

# The Queensland Radio News

"Your Own Wireless Journal"

6<sup>d</sup>



Vol. III.

Tuesday, 1st MARCH, 1927

No. 2

Registered at the General Post Office, Brisbane, for transmission by Post as a Newspaper.



The Radiolux Amplion is British and Australian made. Available in two sizes and five distinctive finishes, from £6-10-0 to £11

The Famous AMPLION Loud Speakers are obtainable from all Radio Manufacturers and Dealers throughout Australasia

## Radiolux AMPLION

WHERE there is discrimination, refinement, . . . . there you find the RADIOLUX AMPLION.

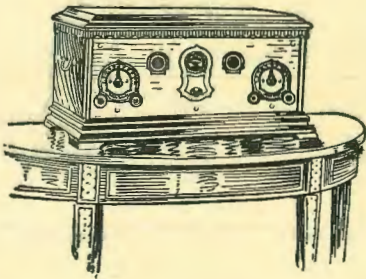
The better the set, the worthier it is of the best loud speaker. Its clear, full volume, its life-like tones add good radio reproduction to good radio reception. And the P.S. 1 metal model shown here, strikingly handsome in black and gold, adds a beautiful and distinctive touch to a room.

**THERE IS NO SUBSTITUTE FOR A  
GENUINE AMPLION**

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Sydney and Melbourne

# SUPERB RADIO SETS

## *At Prices to Suit Everybody!*



### “STROMBERG-CARLSON” 6 Valve Neutrodyne

This splendid 6-Valve Dual Control Stromberg-Carlson Receiver brings a new measure of enjoyment to all who love superior results and a finer instrument.

As well as being beautiful, it is durable, and it is the result of conscientious workmanship, and the experience of more than thirty years of manufacturing voice transmission and voice reception apparatus.

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**£110** Complete

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The “Splitdorf” is simple to operate, economical in upkeep, and wonderfully efficient.

A Special “Splitdorf” Patented Circuit ensures high selectivity, remarkable volume, and exceptional purity of tone.

Beautifully built and richly finished.



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This is absolutely the greatest Radio Set Value to be procured at the present time.

Beautifully finished in every respect, it is positively guaranteed to bring in all southern stations as well as 4QG, with great volume and pure, undistorted tone. Call or write for full particulars.

COMPLETE.

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# Proved Ideal for Queensland

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Unique

# Super-Five

Easy to Instal  
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CASH PRICE

## £34-0-0

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TERMS—£4-10-0 Deposit  
 £2-15-0 per month

### READ THIS PROOF—

COPY OF TESTIMONIAL.

Queen Street,  
Brisbane.

Dear Sirs,

"The Set gives excellent Loud Speaker results from the South on a small bell-wire indoor aerial, and on the local station more than sufficient volume is obtained without any aerial or earth.

The tuning of the set is simplicity itself, and we find it very convenient in demonstrating by reason of the Battery Box being a separate feature.

We hope shortly to have the opportunity of trying this Set at a distance of ten or so miles, and at this distance, being a Neutrodyne, it should have no difficulty in separating all the main Stations."

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MINGAY WIRELESS MFTG., LTD.  
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Gentlemen,

Herewith please find Deposit of £4/10/ for one of your Unique Super-Five Radio Sets. Please send it by train or boat. If satisfactory, I am prepared to pay balance in cash or sign a Hire Purchase Agreement, also freight. If not, I will return same in good order and condition to you, and you will refund deposit less freight paid.

Sign.....

.....  
 .....

*Manufactured exclusively by*

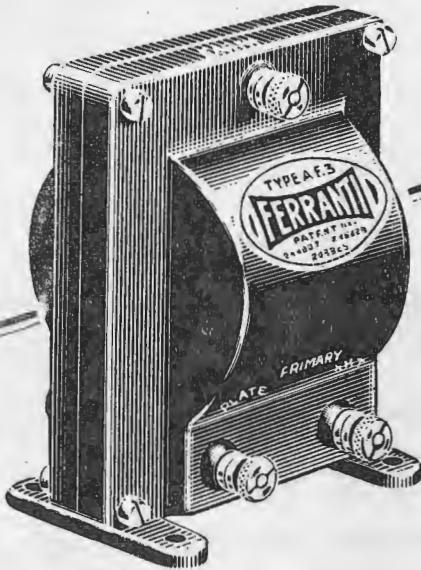
## Mingay Wireless

### Mfg. Ltd.

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SYDNEY

*Agents wanted in unallotted territory*



## TYPE AF3 42/6

Ratio  $3\frac{1}{2}$  to 1

### IMPEDANCE:

At 100 Periods 50,000 Ohms.

At 500 Periods 410,000 Ohms.

**NO BETTER TRANSFORMER  
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BRITISH MADE, AUDIO FREQUENCY

# TRANSFORMERS

SUITABLE FOR BOTH FIRST AND SECOND STAGES

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32/-

Ratio  $3\frac{1}{2}$  to 1

### IMPEDANCE:

At 100 Periods 17,500 Ohms.

At 500 Periods 90,000 Ohms.

**THE BEST TRANSFORMER  
AT THE PRICE**

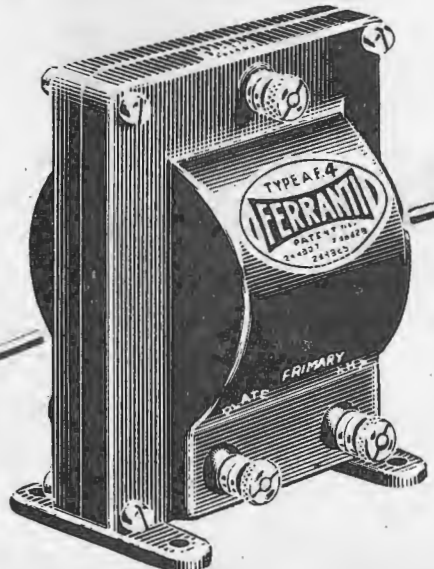
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Mr. J. K. Powell  
2GB's New Announcer

Mr. J. K. Powell is the new announcer who has recently been appointed to the staff of the Theosophical Broadcasting Station, Sydney. Mr. Powell is a young Irishman, who came out to Western Australia as a youth 20 years ago, travelled the country in the capacity of a commercial, started "Sparks" fortnightly

magazine in Western Australia, and founded a Sydney version of "Sparks" five years ago. Mr. Powell is already known to a large portion of the radio public through his "Cheerio" talks from Station 2FC, and also his many other practical psychology talks.

He is an optimist of the first water, and most of his activities at 2GB will be directed in the way of bringing good cheer to the hearts of his listeners. He is the proud holder of hundreds of letters from grateful listeners-in who have written in appreciation of his efforts to spread constructive gladness and greater courage via the air.

Mr. Powell, who is known as the "Cheerio Man," has planned and scheduled his programmes to the tune of "Cheerio" all the way. It is reported that he possesses a larger collection of "Cheerio" poems than anyone, and can always produce, at a minute's notice, a suitable back-up poem for all occasions. He can sing all the good old popular songs, and loves doing it. He is a clever elocutionist, and has a wide range of humorous recitations. In addition, to which, he has few equals as a speaker, and his morning "Home Betterment" talks covers many subjects of which he is a master, using few notes. Having been editor of "Sparks Fortnightly" for over ten years, and during that time continually writing towards home happiness, he is just the man for such an idealistic station as 2GB. Mr. Powell will also deliver short talks on such subjects as "Psychology of Business, Food Happiness, etc.," each evening at 7.30 p.m.

Use the **New Crystal** with **Valve Power** **2 2/3**

With the "SUPER" Neutron in your set you will no longer have the difficulty of getting strong, clear results. You will be delighted with its extreme sensitiveness. Every Crystal is concert tested. ON SALE EVERYWHERE.

Look for the Red Wrapper!

Makers - NEUTRON LTD., London, England

**SPECIALY SELECTED AND PACKED IN RED - DAMP PROOF CONTAINER FOR AUSTRALIAN CONDITIONS**

**SUPER NEUTRON**

*The World Famed Crystal*

**EVERY CRYSTAL IS GUARANTEED PROVIDING THE RED WRAPPER REMAINS UNBROKEN**

# The WONDERFUL P.M. FILAMENT

**The unbreakable  
Filament which  
defies the roughest  
handling.**

The mechanical strength of the Mullard P.M. Filament can be gauged by the fact that whereas the ordinary filament will barely support one valve the P.M. Filament will support four.

This difference is due to the special metal core in the P.M. Filament which is so tough that it can be tied in knots after 1000 hours' life. The P.M. Filament is set around 5 strong resilient hooks and is free from tension, sag or danger of displacement during the long life of the valve.

Every feature of the wonderful P.M. Filament has a superiority of its own, and no feature is developed at the expense of another. You have the low current consumption of one-tenth ampere with the consequent low accumulator charging upkeep cost. Many times greater emission surface than that of an ordinary filament, giving a wide range of power free from microphonic disturbance.

There will be something lacking in your radio reception until you get the valves with the MULLARD WONDERFUL P.M. FILAMENT.

# Mullard

**THE · MASTER · VALVE**



*All Mullard Valves are manufactured at Mullard Works, London, England.*

*OBTAINABLE FROM EVERY RADIO DEALER IN AUSTRALIA.*

*Advertisement of the MULLARD WIRELESS SERVICE CO. LTD, "MULLARD HOUSE,"  
Denmark Street, London S.W. 2 England.*

THE QUEENSLAND  
RADIO NEWS



A Magazine for Amateurs  
A. T. BARTLETT, Editor

## Amateur Radio Bridges the Gap

Of all the devastating cyclones and floods that have swept Northern Queensland, few, if any, have eclipsed the last.

Owing to the break in the main Cairns-Brisbane telegraph service, communication with the stricken North was practically cut off. The auxiliary line via the Gulf, Cloncurry, and thence to Townsville was tried, but traffic became congested owing to leakages, mutilation and overloading of the lines.

Amateur Radio was then requisitioned to bridge the gap.

At the instance of the Telegraph Department, Station 4AN, of Brisbane, attempted to raise 4BW, of Mareeba, so as to establish reliable and speedy inter-communication between Cairns and Brisbane. With difficulty this was at last accomplished, when it was learnt that 4BW's aerial system had been blown away, and that he was utilising a temporary 6ft. mast to secure contact with 4AN.

Under enormous difficulties these two men cleared much of the press and private traffic until the main line was restored. 4BW, struggling with failing batteries, poor aerial, severe static and fading, worked day and night to link the North with the South, whilst 4AN stuck to his post, and despite the difficult receiving, copied each message accurately.

Mr. Leighton Gibson (4AN) and Mr. Andrew Couper (4BW) deserve recognition for their splendid services. They both have the true "ham" spirit, however, and are only too pleased to lend a hand without looking for recompense or publicity.

We are of the opinion that all principal Post Offices should be equipped with a small power transmitter. Bush-fires, cyclones, and floods would then give no cause for isolation. Every telegraph operator has a good knowledge of Morse sending and receiving, and with a small collapsible aerial, could maintain communication with other centres without difficulty.

Failing this the amateurs should band themselves together and organise, so as to stand ready to do service in times of distress.

# Put Your Set in an EXHIBITION WIRELESS CABINETS

They are famed for the FINE APPEARANCE,  
FIRST-CLASS WORKMANSHIP, and QUALITY  
OF REPRODUCTION. Made from thoroughly  
seasoned Rosewood and Silky Oak with piano lid  
as illustrated.



**R.W. 100 3-Valve Cabinet**

Illustration R.W. 100 is for a Three-Valve Set, the measurements being 15 inch x 7½ inch x ¾ inch (Bakelite Panel Size.)

PRICE ..... 45/.

## Period or Special Designs

We also make special designs in cabinets in any size or style, designing them where necessary to harmonise with any furnishing scheme.

## Standardised Production

By producing these cabinets in enormous quantities we are able to offer them at remarkably low prices.

Estimates and Sketches Free on Application.

Complete Sets Supplied Where Desired.

Those living out of town may order with every confidence. Goods are carefully and placed Free on Rail Brisbane. Immediate delivery guaranteed.



**R.W. 101 4-Valve Cabinet**

This is a Four-Valve Model. Panel Size 18 inch x 9 inch x ¾ inch.

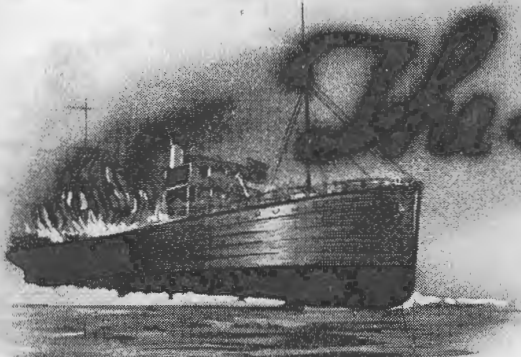
PRICE ..... 50/.

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**BRUNSWICK**  
HOME FURNISHERS  
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STORES - NEAR EXHIBITION - VALLEY - BRISBANE





# The Ship's Fire!



The "Cooma's" Wireless Operator tells a thrilling story of a dash for life from a blazing ship.

Here is a true story from the pen of Mr. M. A. Prudence, a well-known wireless man of Brisbane, that reads like a page from a bookstore novel. Nearly everybody is acquainted with the facts associated with the grounding of the "Cooma" on the Great Barrier Reef, the unsuccessful attempts of the salvage parties to refloat, and her ultimate destruction by fire, but few are acquainted with the facts connected with the thrilling escape of the small party of men from the burning vessel.

THE hapless "Cooma" carried, and is remembered by, many thousands of travellers since 1907, when her slim and shapely hull glided smoothly into the murky waters of the Clyde from the shipbuilding yards of Alex. Stephens & Sons, at Linthouse, and it is doubtful whether any shipwreck within recent years has provided such a thrilling chapter of events and such a story of dogged determination by a salvage company to save a stricken vessel, as the stranding of the "Cooma" on July 7th, 1926, and her final destruction by fire.

I was engaged by Evans, Deakin & Co. in September last as Wireless Operator with the salvage party, and filled the operator's chair on the "Cooma" until the attempt by the tugs "Coringa" and "Forceful" failed, when the main party returned.

In December I was again engaged to proceed to the "Cooma" with two companions to await a further attempt at salvage, the objecting of keeping men aboard being to guard the vessel from trespassers, gather all the bedding, remove fixtures, and store them up for removal in the event of another failure to refloat the vessel.

When, on December 14th, Messrs. R. D. Thompson, A. Vonnida, and myself left Brisbane for Gladstone, we little dreamt of the terrible experience that was in store for us, nor the manner of our return to Brisbane.

We reached the "Cooma" on the 17th by means of a motor-boat, which conveyed us and our stores to the North Reef, from whence we journeyed across the reef at low-tide to the ship. We were very warmly welcomed by the three men whose places we were taking; they had been on the "Cooma" for thirteen weeks,



Mr. M. A. PRUDENCE,  
Wireless Operator aboard the "Cooma."

and were heartily pleased at being relieved after their long virgil. One by one they descended the long rope ladder which hung over the bows and provided the only means of boarding the stranded steamer.

We watched their figures straggling across the jagged coral reef to the lighthouse three-quarters of a mile away, and then commenced to make ourselves comfortable on our new home.

Picture for yourselves the stranded passenger ship, corridors of empty cabins, deserted saloons, a eerie silence everywhere, save for the occasional creak of straining steelwork as the sea swirled about and buffeted the helpless ship.

Three days after our arrival we rigged a wire hawser from the bows on to the reef, taking it as far as possible and fastening it to a big iron spike driven into the coral, a bosun's chair slung on an iron block travelling on the wire and pulled up and down by a thin but stout line, enable us to journey to and from the reef at low-tide without getting very wet. We found this easier than the tedious climb on the rope ladder, but we little realised that this wire was to eventually save our lives.

Six weeks slipped by. Curio hunting on the reef, and visits to the lighthouse helped to while away the days, and at night wireless concerts or card playing filled the time pleasantly.

Tuesday the 25th of January was the first fine day we had experienced for some time, as the weather had been squally and rough. The sun was particularly hot, and the three of us had a good washing day. After tea Mr. Vonnida and myself went up to the wireless room, which was situated beneath the bridge, and adjoining the captain's, second officer's

and chief officer's cabins. These cabins were our sleeping quarters, I occupying the captain's, Mr. Vonnida the chief officer's, and Mr. Thompson the second officer's cabin respectively. We switched on to 4QG and listened-in the whole evening, Thompson having adjourned to his room to write some letters.

At 10.19 p.m. 4QG closed down, and I then went on to the bridge to get a breath of air before "turning in." After leaving the bridge I spoke to Mr. Vonnida for a few moments, and remarked on the direction of the wind, which had changed to N.E. I bid him good-night, and went to my cabin, undressed and retired. Before going to sleep I read for about half-an-hour, so I presume it would be about 11 o'clock when I extinguished the oil-lamp and burrowed beneath the sheets.

My next recollection was being roughly-shaken and hearing a voice shouting excitedly that the ship was on fire. I leapt out of the bunk and encountered the burly form of Vonnida, his tense, anxious face being lit up at that moment by a flashing ray from the lighthouse gleaming through the portholes.

Together we dashed out on to the port side of the boat deck, and there beheld a terrifying spectacle. Masses of flame were darting up on all sides, whilst the whole after portion of the ship was engulfed in a fiery vortex; the sea around reflected the ruddy glare; even the funnel belched flame.

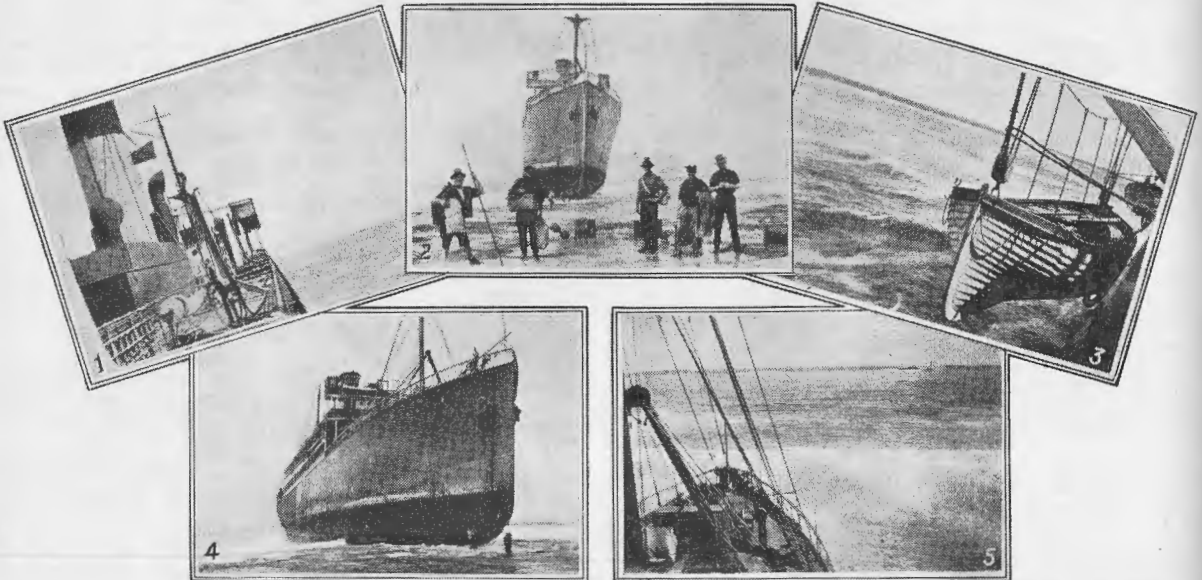
Imagine then our position. The stairways leading to the promenade deck were spouting fire. There was no time to be lost. We ran round to the starboard side where Mr. Thompson was asleep in his

cabin, hauled him uncerimoniously from his bunk, and as he emerged through the door half awake, the wireless aerial collapsed and clattered along the deck. That aroused him thoroughly, and he stumbled back into the cabin for his clothes and boots, Mr. Vonnida and I doing likewise.

