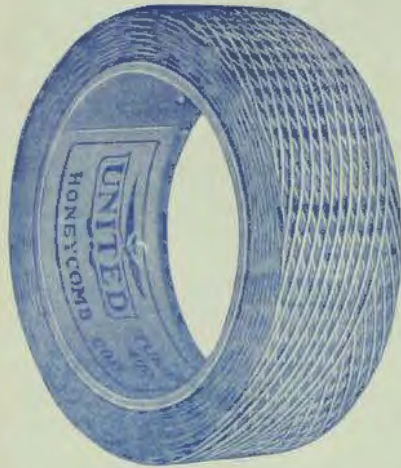




Friday, July 4, 1924.

WIRELESS WEEKLY



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Official Organ of the Australasian Radio Relay League

Vol. 4.

Friday, July 4, 1924.

No. 12

PROGRESS.

Progress, according to the dictionary, is symbolical of the term, "moving forward."

Almost exactly two years ago "Wireless Weekly" was established as the pioneer wireless journal in Australasia. The first issue contained a modest twelve pages which were offered for the equally modest sum of three-pence.

From its inception this paper has had wonderful support from experimenters and others interested in wireless, and due to that support, the growth of "Wireless Weekly" has been steady but sure. From a comparative handful of Sydney experimenters the circle of readers gradually extended until to-day the circulation embraces the whole of Australia.

This week marks another milestone on the path of progress. Commencing with this

issue, "Wireless Weekly" will be increased from 24 to 32 pages, and at no increase in price.

The unbiassed, impartial policy which has always been a feature of this paper, will be consistently adhered to, and all matters of general wireless interest will be fearlessly discussed.

In our endeavour to maintain the standard of "Wireless Weekly" as the foremost Australian wireless journal, we feel assured that, during the process of "moving forward" we may depend upon that hearty co-operation from experimenters and others which has been characteristic of them in the past.

Our objective is to make this paper the handbook of every wireless enthusiast, in Australia. With this high ideal in view, we face the future with entire confidence.

Roster for Week ending 9th July, 1924

	7.30 to 8.0	8.0 to 8.30	8.30 to 9.0	9 to 9.30	9.30 to 10	10 to 10.30
Thur. July 3	2 RA 2 GR	2 IJ 2 JM	2 YI	2 UW	2 YG 2 VM	2 ZG
Friday, 4	2 IJ 2 GR	"	"	ZN	2 ZZ	"
Saturday, 5	2 RA 2 GR	2 IJ	"	"	"	"
Sunday, 6	2 RA 2 GR	"	"	"	"	"
Mon., 7	2 RA 2 GR	2 IJ	"	"	"	"
Tues., 8	2 IJ	"	"	"	"	"
Wednes., 9	2 RA 2 GR	2 IJ	"	"	"	"

THE STRANGLE HOLT.

From the inception of practical wireless, everyone connected with it has realised that somewhere, but always well hidden, there is not only powerful opposition to its development, but in some conservative quarters, bitter antagonism.

The latest evidence of this conservative antagonism is seen in the treatment of the personnel of the wireless branch of our Australian Mercantile Marine by the Government Department of Navigation. Having made the amateurs feel the weight of the heavy hand, apparently the next step is to deal out the same treatment to the professional.

The silent yet constant work of wireless at sea is never realised by the great public, but since it became a branch of the sea service it has been instrumental in saving millions of pounds' worth of valuable property and thousands of lives that had it not been for "sparks" would to-day have been at the bottom of the sea.

Notwithstanding this valuable service, and despite the fact that the wireless man must pass fairly stiff examinations to prove that he is capable of rendering this valuable and expert service when required, up to the year 1916 he was not recognised as a member of the crew, and even after he had compelled recognition as a member of the crew through the work of his organisation it was not until January of 1920 that "The Radio Telegraphists' Institute" was able to get "sparks" official recognition as a wireless officer and certified member of the crew.

The employers agreed to this tardy recognition, and the same being registered in the Federal Arbitration became an award of that court and "sparks" officially took his place with the after guard upon the quarter deck where previously he had only been allowed on sufferance.

All was well until in 1921 when our Federal Legislature considered it necessary to amend the Australian Navigation Act and being too tired to draft a clause covering wireless suitable to the requirements of Australia, they lifted practically word for word a clause from the British Wireless Act. This may be news to many, but the said Act is purely piratical and made up of clauses taken from the

British Acts, Canadian Acts, or any other that might save the necessity of drafting on the part of draftsmen or thinking on the part of tired politicians who seem always prepared to follow hoary precedent rather than create it.

This clause said that Australian ships should carry wireless operators but not much notice was taken of that because the ships were already carrying them.

However, nothing occurred until the Director of Navigation returned from Willis Island where a wireless meteorological station was established. Why such a paltry job required the presence of the Director of Navigation, especially at a time when new regulations under the lately proclaimed Navigation act were in the process of testing has not yet been explained. Uncharitable persons have been heard to say it was to shanghai the Director out of the way because regulations were not his long suit, and if his latest regulations aimed at wireless operators is a sample of his best, well the sooner he is shanghaied again the better.

Returning from the picnic the official eye discovered that wireless officers were signing their contract of employment, i.e., the articles of agreement as such whilst the Act called them operators, forgetting that whilst the Act called them operators in the machinery clause, it was absolutely silent with regard to the operators' status when signed on; or even if the same were realised officialdom said this must stop, and instructions were issued not to sign 'sparks' on in the terms of the award.

Imagine the howl if the wireless branch or any other branch of the Mercantile Marine refused to sign on in the terms of the award. Direct action, job control, sabotage, Bolsheviki, disloyalists, etc., are a few of the terms that would be thrown at them; not to mention threats to deregister the Union, and perhaps as recently the arrest of one or two of the officers of the offending organisation.

The Director is above all this and superior to the law that the common herd has to obey. When remonstrated with, he says, "If you don't like it, go to the court and alter your award." In other words, "I'll have no awards that

do not suit me." What a Director! Captain Kidd or the renowned Jones had nothing on this captain of a Government Department.

The Union said, we shall have to prosecute you. "Well, go ahead and prosecute," said the pirate bold; bravely spoken in view of the fact that dummy, the taxpayer, would meet his legal expenses before the High Court where it would eventually go if the Department lost the case, whilst the members of the organisation would have to finance themselves, and a thousand pounds is a conservative estimate of the cost of the suit.

Fortunately the wireless officers of the Australian Mercantile Marine have a very capable leader in Captain S. Toombs, the General Secretary. So far, he has never lost a move yet that he has made to better their conditions. Trade Union Law, Mercantile Marine Law, Constitutional Law are his favorite hobbies and although not at present in Parliament, when he was a member his outstanding ability was recognised on all sides of the House, and it will be interesting to follow his method of dealing with this attack upon his members. He, of course, could settle the matter in 24 hours by preventing his men from signing on except in the terms of their award and if there is no other way out then the Department of Navigation may cause an industrial upheaval. But industrial location is not favored by Captain Toombs. The writer once heard him say that if after thirty years of organisation the strike was the best weapon the workers could evolve then it was a disgrace to their intelligence.

Continued page 14

Tripleweave Coils MEANS Triple—Signal—Strength

Look for the name on every coil. Set of 10 coils, to tune 100 to 3500, 21/-. 25 to 300 turns, from 1/4 to 4/8 each

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he First Quality, at Competitive Prices. "COL-MO," 10 Rowe St., Sydney.



Berry St., Nowra. 21st June, 1924.
The Editor, "Wireless Weekly."
Dear Sir.—Re Mr. C. England's report of receiving 2FC at Dubbo, in Friday, June 20th, issue of "Wireless Weekly." I also have had the pleasure of receiving 2FC for the last month or so, on a crystal set.
My station is about 70 miles air-line from Sydney, and a range of mountains is between my station and Sydney. The items come in very clearly, and are easily distinguishable. At times the announcer's voice is a bit foggy. The chimes are received clearly. I am using galena for a crystal. The receiving set was made by myself, and I use a pair of Murdoch's 2000 ohms 'phones. My aerial is 35 feet high and 60 feet long, inverted L type. For an earth I am using a zinc plate, 12ft. square, buried in the ground. The lead-in is taken from the north end of the aerial. 2FC is received best in wet or cloudy weather.—Yours truly,
J. CAMBOURN.

15 Prince St., Orange. 20/6/24.
The Editor, "Wireless Weekly."
Dear Sir.—I read of Mr. England's crystal record in "Wireless Weekly," of June 20th, and I have made what I call a record, although less wonderful. Since December last, I have received regularly 2FC's broadcasting. My set consists of a home-made loose-coupler, and Kellogg 2,400 ohm 'phones, using Q.S.A. crystal. I have had several friends present while I received 2FC, who would be only too willing to verify my statements should any doubt arise. Other amateurs have tried in this district to receive 2FC without success.—Yours faithfully,
L. HILL.

"THE NASAL TWANG."

Some weeks ago we received a report from Victoria relative to KGO. As there seemed some doubt about the origin of the signals received by our correspondent being California, we referred the report back to him. Our reader (Mr. N. L. McKenzie, Newfield, Victoria) now writes as follows: "You may recollect receiving a communica-

tion from me a few weeks ago regarding telephony, which I thought may have been of American origin. I have since heard quite loudly in 'phones the station KGO. Last night I picked him up about six o'clock, and until seven he was heard at good strength, though clearly enough to understand everything. However, I could hear the announcer give the station's call letters, and could distinguish the American nasal twang."

TO OUR COUNTRY READERS.

During the last couple of weeks we have been able to assist quite a number of country experimenters with the little problems that confronted them in the operation of their sets.
It just occurs to us that there may be many others up against similar problems, the settling of which may be a difficult matter. The service department of this paper is conducted entirely free of charge, and whatever advice we can offer is given gladly. This service is available at all times, and covers any matter in connection with wireless.
When sending questions, please forward a stamped addressed envelope for reply.

Regent Street, Campbell's Hill,
West Maitland, N.S.W.
Editor, "Wireless Weekly."

