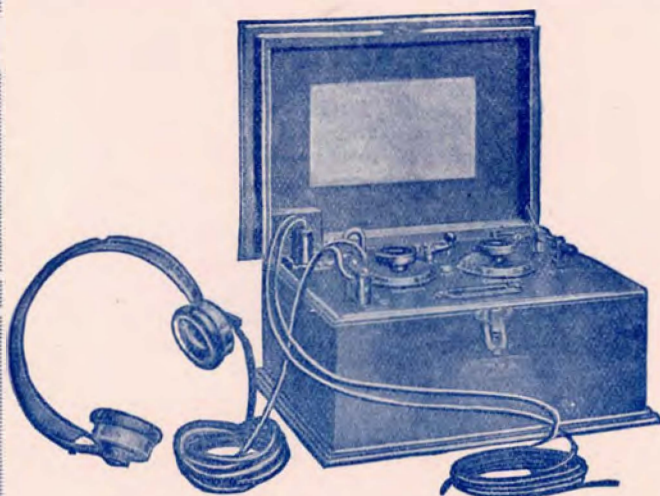


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RADIOTORIAL

BROADCASTING IS KEY TO POPULARITY OF WIRELESS.

"Will it last? Is it just a craze that will pass?" These questions are going the rounds again about radio, due perhaps to the public's activity in purchasing sets, and the large sums now being invested commercially in the business.

It is hardly necessary to reply to such foolish comments, but since some may be influenced by them it is not out of place to point out that the same thing was said about steam traction, and even worse was alleged against the motor car. Every new thing has had to run the gauntlet of the croakers, and Radio has proved no exception.

Radio Will Become Necessary "Commodity."

That radio will last is as certain as the sun shines. It will do more than merely "last." With improvements being reported every day, radio will perform such a public service that it will become one of the necessities of everyday life.

Recently in an Arbitration Court hearing the plea was put forward that the standard for women should be sufficient to permit of a visit to the pictures once a week, a football match, and the cost of getting the hair bobbed. If those are admitted to be "necessary commodities" then it may not be long before the cost of listening-in to news, entertainment, and educative items will be urged before an industrial tribunal as fair ground for an increase in wages.

At the moment such may appear fantastic, but we are rapidly approaching the time when radio will be so universal that nobody can really afford to be without it.

Going back a few years it will be recalled that folk who rode for the first time in cars that stuck up a dozen times in reaching Mount Lofty swore off autos for ever. It was only a passing phase. The progress of the motor was inevitable, and about radio the same story will be told.

Need for Efficient Broadcasting.

The chief means of advancing it in the estimation of the public rests at this stage with the quality of the broadcasting carried out. Faulty transmission and weak programmes mean only one thing. When somebody listens for the first time, and the service is not good, a bad impres-

sion is created. "If this is radio, then I want none of it," says the novice.

We cannot afford to wait too long for improvements. With only one Class A station in South Australia, a high public trust is reposed in it to put out the very best programmes on the maximum power. By this means programmes, within 25 miles at least, can be picked up so efficiently that sets will become cheap enough for all to listen-in.

Over its difficulties and disappointments due to non-arrival of plant, the S.A. Broadcasting Company is entitled to the sympathy of the public, but in this world nobody cares about the troubles of the other fellow. What the people want now is to know when a 5 k.w. set is to be erected. The promise of a 500 watt set this month is satisfactory, but it is only an instalment. The question of the bigger station is paramount. We have no hesitation in impressing this upon the company which has a directorate of strong men capable of tackling the problem and bringing matters to a successful issue.

Another point is that Adelaide cannot be allowed to lag too far behind Sydney, Melbourne, and Perth. This city leads in amateur transmission. The aim now should be to make it the leader in broadcasting, too.

We have every confidence in the ability of the S.A. Broadcasting and Radio Company to deliver the goods, and look forward to an early announcement regarding the installation of a full powered station.

Summer Static.

Of great importance during the month has been the reception in all parts of Australia of KGO, the General Electric's station at Oakland, California. Now that summer time static has come in it is unlikely that much success will be achieved in picking them up. In this connection the article by Mr. Harry Kauper in this issue advising how atmospherics can be minimised will be read with interest.

The elimination of foreign noises is the great problem facing long-distance radio. Although the solution is not yet apparent, we have no doubt that in the long run the trouble will be overcome.

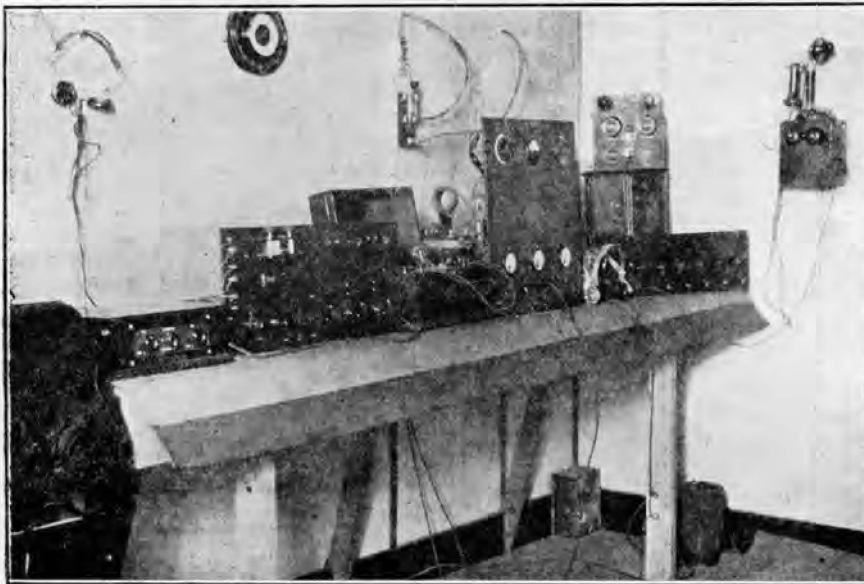
A VISIT TO 5 DON N, PARKSIDE, S.A.

Mr. E. J. Hume's Station at Parkside has been making history during the past month. From all States excellent reports are coming to hand regarding its power and modulation. Mr. Hume is heart and soul in the radio movement, and large increases in station 5 Don N are being planned.

Mr. E. J. Hume, of Park Terrace, Parkside, who is well known to Australia as the owner of Station 5DN, proved a genial host when the "Wireless Monthly" man called upon him a few nights ago.

5 Don N has made rapid strides as an amateur station, and no wonder, for no expense seems to have been

Mr. Hume was reluctant to consent to photographs of the station being taken, as it is by no means up to the highest point of efficiency proposed, but from the photographs reproduced in this article, readers will be given some idea of the set. Before long we believe substantial additions will be made.



5 Don N's Transmitter.

spared. The ship-rigged masts are in themselves a revelation. A special building has been erected to house the transmission and receiving equipment, and several hundred feet away in his private house Mr. Hume has furnished a studio for concert artists.

Reports from all over Australia have been pouring into Don N, expressing the highest compliments to the station both for strength and modulation. Mr. Hume is an enthusiast of the right type. Wireless to him is more than a hobby. He sees in it an educative force that will be of the utmost benefit to mankind. Selection of programmes is his especial care and one of his first acts was to arrange for the professorial staff of the Adelaide University to deliver lectures on scientific subjects in a popular strain so that all who hear may understand.

Electrical efficiency combined with quality of modulation has been the aim of the radio engineers who were associated with the design and erection of the station.

The two masts supporting the aerial are each 65 feet high and 100 feet apart, and are in two sections. The lower section of each mast is secured at the base to a stout piece of timber set in the ground with concrete, while the top is firmly anchored by means of four guys of steel cable. These steel guys are not in one length, but have several insulators inserted to prevent any leakage from the aerial to earth. The top mast is well braced sideways by steel cables, while another steel cable takes the strain of the aerial directly behind it.

The aerial proper is only 60 feet long. It was made this size in order to keep down to the required wave length, as the lead in is about 60 feet long. The whole radiating system is made up of 7/20 copper cable. The aerial is of the cage type consisting of 5 wires equally spaced round 26 inch cane hoops which make for lightness and at the same time have ample strength. This cage is slung approximately 20 feet from each mast, thereby reducing to the minimum any absorption of energy by the guys. The lead-in is also of the cage type, but tapers down at an easy angle to the lead-in tube.

The counterpoise consists of 4 wires spaced equidistant on an 8 foot spreader at the lead-in end and a 16 foot spread at the other. This may be raised or lowered at will so as to get the best results.

The earth connection is obtained from copper sheets buried just outside the operating room. The leads from the separate sheets are bunched together and led in through a porcelain tube. This completes the aerial and earth system.

The transmitting equipment consists of four 5-watt tubes, two doing duty as oscillators, and two as modulators.

The oscillating circuit is a modification of the Hartley, while the well-known and highly efficient Heising system is used for modulation. High tension direct current is used for the plates at 500 volts and is obtained from a Benwood motor-generator outfit. Condensers are shunted across the high tension line and effectively smooth out all commutator ripple. The filaments are lighted by means of a storage battery of high capacity.

Milliameters are placed in both the oscillator and modulator plate leads so as to obtain a correct balance of current while a voltmeter across the filament lead serves as a guide to the correct voltage for the tubes. The microphone has been carefully selected so as to give the purest reproduction.



The Studio at Mr. Hume's Station.

The building which houses the installation was specially erected for the purpose and is lined with asbestos sheets. The floor is covered with rubber and carpets to deaden any extraneous noise, while heavy drapings tend to minimise echo. The operating room is connected by a private line to the music room of Mr. Hume's private house so that when artists are performing in this room the risk of any foreign noises getting into the transmission is at a minimum.

5 DN gives regular programmes on Tuesdays, Thursdays, and Saturdays, when the operators in charge are 5AH, 5BQ and 5BG respectively. A perusal of some of the reports received by this station show the high degree of efficiency reached.

THE KI CIRCUIT.

The excellent results obtained from this two valve crystal reflex circuit have induced the Adelaide Radio Co., Ltd., to instal in their demonstration room a set embodying the circuit. The components are conveniently placed and wired upon a base board and low Radion panel in such a manner as to enable anyone to make a copy of the layout. Thus the veriest novice, by copying this set, will be in a position to construct a receiver which will give extraordinary results. The company's salesmen will be pleased to explain, and those interested are extended a cordial welcome to view the set and hear it in operation. Through an oversight the price of the Geophone Headset was quoted at 35/- instead of 39/6 which is the correct price.

MARSHALL'S STATION.

BEGINS AFTER CHRISTMAS.

Mr. J. C. Marshall, who is installing a 13 Valve Set Logs Another American

The entry into the wireless business of James Marshall & Co., Limited, the Rundle street drapers and warehousemen, has been a pleasing feature of the month. Mr. Chesterfield is in charge of the department and some time in the new year it is probable that a powerful Class B station will be in operation. Meanwhile the manufacture and sale of sets and equipment is being concentrated on.

Prices are now being obtained for steel masts and the indications are that the company intends to go into the business thoroughly.

Towards the end of September Mr. J. C. Marshall picked up a couple of Americans at his mountain home at Nairne. KGO was one of them and Mr. Marshall reports that he also heard the call sign "PQ" from America. He is certain it was a Yank on the job and will conduct further experiments to locate him.

Mr. Marshall is working a seven valve set which will shortly be increased to 13, probably the biggest in the State. He logs interstates regularly. So strong was Farmers that the music could be heard in the township of Nairne between 600 and 700 yards away.

BROADCAST STATIONS

CALL SIGNS AND WAVE LENGTHS.

5AB	S.A. Broadcasting Co.	340
2BL	Broadcasters, Limited Sydney	360
3AR	Associated Radio Melbourne	440
2FC	Farmers, Ltd., Sydney	1100
6WF	W.A. Farmers	1250
3LO	Melbourne Broadcast- ing Co.	1720



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DEMONSTRATIONS DAILY.

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ADELAIDE.**

And 120 Queen Street, Melbourne

"Hullo Mr. Feegan. Hullo Mr. Feegan, between Oodnadatta and Alice Springs. I hope you are getting this concert clearly to-night, and that it did not frighten the camels up your way." Guess we have heard this camel joke on several different nights. Don't fire it off too often Don N., or the camels may get the hump in real earnest!

Overheard at the show a few days ago. "What's making all the noise mister?" We refrain from disclosing "mister's" reply.

S.A. BROADCASTING CO.

500 WATT SET SOON TO BE INSTALLED.

The South Australian Broadcasting and Radio Company, Limited, which holds the Class A broadcast licence in South Australia went to registration last month and the public is hopeful of a successful future for it.

The chairman of the company is Mr. Henry Thomas, and other members of the board are Capt. Arnold, Dr. Wells, and Messrs. M. E. A. Scott and A. S. Harris. The nominal capital is £100,000.

The inaugural transmissions have had to be worked on a 100 watt set, the volume of which was considerably increased by the company's engineers, with the result that latterly the station has been crashing in with some strength, considering the power used.

The modulation, however, is not yet perfect.

The company has been anxiously awaiting the arrival of a 500 watt set from Sydney which is expected to reach Adelaide early in October. When this is in operation improvements should be noticeable. The general impression is that the Class A broadcaster is overcoming its initial difficulties and disappointments, and experts predict that before long the station will be as strong, if not stronger, than any other in Australia.

We hope so, as much of the success of wireless will depend on the quality and efficiency of the broadcast programmes put out.

SUMMERTIME RADIO

5BG Says Loop Aerial Sets Will be Necessary to Pick Up Long Distance Stuff now Summer has set in.

With the approach of warmer weather, which is invariably accompanied by atmospherics, or statics as they are sometimes called, there will be a noticeable falling off in signal strength from the distant stations. It is safe to assume that very few listeners will hear KGO during the summer months, and many of them will not even consistently receive the Sydney and Melbourne broadcasting.

The falling off in signal strength during the summer weather is not in itself of very much importance, as this could be accounted for by means of extra amplification, but atmospherics will not permit us using as much amplification in the summer as is used in the winter.

When radio frequency amplification was first introduced, it was claimed that many stages of this method could be used without seriously increasing the proportion of undesirable noises; it is found, however, that if the radio frequency method employed is an efficient signal amplifier, it is also an excellent static amplifier.

The position is not altogether hopeless and those enthusiasts who wish to listen to the distant station during the summer months will have to use loop aerial sets, preferably of the reflexing type.

It is safe to say, that quite apart from the desire to avoid static many people will use loop sets to get the distant signal, in order to cut out interference from local stations, and when the local broadcasters are using a lot of power, many of the sets in use at present will be worthless from a selective point of view.

It is of no use cursing the local broadcasters for broad tuning if a single circuit tuner is used in your receiver, and it is extremely doubtful if a double circuit tuner will eliminate local interference in many cases.

If the local broadcast station is using 5KW and is situated within 20 miles of your house, a receiver used on an outside aerial will be responsive to the local station on any wavelength. This is not due to any fault of the broadcaster's tuning, but is caused either by "shock excitation" or super audible frequencies and cannot easily be avoided.

In some cases a wave trap may do some good and later on a suitable device for this purpose will be described in this journal.

It is expected that only a small percentage of listeners will want to tune in the distant stations, since, if the local programme is a good one why bother about another, accompanied by 600 miles of static?

THE BOOM BEGINS

AMATEURS ANXIOUS ABOUT TRANSMISSION RIGHTS.

Radio is moving fast. On all sides there are enquiries from amateurs concerning the right to transmit. The conditions are hard. Read this Article.

We regret that owing to the financial arrangements whereby the local Class A broadcasting company is interested in the listeners-in licence fees it is impossible to state the number of permits which have been granted since the new regulations were issued, but that the figures is substantial we have no doubt. In every direction aeriels are being erected and wireless is now entering upon the boom we predicted.

Meantime a lot of heartburning is taking place over the issue of experimental transmission licences. Among the "old hands" who listened in with experimental licences, there is a keen desire to secure the right to transmit. As a matter of fact queer call signs are frequently picked up which suggests that experimenters are on the job.

It is well to point out that this is illegal and may lead to serious consequences. Nobody is eligible to apply for an amateur's transmission licence unless he is in possession of an amateur operator's certificate of proficiency (vide Reg. 116, para. 1). Even then the possession of such a certificate will not of itself entitle the holder to an experimental transmission licence. Each application will be dealt with on its merits.

Examinations for operator's proficiency certificates (commercial) are held quarterly and for amateurs about every two months, or more frequently if required. The next examination to be held will take place on Saturday, October 4th. The subjects will be—

(a) Sending and receiving Morse signals at a speed of 12 words per minute.

(b) Knowledge of adjustment and operation of low powered apparatus.

(c) Knowledge of principal abbreviations as laid down by the international Radio Telegraph Convention.

The fee for the amateur operator's proficiency certificate examination is 5/-, and nomination forms can be obtained on application to Mr. Harrington, Wireless Department, Hindmarsh Buildings, Grenfell Street.

There is no blinking the fact that a number of people who hold experimental transmission licences under the old regulations would not be able to secure a certificate under the new. Their case can be met by applying to the department for the right to employ a certificated operator. There should not be any difficulty in arranging this.

"WILLIE IS SO CLEVER"

SOME TYPES THE SALESMAN MEETS.

"Esda" writes—The radio salesman will soon be classed amongst the descendants of Job, in support of which I relate the following:—

The radio department of a leading house was full of waiting customers, and the perspiring attendant had his work cut out to cope with the rush. Then a lady walked in. Without any preliminaries or waiting for her turn she begins.

"My little boy is so keen on wireless. He is so clever you know. He made a beautiful set out of a coffee tin and a cigar box."

"Yes Madam, he is undoubtedly a smart lad. Is there anything we can get for—"

"Oh, and you know he is so wrapped up in wireless. He sits down for hours and reads all the books he can get on it. He erected all the wires by himself."

"Indeed, Madam."

"Yes, and he's only sixteen."

"That's very young. You are fortunate to have such a son. Can I show you—"

"Oh-er, I don't know that I want to BUY anything. I really only saw your wireless shop and thought you would like to know about Willie."

"We're delighted Madam. Would you care to take a free price list?"

"Yes, I think I will, but of course you know Willie is so clever he can



Headphone

4000 ohms

35/ Set.

VALVES.

REDUCED PRICES.

Type AR, 17/6 each.

Type ARDE Dull Emitter
.3 amp, 27/6 each.

Type AR .06 Dull Emitter
.06 amp, 35/ each.

LOUD SPEAKERS.

"TELEVOX"

£8 each (stocks arriving).

EDISON SWAN
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Varcoe & Co., 57 Gawler Place.

D. Green & Sons, 119 Parade,
Norwood.

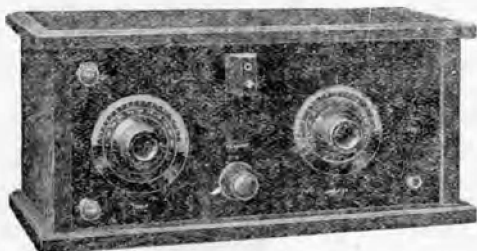
C. M. Lowe, Port Adelaide.

make everything himself, so he really does not need to spend any money on it at all."

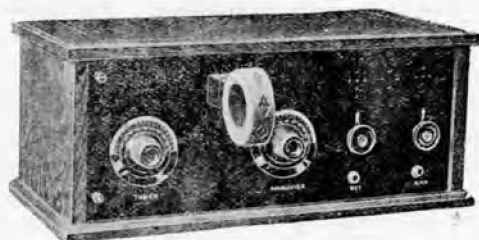
"Good evening Madam!!!"

On no account erect an aerial near a power line. Apart from the element of danger in case it falls across the line, there is the possibility of picking up noises by induction. This is particularly annoying in some country towns where a D.C. supply is generated. Where possible the aerial should be erected at right angles to, and as far from the power line as possible.

SIGNAL Home Assembly Sets



Model Phone valve, £5-10-



Model Q 2 valves, £9-0-
Model R three valves (Audio Freq.) £11-11-



Model S three valves (Radio Freq.) £11-11- Model T four valves (Radio Freq.) £13-13-

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THE SIGNAL HOME ASSEMBLY SETS are designed to meet all demands for complete sets less Batteries, Valves, Head Phones, and Aerials ready to be assembled. Simply constructed, and yet efficient. Each set contains all the parts necessary to construct the set proper. All contained in an attractive oak cabinet, mission finish, with engraved Bakelite panel bored ready for mounting the parts.

INSTRUCTIONS and a clear diagram make it very easy to assemble these sets.

BOYS, YOUNG and OLD, here you can get all the thrill and satisfaction of **MAKING YOUR OWN**, and **SAVE HALF THE COST**

ASK YOUR DEALER "SIGNAL"

and if he has not yet stocked it write us

DOES YOUR SET CONTAIN?

UNITED TRANSFORMERS
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SIGNAL MICA CONDENSERS
QUICKHEAT LEAKS

FROST RHEOSTATS
FROST JACKS AND PLUGS
FROST SOCKETS
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HARD TIMES FOR AMATEUR TRANSMITTERS.

Regulations in the past have not been very liberal so far as the amateur is concerned. . . . I can quite imagine the transmitter of the future being asked to pass a highly technical examination . . . and work with a maximum of 5 watts between 2 a.m. and 4 a.m. by special permission of a J.P."—President Caldwell, of the Wireless Institute.

The sixth annual general meeting of the South Australian division was held at the University of Adelaide on September 3. The minutes of the previous meeting were read and confirmed.

The president (Mr. R. B. Caldwell) then addressed the meeting as follows:—"During the past 12 months our membership has been well sustained. Although a good many old members have dropped out, others have taken their places, and the records show a slight increase on last year, our present strength being between 90 and 100. The treasurer will shortly tell you that financially we are sound and have a very creditable amount in hand.

"Although our membership and finances are at present in a very satisfactory condition, we have now reached a stage when we are going to find it difficult to sustain interest and keep the Institute together. With the increasing interest now manifest in wireless numerous clubs are springing up and many of our old members are naturally taking an initiative in them. A suburban club offers many advantages. The members usually make headquarters at the residence of some enthusiastic radio fan where they often meet and in the course of time collect a valuable and instructive plant at very little cost, and are able to teach each other all the practical details of construction and manipulation.