Filled with anxiety, we raced up to the bridge. Here lay our only hope of reaching the long fore deck beneath us, in the shape of a long iron ladder running down to the hydraulic cranes near No. 2 hatch. We peered over; it was still intact. I never knew until that moment what an adept I was at climbing down ladders. My mates followed, and a few moments later we were at the ship's bows.

For the time being we were safe from the fire, but how to get ashore? It was high-tide with a nasty surf beating on the coral ahead of the "Cooma," and this, coupled with the unwelcome fact that the reef is infested with sharks at high water, made the prospects of getting ashore anything but alluring.

Other alternatives suggested themselves as we gazed back on the burning structure of the ship. Could we launch the port lifeboat, which was suspended over the side in readiness for lowering? I went to the port rail and gazed along the side. The fire was rapidly approaching the bridge, and flames were already licking the lifeboat from underneath. There was no hope there. Vonnida declared we could stay until low water arrived at daylight by descending the rope ladder and perching on the flukes of the giant anchor, which hung a few feet beneath us. But there was the danger of being trapped; the rope ladder had only been burned away and we would have been forced to



(1) Looking along the upper deck of the stranded "Cooma."  
 (2) A group of salvage men leaving the vessel in September, 1926, after several unsuccessful attempts to refloat her.

(3) The lifeboats on the port side of the ship. These were consumed by the flames before the men could lower them.  
 (4) A view of the stranded vessel as seen from the starboard bow.  
 (5) View of reef from bridge at high-tide.

jump into the coral-studded water below, which would have meant certain death at that great height.

In perplexity we again peered into the darkness ahead, when, suddenly, I noticed a light bobbing about in the distance, and heard the sound of voices calling, pitifully weak above the boom of the surf. "The light-housemen are there!" I shouted—a surge of thankfulness sweeping over me. My companions saw the light and heard the shouts almost simultaneously, and commenced pulling on their reef boots. I pulled the pair of trousers I had brought over my pyjamas, donned my own boots, and made for the "bosun's chair."

Hanging on the wire hawser, Thompson and Vonnida made preparations to lower me down. Under the stress of the excitement, and nerve-shaken by the appalling suddenness of everything, none of us stopped to think of the dangers ahead, our only thought being to get away quickly, anywhere, rather than the raging flames that were now leaping in every direction from the shelter and promenade decks behind us.

At this moment the lifeboat fell into the sea in flames. Seating myself in the "chair," I called to Thompson and Vonnida to lower away. With a jerk I commenced to swing away from the bows down to the surf. Nearer and nearer I approached, until, with a roar, a huge breaker swept over me, but I was grasping the wire tightly. Turning my head, I saw another breaker behind me. I let this pass, and then, throwing myself clear of the "chair," plunged forward and swam toward the bobbing light. A third breaker curled and foamed around me, shot me forward, and the next minute, to my intense relief, I felt the coral beneath me.

Slipping and lurching over the jagged reef, I pushed through the water breast high. How I kept my feet as each sea swirled past me I am unable to say. Perhaps the thought of sharks gave me added energy and determination to reach that elusive, flickering light ahead.

That light proved to be a hurricane lantern, held high by Mr. Beitz, the chief lighthouse-keeper. "Thank God you're safe!" were his words as he grasped my arm and motioned me to the lighthouse boat, which was floating a few yards further on, with Mr. Kelly, an assistant light-keeper, standing by. I climbed into this boat exhausted, and awaited my companions. They arrived presently, Vonnida supported between Mr. Thompson and Mr. Beitz; he was "all in." I learned afterwards from him that he was caught in an extra heavy sea and bowled over just as he was freeing himself from the "bosun's chair," and being the last to leave, he had to slowly lower himself down the wire with his hands—no easy feat, I can assure you.

Half-an-hour later the lighthouse was reached, and the other keeper, Mr. Rapkins, made us tea and lent us a dry pair of trousers each.

Recovered by this time, we stood watching the "Cooma" burning. By this time the whole of the bridge was alight, a series of muffled explosions taking place, and a brilliant display of fireworks and flying rockets lighting up the scene, as the magazine on the bridge, containing life-saving apparatus and detonators, was devoured by the flames. It was an awe-inspiring sight which I shall never forget. Presently the bridge collapsed, and with it our cabins which we had so recently vacated. We then realised more fully what a narrow escape from death we had experienced.

A few hours after daybreak, at low-tide, we walked across the reef to the "Cooma," accompanied by the lighthouse-men. The ship presented a dismal spectacle. Clouds of smoke still rose from the smouldering ruins of the upper decks, while the fore deck and crew's quarters were now burning fiercely.

Clouds of steam rose from the vessel's sides as the spray dashed against them. Not a portion of the ship seemed to have escaped the devastating holocaust; she was gutted from stem to stern. Slowly we wended our way back across the coral, congratulating ourselves more than ever on our miraculous escape, and feeling not a little sorry to see the sad end of a good old coaster.

During the afternoon a ship was sighted on the horizon. Flag signals were prepared and flown from the flag mast. The ship gradually approached the reef, and finally stopped near the "Cooma." It was the "Chronos," and after some more exchanging of signals, a boat was lowered and rowed across to the lighthouse. We were transported to the "Chronos," which immediately continued her voyage to Brisbane, arriving off the Pile Light on Thursday evening, but owing to the flooded state of the river, she was compelled to remain at anchor until Saturday morning, when a motor-boat came out with stores for the "Chronos." We were put on the motor-boat and transported up the debris-strewn river to the Hamilton wharf, where we were greeted by our families, a representative of Evans, Deakin, and a group of newspaper reporters.

I cannot speak highly enough of the three lighthouse-keepers of the lonely North Reef light. It appears that they first noticed the fire on the "Cooma" at midnight, whereupon they launched the cockleshell lifeboat and made for the ship. Then, for nearly an hour they stood waving lights and shouting with all their might, but to no avail. One can easily imagine their anxiety at the rapid headway made by the fire with no sign of the men who, they guessed, would be asleep.

With the passing of the "Cooma" passed also one of the finest wireless installations in the Australian Mercantile Marine. This was a 2½ k.w. Telefunken transmitter fitted way back in 1911, and the piercing whine of its quenched gap was noted far and wide. To the wireless man it is the loss of a dear friend . . . "Vale VJE."

#### "UNCLE GEORGE" RETURNS.

How great an interest the children—and in some cases the adults, too—take in a person they have never seen, was demonstrated during the recent holiday of "Uncle George," who nightly entertains listeners-in to Station 2BL. Having announced his route, "Uncle George" continually had to pull up his car during a tour of the South Coast to meet the wishes of the many children who wanted to see him and talk to him personally.

Incidentally, while visiting the Wallaga Lakes (Aborigine Reserve near Tilba Tilba) "Uncle George" was able to obtain, by means of a collection among the party of tourists, a sum sufficient to enable a large listening-in set to be given to the aborigines. There are about 60 adults and 30 children in the settlement and, as time hangs heavily on their hands, the gift was greatly appreciated.



## Low Loss!

**W**HY buy expensive condensers and coils and then nullify their efficiency by mounting on an inferior high loss panel?

RADION is the foundation on which to build your set. It is made expressly for radio and far excels any other insulating material in the four essential characteristics of wireless, namely:

- 1—Low angle phase difference
- 2—Low dielectric constant
- 3—High resistivity
- 4—Low absorption of moisture

In addition, Radion is easily worked and is truly beautiful in appearance. In cost, it is more economical than any other material and will prove to be far more efficient in every way.

Always insist upon genuine Radion Panels and Parts (dials, sockets, knobs, insulators, etc.). Inferior material cannot possibly give you the same satisfactory results. The name Radion stamped on every piece is your assurance of complete satisfaction.

Factory Representatives:

**International Radio Co., Ltd.**

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

**The Supreme Insulation**

# RADION

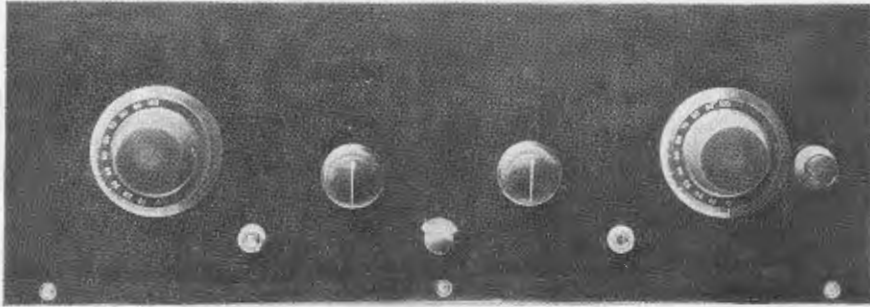
**PANELS ~ DIALS ~ SOCKETS ~ KNOBS**

382

# The Popular Browning Drake

*The Finest Four Yet*

Built and tested at the "Queensland Radio News" Laboratory.



Thoroughly tested under actual broadcasting conditions.

A Front View of the Receiver.

THE popularity of receivers employing radio frequency amplification, with regeneration, is evident from the number of such sets that have been placed on the market during the past few months.

The Browning-Drake is a receiver of this type, and is one which has rapidly gained favour with the radio public.

This remarkable circuit was evolved by G. H. Browning and F. H. Drake, of Harvard University who in 1923, designed the regenerator, which is simply a high efficiency air core transformer.

It is a well-known fact that much of the inefficiency and instability in radio frequency amplifiers is due to the self-capacity effect between the primary and secondary windings of the transformers.

To overcome this many of the manufacturers have lowered the number of primary turns, but by so doing, have cut down the amount of transferred energy seriously.

Now, in the regenerator, the number of primary turns have been actually increased, while the self-capacity between windings has been lowered, owing to the use of a special bunched primary. Laboratory tests have that a total amplification factor as high as 9 could be obtained with this type of transformer when used in conjunction with standard valves.

Having dealt with the theory of the receiver, we will now turn our attention to the constructional side.

### GENERAL LAYOUT.

In designing this receiver we have endeavoured (as far as possible) to make it more or less universal. By this we mean that it is only necessary to make one or two slight alterations in order to adapt the receiver from dry cells to wet battery, or vice-versa.

This of course means a lot to the country listener, whose chief trouble as a rule is the "A" battery.

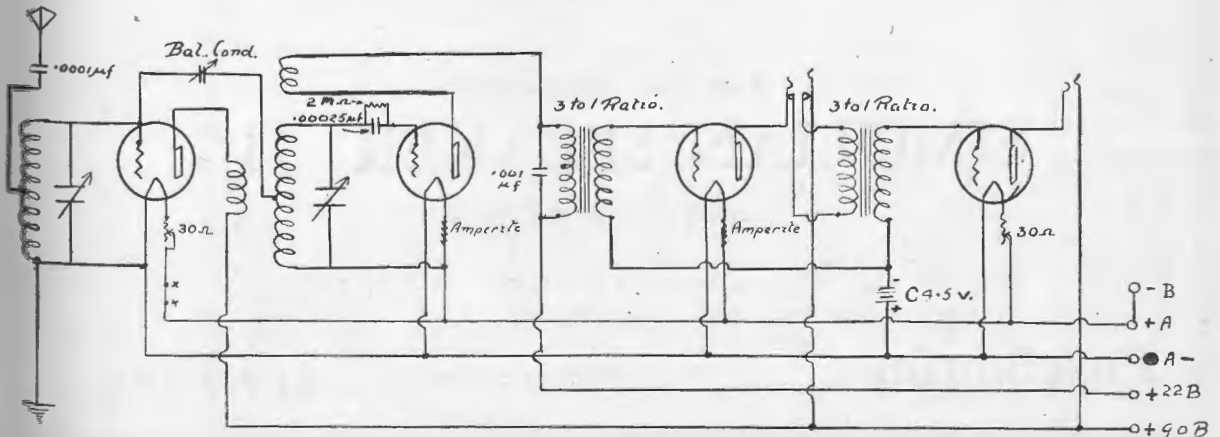


FIGURE 1.

*Powerful!**Magnetic!*

A PERFECT RECEIVER



# “The MAGNAVOX”

## *One Dial Control*

Just Arrived—A Shipment of these  
Wonderful Sets

A Five-Valve Receiver of perfect construction, giving full speaker strength on the world's broadcasting stations at all times without interference. Expert opinion the best yet heard. We wish you to hear this set demonstration free—in your home if desired.

# RADIO

## MICK SIMMONS LTD.

QUEEN ST., BRISBANE  
*(opposite Town Hall)*

Also Our Wonderful

## SIMOLIAN SPEAKER 21/-

*A Splendid Speaker for All Work*

Have a chat with our expert, Mr. Finch. He will be pleased to advise you in all your requirements.

*Fascinating!**Thrilling!*

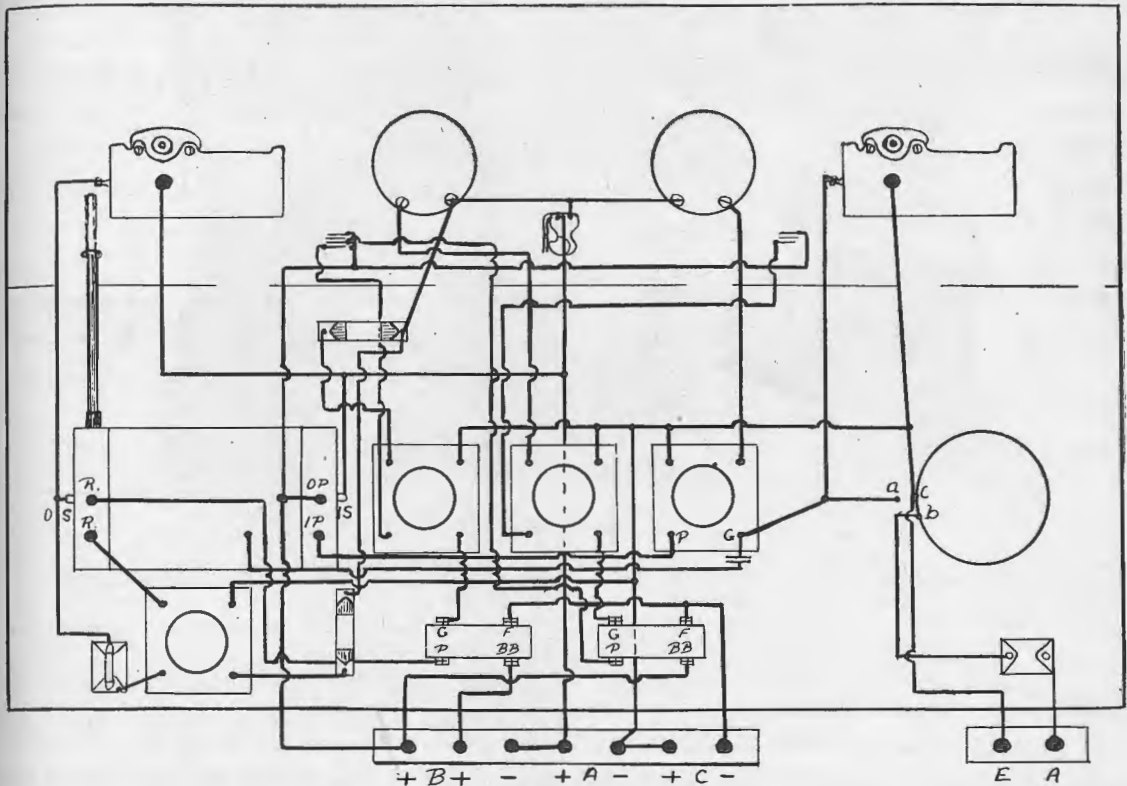


FIGURE 4.

From the accompanying illustrations and diagrams it will be apparent to the experienced set builder, that the receiver is very efficient.

In the first place the aerial tuning coil and R.F. transformer are placed well apart (one at each end of the receiver) in order that their fields may not over-react.

This is very important, and if considerable care is not taken in this direction it may be difficult, or even impossible to neutralise the receiver.

It was observed on test that a valve of the 199 class neutralised more consistently than the 201A type, and as its filament only requires .06 ampere it has much in its favour.

**CONSTRUCTION.**

Refer to Fig. 2, where you will find a diagram giving all the necessary dimensions for the panel layout.

A very good method for marking out the panel is to first obtain a piece of cardboard and cut it to the size of the panel (21in. x 7in.).

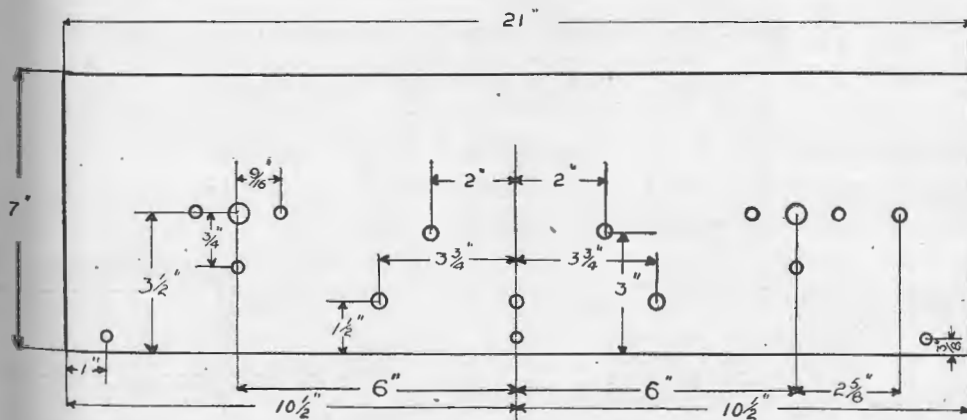
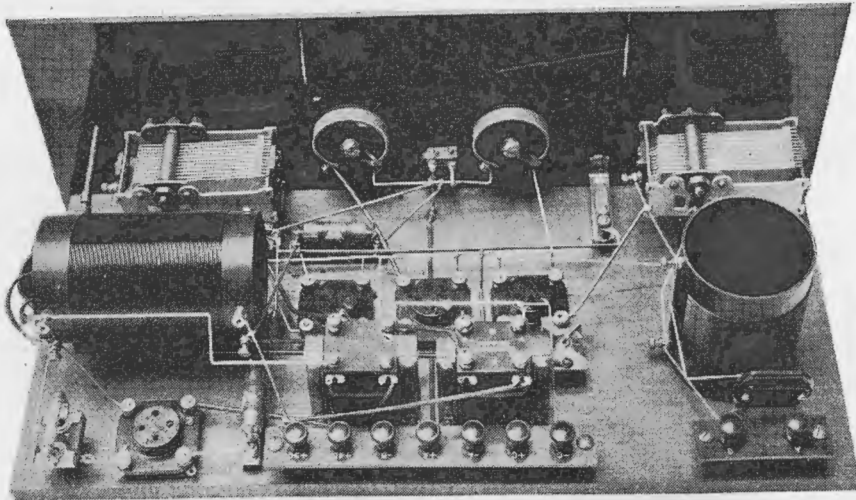


FIGURE 2.