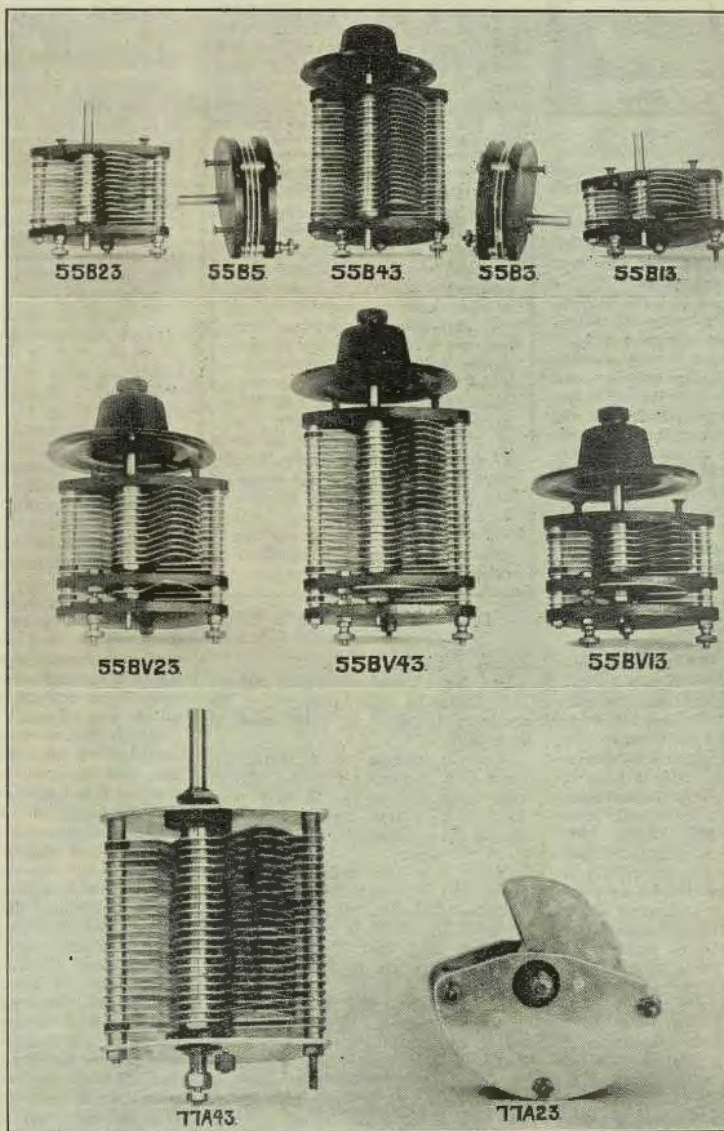
Dear Sir.—I read with much interest Mr. England's letter, concerning his reception of 2FC, in your issue of June 20th.
It might interest you to learn that I am able to receive Farmers' station every time I listen in. I have been doing this almost every night, and several times during the day time, for about six weeks.
My set is a home-made loose coupler crystal set. I am using Stromberg-Carlson, 2,000 ohm, 'phones and Q.S.A. crystal. My aerial is of the L type, 105 feet long, and 30 feet high at one end, tapering to 20 feet at the other.
I have received 2FC in the presence of several people. The strength of speech and music is always very good, the daylight receptions being good also.
The distance between my station and 2FC is about 115 miles.
Should any doubt be expressed concerning my reception of this station, I will furnish the names and addresses of the witnesses.

Wishing every success to your valuable journal.—I remain, yours truly,
R. MAUNDER.

OFFICIAL OPENING OF RADIO INSTALLATION.

AT BEDFORD PARK SANATORIUM
Recently a red-letter day occurred for the inmates of the Bedford Park Sanatorium, when His Excellency, the Governor of South Australia (Sir Tom Bridges) presented to them a set of wireless instruments, which was the gift of the people of South Australia. His Excellency said:—
"It is my privilege to hand over the wireless set to the Repatriation Department, to be held in trust for the soldiers.
"It has been installed by the generosity of public subscription. The credit of the idea is due to Mr. Corpe, and more than £1,100 was quickly raised as the result of an appeal to the public.
"It is but one more testimony to the consideration the returned soldiers meet with in this warm-hearted State. The Diggers in Myrtle Bank, Bedford Park, and Anzac Hostel, will thoroughly appreciate the magnificent gift, and I hope that they will long enjoy the entertainment and news from the air.
"I send hearty greetings to all my friends, the Diggers, and congratulate them. They kept smiling under adversity during the war, and the splendid heroism and stoicism shown will carry them through life. I wish you all the best of luck."
Mr. J. Bell received the instruments on behalf of the Repatriation Commission, and the patients in hospital. He thanked His Excellency, and said that the thanks of the Commission were due to the generous public for having so grandly contributed to the fund. Afternoon tea was provided by members of the Red Cross.
The following message was broadcasted from Bedford Park (5BS) by Mr. A. Dixon:—
Our deep gratitude and heartfelt thanks to His Excellency, Sir Tom Bridges; to Mrs. Seager, for the happy thought that prompted Mr. Hugh Corpe to ask for an appeal that we might have wireless; to "The News" and the committee for the manner in which the appeal was upheld and the fund administered, and to generous South Australia for the best and greatest gift which could have been given us. To-day we can say 'Cheerio' to our pals and the world."

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	5	"	.00015	10/-	"
	13	"	.0003	12/-	20/-
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	43	"	.001	20/-	28/-

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Telephone, Redfern 964.

All advertising and other matter for insertion should be in the hands of the Editor by Friday.

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News by Wireless.

The announcement in the daily papers that Mr. Gibson, on his homeward journey, complained that the wireless news received on the ship while at sea emanated from a German source, comes as no surprise. Mr. Gibson has discovered something that for a long time has been a source of continual wonder to passengers, not only on the vessels plying to England, but also on vessels engaged on the Australian coastal trade, and those travelling further abroad. In fact, in his capacity as Postmaster-General it is nothing short of miraculous that Mr. Gibson did not unearth this lamentable fact sooner, since the remedy was to a very large extent in his own hands. The fact is that Australia has always been considerably far behind in this direction.

The sending of news to ships at sea on the Atlantic run from England to the United States was inaugurated years ago, when the two trans-Atlantic stations, Poldhu, in England, and Cape Race, on the American side, transmitted news which was copied and published on board the Cunard

and White Star vessels.

News was also sent in French by the station at the Eiffel Tower, and from the German station at Nauen.

On the outbreak of war this service was temporarily interrupted until a definite transmission of about 1000 words was radiated from Poldhu, on a wave length of 2000 metres, at 11.30 p.m. every day. This was largely confined to war news, as was a similar service from Eiffel Tower and Nauen. The latter station could always be relied upon to supply ample war news—from the German point of view.

In those days, however, the use of vacuum tubes in reception was limited to the largest passenger liners, so that on other steamers, the night range of reception was approximately 1000 miles on crystal. A vessel travelling to Australia, via Suez, would carry the press until her arrival at Port Said, and from then on, except items picked out of Reuter's News, at Aden and Colombo, the journey was a complete blank so far as news was concerned, until arrival at Fremantle. Ships travelling via Capetown were,

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High quality American Switches, 3/6, 4/-, 4/6, 5/-. High Quality American Transformers, 22/6. Jefferson Star Transformers, 25/-. R.C.A. Audio Transformers, 42/6. Bakelite Top Terminals, small 5d., large 8d. Telephone Plugs, 2/9, 3/3, 5/-. Multiplug, 10/9, 13/6. 3In. Diads, highly polished, neat finish, 2/6 to 4/-. American V.T. Sockets, highest quality, 2/3 to 4/-. English V.T. Sockets, highest quality, 2/- to 2/6.	Columbia 22½ V. High Capacity “B” Battery, recognised as the best “B” Battery on the market, 14/-. Variocouplers, accurately wound on Bakelite-formers, 24/-. Variometers, moulded bakelite, scientifically correct, 45/-. “Weeco” Valves, recognised as one of the best dull emitter Valves on the market at the present day (English Base), 37/6. W.D. 11 Valves, with adaptors for American standard socket, 35/-. Moulded 4in. Lead in Insulator, 4/-; 9in., 5/6. Mounted Crystal Detectors, Glass Enclosed, 12/6, plain 9/6.
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however, more fortunately situated, as at about midnight the Spanish station at Teneriffe (EAT) retransmitted in English the press news sent out by MPD (Poldhu), so that wireless news was received regularly until the Gold Coast was abeam and signals became too weak to read through static. The rest of the voyage, however, except for the call at Capetown, was passed in blissful ignorance of what was passing in the outside world.

Quite early in the war, the United States Government commenced a nightly news service from the powerful station NAA (Arlington, Virginia), which was conducted simultaneously with a similar service from NAR (Key West, Florida) so that ships trading through the Panama Canal were assured of a fairly satisfactory news service almost as far south as Colon. During almost the whole of 1915, however, troopships from Australia to Egypt, which almost invariably made a direct run from Fremantle to Aden, were without any news whatever for almost a month. That this was an unsatisfactory state of affairs can readily be appreciated. The writer well remembers arriving in Aden to learn

that Kitchener had been killed a fortnight before.

Towards the end of 1915, the British Government established stations at Bathurst (North West Coast of Africa), Ascension, Port Nolloth (German West Africa), Durban, Mauritius, Seychelles, Matara (Ceylon), Aden, Singapore, Hong Kong and at one or two points on the Atlantic Coast of America, in, of course British territory. The primary object of these stations was to establish and maintain continuous lines of communication, since the cutting of the cables at Fanning Island, and at Cocos had shown how comparatively easy it would be to isolate Australia, India, the East and New Zealand from England, where total reliance was placed upon submarine cables.

These stations transmitted war warnings and also supplied a news service which was of immense value to shipping on both the Cape and Suez routes. About this time the station at Perth (W.A.) commenced transmitting press news, and was followed by Sydney Radio, and Awanui, N.Z. Here was a chain of press-sending stations which ensured that

those at sea were practically constantly in touch with the world's events. For ships in the Mediterranean, the Admiralty transmitted war news from the station at S. Angelo (Malta). (It is noteworthy that the German station at Nauen throughout the whole of the war transmitted news in French and English). Thus, in 1916, Great Britain maintained a news service which almost encircled the globe.

Yet, within twelve months of the armistice, the whole service was discontinued, with the exception of a spasmodic service from Leaford, England, and among the first stations to cease transmitting news were those of Australia and New Zealand. The German service, even during the turmoil of the revolution and the stirring times through which the Fatherland has passed, has never ceased, and, as Mr. Gibson accidentally discovered, is still going strong. The German wireless news service is not so much intended for the benefit of seafarers as to distribute press reports throughout the whole of Europe—one might say the whole world. Whatever may be

(Continued on page 10.)

DAVID JONES' SALE SENSATIONAL REDUCTIONS IN RADIO EQUIPMENT

The astounding price reducing extends to the Radio Department at David Jones'. All purchases of Radio Goods are subject to a discount of 2/- in the £ for cash, except a few proprietary lines which carry no concessions whatever. Here are some amazing Sale Offers:—

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Sale Price, each	6/9
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Master Vernier Rheo. Usually, 10/6. Sale Price, each	7/6
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Cunningham Valves, Nos. 301A and 299,
in stock at standard price, each . . 35/-

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Notes from Everywhere.

One of the daily features at Station WOC, Davenport, Iowa, is the Woman's Exchange of Household Hints, broadcast at 10 a.m. The service started several months ago with semi-weekly bulletins from the Bureau of Home Economics, at Washington. Soon listeners began to submit their favourite recipes to be passed on to the rest of the radio audience, and now it has become a real job to group the recipes and select the ones that are most suitable for broadcasting. So great has become the interest in this feature that plans are now under way to have the recipes printed in booklet form and distributed to WOC listeners.

A girdle of radio direction-finding stations is to be placed around the British Isles for assistance of mariners. It is reported that facilities for direction finding will be provided at once by wireless stations at Lizard Berwick and Flamborough Head and other stations will be opened shortly. A skilled navigator will be in charge of each station, and if a request for a position report is received from any vessels, no matter from what distance, the compass stations will be able to give exact position, and that of any vessel near it. It is believed that this system, in conjunction with all other marine appliances, will reduce to minimum risk of collision in fog.

U.S.S. Scorpion, stationed in Turkish waters, is equipped with a 300-watt tube set. This vessel cruises around Constantinople, and at times is stationed at Piraeus, Smyrna, Constanza or other places in the eastern Mediterranean. She is usually at a place with cable or telegraph connection. The call letters of the Scorpion are NTT, and the general call for the United States naval vessels in Turkish waters is NTTX. Both United States naval vessels and United States Shipping Board vessels in Turkish waters relay messages for American ships when they are in a position to do so.