"Many of our older and more progressive members have taken to radio as a profession. Of this we are proud, but in doing so they place themselves within the sphere of keen commercial competition, and find their time fully occupied in attending to details of business. We can hardly expect these members to attend our meetings or devote much time to the institute's affairs. Now, however, as never before, it is imperative that the institute should be held together, and that all radio clubs and wireless enthusiasts, especially amateurs, should support it.

"You are all aware of the new regulations and how they might be interpreted to affect amateurs adversely. It appears that we are to have big broadcasting stations in each of the provincial capitals and it should be realised by all of you that the broadcasting stations there established might ultimately be guided and forced by another large combine into a policy directly hostile to the experimenters. Regulations in the past



MR. R. B. CALDWELL

have not been very liberal so far as the amateur was concerned, and I am afraid that with the advent of the new method of broadcasting his activities will be very closely watched more particularly as regards transmitting. I can quite imagine the transmitter of the future being asked to pass a highly technical examination, do 30 or 40 words per minute in Morse, and work with a maximum of 5 watts between the hours of 2 a.m. and 4 a.m. by special permission by a J.P.

"Regarding broadcasting as at present defined, I am inclined to the feeling that it is not going to be the success and the revenue producing concern which some people anticipate. A

broadcasting station working close handy is going to be a useful thing to tune in a crystal set, and I have no doubt a good many people will pay for a broadcast listener's licence—once. If the broadcast business does not turn out the success expected of it, the experimenter and amateur transmitter will probably be blamed and his activities still further curtailed.

"The future of experimenters will depend in a large measure on union amongst themselves, and it behoves us to court all wireless clubs to affiliate with the institute so that a united front may be presented if the rights of experimenters are assailed."

The treasurer then submitted the balance sheet, and it was moved that this be accepted.

The librarian reported on the poor attendance at the library during the year, and asked that members in future take more interest in it otherwise the library would have to be dispensed with.

The president formally vacated the chair and the secretary called for any further nominations. Mr. Bagshaw was nominated and a ballot was taken resulting in Mr. Caldwell being returned to office as president. The remaining officers elected were:—Vice-presidents, Messrs. J. Honnor and T. Bagshaw; treasurer, Mr. K. Milne; secretary, Mr. C. E. Ames; assistant secretary, Mr. Earle; council members, Messrs. W. Honnor, Churchward, Barker, Austin, Morris; librarian, Mr. Hawke; library committee, Messrs. J. Honnor, H. Austin, and L. C. Jones.

A letter was received from the New South Wales division regarding the Relay League, asking for particulars of our transmitters who would assist in relaying.

The president then handed the secretary a sum of £5 5/ from the members in recognition of his invaluable services to the institute.

Mr. Wadham moved a vote of thanks to the president and officers for their services during the past year. Mr. Churchward seconded, and the meeting was closed.

SQUEALS ARE DUE TO CARELESSNESS.

AMERICAN OFFERS ADVICE.

Experiment which will Help Novices to Distinguish between Regeneration and Oscillation.

The case for the regenerative receiver is again presented, this time by that well-known radio engineer and manufacturer, Mr. C. D. Tuska, of Hartford, Conn. "Radiation from receiving sets, a brand new type of interference," states Mr. Tuska, "is creeping out and is becoming very serious. Probably 90 per cent. of the present receiver interference is due to improper and careless operation. Radiation from a receiving set improperly handled is the cause of squeals and howls in other receivers in the neighborhood. In general, all present-day receivers (regenerative, radio frequency and most of the 'dynes') have at least two control knobs. One of these knobs generally covers wave lengths, while the other, no matter what it is labeled, covers regeneration. Regeneration is the building up, reinforcing, or amplifying of received signals within the vacuum tubes. Regeneration carried too far causes the vacuum tube to sustain these amplified or reinforced signals, and results in the generation of radio frequency currents. This is called oscillation. Regeneration, up to the point of oscillation, will never cause any interference. What happens is that the regeneration is carried a few steps too far and the receiving tube starts to radiate waves corresponding to the length at which the tuning controls are set. The receiving set becomes a transmitting outfit. How to make a novice distinguish between regeneration and oscillation is not an obvious affair. I would recommend that those of you who have receiving sets and do not know, take this suggestion and try it out on your own set: Set the wave length dial and bring the regeneration up from the zero to the maximum position. As the regeneration is increased, using the right hand to turn the control, tap the wire leading to the grid of the detector, with the left hand. When the tube is exceeding the regenerative point and has broken into oscillation, you will hear a click or two clicks as you tap the grid connection. Sometimes you can get the same effect by tapping the aerial binding post, but the grid is the only reliable contact. Tune your set with both hands at one time. With the left hand turn the wave length control a degree or two and then use the other dial (regeneration) with the right hand, carefully bringing up this dial to the critical point of 'maximum regeneration.' This point may easily be distinguished after a little experience by the nature of the sounds in your loud speaker or phones. If you have gone too far in regeneration, the received signals will sound mushy. Back down the regeneration dial. Then leave it alone."

WHEN TO LISTEN IN

AMATEURS' ROSTER FOR OCTOBER.

Specially Prepared by "S.A. WIRELESS."

This Transmitting Roster has been inaugurated to obviate as far as possible any interference between stations transmitting on nearby wave lengths at the same tune, and also to acquaint experimenters with the pre-arranged experimental transmissions so that they will know which stations they should receive.

Station	Name	Wave Length	Station	Name	Wave Length
5AV	C. E. Ames, Hindmarsh	200	5CB*	Newton, McLaren, Ltd.	250
5GB	G. Bailey, Mt. Gambier	220	5AD	A. R. Snoswell, Exeter	250
5BD	Frank Earle, St. Peters	250	5AC	V. R. Cook, Prospect	200
5BF	Francis G. Miller, Murray Bridge	440	5FT	J. S. Fitzmaurice, North Walkerville	250

5AB, The South Australian Broadcasting and Radio Company, daily from 12.15 p.m. to 10 p.m.

*5CB is now licensed as a dealers' transmitting outfit, and is used for the purpose of testing only. Experimental transmissions have, therefore, been discontinued, but tests will be carried out on Friday nights as heretofore.

Station 5DN, Park Terra ce, Parkside, operates on Tuesdays, Thursdays, and Saturdays at 8 p.m. The operators are Messrs. L. C. Jones, H. A. Kauper, and P. L. Williamson.

5AE states that he may not be sending out during October.

5DO cannot promise any definite times for the month.

5AD will most likely be transmitting on Mondays, Wednesdays, and Fridays, 8 to 8.30 p.m.

5AC on each Wednesday night in October will speak to Dr. Woolnough in the centre of Australia.

5A will be on CW on Saturdays. On other nights, phone.

WEDNESDAY, OCTOBER 1.

5GB—8 to 9 p.m.

THURSDAY, OCTOBER 2.

5BF—9.30 p.m. 5AV—7.30 to 8 p.m.

FRIDAY, OCTOBER 3.

5CB—Evening—Tests 5GB—7.30 to 8 p.m.
5BN—8 to 9.30 p.m.

SATURDAY, OCTOBER 4.

5AV—10 to 10.30 5AC—10.30 to mid-night.

SUNDAY, OCTOBER 5.

5BN—Morning. 5AH—11 to noon.
5BF—10 a.m. 5GB—10 to noon.
5BF—9.30 p.m.

MONDAY, OCTOBER 6.

5GB—7.30 to 8 p.m.

TUESDAY, OCTOBER 7.

5AV—7.30 to 8 p.m. 5BF—9.30 p.m.

WEDNESDAY, OCTOBER 8.

5GB—8 to 9 p.m. 5AC—9.30 to 10 p.m.

THURSDAY, OCTOBER 9.

5AV—7.30 to 8 p.m. 5BF—9.30 p.m.

FRIDAY, OCTOBER 10.

5CB—Evening—Tests 5BN—8 to 9.30 p.m.
5GB—7.30 to 8 p.m.

SATURDAY, OCTOBER 11.

5AV—10 to 10.30 5AC—10.30 to mid-night.

SUNDAY, OCTOBER 12.

5BN—Morning. 5AH—11 to noon.
5BF—10 a.m. 5BF—9.30 p.m.
5GB—10 to noon. 5GB—9 to 10 p.m.

MONDAY, OCTOBER 13.

5GB—7.30 to 8 p.m.

TUESDAY, OCTOBER 14.

5AV—7.30 to 8 p.m. 5BF—9.30 p.m.

WEDNESDAY, OCTOBER 15.

5GB—8 to 9 p.m. 5AC—9.30 to 10 p.m.

THURSDAY, OCTOBER 16.

5AV—7.30 to 8 p.m. 5BF—9.30 p.m.

FRIDAY, OCTOBER 17.

5CB—Evening—Tests 5BN—8 to 9.30 p.m.
5GB—7.30 to 8 p.m.

SATURDAY, OCTOBER 17.

5AV—10 to 10.30 5AC—10.30 to mid-night.

SUNDAY, OCTOBER 19.

5BN—Morning. 5AH—11 to noon.
5BF—10 a.m. 5GB—9 to 10 p.m.
5GB—10 to noon. 5BF—9.30 p.m.

MONDAY, OCTOBER 20.

5GB—7.30 to 8 p.m.

TUESDAY, OCTOBER 21.

5AV—7.30 to 8 p.m. 5BF—9.30 p.m.

WEDNESDAY, OCTOBER 22.

5GB—8 to 9 p.m. 5AC—9.30 to 10 p.m.

THURSDAY, OCTOBER 23.

5AV—7.30 to 8 p.m. 5BF—9.30 p.m.

FRIDAY, OCTOBER 24.

5CB—Evening—Tests 5BN—8 to 9.30.
5GB—7.30 to 8 p.m.

SATURDAY, OCTOBER 25.

5GB—8 to 9 p.m. 5AC—10.30 to mid-night.
5AV—10 to 10.30 p.m.

SUNDAY, OCTOBER 26.

5BN—Morning. 5AH—11 to noon.
5BF—10 a.m. 5GB—9 to 10 p.m.
5GB—10 to noon. 5BF—9.30 p.m.

MONDAY, OCTOBER 27.

5GB—7.30 to 8 p.m.

TUESDAY, OCTOBER 28.

5AV—7.30 to 8 p.m. 5BF—9.30 p.m.

WEDNESDAY, OCTOBER 29.

5GB—8 to 9 p.m. 5AC—9.30 to 10 p.m.

THURSDAY, OCTOBER 30.

5AV—7.30 to 8 p.m. 5BF—9.30 p.m.

FRIDAY, OCTOBER 31.

5CB—Evening—Tests 5BN—8 to 9.30 p.m.
5GB—7.30 to 9 p.m.

SPEND 2½D. AND SAVE £S. NORWOOD ELECTRICAL DEPOT

119 PARADE NORWOOD.

PHONE--NORWOOD 1029

D. GREEN & SONS, PROPRIETORS.

Licensed Radio Dealers

GOODS AT BELOW CITY PRICES.

COMPARE THESE—

3 Plate Condensers (ready to set up), 5/6; set up, 6/3.
5 Plate Condensers (ready to set up), 6/; set up, 7/.
11 Plate Condensers (ready to set up), 8/; set up, 9/.
23 Plate Condensers (ready to set up), 10/; set up, 11/.
43 Plate Condensers (ready to set up), 14/; set up, 15/.

Double Coil Mountings, 14/ each.
Brass Screw down Crystal Cups, 9d. each.
Glass Barrell Type Crystal Detectors, 5/, 5/6, 6/ and 6/6.
Double Coil Mounting with "vernier" movement, 17/6.
Phillips Valves, DI and DII, 20/ each.
Phillips Valves, I, 23/6 each.

All other makes of valves in stock, and can be supplied at current rates.

3 in. Dials with knobs, 2/ and 2/6 each.
2 in. Dials with knobs (brass bushed), 2/ each.

3 in. Dials with knobs, 3/6 each (extra quality).
Switch Arms (Laminated), splendid finish, 2/6 each.
Rheostats, 6 ohm, 5/ and 7/6 each.

Potentiometers, 200 ohm, 9/6 each.

English Valve Holders, to screw on panels, 2/6 each.
Phosphor Bronze Cats Whiskers, 2/6 doz.; 3d. each.
Galena Crystals, containing 2 or 3 (tested, English), 2/ box, and others at 9d. and 1/ each.

Hertzite Crystals, containing 2 or 3 (tested English), 2/6 box, and others at 1/ and 1/6 each.

Harmatone Crystals, in glass tube, 2/ each (large size).

Midite Crystals in glass tube, 2/ each (large size).

Molybdenite Crystals, 2/ per box.

Iron Pyrites Crystals, 2/ per box.

Improved Phone Condensers, .001 MFD, 9d. each.

Grid Condenser and Leak, 0.0005 MFD, 1/ each.

Grid Condensers, 0.0005 MFD, 1/ each.

Improved Grid Condensers, 0.00025 MFD, 1/ each.

Fixed Condensers, .006 MFD, 1/ each.

Ediswan Phones, 4000 ohms, 35/ per pair.

Browns Type F. Phones, 4000 Ohms, Weight 6 ozs., 43/.

Sterling Pattern Phones, 4000 Ohms, Weight 10 ozs., 43/.

23 Plate .005 (Signal) Variable Condensers, with vernier and knobs, 24/6 each.

42 Plate .001 (Signal) Variable Condensers, with vernier and knobs, 26/ each.

13 Plate English Air Condenser, .0003, with knob and dial and pointer, 18/.

27 Plate English Air Condenser, .0005, with knob and dial and pointer, 19/.

53 Plate English Air Condenser, .001, with knob and dial and pointer, 22/6 each.

Brass Crystal Cups, 4 screws, 1/ each.

Complete Crystal Set in nice Blackwood Cabinet, 95/.

Waxed Inductance Formers, 1/3 each.

Crystal Detectors on cards (unmounted), 3/6 the set.

Crystal Detectors (mounted), 4/6 and 5/6 each.

Ebonite Contact Sliders, 1/6 each.

AT Intervalve Transformers, 4 to 1, Shielded, extra quality, 35/ each.

Ebonite, ¼ in., ¼d. per sq. inch., 3-16 in., ¼d.; ¼ in., 1d.; ½ in., 1½d.; ¾ in., 2d. per sq. inch.

Aluminium Aerial Wire, 100 ft. coils, 4/6 per coil.

3-20 Copper Aerial Wire, 100 ft., 3/.

7-20 Copper Aerial Wire, 100 ft., 6/.

2 Coil Holders (English make), 14/ each.

Double Pole Knife Switches, 6/6 each.

Aerial and Earth Switches, 3/6 each.

Blocking Condensers, .002, .0002, .0003, .001, 3/6 each.

30 VB Batteries, 12/6 each.

36 VB Batteries, 13/6 each.

60 VB Batteries, 16/6 each.

15 VB Batteries, 6/ each.

60 VB Batteries, 16/ (terminal type).

Rubber-cased Accumulators (charged)—

2V 22 AMP, 18/4. 4V 44 AMP, 52/.

2V 33 AMP, 21/8. 6V 22 AMP, 55/.

2V 44 AMP, 26/.

4V 22 AMP, 36/8. 6V 33 AMP, 65/.

4V 33 AMP, 43/4. 6V 44 AMP, 77/6.

All Actual Capacity—Not Ignition.

Ediswan Celluloid Accumulators, Unit style 2V 22 AMP, 20/ each; 2V 33 AMP, 25/ ea.; 4 and 6 Volts can be made up from these.

Battery, Nickelled Spring Clips, 6d. each.

Terminals, Brass, 5d. and 6d. each.

Terminals, Nickelled 6d. each.

Quick Heat Resistances, 10,000, 20,000, 50,000, 75,000, 100,000, 2/ each.

Quick Heat Grid Leaks, ½, 1, 1½, 2½, 3, 4, 5, 2/ each.

Sets of 8 Ebonite engraved Terminals, 6/ per set.

Double Phone Plugs to connect up 2 pairs phones on one plug, 5/ each.

Phone Plugs, 4/6 each.

Good line Nickelled Buzzers, 5/ each.

Variocouplers, with Dial complete, 20/ each.

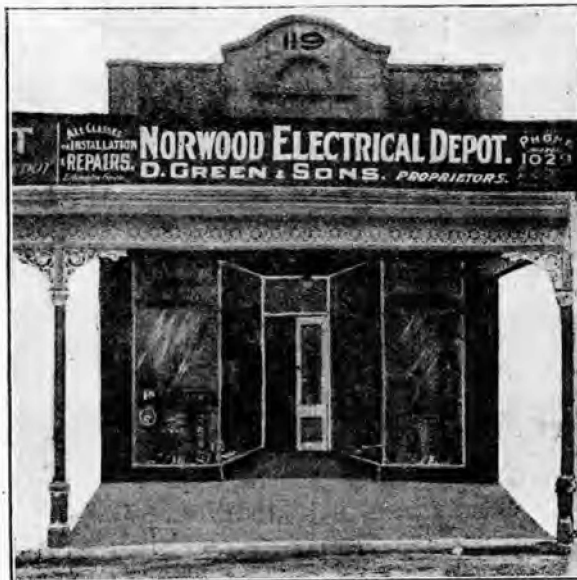
Variometer and Variocoupler Rotors and Assembly Sets, 3 inch, 5/6 each.

Variometer and Variocoupler Rotors and Assembly Sets, 3½ inch., 7/6 each.

Variable Resistance Leak and Condenser, 0 to 5 mgs, Adjustable Table Model, 8/6 each.

Same Panel Mounting, 8/6 each.

Variable Resistant Leak only, without Condenser, 0 to 10, 7/6 each.



We have landed an advance shipment of Continental 4 Valve Sets, Cabinet Type, Classy Goods, Complete, £30 12/6. Best Parts Procurable. Prices right. All the latest and best Frost English and Continental lines in stock. We Want Your Enquiries. Add Postage With Country Orders.

LOGGING KGO IS MONTH'S OUTSTANDING FEATURE

Since the announcement made by "S.A. Wireless" several months ago of the reception of KGO similar reports have flooded in. KGO is gratified at the results it is achieving, and promises to keep its programmes up to standard.

Picking up KGO, Oakland, California, seems to be easier than raising Central by the land line. From all directions we have received reports of reception of our American friends, and in several cases a digest of the programme is given in this issue.

Now that summer is coming round it is doubtful if KGO will be separated from static, but amateurs will go on trying to log the station and we wish them every success. There is a thrill

St. Francis Hotel, San Francisco." It was somewhat difficult to pick up the station on account of the plague of "canaries." Mr. Randle was using a three-valve crystal reflex de Forest set with a loop aerial, and had the "canaries" been less plentiful it would have been easy to put the transmission on a loud speaker. We quote this as a typical example of the reports of American transmission received during the month.

HOW TO GET KGO.

Mr. G. A. Miller Randle sends the following notes on KGO and how to get them:—For Australia's benefit KGO transmits from 3.30 until 6.30 on Sundays and Wednesdays up to October. The first necessity is that no transmission be done whatever, for if you happen to be close enough to a transmitting station, no matter what wave length is used, you will have no chance of receiving KGO. This is not too much to ask, in fact, Sydney Broadcasters announce that they discontinue transmitting so that listeners in N.S.W. may hear KGO, and this action has been highly appreciated by all.

Second, and most important, so please note this well and abide by it. If you cannot receive Sydney Broadcasters so that you can hear the spoken word 20 feet from a loud speaker do not attempt to listen to anything on Sundays or Wednesdays between 3.30 and 6.30 p.m., for if you do there will be nothing to listen to. You will have no hope whatever of hearing KGO, but you certainly will stop every one in Adelaide and surrounding districts from hearing KGO. Far better occupy yourself in improving your set by adding more valves or wiring up differently until you can attain the above requirements. Do not test out on Sydney Broadcasters Sunday or Wednesday between 3.30 and 6.30 p.m. because they are not transmitting then.

Now to those who can hear 2BL clearly 20 feet from a loud speaker; you know where you get 2BL. They are 350 meters. Well, take a note of the exact position of your dials, knobs, coils, etc. on Sundays and Wednesdays between 3.30 and 6.30 p.m., set your receiver exactly on 2BL position, and carefully tune down to a lower wave length but be careful not to energise the aerial for you will not receive anything nor will any one else. You will probably find the best time for reception is just before sundown.

I feel sure if this method is followed in the true radio spirit all listeners in will intimately enjoy the thrill of receiving KGO. I have had that pleasure three times in eight days, and would like others to hear them.



The General Electric Company's Broadcasting Station at Oakland, California.

about raising the land of the Stars and Stripes and it must be admitted that KGO is doing its best to get next to everybody. Its messages and music appear to have been picked up in nearly all parts of the globe, and listeners-in report wonderful clarity and volume. At first 5 valves were necessary to tune in. Later letters showed that a couple of valves were sufficient, which leads us to expect that next year logging KGO will be a great pastime. This is all good for radio, and we extend our hearty congratulations to the Oakland station for the good service it is rendering.

Listening-in on Sunday, August 31, Mr. G. A. Miller Randle heard stringed instrumental music followed by the announcement "Station KGO, Oakland, California, transmitting from

It is also interesting to note that a Sydney telegram published in one of the dailies announced the reception of KGO by an experimenter in the back-blocks of New South Wales. Evidently he was the first New South Welshman to log the station. It was a case of "carrying coals to Newcastle" so far as this State was concerned for announcement of American reception was made a month before by "S.A. Wireless." Mr. J. Ingoldby, of McLaren Vale was the pioneer listener-in.

H. L. AUSTIN,

8 PARADE, NORWOOD.

Radio and Electrical Engineer.

All Radio Repair Work, etc., carried out.
H.T. Gear for Transmitters made to order.
H.T. Transformers from £5.

**You Cannot Beat a Crystal for
Clarity of Reception**

*Buy your Sets Now and listen-in to the
Daily Broadcasting Programs being trans-
mitted from The Grosvenor, North Terrace*

**£4/4/- for your Set, with Headphones and
a Government Licence, will give you the
most fascinating entertainment imaginable**

**Phone, write, or call at the
BROADCASTING COMPANY
they know just what you need**

SOUTH AUSTRALIAN BROADCASTING & RADIO Co. Ltd.