This panel layout plainly shows the method of marking and drilling the panel

Here you see everything plainly reproduced. Note the neat arrangement of the components.



The valves have been purposely left out to give a clearer view of the wiring.

FIGURE 3.

Carefully draw to scale on this cardboard all the measurements shown in Fig. 2. Having done this, clamp the cardboard firmly over the panel, and with the aid of a fine centre punch and hammer, mark the various screw holes, etc., taking care all the time not to move the template. The panel may now be drilled and the components mounted thereon.

Fig. 3 indicates the position of the various components mounted on the baseboard and panel, and should convey to the reader all that is necessary as regards general assembly.

Upon reviewing the list of parts, it will be noted that a Browning-Drake kit of K.I.N. manufacture is utilised. This kit will have to be slightly modified so that it can be mounted in the position shown in the illustrations.

However, these slight alterations are not difficult, and should not be beyond the average home constructor.

In the case of the aerial inductance, the small brackets are mounted at the bottom end of the tube, so that it may be screwed to the baseboard in a vertical position.

The regenerator is mounted on the baseboard by means of two small ebonite feet, which are drilled and tapped both ends.

One end of each of these feet screws on to the secondary terminals, a small soldering lug being inserted in order to facilitate wiring.

Two 4 B.A. screws pass through the baseboard into

the opposite ends of the ebonite feet, holding the unit firmly in position.

An extension shaft will also be required, and is made up as follows:—

Obtain a piece of 3-16th brass rod 3 1/2 in. long. Either screw or solder to one end of this rod a small collar which is attached to the spindle of the reaction coil. The other end of the spindle will, of course, be fitted with a controlling knob, preferably one with an arrow across it, as this type allows one to see at a glance the position of the reaction coil.

To those who are not in a position to carry out the foregoing details, we would recommend that they get in touch with a reliable radio dealer who will be only too pleased to meet their requirements.

**WIRING.**

In the semi-pictorial diagram, the aerial inductance terminals are marked A, B, and C, where:—

A equals top terminal of aerial coil.

B equals centre top of aerial coil.

C equals bottom terminal of aerial coil.

Bus bar wire was used throughout the receiver described here, and leads covered with Spaghetti wherever there was a chance of them touching.

All joints should be carefully soldered, as the efficiency of the set depends a great deal on this.

**OPERATION.**

When the wiring is complete, carefully check it over with the schematic and back of panel wiring diagrams.

**LIST OF PARTS.**

- 1 Bakelite panel 2 1/2 in. x 7 in. x 3/16 in.
- 1 7/8 in. Terminal strip with terminals.
- 1 3 in. Terminal strip with terminals.
- 4 Benjamin sockets.
- 2 Amperites or Brachstats 4v.06.
- 1 B.M.S. D.C. jack.
- 1 B.M.S. S.C. jack.
- 1 Yaxley battery switch.
- 2 De Jur 30 ohm rheostats.
- 1 Koh-I-Noor Browning Drake kit.
- 1 Advance S.L.F. .0005 condenser.
- 1 Advance S.L.F. .0003 condenser.
- 2 Vernier or plain dials.
- 1 Muter .0025 fixed condenser.
- 1 Muter .001 fixed condenser.
- 1 Electrad 2 megohm grid leak.
- 2 Jefferson 41 L.F. transformers.
- 1 Wooden baseboard 20 1/2 in. x 9 in. 1/2 in.
- 1 Neutralising condenser.
- 2 Lengths Spaghetti.
- Quantity Bus Bar wire.
- 1 Box of assorted screws.

**DRILLS REQUIRED.**

- 1 3/32 in. Twist drill.
- 1 5/32 in. " "
- 1 1/4 in. " "
- 1 1/8 in. " "
- 1 7/16 in. " "

**Build this Browning-Drake and let us know how you get on with it. We are always pleased to hear from our readers.**

**SCREWS REQUIRED**

- 3 1/2 in. x 6 in. N.P. raised heads.
- 4 1 1/2 in. x 10 in. N.P. raised heads.
- 10 1/2 in. x 6 in. R.H., brass.
- 10 1/2 in. x 6 in. R.H., brass.



Having reassured yourself that everything is in order, proceed to connect the batteries to their respective terminals on the terminal strip.

Next place the valves in their sockets, and note if each valve lights up when the switch is placed in the "on" position. If, by any chance, the valve should glow brilliantly, immediately switch off and recheck the wiring and battery connections.

Assuming that all batteries, aerial and earth are connected, and a pair of phone plugged in the phone jack, proceed to neutralise the radio frequency valve follows:—

Tune in a station—turn out the radio frequency valve by means of the rheostat (the station will still be heard due to the capacity of the valve), and by means of a long-handled screwdriver, adjust the neutralising condenser until the station disappears or is a minimum. This is the point where neutralisation is obtained.

Another method is to tune in a station, then turn the reaction coil slightly until a whistle is heard in the phones. Now place the screwdriver in the slot of the neutralising condenser as before, and rotate the aerial tuning condenser, adjusting the neutralising condenser until the whistle varies only in intensity, not in pitch. The R.F. valve will now be neutralised.

The valves for this receiver may be UX199 type, but a UX120 or similar type of semi-power valve is recommended for the last stage.

Should the constructor decide to use valves of the 201A class, it will only be necessary to change the impedances and insert a fixed resistance of approximately 20 ohms at the points marked X X in the diagram. This resistance is, of course, only necessary when a UX199 valve is used in the first socket, and the terminal voltage is 6 volts.

Tuning the receiver is quite a simple matter, as once the dials are adjusted they will read practically alike.

Vernier dials may be fitted to this receiver, which, besides simplifying the tuning operation, will add a touch of beauty to its appearance.

**PROPOSED NEW RADIO CLUB.**

All persons interested in the formation of a radio club in Paddington and surrounding districts, are requested to attend a meeting which is being held in Bardon Hall on Tuesday, 22nd inst., at 7.45 p.m.

We are informed that the club will receive considerable assistance, both financially and otherwise, as a resident of the district has offered to allow the club to erect its club-room on his grounds, and is prepared to donate timber, iron, etc., for its erection.

A monetary donation is also promised, besides which the club members would have the use of the tennis court.

Any person requiring further information is requested to get in touch with Mr. Greenaway, care of Sampson and Greenaway McGregor Terrace, Bardon.

A good wireless club is a great asset to any district as, besides helping the beginner to understand the science, it affords excellent chances for the carrying out of experiments by the more advanced amateur.

The club will have several very capable lecturers at its disposal, offers of assistance also being received from other radio clubs.

Wireless enthusiasts in the district are urged to take up the excellent offer so kindly made them. Few, if any, radio clubs, have ever been launched under such favourable conditions.

# FEDERAL HEADPHONES



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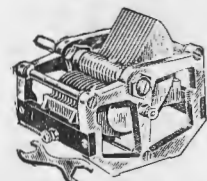
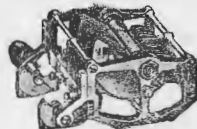
**18/6**

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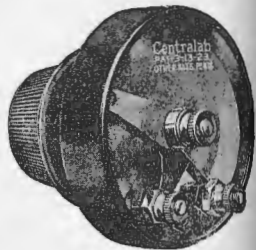
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For every type of resistance control in receiving sets United Distributors Ltd. recommend as better than any that have ever been brought on the market that of the Centralab, manufactured by the Central Radio Laboratories. Their full line consist of:—



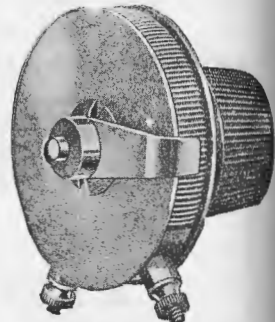
No. 2 M. Radiohms . . . . .	£ s. d.
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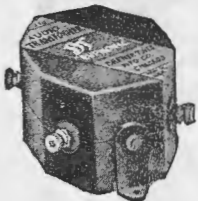


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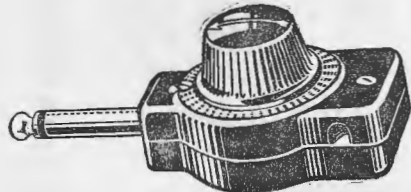
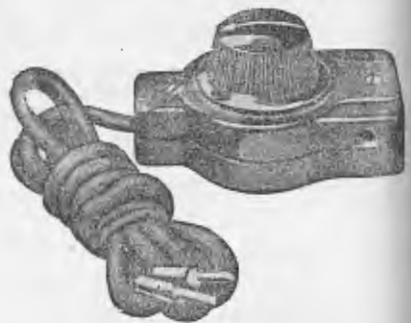
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Special attention is drawn to the Centralab Modulator 'Phone Plug, which combines the control of the wonderful Centralab Modulator with the ordinary 'Phone Plug; it can also be supplied with speaker cords for receiving sets which are not equipped with a jack. This controls the tone of speaker from the loudest that the set can produce down to a whisper, and is a wonderful eliminator of static effects. No such other item is on the radio market to-day.



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J.O.L.

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The Exclusive construction of Ray-O-Vac "B" batteries combines a number of characteristics which easily distinguish them as leaders in the "B" battery field. Nine features are outstanding:

- 1.—Zinc can of rolled sheet stock.
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No. 9303—The Master Ray-O-Vac 45 volt; double the amperage of ordinary 45	£1 16 0
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No. 531R—4½ volt Grid Bias C Battery	0 3 6
No. 1211—1½ volt A battery—the best 1½ volt single cell on the market to-day	0 3 3
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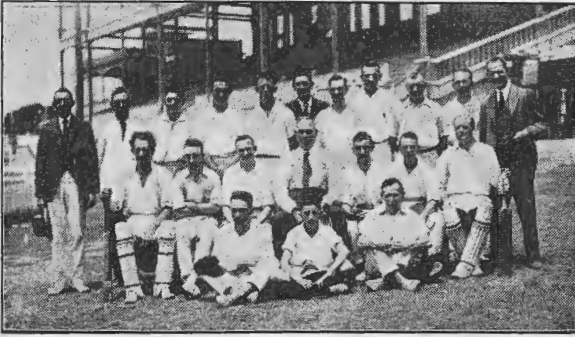
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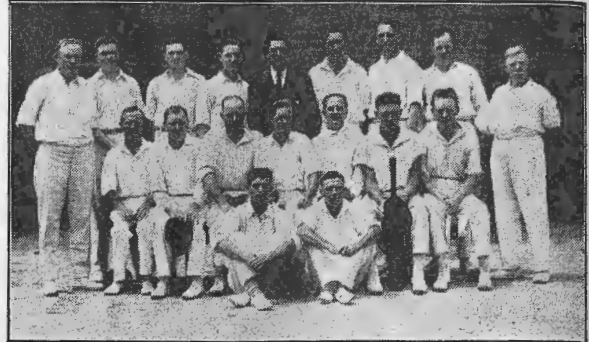
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Adelaide.

66 Charles St., Launceston, Tas.



The 4QG Team, with Premier McCormack seated in the centre of the group.



The Listeners-in Team.

## 4QG versus Listeners-in

### A Unique Cricket Match that Left 4QG Team Wondering

Some time ago the Director of 4QG made a sudden appearance on an evening programme. He started the whole world by issuing a challenge—an open challenge from Station 4QG to meet a team composed of listeners-in on the cricket field.

Rather a risky challenge to throw out, considering that practically everybody these days listens-in, but nevertheless, it was a sporting offer that was taken up with alacrity by the listeners-in.

A meeting of listeners was called at Station 4QG, and teams of 16 a side were picked. One Bill Godwin was elected to organise the team, and Nat Strickland was chosen to lead the listeners-in to victory, whilst 4QG secured the captaincy of "Big Bill" McCormack—Queensland's Premier.

The morning of Thursday, February 17th, broke fine and hot—uncomfortably hot—and shortly before noon a bright penny spun skywards to determine which team should face the bowlers. Director Robinson, owing to the late arrival of the Premier) called "tails," and "tails" she was. So, fired with enthusiasm and the determination to uphold the good name of the station, 4QG went forth to bat.

The wickets fell fast. In fact, the listeners-in wicketkeeper spent most



(Top)  
"Uncle Ben" reckons you can never put a good man out, provided he has a good bat.



(Left)  
This isn't Kellaway—it's "Robbie" after making a glorious "blob."

of his time in picking up the stumps and balls. Premier McCormack's figure loomed formidably before the wickets. He managed to break his "duck." An "urger" nearby prompted the Premier to run for short ones, but "Big Bill," moping his heated brow, caustically replied that although he hailed from Cairns, he was no cyclone.

"Robbie" was cleanly bowled for none, "Uncle Jim" Woodland got one, and "Uncle Ben" followed his example. "The Sandman" (J. Tyson) was more fortunate and added a neat half-dozen, to the score. Only one player reached double figures — Green — who

was bowled for 14. This naturally resulted in some remarkable bowling averages. Two wickets for one run by Hurworth was, perhaps, the best. The innings closed with "all out" for 51.

#### THE LISTENERS-IN BAT.

The listeners-in team put up a much better display. It was quickly evident that there were some first-grade men in the team, several having to retire on reaching the retiring limit (25).

The following are the detailed scores of each team:—

4QG.

F. Cory, b. James ... ..	6
J. Tyson, b. Blackford ... ..	5
C. Woodland, b. Strickland ... ..	1
L. H. Pike, b. James ... ..	0
W. M'Cormack, c. and b. Strickland ... ..	1
T. Armstrong, c. Butler, b. Steel ... ..	1
C. Moran, run out ... ..	3
T. Clouston, b. Green ... ..	2
L. Furness, c. M'Gilvray, b. Butler ... ..	5
F. Green, b. M'Gilvray ... ..	14
R. Gibbs, st. Cooper, b. Green ... ..	2
L. Read, b. Hurworth ... ..	1
J. W. Robinson, b. Hurworth ... ..	0
R. Crick, b. Rush .. ..	8
A. Jackson, b. Rush ... ..	1
L. Shield, b. Frawley ... ..	0
W. J. Bardon, not out ... ..	0
Sundry .. ..	1
<hr/>	
Total ... ..	51

Bowling.—James, two for 5; Blackford, one for 6; Strickland, two for 7; Steele, two for 4; Green, two for 12; Butler, one for 6; Hurworth, two for 1; M'Gilvray, two for 19; Rush, two for 9; Frawley, one for none.

LISTENERS-IN.

J. Rush, c. Armstrong, b. Moran ... ..	19
A. Fraser, c. Tyson, b. Furness ... ..	23
E. T. Green, b. Clouston ... ..	7
J. Loney, b. Cory ... ..	0
R. G. Steele, retired ... ..	29
J. Blackford, run out ... ..	19
J. Butler, retired ... ..	25
A. Hurworth, l.b.w., b. Gibbs ... ..	12
J. Blackford, run out ... ..	19
W. A. Cooper, retired ... ..	26
P. J. Frawley, retired ... ..	25
N. Strickland, retired ... ..	25
E. C. Jackson, b. Shield ... ..	4
A. James, c. Reid, b. Furness ... ..	19
C. H. Jackman, b. Woodland ... ..	6
H. R. Thomas, b. Robinson ... ..	1
H. J. Green, b. Robinson ... ..	4
E. Southward, not out ... ..	13
Sundries ... ..	3
<hr/>	
Total ... ..	248

Listeners-in won by 197 runs.

Bowling.—Woodland, one for 59; Robinson, two for 29; Furness, two for 31; Moran, one for 20; Clouston, one for 15; Cory, one for 26; Pike, none for 9; Gibbs, one for 22; Shield, one for 21.

It was a unique match right through, as regards the number in the teams, the retiring limit of 25 runs, and the single innings. Who knows but had there been two innings 4QG may have staged a wonderful recovery, although we wouldn't like to wager on their chance.

It was an inglorious issue to a bold challenge, but nevertheless it provided a day's sport for all concerned.



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Batteries called for, and returned when fully charged. If required, a fully charged battery will be left in place of your own.

Very latest charging equipment, batteries automatically regulating their own charging rate, consequently there is no possibility of your battery being improperly charged.


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## HELPFUL TO A RADIO SET

# Exide BATTERIES



For a silent, clear  
reception, instal an  
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**EXIDE BATTERY SERVICE  
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**SAS**

When the shadows lengthen, your wireless set becomes interesting in the home. It is entralling, but unless efficient batteries are used to give uniform current, it would be displeasing. To save disappointment be sure of efficiency by seeing that your set is fitted with EXIDE BATTERIES.

# Personalities



Word has just been received that Mr. Percy Greenaway, of Upper Paddington, is "one of us." Of course he always was a musical boy, and maybe his love for music won him over to radio. Now if he doesn't go to choir practice he can sit at home and twiddle the dials in the old slippers and blazer.

Mr. Harry Borrodale, 4QG's relieving announcer, who is at the microphone every Thursday night carries out his duty quite creditably. We think his first appearance though was perhaps the best. His delivery was crisper and brighter on that occasion than since. The perfect announcement, while not hastily spoken should not be drawled. A bright clean-cut delivery spoken as one man would speak to another is the kind that is most appreciated by listeners.

Wally Best—the bright little bundle of business who occupies the Radio Manager's chair at United Distributors Ltd. has more worries upon his young mind than wireless. Wally—like all sensible men—is a batchelor, but we believe he is looking for some nice little lady who will darn his socks neatly and replace missing shirt buttons for him.

By this time this issue is in the hands of our readers, Mr. J. B. Chandler, (of Chandler & Co.) will be nearing Melbourne. Mr. Chandler is combining business with holidays and is looking for new lines for his firm.

Mr. "Laurie" Felt, a radio enthusiast of the first water, and who recently secured his B. E. degree, has joined the City Electric Light Coy. as Junior Engineer. Laurie and Ernie Dillon, also a C.E.L. man, now have great old yarns on radio matters generally.

The Director of 4QG is wondering if his name is Robinson or Lazarus. Recently a serious motor accident occurred in the Valley, the victim being wrongly identified as Mr. Robinson. Next morning he was kept busy. answering countless phone calls from people enquiring if he was still in this world or the next, whilst one asked where the funeral was to move from. Messages flashed back over the wire stating that the Director never felt in better health and that there would be no funeral.

The "Junk Sale" recently held by 4WN in the club-rooms proved to be a huge success. The babel of many voices, chattering crowds of bargain-hunting wireless cranks, the jingling of silver shekels, all

savoured strongly of an Eastern Market-place. Nim Love swung a decisive hammer, and much gear changed hands.

Here's an awkward position for any man to find himself in. "Bill" Florence of Control Room, City Electric Light is strongly devoted to radio. For months he's been dreaming about a super-hetrodyne he's been planning to build. But the trouble is, when Bill isn't dreaming about the super-het, he's dreaming about a certain young lady, who in turn things a lot of Bill. The question now is whether to pay the radio dealer or fix up with the parson. A delicate problem to solve—but we don't give the super-het. much chance when there's a lady in the case.