Station POZ, Nauen, Germany, now transmits time signals on a wave length of 18,000 meters in place of 13,000 meters. The sending time is not changed, but is as formerly, 1,200 G. M. T. and 2,400 G. M. T.

Continued on page 14

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Continued from page 7

said to the contrary, there is no doubt that Germany is conducting a valuable service, which, however much it may be appreciated, should also be conducted by British stations. And under this heading comes Australia. It seems an astounding fact that until twelve months or so ago, passengers travelling to New Zealand from Sydney were, from a news point of view, absolutely isolated for four days, although the ships were constantly in radio communication. Those travelling to and from San Francisco and Vancouver by the Union Line, were equally unfortunate, but on the Oceanic Company's "Sonoma" and "Ventura" (both American steamers) a paper was, and still is, published every day, and copies sold to the passengers. The Union Line first felt the need for wireless news when the rumblings of discontented passengers became evident. A service was then established by Amalgamated Wireless (A/sia.) Ltd., for the benefit of the Union vessels on the trans-Pacific run. This was extended later to the vessels on the Intercolonial run, transmissions being carried out from Sydney Radio

each night on a wave length of 2000 metres. This service to a certain extent bridges the gap, although it should be mentioned that while transmitting this press Sydney Radio is out of action so far as commercial working on 450 and 600 metres is concerned. This, however, is not a serious matter, as at night ships which normally communicate with V.I.S. could at a pinch work direct with either Brisbane or Melbourne.

The service to the trans-Pacific steamers could not be satisfactorily conducted through Sydney Radio alone, on account of the distance over which reception is necessary when the vessels are north of the equator, and on account of static interference which frequently makes distant reception impossible. The aid of the stations at Awanui, Suva and Vancouver is therefore enlisted to ensure consistent service. In other words, there is no one station in Australia at the present time which could be relied upon to supply news every night to ships travelling from Sydney to America, or from Sydney to Japan or Singapore. Occasional excellent long distance reception can-

not be regarded as a definite factor when considering the service as a permanent feature.

The establishment of a station which would be of sufficient power to consistently cover the distance would involve expenditure, which would scarcely warrant its construction. So far as America bound vessels is concerned, therefore, the present arrangements for transmitting press appear to be as complete as is possible under existing circumstances.

We have, however, a number of stations on the Australian coast whose activities at the present time are limited to the handling of commercial traffic and the sending of weather forecasts. With one or two exceptions every one of these stations could be used for the transmission of news to ships on the coast. For instance the "Marella" on her voyage to Singapore could be assured of press almost every day throughout the voyage if use were made of the stations at Cooktown, Darwin and Broome. Similarly the Bay Liners, together with the P. & O. and Orient steamers, could receive Australian press until well north of Cocos Island. Ships on



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the Japan run could hold Australian northern stations for a considerable distance after leaving Thursday Island, while the vessels trading via Capetown could hold Perth Radio almost the whole way across to Durban.

Amalgamated Wireless (A/sia.) Ltd., which company controls all of the commercial stations (ship and shore), cannot, unless actuated by philanthropic motives, be expected to maintain a press service which would involve a considerable financial loss. The onus, therefore, falls upon the Government or the shipping companies to pay for the service. On the trans-Atlantic steamers, the wireless press is paid for by the shipping companies. The service is continuous throughout the whole voyage.

But on the voyage of a steamer from Australia to England, no such continuity could be relied upon unless regular transmissions were carried out from a high power English station, in conjunction with Australian transmission, or arrangements made for transmissions from stations en route, such as Cocos, Matara, Aden, etc. Unless a consistent British service were assured, no shipping company can be blamed for declining to expend money on a partial service, or to commence the publication of a paper on ships where a portion of the press published was of Australian origin, and

the remainder received via Germany.

Australian vessels on the China-Japan run would also receive an unsatisfactory service unless transmissions were made from stations along the route after losing the Australian press station. It will be readily seen, therefore, that the chief difficulty to be overcome with regard to overseas vessels is the present lack of co-operation among the different Governments in the direction of providing news by wireless.

Until some such co-operation is established there seems no possibility of a permanent news service being established on vessels trading to England.

The position is entirely different with regard to coastal vessels, however, and in this direction it is incumbent upon the Government to endeavour to effect a working arrangement with the Telegraph Department, the shipping companies and the company controlling the wireless stations, which will ensure that those at sea may be kept in touch with local events. The United States Government makes use of a number of stations along the American coast for the transmission of press, and this is an entirely free service. Perhaps it is not too much to hope that in the near future use will be made of our existing coast stations for a similar purpose.

Wireless in Hospitals

Director Hines, of the Veterans' Bureau, U.S.A., plans to equip all Government hospitals with radio as soon as possible. As a preliminary step he has authorised the wiring of hospitals under construction for radio distribution in the following cities: Northampton, Mass.; Tupper Lake and Chelsea, N.Y.; Chillicothe, Ohio.; Camp Custer, Mich.; St. Cloud, Minn.; Excelsior Springs, Mo., and Livermore, Cal. Additions being constructed in hospitals in Gulfport, Miss.; Knoxville, Iowa.; Little Rock, Ark.; and Augusta, Ga., will also be wired for the installation of receiving sets.

All forty-eight hospitals at present occupied not yet equipped with radio will also be wired and equipped as soon as means to meet the expenses can be found, the Director states. Money will be needed for the centrally located receiving sets and many pairs of phones and loudspeakers, and it is hoped charitable institutions or radio manufacturers will aid the Government in this plan to bring the outside world to all the veterans in Government hospitals.

SETS READY TO ASSEMBLE

Include Cabinet Drilled Bakelite Panel, Variable Condensers, Coil Mounts, H.C. Coils Telephone Jacks, Valve Holder and Terminals, Wiring Wire, Grid Leak and Condenser, Transformers, Rheostats.

1 Valve 1 Det.	- . . .	5 0 0
2 Valve 1 Det., 1 Audio	- . . .	9 0 0
3 Valve, 1 Radio, Detector and Audio	- . . .	11 0 0
4 Valve, 2 Audio	- . . .	13 0 0
Loose Coupler Set Assembly	- . . .	1 0 0
Single Slide Tuner	- . . .	0 15 0

ELECTRICITY HOUSE

387 GEORGE STREET

J. S. MARKS, 2 G R. Manager

Radio in West Australia.

From our Special Correspondent.

The Western Australian broadcasting station, operating on 500 watts, and whose call sign is 6WF, was officially opened on June 4th, by the Premier (Phil. Collier). This night proved to be a historic evening for W.A. Gathered in the company's social hall were 400 people, who were treated, by means of a Magnavox loud speaker, to the musical items which were being dispensed in the studio above. The broadcasting apparatus of this station is identical with that which has been installed at 2FC and other interstate broadcasting stations. The management at present guarantee a range of 200 miles, but, as proved by reports the company has received, reception has been accomplished in Melbourne. The full power of 5000 watts will be available to subscribers in about a month, when 600 miles is expected to be covered, thus enabling farmers and settlers as far north as Wyndham to hear with satisfaction with the "Mulgaphone" receivers retailed by the company.

With the event of broadcasting, radio clubs are appearing in nearly every town. We have at present the following: Subiaco, Wireless Institute (W.A. Division), West Perth-Leederville, Claremont, Fremantle, Guildford, Kalgoorlie, Geraldton and Northam. Kalgoorlie and Geraldton are some 300 miles from the city, so it will be seen that ample scope for amateurs in these towns is provided, to carry out distance tests with the amateurs of Perth. Kalgoorlie is situated rather at too far a distance from 6WF to enable satisfactory reception at the present, the station, of course, using 500 watts. Mr. Cecil, call sign 6AB, 75 Dugan Street, Kalgoorlie, transmits music and speech twice a week for the fields.

To honour one of Western Australia's radio pioneers was the object of a gathering of some 150 amateurs at the Westralian Farmers' Social Hall, on June 14th last. Mr. W. E. Coxon was the gentleman in question. He has transmitted from his station, 6AG, no less than 3,200 records in the past to the enjoyment of amateurs and also the success of the radio dealers. On behalf of the amateurs and traders, therefore, Mr. W. Phipps, who organised the presentation committee, presented Mr. Coxon with a handsome cathedral chime clock, an electric ra-

diator, and an electric kettle. Mr. Coxon was toasted most enthusiastically. Speeches and toasts followed profusely. Never, in the history of W.A. has there been such a social and supper of such success. The catering for those present was excellent, and an enjoyable musical programme was given. The participants also were given the opportunity of looking over the station in operation.

6WF has recently introduced an interesting feature on Friday nights. From 8.15 to 8.45 the half hour has been set aside for matters of interest to the experimenter, any member of the committee of affiliated radio societies being permitted to read a paper from the station, on experimental interests.

It is rather disappointing for W.A. amateurs that they have but one amateur transmitter. This gentleman, Mr.

being placed at the rear of the hall and one on the table by the instruments. Some 200 persons were present. The wave length used was 440 metres, consequently jamming from the Applecross Wireless Station was fairly frequent. An exhibition by local traders was also a feature, also sets exhibited by members of the society.

The receiving apparatus, which the Westralian Farmers' are selling, is called "The Mulgaphone." It comprises 2 D.E.R. valves, all the gear being enclosed in a small cabinet. Amplifiers are also sold if desired, which would work the loudspeaker provided. A cabinet de-luxe is sold for those with advanced tastes. The company realises the need also for city folks, and are getting out a crystal type of receiver, which will be sold at a very moderate cost.

6AG, the experimental station of Mr. W. E. Coxon, is not often heard upon the air now. Mr. Coxon is indeed a very busy man nowadays. At the beginning of the Westralian Farmers' broadcasting project, Mr. Coxon was chosen as their technical advisor, and now holds that important position. He has given over his business in King Street, which amateurs have patronised heartily in the past, obtaining helpful information; but he is still always willing to help the amateur, and takes great interest in experimental work. His well-known voice is still heard in the experimenters' half hour on Friday evenings.

Salt Lake City will have a municipal broadcasting station, according to an announcement made by the Chamber of Commerce of that city. The new station, which will be installed by the Western Electric Company, is a gift of Nathaniel Baldwin.

The station will be established on the roof of the Hotel Utah. Mr. Baldwin will furnish the power and provide operators.

The Chamber of Commerce will supply programmes for two years under direction of a committee composed of educators, musicians, newspaper men, business men and agricultural experts.

The wave length of Station GBL, Oxford, England, has been changed to 12,350 metres in place of 8,750 metres as heretofore.

Wireless v. Cables

AN article on this subject by Mr. Malcolm Perry will appear in next week's issue. In view of the controversy regarding this important matter which recently occurred in England this article should prove of vital interest.

A. E. Stevens, of 1 Ruth Street, Perth, transmits on a power of 1 watt, each Wednesday evening. It is to his credit that he pushes this 1 watt far out, having been heard on speech distinctly at a distance of 400 miles by an operator on a north-west trading vessel.