"Everything in Wireless"

33 KING WILLIAM STREET :: :: ADELAIDE

*Daily Program of Broadcasting
at The Grosvenor*

12.15 to 1.45 p.m. Orchestral Music

*2.30 to 4.30 p.m. Instrumental,
Pianoforte, and
Vocal Items*

*7 p.m. Fairy Tales for
the little folk*

*7.40 to 7.55 p.m. Dalgety's Market
Reports*

8 to 10 p.m. Concert

S. A. Broadcasting & Radio Co. Ltd.

33 King William Street

Aldgate

DOTTED WITH AERIALS.**WIRELESS IS BOOMING IN SOUTH-EAST.**

Mt. Gambierite declares "Barber of Seville" best piece of broadcasting yet performed in Australia.

"Tuned Anode" (Mount Gambier) sends an interesting budget:—"I must congratulate you on producing such a live paper and wish you every success. I am sure your circulation will increase considerably when it becomes more widely known.

I thought you might be interested to know of our doings in the lower south-eastern portion of the State. Among the numerous amateurs on the air none come in with such volume as 5DN. He is stronger than the Grosvenor station and has been better to listen to. It is a pity our leading broadcasting station has not got into its full stride yet. When one does pick him up down here one has to chase him round with the variable condenser. However, when the half kilowatt set comes to hand we are looking forward to an improved service. While they are waiting for this set I would like to give them some friendly advice. Study 2FC's way of working and announce each and every item. When they have occasion to break off any item before its conclusion, let the listeners-in know. This will save a lot of "howling" by those who do not know their method of working.

Judging by the number of aerials which have been erected in the Gambier district I should say things in the radio line are booming. Our old friend KGO still continues to oblige. Another familiar call sign is 2RJ. Mr. Fagan must have a very efficient transmitter to roar in the way he does.

The broadcasting of the operas "The Barber of Seville" and the "Tales of Hoffmann" from 2FC was, to my mind, the finest thing in broadcasting ever performed so far. Musical friends declared they were more than delighted to be able to have heard those talented artists.

The opening of the Melbourne station is being eagerly awaited. We anticipate being able to work loud speakers comfortably when they get going.

In opposition to the Observatory time signals a new spark station has come to light with genuine hand-made "dots and dashes" at any old time between 9.25 and 9.35.

FREAK RECEPTION.

Removing Slide Contact, Wallaroo "Ham" overhears Two Ladies talking over Telephone.

SAYS HE HAS FOUR WITNESSES.

Mr. C. J. Hermann, writing on September 15 from Wallaroo, says:—"Perhaps the following may be of interest to your readers. The first is a case of what I consider to be freak reception. Some time ago at midday I was working a single slide crystal set. By removing the sliding contact from the turns of the coil I could hear two women conversing over the telephone. Every word spoken was plainly heard. If any readers doubt this I have four others who were present at the time and heard the parties speaking.

"One evening using a Moorhead valve in a single valve set, by doing away with the earth wire, I heard the South Australian Broadcasting Coy's programme which came in with fair volume; also amateurs. This I consider out of the ordinary, because broadcasting always come in better in this fashion, yet spark or C.W. will not come in at all without the earth.

Thirdly, by trying out suggestion of hanging a length of No. 26G enamelled wire round the walls of the room, I received broadcasting fairly clearly on the single valve. In this case I used 30 feet of wire. I suggest some of your readers should try this.

"The valve I am using is practically unknown, I believe, amongst "Hams" out here. It is a Yankee and was bought in the States, and is not for sale. I might add that this valve brings in 2FC and 2BL fairly well as well as a few Interstate amateurs."

MUSIC PUBLISHERS HAVE "WIND UP."**RADIO COMPETITION FEARED.**

Will radio cause a slump in the sale of pianos, talking machines, and sheet music? This question is a live one in England and the United States and it has cropped up in Australia in the form of a notice by leading publishers of music calling attention to the fact that copyrighted works cannot be broadcasted without their consent.

It is pointed out that broadcasting, both in America and England, is having a serious effect on the music-publishing business, and the sale of talk-

HE PRICKED UP HIS EARS.**TELEGRAPH MESSENGER LOGS KGO.**

Picking Up California on a Home-Made Two Valve Set, Berri Telegraph Messenger Drops Receiver and Hops Off to Friend.

Jack K. Jellett, telegraph messenger, Berri, writing to the Secretary of the Wireless Institute (Mr. Ames) says—

I am writing to let you know that to-night, August 26th, at 6.10 p.m., I heard real decent Jazz music which made me prick my ears up as I did not know of any broadcasting station which would be transmitting at that time. After the piece was finished the announcer said "Pacific Coast Station speaking. KGO."

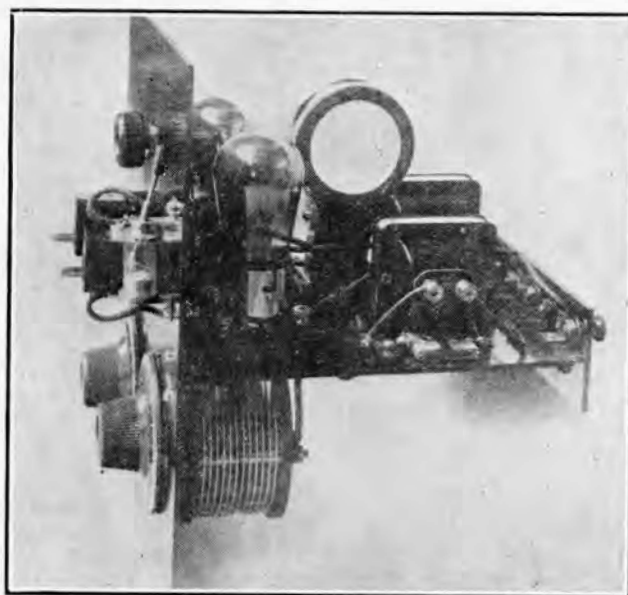
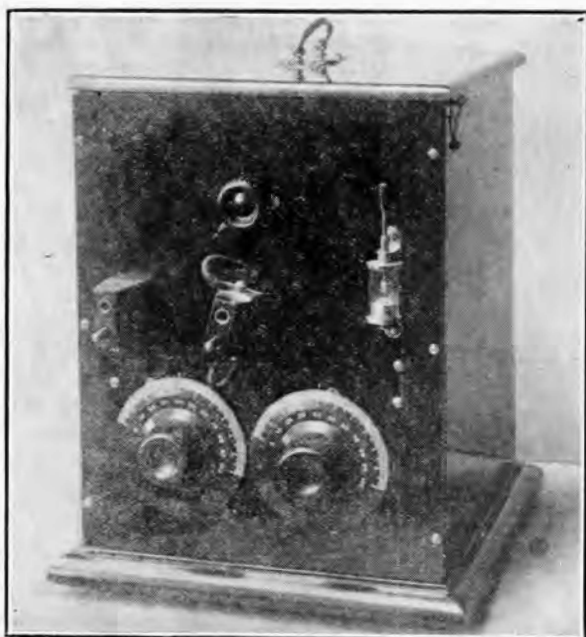
At that I closed down and hopped off to Mr. H. E. Hall's to let him try with his 4-valve set, but he could not log them. So I rushed home again at 6.28 p.m., turned on the valves and heard the announcer say "KGO, California, San Francisco," and then he said that they had been heard in Chili, New Zealand, Peru, China, Australia, and other places. He then said "KGO closing down now, 1 a.m. Pacific standard time. Good morning."

My receiver is a 2-valve consisting of 1 detector, 1 of audio (valves WD12 dull emitters, aerial 130 ft. by 25 ft. high, single 1-stranded wire. I dare say you will be able to get my report compared with the 5-valve chaps to the satisfaction of all concerned. Would you kindly hand this report on to the editor of the "S.A. Wireless Monthly." My 2-valve set is regenerative using 3 coils with 19-40-49 turns. The set and parts are all breeds and are home constructed.

ing machines. The claim of the broadcasting companies that broadcasting advertised a new song and increased its sales has not, so the music publishers say, been borne out by experience, and in the United States especially many firms have had to close down. Recently one of the largest manufacturers of envelopes for talking machine records in the United States had been very hard hit owing to the falling off in the demand for records, due to the popularising of radio.

In England the music publishers are losing ground before the rapid advance of wireless telephony, and many of the theatres are attempting to restrain their artists from broadcasting, as radio in the home is interfering with attendances at entertainment houses.

PRIZE-WINNING HOME-MADE SET



Exterior and Interior Views of the Set constructed by Mr. A. W. Wellstead, of Prospect, which won the first prize in the Adelaide Radio Company's Competition

ANNOUNCEMENT OF PRIZE WINNERS.

The entries for this Competition were very encouraging and the high standard of workmanship reflected much credit upon the constructors. Many novel and useful ideas were incorporated in the construction of the sets, which showed care and fore-

thought, especially in regard to compactness.

The first prize was unanimously awarded to Mr. A. W. Wellstead, of 35 Prospect Terrace, Prospect, but the points for second and third prizes resulted in a tie. It has therefore been decided to divide the value of the second prize (£10) equally between the second and third prize winners. The results are:—

1. A. W. Wellstead, 35 Prospect Terrace, Prospect.

2 and 3 (equal). J. R. Arthur, 22 College Road, Kent Town, and L. B. Coombe, 4 Brown Street, West Croydon.

These sets will be exhibited in the company's show window from 25th September to October 3, inclusive.

OSCILLATING VALVE NUISANCE

A WORD FROM MR. ROBERT T. EDGAR.

Many experimenters will remember Mr. Robert T. Edgar, a former South Australian wireless "ham" and a familiar figure in the activities of the Wireless Institute. Mr. Edgar was residing in San Francisco for some time, and is now in Victoria, British Columbia. He is as keen, or if possible, keener, on radio than before he left our shores to seek his fortune farther afield.

In a recent letter to Mr. J. P. Hale, of North Adelaide, he replies to a question regarding interference to the

reception of broadcasting which oscillating valves are said to cause. He writes as follows:—"As regards interference from oscillating valves during broadcasting I may say that my personal experience has been that it is not at all objectionable, and does not worry the listener to any great extent. In the great metropolis, of course there are many canaries, but the broadcasting drowns them out entirely. Of course, in long distance reception with multi-amplification, a little trouble may be experienced. I have received music and speech from distances ranging from 10 up to 1,500

miles without much trouble. I think the canaries are greatly exaggerated."

Although at the present time some annoyance is caused in Adelaide by regenerative receivers, operated by inexperienced owners, it must be remembered that we are dealing with low power transmissions only. When 5000 watts (or even 500w) is to be used in the station on the Grosvenor, everyone's aim will be to use as little regeneration as possible.

Time will prove, but with Australia, one of the most sparsely populated countries, the oscillating valve problem should not be serious.

MARSHALL'S *The Shopping Centre*

TELEPHONE—4550. Seven Lines. RUNDLE STREET, ADELAIDE

The Directors take pleasure in announcing the opening of a new Section—

WIRELESS DEPARTMENT

One of the outstanding developments of recent years has been the advance of Broadcasting. Radio-Telephony now claims a place in the life of a large number of citizens. Coupled with this advent has been an enormous expansion in the Amateur and Experimental movement, creating practically a new industry. There has been a steady expansion of existing facilities, which has resulted in wireless communication taking its legitimate place and becoming one of the every-day necessities in the progress of modern civilised life. Keeping pace with these various developments, we have

OPENED A WIRELESS DEPARTMENT

controlled and staffed by experts, who will consider it a privilege and pleasure to advise and suggest to all interested. With the daily increasing demand for Wireless Apparatus it is being more and more realised that the best Instruments are always the least expensive in the long run. This is a point that we have been careful to observe. All our Transmitting and Receiving Apparatus and Instruments are of the highest efficiency.

We cite a few lines hereunder for your immediate interest and consideration:—

- Crystal Receiver, complete, with single ear-piece, head phone, aerial wire and insulators . . . PRICE 42/
- Superior Crystal Receiver, complete with head phones (Brandes), aerial wire and insulators . . PRICE 70/

We strongly advise all Country Visitors to see us about their Receiving Sets now. No technical knowledge is required to instal and operate these with full and complete personal satisfaction. The importance of knowing promptly the various market quotations will be clearly apparent. Have your Receiving Set purchased and installed with the least possible delay.

WE LIST HEREWITH A FEW OUTSTANDING LINES:—

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51 WAYMOUTH STREET, ADELAIDE

TIT BITS PICKED UP IN THE ETHER.

A Budget of Pars about Transmitting and Receiving "hams" in South Australia and elsewhere. Specially Compiled for "S.A. Wireless" by "Detector."

Both 5AC and 5DO are making a fine collection of DX cards.

"Dulwich calling" is now being heard far and wide. You've got some punch 5BG. You are strong on a loud speaker worked from a crystal set.

5WA was heard recently to complain that he was being branded as an I.W.W. and wished everybody to know that his license is quite O.K. Your transmission has a large amount of AC ripple AW.

5BN's transmitter has recovered from a burnt-out high tension transformer and is about again. His music is very nice now, especially from the new tone arm.

5BG was heard delivering a birthday greeting to one of 5BN's household over the ether recently. We wonder if Australians will follow America's lead in conducting marriage ceremonies by radio.

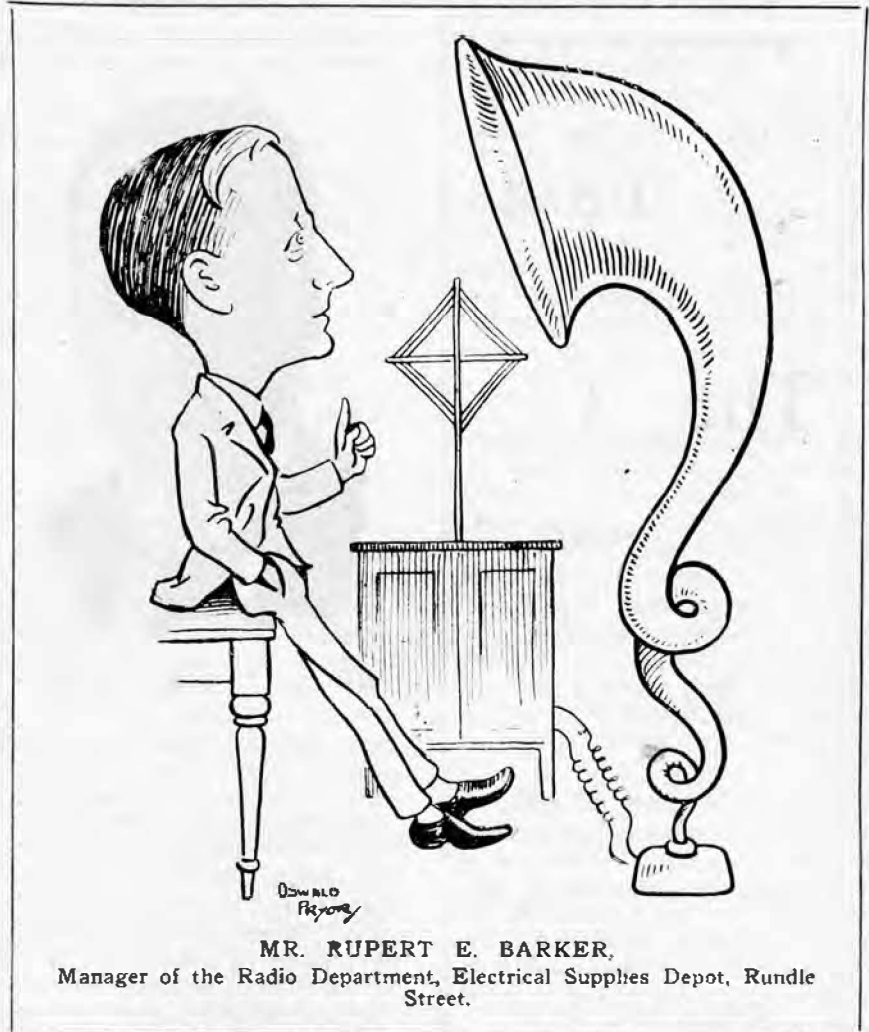
For quality of modulation and volume there is no better station operating in South Australia than 5 Don N. The numerous reports from interstate receivers testify to the fine carrying power and modulation of the Parkside station.

Tune in to the music of the chimes of 5DN, 8 o'clock Adelaide time.

5DA was heard advising listeners-in to keep the ether clear for reception of KGO. A very excellent suggestion DA.

Yorke Peninsula seems to be a fine spot for reception. "Detector" recently enjoyed listening to 2FC on the loud speaker with good volume in daylight, and at night time the strength of the station can only be imagined by those who have not heard it on the Peninsula.

Mr. Osborne, of Yorketown, is a very enthusiastic experimenter, having had some very fine results with his home-made set. Mr. Short, of



MR. RUPERT E. BARKER,
Manager of the Radio Department, Electrical Supplies Depot, Rundle Street.

Milaton, also can boast of some fine work. He reports reception of KGO on a 4 valve tuned anode set of his own construction.

Mr. Grivell, of Maitland, a dull-emitter expert, reports reception of 5DN as "very good indeed." 2BL comes in very well also on these tubes.

The wonders of wireless never cease. 5AH reports having received a DX card from 5AC. You are reaching out AH.

We all hope to have 5AI back with us soon after his holiday to recover from his recent illness.

Did that DX card addressed "5AC, Adelaide," reach you, Roy?

Mr. Randle, of Glenelg, has had the pleasure of logging KGO several times.

Mr. Rix, of Unley Road, finds that the seaside is far superior to the city for reception—even with a temporary aerial.

After Mr. Fiske's lecture on the beam system at the Town Hall we may look forward to seeing reflectors attached to amateur aerials. Who will be the first?

The hints on crystal sets given by Mr. Harry Kauper from 5DN are much appreciated by those who are just beginning their experiments in radio.

SCIENCE CONGRESS ENTHRALLED BY RADIO LECTURE

The paper that drew the largest audience to the Science Congress meetings was that delivered by Mr. E. T. Fisk (Amalgamated Wireless). The City Hall was well filled, and the lecturer was followed with rapt attention. Experiments in Beam transmission were the event of the evening.

(SPECIALLY REPORTED FOR "S.A. WIRELESS BY MR. RUPERT E. BARKER.)

To the wireless amateur the outstanding feature of the Science Congress held in Adelaide was the address on Thursday, August 28, on "Recent Developments in Wireless Communication," by Mr. E. T. Fisk, M.I.R.E., managing director of Amalgamated Wireless (A/sia.), Ltd. The Town Hall was well filled, and the lecture was listened to with the greatest attention.

Mr. Fisk was introduced to the audience by Sir John Monash, and they were told that the recently concluded negotiations with the Marconi Company for the erection of stations in England and Australia for high speed wireless communication were largely due to the efforts of Mr. Fisk. Mr. Fisk was also the first man who had ever heard words spoken in England, transmitted to Sydney by wireless, from the experimental station at Poldhu.

Mr. Fisk commenced his lecture by referring to wireless communication as one of the greatest applications of science that the world has yet seen. It already had had a great influence upon the actions of the nations of the world, but that was a mere nothing in comparison with the influence it would have in the future.

A series of lantern slides were then shown dealing with the waves that were utilised in wireless. It was shown that radio waves are the longest that are yet known, ranging from several feet to several miles in length, quite the opposite to the radium waves, which are measured in millionths of an inch. The difference between damped and undamped waves was explained, and a very interesting and clear explanation of the resonance characteristic was shown. In this experiment, which is not at all a new one, but which seemed to interest the greater part of the audience, several pendulums of varying lengths were all hung upon a horizontal string. When one of these pendulums was set in motion it caused a similar (same length and weight) pendulum to also oscillate, while all the other pendulums which



MR. E. T. FISK, M.I.R.E.

were of different lengths did not move at all.

An explanation then was given of the structure and way in which a valve works. The Edison effect was explained, and the way in which Dr. Fleming utilised the effect to receive radio signals was shown. The grid that De Forest inserted, and the difference in the valve when the grid had been introduced all were explained most clearly. Reaction and oscillation circuits were shown, and it was clearly demonstrated how by feeding back energy from the plate circuit to the grid circuit a valve could be used as a transmitter. This great discovery was made at practically the same time by Armstrong in America, and Meissner in Germany.

Pictures were shown next of the manufacturing processes, and the very complicated structures, used in the manufacture of valves, and it was quite a startling thing for most of us to hear that the latest types of valves are now being made in Australia. A particularly interesting part of the manufacture is the process known as "Gettering." This results in the nickel plated appearance of the glass in several types

of valves, and is due to the insertion of a substance (we believe it is magnesium) into the valve during the last process of exhaustion, while all the internal elements of the valve are heated as much as they will stand without melting in order to release the last particles of air that may be on the metal or glass. This substance is volatilised, and it imprisons the last traces of air between the glass and the fine film of metal that is deposited upon the interior of the glass of the valve.

The history of broadcasting was then touched upon, and it was explained that it was nobody's idea. It "merely happened." Broadcasting was not invented by anybody. It was a development which came about gradually. Mr. Fisk explained that the first broadcasted concert was held somewhere about June, 1920, from the Marconi Company's experimental station at Chelmsford, England, and the voice was heard all over Europe, and most of the way across the Atlantic. On one of the first of these concerts Dame Melba sang. The first public demonstration of broadcasting was in July, 1920.

Pictures were shown of the interior of Farmer's Sydney studio, and also of the transmitting station at Wiltoughby. This station has been heard all the way to Vancouver, though its normal range is 250 miles daylight and 1,000 miles at night.

The use of the direction finder at sea was touched upon, and then the commercial cable was compared with the modern high speed transmission as at present in use across the Atlantic. It was explained that the average speed of a submarine cable is not very high. This is due to the resistance, capacity and inductance of the cable, and up to the present no speech has ever been sent over a very great distance on a cable. These properties of a cable are not present in radio communication, and there is no limit to which speed may be developed in radio except the problems of designing instruments to work at high speeds. The greatest disturbance that radio has to suffer is due to atmospheric discharges.

NEW YORK?

Programme Reported Heard.

RUSH TO CONFIRM IT.

Just as we were going to press a report was received that Mr. J. C. Marshall, of Nairne, heard New York, probably 3,000 miles further off than KGO.