Speaking of brides.—Miss Hilda Cooper, a favourite soprano at 4QG, recently swore to love, honour and obey Mr. William Bleeck, who is also a 4QG artist appearing in steel guitar numbers, and an ardent radio amateur. Whether Mrs. Bleeck is carrying out the last clause of the contract we cannot say, but we believe they had a wonderful honeymoon at Sydney and the Blue Mountains.

Mr. Fenwick, proprietor of the Imperial Picture Theatre, at Lutwyche, recently surprised the family with a first-rate six-valve receiver. Two fine masters now adorn the grounds of his beautiful residence at Rose Street, Eagle Junction.



**Logging Them All!**

on his  
**"AENOLA"**

Twelve  
Months  
Unconditional  
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## AENOLA Receivers

Cheapest Prices — Best Parts Used

NOTE THE PRICES:

Crystal £3-0-0 3 Valve £20-0-0  
1 Valve £9-0-0 4 Valve £25-0-0  
2 Valve £14-0-0 5 Valve £32-0-0

These prices include Dull Emitter Valves, Batteries, Headphones, Cabinet, Aerial Equipment and Coils.

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# Broadcasting Notes

*From Sydney Town*

## PRICKLY SENSATION. At Broadcasting Station.

A tradesman who was installing moth-proof gauze at broadcasting Station 2BL Sydney recently had a curious experience.

The gauze has been placed all round the windows of the station in order to keep out moths which, attracted by the lights, have a bad habit of committing suicide, and until checked, proved themselves a considerable inconvenience to the station engineers. A moth one night actually held up radio listeners who were tuned in on 2BL, there being a break of two or three seconds in the transmission of a concert programme, owing to the insect causing a short circuit.

When the mechanic started his job the other day the station was not "on the air," that is, in operation. But after his lunch hour the man discovered that the gauze was a mass of prickles. It looked smooth enough as it was before, but every time he touched it a tingling sensation ran through his hands. He removed the sheet of gauze to find out what made it so rough and prickly. It certainly looked all right, and the man was still puzzling over the prickly feeling when the Chief Engineer of the station (Mr. Allsop) informed him that what he supposed to be tiny sharp points was simply an electric shock which he was receiving from the big inductances of the high frequency currents set up by the station.

## COW AND RADIO. Heard in America.

A few weeks ago during the broadcasting of the children's hour from Station 2BL Sydney, a performer in the broadcasting studio gave an imitation of a cow mooing. A sequel was heard this week when 2BL received a letter from an American listener living at San Pedro, California, who said, "I want a picture of that cow which I kept hearing over 2BL. I have heard roosters crow on the other side of the United States, but hearing a cow moo-moo on the other side of the world beats me. Please don't forget the cow picture."

## THE WRONG ARTIST. A Radio Error.

Beware of the radio enthusiast who can rattle off the names of every song he heard on the radio, the singer, every composition played, and the name of the player. Some weird mistakes are made by listeners who, relying on their memories, tell their friends just what they heard when listening in last night.

An instance of this came under the notice of broadcasting Station 2BL a day or two ago. A listener in New Zealand was writing with enthusiasm to say how much he enjoys the Sydney station. "Robert Watson's Song," 'I Would That My Love,' was just delightful," he remarked, and went on to praise the sentimental ballads which he attributed to Mr. Watson.

The joke, of course, lies in the fact that Mr. Watson is a comedian of the broadest kind, whose delight is such classical humorosities as "The Egg" and

"You Must Not Do That, Naughty Boy." Mr. Watson is a very old hand as a comedian; he was associated with Maggie Moore away in the old days, and the idea of singing a song like "I Would That My Love" nearly doubled him up with laughter when he heard of it.

The listener had mixed Mr. Watson with Mr. Ray Beatty, the basso, who, with Miss Millie Hughes, has been singing duets at 2BL.

## TOO MANY TRILLS. Radio Singer Criticised.

All the letters received at the broadcasting stations are not congratulatory—not by any means—although most of them are. For instance, a listener wrote to Station 2FC one day this week.

"I congratulate you on your splendid programme. We all enjoy items by Mr. Blank, Mrs. Blank, and Miss Blank, when the latter does not put in a lot of unnecessary trills and high notes. I hope you don't mind me saying this, but you ask for candid criticisms, don't you? and several persons I know say the same about Miss Blank. She has a beautiful voice when she doesn't overdo it with all those ha! ha! ha! ha! ha! ha's! We all know she can take high notes, but one night last week she was on the programme five times, and every time she sang a bird song or one with all those trills in. When she starts on these we just switch over to another station, and you don't want that, do you? She knows hundreds of beautiful songs without all the trills, songs which one could go on listening to forever. So will you break it gently to her, please, that we prefer the plain songs?"

Tastes differ very much in radio matters. In America a society has started for the suppression of radio sopranos, but it is only fair to the subject of the above letter to say that scores of listeners have written to the studio praising the very trills which the present critic considers superfluous.

## FOUND BY RADIO. Value of Broadcasting.

The New Zealand Press is featuring a recent instance of the value of broadcasting. Mrs. Barnes was lying seriously ill at Coogee, N.S.W., and as all other methods of locating her son, Edward Barnes, of Tamworth, had failed, it was decided to try to find him by means of broadcasting. It was known he was touring New Zealand, and the Sydney Station 2BL broadcast a message asking him to return. The message was picked up, Mr. Barnes was located, and he left promptly for Sydney.

A less important though interesting incident is reported from Cessnock. Mrs. Kernot was listening in to the results of the Brisbane motor cycle races broadcast from Brisbane, when the announcement was made that Sid. Bayley, of Cessnock, had won the lady's armlet. When presented with the armlet Sid was asked to make a speech in response. Sid's speech was plainly audible to listeners in. He commenced by saying he was a dud at speech making, but concluded by asking any listener in at Cessnock to acquaint his people of his win. This Mrs. Kernot did at once. There must have been a number of listeners in at Cessnock, for fully twenty citizens later on arrived with the good tidings.



**PLAGUE, INFLUENZA, DENGUE FEVER,** and all other diseases are first indicated by a rise in temperature; therefore, a Clinical or Fever Thermometer is a necessity in every home, especially where there are children. Order one NOW and have it ready. **Price 3/9 each.** Posted 9d extra. If you paid a guinea you could not buy a better article.



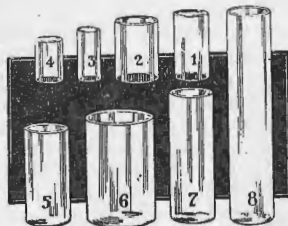
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New up-to-date Hydrometer for testing the gravity of the electrolyte of storage batteries. The only Hydrometer that will float right and give accurate tests. The best made. **Price 10/6 each.** Postage and packing 2/ extra.

Others at 5/6 each.

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 Universal size, 27/6 each; posted 1/6 extra.  
 New tubes fitted to broken ones.

*Illustrated catalogue posted free on request*

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 (next Fire Station)

According to "L'Antenno," there are now in the world 922 broadcasting stations. The country having the greatest number in proportion to its size is Cuba, which has 36.

Mr. George Bernard Shaw has announced himself as "a declared enemy of radio," and has prohibited the broadcasting of his plays in Germany.

An American radio enthusiast in a letter to the Sydney Broadcasting Station 2BL writes:—"I was listening to your station at 5.25 a.m. (American time) and heard your announcer reading news items. One was a report of an awning fire in which a man got a ladder and tried to beat out the fire with presence of mind, while the lady from the floor above threw a bucket of water and drenched the man."

**UNDER THE SEA.**

**Stories Broadcast.**

Some exciting stories are being told to the children, who listen to the bedtime session of Broadcasting Station 2BL Sydney by Mr. Norman Friend, a young scientist who has made a special study of under-sea life.

It was Mr. Friend who, a year ago, descended with a professional diver into the depths of Middle Harbour, and broadcast through Station 2FC an account of the wonders of the harbour bed. Now he is telling the children of 2BL his experiences in 55ft. of water off Steel Point. It was there that Mr. Friend's air pipe and life line became entangled in the seaweed and rocks, and he was kept on the floor of the water for an hour and a half waiting for another diver to come down and release him. While waiting he saw a huge octopus—of the size reputed likely to attack a man—engaged in fishing. The octo., lurking in the cleft of a rock, would cast out its feelers and seize a fish which it could hold firmly by reason of the suckers covering the feelers. Relentlessly each fish was drawn into the mouth of the brute which looked so evil that the imprisoned diver refrained from attempting to capture it as an addition to his marine collection.

Mr. Friend informed the children that he fell asleep at the bottom of the harbour. No doubt, the sleepy sensation was largely produced by the pressure of the water.

Station 2BL is likely to keep Mr. Friend on the programme for a considerable time.

**MELBA BY RADIO.**

**Listeners are Hopeful.**

Radio enthusiasts are looking forward to hearing Dame Nellie Melba over the air during the forthcoming celebrations at Canberra. Melba has several times announced a last final farewell appearance, and it may not be long before she leaves the concert platform. Her appearance at Canberra will, therefore, be the more welcome to listeners, especially as she has not been heard over the air in this State.

On arrival in Sydney last week Melba had some interesting observations to make about broadcasting. Among her possessions is a letter in the King's hand writing, and signed by him and the Queen, which they sent to her on the occasion of her Covent Garden farewell. On that night her concluding speech was sent out by radio, and a friend in Berlin took it down as it was delivered, hearing it as clearly as if she were in



the theatre. "Broadcasting," said Dame Nellie, "has undoubtedly come to stay, and as to its effects upon concerts, it is at present difficult to speak with certainty. I think that eventually the situation will automatically adjust itself correctly. Broadcasting is certainly wonderful in its influences. Do you know that it settled the big strike in England? The speeches of Mr. Baldwin, the Archbishop of Canterbury, and other leaders, when transmitted over the wireless, had the effect of bringing the settlement appreciably nearer."

**TOO MANY MURDERS.  
Radio Criticised.**

The Australian broadcasting stations invite their listeners to give them candid criticism, and they get it. For instance, Dr. ———, of Napier, New Zealand, writes to Broadcasting Station 2BL, Sydney:—

"I am a constant 'listener-in' to 2BL, and I write to say that with one exception, your programmes are really excellent, and the standard of music, etc., could not be improved upon.

"The exception I refer to is the 'news items'—murders, suicides, accidents, deaths, etc., with all the harrowing details, make up the major portion of this item from 2BL and are surely not necessary. Do your papers in Sydney not publish anything else but this class of news? If so, why not broadcast it?

"This is constructive criticism, and I am expressing the views of several other 'listeners-in' residing in this district.

"Wishing you the best of luck this year,  
Yours sincerely,

As far as the writer of this paragraph knows, this is the first time objection has been taken to the news items broadcast because the stations make a point of omitting harrowing details.

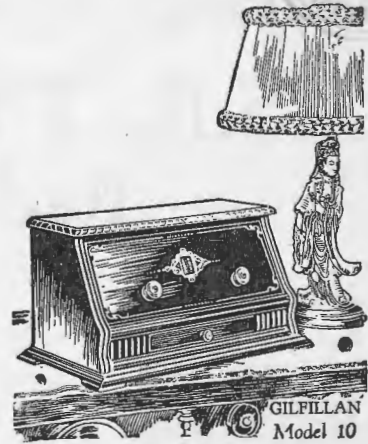
**HISTORIC RADIO.  
Exhibit Being Prepared.**

A most interesting feature of the forthcoming Radio and Electrical Exhibition, to be held in the Sydney Town Hall, will be a historically complete series of radio receivers.

Radio is the youngest of the sciences, and many men and women in youthful years are, nevertheless, veterans in radio work. The display which is now being prepared for the exhibition will show the old coherer type of radio receiver, the coherer crystal, and every phase through which receiving sets have evolved to the up-to-date multi-valve instrument, using neither aerial nor earth-wire, headphones, or even loud speaker, and yet fills a room or large hall with a volume of music comparable to that of an organ or brass band.

This historic display will include also a multiple tuner, magnetic detector, Fleming valve, commercial crystal and commercial one-valve set.

It is intended also to display a rotary spark set in action. Great care will be necessary with a rotary spark set. It is a very spectacular instrument which throws a crackling spark, but it must be handled carefully, otherwise it would set up such electrical disturbances in the ether as to silence every other receiving set in the exhibition.



*The New Gilfillan*  
**1927**  
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*A New and Improved 5-Valve Neutrodyne  
at the Old Price*

**EXTRAORDINARY SELECTIVITY**—practically preventing interference between stations, local or Interstate.

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**CABINET**—Hand-carved, toned walnut, deserving of a place in the furnishings of the finest home.

**SIZE**—Very neat and compact, 19½ inches long, 9½ in. high, and 10 inches deep.

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In this new type Battery you get all that sound, honest quality that Clyde has always built into all its products—the quality that makes for powerful performance, for long life, for economy, and for genuine and lasting satisfaction. And in addition you get further distinctive features that definitely rout the last-remaining bug-bears of the radio battery user—leaking cells, corroding crates, and the problem of keeping untidy batteries out of sight.

This new model Clyde is made in 4 and 6 volt units built into ONE CONTAINER, strong and serviceable, thus eliminating all troubles with leaking cells, corroding wood or iron carrying crates, and presenting neat and compact form.

They have non-corrosive terminals and permanent connecting straps. Designed with thick plate, S.R. Batteries deliver strong uniform current over a very long period and do not discharge when idle.

Type	Volts	Actual Capacity	Ignition Capacity	Price
4SR5	4	25 amps.	50 amps.	£ s. d. 2 10 0
6SR5	4	25 "	50 "	3 10 0
4SR7	6	40 "	80 "	3 0 0
6SR7	6	40 "	80 "	4 4 0

NOTE.—"S.R." Batteries, 5in. wide, 7½in. high overall.

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Station  
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Goulburn St.  
Sydney**

# The Threshold of Television

By N. J. Rohan (in "The Broadcaster.")

So much has been written on the subject of Television, and so little has been accomplished in a form available to the general public, that there is a growing tendency to dismiss the whole thing as too impracticable to be worth further consideration.

As against passing so hasty a judgment, it is only fair to remember that the present system of broadcasting is by no means so sudden a growth as may at first appear.

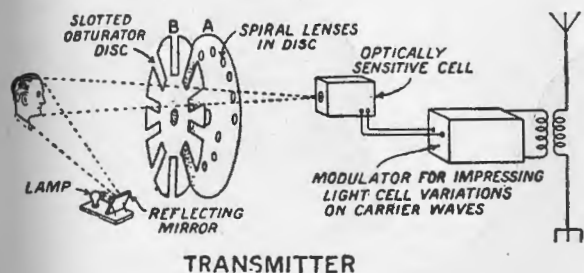


FIG. 1.

The application of wireless methods to the transmission of "moving picture" effects, as distinct from the mere transference of a "static" photograph, is of comparatively recent origin. It first became dimly feasible with the introduction of modern methods of valve transmission and the development of multivalve amplifiers.

In these circumstances the results already secured by such investigators as J. L. Baird (England), Edouard Belin in France, and Francis Jenkins in America, show a steady progress towards success which compares quite favourably with that made in the early stages of wireless telegraphy and telephony.

At the present time we may fairly claim to be standing at the threshold of radio-vision. Practically the only problem that remains to be solved is the discovery of a more perfect type of optically-sensitive cell, and this cannot be long delayed in the light of recent discoveries.

## The Electric "Eye."

The optical cell in television plays much the same part as the microphone in telephony. Its function is to transform different gradations of light and shade into variations of electric current, just as the microphone converts different speech notes into corresponding current frequencies.

In the latter case sound energy is transformed into electrical energy by the action of air waves upon a packed mass of carbon particles. The varying pressures so produced control the value of the current which passes through the microphone by altering the effective resistance of the carbon path.

Similarly, an optically-sensitive element, such as selenium, or an alkali-metal photo-electric cell, reacts to any ray falling upon it. The effective resistance of the cell changes in accordance with the intensity of the light-ray, so that the resultant current passing through the cell is modulated or varied accordingly.

Instead of being impressed with speech variations, the current flow is controlled by the light and shade effects of a picture or object. The current is thus made capable of carrying a visual impression through space in the form of ether waves, and of restoring or building-up the original picture or image at the distant end by acting upon a suitable translating device.

## Transmitting the Picture.

To make this process clear, the apparatus used in the Baird system of television is shown in diagrammatic form in Figs. 1 and 2. At the transmitting end, Fig. 1, light is reflected from a mirror on to the object to be viewed, and the reflected ray is passed through two rotating discs, one of which is slotted whilst the second is provided with a spiral series of lenses.

The object of the discs is to break up the continuous ray of light into a series of impulses. For instance, if the first disc B rotates once per second, the incident ray will be concerted into ten separate impulses per second by the ten radial slots shown.

Each of the ten impulses would of course convey a complete image through the disc. As it would be impossible for any optically-sensitive device to respond to such a complex of light and shade simultaneously, it becomes necessary to break the complete image up into a number of distinct segments, each of which has a definite value of light or shade.

This is accomplished by means of the second disc A, which rotates at a much higher speed than the first, so that the whole series of spiral lenses pass across each slot in the disc B during the traverse of that slot across the object to be transmitted.

The result is that the sensitive cell receives a rapid succession of rays, each of which is focussed on a definite part of the object. Owing to the spiral ar-

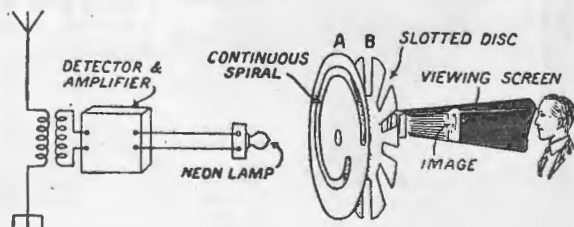


FIG. 2.

# IGRANIC

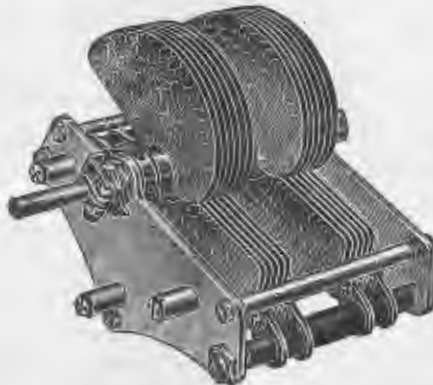


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No. 60 (turns)	4/6
No. 75 (turns)	5/
No. 100 (turns)	5/3
No. 150 (turns)	5/9
No. 200 (turns)	6/
No. 250 (turns)	6/9
No. 300 (turns)	7/3
No. 400 (turns)	8/3
No. 500 (turns)	10/6
No. 600 (turns)	12/
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No. 1000 (turns)	18/
No. 1250 (turns)	21/
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Arrangement of the lenses on the disc A, the point of focus moves rapidly across the object from its outer to its inner extremity, covering the whole picture, piece by piece, in rapid succession.

Each individual light impulse then reacts upon the sensitive cell and controls the resultant modulation of the carrier currents radiated by the transmitting aerial.

**At the Receiving End.**

At the receiving end, Fig. 2, the incoming carrier wave is first demodulated or rectified and then amplified. The corresponding rectified currents are utilised to vary the intensity of a source of light, such as a neon lamp.