A demonstration was held last month by the West Perth-Leederville Radio Society. Broadcasting had not then been inaugurated, so the service of Mr. W. E. Coxon was kindly obtained. Music from his experimental station, 6AG, was received at the demonstration by two loud speakers, one

THE NEW "GOLD SEAL"
HOMCHARGER



**Charges Your Radio Battery
Overnight**

without removal from the living room, and in perfect safety. Simply attach to any lamp socket and connect to battery; the Homcharger then automatically operates without trouble. Cannot over-charge or injure the battery. Lasts a lifetime. Solidly constructed and beautifully finished, the "Gold Seal" Homcharger is as attractive as it is efficient.

Furnished complete with attachment cord and plug, charging cable and battery clips. No extras to buy

Price £8 10 0

Obtainable from all Progressive Radio Dealers

If any difficulty in procuring, write direct, giving name of your nearest radio dealer

Amalgamated Wireless
(Australasia) Ltd.

"Wireless House," 97 Clarence St., Sydney
"Collins House," Collins Street, Melbourne

Continued from Page 6

A combination guessing and spelling contest has been inaugurated at Station WBZ, Springfield, Mass. It is one of the most popular features ever sponsored by the Springfield station. The questions are intended to brush up the children in bits of historic, fictional and biblical learning. Prizes for the winners are offered as incentives.

Ten objects were used in the initial contest, which suggested some character in history, fiction or the Bible. The objects were a hatchet, a rail fence, a kite, a muddy cloak, a lonely island, a burning bush, a walk, a glass slipper, an apple and bow and a silver lamp.

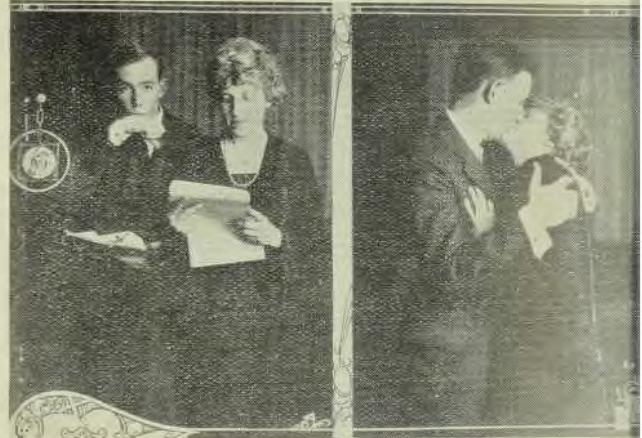
The winner of the contest was the one who guessed all the characters correctly and had but one mistake in spelling.

Continued from page 2

Wireless men may be sure that every pacific method will be tried to settle this dispute. They may also be sure that whatever the weapon they are eventually going to win.

The Kiss - Over the Air - On the Stage

This is an example of the technique required of radio actors who take parts in plays produced in the studio of KGO, the new Pacific Coast Broadcasting Station of the General Electric Company.



Trimm Phones are Here

“Dependable” 2400 Ohms, “Professional” 3000 Ohms, Also

“Western Electric” 4000 and 8000 Ohms, “N.S.T” 4000 Ohms, “Radiola” 2000 Ohms.

Use These Headsets on Our

Crystal Receiver Sets

And Get Maximum Results

Double Slide Crystal Sets, complete with detector 29/6
Loose Coupler Sets, complete with detector, etc. 23/10/-
De Luxe Crystal Sets, fitted into handsome cabinets. These sets are well designed and include
Headsets, for use with any of above sets 30/-, 35/-, 42/-, 44/-
Build your own Loose Coupler. Set of Parts, including tubes, ends, wire, baseboard, detector, panel, condenser, rods, switch. Price 23/-. Maple 25/-.
Crystals: Argentite 2/6; Mounted Hertzite 1/9; N.H.M. 2/-; Galena 1/-.

Wireless Supplies Limited.

Phone M. 3378.

21 Royal Arcade Sydney,

To celebrate the opening of

SMITH'S

New Radio Store, where the more discriminating radio enthusiasts will be catered for, 2s. will be refunded for every £1 spent. This remarkable offer is for one week only and applies to purchasers from 1s. up. And now a word as to

SERVICE

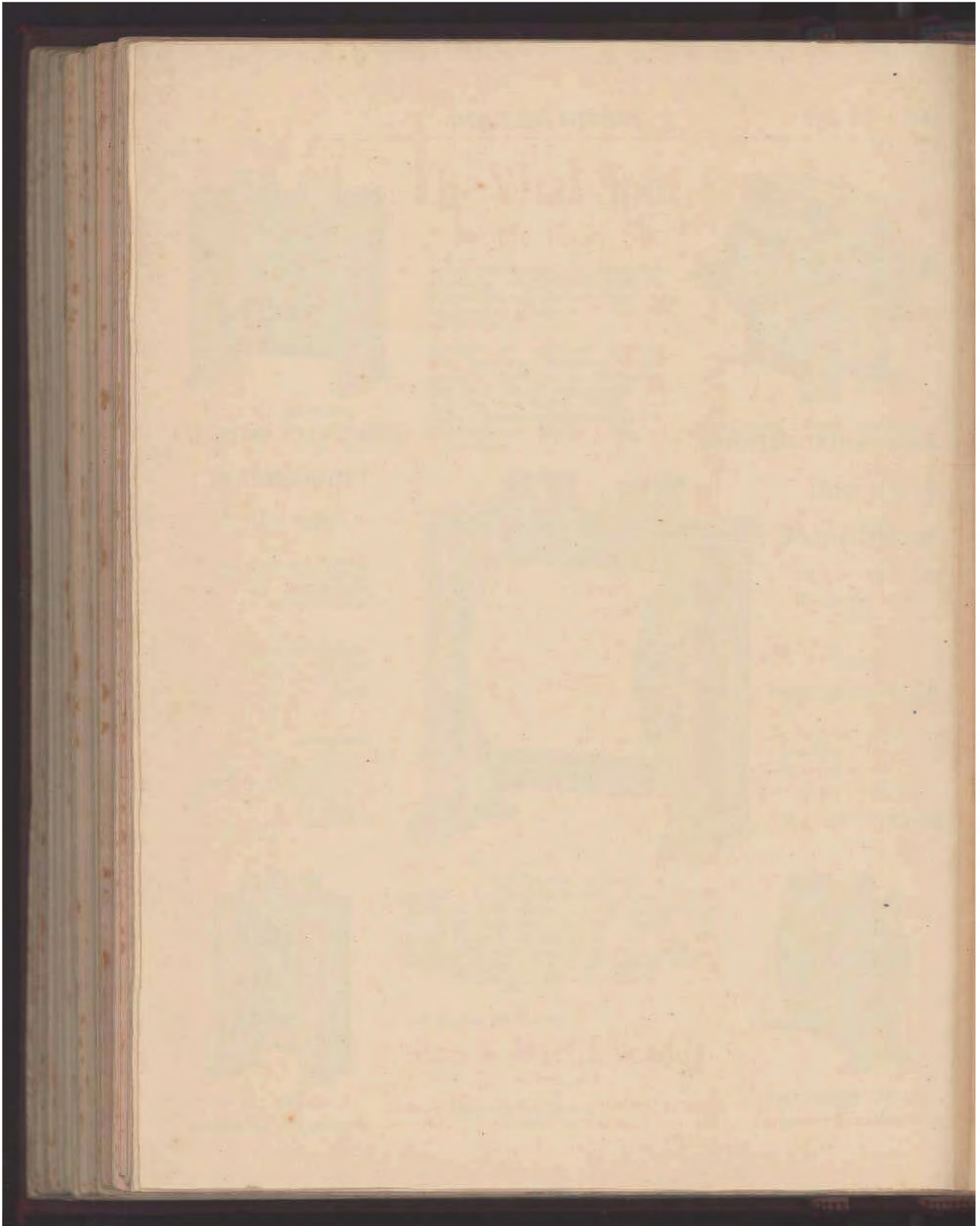
Country orders will be mailed carriage paid. Batteries purchased from us will be recharged free for six months. Technical advice gratis.

Don't forget the 10 p.c. discount which applies for one week only.

SMITH'S RADIO STORES

3 VICTORIA ARCADE,

OPP. HOTEL AUSTRALIA.



HELLO, EVERYBODY!

WILES' WONDERFUL WIRELESS

FOR QUALITY AND SERVICE

EXPERIMENTERS! CONSTRUCT YOUR OWN SET. WE SUPPLY COMPLETE INSTRUCTIONS WITH EACH ORDER

SINGLE SLIDE CRYSTAL SET.

(120 to 1500 meters)

	£	s.	d.
1 Integrated E.B. Tube	1	0	0
2 Wood Ind. Supports	1	0	0
4 Nos. 24 Enamel Wire	1	0	0
1 S.P. Slider and Box	1	0	0
1 Zinc Blende	1	0	0
1 Mounted Detector	4	0	0
1 Volume Crystal	1	0	0
1 S.P. Transformer	1	0	0
2 200 M.F. Wind Capacitors	1	0	0
Aerial Equipment	7	4	0
Total	23	0	0

THE FAMOUS S.S. 100 SET.

2 Valve Receiver

	£	s.	d.
1 A.W.B. & S.M.C. Rhonda	4	0	0
1 2 Unit Antenna	17	0	0
2 R.H. Variable Condensers	1	0	0
2 Aerial Transformers	2	10	0
2 Fixed Condensers	4	0	0
5 Valve Indicators	3	0	0
1 Crystal Wire	2	0	0
1 Rhondal	6	0	0
1 Crystal Detector	4	0	0
1 Mounted Crystal	5	0	0
2 Nos. Calibrated Slugs	5	0	0
Aerial Equipment	17	1	0
Total	67	1	0

EXTRA EQUIPMENT—2 Valves, 1 Head Set, 1 Loud Speaker, "A" Hat Battery, "B" Battery Cabinet, R.C. Cells.

WE PAY BARRIAGE



Edison 400 ohm	1	11	0
Shelton Postnight 6000 ohms	2	4	0
Trimmer Deposits	1	10	0
Trimmer Professional T.M.C. New Style, 2000 and 4000 ohms	1	12	0
Western Electric 2000 ohms	2	0	0
Western Electric 6000 ohms	2	0	0
Woods' Super, Matched	2	0	0
Trimmer	2	0	0
Shelton 6000 ohm	2	30	0
Edison's Type 1, Superb weight, 4000 ohms	2	0	0
Edison's Type 1, 4000 ohms	2	0	0
Edison's Type 2, 4000 ohms	2	0	0
Edison's Type 3, 4000 ohms	2	0	0
Edison's Type 4, 4000 ohms	2	0	0
Edison's Type 5, 4000 ohms	2	0	0
Edison's Type 6, 4000 ohms	2	0	0
Edison's Type 7, 4000 ohms	2	0	0
Edison's Type 8, 4000 ohms	2	0	0
Edison's Type 9, 4000 ohms	2	0	0
Edison's Type 10, 4000 ohms	2	0	0
Edison's Type 11, 4000 ohms	2	0	0
Edison's Type 12, 4000 ohms	2	0	0
Edison's Type 13, 4000 ohms	2	0	0
Edison's Type 14, 4000 ohms	2	0	0
Edison's Type 15, 4000 ohms	2	0	0
Edison's Type 16, 4000 ohms	2	0	0
Edison's Type 17, 4000 ohms	2	0	0
Edison's Type 18, 4000 ohms	2	0	0
Edison's Type 19, 4000 ohms	2	0	0
Edison's Type 20, 4000 ohms	2	0	0

LOOSE COUPLER CRYSTAL SET.