Extra valves were immediately installed to confirm the logging, and hopes of regularly hearing New York are now held.

On Monday, September 22, Mr. J. Ingoldby, of McLaren Vale, picked up Los Angeles.

SCIENCE CONGRESS (Continued)

Another problem is that radio waves travel in all directions, not only in the direction in which they are desired to go. Thus it is quite possible to hear in Adelaide messages being transmitted from New York to Europe, and vice versa. If all these waves were kept to limited paths it would be possible to work many more stations crossing and recrossing each other's path and yet have no interference. Because of this problem Marconi has been working since 1916 on directional wireless, and if we may judge by the demonstration given by Mr. Fisk we can readily believe that Marconi's experiments have been crowned by complete success.

A short wave transmitter, 2.9 metres, was operated from the Town Hall stage. At its back was a frame work upon which a number of wires had been strung vertically; these wires were insulated at each end. The transmitter was more or less at the centre of the reflecting antenna and also had its aerial in the same line as the reflecting wires. The reflector was apparently in the form of a semicircle, and two receivers were installed in the main body of the hall. These were tuned to resonance with the transmitter, and as the transmitter was not facing either of these receivers, neither one responded. As soon as the reflector and transmitter were focussed upon the first receiver it immediately responded, and as the transmitter was turned away from it to the other it ceased responding and the other one started up. This was tried several times, and in every case only the receiver which was in line with the transmitter responded. This was clearly the experiment of the evening, and its

success was an undoubted proof that the beam system is not a theory, but an accomplished fact.

It was explained that a 1 k.w. transmitter using this system had maintained communication over 2,300 miles sufficiently reliable for commercial working. When one compares this with the average functioning of a ship's set, which is usually of more than 1½ k.w., it will be easily seen that the beam system is a great advance in radio communication, and perhaps more than any other country upon earth Australia will need it, due to the great distance from other continents. It will enable several stations to be erected for the cost of only one high power station, as was previously projected, for working with England only. The beam demonstration was the first demonstration given anywhere in Australia, and Adelaide amateurs who attended Mr. Fisk's lecture will remember it for a long time to come.

The evening drew to a close when Professor Kerr Grant, on thanking Mr. Fisk for his talk, read a message that he had just received from Mars:—"Mars, August 27, 10.21 p.m., Earth time. To Fisk, Town Hall, Adelaide. Your signals of short wave length received here. Strength five. Inhabitants of Mars delighted to have their doubts concerning existence of intelligent beings on earth removed. Hope soon to establish permanent service. Please approach Commonwealth Government. (Signed) Chief Martian."

This was read amid a good deal of amusement, and the evening closed when Mr. Fisk said that he would like to ask Professor Kerr Grant to send a reply telling the Martians that we have so much to do in wireless at the present moment that we cannot take much interest in them, but we will wait till they come round again, which should be in about 120 years.

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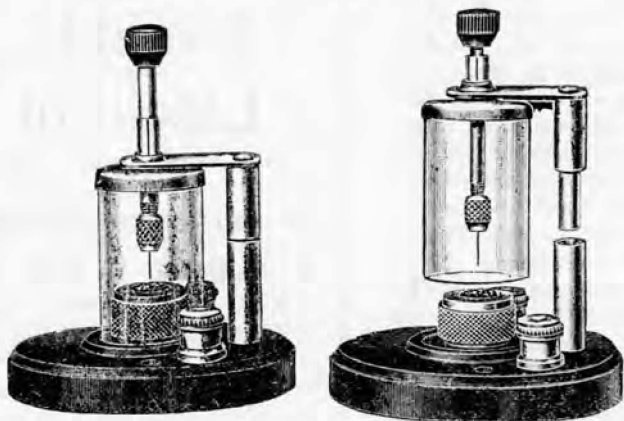
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EUDUNDA MAN GOES YANK HUNTING.

To the Editor of "S.A. Wireless."

Sir,—On Sunday afternoon, July 27, I was successful in logging KGO. About 4.45 o'clock I got a faint carrier. As there was nothing else doing, I hung on to it. It gradually strengthened as the sun sank lower, and about 5.50 o'clock I heard faint orchestral music. I could distinguish the saxophone quite easily, and I knew I had something out of the ordinary. A little later I heard a few words, but could not understand them. The music continued, until at 6.10 o'clock "KGO, Oakland," came through distinctly.



STRINGY BARK MASTS.

Built by Mr. H. E. C. Jansen, of Eudunda. They were made in 10 ft. sections then bolted together with strips of iron.

Was I pleased? I must have been excited, for I lost his carrier altogether for a few minutes. However, I heard music again. At about 6.3 o'clock I heard the following:—"KGO, General Electric Co., Oakland, California. Signing off now. KGO. Pacific coast time, 1 a.m." If there was any more to this announcement it was drowned in the first crash of static for the evening. I received this on 2HF and det. I am enclosing a sketch of the circuit I am using. The following Wednesday I listened in an 2HF det. 1LF, but there was a lot of interference from a howling valve and Morse. The following are extracts from my log:—

July 30.—Music at 5 p.m., speech 21 min. past; orchestra, Morse code. San Francisco.—29 min. past, KGO, then howling valve interfered. Music

coming over well before last announcement; very bad interference, Morse, and howling valve. KGO, rest drowned by Morse. Ten minutes to 6, saxophone very clear. Six minutes to 6, Station KGO (interference), San Francisco. Excellent music. At 6.6, Henry Halstead and his dance orchestra, Hotel St. Francis, San Francisco. Morse. KGO. Morse and the announcement, "about 10 minutes." Nothing till 6.14. K.G.O. Morse. San Francisco. Music. At 6.20 commenced to fade badly. At times very loud on phones, then fades right out.

August 3.—Carrier and faint music about 5 p.m. None of the announcements clear until 5.25, when KGO. Transmitting from the dining room of the Hotel St. Francis, San Francisco. 5.46, announcement and call sign. 6.5, KGO. Music by Henry Halstead and his dance orchestra, transmitted from the dining room of the Hotel St. Francis, San Francisco. There will be an interval of 10 minutes. 6.18, usual announcement. 6.29, Pacific Coast Station, KGO, music supplied by Henry Halstead and his orchestra from the dining-room of the Hotel St. Francis, San Francisco. KGO signing off now. Pacific Coast time, 1 a.m. good morning.

This was the best I have done so far. Music for the last half or so was audible all over my den on the loud speaker with four valves.

August 6.—Only received call once. Morse and static very bad.

August 10.—Static too bad to keep phones on more than a few minutes, but recognised orchestra. Speech was unintelligible, owing to static.

I am using Phillips' valves in my set. My aerial is a twin-wire, inverted L, 42 ft. high, 120 ft. long. It consists of 7/22 enamelled wire. Earth is rather long (24 ft.), but is made up of eight strands of 3/20 wire twisted together, and soldered to a couple of kerosene tins, which are lowered into an underground tank. I am only a beginner in wireless, as my first licence was granted last December. I have not had much luck with Adelaide transmitters so far. I have only logged the following:—5DO, 5BS, 5BN, 5AD, 5DA. 5BF has been received well. I have also heard 2BL, 2FC, 2SQ, 2HM, 3AR, 6WF, 2RJ, 1YA, 3FC (?), 2UZ (?), 4AS (?). Most of the above stations have been heard on the loud speaker with 2 audios. The set was entirely built by myself.

I have logged KGO ten times to date, usually strong enough to be heard 30 to 40 ft. from the loudspeaker on five valves (2HF, Det. 2LF). On August 30 they could be heard 50 yards from the house. During the transmission the announcer remarked that a special test was being conducted. I always be sure of getting them, provided the weather is fairly clear, but static has been awful up here lately. —I am, Sir,

COLLIN C. V. ORROCK,
Eudunda.

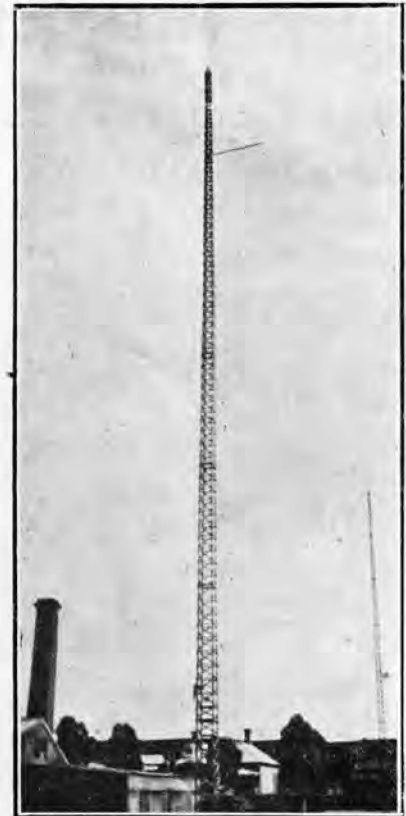
CLUB FOR WAYVILLE.

To the Editor of "S.A. Wireless."

Sir—I beg to bring before your notice that several amateurs in this district wish to form a radio club. Would you kindly insert this letter in your next issue so that any person residing in Wayville and wishing to join may apply to the undersigned who will furnish further particulars. The object of the club is mainly to help beginners. Thank you in anticipation.

—I am, Sir,

R. GOLLAN, Hon. Sec.
6 Davenport Terrace,
Wayville.



ANOTHER VIEW OF MR. JANSEN'S MASTS.

The height is 70 ft. The base is 1 ft. 6 in. square and the apex 5 1/2 in. square.

THE ELECTRICAL SUPPLIES DEPOT.

(Unbehaun & Johnstone, Ltd.)

Have just received intimation of a drop in price of loud speakers from their principals, The Western Electric Company. The well-known W. E. Baby loud speaker will now be retailed at 59/6. Listeners-in will be able to purchase a first quality product at a popular price. The W. E. Baby Speaker has a reputation backed by results especially with regard to clear reproduction. W. E. Baby Loud Speakers are now obtainable for immediate delivery from all leading radio stores.

THE MEN BEHIND RADIO.

Men, Materials, machines, blue prints, raw material, overhead charges, machine shop processes, assembling time, output and unit cost of production, so runs the gamut of Mr. Grime's mind upon the production problems that daily surround him, and the result is some of the finest wireless equipment yet produced in Australia—challenging comparison with that produced overseas. In the process he has trained several hundreds of Australians, and helped to build up a national Australian industry. Ten years ago many Australian business men asserted that it could not be done.

An Australian by birth, Mr. Grime commenced his apprenticeship in electrical engineering with the Strand Electric Light Company in 1904, and on that company's plant being absorbed in 1911 by the Sydney Municipal Council electric light department, took up service with the latter body, and remained seven years, during the latter portion of which he attained the position of superintendent of the electric workshops. In 1918 he resigned to take charge of the electric works of Amalgamated Wireless (A/sia), Ltd.



MR. S. M. GRIME, A.M.I.E.A.
In charge of Production Division
Amalgamated Wireless (A/sia), Ltd.

In 1922, in pursuance of its policy of sending Australian engineers abroad for experience, instead of importing experts, Amalgamated Wireless selected Mr. Grime, together with several other of the company's engineers, to visit England and the Continent with a view to investigating the latest developments in the manufacture of wireless and general equipment. While away he inspected the large wireless manufacturing works in England, France, and Germany, besides visiting the general electrical workshops in Norway, Sweden, and Belgium.

On his return he reorganised the radio-electric works on the most modern lines, installing the very latest machinery capable of producing every type of wireless apparatus. There is no keener advocate of the necessity of establishing Australian manufacturing industries than Mr. Grime, and his long association with the electrical and wireless industry have confirmed him in the opinion that products equal to the best imported can be efficiently and economically produced in Australia.

“FEDERAL” WIRELESS SET (6 Valve) BRINGS IN K.G.O. AMERICA



“Federal” Wireless 6 Valve Set.

On this set Mr. James Ingoldby, of McLaren Vale, has heard on three occasions music and speech from KGO Broadcasting Station, California, America. The distance is 8,000 miles, and this wonderful performance constitutes a South Australian wireless record. This success is due very largely to the use of the “FEDERAL” Radio Frequency Transformers, which have proved themselves the most efficient radio frequency transformer in the world, and over which the Federal Factory hold patent rights.

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	60 "	2	10	0	Hertzite 0 1 6
BATTERIES "B"					" 0 2 0
	Hellesens 60	0	17	6	Arcolite 0 2 0
	45	0	13	6	Iron Pyrites 0 1 6
	40	0	12	6	CATSWHISKERS—
	36	0	11	6	Silver 0 0 6
	30	0	10	6	Gold 0 1 0
	Ever-ready 42	0	15	0	DIALS—
	32	0	11	6	2 inch Signal 0 1 9
	40 (large)	1	5	0	2 1/4 inch Gilfillan 0 4 6
	30 "	1	0	0	2 1/2 inch Signal 0 2 6
CABINETS Full Polish from		1	0	0	2 3/4 inch Radion 0 2 9
CONDENSERS, VARIABLE—					3 inch Radion 0 3 0
	Ormond with knob and dial 001	0	15	6	3 inch Gilfillan 0 5 0
	0005	0	12	6	4 inch Radion 0 4 0
	0003	0	10	0	DETECTOR UNITS—
	Signal Vernier 43 plate 001	1	12	6	Gilfillan 1 12 6
	23 " 0005	1	8	6	EBONITE—
	Gilfillan 43 plate 001	1	12	6	Per lb. 0 6 0
	23 " 0005	1	10	0	Radion, per lb. 0 10 0
	7 " 0003	1	8	6	FIBRE STRIPS—
	43 " Vernier	2	10	0	Per foot 0 0 4
	23 " "	2	5	0	FORMERS—
	Nutmeg 5 plate	0	7	6	Spiderweb Ebonite (small) 0 2 3
CONDENSERS FIXED—					Spiderweb Ebonite (large) 0 2 6
	Dubilier	0	3	6	Cardboard Tuners 9d. to 1/3
	Signal	0	1	6	GRIDLEAKS FIRTH—
	E.W. Co., English	0	2	0	1/2, 1, and 2 meg. 0 2 0
	Mullard	0	3	6	Quickheat 0 1 6
					GRIDLEAKS VARIABLE—
					Watmel, 0 to 5 meg. 0 4 6
					Firth, 0 to 5 meg. 0 4 6

ADELAIDE RADIO

146 RUNDLE STREET

because it is cheap, but because standard of quality

HEAD PHONES—

Frost 2000 Metal Back	1 12 6
2000 Bakelite Back	1 15 0
3000 Metal Back	1 15 0
3200 Bakelite Back	2 5 0
Gecophone 2000 ohm pigskin band	1 19 6
Siemens 4000	2 2 0

INSULATORS—

Reel	0 0 5
Shell, large	0 1 9
Strain, Nutmeg	0 1 0
Strain, American Hard Rubber	0 1 9

JACKS—

Frost, Single Circuit	0 4 6
Double Circuit	0 5 0

KNOB	0 1 0
------	-------

LOUD SPEAKERS—

Atlas	7 10 0
Magnavox	15 0 0
Atlas, Unit Only	4 10 0
Brown, Baby	5 5 0

LIGHTNING ARRESTERS	5/6 to 25/
---------------------	------------

POTENTIOMETERS—

De Forest	0 12 6
Gilfillan, without dial	0 11 6

PLUGS, PHONE—

Frost	0 5 0
Frost Multiplug	0 12 6

POT RHEOSTAT—Frost	0 17 6
--------------------	--------

PEEP BUSHES	0 1 0
-------------	-------

PUSH PULL BATTERY SWITCHES	0 4 6
----------------------------	-------

RHEOSTATS—

Ormond, 6 ohm	0 4 0
Gilfillan, 10, 20, 30 ohm, without dial	0 8 6
De Forest	0 10 6
Nutmeg, 6 ohm	0 7 6
Nutmeg Vernier with Calibrated Dial	0 10 6
Frost	0 5 6

ROD BRASS—

12 inch length drilled	0 0 6
------------------------	-------

SWITCH DOUBLE POLE KNIFE	0 5 6
--------------------------	-------

Single Pole Knife	0 4 6
-------------------	-------

SOCKETS VALVE—

English	0 2 6
American Metal Shell	0 4 6
Gilfillan	0 6 6
V.T. Special	0 6 6

SOCKET SHOCK ABSORBER—

For American Valves, three gang (Frost)	1 5 6
Frost for Standard American Valves	0 6 6
U.V. 199 Sockets Bakelite	0 4 6

SPAGETTI—

Per 3 feet length	0 1 3
-------------------	-------

TRANSFORMERS, AUDIO FREQUENCY—

Jefferson 3 to 1	1 7 6
Gilfillan, 3½ and 6 to 1	2 0 0
All American, 3 and 5 to 1	1 17 6
Igranic	2 0 0

TRANSFORMERS, RADIO FREQUENCY—

200 Meters T.S.F.	1 10 0
300-600 Meters T.S.F.	1 10 0
1100 Meters T.S.F.	1 10 0

TERMINALS—

Brass, Small	0 0 3
Brass, Large	0 0 5
Nickel	0 0 6
E.B.Y., per set of 7	0 10 6

VALVES—

De Forest D.V. 2	1 15 0
Radiotron 201A	1 15 0
Marconi R.	0 19 0
Phillips D.1, D.2	0 18 6
Phillips E.	0 18 6
Marconi D.E.3	2 2 6
De Forest D.V.3	1 15 0

VARIOMETERS—

Nutmeg Brown Bakelite	1 10 0
Gilfillan, small R675	1 18 6

VARIOCOUPERS—

Gilfillan Radio Frequency RI-50	3 8 0
Workrite	1 5 0

WIRE—

D.C.C. and Enamelled.—All Gauges in stock.	
Square Bus Aerial, 2 ft. butt	0 0 4

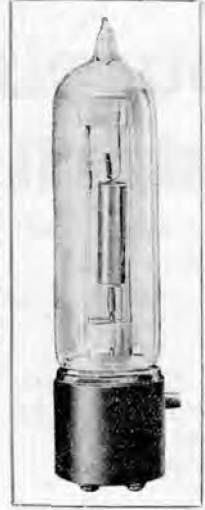
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PHONES—

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- "WE" 8000 ohm 45/ pr.
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- Murdoch 3000 ohm 35/ pr.
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- Browns 4000 adj £4 10/ pr.
- Browns 4000 D Type £3 10/ pr.
- Silicon 1/ box
- Galena 1/ box
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RHEOSTATS—

- Advance, 30 ohm 7/6 ea.
- Framingham, 6 ohm 7/6 ea.
- Ormonde 4/ ea.

VALVES—

- WECO Valve 35/ ea.
- Mullard ORA 17/6 ea.
- Philips DI 20/ ea.
- Philips DII 20/ ea.
- Philips E 25/ ea.
- Philips B2 35/ ea.
- UV 201A 35/ ea.
- UV 199 35/ ea.
- Radiotron Sockets . . 4/, 4/6, 5/ ea.
- Vario Couplers, "Nutmeg" 35/ ea.
- Honeycomb Coils, 25 to 1,500 turns from 2/6 ea.
- Honeycomb Coil Plugs . . 3/6 ea.
- Honeycomb Panel Mounting 4/- ea.

- Spiderweb Coil Formers 2/ & 3/ ea.
- Crystal Detectors 4/6 ea.
- 3 Coil Holders 25/ ea.

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- 3 inch 2/6 ea.
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- "Bestone" Dials, 3 inch . . 3/- ea.

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SPDT 4/6 ea.**

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Western Electric
Baby Loud Speaker
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- Western Electric 39/6 ea.

Dubilier Fixed Condensers
.001 and .002 3/6 ea.

- Mica Condensers, .00025, .0005, .001, .002 2/6 ea.

- Series Parallel Switches . . 3/6 ea.
- Contacts and Stops 2/ doz.

LOUD SPEAKERS—

- Western Electric, from 59/6 ea.

RADIO JACKS AND PLUGS—
4/3 ea.

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- Nickel Plated 6/6 and 8/6 ea.

EBONITE—

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- 3-16 in. 7/8d. sq. in.

CONDENSER PLATES—

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- Spindles 2/ to 2/6
- Plates 2/ doz.
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- Large Washers 9d. doz.
- Aerial Wire 2/6 lb.

TERMINALS—

- Nickel, Small 5d. ea.
- Nickel, Large 9d. ea.
- Ebonite Top 8d. ea.

VALVE SOCKETS—

- English 2/9 ea.
- UV 199 4/ ea.

SWITCH ARMS—

- Esda 4/6 ea.
- Framingham 4/ ea.

FIXED CONDENSERS—

- .0005, .00025, .001 1/6 ea.

VARIABLE CONDENSERS—

- Ormonde, 43 plate 15/6 ea.
- Ormonde, 23 plate 8/6 ea.
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- Complete with Dial.
- Vernier, 43 plate 30/- ea.
- Other Makes from 18/6 ea.

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9 RUNDLE STREET

ADELAIDE

COUNTRY AMATEURS—SEND US YOUR ENQUIRIES.

RADIO HAS ITS HUMOURS

In this article, Professor "Sam Slick," who is a well known identity in South Australian Radio circles gives first-hand information how to go about erecting a set and picking up broadcast programmes.

During the past few months nothing has secured a greater hold on the public imagination than wireless, and so, perhaps, a few words on the subject by an acknowledged authority should not come amiss.

It is generally believed that wireless is a modern invention, but this is open to grave doubt. During recent excavations at Luxor and in Eastern Mongolia, no trace of wire was discovered, which seems to point conclusively to the fact that these ancient peoples communicated without the aid of wire, too. However, our present concern is "wireless, and how to do it."

There are quite a number of well-meaning citizens who will supply and erect an efficient set for you at a cost of about £10, but when it is realised that the average handy man about the house can, as the result of three months' bungling and the expenditure of about £50, put up one almost as good, it can readily be seen that there is not much in it.

The first thing to obtain is several thousand feet of assorted wire in coils. There are various means of doing this. It may be purchased, borrowed, or conscripted from fences. The next step is to litter it all over the house. Even in the early stages it is a source of immense satisfaction to the real en-

tion of "go-getters" it should not be difficult even for the dullest to go and get an attic.