The resultant flickerings of the lamp reproduce the original variations of light and shade impressed upon the sensitive cell at the transmitting end. These are then passed through two rotating discs, similar to those shown in Fig. 1, except that the disc A is pierced with a continuous spiral slot in place of the lenses, and the distant image is reassembled in its original form on the viewing shield.

It must be borne in mind that the net effect of the rotating discs A, B, is to throw ten complete images of the transmitter object each second upon the optically sensitive cell. Moreover, each "complete" image is subdivided (by the spiral lenses) into a considerable number of focussed elements, so that the total number of distinct impulses given to the cell will be of the order of some thousands per second.

If the cell is to respond adequately to these impulses, the action must be practically instantaneous, comparable, in fact, to the "inertialess" response of an ordinary thermionic valve.

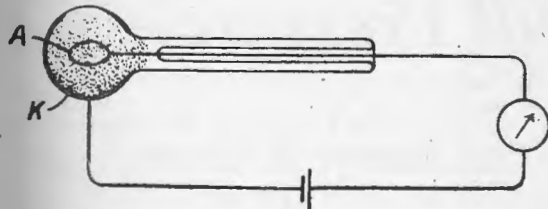


FIG. 3.

**Selenium.**

Ordinary selenium, although highly sensitive to variations in light intensity, is subject to a slight lag effect which handicaps its use for television purposes. Recent investigation has, however, shown that the lag practically disappears when the cell is placed in series with an alternating source of voltage instead of the usual D.C. battery, and it is possible that further development along these lines may increase the speed of reaction to the required degree.

**Photo-electric Cells.**

Another possible alternative lies in the use of photo-electric cells of the type shown in Figs. 3 and 4. These consist of hermetically sealed bulbs containing argon or neon gas at low pressure. Each cell contains two electrodes, one of which is a photo-sensitive metal, such as potassium. The effect of light upon such a cell is to release electrons from the

surface of the potassium, and so cause an electric current to flow across the space inside the bulb.

As shown in Fig. 3, the potassium cathode K is deposited upon the inside wall of the tube, and is connected externally through a battery and microammeter to the anode A, which consists of a simple metal ring joined to the positive pole of the battery.

A bare pole or "window" is left at the top of the bulb. When a ray of light passes through the window and falls upon the potassium lining K, electrons are liberated and flow across to the anode, thus giving rise to a current in the external circuit.

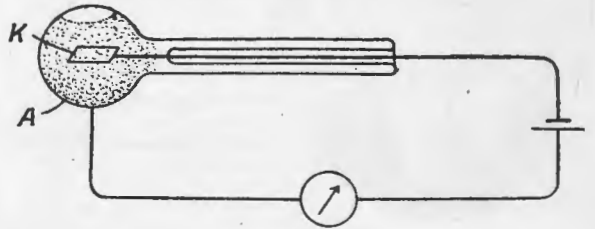


FIG. 4.

In Fig. 4 the sensitive potassium cathode is situated in the centre of the cell, in the form of a thin metal plate, whilst the anode consists of a coating of silver which also serves the purpose of protecting the sensitive potassium plate from all light, except that passing through the unprotected aperture or window left at the top of the bulb. In this case the silver lining is connected to the positive pole of the external battery, whilst the sensitive cathode is as before joined to the negative terminal.

**Why Girls Leave Home**

and go to town to buy their men's wireless parts

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*Anything Electric Ring J4379*



## Mr. E. C. LITTLER

Who has been  
appointed to the Staff  
of

"The Queensland  
Radio News"

as Technical Editor

Readers of this journal will be pleased to learn that the services of Mr. E. C. Littler have been secured, and that in future Mr. Littler will be associated with "The Queensland Radio News" as Technical Editor.

Mr. Littler is a young man who has crammed a lot of experience and knowledge into his years. He has studied every branch of electrical engineering, having had 10 years training in both the practical and theoretical fields. He has been interested in radio

since pre-war days, and was one of the early experimenters, and a committeeman of the old Wireless Institute.

In 1924 Mr. Littler took a trip abroad, and visited all the leading broadcasting stations and radio manufacturing concerns. This trip proved of immense value to him, and he added further to his fund of knowledge.

Whilst in England, Mr. Littler qualified for membership in the Radio Society of Great Britain, recognised as one of the most exclusive radio bodies in the world. Only three Australians have to date qualified for the honour of admission into this society.

Mr. Littler has been placed in charge of the Radio News laboratory, and readers may look forward to some really fine constructional articles in the pages of this journal. Mr. Littler will see that new circuits and ideas are embodied in these articles, and readers may construct them with confidence, knowing that each receiver has been tested under actual broadcasting conditions before the article has been published.

### QUESTIONS ANSWERED.

Readers are entitled to write to the Technical Editor of this journal for advice on their radio problems. **Replies will not be sent through the post**, but will appear in our columns with the initials of the enquirer used as a non-de-plume.

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AT ALL RADIO DEALERS

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Watch for Further Specials in Next Month's Issue

J.O.L.

# Club Activities



## RADIO CLUBS OF QUEENSLAND.

- AUCHENFLOWER AND DISTRICT**—Secretary, L. Cribb, "Frampton," Ridley Street, Auchenflower.
- CAIRNS AND DISTRICT**—Secretary, Mr. Tarbit, c/o Mr. Les Fitzsimmons, Cairns.
- EASTERN SUBURBS**—Secretary, A. E. Newnham, Logan Road, Fiveways, Woolloongabba, Brisbane.
- GRACEVILLE**—Secretary, S. W. Keepink, Ettie Street, Sherwood.
- IPSWICH**—Secretary, S. J. Aspinall, Brisbane Street, Ipswich.
- SOUTH BRISBANE**—Secretary, W. R. Gilbert, Gordon Street, Coorparoo.
- TOOMBUL**—Secretary, T. Starkie, Sandgate Road, Nundah.
- TOWNSVILLE**—Secretary, E. J. Jefferies, Fletcher Street, West End, Townsville.
- WIRELESS INSTITUTE (Queensland Division)**—Secretary, O. R. C. Runge, c/o Finney, Isles, Ltd., Brisbane.
- WOOLLOOWIN**—Secretary, H. A. Jiear, Lisson Grove, Woolloowin.
- WYNNON AND MANLY**—Secretary, P. J. Golden, c/o Trackson Bros., Ltd., Elizabeth Street, Brisbane.

## Woolloowin Radio Club

By this time our regular attendance has reached its old standard and our meetings remind one of old times. The half-yearly meeting was held on 10th February, and all members were immediately handed small neatly-typed bills, for their subs. These were, strange to say, received with loud and prolonged applause, which gladdened the optics of Nim, of treasurer. The latter, after turning the pages of his famous pocket book, gave us an idea of our financial position. It may be interesting to note that our assets at present amount to close on forty pounds, which sounds very nice indeed. During this meeting one of the members closed his eyes, in order to think a little. On opening them again he was informed that he had been asleep, and had moved a motion that the secretary be given £4 with which to buy club badges. The gang still think he was asleep, but—he wasn't.

The syllabus for the last six months has been practically completed, one of the remaining items being a junk sale. This will be held on Thursday, 24th February. The trouble with most junk sales is that everyone wants to sell, but no one to buy. Our two junk sale kings are 4HW and 4JG ('ole Prescorres). Bet they have to hire a "yellow" to take their gear over.

The gang have all been busy lately, working on the new bench for the Xmitter. The Audio Twins and "Bill" Blaikie have been hard at it, and I'll bet it looks F.B. Charlie Stephenson recently let us see the new short-wave receiver which he made for the club, and believe us, it's a fine job. The transmitter has not been on the air much lately, due to pressure of business, bad QRN (not "Queensland Radio News"—No! No!! but static), and whatnot, but during the winter months some DX should be forthcoming, you bet.

The club is getting the speed craze. 4LJ, "The Wild Scotchman," has just invested in a brand new, best-to-goodness, dyed-in-the-wool nix-plus-ultra, five-valve—er—no—Essex car. Bet radio takes a back seat for a while 0M. Tony Thomas is taking interest in motor-cycles. 4FK has got one of those terrible things. Hillary Buchanan—well, you know. Bill

Rohde can side slip on his push-bike in excellent fashion, and last, but not least, George Anderson—well, he's never seen on a motor-bike 'cause he goes too fast!

So, there you have us! We may be a strange crowd, but as you see, we pull well together, and are stronger than ever—but, why? I dunno!

## Toombul Radio Club

The third annual meeting of the Toombul club was held on 1st February, in the club rooms at 4AW's residence, Eton Street and Sandgate Road, Nundah. Mr. Collins presided over an exceptionally large attendance of members who, despite the very threatening nature of the weather, assembled on time.

The reports of the retiring officers showed the organisation to be in a very satisfactory position. The majority of officers were re-elected, and considerable discussion ensued on the appointment of president and it was eventually decided to ask a well known radio engineer to fill the position.

A design for the club badge was submitted by Mr. A. D. Macpherson, and the chairman having stated he had interviewed a manufacturer of such badges and obtained prices, etc., the matter was left in Mr. Collin's hands to secure a number of badges made to the design. Another design handed round for inspection was that of a photographically-reproduced QSL card which was also designed by Mr. Macpherson who, it should be stated, was thanked for his trouble and time for designing both the badge and the card.

The subject of the construction of the club's 240 metre telephony transmitter was brought up, and it was sated in the report of the Technical Committee that a shortage of wire for the transformer was holding up the proceedings. As the wire is expected to arrive shortly, it is hoped that the transmitter will be in operation in a few weeks. The committee also stated that the constructional portion of the work would, in future, be carried out on "off" nights, in order to give members an insight into the practical side of transmission.

On the 5th and 6th February the club held a week-end outing to Woody Point, the first such trip since the middle of October. The club's portable transmitter and two receivers were taken with the luggage, and each and everyone of the party had an extremely enjoyable time.

As stated in last issue 4AW had arranged schedules for five-metre work. In addition to the 11.30 to 11.45 a.m. skeds on Sundays, announced last month, he is also running 4.7 skeds between 7.45 and 8 p.m. on Sunday evenings. Mr. Hubner, another of the gang, has constructed a five-metre receiver and, judging by reports, it has every indication of working satisfactorily.

During a recent test 4AW's five-metre transmissions were heard at a distance of three miles or so, although no antenna system was used at the receiving end.

The stormy weather of the past month or so has caused several club members to readjust their aerial arrangements, in one case the "readjustment" taking the form of erecting another mast.

Meetings of the club are now held on Wednesday evenings, instead of on Tuesdays as previously, and a cordial invitation is extended to anyone interested to visit the club at any time.



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(By Q.R.N.).

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## ARTICLE VI.

In the fifth article of this series we dealt with resistances in straight circuits, and also with various methods of connecting cells to give increased voltage or amperage. It is now time to discuss condensers and capacity.

A condenser, whether of the fixed or the variable type is referred to in terms of its capacity. Now, the capacity of a condenser is a measurement in certain fixed units of its power to store up electrostatic energy and the units are known as **farads**. Any condenser consists essentially of three parts, namely, two conducting surfaces—these may be of any shape and may each or either of them consist of many small individual parts, electrically linked to form one conductor. Thus we have, in the usual variable condenser, two sets of metal surfaces, each consisting of many smaller plates, forming on the one hand the fixed plates, and on the other the moving plates of the condenser. The third essential in any condenser is that the two conducting surfaces referred to shall be separated from each other by an insulating material known as the dielectric. In most variable condensers this dielectric is, of course, air—in most fixed condensers it is either mica sheet or glass, though in many of the fixed condensers used in amateur transmitting circuits, an air dielectric is used, so that when the application of an excessive voltage causes the condenser to flash over—or short-circuit its two sets of plates—the damage done is negligible, and the condenser is fit for further use, whereas such a flash over in a glass or mica dielectric condenser would destroy its value in most cases. There is a type of fixed condenser commonly used in line telegraphy, however, which does not suffer from this defect. This is the self-sealing type, wherein the two conducting surfaces are long sheets of tinfoil separated by a layer of waxed paper. When this insulation breaks down the electric current has a free path from one of the conductors to the other by way of the puncture in the waxed paper. But the passage of this current through the break causes heat to develop at such point. Then the wax on the paper immediately around the puncture melts and flows across the break, restoring the insulation between the two conductors, and thereby repairing the condenser.

Now, to retrace our steps slightly. It was said earlier that the capacity of a condenser was measured in farads. This brings into discussion another unit known as the **coulomb**. A coulomb is a measure of quantity, and in practice, is the amount of electricity made available in a space of one second by an electric current of one ampere. Thus coulombs are represented figuratively by the product of amperes by seconds. Also it is obvious that when a condenser is incorporated in an electric circuit there will be set up a state of stress or strain between the two plates of such condenser. One plate—this word will be used to denote either of the conducting surfaces—will be

charged to a higher potential (see Article V.) than the other, and the voltage difference will tend to break down the insulation between the plates, and so form an unimpeded path for the current. Having thus seen that questions of coulombs and volts enter into consideration, the latter to denote the electromotive force across the terminals of the condenser, and the former to measure the total amount of current supplied to one of the plates of the condenser, we may now attempt to define the unit of capacity—the farad.

A **farad** is the capacity of such condenser as is charged to a potential of one volt by the application of one coulomb of electricity. Think this out, it is not nearly as difficult as it sounds. Symbolically it is represented by the equation  $C \text{ equals } \frac{Q}{E}$

where C is the capacity of the condenser, Q is the charge in coulombs, and E is the applied voltage.

In practice the farad is far too big a unit to be serviceable, and so a smaller unit, the microfarad, or the one-millionth part of the farad is used. Thus in amateur wireless use one finds condensers having capacities of .001 mfd. (usually referred to as 'two-ohs-one-micro-farads), of .0005 mfd, and so on. However, for short-wave work where capacities as low as .000025 mfd. are common, even the one-millionth part of a farad is too large for convenience, and the micro-micro-farad (mmfd.) is used. This name is somewhat cumbersome, however, and a strong movement is beginning to replace it by the term pico-farad. A pico-farad is equivalent to .000,000,000,001 farad, and a condenser of 250 pico-farads is the same as a condenser of .00025 mfd. The capacity of a condenser depends on, firstly, the area of overlap of the two plates (or sets of plates); secondly, upon the number of such plates; thirdly, on the distance between the plates; and fourthly, on the material used as the dielectric. The mathematical value of this dielectric—or dielectric constant as it is called—varies between unity for air and 81 for pure distilled water, which is of course an insulating material. Mica has a value ranging from 5 to 8, glass from 6 to 8; ebonite from 2 to 3, and shellac from 2 to 4. This means that if an air dielectric fixed condenser were to have the spaces between its plates tightly packed with mica sheet the capacity of the condenser would be increased by from 5 to 8 times the original capacity. This is the reason why such dissimilarity in physical size exists between a mica dielectric fixed condenser and an air dielectric condenser of the same capacity.

In practice condensers may be used singly or in series or parallel with other condensers just as was the case with the resistances dealt with in last article. When condensers are linked in series, as in Fig. 1, the total capacity of the arrangement is the reciprocal of

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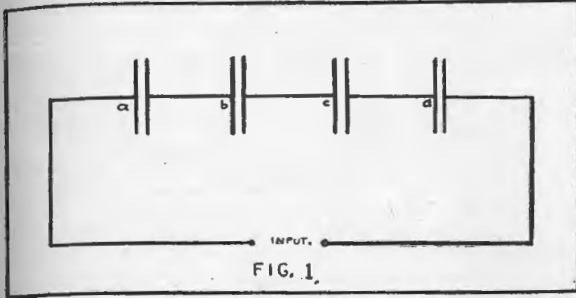
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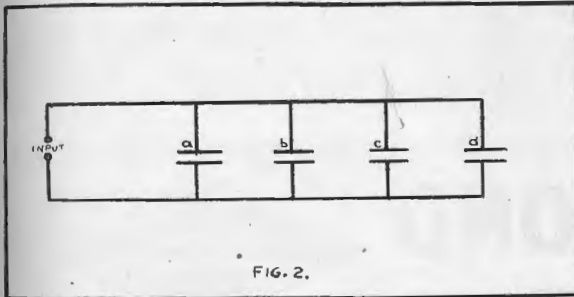
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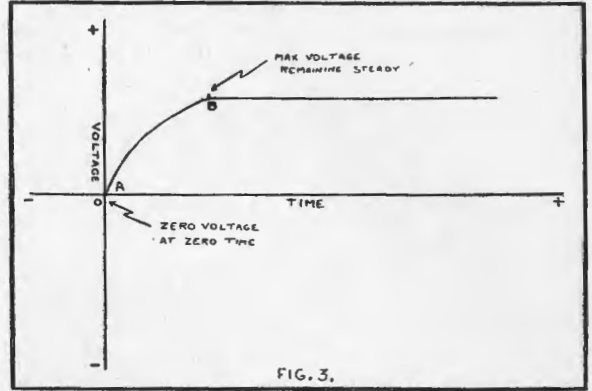
the sum of the reciprocals of the separate capacities. That is to say, suppose the condensers used had individual capacities of a, b, c, d . . . mfd., then the total capacity (C) of the series arrangement would be given by the equation  $\frac{1}{C}$  equals  $\frac{1}{a}$  plus  $\frac{1}{b}$  plus  $\frac{1}{c}$  plus  $\frac{1}{d}$  plus --

In a similar manner an increase in capacity is given by linking several condensers in parallel as in Fig. 2. In this case the total capacity is simply the

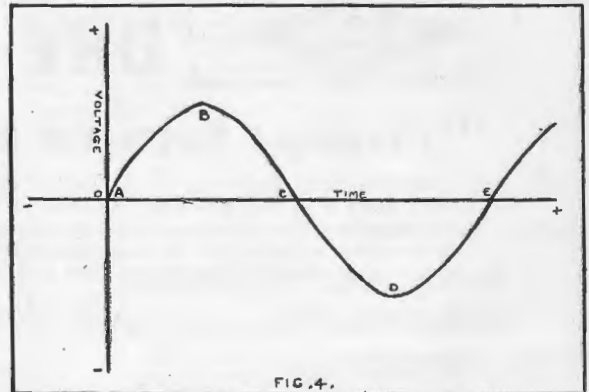


sum of the individual capacities of the several condensers.