(Wave length, 150 to 2000 meters)

	£	s.	d.
1 Pair O.B. Tubes	1	0	0
1 No. Wood Ind. (1 piece)	1	0	0
4 Nos. 24 Enamel Wire	1	0	0
1 S.P. Slider and Box	1	0	0
1 M.P. Inductance Switch	2	0	0
1 S.P. Contact Slider	1	0	0
2 Rough Slugs	1	0	0
1 Piece Rhonda	1	0	0
1 Mounted Detector	4	0	0
1 Volume Crystal	1	0	0
1 S.P. Transformer	1	0	0
1 Pair Secondary Inds	1	0	0
1 R.C. Terminals	1	0	0
1 No. End Support	1	0	0
1 No. Middle Wire	1	0	0
1 No. Head	1	0	0
1 All Fixed Condenser	1	0	0
Aerial Equipment	7	4	0
Total	21	0	0

SIGNAL HOME ASSEMBLY SETS

Includes: Cabinet, 2x125 B.K.H. 2500, Variable Condensers, Grid Mosaic, I.T. Cells, Rheostats, Telephone Jacks, Valve Cabinet, Terminals, Panel Wire, Grid and Phone Connections, Transformers.

	£	s.	d.
Model P. (1 valve)	1	0	0
Q. (2 valves), 1 Detector, 1 Audio	1	0	0
R. (3 valves), 1 Detector, 2 Audio	1	0	0
S. (4 valves), 1 D.T., 1 Det., 3 Audio	1	0	0
T. (4 valves), 1 D.T., 1 Det., 2 Audio	1	0	0

OUR GUARANTEE

If a set described in every article in this list shall be found defective, therefore, we guarantee everything you buy from us to be satisfactory in every detail. You take no risk whatever in sending us your order, for unless you are completely satisfied with the goods and your money, you may send back everything you buy from us and we will promptly return your money and all transportation charges you have paid.

EXPRESS ADVISE GRATIS

60-62 GOULBURN STREET, SYDNEY
(1 door from F.M. Store)
Also No. 1 Beach at 21 PITT ST., CIRCULAR QUAY
ESTABLISHED 19 YEARS

W. HARRY WILES, Radio and Electrical Supplies,

WILES' WONDERFUL WIRELESS

THE value of a product is frequently determined by the value of the name under which it is manufactured. By virtue of this no firm handling inefficient or out of date Radio Goods can achieve any progress.

The term Wiles Wonderful Wireless conveys a wealth of meaning to those who buy Radio goods wisely.

It means Highest Efficiency, Long Life and to the fullest extent that Service which ensures satisfied customers, and progress in business.

At considerable trouble we have now installed at our Head Office, 60-62 Goulburn Street, a special machine for cutting and finishing Bakelite and Ebonite panels. For the benefit of those whose workshop is not fully equipped, panels will be drilled to the requirements of our purchasers free of all charge.

SPECIAL ANNOUNCEMENT.

Following upon our recent announcement of the early opening of a new store at 384 Pitt Street (between Liverpool and Goulburn Streets) we now have pleasure in advising our customers that we have also secured premises at 23 Pitt Street (near Circular Quay) where our No. 1 Branch will be opened on Monday, July 7th.

Don't fail to visit this new Store and inspect the large stocks of Radio and Electrical Goods.

The same wireless service will still be conducted at our Head Office and Store, 60-62 Goulburn Street.

W. HARRY WILES

60-62 GOULBURN STREET :: SYDNEY

Established Over 20 Years.

1 door from Pitt Street

A New Reflex

Here is a new 2-valve reflex circuit that, for results and ease of operation is easily in the lead. The audio-frequency only is reflexed. With almost any kind of an aerial this circuit will give loud speaker operation over a 20-mile radius reliably, and much greater distances will be obtained under favourable conditions, while with the 'phones it will bring in the

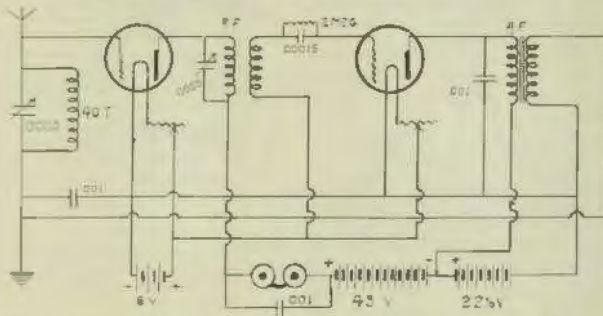
interstate stations. The wave length is easy to change, and the parts may be assembled very compactly.

Here is a list of the parts recommended for efficient operation:—

- 1 bakelite panel, 8 x 9 x 3/16in., or slightly larger.
- 7 K. and C. bakelite top binding posts.
- 2 K. and C. .0005 variable vernier condensers.

- 3 K. and C. .001 fixed condensers.
- 1 K. and C. .00015 grid condenser.
- 1 K. and C. double standard VT socket.
- 1 K. and C. 20 ohm rheostat.
- 1 K. and C. 6-1 ratio audio frequency transformer.
- 1 K. and C. open circuit jack.
- 1 K. and C. type P3 headphones.
- 3 K. and C. UV199 adaptors (if UV199 or C299 valves are used).
- 1 single honeycomb coil mounting.
- 1 35-turn coil for wave lengths up to 600 metres.
- 1 150-turn coil, for wave lengths above 600 metres.
- 1 radio-frequency transformer, wave length 200-2000 metres.

The K. and C. 20-ohm rheostat will control the UV199 type of valve at a terminal voltage of 44.



FOR SALE.—3 W.D.12 valves, guaranteed in good order. Trial given. 25/- each, or 70/- for three. Apply "Valve," c/o Newtown School of Arts.

U.E.C.

COMPARE THESE PRICES. Special attention given to ALL Country Orders.

	£	s.	d.		£	s.	d.
Thordarson Audio Freq. Transformer	1	7	6	Crystal Detectors, in Glass Case, with Crystal			5 0
Standard English Valve Sockets		1	6	Hydrometers, complete for testing accumulator			3 10
Standard American Valve Sockets		1	6	7in. Strain Insulators			4 6
Aerial Insulator, 2in. Porcelain, each			3	2in. Strain Insulators			1 3
Ammeters, Panel Type	10		0	Jacks, 3 Point, for intervalve work			2 9
"B" Batteries, 40 Volt	12		6	Ebonite Knobs, 2d., 3d., 7d., 8d. and			1 0
Nickel Plated Bezels		1	6	Plugs for Telephones			3 6
Nickle Plated 'Phone Terminals			4	Pig Tail Connectors, for Switch studs			2 0
Bradleystats	12		6	doz.			1 3
"C.R.L." 6 ohms, Rheostats, complete with knob		3	6	N.P. Contact Studs, with N.P. Nuts,			1 3
"U.N.X.L.D." 6 ohms, Rheostats, complete		5	0	doz.			3 6
"U.N.X.L.D." 30 ohms, Rheostats, complete		5	6	Series Parallel Switches Panel Mounting			1 6
Square Bus Bar Wire, 24in. lengths			3	Rotary Switches, best type			15 0
Fixed Condensers .002, French Type	1		0	A Real Variable Condenser, with 22 gauge Heavy Plates, Bakelite End			15 0
Fixed Condenser, .00025, Bakelite		1	6	Pieces, .0005 m.f.			3 6
Geared 2 Coil Mountings		1	0 0	Aerial Earth Switches, on Porcelain			
Geared 3 Coil Mountings		1	10 0	Base			
Coil Plugs			3 6				

The Universal Electric Company

"WHERE YOUR MONEY GOES FURTHEST"

Note New Address: 108 Market St., Sydney Phone M. 3411

Two Step Amplifier for Cockaday Four Circuit Tuner

By "The Little American."

Very much better results may be had with the Cockaday four circuit tuner if a two step amplifier is added. The amplifier circuit seems to add the proper capacity to the set to give better tuning and tone qualities.

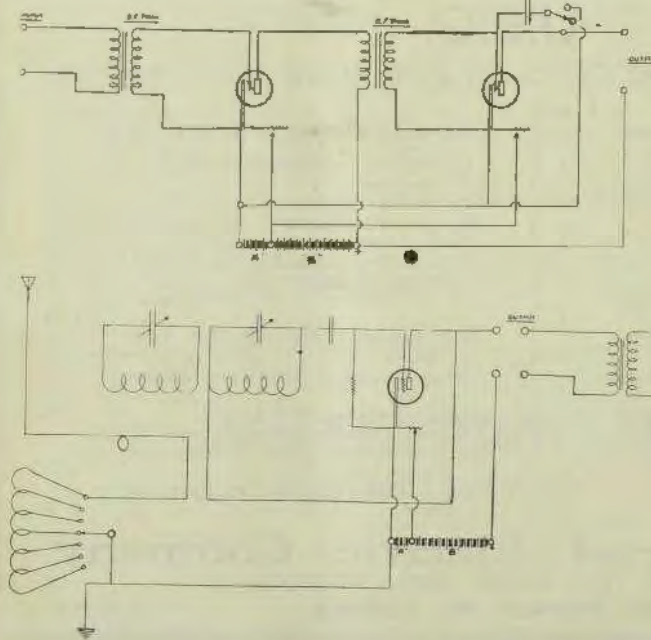
- The parts needed are as follows:—
- 1 Bakelite panel, 3/16in. x 8in. x 8 in.
 - 2 Amplifier units (consisting of the-ostat, socket and transformer platform).
 - 2 Audio frequency transformers.
 - 2 Closed circuit jacks.
 - 1 Open circuit jack.
 - 7 Binding posts.

In using the amplifier units, the amplifier is very easily assembled, and is more compact and simple to wire.

The same "A" and "B" battery for both receiver and amplifier may be used. Filament control jacks are more convenient to operate than the closed circuit type, but complicates the wiring. In a later issue I will tell you all

about jacks.

A word here about amplifier circuits. Unless special precautions are taken to shield the transformers and the connection wires of the amplifier, it is almost impossible to employ more than three amplifier tubes connected after the detector tube without causing a howling sound in the telephone receiver which makes the reception of signals impossible. Sometimes the placing of the cores of transformers at right angles will do away with a certain amount of this. Present design transformers are mostly shielded, and when this shielding is grounded, the trouble will be minimised. The connecting of a condenser across the terminals of the primary winding of the first transformer of an audio frequency amplifier will sometimes increase the strength of received signals as well as reduce the likelihood of the occurrence of this howling. A condenser having a capacity of .005 microfarad is suitable for this purpose.



NAVY 'AERIAL' WIRE.

A distinct departure from the usual type of aerial wire is the specially prepared copper 'Navy' wire which is now making its appearance. The wire, which is single strand .0623 gauge, is heavily enamelled and is immune from corrosion. It has a very attractive appearance, and is extremely easy to handle without any of that buckling or kinking common to most wires. W. Harry Wiles has this wire in stock.

The Bureau of Standards, U.S.A., has called a dry-cell conference on April 28 to standardise battery types and specifications. The Government purchases about 135,000 dry batteries a year. They include over a dozen different types and sizes to fulfil many requirements, including radio "A" and "B" batteries, but the exact distribution for telephone, bell-ringing, flashlight, ignition and radio use is not available. In an effort to standardise Government requirements and specifications an interdepartmental committee is now at work. A tentative schedule, carrying about seven standard cells and two radio dry cells, has been laid out.