This accomplished, the next item is the aerial. This is composed of a sort of wire clothes lines, only double. One end must lead into the attic window. On a quiet summer evening there is no finer sight than to watch the wireless waves gambolling up and down the wire, then at dusk to observe how cleverly the hens pick it out for their night's roosting.



Litter the wire all over the house. It helps to convince visitors you are in the business for keeps.

Of course the other end of the wire is firmly fixed to a pole. Usually it is a safer plan to get the neighbour to fix said pole, as there is a certain amount of risk while messing about at some height. Neighbours like climbing up high. When elevated it is easier to see what is happening next door. A point to keep in mind is to place the ladder in such a position that the aerial erector will keel over into his own back yard should the ladder fall. If there must be neck breaking see that it happens on his own premises. This will save you heavy legal costs besides the worry of dragging home the corpse.

Once this aerial is fixed and you are disinclined to incur any further cost, nothing more need be done, as you can talk about wireless just as well without possessing a set. The aerial can always be pointed to convince the misguided sceptic. On the tram the conversation will run something like this:—"Hullo, Bill? Where'djer go last night? Thought you were comin' round to listen in. My lad's set was working beautifully. We soon got Syd—er, by the way, aren't you getting a set of your own? No? Well, as I was saying, we were listening in while the boy turned the dials and we distinctly heard New York." This will cause a sensation in the car, and a

few disbelieving ones will grin. They are easily converted. Just trot out a few "Huh's" "H-n-n-n's" "Say, kids," etc., and explain that the accent was so strong that you haven't yet got it out of your nose, and even the gripman will stop the car so as to pick up all the details. A few generalities about chms, watts, terminals, cut outs, grid leaks, and valves will give the finishing touches.

Should you wish to go the whole hog and really get music the thing is to begin with a crystal set. For this a piece of crystal is necessary, also a cat's whisker. The latter should be harvested from a grimalkin after dark.

An earth will be needed. The one we have been living on has been found to answer the purpose very well. Although some have been casting longing (and doubtless long, too) ears on Mars, it would be somewhat expensive to get another earth at this early stage. Add a lead-in to your embryo set, which means attaching it to a string so you can pull it back if some thief wants to sneak it, and you are ready for KG or anybody else who is looking for an intelligent audience.

Fasten the various gadgets at the spot X (you can't miss X because it always marks the position where the body was found), affix the headphones, titivate the cat's whisker, and you will



Several good cat whiskers are on the market, but the best are harvested from the grimalkin after dark.

hear distinctly in the left phone a kind of vague tittering. A gurgle or two follows, then a flop. Of course you know what that means. You have barged into the wave length of a hair parlor at the moment a society leader, aged 73, is getting shingled.

This is as far as most crystal sets go, but with a fairly strong imagination and a printed programme a good deal of quiet entertainment can be secured.



Get your neighbour to fix the aerial. Better his corpse than yours.

thusiasm to be able to say to some unwary visitor who has been brought down heavily in the passage by one of these coils, "Oh, yes; that's the wireless I'm fixing up, y'know." But to proceed with the foul play.

If you have not an attic, it is almost futile to go further, as for some reason wireless waves have a strong preference for entering the house through the attic window. Like the burglar, they are strong on second-storey work. Therefore, if you have not an attic, instal one. Among a

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with own name and address and
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WIRELESS "OLD MASTERS."

Mr. E. J. W. Gunner, of the South Australian Broadcasting and Radio Company says the theory that sound waves go on continuously and never stop is so far only a theory. It is possible, however, that messages now being transmitted may be picked up again.

The South Australian Broadcasting Company has a capable official in Mr. E. J. W. Gunner, who is in charge of the transmitting department and works. In addition to installing the temporary transmitter at the Grosvenor, Mr. Gunner arranged the erection of the aerial which was raised without a hitch and has functioned most satisfactorily ever since.

He is an Englishman and came to Australia 12 months ago, considering there would be a great opening here for wireless. Mr. Gunner had been associated with the British Broadcasting Co. but was somewhat disappointed on arriving in Adelaide to find that wireless was so backward. That was due in a large measure to the uncertainty concerning the regulations.

Directly the new rules were gazetted wireless leapt into the forefront and in a little while Mr. Gunner found himself in charge of South Australia's Class A broadcaster. Prior to that he was attached to the draftsman's department of Newton, McLaren, Ltd., and among other work he was engaged in designing the Bedford Park transmitter.

He is tremendously enthusiastic about the prospects of wireless, particularly in the Commonwealth. "At present pictures are being transmitted," he observed, "and even moving pictures are being shown by radio. In the near future not only the voice will be brought into the home, but also the picture of the artist singing. I have not the slightest doubt about that."

"We are getting numerous reports of the reception of concerts sent out by KGO (America). Do you reckon that is good work by amateurs?"

"I do. I have found, however, that the conditions in Australia are much better than they are in England for reception, although our summer conditions as regards static are very much worse. It is noticeable that a re-



MR. E. J. W. GUNNER.

ceiver of a certain range in England has a much greater range in Australia. While with Newton, McLaren, Ltd., I conducted a number of tests which proved conclusively that Australia's conditions are more favourable to wireless than England's, therefore I am not surprised at the ease with which America is being picked up here."

Recent efforts to speak to Mars have raised the question whether speeches delivered years ago may still be circling in the ether and are liable to be picked up by listener's in. Some enthusiasts go so far as to say they do not despair of hearing the address of one Canute to his flatterers when it was demanded he should order the waves to go back, or to catch the side remarks of Wellington while waiting for Blucher to turn up at Waterloo.

Mr. Gunner has his doubts about it. "It is quite possible," he said, "that later on messages now being transmitted will be picked up again. It will depend upon the development of receivers. The theory is that the sound waves go on continuously and never stop, but so far it is only a theory. Anyhow, I have not picked up anything I could identify as a genuine 'old master,' in the shape of a message that has been trotting round the earth for years. Still, there is no reason to give up hope. Wireless has made great strides, but what has been accomplished is nothing to the wonders ahead."

**OUTBACKER'S CRUDE SET,
PROVES REVELATION TO HIM.**

With set connected up "anyhow,"
Kyancutta man gets Music over a
Thousand Miles.

Mr. R. Bedford (5RB, Kyancutta Cottage Hospital, West Coast), has surprised himself with a home-made set that can tune in Sydney with ease. Herewith his cheerful letter:—

I am not transmitting yet, but hope to start in a few months' time. I am delighted with your paper, and consider it a credit to the State. I have been interested to read from your correspondents the remarkable distances in reception covered by one or two valves. That has also been my experience. I am using two W12 valves (detector and L.F.), and receive 2FC, 2BL and other stations nightly with perfect clearness and loud volume. From the British and other wireless papers and advertisements, one or two valves are only expected to cover 50 to 100 miles for speech and music, and it therefore suggests itself that our Australian conditions, with wide open spaces and clear atmosphere may be particularly favorable to long distance reception.

My own set is home assembled, without previous experience, and is connected up "anyhow," without soldered connections and with bits of cotton-covered wire running more or less wherever the fancy takes them. That such a set will receive broadcast satisfactorily for over a thousand miles has been a revelation to me.

Would you please publish in a forthcoming issue a tubular list of Australasian broadcast stations, giving power and wave length. This information has not yet appeared in your columns, and would, I think, be useful to many of your readers.

**WIRELESS HUMOUR.
TWO PRIZES MONTHLY.**

Humour abounds in wireless. Jokes about it arouse smiles that are legion. In this respect wireless is like all other good things.

To discover this humour the "S.A. Wireless" (Monthly) has decided to offer two prizes each month.

- (1) For the best wireless joke (not illustrated) 5/
- (2) For the best wireless joke (illustrated) 15/

ENTRY FORM.

Enclosed please find my entry for the "S.A. Wireless" (Monthly) Humour Competition.

The Editor has full rights to publish same whether it wins a prize or not.

Name (Mr., Mrs. or Miss)

Address

RADIO BEFORE POLITICS

**COUNTRY PARTY SECRETARY RESIGNS JOB TO
PROMOTE WIRELESS IN COUNTRY.**

Some surprise was caused last month at the resignation of Mr. E. D. Scammell from the position of General Secretary of the Country Party Association in South Australia. Mr. Scammell proved himself a live political campaigner, but he feels no misgiving in "shaking" politics and getting into radio.



MR. E. D. SCAMMELL.

"I propose to give my whole time," he said "to the extension of broadcasting, and intend to handle the country sales of receiving sets and wireless equipment for Newton, McLaren, Ltd., of Leigh Street. Mr. Les Evans, late chief organizer of the Country Party, will join me."

Mr. Scammell claims he was one of the first in South Australia to draw the attention of the public through the press to the possibilities of wireless telephony, particularly as it affected the rural districts.

With Mr. Evans he proposes to give public and private demonstrations, but these will not start until the A class station in Adelaide has erected its new equipment. At present the demand for equipment is coming chiefly from experimenters, and these will be supplied.

"Wireless is one of the great forward movements of the world" says Mr. Scammell. "It ranks with the invention of wheeled transport, lever power, steam, and electricity as a milestone along the road of human progress. I am glad to be able to help bring in this new epoch. Inter-Empire and inter-racial condition can never go back to the time when wireless was not. Flying and radio are the two great achievements which have marked the first quarter of the 20th century."

WEST SUBURBAN RADIO CLUB

On Thursday, August 7, members of the West Suburban Radio Club held their thirteenth general meeting at the club room, 44 King Street, Mile End. The president occupied the chair, and the attendance was fair. Mr. V. Boase presented the club with 50 radio books, which were highly appreciated by all the members present. The president then read and described the functioning of a valve.

A pleasant and instructive evening was conducted at the club room on August 21, at which the vice-president (Mr. A. M. Isaacs) occupied the chair, the attendance being exceedingly good. The feature of the evening consisted of a demonstration and lecture given by Mr. Lauce Coombe on Mr. Harry Kauper's 5BG circuit. The results obtained were good. The vice-president also demonstrated some radio parts. All intending members are invited to communicate with the hon. secretary, Mr. V. K. Coombe, 44 King Street, Mile End.

QUORN RADIO SOCIETY.

The first meeting of the Quorn Radio Society was held at Mr. Blum's residence, First Street, Quorn, on Monday night, August 25. The attendance was up to expectations, and it is certain that the membership will increase when the existence of the society becomes generally known.

After the resolutions covering the formation of the society had been carried, the following officers were elected:—Patron, Mr. S. C. Chennell; president, Rev. H. A. Williams; vice-president, Mr. C. T. V. Noble; hon. secretary and treasurer, Mr. C. A. Blum; council, Messrs J. W. Moate and W. Koepcke. It has been decided to hold the next meeting at the vice-president's residence. There have been 10,000 broadcast listening-in licences issued during the past few weeks, so judging by this radio is booming in South Australia, and no doubt it will boom in this town. All communications should be forwarded, and enquiries concerning the society, should be addressed to the hon. secretary, Mr. C. A. Blum, Quorn.

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THE MOST COMPLETE LINE
RADIO PARTS EVER

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FROST-RADIO

No. 618. Bakelite Sponge Shock Absorber Socket, Standard base, panel or table mounting .. 6/3

For 199 Tube 6/3

For those who wish a compact gang of three Shock-Absorber Sockets. The construction is identical with our separate sockets, except for base. For panel or table mounting.



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No. 600. — Frost-Radio Metal Frame Rheostat or Potentiometer.

Equal in operation to the best molded type, with precision, operation of all moving parts and guaranteed resistance wire. Frame is made of heavy sheet brass, nickel plated and formed so as to give a rigid construction both to the windings and the contact arm. Central mounting thimble with locating tip prevents turning when mounted on panel. Washers provided to fit panels of varying thickness. Fluted molded knob and nickel plated pointer.

No. 600, Metal Frame Rheostat, 6 ohms 5/6

No. 602, Metal Frame Rheostat, 35 ohms 5/6

Same with Vernier 7/6

No. 603, Metal Frame Potentiometer, 400 ohms 5/6

No. 605, Metal Frame Potentiometer, 200 ohms 5/6

EACH OF THE ABOVE, WITH VERNIER, 7/6.

FROST SOCKETS.

- 618 SINGLE SHOCK ABSORBER SOCKET, for Standard Valves 6/3
- 617 SINGLE SHOCK ABSORBER SOCKET, for UV199 and C299 6/3
- (All above sockets are made of Bakelite and have sponge rubber cushions.)
- 612 BAKELITE SOCKET, for C299 and UV199 Valves 5/-
- 100 BAKELITE SOCKET, for Standard Valves .. . 5/-
- 619 3 GANG SHOCK ABSORBER SOCKET, for Standard Valves 24/6
- 616 3 GANG SHOCK ABSORBER SOCKET, for UV199, C299 24/6

FROST RHEOSTATS AND POTENTIOMETERS

COMPLETE WITH TAPERED BLACK BAKELITE KNOBS, METAL PARTS HIGHLY NICKELLED, KNURLED TERMINALS, TECHNICALLY PERFECT.

- 650 RHEOSTAT, 6 ohm (Maroon Bakelite) .. . 7/3
- 651 RHEOSTAT, 6 ohm Vernier (Maroon Bakelite) .. 9/6
- 652 RHEOSTAT, 35 ohm (Maroon Bakelite) .. . 7/3
- 653 RHEOSTAT, 35 ohm Vernier (Maroon Bakelite) .. 9/6
- 600 RHEOSTAT, 6 ohm Metal Frame .. . 5/6
- 601 RHEOSTAT, 6 ohm Vernier, Metal Frame .. . 7/6
- 602 RHEOSTAT, 35 ohm, Metal Frame .. . 5/6
- 604 RHEOSTAT, 35 ohm Vernier, Metal Frame .. . 7/6
- 654 POTENTIOMETER, 400 ohm (Maroon Bakelite) 9/6
- 605 POTENTIOMETER, 200 ohm, Metal Frame .. . 5/6
- 603 POTENTIOMETER, 400 ohm, Metal Frame .. . 5/6

FROST MISCELLANEOUS

- 301 EXTENSION CORD, complete with Adaptor and Plug, 20 ft. .. . 32/6
- 400 LOOSE COUPLER or Receiving Transformers .. 75/-
- 410 CRYSTAL TUNING COIL SLIDER (1100 metre range) .. . 27/6
- 501 RADIO JACK BOX (for 4 plugs) .. . 28/-
- 611 ADAPTER, for C299 or UV199 .. . 5/6

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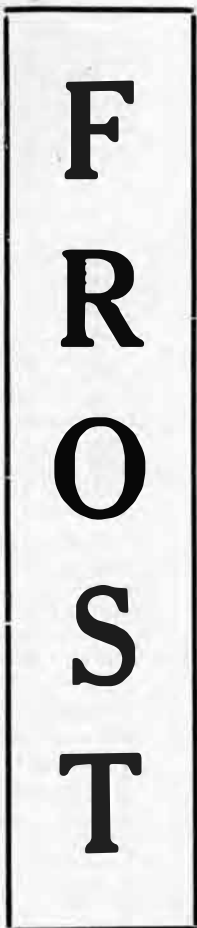
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NICKLE PLATED, FORMICA INSULATION, NICKLED SILVER CONTACT SPRINGS, PURE SILVER CONTACT POINTS.

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- 131 DOUBLE CIRCUIT JACK 5/-
- 134 CLOSED CIRCUIT JACK 5/-
- 135 FILAMENT SINGLE JACK 6/-
- 136 FILAMENT DOUBLE JACK 6/6
- 126 NEUTRODYNE CIRCUIT JACK 6/6
- 140 PLUG, DOUBLE (2 connections) 5/-
- 139 PLUG, SINGLE 4/6

FROST MISCELLANEOUS

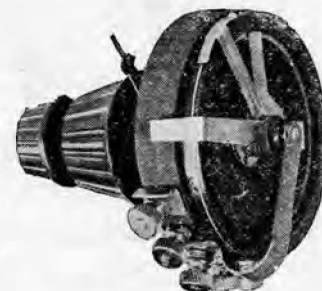
- 630 RESISTANCE UNIT, 35 ohm (to increase resistance) 3/6
- 631 INDUCTANCE UNIT (to increase wave length) 15/-
- 620 POTENTIOMETER SWITCH 5/-
- 621 PARALLEL SWITCH 5/-
- 608 PUSH-PULL BATTERY SWITCH 4/-

FROST HEAD FONES

STANDARD THE WORLD OVER.

- 161 FONES (Aluminium Head Pieces), 2000 ohm 32/6
- 171 FONES (Aluminium Head Pieces), 3000 ohm 37/6
- 172 FONES (Maroon Bakelite Head Pieces) 3200 ohm 45/-

THE MAGNETS IN FROST FONES ARE TREATED WITH COPPER TO PREVENT CORROSION BY MOISTURE and SALT AIR.



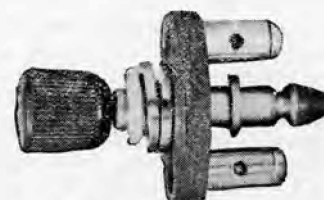
FROST-RADIO

FROST COMBINATION POTENTIOMETER-RHEOSTAT

COMPLETE WITH KNOBS, ALL HAVE KNURLED BINDING POST CONNECTIONS, AND ARE TECHNICALLY PERFECT.

610 TUBE CONTROL UNIT, a combination of a 35 ohm Vernier Rheostat and 400 ohm Potentiometer . . 17/6

607 TUBE CONTROL UNIT, a combination of a 6 ohm Vernier Rheostat and 200 ohm Potentiometer . . 17/6



FROST-RADIO

No. 608, Push-Pull Battery Switch, 4/.

"Applause" Cards Furnished Dealers and Clubs Without Charge.

United Distributors Ltd.

(WHOLESALE ONLY)

MANUFACTURERS OF HOME ASSEMBLY SETS

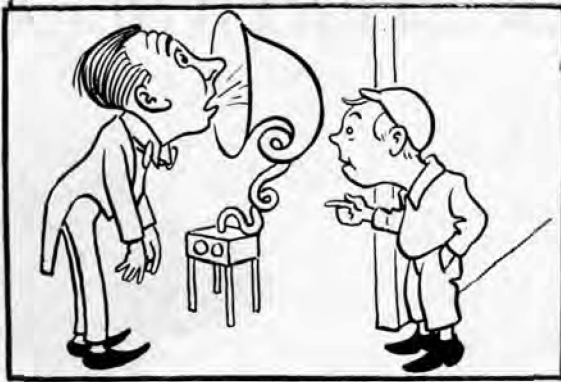
A FEW TERRITORIES OPEN FOR AGENTS.

Brisbane

Adelaide

Melbourne

WILLIE COPPIT IS SOME ANNOUNCER.



Willie—"Say Mister, have you got a vacancy for an announcer? I'm little Willie Coppit, late of Woop Woop."



Announcer—"Aw, go away. Can't you see I'm busy?"
Willie—"Lemme sing into it then. Just listen to this!"



Willie—"I can do some vaudeville stunts, too. Whistlin' songs is my line."
Announcer—"Pooh, I can do them myself."



Dad (in the outback)—"Cripes, Maria, grab your ear horn quick. This sounds like Grand Opera coming in."
OSWALD PRYOR.

MR. H. C. MACKENZIE.

Of 13 Twin Street, Adelaide, reports that he has now in stock a large assortment of all parts, and also complete wireless receiving sets, ready for immediate delivery. The sets range from one to six valves, and are highly efficient. Exceptional results are reported by Mr. James Ingoldby, of McLaren Vale, who owns a Federal six valve set. On three occasions he has heard distinctly music and speech from KGO broadcasting station in America. This station is transmitting from the Hotel St. Francis, San Francisco, the leading hotel in 'Frisco. As the station is 8,000 miles away, the reception by Mr. Ingoldby on his Federal set constitutes a South Australian record, and proves the quality of Federal wireless equipment. Constant shipments are now arriving from overseas, including the latest parts and accessories. The last shipment to hand includes three winding rheostats, which will work any wireless valve, potentiometers suitable for dull emitter valve circuits, Federal speakers, 1 MF Filter condensers tested to 1,000 volts, and all ranges of the famous Federal radio frequency transformers, which have put up such record-breaking results throughout South Australia.

HINTS FOR THE EXPERIMENTER.

Those experimenters who have not had best results with 5BG circuit are advised to change over the connections of their coils until loud signals are obtained. It is also necessary to have the B battery well up to the mark as one defective cell will upset the whole working. The best resistance appears to be a Dubilier 50,000 ohm unit.

Some experimenters often complain that they cannot receive the amateur stations on crystal sets they have purchased. It should be understood that these sets have probably been imported and are designed only for the broadcasting wave band of the country where they were made. This sometimes applies also to valve sets.

When purchasing sockets for American type tubes see that the spring contacts are firm enough to make proper connections to the valve pins.

Sockets having double springs are best. Bad contacts in valve sockets are a fruitful source of trouble in receiving sets.

GOOD WORK WITH THE CRYSTAL.

To the Editor of "S.A. Wireless."
Sir,—I have observed with much interest recent reports concerning crystal reception. I think the results I am getting with a crystal receiver may be of some interest. My set is a home-made single slide crystal, using an iron pyrites crystal and one stage of audio frequency amplification. My air line distance to Sydney is 900 miles, and to Adelaide 100 miles. With the crystal set alone I have heard all the Australian commercial stations, and by adding one stage of audio frequency I was able to pick up 2FC clearly, and also VLA in New Zealand. 5HR, who is about six miles from my station, comes in very loud. VIA is readable at night about 25 ft. from the 'phones. My aerial is of the inverted L type, consisting of three wires 85 ft. long and 50 ft. high; my earth is about 50 ft., but this is only temporary.—I am, Sir, etc.
W. A. SMITH.
Experimenter 6901, Wallaroo, S.A.

ALLEGED BROADCASTING SCANDAL.

SYDNEY NEWSPAPER CASTIGATES REGULATIONS AND PROGRAMMES.

The Sydney "Sunday Times" is astonished to think that listening-in fees should be 35/ in Australia compared with 10/ in England. It urges that another revision of the regulations should be made at once.

Under the heading of "Broadcasting Scandal" the Sydney "Sunday Times" complains of appalling Government neglect in connection with radio. The "Sunday Times" says the Federal Government blundered when it framed the broadcasting regulations, and that a revision of existing conditions should be made at the earliest possible moment. It thinks the public can best be served by one big broadcasting service.