The action of condensers in radio circuits is a subject that is not generally understood by amateurs who do not hold their transmitting licenses, and a word here may not be out of place. In a radio set, whether a receiver or a transmitter, there are two types of current. There is the direct current, which is a smooth unidirectional current, as supplied to the plate circuit of the valves. Also there is an alternating current, changing in value many times per second, sometimes flowing in one direction, sometimes in the reverse direction, which is met with in the aerial circuit, say, of a receiver or in the filament circuit of a transmitter. The difference between these currents is shown in Fig. 3 and Fig. 4. Fig. 3 depicts the D.C. or direct current type. In the graph the horizontal value measures time, and the vertical value measures voltage. Thus from Fig. 3, when the current is switched on at A it builds up practically instantaneously from zero voltage at A to maximum voltage at B, and then from time B onwards the voltage does not vary, so long as the circuit remains unbroken. But the position as shown in Fig. 4 is very different for alternating current. Here as before the horizontal line measures time, and the vertical voltage. When the alternating current is switched on at A it rapidly builds up to a



maximum positive voltage, say, at B. Now, however, it does not remain constant at B voltage, but rapidly falls off to zero again at C, and commences to build up to a maximum negative as at D, and then again falls off to zero at E. This goes on continuously, so long as the circuit is unbroken. The vertical distance from the zero line AE to the points B or D is known as the amplitude, the curve from A to C or from C to E is known as an alternation, either positive or negative, and the complete swing from A to E, following the curve is known as a cycle. When one speaks of 50-cycle current or 500-cycle current, one means that so many complete changes of direction and voltage have taken place in the current lines per second. Thus, in these cases the time AE in Fig. 4 represents one-fiftieth or one-five-hundredth part of one second. The number of cycles per second is known as the frequency of the current, and in radioelectric work varies up to a value approaching 300,000,000 cycles. The frequency of a radioelectric impulse transmitted from an aerial on a wave-length of one metre would be a frequency of 300 millions. Similarly, a wave-length of



say, 300 metres would impart a frequency of one million cycles per second to the impulse. The frequency of 4QG's signals, on a 385 metre wave, is about 779,220 cycles per second, and the frequency of the signals of any other station may be very closely calculated by dividing 300 million by the wave-length in metres of the station in question.

Now, having discussed the meaning of cycle and frequency, we may resume our consideration of the

condenser. The opposition to the flow of current that is set up by the insertion of a condenser in the circuit is given by the formula R equals  $\frac{1}{2\pi FC}$

Where P is our old friend "Pi" of value 3.14  
F is the frequency  
C is the capacity of the condenser (in farads)

The term R is known as the reactance of the condenser, and is simply a term to denote resistance to alternating current.

From a consideration of the formula it will be seen that the only variable factor is the frequency. Thus it will be seen that the reactance of a condenser is greatest when the frequency is least. That is to say, a condenser will effectually stop the passage of direct current (frequency zero) or low frequency current, whereas the same condenser will allow high frequencies to pass with ease. This point is of the utmost importance to the transmitting amateur, and should be thoroughly grasped by all who wish to have even a slight knowledge of the working of their sets.

**GRAMOPHONE BROADCASTS.**

**Are Records Popular?**

The question whether gramophone records make good or only second-class subjects for broadcasting is the theme of correspondence between Station 2FC and a number of listeners.

It may not be generally known, but many radio traders like to find a gramophone record on the air when demonstrating the prospective customers, the

reason being that the singer of a record is always a high-class artist, and records are only issued when the execution is just right.

An artist in a broadcasting studio, on the other hand, may chance to go flat or cough or do anything at all, in which case any imperfections are heard instantly hundreds of miles away.

A batch of letters have been received at Station 2FC asking why many of the beautiful records that are regularly played in the daytime programmes are not reproduced at night. On the other hand, other correspondents take the attitude that many of these records should have been dropped out during the day, to be replaced by vocal items.

The rendition of records is not a simple or money-saving matter. Every record that goes on the air costs the broadcasting station 8/ for copyright, and as each record occupies very little time, they build up a tremendous bill every week.

In the selection of records, Mr. Chapplé, the studio accompanist of 2FC, makes a point of seeing the publishers personally, and selects the advance releases most suitable for broadcasting.

The attitude taken by those favouring the more common use of the records is that in this way an opportunity is given to hear reproductions of world famous artists over the air, and they contend that a better selection is thus given for programmes than can be obtained from purely local talent.

We understand that Station 2FC would be glad to receive further expressions of opinion as to whether some of the best of the records should be interpolated during the night sessions.



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- A— 1.5-volt Buzzer, for dull emitter valves, 2/9.
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- C— 4.5-volt "Biaison" 3/3 each.

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The recent floods in the North, in which most of the land telegraph lines were carried away or disorganised, strongly stressed the need for more Amateur radio stations in those districts, for such emergencies. 4BW, Mareeba, near Cairns, was the only ham available and with a temporarily rigged-up outfit, did some very fine work with 4AN, Brisbane. Both these stations were responsible for the clearing of quite a considerable amount of important and urgent traffic between the two points, under unfavourable circumstances, 4BW's sigs. were none too strong and were fading badly yet 4AN held on for several hours and succeeded in making all the messages. Both these men deserve to be highly complimented on these good work.

4RB has been giving the "Remote Control" idea a try out lately and reports having worked Break-in with several Yanks, including 6AKW and 8GZ. He has received four cards from different parts of England reporting reception of his signals at mid-day (in England) as strength R3 to R4. All of the reports check, exactly, with his log, the time being between 10 and 11 p.m. It certainly would be very interesting to know which way the waves travelled in this case.

4MM comes to light now and again with his 201A transmitter. His big set has been out of action for some time owing to the secondary windings of the H.T. transformer burning out. I believe he has nearly finished winding the new secondary pies, having only a few more miles of wire to put on now.

4AZ has improved immensely in the last few months, he is now pumping out a hefty and steady D.C. signal.

4CM is still adding to his collection of H.T. generators. I don't know how many sources of power he has now, but he seems to have something new every night I hear him. His 900 cycle alternator wasn't quite the success we expected as he says it takes ten minutes to start it and a quarter of an hour to stop the dingus.

4MF is a new bird with a rusty R.A.C. note. He always seems to complain loudly of QRM whenever his QRA is asked; maybe he has reason.

Don Kennedy, Ellice Islands, C.P., expects to have a low power Transmitter on the air shortly. Keep an ear open for him.

Heard something like real propaganda on the air the other night. A local ham was QSO with NU-9MO, Chicago. 9MO started—"... weather here cold and snowing. Temperature 15 degrees." Our wag at this end replied—"Weather here warm. Temperature about 80 degrees. Temperature in this part of Australia rarely ever exceeds 95 or falls below 50 degrees the whole year round." (No mention of mosquitoes!) 9MO.—"Gee, boy! must be heaven over there." A little more of this and half of "Yew Us" would be booking passages to Brisbane.

The majority of the Englishmen have returned to their old 42-45 metre band. There are always a good

few on that band in the early Monday mornings. They have been, most likely, restricted use of the 30-33 band owing to likelihood of QRM to traffic between the "Renown" and British Naval (or Postal) authorities, on that QRH.

While on the subject of QRM, it seems as though amateur operation on the 30-40 metre band will shortly be doomed if the Ham interference to commercial signalling is not taken to hand and stopped. There are now numbers of Government and Defence stations down there handling important traffic, and many complaints of amateur interference are periodically being lodged. The majority of these "commercials" have fixed waves, so it is not a very difficult matter to make a note of these on our wavemeter dials and be sure to keep a good distance off them, so as to allow for any wave changes which may happen in any non-stabilised transmitter. Crystal control is not necessary so long as we "keep our distance," and in doing so be sure we are not running our wave on top of some other important bird. If things continue as they are it is a certainty that no Wireless Institute or any other organisation can save us from being "kicked-off" the 30-40 metre band in the same manner as we were, many years ago, on 400 metres. We were the "Columbuses" of course in discovering the merits of short waves, but the ether doesn't belong to us, and public and commercial utility must ever be given priority. It is fallacy to think that any Government will, out of a sort of moral obligation, let us have the use of certain wavebands if some few of our members will persist in making nuisances of themselves. It remains with each one of now, OM, it is not likely that we will be treated unfairly if we act fair ourselves. This brings up one important point worth driving in, and that is:—"Get a good and reliable wavemeter."

The list of intermediates published last month in these notes are now obsolete as, soon after going to press, the November "QST" came out with a completely revised list of all intermediates for the whole world. The old single-letter "breaks" have been cancelled, and double letters are now being used in their stead. The first letter of each combination represents the Continent, and the second the country within that continent. For instance, United States has been changed from "U" to "NU"; the "N" meaning North America, and the "U" United States. The list is a very long one, and most of the readers have, probably, seen it elsewhere. In case there are some who have not seen it, we intend publishing the revised list in our next issue.

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# Latest List of Call Signs of Queensland Amateur Transmitters

- 4AB.—Bardin, W. F., c/o 4QG, Brisbane.  
 4AK.—Milner, J. Picot Estate, Kelvin Grove, Brisbane.  
 4AN.—Gibson, Leighton, Kirkland Ave., Greenslopes, South Brisbane.  
 4AW.—Walz, A., cnr. Eton St. and Sandgate Rd., Nundah, Brisbane.  
 4AZ.—Sharpe, F. V., "Ashton Hall," Old Sandgate Rd., Woolloowin, Brisbane.  
 4BD.—Grimes, Ben, Tarragindi Rd., South Brisbane.  
 4BM.—Milne, A. B., Mackay (dealer).  
 4BN.—Cooling, E. R., Donation Lane, Toowoomba.  
 4BW.—Couper, A., off Lloyd St., Mareeba.  
 4CF.—Fortescue, Lieut.-Col., C. F., "Matlock," Arthur St., Toowoomba.  
 4CG.—Gold, Cliff, Drake St., Hill End, South Brisbane.  
 4CK.—Norris, E. L., "Parkview," Hume-street, Toowoomba.  
 4CM.—McDowall, Dr. Val., Observatory Tower, Brisbane.  
 4CP.—Pinney, C. R., Konedobu, Port Moresby, Papua.  
 4CS.—Geraghty, J. A., Town Hall, Gympie.  
 4CU.—Walker, C., Davenport St., Clifton.  
 4DA.—Eggleton, E., Grenier St., Toowoomba.  
 4DC.—Cribb, D. F., Foxton St., Indooroopilly, Brisbane.  
 4DO.—Hobler, Harold, 8 Lennox St., Rockhampton.  
 4EG.—Gold, E. E., Lindsay St., Toowoomba.  
 4EI.—State Engineer, G.P.O. Brisbane.  
 4ES.—Sagar, G. M., "Crouthalie," Douglas St., Greenslopes, Sth. Brisbane.  
 4FK.—Kenna, Vernon F., "The Laurels," Allen St., Doomben.  
 4GD.—Chilton, G. F., Radio V.I.T., Townsville.  
 4GO.—Oxlade, Geo. jur., Badger Ave., and Irving St., Newmarket, Brisbane.  
 4GR.—Gold Radio Electric Service, ("B" class station).  
 4HB.—Baker, H. E. Gowrie Station, Charleville.  
 4HM.—Millburn, H. L., 10th St., Home Hill.  
 4HR.—Hobler, C. F., Yew St., Barcaldine.  
 4HW.—Walsh, H. D., Dixon Terrace, off Toorak Rd., Hamilton.  
 4JG.—Grant, Colin J., Old Sandgate Rd., Woolloowin, Brisbane.  
 4KR.—Richardson, J. K., Ascot Downs, Barcaldine.  
 4KY.—Coffey, H. F., 6 Oxford St., Doomben, Brisbane.  
 4LC.—Cussack, L. C., Radio Station, Konedobu, Port Moresby, Papua.  
 4LJ.—Feenaghty, Leo J., Dickson St., Woolloowin, Brisbane.  
 4MM.—O'Brien, Matt., Fewings St., Toowong, Brisbane.  
 4PG.—Golden, Pat. J., "Bronte," Pine St., Wynnum South.  
 4PJ.—Jessop, P. F., Kamma, near Edmonton.  
 4QG.—Queensland Radio Service, Brisbane ("A" class station).  
 4RB.—Browne, Bob, "Clifdene," Church St., Toowong, Brisbane.  
 4RG.—Stephenson, Chas. and H., Thorrold St., Woolloowin, Brisbane.  
 4RK.—Knight, R. K., Forest Lodge, Jellicoe St., Toowoomba.  
 4RN.—Queensland Radio Service, Rockhampton ("B" class station).  
 4RP.—Robertson and Provan, Toowoomba (dealer).  
 4SM.—Iken, W. G., Strand Motors, Townsville (dealer).  
 4TC.—Toombul Radio Club, Toombul, Brisbane.  
 4WB.—Bright, W. H., Hume St., North, Toowoomba.  
 4WE.—Vinning, W. E., Toombul.  
 4WF.—Finney, W., "Millbong," Arthur Terrace, Red Hill, Brisbane.  
 4WH.—Hagarty, W. E., Kingfisher St., Longreach.  
 4WI.—W.I.A. (Queensland Division), "Courier" Buildings, Queen St., Brisbane.  
 4WN.—Woolloowin Radio Club (H. A. Jear, Sec.), Willmington St., Woolloowin, Brisbane.  
 4WN.—Walsh, H. D., Dixon Terrace, off Toorak Rd., Hamilton, (dealer).  
 4YN.—Harkin, D. J., R.A.A.F., No. 101 Flight, Bowen.

## Every Listener Should Own—

### **BROADCASTING** By J. W. Robinson.

A history of broadcasting in Australia from its inception. Mr. Robinson, now Director of Station 4QG, Brisbane, has been connected with the movement since it started.

Included in this volume are the three episodes which the author has broadcast from 4QG under the collective title of "The Divine Spark."

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### **THE FARMER GRAY VERSES**

A little book containing all the verses given by Uncle Ben and Uncle Jim from Station 4QG. Get one for your kiddies. We are being inundated with orders from the story-tellers' little friends, and the number printed will not last very long. A post card of the complete Bedtime Session Staff of 4QG is given free with each book. PRICE 6D.; POSTED 7D

### **WIRELESS** By J. W. Robinson and G. Williams.

The best introductory book on the subject. Every owner of a set should read it; it is the most concise and clear exposition of the subject yet presented, and thoroughly explains the operation of sets from the simple crystal to the multi-valve without the use of highly technical terms.

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J.O.L.

# Uncle Ben Among the Sick Children

## A Visit to the Children's Hospital

Friday, February 18th, will live in the memory of the little sufferers in the Children's Hospital, Brisbane, as a day to be long remembered, for it was upon the afternoon of this day that Uncle Ben, of Station 4QG, visited the numerous wards to administer cheer and to distribute, on behalf of "The Queensland Radio News," free copies of his "Book-o'-Fun" to each little inmate.

How do you do, Uncle Ben? How do you do?  
Everyone of us in "Raff" we welcome you.

Although we have our aches and pains  
Our health and strength we'll quickly gain;  
Due to you, Uncle Ben—due to you.

How do you do? How do you do?  
How do you doodle-doodle-doodle-do?  
Oh, our hearts are filled with glee,  
Listening-in to 4QG.

How do you doodle-doodle-doodle-doodle do?

Of course Uncle Ben had to respond with an-  
other verse, which was heartily appreciated.

The Resident Medical Officer (Dr. Patterson) and Matron Sorenson have indured themselves to the hearts of the children, and it could be quickly seen that both Doctor and Matron take a very keen interest in each little patient.

### WIRELESS A WONDERFUL BOON.

In the course of conversation, Doctor Patterson and Matron Sorenson were both emphatic as to the marked effect of radio upon the children. They stated that the bedtime story session was eagerly looked forward to by all the children, while some of the older ones enjoyed the concerts, and even the market reports as well.

The receiver is installed in the executive portion of the building, and a pair of earphones is fitted to each cot-side. In all, there are over 300 head-sets installed and the set is giving every satisfaction.

It is felt that Uncle Ben's visit, and this journal's small effort to make the children's life in hospital a little brighter, was well worth while.



Uncle Ben chatting to a Little Sufferer.

The Prince of Wales could not have been accorded a more sincere or rousing welcome. As Uncle Ben, the Editor of this paper, and a "Standard" photographer made an appearance at the door of each ward, drawn faces turned on snow-white pillows, whilst dozens of "convalescents" peeped shyly around verandah doors.

"Hello, everybody!!" would call Uncle Ben, "and how are all my little sweethearts?"

A timid response would usually follow, and as Uncle Ben moved from bed to bed chatting and distributing "Books-o'-Fun," it was wonderful to see the rays of happiness flitting across sad little faces, as thin, wasted little arms reached up thankfully for the welcome "Book-o'-Fun."

In every ward the same suppressed air of excitement ran high. As the party entered Raff Ward an unseen chorus on the verandah beds lustily sang a "How-do-you-do" verse as welcome to their beloved Uncle. It ran something like this:—



Dr. Patterson, Uncle Ben, Matron Sorenson, and the Editor of "Q.R.N." after the trip through the wards.

# USE YOUR HEAD

Cut Prices, Slander, Hearsay, Habit,  
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TYPE D.V.5.—Takes 5 volts  
at  $\frac{1}{2}$  amp. on filament.

**12/-**

Plate voltages, detector 18-22 $\frac{1}{2}$   
volts.

Plate voltages, amplifier, 60-  
150 volts.



D.V.5.  
Filament 5 volts 25 amp.



D.V.3.  
Filament 3 volts .06 volts.

### De Forest Valves

Type D.V.3.—Takes 3 volts at  
.06 of an amp. on filament,

**13/6**

Plate voltage, 16-22 $\frac{1}{2}$  volts,  
detector.

Plate voltage, 60-120 volts,  
used as an amplifier.

Both Types Fit Standard American Socket.

Factory Representatives:

## INTERNATIONAL RADIO CO. LTD.

200 CASTLEREAGH STREET, SYDNEY.

Queensland Distributors:

HOME RADIO SERVICE LTD. "COURIER" BUILDINGS, BRISBANE.



# Whispers from Maoriland

Parents with small boys should take care that their youngsters are not the possessors of small and unlicensed wireless sets for, in the local Children's Court, a boy was charged with erecting a set at his home without a license. It was stated that the boy made the set himself at a cost of 7s. 6d., and in view of his limited knowledge, the wireless plant was very crude. In order to "earth" the set he had carried a large tin of earth to an upstairs room of his home and placed the wire in it.

A visitor to these shores is Sir William Noble, the famous engineer and wireless broadcasting expert. Sir William was chairman of the committee that inaugurated broadcasting in England, and was appointed a director of the British Broadcasting Company on its formation. Speaking quite recently this gentleman said: "One drawback to broadcasting in Australia and New Zealand is that there is not the variety of programme. London and other English cities have a tremendous advantage over the colonies, due to the fact that all the principal artists of the world come to England, and there is, therefore, a greater field of good talent for broadcasting. Such talent as I heard in Australia, however, was good, but they cannot obtain the same selection as the Mother Country."

Sir William says that broadcasting has had no effect on newspapers, for only a resume of the news was broadcasted, and if there was an important item people who did not buy newspapers in the ordinary course, purchased copies in order to obtain a fuller account. The same thing applied to the stage. If people enjoyed a play or portion of a play over the air, they were anxious to go to the theatre to see the complete thing.

On a recent evening Mr. Prentice spoke from 3YA, giving encouragement to listeners-in in regard to the prospects of broadcasting in New Zealand. He referred to the progress of the new Christchurch station, whose masts, a striking landmark, might serve, he said, as an emblem of the broadcasting company's ambition. He repeated his praise of the equipment at 1YA and 3YA, for which he could find no words so good, and in regard to this his assurance may be readily accepted. He also spoke enthusiastically of the plant to be erected at Wellington. In regard to programmes, which are to a large extent his affair, he was optimistic, and expressed the belief that there is in New Zealand a large reservoir of accomplishment as yet untouched. But on this he expects to be able to draw till New Zealand is provided with broadcast entertainment of a thoroughly satisfactory order. Everybody will be pleased to hear this, and we may be sure that Mr. Prentice will do everything in his power to raise the service to the highest possible standard.