Since the problem was undertaken, however, the demand for dry batteries for government radio work has increased greatly, and conditions have been changed, necessitating a revision of specifications of performance. Dry battery manufacturers have been carrying on extensive tests to determine the type of performance tests to be established and the proper numerical values for these requirements.

The Bureau of Standards, in cooperation with the American Electrochemical Society, has now decided to call a conference of dry cell manufacturers and users, including Government representatives.

**WIRELESS
APPARATUS**
New or Second-hand,
Bought, Sold or Exchanged
HOWELL'S
19 Barlow Street
PHONE : MA 1133
OPEN, TILL 9.30 FRIDAY NIGHT

Colmo new Price List is nearly ready. Send in your name for a copy



"No. 41" JEFFERSON AMPLIFYING TRANSFORMER

FOUR REASONS WHY!

1st. A Jefferson is scientifically designed.

2nd. The windings are carefully calculated to produce 100 per cent. amplification—they are not built up to a ratio.

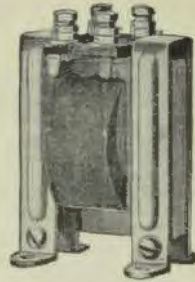
3rd. The Jefferson line embraces a variety of amplifiers to meet every demand—six Audio and two Radio Frequency types.

4th. As pioneer transformer manufacturers, Jefferson Engineers designed audio amplifiers long before Radio reached its present popularity. You will appreciate Jefferson's extra years of experience.

The Vital Spot In the Radio Set

is the transformer. The advantages of using JEFFERSON TRANSFORMERS are acknowledged by hundreds of thousands of users the world over.

Stability of operation; Freedom from Distortion; Maximum Amplification! These are the characteristics demanded of transformers, and they are the qualities which have made JEFFERSON TRANSFORMERS the most popular among experimenters!



Introducing Jefferson "STAR" AMPLIFYING TRANSFORMER



What's Inside

THE most important thing to know about an amplifier is "What's Inside." Ours will show you the difference in the world—the difference between clear, mellow reception and poor reception full of squeaks and squawks. Many radioists unconsciously put the "squeaks and squawks" into their set through the use of improper transformers. They have yet to learn that "RADIO" means absolute nothing—but 10 to 1; 2 to 1, etc., do not spell maximum amplification.

Buy an Amplifier

For what it will do—
The Service it will render—
The tone and volume it will produce—

Results Count!

You introduce 100 per cent scientific efficiency into your set when you install

JEFFERSON TRANSFORMERS



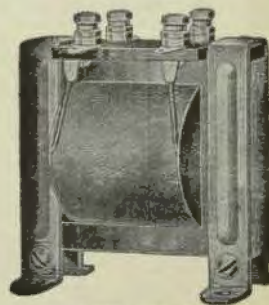
"No. 45" JEFFERSON Amplifying Transformer

World's Leading Transformers stocked by Colville-Moore, Radio House, Radio Co., A. Hordern and Sons, Ramsay Sharp, Universal Electric, Wireless Supplies Ltd., Harry Wiles, David Jones Ltd., Mark Fays Ltd., Homecrafts, Melbourne; J. C. Price, Brisbane; Adelaide Radio Co.; Burgin Electric Co., Harringtons Ltd., Norris and Skelby, Melbourne; and all Leading Wireless Stores throughout Australia.

Sole Agents for Australia:

Fox & McGillicuddy Limited

Daily Telegraph Buildings KING ST., SYDNEY
Phone: CITY 3062.



JEFFERSON RADIO Frequency Transformers

A Progressive Unit Panel Receiver.

By Insulator.

I wonder how you liked the Single Valve Set which I described last week? I guarantee it to be splendid. Of course, I give this guarantee with everything I write about, so this week's article will be no exception. In a few weeks' time I will give constructional details of how to make an Audio Frequency Panel to be used in conjunction with the Single Valve Set which I wrote about last week. Those constant readers who have followed my articles of the last three or four months will certainly have gathered the fact that I am a great exponent of the Unit Panel system.

My reasons are obvious as one can add to one's set without having to scrap that which is already made. I remember some time ago I built the Neutrodyne, and the Cockaday receivers, but unfortunately neither of them came up to my expectations, perhaps because I didn't spend sufficient time to understand them well enough. However, each cost me more than the proverbial 'two bob,' and results hardly justified the expenditure. They had to be scrapped. I remember appealing to my friend, Mr. E. Joseph, for some enlightenment, and he advised me that it was almost impossible to beat the standard three coil circuit. Frankly speaking, I may state that the S.T. 100 has been the only receiver I know of which will beat the three coil circuit, valve for valve of course.

Keeping these facts in mind, I propose this week to describe a progressive unit panel system which will appeal to most.

Up to the present I will confine the panels to the following:

- 1 tuning panel.
- 1 tuned anode panel.

1 detector panel.

1 audio frequency panel.

Later on I will describe a tuned anode panel with re-action coupled to the anode coil. This system of re-action will meet with the approval of the authorities. The three coil circuit unfortunately at the present time is prohibited in towns of 1000 inhabitants or more, but once again our country readers will score. However if the city experimenter instals this set all he need do is to short the re-action terminals and his set is *au fait*, with the present regulations. Let me say another little word here—I will not hold myself responsible for any city experimenter who uses re-action as suggested by me in these series of articles. I am not rich enough to pay the fine and what is more, I should simply hate to be put into prison and be fed on hominy for perhaps some years to come. So please, Mr. Experimenter, if you don't care much for me, please—please, think of Mrs. Insulator who at the present moment is rubbing out the pencil lines on the drawing reproduced here.

However, let's come down to earth. Looking at the drawing it will be noticed that I have shown four panels which are from RIGHT to LEFT as follows:

Tuning panel, tuned anode panel, detector panel, and audio amplifying panel.

It will be seen that tuning is accomplished with the right hand and I am sure this will be obviously worth while.

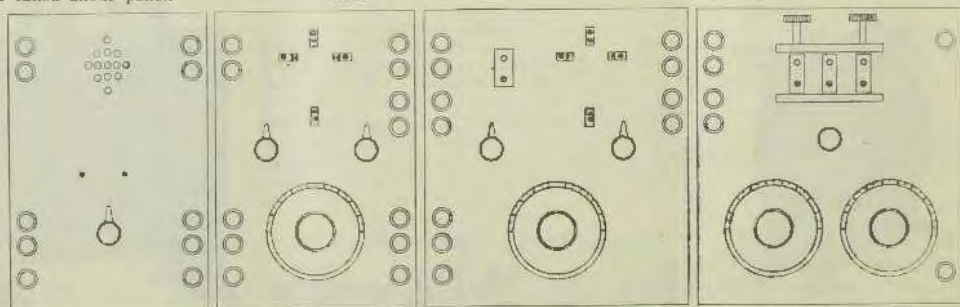
This week I will confine myself to a description of the panels; the constructional details will follow in after weeks.

Gaze at the drawing and I will describe the components required. On the tuning unit will be seen a 3 coil holder—I couldn't draw the coils, hence their absence, sorry and all that, you know—2 dials behind which are variable condensers; the circle in the centre is to represent a knob which controls a series parallel switch affixed behind. The terminals on each panel will be seen to be so arranged to allow bridging across. The series parallel switch may seem strange, but it employs only a single hole fixing as do the condensers, rheostats, variable grid leak, potentiometer, and, and—terminals of course. This single hole fixing is real good, makes panel drilling easy and saves time. You know the old story about time being money—and I am a Scotsman.

Now look at Panel No. 2. This is the Radio Frequency Panel, an adjunct which is necessary for long distance reception. Instead of transformer coupling I am advising tuned anode as it is much simpler to handle. Radio frequency transformers are generally a nuisance; the only types I myself would use are the Gilfillan brand and the R.C.A.

By employing tuned anode one circuit is dispensed with and tuning is infinitely easier. Again, there is no need to purchase expensive radio frequency transformers, a honeycomb coil suiting the purpose admirably, and it will be seen just how simple it is to change the coil for different wave lengths.

Provision is also made on this panel for a rheostat and a potentiometer, also clips for a V-24 valve which is in my opinion the most suitable valve for the purpose.



Showing Layout of Panels

On the detector panel it will be seen that I have made provision for a V 24 valve again as a detector. It is only recently that I discovered just what good valves the V24's are. They are eminently suitable for our purposes here, as amongst other things they are not critical in either plate or filament voltages.

A variable grid leak is provided here, as it is a good one. Personally I like a variable grid leak, but unfortunately up to recently I had not found one which I could honestly recommend. But now I have; I'll tell you the name of it later on and what is more I'll let you into the secret of where they are to be found; also on the detector panel will be found a variable condenser which is connected in such a manner that it will control self oscillation of the circuit. Good scheme, isn't it?

Coming to the amplifying, or I should rather say, note magnifying unit all that will be seen on these panels are the terminals, rheostat and peep holes; also two screws to fix the valve holder behind the panel. The valve in this instance will be a Cunningham 301A which in my estimation is the finest audio amplifying valve on the market to-day. At present they are unobtainable, but let us all hope that they will be on the market before very long. I ask you to offer up a prayer to the powers that be in order to hasten them along.

Peep screens I don't like. The majority I have come in contact with remind me of a lid of a jam tin on the antiseptic mouth piece which is generally attached to the mouthpiece of a table phone. When I see some of them I find myself unconsciously leaning down and with an exasperating voice yelling, 'Hullo!'

So instead of a peep screen you will note I have suggested drilling holes for this purpose. I don't wish to confine you to the design. Many and varied designs are obtainable. For something artistic you may buy a crochet hook.

Next week I will give you complete constructional details of the tuning unit, and I will follow with the detector unit which will allow you to work tight away. And you will be pleased with the results. So chin, chin, till next week.



MR. WILLIAM BLOGG.

Overseas' Representative for Sterling Telephone and Electric Co. Ltd., of England.

For the past 22 years, Mr. Blogg, who was born at Bowentfels, N.S.W., has resided in England, having gone there from South Africa at the conclusion of the Boer War.

Shortly after his arrival in England, he entered the service of the National Telephone Co., eventually becoming chief contract officer of City and later, the West End, of London, a position which brought him into personal contact with many of the leading financial men of the Empire.

A man of very independent spirit, Mr. Blogg, in preference to becoming a civil servant, decided to leave the National Co., when that huge concern was taken over by the British Post Office in 1911. Since then he has travelled extensively on behalf of the Sterling Co. Representing for so many years such an important company whose name is a household word in Great Britain, it is easy to understand that in electrical circles, Mr. Blogg is particularly well known from Land's End to John o' Groats, that is, from one end of Great Britain to the other.

He is an old member of the British Association of Mining Electrical Engineers, and has lectured on several occasions before that body on telephone and signalling apparatus in mines, a subject on which he is an authority. It may interest our readers to know that in Great Britain, the installing of such apparatus is made compulsory by Act of Parliament, whilst the regulations controlling the type of apparatus to be used and the manner in which it must be installed, are most complicated and often open to misinterpretation. Will radio enthusiasts kindly note.

Mr. Blogg has opened branches for the Sterling Company at Cardiff, Manchester and Newcastle-on-Tyne, residing in each centre for some years. He is now visiting his native land in addition to Canada, New Zealand and South Africa for the purpose of introducing his company's radio products and those who have visited his show-rooms at 513 Macdonnell House, are convinced that he has something especially good to offer.