The substance of the newspaper's complaint is mainly directed against conditions in Sydney where Farmers, and Broadcasters Limited have the A Class licences. The Associated Seven, whose claims it apparently espouses, include Anthony Hordern & Sons, David Jones, Ltd., New Systems Telephones, Marcus Clark & Co., Mark Foy, Harringtons, and Lasseters. This Big Seven contend that broadcasting is a public utility and that the public has a right to expect a broadcasting service to be rendered without profit to those conducting it. The Big Seven, it is alleged desired to establish one big representative company with no eye to individual profit.

So far so good. All this argues that the Big Seven are prepared to give the public something for nothing, a service which they are quite at liberty still to perform by taking out licences under the B Class schedule. Thus the gravamen of the complaint seems to be that somebody is being paid for broadcasting while the Big Seven are not.

In support of its argument the "Sunday Times" points out that in England there is only one Broadcasting Company (the B.B.C., although the "S.T." does not mention the name) with several stations throughout the country. It makes no profit and gives the public one of the best services in the world. "The amazing feature about it" adds the "Times" "is the fact that for the maximum licensing fee of 10/ the listeners-in can pick up Paris, Berlin, or other Continental cities as well as America."

It is here that we must join issue with the Sydney paper. It is not amazing that B.B.C. can broadcast programmes at 10/ a year. In the first place in the United Kingdom itself there are about ten times more people than Australia. In the second place within 500 miles of Great Britain there are 100 times more people than in the Commonwealth. When the "Sunday Times" is "amazed" at the Londoner listening to Berlin or Paris at 10/ a year it must not be forgotten that it is like Mount Gambier listening in to Adelaide, Horsham listening-in to Melbourne, or Hay receiving programmes from Sydney. On the average, Europe's distances are a third of those of Australia, and as England's listening-in fee is a third of that in Australia (it will soon be more than a third because next year our rates will come down) it does not appear that our scale is so outrageous.

On top of that let it be remembered that the B.B.C. is a combine of equipment makers. It gets more than a licence fee. It collects a royalty on all the sets sold. Later on as manufacture become prevalent in Australia, the profits from this source may be large enough to cause a reduction in the listening-in fees. Meanwhile it would be impossible for companies to live on royalties alone.

If the object of the "Sunday Times" is to make broadcasting cheap and universal we are in hearty accord with it, but from the arguments put forward, it is difficult to see that it has any better proposal to make than the regulations now in force. What the article seems to suggest is that we should change a limited monopoly of State broadcasters in favour of a Commonwealth monopoly for somebody else.

As a final blow the "Sunday Times" compares Farmers Sunday programme with various English stations. There are many stations in addition to Farmers which should have been quoted to make the comparison fair.

WIRELESS SUPPLY DEPOT . .

109 King William St.

ADELAIDE

FOUR-VALVE SETS

From £45
(complete)

All Classes of Radio

Goods stocked.

'PHONE C. 1465.

WIRELESS POST CARDS OR DX WALLPAPER.

CORRECTLY PRINTED IN TWO COLORS WITH OWN NAME AND ADDRESS, STATION NUMBER, Etc.

250 - for - 22/6

100 - for - 14/

SINGLE WORKINGS CHEAPER RATES.

THE MAIL NEWSPAPERS, LTD., GILBERT PLACE.

NOTES FROM WEST AUSTRALIA

(From our Special Correspondent.)



The Announcer at 6WF (Mr. H. R. Wells).

The Westralian Farmers Broadcasting Station 6WF, Perth, W.A., has been operating for some months now using a power of approximately five hundred watts. Reception throughout the suburban area is very good, and people are now rushing the dealers for sets. At the present traders are very short of supplies, but big shipments are arriving shortly.

The assembly of the new apparatus which has recently arrived at the Farmers Station is practically completed, and will be commencing tests about September 10. Amateurs in South Australia should experience little difficulty in tuning in the W.A. Farmers when the power is increased to 5 kilowatts.

Programs from 6WF.

The programmes broadcast from 6WF are fair. This company allows the amateur two nights in the week to broadcast items. These nights are called "concert nights," and the other professional nights. Taking the programmes on the whole there is a little too much "canned music" utilised. However, everybody seems to be fairly well satisfied. The most popular evening of the week is Saturday night, dance night, when the Westralian Farmers Cabaret Jazz Orchestra takes the programme and plays dance music from 8 o'clock to 10.30. The announcer of this station is Mr. Wells.

S.A. Experimenters Heard in W.A.

Quite a number of Eastern States amateurs are being heard in this State,

and good reception is obtained from 5BQ's transmissions using only one valve, and on switching on two his transmissions are received exceptionally well. Experimenters are quite enthusiastic over the opening of the South Australian Broadcasting Station, which should be easily tuned-in over here.

The Subiaco Radio Society.

The above society which is the leading club in Western Australia has a membership of over one hundred. Meetings are held every Tuesday night. The club is the proud owner of two wireless receivers, totalling in all seven valves. These sets are built on the unit system, and are at the service of the members. The club has a very fine library which has proved very useful. The society's president is Mr. W. R. Phipps, and secretary Mr. B. Congdon, both pioneers of wireless in W.A., and real live wires too.

Special Demonstration.

The above society gave a special demonstration on Tuesday, September 9, illustrated by lantern slides and special apparatus for the occasion. The demonstration was in the hands of Mr. B. Holt, a leading wireless man in W.A. This was exceptionally interesting to the beginner, and the general public as well.

REINARTZ RECEIVER IS RECOMMENDED.

5BF says it deserves far more Attention, and offers to assist Amateurs who wish to give it a Try-out.

Mr. Francis G. Miller (5BF, Murray Bridge), one of our many valued correspondents, takes up the cudgels on behalf of the Reinartz receiver:—

The results I have achieved, he says, with a Reinartz receiver, which I have been noting for the past three months may be of interest to your readers. The Reinartz receiver, I may state, is the invention of a young American experimenter, and is deserving of far more attention than the Australian amateurs give it.

The simplicity of tuning, only one dial being used, the ease with which regeneration can be controlled, coupled with its low radiating characteristics, make it the ideal receiver for experimental use. For CW work especially the signal strength per valve is not equalled by any other receiver using a "straight" circuit.

With one stage of audio coupled to my Reinartz, I regularly copy amateurs in all States and New Zealand, except Western Australia. KGO has also been heard on several occasions with good audibility, using the above combination.

A great advantage the Reinartz possesses over the usual regenerative set is its freedom from parasitic, and static, noises. Its remarkable pick-up qualities may be inferred from the fact that on one occasion nine different stations in three States, not S.A., were received in 90 deg. of tuning condenser dial, no other adjustment being necessary.

Sets of this type, especially the new Reinartz, will go a long way towards solving the present difficult position regarding oscillating receivers. I will be only too pleased to assist any amateur who decides to give this tuner a try out.

VARCOE & CO. ARE BUSY.

Messrs. Varcoe & Co. are selling big supplies of their Super Varcola Crystal Sets. They have been proved great music getters and should prove a long felt want for a good receiver. They are made in three models—30/, 39/6, and £3 5/ without phones. They are as good as a 1-valve set. Valve sets at £10 10/, £17 17/, and £27 7/ are meeting with a steady sale and inspection is invited. A large shipment of English parts are expected this week and the prices will be right. A glance at their windows and show-rooms quickly convince that Varcoe's are getting busier every day. Varcoe's have been appointed agents for the world famous Gephone Radio Sets and demonstrations are given in their Radio Hall daily. R. Marconi valves at 19/ are well worth attention.

VARCOE'S

"Pioneers of Cheap Prices"

Valve Sets

1 Valve	£10 10 0
2 Valves	£17 17 0
3 Valves	£27 7 0
4 Valves	£29 0 0

includes Everything.

Gegophone 2 Valve Sets, complete, a great job, worth every penny, £35 0 0 complete.

Our Little Wonder Super Crystal Set

Ready for Listeners-in to-night. We are making 200 weekly, and must sell. **Bargain Price, 39/6.**

We Will Answer all Enquiries and Country Letters Promptly.

You only want to see the people interested in our window display and the crowded state of our showrooms to get an idea of the business Varcoe's are doing.

Varcola Crystal Sets

IA

Our Special Line, equal to a One Valve Set. Set of Parts and Instructions to make, 16/4 the lot. Make this and you'll be happy.

De Lux Crystal Set

7B.

Nicely Mounted in a Cabinet with Lid, £3 5/, without phones. 20 miles radius. Selling fast.

Sliders and Rods	2/6
English Valve Sockets	4/6
Cardboard Formers	1/, 1/3, 1/6
Phone Terms	6d. and 7d.
43 Plate Condensers and Dial	15/6
36 Plate Condensers and Dial	14/9
English Valve Adapters	5/6
Ebonite Formers	2/ and 2/3
Rheostats (Special)	4/9

Coil Holders	3/11
Panel Mountings	4/6
Special Value Crystal Detector, mounted	4/
Double Coil Mountings, V. Movement	17/6
Ediswan Phones, 4000 Ohms	35/
Pico Phones, 2200 Ohms	27/6
Frost Phones	32/6, 35/, 37/6

Full Stock of Frost Lines:—
Rheostats
Potentiometers
Adapters
Sockets
Switches, etc., etc.
Sold Everywhere throughout Australia.
Frost Sliders (Special Value), 27/6.

VARCOE & CO. - 57 GAWLER PLACE

LICENSED RADIO DEALERS.

EDISON DIAMOND DISC PHONOGRAPHS AND ALL MAKES OF RECORDS.
WICKERWARE AND PERAMS.

BUSY. ALWAYS BUSY—BECAUSE WE ALWAYS SATISFY THE NEED OF THE DAY.

WRITE US, CALL ON US, OR PHONE US NOW.

PHONE C. 2653.

BAKELITE DILECTO

ELECTRICAL MANUFACTURERS
Wireless Experimenters and others

Do You Use the Best Insulation?

LET "BAKELITE" SOLVE YOUR INSULATION PROBLEMS.

"BAKELITE" is a higher insulator than Ebonite and is mechanically stronger.
"BAKELITE" can be cut, drilled, turned or milled, and will take a high polish.
"BAKELITE" does not crack, warp, nor discolor with age.
"BAKELITE" stands the highest electrical tests, practically universal for wireless work.
"BAKELITE" is made in Sheets, Rods, or Tubes.

Obtainable from Australian General Electric Co., Ltd., Wentworth Avenue, Sydney; Continental Radio and Electric Co., 350 George St.; Electric Utility Co., 619 George St.; Anthony Hordern and Sons, Ltd., George St.; F. E. O'Sullivan, 296 Pitt St.; Ramsay Sharp and Co., Ltd., 217 George St.; Radio Co., Ltd., 15 Loftus St.; Colville-Moore, 10 Rowe St.; Wireless Supplies, Ltd., 21 Royal Arcade; Miss F. E. Wallace, 6 Royal Arcade; W. H. Wiles, Goulburn St.; David Jones Ltd., George St.; Burgin Electric Co., 391 George St., and all Wireless Supply Houses.

The Trimm "PROFESSIONAL" Head Set

3000 Ohms

A Quality Phone at Quantity Price. Perfect Reproduction and Articulation at any Range
Weight Only 10½ ozs.

Compare these specifications with any head set on the market at any price, and see why the TRIMM "Professional" is the biggest value in the Head Set Field: Moulded Bakelite cases and ear caps, which will not warp or crack like cheap composition, no exposed metal parts to become tarnished; single bar Tungsten steel magnets formed to shape to insure uniform tempering and magnetizing; coils wound with maximum number of turns of No. 40 enamelled wire to full resistance of 3,000 ohms; reinforced terminals of stranded wire brought out from coil windings to solder; coils covered with insulating cloth—no fine wires exposed; arrester gap across cord terminals; improved type head band covered with resilient tubing—comfortable light weight, and distinctive in appearance.

PRICE 45/- each

Trimm "Dependable" Radio Head Set 2,400 Ohms

EXPERIMENTERS — TRY THIS WONDERFULLY LOW PRICED 'PHONE
Price 32/6 each

All-American Transformers

FOR RADIO AND AUDIO FREQUENCY AMPLIFICATION.

WIRES — BELDEN MANUFACTURING CO.'S PRODUCTS.

COPPER—Beldenamel DCC SCC DSC, for general purposes and panel wiring.

Resistance — 1A1A, 193 Alloy, Nichrome, etc., for Resistances and Rheostats.

INSULATIONS — MICANITE & INSULATORS Coy. Ltd. PRODUCTS

Empire Cloth and Silk, Leatheroid, Friction Tape, Terminals,
Resin Colored Solder, and Fibre Sheet, Rod and Tube.

Factory Representative:

O. H. O'BRIEN

HEAD OFFICE — 37-39 PITT STREET, SYDNEY.

BRANCH OFFICE—516 COLLINS STREET, MELBOURNE.

NOTE.—Applications are hereby invited from Firms desirous of acting as agents for South Australia.

EXPERIMENTAL TRANSMITTERS.

The following list gives the holders of experimental transmitting licences in all the States. It has been officially supplied by the department, and is complete up to September. Numerous changes are likely, however, in the near future, when experimenters are required to conform to the new rules.

Call Sign.	Name.	Address	Wave Length.	Call Sign.	Name.	Address	Wave Length.
NEW SOUTH WALES.							
2AJ	W. Short,	Queenscliffe-road, Manly		JAP	R. D. Morris,	61 Bealiba-road, Caulfield	225
2AL	A. M. Cooper,	Cecil-street, Ashfield		3AM	G. A. Dohrmann,	2 Hopetoun-avenue, Canterbury	224
2AP	A. W. Peek,	Yowie Bay	238	3AU	A. A. Milligan,	117 Autumn-street, Geelong West	168
2AR	W. H. Hudson,	1 Terrace-road, Dulwich Hill.		3AY	W. W. Jenvey,	12 Lord-street, East Caulfield	210
2AS	H. E. Grigg,	370 Military-road, Mosman		3BC	Brighton, Sec. W.I.A. (R. P. Whalley),	Wilson Hall, Brighton	200
2AT	F. C. R. Swinburne,	39 Parkview-road, Manly	300	3BD	E. H. Cox,	5 Gibson-street, Elsternwick	236
2AY	J. P. Cureton,	Burwood-street, Burwood	250	3BG	L. Oshourne,	Terang	250S
2BB	E. B. Crocker,	14 Roseby-st., Marrickville		3BH	C. R. Whitclaw,	Moroohark	226S
2BC	H. J. Hurl,	Northcote-avenue, Killara	203	3BK	W. H. Cumming,	57 Kooyong-road, Armadale	171
2BF	L. E. Forsythe,	Sailor Bay-road, Northbridge		3BL	J. C. Fichett,	Salisbury-street, Balwyn	201
2BK	F. N. Leverrier,	Wentworth-road, Vaucluse	200	3BM	H. K. Love,	Ferncroft-avenue, East Malyern	239
2BM	E. T. Vears,	Grose-st., Leura		3BP	J. H. Hood,	6 Alexander-street, St. Kilda	180
2BY	Waverley Radio Club,	McPherson-street, Waverley		3BQ	W. F. M. Howden,	Hill-street, Box Hill	185
2BZ	E. C. Arnold,	Carthage-street, Tamworth		3BU	D. A. Connelly,	Balaclava-road, East St. Kilda	238
2CA	E. W. Bonwill,	Cowra, N.S.W.		3BY	H. Holst,	27 Bambra-road, Caulfield	215
2CB	D. J. K. Sibley,	Highbury-street, Lindfield		3CA	W. A. Dorward,	34 Orlando-street, Hampton	170
2CH	C. J. Henry,	Bridge-street, Uralla	230	3CB	W. F. Sievers,	30 Lesney-street, East Richmond	175
2CI	R. D. Charlesworth,	173 Paramatta-road, Haberfield		3CC	University of Melbourne		
2CJ	P. L. H. Sewell,	12 Dillon-street, Paddington		3CD	Corbett, Derham & Co., Pty., Ltd. (R. F. Hall),	573-585 Lonsdale-street, Melbourne	182
2CL	G. Caletti,	83 King-street, Newtown		3CH	F. W. Clarke,	165 Cardigan-street, Carlton	235
2CM	C. D. MacLurean,	Agnes-street, Strathfield		3CJ	C. W. Jamieson,	21 Carlisle-avenue, East St. Kilda	153
2CR	L. V. G. Todd,	Dennison-street, W. Tamworth		3CP	C. H. Philpot,	36 Melbourne-road, North Geelong	175
2CS	L. T. Swain,	49 Everton-street, Tamworth		3CZ	H. C. Mitchell,	22 Normanby-road, Elwood	205
2CW	J. Beer,	42 Thomas-street, Ashworth	187	3DB	W. B. Hohart Duff,	27 Westgarth-street, East Malvern	190
2CX	H. A. Stowe,	Royal-street, Chatswood		3DD	L. F. G. Osborne,	Darling-road, East Malvern	205
2CY	P. S. Parker,	12 Weldon-street, Burwood	208	3DF	F. B. Short,	2 Mozart-street, St. Kilda	175
2CZ	G. W. Eston,	Lismore		3DL	L. C. Falls,	North-road, Caulfield	194
2DE	W. P. Renshaw,	Lord-street, Roseville		3DM	J. Chambers & Co.,	57 Simpson-street, East Melbourne	375
2DH	E. R. Mawson,	Wonga-street, Campaspie		3DP	N. Culliver,	57 Simpson-street, East Melbourne	375
2DI	D. Jones, Ltd.,	22 York-street, Sydney	235	3DV	H. S. Beattie,	J. Bishop-street, Box Hill	229
2DK	R. P. Whitburn,	7 Hawthorn-street, Leichardt		3DX	J. R. Van Booth,	Wattletree-road, East Malvern	193
2DN	G. E. Blanchard,	60 High-street, Newtown		3EC	Y.M.C.A. Wireless Club, Cr. Short and High-streets,	Bendigo	200
2DS	R. R. Davis,	Fisher-avenue, Vaucluse		3EF	H. W. Maddick,	Spray-street, Elwood	228
2EC	C. A. Gorman,	31 Legerhos-st., Arncliffe		3EL	N. J. Boyd,	100 Orrong-road, Elsternwick	233
2ED	H. R. Gregory,	Walton Cres., Abbotsford		3EM	H. W. Doudney,	7 Dickes-street, Balaclava	204
2ER	W. G. H. Best,	Carlisle-street, Rose Bay		3EN	A. B. Leprard,	Box 26, P.O., Drouin, Vic.	174
2EU	A. F. Peters,	32 Carlisle-street, Rose Bay	175	3EP	J. Givens,	10 Logan-street, Canterbury	150
2FA	S. V. Colville,	Church-street, Drummoyne		3ER	E. R. Rivers,	St. Kinnord-street, Essendon	173
2FB	F. E. Bishop,	7 Ellaman-avenue, Kirribilli	245	3FA	F. Abrahams,	C/o. Mrs. Solomons, Murphy-street, South Yarra	180
2FF	Western Suburbs Amateur Wireless Association,	77 Park-road, Goulburn		3FH	R. F. Hall,	Glindabourn-avenue, Toorak	225
2FP	A. J. Baker,	62 Estelle-street, Maryville		3FM	R. C. DeCrespigny,	20 Black-street, Mid. Brighton	194
2GP	C. S. Mackay,	Urunga, N.S.W.		3GB	M. A. Glover,	24 Victoria-road, Camberwell	150
2GR	J. S. Marks,	Ritz Flats, Salisbury-road, Rose Bay		3GH	W. M. Hale,	Harvey-street, Anglesea	250
2GS	A. C. Smith,	38 Cheltenham-road, Croydon	223	3GI	F. G. Cresswell,	2 Halmoral-avenue, East Kew	290
2GC	G. R. Challenger,	77 Park-road, Auburn	200	3HB	Sunshine Radio Club (H. S. Bird),	Hampshire-road, Sunshine	165
2GF	G. F. Chilton,	Radio Sth. Enclosure Carlingford	193	3HE	E. Krueyer,	Camp-street, Charlton	200S
2GM	G. M. Cutts,	Highbury-street, Croydon	198	3HH	F. H. Maughan,	15 Staniland-avenue, Malvern	190
2GU	R. Dunne,	324 Anzac Parade, South Kensington		3HJ	O. D. Johnston,	18 Boundary-road, Surrey Hills	250
2GY	North Sydney Radio Club (J. O'Brien),	Burn's Bay-road, Lane Cove		3HL	A. F. Hutchings,	Callawadda, via Stawell	250
2HB	H. W. Botten,	350 George-street, Sydney	214	3HQ	E. J. Good,	Private Mail, Glen Rowan	150S
2HF	F. Thompson,	12 Pearson-street, East Balmain		3II	G. T. Miles,	Highbury-road, East Camberwell	179
2HH	W. I. of A.,	Queens Chambers, Dally-st., Sydney		3JD	J. E. Dane,	Wabroonga, Toorak-road, Hawthorn	210
2HM	H. A. Marshall,	Allington-street, Arncliffe	230	3IH	F. H. J. Holland,	St. Kinnord-street, Essendon	
2HY	G. S. Bongers,	Rawson-street, Rockdale		3II	H. W. Garrett,	315 White Horse-road, Box Hill	160
2IJ	A. H. Gray,	Florence-street, Killara		3IM	R. W. Bryson,	149 Eglinton-street, Kew	217
2IN	J. Payne,	143 Avoca-street, Randwick		3IP	H. Mitchell,	Kean-street, Caulfield	220
2IY	C. V. Stephenson,	Cr. Storey and Everett-streets, Randwick		3IR	W. J. Dunstan,	7 Cameron-street, Ballarat E.	200
2JC	H. Fraser,	Roderick-street, Tamworth		3IU	R. A. Hull,	38 Charnwood-road, St. Kilda	234
2JG	R. E. McIntosh,	Burns Bay-road, Lane Cove		3IZ	R. P. Whalley,	4 Bridge-street, Sandringham	210
2ZJ	A. W. Simpson,	Duri		3KF	D. I. Harkin,	68 Hardiman-street, Kensington V.	166
2ZZ	C. P. Smith,	83 Calerammatta-road, Cremorne	180	3KS	D. M. McDonald,	182 Stephens-street, Yarraville	160
2ZL	W. Otty,	Killingworth		3KT	L. M. Secombe,	9 Bayview-terrace, Ascot Vale	175
2ZK	S. Marsh,	Carrington-street, West Wallsend		3LF	L. R. Freestone,	504 Brougham-street, Ballarat	215
2ZM	P. M. Deane,	Clarence-street, Burwood		3LM	Malvern Sec. W.I.A. (J. B. Masters),	16 Sutherland-road, Armadale	210
2ZO	T. R. Willmot,	Corambla-road, South Grafton		3LO	I. P. Moore,	Park-street, Seymour	240CW&S
2ZT	L. P. R. Bean,	86 Muston-street, Mosman		3LQ	W. E. Downing,	Hopkins House, Hopkins River, Warrnambool	200
2ZU	N. S. Gilmour,	156 Kurraba-road, Neutral Bay		3LS	R. T. Busch,	30 Wordsworth-street, Moonee Ponds	210
2ZW	D. R. Huggins,	13 Yeo-street, Neutral Bay		3LW	C. Hiam,	222 Carlisle-street, St. Kilda	232
2ZX	N. Pelsen,	Macquarie-street, Waratah		3MP	S. V. Hosken,	42 Melville-street, Hawthorn	219
2ZY	R. L. Sidey,	Highbury-street, Lindfield		3MA	Amal Wireless Co.,	422 Little Collins-street, Melbourne	
2ZV	Universal Electric Co. (A. Dixon),	244 Pitt-st., Sydney	250	3MR	Amal Wireless Co.,	Kooweerup	
2YA	B. L. H. Haynes,	Saunarez Station, Armadale	121	3MC	S. N. Newman,	Canterbury	230
2YB	Croydon Radio Club (G. M. Cutts),	Lang-st., Croydon	205	3MD	Amal Wireless Co.,	in vicinity of Melbourne	
2YC	C. T. Crawford,	18 Lindsay-st., Burwood		3ME	Amal Wireless Co.,	in vicinity of Melbourne	
2YE	Manly and District Radio Club (M. Swinburne),	Wentworth-street, Manly	208E	3MF	Amal Wireless Co.,	in vicinity of Melbourne	
2YG	R. C. Allsop,	Botany-street, Randwick	250KI	3NN	H. R. Brown,	Yanac	240
2ST	L. E. Tatham,	6 Stonehenge Flats, Knrraba-rl., Neutral Bay	200	3NS	Norris & Skelley (J. Muir),	211-13 Elizabeth-street, Melbourne	190
2YH	W. H. Haman,	449 Darling-street, Balmain		3NT	New Systems Telephones (H. J. Tippetts),	44 Bullstreet, Bendigo	230
2YI	P. S. Nolan,	152 Bellevue-road, Double Bay		3OK	W. H. Conry,	32 Irving-avenue, Armadale	236
2RV	R. V. Vaulkman,	P.O., South Grafton		3OT	R. M. Cameron,	Coombe-crescent, Malvern	156
2YJ	R. H. Sainsbury,	Wallarey-road, Concord West		3PO	A. H. Roberts,	103 Bent-street, Northcote	190
2YK	N. P. Olsen,	18 Hunter-street, Newcastle		3PR	H. H. Blackman,	44 Osborne-avenue, E. Malvern	240
2YM	V. M. Derrick,	3 Birriga-road, Bellevue Hill, Woollahra		3PS	V. L. Smyth,	Melvor-street, Bendigo	162
VICTORIA.							
3AB	W. S. Weatherston,	23 Melby-avenue, East St. Kilda	161	3QW	J. A. Muir,	10 Young-street, Brighton	195
3AF	A. F. Bent,	14 Coronation-street, Geelong West	198	3RF	C. H. Cordingby,	77 Bank-street E., Ascot Vale	250
3AG	A. F. Gurr,	224 McKillop-street, Geelong East	154	3RG	S. G. Humberg,	Waverley-road, E. Malvern	197
3AJ	E. Salamy,	Timor-street, Warrnambool	180				