Listeners throughout the Dominion will be pleased to hear that 3YA, Christchurch, which has been operating with a temporary aerial and quarters, will be back "on the air" at 8 p.m. on Friday with the new aerial supported by metal towers. It is hoped that some first-class talent will then figure in the programmes. Lately 3YA has been using a new fading-out device when changing over from the studio to a

relay. The announcer's voice fades out and the relayed music comes in gradually, without the sudden click peculiar to the customary method. 2FC Sydney has been employing the fading-out method for some time past.

An Essex wireless experimenter, Mr. Faymayer, has been in communication with New Zealand for 22 days, enabling an octogenarian, Mrs. Franklin, living at Wickford, to talk daily to her son in Christchurch.

## De Forest Valves Prove Their Mettle

Woronora Dam,  
Via Waterfall  
February 4th, 1927.

International Radio Co.,  
200 Castlereagh Street,  
SYDNEY.

Dear Sirs,

As you are the agents for the De Forest Valves, I think it is only fair that I should write and tell you with what satisfaction I have used your valves.

I have had three in use now for over three years, and have never had to replace them, and they have been in constant use during the whole of that period in four different types of sets, and have given wonderful results, as I have had several of the distant stations including KDKA and all Interstate stations. I can say they have worked on an average (day in and day out) for that period (3 years), 3 hours a day.

I have mentioned this fact to several radio enthusiasts, and they say that I cannot get the valves to do the same now, but I can prove that I have had the same valves without replacement for that time.

Trusting this will help other radio enthusiasts,

Yours respectfully,

L. A. TREVORROW (Sgd.).

## OREGON WIRELESS MASTS

**I**N the use of Masts to carry Wireless Aerials, Rosenfeld's Oregon has proved to be the most serviceable. The Oregon for these masts is specially selected. Call, 'phone 5991, or write to us for further particulars and prices of Wireless Masts.

You can purchase your Masts in one length of Oregon Pine, from 30ft. lengths of 3 x 3, to 80ft. lengths of 6 x 6, also 4 x 4, and 5 x 5 to any length.

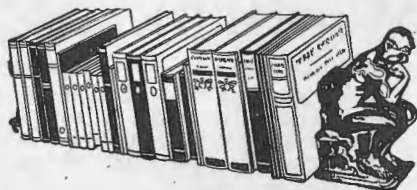
## ROSENFELD & Co. (Qld.) Ltd.

"The Oregon Specialists"

TIMBER MERCHANTS.

Moray Street, New Farm, Brisbane

'Phone C. 5991.



## Bound Volumes

of the

## Queensland Radio News

Vol. II.

This issue is Number 2 of the third volume of this journal. The January issue marked the completion of a splendid volume—filled with valuable information that radio amateurs and listeners will find helpful and interesting reference.

We have a limited supply of Volume II., beautifully bound in full-cloth stiff covers and gold-lettered on the back. These we are offering to our readers at the low price of 9s. 6d. post free—or just 3s. above the cost of the papers. If you have the twelve last issues complete you may have them bound up in the same manner for 6s. 6d. post free if you forward the issues on to us.

**Secure your volume or have your own copies bound up right away. It is the only way to preserve and keep your copies intact.**

### Complete Bound Volumes

Comprises 12 issues of "Queensland Radio News," from February, 1926, to January, 1927, attractively bound in full-cloth stiff covers with gold titling.

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Post us your issues of Vol. I. or II. and we will bind them in the same style as detailed above, for

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## Queensland Radio News

Box 1095N

G.P.O., BRISBANE



## "TOM ELLIOTT"

THE PIONEER OF BROADCASTING IN QUEENSLAND.

Many years ago, long before the Government Station commenced activities, Tom Elliott kept the early-day radio public entertained from Station 4CM, which functioned first on 800 metres, and then on 300 metres. The whole of the apparatus was designed and constructed by Tom Elliott, and situated at Preston House, Brisbane.

During the years of Broadcasting from 4CM Tom put over many stunts. He broadcasted the Alladin Pantomime, which was playing at His Majesty's Theatre, this being the first outside show to be broadcasted.

Many concerts were relayed from the Exhibition Hall, and in 1924 a speech given by the Premier of Queensland was broadcasted and heard all over the State by those possessing receivers. This feat is said to have first interested the Queensland Government in broadcasting which ultimately lead to the erection of Station 4QG.

After 4QG commenced broadcasting Tom then interested himself in short waves, and on a 35-metre wave-length, communicated with the whole world, including the North Pole expedition. This is considered to be one of the best distance records yet attained by amateur radio.

At present Mr. Elliott is attached to WIRELESS CENTRE, and there he designed what is known as the "ELLIOTT 3" receiver.

Experimenters have come and gone, but it seems as if Tom Elliott goes on forever.

# The Royal Commission

## Mr. J. W. Robinson Returns from First Sitting

The Royal Commission which has been appointed by the Federal Government to inquire into wireless conditions generally in Australia, held its first sitting recently in Melbourne.

The sitting was much in the nature of a formal meeting, the various parties interested introducing themselves. An adjournment was then made until March 8th, when the real work will commence.

At the first sitting the chairman announced that the Commission would deal with the following matters:—

- (1) Broadcasting station finances
- (2) Available revenue and distribution thereof.
- (3) License fees
- (4) Copyright and patent royalties
- (5) Programmes
- (6) Scientific research and schemes of education
- (7) Land and coastal wireless stations
- (8) Weather forecasts
- (9) Country districts and relay stations
- (10) Defence, naval, military and air
- (11) Police, town and country
- (12) Fire prevention
- (13) Lighthouses and radio beacons
- (14) Present control and future development of wireless.

Those present at the commission represented various broadcasting stations, wireless companies and wireless traders.

Station 4QG was represented in Melbourne by Mr. J. W. Robinson, Director of the Queensland Radio Service, who made a hurried trip to Melbourne to attend the sittings of the conference.

On his return Mr. Robinson was questioned by a representative of the "Radio News" regarding what took place at the sitting.

"There is very little to say about," he remarked in reply. It was a formal sitting, and everybody seemed to just be trying to find out who everybody else was. The main business and the most important portion of the sitting was the announcement by the chairman regarding the points which the commission would consider, and which you have doubtless secured for publication in this issue. (These points are set out above. Editor.) Mr. Robinson was then asked what conditions regarding wireless were like in the southern States.

"Wireless in Victoria," he said, "is in a very thriving condition. A very, very large number of licenses have been taken out, and the radio trade seems to be very healthy. The population of Victoria is much larger than that of Queensland and the majority of the inhabitants are grouped quite close to the broadcasting stations. This fact combined with the fact that 3LO has done its utmost to give a very excellent service has, in my opinion, made for the rapid development of the movement in Victoria.

One of the most striking features of wireless in Melbourne is the huge number of radio shops in existence. Radio shops are scattered around the city profusely and it is impossible to visit even a small suburb without seeing at least one radio shop. In some of the larger suburbs five and even six radio traders may be seen in one street. In most cases these traders combine with their wireless business either a music store or an electrical shop and so manage to build up quite a fair business. The radio trade seems to be exceptionally well organised and with so large a number of shops the public is well catered for. Many of the city shops seem to be specialising in what one might call "luxury lines," for instance I noticed one big radio store making a feature of a very neat electrical clock. To this clock the set is plugged. The clock is then set to whatever time the owner desires to listen in and when that hour is reached the clock switches on to the set. This and other "luxury lines" seem to be featured by many stores.

The question of patent royalties is occupying the minds of everybody in Victoria at present, but as the matter is now sub judice very little can be said about it publicly.

"In New South Wales radio is going ahead very rapidly and both "A" class stations are giving excellent services. A great deal of interference by "B" class stations is reported and in certain parts the cancellation of a number of licenses has, I was informed, occurred through it"

In conclusion Mr. Robinson remarked that although the populations of the southern states were larger than that of Queensland and consequently the number of licenses in force was larger, there was certainly just as much enthusiasm in Queensland in connection with wireless as in New South Wales. Mr. Robinson also added that he had been shown over 3LO's new studios and that one could not leave them without realising that the station was doing its best to pursue a progressive policy.

### ON WEDNESDAY EVENINGS

If you are a wireless enthusiast you'll want to know all about the Morse Code. You'll then be able to understand those wonderful dot and dash messages from the ships.

### LEARN MORSE

Mr. H. L. Miller, the well-known wireless expert, conducts our Morse Class every Wednesday night. Whether you are a beginner or whether you already have a working knowledge of Morse, you'll find the course most interesting, instructive and helpful.

Get Particulars.

UNDERWOOD BUSINESS COLLEGE.  
452 Queen Street, (Opp. Customs House).



There are  
More  
"Ever-Ready"  
Radio  
Batteries

Used in Australia  
than any other  
make.

**WHY?**

Because of -

Greater Value  
Better Quality  
Longer Life

"They're Cheaper because they're Australian"

**SOLD BY ALL DEALERS**

Wholesale Distributors

**Edison Swan Electric Company Limited**  
156 Creek St. Brisbane

## March Programmes from 4QG

Commencing from March the programmes which are to be provided by Station 4QG have been arranged in such a manner as to attempt to give "something different" every night.

On **March 1** the first portion of the programme will comprise a pianoforte recital from the studio of Mr. Eric John, and the second portion will comprise a studio programme featuring a one-act play which has been arranged by Miss Nell Douglas Graham.

On **March 2** an ordinary studio programme will be given.

A detour will be made from ordinary routine on **March 3**, when microphones will be installed in the "Ford" factory at Eagle Farm, and a full description of how motor cars are assembled will be given.

Popular artists will unite in the provision of a studio programme on **March 4**, and on Saturday **March 5**, the usual Speedway descriptions will be broadcast.

On **March 7** a recital by Mr. George Sampson, F.R.C.O., City Organist, will be relayed from St. John's Anglican Cathedral.

Mr. A. N. Falk has organised a musical party which will give a varied popular programme on **March 8**, and on **March 9** popular studio artists will provide an entertainment at 4QG.

The Lyric Entertainers will broadcast the full evening's programme on **March 11**.

On **March 14** Mr. Erich John has organised a special entertainment, which will occupy the whole evening, and will be provided in 4QG's studios.

**March 17**, St. Patrick's night, will be given over entirely to Irish music.

On **March 21** Olsen & Goodchap's concert will be relayed from Woolloongabba, and on Tuesday, **March 22**, the Sandgate Methodist Choir, which has already provided several excellent recitals from 4QG, will provide a full evening's programme.

A one-act play will be broadcast from the studio on **March 23**.

The inter-secondary schools' swimming carnival will be relayed from the Booroodabin Baths on **March 24**, and on **March 25** the Ipswich City Orchestra will provide an entertainment which will be relayed from Ipswich.

A very fine programme will be given on Saturday **March 26**, by the Ipswich Bowling Club, and will be relayed from Ipswich.

On **March 29** Mr. W. Donald has arranged an entertainment in his own home at West End, and those who remember his New Year's Eve entertainment will doubtless look forward to the coming concert.

A new party of artists, the Curlew Troubadors, under the leadership of Mr. Reg. Yorsten, will supply the evening programme from 4QG on **March 31**.

A matter of exceptional interest to music lovers is the decision of the Workers' Educational Association to hold its Chamber Music Classes this coming season, in 4QG instead of its own rooms. These classes will be conducted by Mr. Geo. Sampson, F.R.C.O., and while being held at 4QG, will be broadcast, so that distant listeners may obtain benefit from them.

## 4QG Bed-time Story-tellers

### Free Photographs

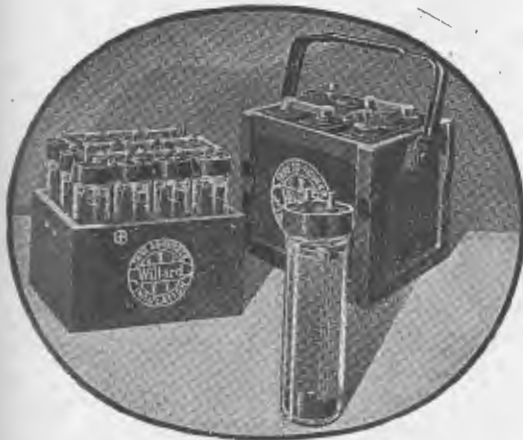
This is a copy of a free post-card included with each Farmer Gray Verse Book, published by Uncles Ben and Jim, of Station 4QG, Brisbane.

Send 7d. in stamps to Station 4QG, or direct to the distributors: A. McLeod, Elizabeth St., for a copy of the verse book, and free photograph.



Back (left to right): Uncle Ben, The Sandman, Miss Waratah, The Professor, Uncle Jim.  
Front: Bunty, Miss Brisbane, Bebe

## Why You Should Instal a WILLARD Radio Battery



Because a Willard will give greater power for the longest time. The only attention Willards need is an occasional water refilling—they do their work day in—day out in true "Willard" fashion.

Made in "A" and "B" types especially for radio work.

**Motor Supplies Ltd.**  
Adelaide St., Petries Bight  
Brisbane.

# Radio Requisites Renowned for Reliability

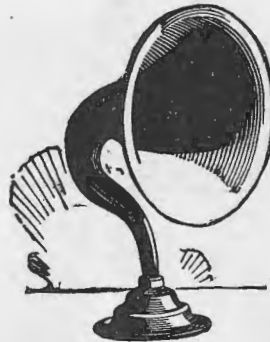
## Matched Tone Headphones



British Manufacture (B.B.O. stamped).

All Brandes products carry our official money-back guarantee, enabling you to return them within 10 days if dissatisfied. This really means a free trial.

## BRANDES Table Talker



A most attractive and efficient loud speaker, and the greatest value in loud speakers at the price.

The goose-neck horn gives fuller and clearer tones, and the patented material of which it is constructed eliminates all harshness and metallic resonance.

Absolutely reliable under all conditions.

45/-

## TWO NEW BRANDES PRODUCTS

### Gable Cone

Built in the shape of a prism, this new loud speaker combines grace with efficiency.

Containing the Brandes Patented Cone Speaker, and built of highly-polished mahogany, it is a valuable addition to any receiving set.

PRICE: £4

### Elipticone

This loud speaker is a handsome, polished mahogany cabinet, containing the Brandes Patented Cone Speaker.

Standing nearly fifteen inches high, and built on Gothic lines with Fleur-de-Lys cut out, decorative front, it is a most striking piece of furniture as well as a highly efficient instrument. Come in and see it.

PRICE: £8

## World Famous "De Forest" Valves

The latest products of "The Father of Radio" far surpass last year's models in efficiency. We stock the following types of De Forest valves: DV5, DV7, DV3, DL5 and DL7.

We shall be glad to give full information about these valves on request.

## Radion Panels

This new insulator has been tested and proved to be unsurpassed for building radio receiving sets. It is easily drilled and cut, and will be found invaluable to all radio enthusiasts who build their own sets or do experimental work.

# HOME RADIO SERVICE LTD.

Courier Building, Queen Street, Brisbane

Phone 6143

Telegrams "Homrad"

Queensland Distributors of  
Brandes, 'De Forest, Spitfire, Condor and other Superior Radio Accessories

# The Children's Corner

## A Letter from Uncle Jim

Dear Boys and Girls,—

First of all I want to thank you for the many nice letters I have received. And my! the wonderful drawings of Tony that have reached the Editor. Some were really good; others were very funny, and some—well, I could hardly recognise Tony.

But I am overjoyed to think that my little friends took such a keen interest in the competition. We looked at every one thoroughly before we finally decided which should take the prize, and I tell you, we had many a laugh.

The "Funniest Sketch" Section was by far the hardest to judge—so good were the entries received.

I offer my sincere congratulations to the two prize-winners—and I feel a little ashamed that a little boy should not have won at least one of the prizes. I am beginning to think that the girls are, after all, more clever than the boys.

The photos of the prize-winners are reproduced on this page, together with the winning sketches. A prize of 7s. 6d. will be forwarded to each of these little gurlies.

The second best drawings were so good that we have decided to publish them in our next issue, and offer a consolation prize of 4s. each. So, if you did not win the first prize, you may still have a chance of winning the second.

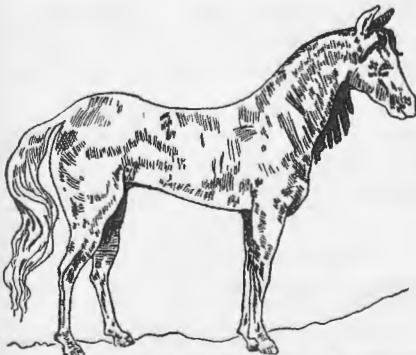
No; I'm not going to tell you who won the second prizes. You must wait until next issue to find that out.

Well, good-bye, boys and girls. Thank you for making such a great interest in the competition.

Yours truly,

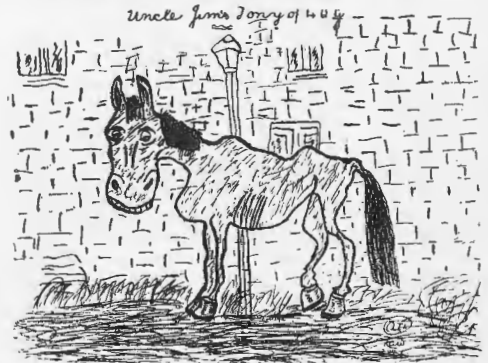
UNCLE JIM.

## The Best Sketch of Tony



Drawn by EMMIE BEHRENDT, of Sunnybank, S.C. Line (aged 14 years).

## The Funniest Sketch of Tony



Drawn by ALMA UHLMANN, Thorne Street, Wynnum (aged 11 years).

## The Prize-Winners



MISS EMMIE BEHRENDT,

Who won first prize in the "Best Sketch" Section. A prize of 7s. 6d. will be sent this clever little lady.



MISS ALMA UHLMANN,

Who received first prize in the "Funniest Sketch" Section. Alma will also receive her prize of 7s. 6d.

## UNCLE BEN'S VERSE COMPETITION.

The prize for the best verse submitted was awarded to Mrs. Conroy, of Cairns, and the prize for the best song title was given to Mr. T. D. Williams, of Ballarat, Victoria, who suggested, "Uncle Ben's Sunshine Song." Owing to the difficult metre of the verses, this song has now been discontinued by Uncle Ben.

## BUY THE FARMER GRAY VERSE BOOK

(Published by Uncles Ben and Jim, of 40G.) FREE PHOTO POST CARD of Bedtime Story-tellers with each Book.

Price 6d., or 7d. Posted.

Obtainable from "The RADIO NEWS" OFFICE, Box 1095, G.P.O., Brisbane.

**BOOK REVIEW.**

We have received from Amplion (Australasia), Ltd., a copy of their publication No. 4.C.201, featuring the well-known Amplion Carboncel batteries. This is a booklet of 16 pages, through which are run splendid illustrations of the various types of Carboncel, wet and dry batteries, which are now being extensively marketed in Australia by this company. On the front cover appear illustrations of the Carboncel wet battery No. 222, and and dry battery No. 505.

Glancing through the pages of this nicely printed book, we find featured such batteries as No. 229, No. 640, which is a high tension dry battery, Carboncel No. 270, a small type of high tension wet battery, and many other types. On page 3 appears a full list of the wet type of Carboncels, featuring the size overall, weight, sal-ammoniac charge, internal resistance, normal output, and the capacity in ampere hours.