Continued on page 32, col 2

Hello! Hello! Hello!

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"Sterling" Baby Loud
Speaker £4 15s. 0.

Quality Apparatus at the Right Price

Complete Set of Parts for Crystal Set	16/-
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For one month only, from to-day, we are allowing a liberal discount to all members of Radio Clubs on transmitting apparatus.

We carry in stock "Federal" Chokes, Microphones, Modulation Transformers, Helixes, Radiation Meters, Plate Ammeters, Volt Meters, Radiotron 5 Watt Radiotron Valves, etc.

Friday, July 4, 1924.

WIRELESS WEEKLY

Page Twenty-five



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**Demonstration Rooms and
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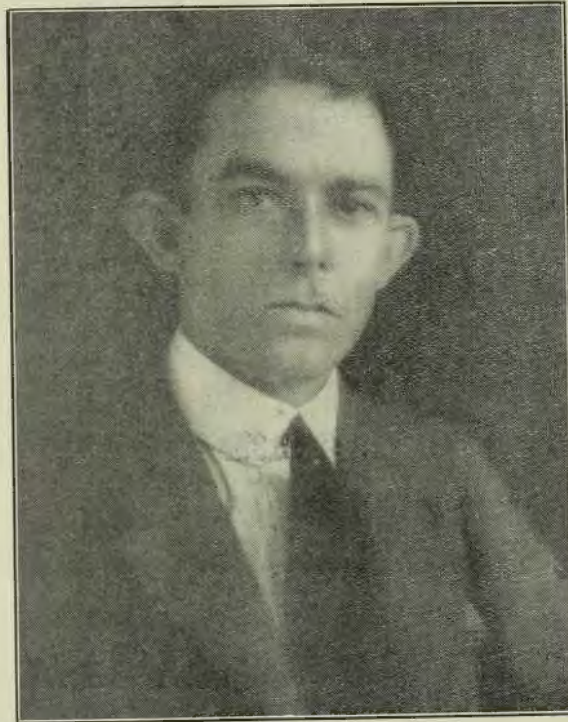
We have been located at our present address for the past 12 months, and the Service we have always rendered has increased our business so much that we have found that it is necessary to make the above extension.

Our demonstration rooms are at the service of customers to enable them to select Sets more suitable for their homes, and the workshop is for the convenience of enthusiasts who wish to assemble their own gear, but have not the necessary tools.

Radio Company Limited

15 Loftus Street, (near Circular Quay) Sydney

Personalities in the Australian Radio World.



MR. F. W. LARKINS.
(In Charge of Advertising and Publicity Division of Amalgamated Wireless (A/sia.), Ltd)

An Australian by birth, an accountant by profession, an advertising man by inclination, engaged for over a decade amid the technicalities of wireless. Imagine one of small stature, possessing somewhat the nervous active temperament of the American, with a penchant for getting things done, and you have a cameo of Mr. Larkins.

After several years commercial experience with H. V. McKay's harvester works, Mr. Larkins in 1912 accepted the position of accountant to the Australasian Wireless Co., at that time engaged on the construction of the Pennant Hills and Perth Stations, in Australia, and the Awanui and Awa-

rua Stations in New Zealand.

On the incorporation of Amalgamated Wireless (A/sia.) Ltd., in 1913, arising out of the consolidation of the Australian interests of the Marconi Company with the Australasian Wireless Co., Ltd., operating the Telefunken patents, Mr. Larkins was appointed accountant, the administrative duties of which office he carried out for ten years.

In 1913 he secured first pass in the final accountancy exams. of the N.S.W. Institute of Accountants, and in 1915 gained the Sydney University Diploma in Economics and Commerce, was elected an Associate of the Chartered Institute of Secretaries (Eng.), in

1918, and a Fellow of the Australasian Institute of Cost Accountants in 1921.

Advertising and Publicity work has for some time interested him, and on the creation of the new department he was given charge of that division of the company's work.

The high-grade marine, coastal radio and sales division advertising being produced by the company is due to his efforts.

A wide knowledge of the company's activities and an active participation in building up the personnel and general accountancy organisation, together with a decided viewpoint on the importance of the wireless industry in Australian national development have served to strengthen the expression of his ideas per medium of printer's ink.

Few men are so well aware and none more appreciative of the difficulties and official apathy that have beset the establishment of an all-Australian wireless industry.

Mr. Larkins has a personality no better manifested than in helping members of the staff to solve the many difficulties and problems that arise from day to day, and his well deserved popularity is appreciated greatest by those co-workers whose friendship has stood the test of time.

One Chicago manufacturer of loud-speaker horns estimates the 1924 production will be 600,000 horns and 90,000 complete loudspeakers. It is reported that there is an increasing demand for loudspeakers coloured to harmonise with colour schemes of rooms.

Books on Wireless

History and Operation of the Vacuum Tube, by J. Morecroft. Price 1/8 posted.

All About Radio Parts, by T. Benson. Price 1/8 posted.

Simplified Wireless, by J. Scott-Taggart. Price 1/5 posted.

Wireless for All, by J. Scott-Taggart. Price 1/2 posted.

N.S.W. Bookstall Co. Ltd
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"Wireless Weekly"

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Telephone: City 3566.

W. Harry Wiles
60-62 Goulburn Street Sydney.
Telephone City 3688 I door from Pitt St.

Wireless Supplies Ltd.
21 Royal Arcade, Sydney
Telephone: M 3378.

E. R. Cullen
96 Bathurst Street
Telephones: City 869, 2596.

Radio House
619 George Street Sydney
Telephone: City 1487.

Colville Moore Wireless Supplies
10 Rowe Street Sydney.
Telephone: B2261.

Ramsay, Sharp & Co. Ltd.
217 George Street, Sydney.
Telephone: City 3176.

The Home Electric
106a King Street, Sydney.
Telephone: B 5565.

Swains Ltd.
119-123 Pitt Street, Sydney.



THE LEICHHARDT AND DISTRICT RADIO SOCIETY

Members of the Leichhardt and District Radio Society held their 86th general meeting at the club-room, 176 Johnston St., Annandale, on Tuesday, June 24th.

The attendance was excellent and the main business of the meeting, the conducting of the second "Sale and Exchange" Evening, was successfully carried out. A considerable quantity of gear belonging to members was disposed of and, as was the case with regard to the previous Sale and Exchange, the Society will benefit to the extent of 10 per cent. of the proceeds.

Next Tuesday night the Society will hold its 88th general meeting when the 10th Lecture of the Syllabus will be delivered. The subject will be "Valve Circuits," and on account of it being a very popular one, it is anticipated that the attendance of members will be even better than usual, and that is saying a lot.

On the following meeting night (July 15th) a lecture entitled "Esper-

anto: Its Relation to Radio" will be delivered by Mr. J. N. Edmonds, by courtesy of the Sydney Esperanto Society, and as Mr. Edmonds is an accomplished linguist, his lecture should prove to be a very interesting one.

Persons interested in the doings of the Society are invited to communicate with the Hon. Secretary, Mr. W. J. Zech, 145 Booth St., Annandale, who will be pleased to supply all information regarding membership, rules and regulations, etc.

CROYDON RADIO CLUB.

The annual meeting of the Croydon Radio Club was held at the club rooms, "Rockleigh," Lang St., Croydon, on Saturday, June 21st, at 7.30 p.m., when Mr. C. W. Slade was voted to the chair.

The Treasurer, Mr. Ledger, read his financial report, which proved very much to the credit of the club.

Then Mr. G. M. Cutts (Hon. Sec.) read his short report on the work of the club during the past year, which also showed the amazing progress which it has made in the short period of twelve months. Both reports were heartily accepted.

The result of the election of officers for the forthcoming year are as follows:—Patron, Major C. W. C. Marr; president, Rev. W. E. Malthy; vice-presidents, Messrs. H. W. Tees and C. W. Slade; secretary, Mr. G. M. Cutts; assistant secretary and publicity officer, Mr. R. W. M. Cusiter; trea-

surer, Mr. A. S. Ledger; librarian, Mr. W. Craig; auditors, Messrs. H. Lees and R. J. Walker.

General committee (to deal with all club business and technicalities): All officers of the club and two members, Messrs. A. L. Bundle and R. J. Walker. It was decided that a meeting of the above committee should take place on Friday, June 27th, at 7.30 p.m., in order to compile a syllabus for the ensuing year.

Mr. Malcolm Perry gave an exceedingly interesting and instructive lecture on "Wireless apparatus and regulations ten years hence," which received much appreciation from all members present.

The meeting closed at 10 p.m.

All intending members are respectfully invited to communicate with the Hon. Secretary, Mr. G. M. Cutts, "Carwell," Highbury Street, Croydon.

NEW RADIO CLUB AT ABBOTSFORD.

At a meeting of amateurs, held at Abbotsford last week, it was decided to form a Radio Club.

Having secured a suitable club room free, everything points to this new club having every success.

Anyone interested is invited to get in touch with the Secretary, Mr. H. Hatton, Irene Street, Abbotsford, or Mr. C. H. Clarke, phone 11225.

The next meeting is at the club room, Wymston Parade, Abbotsford, on Thursday, July 3.

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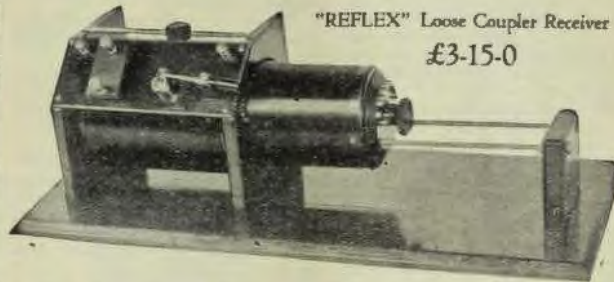
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MARRICKVILLE AND DISTRICT RADIO CLUB.

At the Clubrooms, School of Arts, Hlawarra Road, Marrickville, the usual weekly meeting of the above club was held on Monday, 16th June, Mr. W. L. Hamilton presiding.

Much correspondence was dealt with, but the main part of the evening was taken up by Mr. Malcolm Perry with a lecture entitled 'Wireless Regulations of the Future.' Mr. Perry handled his subject in an excellent manner and interested the club in a manner which he himself only can. Actually, time passed too quickly.

Secretary A. W. Hemming, of 23 Central Av., arrickville, will be pleased to furnish particulars of membership to any local experimenter.

SYDNEY HIGH SCHOOL RADIO CLUB.

The last meeting of the Sydney High School Radio Club took place in the demonstration room of Harrington's Ltd., Sydney, on 26th June, 1924.

The meeting commenced at 2.40 p.m. with a lecture by Mr. Harbury, of Harrington's, on the fundamental principles of the efficient working of loose coupler crystal sets, giving mathematical proofs of coil and receiver design. A diagram of such a circuit was shown and the functions

of the various condensers and coils, employed, explained.

The action of the crystal was also gone into, and the characteristic curve shown.

Upon the conclusion of the lecture the working of several loud speakers on an imperial four valve set, using one radio, and two audio amplifiers, was demonstrated. The results were very satisfactory, being both loud and clear, although in one case a slight tendency to distortion was noticeable through the loud speaker having its diaphragm slightly out of adjustment.