Call Sign.	Name.	Address	Wave Length.
3RP	R. L. Payne,	Retreat-road, Newtown	180
3RY	W. A. G. Wilson,	300 Dana-street, Ballarat	230
3SJ	S. J. Mitchell,	5 Brandon-street, Brighton	188
3SK	O. Short,	10 Redau-street, St. Kilda	159
3SL	J. W. Southwell,	c/o Mrs. Neal, High-street, Seymour	187
3SM	A. H. Gay,	Warragul	227
3SW	S. W. Gadsden,	5 Miller-grove, Kew	177
3TK	T. W. Kinsella,	Mayo Park, Lybeck	220
3TM	A. H. Buck,	759 Glenhuntly-road, Glenhuntly	150
3TU	R. C. Leckie,	Bamfield-street, Sandringham	175
3UL	R. M. Dalton,	Sun Mecca-avenue, Mildura	250S
3UX	G. W. Steane,	Earle-street, Mont Albert	231
3UZ	O. J. Nilsen,	332 Flinders-street (special)	350
3VR	R. N. Abbott,	St. Elmo-road, Alphington	202
3VS	O. J. Philpot,	26 Lunegah-road, Caulfield	218
3WS	W. M. Sweeney,	125 George-st., E. Melbourne	180
3WT	W. L. Tresidder,	13 Nettle-street, Bendigo	190
3XC	Xavier College	(Rev. P. J. Baker), Kew	240
3XF	M. Chaffer,	41 Norwood-crescent, Moonee Ponds	200
3XN	W. G. Leaney,	12 Henry-street, Northcote	150
3XO	F. J. Adams,	43 Bay-street, Brighton	181
3XQ	Ballarat Sec. W.I.A.,	N.M.C.A. Buildings, Ballarat	235
3XU	Box Hill Sec. W.I.A.,	White Horse-road, Box Hill	223
3XZ	T. F. Gibbons,	31 Foley-street, Kew	169
3YD	C. W. Donne,	3 Hughesden-road, E. St. Kilda	230
3YW	J. M. Edgar,	12 Henry-street, E. Geelong	180
3YY	A. M. Bush,	54 Brougham-street, Bendigo	190
3YZ	A. McKeown,	54 Yarra-street, Alphington	221
3ZA	W. P. Bardin,	226 Station-street, N. Carlton	220
3ZC	H. E. E. Brock,	8 Ngavenu-street, Moonee Ponds	250
3ZD	C. F. Taylor,	133 High-street, Kew	180
3ZE	K. W. McGregor,	23 Molesworth-street, Armadale	225
3ZJ	C. L. Lempiere,	Terrara-road, Vermont	200
3ZL	K. H. Harbour,	1 Irving-avenue, Armadale	220
3ZK	F. R. Bradley,	Beach-crescent, Sandringham	230
3ZL	New Systems Telephones Pty., Ltd.,	25-27 Queen's Bridge-street, S. Melbourne	230
3ZM	C. Owen,	22 Kendall-street, S. St. Kilda	230
3ZN	M. S. Israel,	13 Dandenong-road, Malvern	250
3ZO	E. N. Johnston,	105 Moorabool-street, Geelong	192
3ZP	H. A. George,	195 Ballarat-road, Footscray	240
3ZS	G. McMahon,	Edinburgh-street, Diamond Creek	175
	S. L. Snaith,	1 Byron-street, Footscray	

QUEENSLAND.

4AA	W. H. Bright,	Hume-street, North Toowoomba	
4AC	I. Waters,	Raukin-street, Innisfail	
4AE	Wireless Institute of Australia,	Queensland section, Edward-street, Brisbane	
4AK	J. Milner,	Kelvin-grove, Brisbane	430
4AN	E. M. Gibson,	Kirkland-avenue, Greenslopes	
4AP	T. W. Bridger,	River-road, Hamilton, Brisbane	
4AU	W. Finney,	Arthur-terrace, Red Hill	
4BI	Junction Park Radio Club,	Long-street, Fairfield	
4BK	C. O. Raudel,	Esplanade, Innisfail	410
4BO	N. F. Odgers,	Anne-street, Charters Towers	245
4BW	A. Couper, jun.,	Byrne-street, Mareeba	300
4CC	C. W. Isles,	Charlton-street, Ascot	250
4CG	A. N. Stephens,	Railway-parade, Clayfield, Brisbane	
4CH	A. E. Dillon,	Brown-street, New Farm	
4CM	V. McDowell,	Queen-street, Brisbane	
4CK	E. L. Norris,	Hume-street, Toowoomba	
4CS	J. A. Geraghty,	Christian Bros. College, Townsville	
4CV	N. E. Husband,	Alan-street, Charters Towers	
4CW	A. T. Buck,	Geebung, North Coast line	209
4DO	A. L. Hobler,	Lennox-street, Rockhampton	
4EG	E. E. Gold,	Lindsay-street, Toowoomba	250
4EH	H. Miller,	Kitchener-road, Ascot	
4EI	J. W. Sutton,	G.P.O., Brisbane	
4EZ	Queensland Institute of R.E.'s,	Powen-terrace, New Farm	
4FE	Y.M.C.A. (A. L. Hinds),	Edward-street, Brisbane	
4FI	J. C. Price,	Bardon Estate, Paddington Heights	
4FK	F. T. Matthews,	57 Annie-street, New Farm	
4GC	Maryborough Wireless Club,	Richmond-street, Maryborough	
4GE	C. Fortescue,	Arthur-street, Toowoomba	
4GF	R. H. Dixon,	Victoria Hills, Herbert River	

SOUTH AUSTRALIA.

Call Sign.	Name.	Address	Wave Length.
5AC	V. R. P. Cook,	37 John's-road, Prospect	
5AD	A. R. Snoswell,	Harris-street, Exeter	
5AE	J. M. Honner,	Alpha-road, Prospect	
5AG	W. J. Bland,	Bulla-terrace, Alberton	
5AH	F. L. Williamson,	35 Dequetteville-terrace, Kent Town.	190
5AI	H. H. Lloyd,	15 Trinity-street, College Town	
5AQ	Bro. Joseph,	Sacred Heart College, Glenelg	220
5AV	Wireless Inst. of Aus., S.A. Division	(C. E. Ames), 20 Grange-road, Hindmarsh	200
5AW	University of Adelaide,	Physics Dept., Adelaide University	
5BD	F. E. Earle,	321 Fifth-avenue, S. Peters	
5BF	F. G. Miller,	Murray Bridge	
5BG	H. A. Kauper,	20 Guiney-road, Dulwich	
5BI	S.A. School of Mines and Industries,	North-terrace.	
5BM	Eald Motor & Electric Works (E. A. Cooper),	(1) Pulteney-street, Adelaide	220
5BN	H. L. Austin,	8 Parade, Norwood	
5BP	W. A. Caldwell,	53 Hughes-street, Unley	230
5BQ	L. C. Jones,	Carlisle-road, Westbourne Park	220
5BS	Bedford Park Sanatorium (W. J. Davey),	Sturt	230
5CM	E. N. Sagar,	Railway-terrace, Largs Bay	195
5DA	S. R. Buckerfield,	4 Regent-street, Parkside	170
5DN	L. C. Jones,	146 Rundle-street, Adelaide	
5DO	St. Peter's College Radio Club,	St. Peter's College.	
5ET	L. J. Fitzmaurice,	St. Andrew's-street, North Walkerville	
5CI	Newton McLaren, Ltd. (W. H. Scott),	Leigh-street,	
5GB	G. Bailey,	Commercial-street, Mount Gambier	240
5HR	H. Rhades,	12 Gayden-street, Kadina	195
5RB	R. Bedford,	Cottage Hospital, Kyancutta	220
5WA	W. K. Adamson,	25 Olive-street, Parkside	180

WESTERN AUSTRALIA.

6AB	C. Cecil,	75 Duggan-street, Kalgoorlie	
6AC	J. Spark,	23 Mount-street, Perth	
6AF	A. Sibly,	38 Park-street, North Perth	
6AG	W. E. Coxon,	306 Bulwer-street, North Perth	
6AI	S. A. Shaw,	Railway Cottage, No. 26 Dalwallin.	
6AK	University of Western Australia,	University, Perth.	
6AM	P. Kennedy,	210 Walcott-street, Mount Lawley	
6AQ	V. J. Matthews,	Beechboro-road, Bayswater	
6BR	J. C. W. Park,	29 Suburban-road, South Perth	200
6BG	Technical School (W. G. Hayman),	5 Melville-street, Claremont, Perth	
6BH	F. H. Burrows,	9 John-street, Perth	
6BN	A. E. Stevens,	Ruth-street, Perth	
6BP	Stott's Business College (W. J. Matthews),	St. George's terrace, Perth	400
6BR	Wireless Institute of Australia,	W.A. Division, Central Fire Station, Perth	
6CI	E. J. Darley,	Darley-street, South Perth	
6DA	F. W. Saw,	er. Bextfordale and Bunbury-roads, Armadale	
6DZ	E. W. Burrows,	Station House, Eleanor-street, Geraldton	
6DY	H. Thomas,	26 Third-avenue, Inglewood	228
6WP	W. R. Phipps,	97 Rupert-street, Subiaco	250

TASMANIA.

7AA	W. T. Watkins,	146 Warwick-street, Hobart	250
7AB	A. C. Smith,	21 High-street, Launceston	215
7AG	J. C. Milne,	Greta	
7AK	S. E. Deegan,	St. Virgil's College, Hobart	
7AO	W. B. McCable,	Clarence Point, W. Tamar	225
7AR	C. F. Johnson,	33 Hill-street, West Hobart	190
7BP	J. C. McMillan,	7 Harrington-street, Hobart	
7BN	Wills & Co., Pty., Ltd. (A. Smith),	65 George-street, Launceston	235
7BK	T. A. C. Preston,	Railway-road, Queenstown	
7AL	L. W. Scambon,	37 Hill-street, West Hobart	
7BE	T. Stipek,	St. Helens Hotel, St. Helens	250
7BH	E. C. Sheldrick,	59 West Tamar-road, Launceston	220
7FD	F. P. Philbin,	Orr-street, Queenstown	250
7OM	R. D. O'May,	Esplanade, Bellerive	195

RADIO EQUIPMENT.

MANHATTAN, TURNEY, Etc.,

GENERAL WIRELESS REQUIREMENTS.

'PHONES, LOUD SPEAKERS, Etc.

U. S. L. Batteries.

TUNGAR Rectifiers.

FADA

5 Tube Neutrodyne Parts for Complete Sets.

A.C. and D.C. MOTORS,

GENERATORS, SWITCH-

GEAR, OR MOTOR DRIVEN

APPLIANCES.

CHARLES ATKINS & CO., LIMITED
POWER DIVISION — CURRIE STREET, ADELAIDE

QUESTIONS AND ANSWERS

The Editor desires to direct the attention of his readers to the fact that, as much of the information given in the columns of this paper is of a technical nature and concerns the most recent developments in the Radio world, some of the arrangements and specialities described may be the subject of Letters Patent, and the amateur and trader would be well advised to obtain permission of the patentees to use the patents before doing so.

Question.

"Modulator" (Grote St.) asks if the applicant for an experimental transmitting license has to be thoroughly proficient in the working of low power apparatus or does it mean a slight knowledge? Is it technical or practical knowledge? He says he can send 12 words a minute and can only receive six, and wants to know if it means that he must send and receive 12 words. He also asks for a good book on wireless transmission suitable for anyone going up for an amateur transmission license.

Answer.

If our correspondent will read the new regulations he will see that licenses are only issued to amateurs for the purpose of some definite research work, and that the applicant must be able to prove that he has some definite object in view and does not merely want it to create more interference than there is at present. The applicant must be able to receive 12 words a minute and send 12 words a minute, and he must satisfy the examiner that he knows enough about the transmitter to work it efficiently. The knowledge must be both practical and technical. We would recommend the correspondent to obtain the book on valve transmission by Ballantyne.

Question.

Mr. Sears (Gawler) asks if A.C. can be used on the plate of a valve or does the current have to be direct.

Answer.

If our correspondent means a transmitting valve A.C. can be used in some cases and it will produce a note very similar to a spark station unless the wave is used on two valves and then an impulse will be used on both halves of the cycle. For telephony only direct can be used on the plate. If A.C. is used it must be first rectified and filtered and then it is of course not A.C. If our correspondent means the plate of a receiving valve, A.C. cannot be used. D.C. only is satisfactory, and though we do not doubt that rectified A.C. can be used the extra trouble and apparatus necessary and the great possibility that unsatisfactory results will be obtained makes the problem not worth considering.

Question.

Mr. L. S. Deane (Tusmore Park) asks how many turns he will require to hear Sydney and Melbourne broadcasting on a single valve 3 coil circuit, aerial 90 feet long including lead in.

Answer.

This correspondent gives little details regarding his set. No condenser sizes are quoted. Does he mean Broadcasters, Sydney, or Farmers, Sydney? No regular commercial broadcasting has as far as we know, yet been commenced in Melbourne. For 2BL, Sydney, our correspondent is advised to try 35 aerial, 50 secondary, and 75 reaction. For Farmers try 100, 150, 200. He will have to conduct a few experiments and see exactly how his condensers are, and see whether with the above coils the capacities are all in or all out, and either increase or decrease his inductances accordingly. The stations above-mentioned are not always heard on one valve. However, if his set is working efficiently, he should hear them as many other amateurs are now doing so.

Question.

"FCG" (St. Peters) asks if we can recommend any dull emitter valve for a reflex circuit.

Answer.

Any Dull emitter that will stand a high plate voltage will do admirably as a valve for a reflex circuit. The UV199 used in this capacity will give about 75 per cent. of the volume of the UV201a.

Question.

"Radax" asks if 6 ohm rheostats are suitable to work Marconi DE3 valves. Fil volts 2.4-30, and also asks if a 4½ volt dry cell would be suitable to work the above valve with a 6 ohm rheostat.

Answer.

As these valves are intended to work below 3 volts, it is not at all advisable to use 4½ volts on them. You would be well advised to use a 30 ohm rheostat and a 3 volt battery and then no risk would be involved of burning out the filament.

IMPROVED RESULTS.

To the Editor of "S.A. Wireless."

Sir—Since the last publication of your excellent monthly I am pleased to say I have improved upon my first results. Although I am still using Marconi R tubes and 100 volts for H.T. I can receive 2FC on loud speaker strength heard three rooms away from receiver. On local stuff the phones are absolutely unbearable on the head. On the speaker it is heard all over the house. It is also received on an indoor antennae loud enough to work the loud speaker. 6WF is also received regularly and they provided some very good items on Saturday evening. For amateur use I would recommend this circuit as a splendid distance getter and also as a loud speaker set.—I am, Sir,

H. BERRY, Junr.

Gilbert-st., City

4 VALVE

SET COMPLETE

for **£10** deposit

To enable everyone to participate in this fascinating pastime I am now importing the very latest in 4 Valve Tuned Anode Sets, "THE RODAPHONE," and can supply same on small deposit and easy monthly payments. Set includes:—
LOUD SPEAKER, BATTERIES, AERIAL WIRE, Etc.

A. M. RODDA

117 Currie Street
ADELAIDE

PHONE: CENTRAL 7388.

After hours—Unley 2889.

Do not connect tappings from your battery to the consecutive studs of a rotary switch. The action of the switch will "short" each cell, or each three cells, in succession as it passes over the studs. Wander plugs provide the best means of using varying voltages. If you must use a rotary switch, then insert a "dead" stud between each live one.

Never insert a fixed condenser into your set without first testing it for a "short." It may be the one across the H.T. leads, in which case the battery may be run down before the fault is discovered.

C.E. AMES ON THE CRYSTAL SET.

The editor has asked me to write an article on a suitable type of receiver for broadcast reception. What is the best? I should say the simplest is the best, but it is a question of circumstances. The best set would cost a lot of money, and is quite out of the reach of most of the younger radio fans, and it is for the beginners that I am writing this article.

When it is remembered that a few years ago, before the advent of the valve, that ships were commonly picked up at a distance of 1,800 or

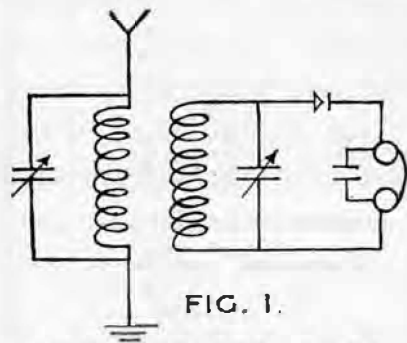


FIG. I.

COILS FOR 200 TO 350 METRES.

PRIM. 25 turns SEC. 35 turns

2,000 miles on a crystal set, it is obvious that the much despised crystal is capable of much good work, and for a cheap receiver whose first cost is practically all that needs to be spent upon it, save for a new piece of crystal occasionally, it is an ideal receiver.

The crystal provides the simplest means of detecting radio signals, and reception is effected by imposing the incoming radio frequency energy on the circuit containing the detector, where it is rectified. The reader is no doubt aware that a radio frequency current is an alternating or oscillating current of a very high frequency, the frequency being so high that it cannot pass through the windings of the telephone receivers. However, by means of rectification, which the crystal accomplishes through its property of passing electricity in one direction only, half the alternating current is suppressed, leaving only that part which travels in the one direction, which passes easily through the telephone receivers.

There are several ways in which the radio waves may be delivered to the

crystal, but as the sound from an unamplified crystal set is actually furnished directly by the power of the received wave, which is necessarily weak, only two methods, those making the most of the weak impulses, will be considered.

It must be borne in mind when building crystal sets that to get the best results great care must be taken to eliminate all possible losses. A carelessly made valve set may work, perhaps giving trouble with undesirable noises and lack of selectivity, but a poorly constructed crystal set is incapable of compensating for its lack of efficiency by means of local batteries, and will function far below its normal ability.

The most efficient system of crystal reception is that employing a loosely coupled tuning circuit (figure 1 gives a diagram of this arrangement.) The tuner should preferably be made up using 2 spider web coils wound on bakelite formers which can be purchased at any radio stores. If wound on cardboard or fibre they should be soaked in hot paraffin wax so as to exclude all moisture. The panel on which the set is mounted should be of bakelite or good quality ebonite. The condensers should be of .0003 or .0005 MF capacity. These can now be purchased quite cheaply.