By way of an experiment, three loud speakers were arranged at equal distances down the hall, and the lectures showed how the volume diminished when connected in parallel.

An item of interest was the noise caused by local electrical disturbances such as when the electric lift door was shut or opened. The noise was similar to static, and could be plainly heard in the loud speaker.

At 4 p.m. the meeting broke up.

**WIRELESS INSTITUTE OF AUSTRALIA.
NEW SOUTH WALES DIVISION.**

The following list of stations logged by Mr. C. J. Holton, during February and March, 1924, constitute a record which reflects great credit on the

owner of the station. The set employed was a 2 valve, 3 coil receiver, spiderweb coils being used. Valves used as detector and 1 stage A.F. amplification. All stations except 3TM were heard with good readable strength. 201A valves were employed.

Victoria: 3BD, 3BQ, 3BU, 3BM, 3BH, 3JU, 3DD, 3AP, 3HH, 3RY, 3FH, 3BH, 3JH, 3XF, 3VL, 3BL, 3EF, 3BP, 3UX, 3QW, 3SW, 3TM, 3JP.

South Australia: 5BQ and 5AH.

Queensland: 4CK, 4GE, 4EG, 4CM.

Tasmania: 7AA, 7AD, 7BN.

New South Wales: 2HM, 2GQ, 2CR, 2YA.

New Zealand: 1AA, 2AQ, 3AA, 3AC, 4AA, 4AK, 4AP.

Mr. Holton is one of the most enthusiastic members of the New South Wales Division of the Institute, and it is gratifying to note what good work is being done by some of the younger members in the science of wireless.

STRATHFIELD AND DISTRICT RADIO CLUB.

The 14th general meeting of the club was held at the secretary's residence, on Tuesday, 26th June, Mr. Rourke being in the chair.

After the general business was disposed of, the final arrangements were made for the club's dance, which is

Continued page 31, col 3

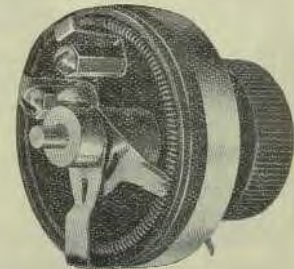
Look For The Brand

Before buying that rheostat or potentiometer, examine the various types manufactured by the K. & C. Company. Your every need and convenience was considered when these were designed. There is a K. & C. rheostat with the proper resistance for every tube.

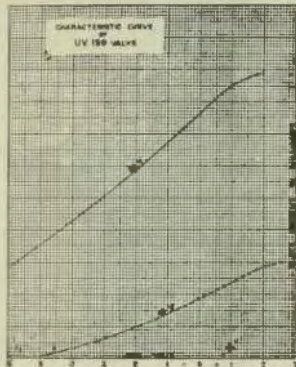
Accuracy and dependability. That's K. and C.
PACIFIC ELECTRIC CO.,

We have removed to new and more commodious premises at
87 Clarence Street, Sydney

Sole Australian Distributors.



U.V. 199 Valve.



U.V.199.

The U.V.199 valve is of the dull emitter type, and operates with an expenditure of only 18 watts for the filament. A dry cell may thus be conveniently used for filament lighting. In valves for use with dry cells it is of greatest importance that the filament current be as small as possible and at the same time that the characteristics of the valve should not be sacrificed in making this reduction in current. The U.V.199 fully meets both these requirements.

The filament is of tungsten, but differs from the older type of tungsten filament in that the power of consumption and operating temperature are much lower. Thus the new filament at normal temperature is a dull yellow, while the older filaments burned at a white heat. This lower operating temperature, of course, ensures long life.

In order to operate at such low current it is necessary that the filament wire be very fine, and it is interesting to note that the filament of the U.V. 199 is only about one-fourth as thick as a human hair.

The U.V. 199 is designed to operate from three volt dry cells, but storage cells may be used if proper care is taken to reduce voltage at filament terminals to 3v. On account of the small filament current of the U.V. 199 the ordinary 4 to 10 ohms. rheostats are of no use for a single tube and higher resistances must be used. Thus one tube operated from 3 volt dry cells requires about 30 ohms in the rheostat.

Compared with the ordinary type of receiving valve the U.V.199 is quite small, being 1/2 inch in diameter and slightly over 3 inches in length.

The electrostatic capacities between the electrodes of the U.V.199 are very small, and for this reason this valve is a good radio frequency amplifier, and best results are obtained with about 45 volts on the plate. It also functions well as an audio frequency amplifier with from 40 to 80 volts on the plate, and a small grid bias which secures minimum distortion.

In addition to its uses as a radio and audio frequency amplifier, the U.V.199 functions very efficiently as a detector. Not more than 45 volts should be used on the plate of the detector tube.

The U.V.199 is very well exhausted and can be relied upon to give uniform and quiet operation throughout its life.

Characteristics of U.V. 199:—Filament battery voltage (3 dry cells), 4.5; filament terminal volts, 3; filament amperes, .06; anode volts, 20-80; overall length, 75 m.m.; diameter of bulb, 25 m.m.; socket type, U.V.199.

Continued from page 30

to be held at the Strathfield Town Hall, on Thursday, July 3rd.

The club is running a series of monthly dances to raise funds to make the club room one of comfort, where any wireless experiment can be carried out, day or night. This, together with a workshop, and later a transmitter, is the aim of the Club, but to do this there must be funds. Therefore, it is hoped as many visitors as possible will attend (and bring their friends) to have an enjoyable evening, and at the same time help the club make a success of its functions.

Arrangements are nearly complete for a public lecture, to be held early next month, in one of the local halls, which will take the form of an interesting talk on wireless matters. A demonstration on a four valve set will be a feature.

This lecture, we would like to point out, is for the purpose of demonstrating the many advantages of wireless, both telegraphy and telephony, and at the same time to arouse interest in those people who up to the present have not come into contact with this hobby. Full particulars will be announced in next week's "Wireless Weekly."

The secretary, Mr. M. Wraaxall, "Almor," Long Street, South Strathfield, will welcome any enquiries from intending members at any time.

To readers living in Strathfield, Barwood, Enfield, Homebush and surrounding districts.

The Strathfield and District Radio Club take this opportunity of appealing to you to join up and help make this club the largest in the State.

We intend to have for your convenience a club room fitted with transmitting and receiving sets, workshop, reference library, and many other features, both of a social and scientific nature.

We have some of the most well-known experimenters among our officials, namely, Mr. Chas. MacLurean (2 CM), patron; Mr. Raymond Macintosh (2GC), together with Mr. A. W. Watt (Editor, "Wireless Weekly") as vice-presidents, and other well-known local experimenters fill the other official positions.

Take this opportunity and join up right now, for it is only by co-operation that we can get anything.

If you have not a set at present, come to us with your troubles. We will straighten them out and give you any advice that it is in our power to do.

The secretary, Mr. M. Wraxall, likes to receive enquiries from intending members, so drop a line now or call. His address is "Almor," Long Street, South Strathfield. Or ring vice-president, Mr. J. Rourke, "Meroo," Beresford Road, Homebush (phone U6210).

**WIRELESS INSTITUTE OF AUSTRALIA.
NEW SOUTH WALES DIVISION.
ALL EXPERIMENTERS NIGHT.**

Mr. Alec. Hector will deliver a lecture on "Radio Activity—its Educational Value," under the auspices of the Wireless Institute of Australia, N.S.W. Division, on Friday, July 4th, at 8 p.m., at the Assembly Hall, Education Building. All experimenters and radio enthusiasts are cordially invited to attend, and it is hoped that everyone will make a serious effort to be present at this lecture. It can be stated that the subject matter of this lecture will be of vital interest to those engaged in the science of wireless, and every one is asked to pass on this announcement to any who may not be acquainted with the details.

A NOTE FROM AN OLD-TIMER.

Few of us are unacquainted with the name of L. V. G. Todd, of Tamworth, who is one of the pioneers in the game. In fact, we can remember the time, not so far distant, either, when Todd and Barlow, and one or two others, were practically the only country amateurs. Of late, however, Mr. Todd has been keeping very quiet, so that our feelings of pleasure at receiving a note from him can easily be imagined.

Here's what he says: "We are doing well in Tamworth. Ralph Pepper, Teddy Laker, Mr. Patterson and myself have picked up 2FC on crystal. My transmission is being received in Victoria, Queensland and New Zealand. I am receiving many amateurs from Victoria, New Zealand, South Australia and Queensland. We all look forward to "Wireless Weekly" up here each week."

One of these days we hope Mr. Todd will tell us something about his transmitter.

Published by A. W. Watt, "Strathaird," East Crescent St., McMahon's Point, for the proprietors and printers, Publicity Press Ltd., 33/37 Regent St., Sydney.

Continued from page 23

aerials abound, and it is an exception London and other large cities. On each side of the line for many miles these aerials abound, and it is an exception to meet a person not greatly interested in the subject of radio telephony.

Exhibition of wireless apparatus are held periodically under the direction of the National Association of Radio Manufacturers and these exhibitions are visited by the public in vast numbers. Individual demonstrations are not permitted at such gatherings. Instead of allowing a babel of noise which would do more harm than good to the industry, a large hall is set apart in which the public may listen to radio demonstrations on apparatus carefully selected and installed by the British Broadcasting Company. On these occasions, high-class concerts are broadcasted, morning, afternoon, and evening, and it must be very gratifying to the officials to hear the applause which follows every item tendered by the loud speakers.

In Great Britain the loud speaker has undoubtedly popularised radio. This is due to the improvement in the construction of loud speakers and the perfection of audio frequency amplification. The most popular amplifier in use is the power type, in which a special intervalve power transformer is used for the purpose of eliminating distortion, whilst a patented metal panel provides a screen against inter-action and disturbances. With such an outfit, combined with the excellent quality of the transmissions, it is not surprising that the radio set is quickly ousting the gramophone in Great Britain.

HUGE FIGURES IN UNITED STATES.

The tremendous turnover of business in the radio industry during the last season confirms a statement broadcast by Mr. C. A. Stephenson,

of the Babson Statistical Organisation, through the Detroit Free Press Station.

Briefly, these facts were:—

1. A season's business of fifty million dollars in radio tubes.
2. Two hundred and fifty million dollars in sets and parts.
3. Another fifty million dollars more for loud speakers and accessories. (A sum total of 395,000,000 dollars.)

Compare this infant business with several other industries:—

1. The sporting goods and camera trades turn over 185,000,000 dollars.
2. The carpet and rug business totalled 215,000,000 dollars.
3. For every dollar spent on furniture, 39 cents is spent in radio.
4. Just think, for every dollar spent on shoes, the public spends 25 cents for radio.
5. The musical trade's sales, including phonographs, pianos and organs, have only 25 per cent. greater value than this year's radio business.
6. And the entire jewellery industry with clocks and watches thrown in only equal radio sales for 1923-'24.

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Coming so recently from England where the radio business has enjoyed a very welcome boom for some time past, our prodigal's views are valuable.

Mr. Blogg says that broadcasting in Great Britain has reached a high standard of perfection and the class of people who some time ago compared a wireless set to a cheap gramophone is now non-existent. One cannot fail to be impressed by the large number of

Mr. Blogg remains in Australia until about the end of August when he leaves for England via South Africa, but hopes to visit his home-land again in the near future.

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Friday, July 4, 1924.

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