The coils should preferably be fitted to standard coil mounts, two honey-comb coil mounts being easily fixed to the panel, one being swivelled so as to give variable coupling.

Other methods of mounting the coils may be suggested to the reader, but for myself I prefer to have the standard mounts, so that at any future time if it is desired to pick up other stations new coils may be adapted without any bother. It is not my intention to bind you down to any size of panel, but this set should be comfortably mounted on one measuring 10 in. x 8 in.

A good crystal is necessary, and hertzite is hard to beat, a light copper or bronze wire catwhisker giving good results. Across the phone terminals should be mounted an .001MF blocking condenser. This set is very simply constructed, and will give splendid results, being very selective.

The other method of transferring the energy to the crystal is that known as direct coupled, and while not so selective as the loose coupled system is very effective and very simple to tune.

About the simplest and most efficient of the direct coupled tuners is the variometer. This may consist of two cardboard tubes, one about $3\frac{1}{2}$ inches in diameter and $2\frac{1}{2}$ inches long, the other being small enough to turn on a spindle running through its centre, when mounted inside the larger coil.

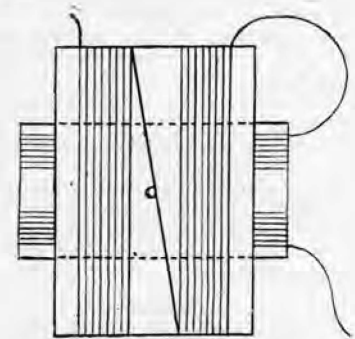


FIG. II

SHOWING ARRANGEMENT OF COILS.

Thirty turns of 24 or 26 SWG DCC wire are wound on each side of the spindle on each former in the same direction, the smaller coil is now placed inside the larger one, and the spindle pushed through, the smaller coil former being fixed to the spindle so that it revolves when the spindle is turned inside the larger coil. The end of the winding of the outer coil is now connected to the beginning of the winding of the inner coil. (Fig. 2 shows the windings of the variometer, while figure 3 shows the diagram of connections for the receiver). This receiver can be mounted on a very small panel. I have one mounted on a panel 8 x 6, which is ample.

The detector may be of any type that suits the fancy, from the simple moving bar type to the more elaborate glass enclosed type, so long as the adjustment will stay put.

For tuning a crystal set some means of generating feeble oscillations should be employed, so that the detector can be set to the highest sensitivity. This

is the secret of success with a crystal set. Now a buzzer is an ideal transmitter of feeble waves. Almost any of the buzzers on the market are suitable for this purpose. The buzzer need only be wired up in series with a battery and key or switch, there being no need to make any connection to the receiving set, as the wires connecting the buzzer, battery, and key provide all the antenna needed.

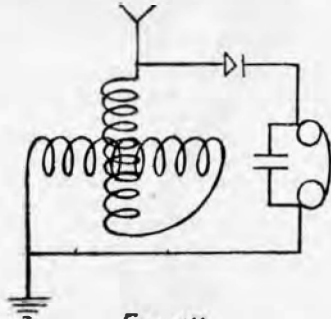


FIG III
DIAGRAM OF CONNECTIONS

I know that there are numbers of radio fans who do not use a buzzer for tuning their crystal sets, in fact it seems to be the exception rather than the rule, but it is well worth the few extra shillings it costs, and will save much time and worry as you will always have at hand a means of telling whether your detector is at a sensitive adjustment.

INTERSTATE "STARS."

2RJ AND 2HM GET THE PALM.

Young Millicent Fan on Small Set Logs all the States and America.

Master C. Haines, Box 34, Millicent, forwards a brief outline of last month's reception—

"Reading the reports sent in by your readers I thought probably you would like to hear of some of my results. The set I am using is a single valve (C299). I can pick up KGO any evening I care to listen for him. He comes in at strength 5.

"I also pick up 6WF at strength 3, which I think is good considering that Perth is 1,500 miles from Millicent and they are only using 500 watts. 2RJ is a star. He comes in here at loud speaker strength. He puts 2FC and 2BL in the shade. 2HM is another star. Considering he only uses 17 watts he does remarkably well. He is 180 miles further from Millicent than 2FC, and he comes in just as strong.

"Here are a few of the best phone stations I received regularly—2RJ, 2HM, 2GQ, 2GR, 2YI, 3PR, 3EF, 3RY, 3BU, 5BQ, 5BN, 5FT, 5CB, 5AD, also 4AN in CW comes in very strong and is audible 12 ft. away from phones.



"RADION" Offers the Supreme Insulation For Your Radio Receiving Set

When you build your receiving set you want to use absolutely the best insulating material that you can get. Nothing else is quite so important. The tone and audibility of the entire set depend to a great measure upon the insulation.

Radion has proved to be the supreme wireless insulation. It is made solely for radio work and far excels any other material in the four main Radio essentials namely:

1. Low Angle Phase Difference
2. Low Dielectric Constant
3. High Resistivity
4. Low Absorption of Moisture.

Radion also has a fifth very important characteristic—its workability. Even the amateur with ordinary house tools can saw, drill and otherwise work Radion Panels without the slightest danger of their chipping or cracking.

Radion Panels and Parts (dials, knobs, sockets, insulators, etc.) will greatly improve your radio set. Don't be satisfied with inferior substitutes when you can get genuine Radion. Look for the trade mark stamped on every piece.

International Radio Co., Ltd.

127 York Street
Sydney, N.S.W.

91-92 Courtenay Pl.
Wellington, N. Z.



C41

TOOL HINTS FOR PANEL WORKING.

The home-made tuning coil and paper condenser are getting to be things of the past. It's better, easier, and cheaper to buy radio instruments factory-built where manufacturing convenience make it possible for the makers to supply apparatus which is more durable, more efficient, and more economical as well than those contrived by one's own lamp-light. Hence, the job before the radio set constructor is one of drilling and mounting. Now that such an efficient and workable insulation material as Radion panelling is available in many standard sizes, the assembly of a radio set becomes more pleasure than toil, even to the inexperienced.

The fan may appreciate, however, some suggestions as to the tools he requires for handling a Radion panel so that the completed receiver will present a neat and workmanlike appearance and at the same time support the instruments in a sturdy and lasting manner. First of all what tools are necessary? The following find application in most radio set assembly tasks:—

1. Small wheel brace.
2. Auger brace.
3. Machinist's square.
4. Carpenter's countersink.
5. Twist drills No. 27, No. 18, No. 1, and 5/16 inch.
6. Strong but small screw-driver.
7. Small pair of pliers.
8. Rat-tail file.
9. Flat file.

10. Blunt centre punch.
11. Machinist's scale.

By way of further equipment it is well to keep on hand 1 or 2 dozen brass machine screws with plenty of nuts ready also of the following sizes:—6-32, one inch flat and round head; 6-32, half inch flat and round head. The "6" refers to the size of screw, and No. 6 and No. 8 screws are most commonly employed in radio receivers. These have 32 threads per inch of length, and are called 6-32 and 8-32 respectively. The No. 18 drill is used for making a hole for a No. 8 screw, while for the No. 6 screw the drill size is No. 27. The wheel brace is the tool into which the twist drills are fitted, and during the drilling process, the panel should be laid on a flat wooden surface and the wheel brace held vertically to insure a straight hole.

Flat head machine screws should be selected for fastening rheostats, etc., to the panel, and the hole countersunk so that the head of the screw will be flush with the panel. The auger brace is to hold the fluted countersink, and this task should be done carefully so that the countersinking will not be too deep. If the screw head is touched up with black lacquer later on it will scarcely be visible. For fastening sub-panels it is hardly necessary to countersink, and for this work the round head screws are suitable.

For most rheostat shafts the No. 1 drill is used, since the shaft is usually 3/16 inch in diameter, while for vari-

able condensers and other instruments having 1/4 inch shafts, the 5/16 inch drill is employed. A special diameter drill may be bought for drilling holes to accommodate phone jacks, or another simple stunt may be used. This consists in drilling through with the 5/16 inch drill, then countersinking on each side of the panel to the required diameter, and filing through with the rat-tail file until the hole clears the jack sleeve easily. All clearances for screws and the like should be a bit loose.

In laying out the set, it is best to cut a piece of drawing paper or thin cardboard to the exact size of the panel, and lay out the holes on this paper. This process must be done with care, so that there is sufficient clearance above, below, alongside, and behind each instrument mounted. The "fit" of each should be tried on the cardboard plan first. Then the paper is clamped tightly to the panel, and all holes punched through with the centre punch. This tool not only shows where the holes are to be drilled, but also starts the drill in the right place and prevents it from slipping until it has gotten well on its way. The drill sizes should be marked on the plan to insure correctness.

A careful mounting and assembly job with one's Radion panel will be well rewarded with a handsome looking receiver—screws fitted accurately, instruments firmly placed and smoothly operating.

IN REACH OF ALL

Mr. Harry Kauper's strong advocacy of the crystal set is backed up by the following letter he has received:—

"Received your sigs all right last Sunday morning about strength 5, modulation O.K. With reference to the adjustment you were speaking of to 5AH, he said perhaps a crystal user could give you a report, thus I am writing. My opinion is that the first adjustment was the best. — Yours faithfully, L. F. Sawford."

Mr. Kauper says Mr. Sawford received 10 watts transmission at Largs Bay, 10 or 11 miles away, with his crystal set, by which the public can easily imagine the results that will be obtained when a broadcasting station of 5 kilowatts is operating. The crystal set, to use Mr. Kauper's own words, is beautifully simple and the reproduction is perfect.

The crystal set will be within the financial reach of everybody who resides within 25 miles of a broadcasting station.

NEWTON, McLAREN, LTD.

Newton, McLaren, Ltd. are experiencing an increasing demand by the radio public for first class lines such as those manufactured by Sterling's, Philips, Hellekens, and Kellogg. The popularity of the Sterling "Baby" loud speaker is apparently not confined to South Australia as interstate stocks have been disposed of. Further supplies are not far away. This speaker is well worth waiting for. It is interesting to note that the Sterling Telephone Co. estimates that more "Baby" speakers are sold in England than all other makes combined. A new talker which this firm is making is the "Dinkie," of somewhat smaller dimensions. It is a lower priced instrument and will appeal to the broadcast listener when our "A" class station is under full power. Amongst many new lines received are two of interest—a special type of phone tip jack, and an automatic Weston phone plug accurately constructed. Both items are practically essential to every experimenter.

Mr. L. G. Thorpe, writing from Odnadatta, reports that he gets 2FC clearly on a three valve set.

RECEPTION AT BARRIER.

Barrier Man Sends Interesting Log Showing that Adelaide Amateurs can be Picked up on Crystal.

Mr. T. W. Smithson, 154 Bismuth Street, Railway Town, Broken Hill, writes:—

"Being an interested reader of your splendid paper, the following list of stations logged by me may be of interest to stations concerned and other readers. All were logged with single valve (UV199), with 13 to 18 volts on plate.—2AE, 2AY, 2BK, 2BL, 2DS (QSA), 2JM (QSA), 2KC (QSA), 2LO, 2RJ (phone), 2Y1, 3AP, 3BB (or BD, phone QSA), 3BD, 3BQ, 3EF, 3FM, 3JP, 3SW, 5BD. Long wave stations—POZ, LY, NPN, NPO, PKX. Most of my experimental work is done between 10 p.m. and 1 a.m.

"There are a few stray canaries here, also a strange variety, apparently a cross between an owl and a kookaburra judging by the variety of noise. 2FC has been logged on crystal only, and Adelaide amateurs (apparently) on crystal and LF.

"I will be on single valve for some time, and will forward further lists of logging periodically."



The
STERLING Loud Speakers

<i>AUDIOVOX</i>	-	-	<i>Large</i>
<i>BABY</i>	-	-	<i>Medium</i>
<i>DINKIE</i>	-	-	<i>Small</i>

Rightly described as "THE BEST OF THEIR CLASS"

Brought to their present state of efficiency by comprehensive research in the Company's Works, Dagenham.

Good to hear and Good to look at

NEWTON, McLAREN, LTD.

LEIGH STREET

Telephone—Central 3450-5 Lines

LISTENED TO KGO FOR HOUR AND HALF.

WEST COASTER SENDS DETAILS.

Our valued reader and recorder of radio doings on the far West Coast, Mr. Martin Cash, of Calea, has not let city fans get ahead of him with KGO. He is logging him regularly and sends the following clear outline of the programme.

"Wireless is going ahead steadily on the West Coast and the number of receivers has doubled during the last couple of months. Weather conditions have on the whole been very good, but occasional out-bursts of static denote that summer is approaching.

4YA (Dunedin) has been coming over this way quite regularly and was received each Wednesday and Saturday during July, and the first half of August. 1YA (Auckland) has been heard on several occasions, but does not come through regularly.

"Detector" is quite right about the strength of 2RJ. His volume is almost equal to either of the Sydney broadcasting stations. He has been heard calling 2JS, 3XF, and 2JM. Of these latter stations 3XF was the only station whose reply could be picked up here. 2HM comes over in quite sufficient volume almost every evening.

On Sunday, August 24, I got KGO about 6 p.m., but as static was bad we only received a couple of items. However, on Saturday, August 30, we pick-

ed them up again and got almost a complete programme. We tuned them in at 7 p.m. and except for a break of a few minutes to change valves in an attempt to get greater volume held them until 8.33 when they closed down.

"The following is the programme which I do not claim to be word perfect as much of it was very hard to hear and a great deal more may have been either lost or misconstrued in the writing down:—

1. (Music) "Station KGO, Oakland, California, transmitting from Hotel Francis, East Fourteenth Street."

2. KGO, etc. (Title missed, but recognised as mixed voices singing "Believe me if All Those Endearing Young Charms."

3. KGO, etc. "Our Singers will sing —." Title missed, but words of song were caught, referring to "Those Great Big Eyes."

4. "General Electric Company's Pacific Coast Station, KGO. Duet for tenor and contralto."

5. KGO, etc. "Miss Alice — will sing 'From the Land of the Sky Blue Waters,' soprano solo."

6. KGO, etc. "The Clarion Trio will sing 'Madeline' (or possibly madrigal) by Hiddle."

7. KGO, etc. Recitations by Horace Wheeler. Titles not heard, but first referred to "Uncle Mike," second to "Deserted Farm," and third contained the line "And banish every doubt and sorrow far away."

8. KGO, etc. Song by Mr. Jennings Pierce.

9. KGO, etc. Tenor solos, Mr. Jennings Pierce, "Gipsy Trail."

10. KGO, etc. Instrumental.

11. KGO, "The second number by the same performers."

12. KGO, etc. Piano solo.

13. KGO, etc. "Next number by the Clarion Trio."

The announcer then said, "This concludes our programme. The mean time is 2.55 a.m. On Wednesday morning, October 1st, we will be broadcasting from this station again, commencing 1 a.m. We hope you have liked this programme. We at all times try to maintain this high standard. Address your reports to station KGO, General Electric Company, Oakland, California, United States of America. Good morning."

Our time was then 8.33 p.m. This was heard on a four-valve set without radio frequency amplification of any kind.

10 TWO-VALVE RECEIVERS AT £7/10/-

15 SINGLE-VALVE REFLEX RECEIVERS AT £5/17/6

These Sets were a sample shipment imported under the old sealed receiver regulations, and can easily be altered to make an efficient all
_____ wave Set. _____

They are attractive in appearance, have engraved panels, polished cabinets, and are fitted with standard parts, including IGRANIC TRANSFORMERS and DUBILIER CONDENSERS

We have decided to dispose of these receivers at a ridiculous price to make room for new stock

A RARE OPPORTUNITY FOR THE KEEN EXPERIMENTER!

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146 RUNDLE STREET

"The House for High-Class Radio Goods and Service"

KING IS A RADIO HAM.

HIS MAJESTY'S SEVEN VALVE SET DESCRIBED.

King George's set has been constructed to ensure an adequate factor of safety, so that the very best quality should be maintained with sufficient strength, to fill a large room, with the greatest ease of manipulation.

In the top panel there are two switches, one to switch on the filaments and the other to change from long to short waves. In the bottom panel there are two switches, one for the filaments and the other to change from head telephones to loud speaker.

The two dials on the top panel are for tuning and reaction (regeneration) so that all that is necessary to operate the set is to switch on the filaments and to adjust these two dials. When it is in Buckingham Palace it needs no adjustment, merely switching on when required. Recently it has been moved to Windsor Castle, where his Majesty has been in residence, and there a small outdoor aerial and earth lead have been connected to the set and it is thus possible to pick up at very good loud-speaker strength the southern stations of the British Broadcasting Co., Ltd.

Considerable ingenuity has been displayed by the designers in arranging everything possible for simplicity of control and comfort. There are but two main controls, these being a pair of knobs, one of which controls the aerial tuning condenser, and the other the reaction. As the instrument will be required to receive any broadcast messages that may be sent out, provision is made for the reception of the proposed 1,600 metre signals. A switch is provided to cut in and out the additional coil required for this purpose, while a second switch provides for a change from telephones to loud speaker. When it is desired to use the head telephones a small distributor panel can be pulled out and into these the instruments are plugged.

The set is completely self-contained, there being no exterior aerial or earth connection. Batteries, both high and low tension (B and A) are also included in the cabinet. The aerial and earth (or rather the capacities playing the part of these two), are two sheets of copper, one concealed in the top of the cabinet and the other in the base.

The wire connecting the lower capacity plate to the instrument is carried up one leg of the cabinet. As generally arranged with this capacity aerial, the set will receive 2LO in excellent strength, but will not normally receive the more distant stations. These can, however, be brought in if necessary, by attaching the more conventional outside aerial and earth connection.

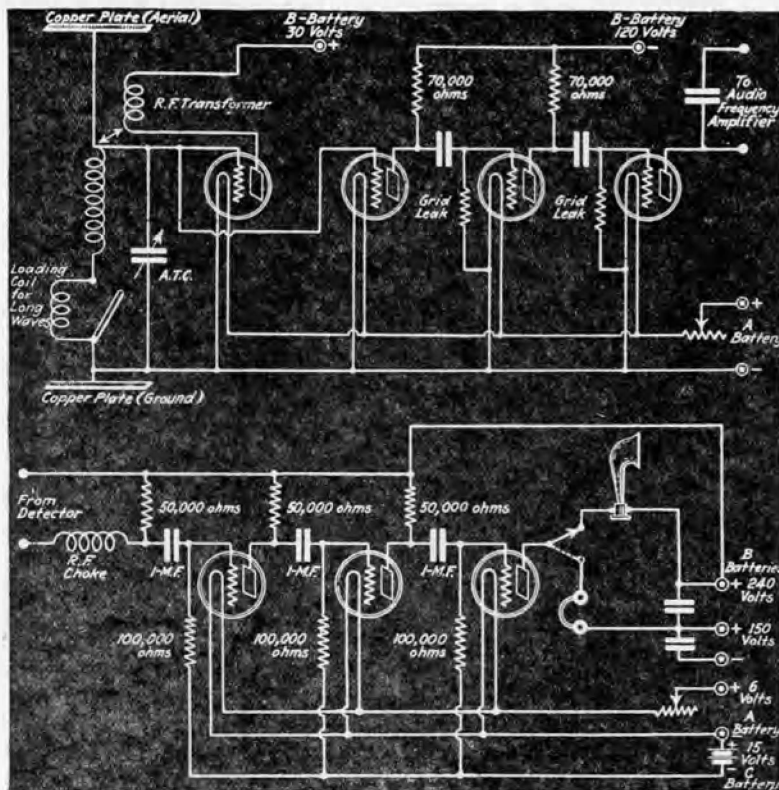


Diagram Showing the Circuit of His Majesty's Set.

Seven valves are used in all, but owing to the peculiar arrangement of the first two these act as one, and therefore the instrument is really a 6-valve receiver. There are two stages of high-frequency coupling (RF), a detector valve, and three stages of resistance capacity, coupled note magnification (AF) so as to give the purest possible reproduction.

Herewith in detail is the circuit diagram of the complete instrument. It will be noted that the grids of the first two valves are not in parallel, a reaction coil being included in the plate circuit of the first valve, which incidentally is fed from a 30-volt high-tension battery. The object of this first valve is solely to provide reaction effects, the necessary coupling between the reaction coil and tuning coil being provided by a conventional three coil-holder. One socket of the coil-holder is used for the reaction coil, a second for the tuning coil, and a third for the additional loading coil, which is brought into circuit when it is desired to receive 1,600 metre signals. The tuning coil may be a No. 50 or 75, and the reaction coil 75 or 100 of any of the well-known makers if readers desire to reproduce this portion of the circuit. The loading coil for the 1,600-

metre wave will probably be 100 or 150, which, being placed in series with the ordinary tuning coil, will gain in inductive value by being coupled to it in the coil-holder.

High-frequency amplification is obtained by resistance capacity coupling, the values of which are given in the circuit diagram. It is generally thought that such coupling is unsuitable for broadcasting wavelengths, but if the set is suitably designed with low-capacity valves, such as are used in the present set, useful amplification can be obtained, although not so great as is possible with the more efficient transformer or tuned anode couplings. As, however, there are no variable factors in resistance coupling it is desirable for simplicity in manipulation.

The detector valve, which, with the high frequency and the reaction valve is of the tubular low-capacity form, passes its energy to a power amplifier, also resistance coupled, situated below the other valves. The values of the resistances and condenser are also given in the circuit diagram. Finally, a simple switch changes over the plate of the last valves to telephones or loud speaker as required. When on telephones the voltage on the last valve is considerably reduced.

"STERLING" RADIO



No. R 1589.

The "ANODION"
BRITISH MADE
TWO-VALVE LONG RANGE RECEIVING
SET.

The Popular Set in Great Britain

THIS Set has been produced to meet the demand for a less expensive instrument than the "Sterling" Vertical Cabinet Model. The circuit is, however, identical and when tuned the performance is equal to that of the standard model.

Fitted for high-frequency and detector Valves, the anode circuits being coupled with a "Sterling" Anode Reaction Unit which introduces reaction in an effective manner and provides very fine adjustment.

The wave-length is from 250 to 3000 metres.

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