On page 4 a similar table outlines the features of the various types of Carboncel dry batteries. Full instructions are printed for the use of the wet Carboncels, and on page 5 a table showing the volts main-

tained at varying discharge rates will prove extremely useful to the user or the prospective user of this popular type of battery.

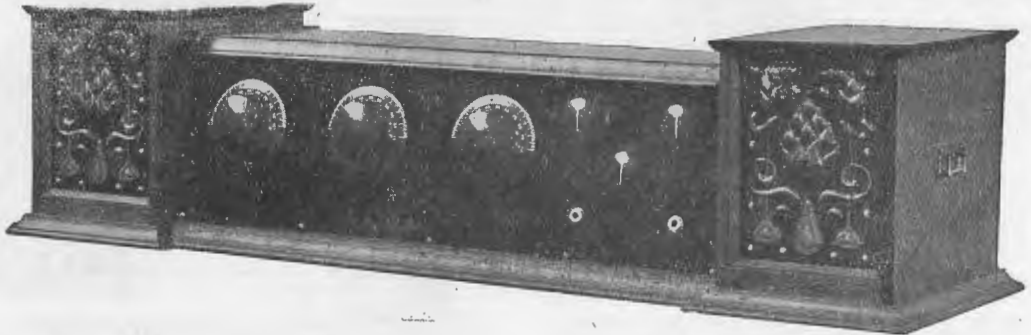
The Carboncel high tension "B" batteries are composed of units made on the air depolizer principle, and page 14 of the booklet contains a great deal of good reading matter concerning these.

On page 15 are shown some tables giving comparative tests of Carboncels as tested by such big concerns as the Metropolitan Railway, London, and the General Post Office, London.

Page 15 features a comparison showing the cost of operating the No. 222 Carboncel battery as against that of the average accumulator, and on this page also appears a table showing the discharge rates and other particulars.

It would be impossible to cover in this brief paragraph the full details contained in this valuable booklet, but considering the rising popularity of this type of battery, it is needless to say that the book will be a valuable adjunct to the literature of every wireless enthusiast.

**BRITISH AND AUSTRALIAN WIRELESS COMPANY**



**B. & A. W. 5 Valve Neutrodyne**

*(Illustrated above)*

Gives you REAL selectivity. Cuts out 4QG at one mile, and brings in 2FC, 2BL and 3LO at loud-speaker volume. No wave-trap necessary.

(Under actual test at Glass House Mountain—50 miles from Brisbane—4QG was heard at amazing loud-speaker strength, using no aerial or earth.)

Not only is it a super receiver, but it is a beautiful set. The silky-oak cabinet is beautifully embossed and panelled with a raised dias at each end.

**Price £60**

Complete with all accessories, including 6V. C.A.V. Battery, and own choice loud speaker up to £7, installed free within 20 miles of Brisbane.

**B. & A.W. CRYSTAL SETS WITH AMPLIFIER.**

Will receive 4QG at loud speaker strength within 15 miles, and southern stations at good headphone strength.

**W. B. MARSHALL**

"Isedale,"

Carrington Street, Rosalie,

**B. & A.W. VALVE SETS**

- 1-Valve, from ..... £6
- 2-Valve, from ..... £13
- 3-Valve, from ..... £19
- 4-Valve, from ..... £37/10/
- 5-Valve, from ..... £50
- 5-Valve Neutrodyne, from ..... £60

These receivers are designed for selectivity and tonal beauty. Only best quality parts used. They embody new features, new ideas that are making them immensely popular wherever they are installed.

Do not buy inferior receivers when you can secure "B. & A.W." **Guaranteed Receivers** for the same money.

Inspections Arranged.

**JOHN HICKS & CO. LTD.**

(Agents for B. and A.W. Receivers),  
George St. (Phone C3705), BRISBANE.

OR



# The Way to True Radio Reproduction

In a recently issue booklet, the Ferranti Transformer Company very truly say:—

Good reception is entirely dependent upon the correct functioning of each component in a radio receiving set, and yet, it is true to say, that many enthusiasts completely spoil reception, either by the use of poor components, or through inexperience in the correct method of connecting and using the sets they have constructed.

Radio, to-day, has become an essential feature of the home; it is no longer a luxury, but a necessity. Improvements in components, together with a clearer conception of the precautions necessary in construction of the receiver, and in the use of most suitable parts, will enable the listener to convert the waves broadcast through the ether, into speech and music which bears such a close resemblance to that transmitted from the studio that the reproduction approaches perfection.

As an aid to constructors, this article has been compiled, and the information it contains has been divided into two parts, namely:—

## PART I.

For the constructor who is not concerned with the why and wherefore of circuit operations, but desires definite recommendations as to circuits and to the valves he requires to use.

## PART II.

This includes information for the constructor who desires explanations for the recommendations detailed.

## PART I.

Lengthy and varied experience in connection with the troubles which constructors encounter leads us to emphasise the following points as most important.

- (a) **The last valve must be one of the specified power valves.** Always use the high tension voltages specified (especially on the last two valves). The high tension battery should be checked at regular intervals to verify the rated voltage, as a common source of distortion is due to the high tension battery (H.T.) running down.
- (b) **Check the low tension (L.T.) at intervals,** as it is impossible to expect a 1.8 to 2.0 volts valve to work properly when filament voltage (L.T.) is 1.6 or less.

**Do not let the L.T. accumulator decrease below 1.2 volts per cell before charging.** It is important to note that the leads from the L.T. accumulator to the valves cause a fall in voltage, and therefore the largest section of wire wire possible should be used in all cases, particularly where long leads are employed.

- (c) **Always use the grid bias specified** in the diagrams or tables. Occasionally check the voltage of the grid bias battery as this has a tendency to decrease in value.

- (d) **Fit the fixed condensers** across the H.T. batteries as close to the valve holders as possible.
- (e) **When wiring, follow the general principle** that the energy from the aerial must enter at one end of the set, and the energy to the loud speaker must leave at the other end, i.e., "aerial" and "earth" terminals at one end of the set, and "loud speaker" terminals at the other.

**Do not bring wires back except where unavoidable.** Arrange the components of the set so that the wiring will be continuous from one end of the set to the other. Care must be taken that wires external to the set, and connected to the loud speaker, are never brought over the set, or near the aerial, as this arrangement will often cause a whistle in the reception.

- (f) **Avoid the temptation to fit a switch to cut out a valve.** It is possible to fit such a switch so as to cause little or no trouble, though it is not easy, and it usually introduces back coupling; If the local station is received too strongly, loosen the coupling between the aerial coil and secondary coil (if coupled coils are used), or detune the condenser a little. **Do not reduce the current through the filament circuit to weaken the signal, as this produces distortion.**
- (g) **Use good antimicrophonic valve holders,** especially for the detector valve, otherwise if the loud speaker is placed in the same room as the set, the sound waves striking the valve set the filament in vibration and so build up a very loud note which spoils reception. Some valves are much more microphonic than others, and when such valves are used (even in antimicrophonic holders) they will cause a howl when the loud speaker is in the same room as the set. This can usually be overcome by changing the position of the loud speaker in relation to the set.
- (h) **The grid leak is a common source of trouble,** and when faulty, causes distortion and a decrease in volume. Trouble can be avoided by only using grid leaks made by reputable manufacturers. If doubt exists, with regard to the grid leak, try a new one.
- (i) **Do not overload the last valve.** This is a very common fault.

Serious distortion is caused by overloading the last valve. This does not necessarily mean that either the H.T. or L.T. is excessive, but that speech or music is harsh or husky.

A power valve can only handle the signal for which it has been designed, in the same as an inkwell can only contain a maximum amount of ink. In the latter instance, a further supply of ink will overflow and spoil the table, while in the former when the maximum permissible signal is increased, the valve becomes

overloaded and speech or music is distorted or spoiled.

An ordinary power valve allows of sufficient volume for the ordinary room, and where great volume is required a larger type must be used.

When two por transformers are taken out of a set and two Ferranti Type AF3 are inserted, the volume may be increased to such an extent as to overload the last valve, unless detuning of the condenser or loosening of the coupling is resorted to.

Increased volume is not required without maintaining or improving the tonal quality, which can only be obtained by the proper amplification of both low and high notes. Nearly perfect reception is obtained by using the Ferranti Type AF3 transformer, and if the volume is not sufficient another type of power valve must be used. In those cases where large power valves are fitted, an accumulator must be used for the high tension, as the large plate current would soon drain dry batteries.

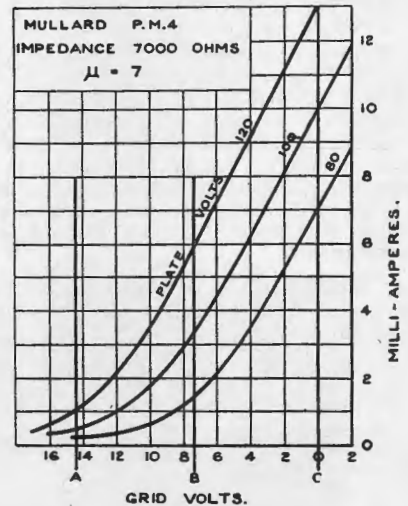
- (j) **Overloading of valves can be detected** by placing a suitable milliammeter in series with the loud speaker; that is, instead of connecting one of the loud speaker terminals on the set direct to the loud speaker, connect it to one terminal of the milliammeter and connect the other terminal of the milliammeter to the loud speaker. When speech or music is not being received, the milliammeter gives a certain reading; when music or speech is being received, the reading on the milliammeter should still be the same, and even during loud passages of music or speech the needle should be steady. **Any appreciable movement of the needle indicates overloading and distortion.** Very loud speech or music will cause the needle to move considerably. Internal oscillation due to too much reaction also deflects the needle from the original position, and can be distinguished because of the displacement of the needle, which moves off with a jerk as the set bursts into oscillation, and then the needle remains steady in the new position as long as oscillation continues. A milliammeter is a good indicator of oscillation.
- (k) **Use as little reaction as possible; better still, use none.** The use of too much reaction, even though the set may not oscillate, causes hollowness or drumminess in speech and in music.
- (l) **A small speaker cannot give large volume without distortion.** Pure undistorted music cannot be received from a perfect set if the loud speaker is forced, and care should be taken not to overload the loud speaker, especially when using a large power valve in the last stage.

## PART II.

### VALVES IN AMPLIFIERS. PROPERTIES AND CONDITIONS OF USE.

The last valve must be a power valve and be capable of taking a  $3\frac{1}{2}$  (R.M.S.) volt signal on its grid without distortion. A signal of 3 to 4 volts (R.M.S.) across the grid to filament of the last valve is neces-

sary if satisfactory loud speaker volume is to be obtained. This mean voltage corresponds to a variation from  $8\frac{1}{2}$  to 12 volts on the grid and the straight part of the characteristic curve must be used for this variation of the grid voltage, and must be wholly in the negative zone with the use of reasonable high tension. One hundred and twenty volts is considered the limit for ordinary use. The mean potential of the grid as fixed by the grid bias battery must be such as to be approximately in the middle of the straight part of the characteristic curve of the valve.



Consider the curve for plate voltage 120. The straight part of the curve which lies wholly in the region of negative grid voltage is marked A.B.C. When speech or music is received, the signal on the grid which is an alternating voltage of varying frequency, should never be more negative than indicated by point A, and never reach beyond point C into the positive grid region; under these conditions there is no distortion due to the valve. This is shown by the steadiness of the needle of a milliammeter in the plate circuit. To accomplish this, the grid must be maintained at an average voltage of  $\frac{1}{2}$  A to C—that is, at the point B—by means of the grid voltage, in this case, of about minus  $7\frac{1}{2}$  volts, when the maximum signal would have a R.M.S. value of  $12/28$  which equals 5 volts. Now assume the H.T. battery has run down to 80 volts, and the grid is supposed to be still maintained at  $7\frac{1}{2}$  mean negative voltage. From the characteristic curve of the valve shown, it will be seen that when the signal is received the positive half of the vibration is fully amplified, but the negative half ranges into the curve portion BA, and is hardly amplified. There is, in consequence, rectification and serious distortion. When the battery has run down to 80 volts, purer results would be obtained if the grid bias were reduced to minus 4 volts, but in consequence the reception would not be as loud as before.

Lastly, the impedance of the last valve must be reasonably low, so that the loud speaker (always of low impedance at a frequency of 100 periods) has an opportunity of reproducing the low frequency

Note.—The term R.M.S. means Root Mean Square. This is the virtual or effective value of an alternating current or voltage.

**The last but one valve should not be a power valve, because it is not necessary.** If the last valve can only take a signal across the grid to filament of 3 volts (or, if a special valve is used, 6 volts), then, if the transformer and valve amplify 33 times, the voltage across the grid of the preceding valve will only have to be  $3/33$ , which equals  $1/11$ , or ( $6/33$  equals  $1/5\frac{1}{2}$ ) of a volt, and any ordinary valve will take more than this without distortion.

**The last but one valve should not be a power valve, because a power valve in this stage can cause distortion,** as it has a very large plate current independent of the signal. This plate current passing through the large number of turns in the primary of a good transformer overloads the iron core magnetically, with consequent distortion when the signal is applied. For Ferranti "AF3" Transformers, choose a valve with an impedance as low as possible, and not greater than 10,000 ohms, with the maximum amplification factor, and the plate current not exceeding  $3\frac{1}{2}$  milli-amperes, for beyond this current the iron core is overloaded magnetically, and there is a risk of distortion.

**The detector valve must not be a power valve.** The above arguments and conditions apply equally to detector valves.

## Notes from 4QG

Lectures of interest to the farming community are broadcast by 4QG each night, from Monday to Friday inclusive, between 7.15 and 7.30 p.m. Prominent men connected with the various branches of agriculture and stock raising deliver these addresses from the studio of 4QG. Within the next two weeks, Professor Goddard, of the University of Queensland, will commence a series on "The Science of Animal Breeding"; Mr. E. J. Shelton, Instructor in Pig Raising, will continue a series on "The Commerce of the Pig"; and Mr. W. G. Brown, Instructor in Sheep and Wool, "Talks on Sheep."

Lectures that should command the interest of city dwellers as well as farmers are—"The Milk Supply of the City of New York," by Mr. J. Murray, Principal of Gatton College"; and "Our Meat Supply—Past and Present," by Mr. H. G. Cheeseman, Senior Inspector of Slaughter-houses. Mr. McMillan, Plant Breeder at Gatton College, and Mr. C. Kidd, Hon. Secretary N.U.P.B.A., will talk on "The Maize Plant" and "Poultry" respectively.

4QG, ever since its inception, has displayed a keen interest in the problems of the man on the land, and realising the importance of wireless to those sturdy men and women of the outback, a good portion of air space has been allotted in catering for the rural listeners-in. Every farmer should have a wireless set.



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Aristocrat of Headphones  
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Very sensitive, weight only 4½oz., will not twist or tangle on the head, exceedingly comfortable to use. In Black, Green or Mahogany.

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The "GREEN CROSS" 4000 ohms—equal to any Phone costing double the money.

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A "Synthite" Crystal in your set ends all worries. It ensures loud crystal-clear reception at all times. No other crystal can equal Synthite's performance, and especially good results are obtained if you

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Price **1/6** Each

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## Crystal Set Lovers

### RADIO CRYSTAL SET COMPETITION.

Listen to the results, up-to-date, of this very interesting and popular competition run by The Globe Radio Department. The judges are Mr. Flannagan and Mrs. Watson; also a large number of interested spectators.

First heat was won by W. F. Kilborn, Jellicote Street, Coorparoo.

Second heat was won by F. Barnby, Huesler Terrace, Milton.

Third heat was won by C. Haynes, Durhams Street, St. Lucia.

Fourth heat was won by B. Sanger, 4th Avenue, Coorparoo.

Fifth heat was won by J. Thomas, Bardsley Avenue Greenslopes.

The other heats will be judged every Tuesday and Friday afternoon. You are cordially invited to come and see and hear the sets being judged at the Radio Department, The Globe Furnishing Co., Stanley Street.

After examining some hundreds of sets the "Globe" expert is in a position to give some very interesting advice on crystal set building. This advice is tendered free. He claims now to know more about crystals, tone, purity and volume than any other dealer in Brisbane. Also his knowledge of circuits makes it well worth your while to call at the "Globe" and hear what he has to say.

The Globe Furnishing Co., the instigator of this popular competition, are the sole agents for the Happyman Radio goods. The Happyman 3-Valve Sets is sold complete with all accessories, and ready to listen in, for from £13/10/. This set is guaranteed to operate on the big southern stations, and by using wave-trap (under any conditions) Brisbane can be cut out and these stations brought in. Let us show you how to use your crystal set in conjunction with a Happyman 3-Valve Set, and get wonderful results.

This set is sold on "Happyman" easy terms—£2 deposit and 5/ per week. However, do not think that because this set is so reasonably priced that you cannot obtain higher-priced sets from us. The "Globe" sell every known make of radio sets imported into Australia for cash or easy terms.

Remember, for Radio—

**THE GLOBE FURNISHING COMPANY**  
Stanley St. (near Clarence Corner),  
SOUTH BRISBANE.\*

# Notes from 2GB

Professor Ernest Wood, 2GB's popular lecturer, who has been giving a series of lectures in New Zealand, will, during February, carry on his interesting addresses. Professor Wood has travelled extensively throughout India, England and America, and his addresses have proved quite an attractive feature of 2GB.

## 2GB'S QUARTETTE.

Mr. Clement Hosking has provided 2GB with an exceptionally fine quartette, the artists being Margaret Stet, Eva Croft, Thomas Hall and Clement Hosking. His quartette is known as the 2GB Quartette, and will sing every Monday evening. Mr. Hosking has also trained a vocal trio for the Theosophical station. These two groups do splendid work, and listeners look forward to their songs.

## OPERATIC SELECTIONS.

Among other interesting topics to be broadcast from 2GB are selections from the operas. Miss Hilda Boyle, Mr. William Green and Mr. E. B. Butterworth are the artists. Miss Hilda Boyle, who is so popular in the singing world of N.S.W., has been taking the part of the leading singer in these operatic numbers. Miss Boyle has a beautiful lyric soprano which is a delight to hear. Mr. William Green made his first appearance in public from the studio of Madam Emily Marks in 1924. At present he is studying oratorio with Joseph Bradley at the Conservatorium, and is also studying opera with Maestro Fassati.

2GB's motto is "Service." Nothing is too much trouble on the part of the staff to assist listeners-in. Miss Gowland is in charge of the correspondence department, and is ready to copy poems, hints, or special facts for listeners who send a stamped envelope.

## A Famous Composer

On a summer morning, not so long ago, a composer of world renown, rubbing shoulders with the cosmopolitan crowd that goes to make up Sydney's workers, gained a keenly-contested seat on the ferry, and with a relieved sigh, opened his newspaper.

The first thing to meet his eye was 2FC's programme, and with surprise and delight he noticed one of his own songs. He had given the manuscript of his particular number to the publisher before he left England, and had never even seen a printed copy.

In the studio that night he introduced himself to Miss Dorothy Ewbank, whose voice has so often delighted 2FC listeners, and whistled the opening bars of the song. "I wrote it," he said simply; "I am Maurice Besley."

Simple announcement indeed, yet awe-inspiring to a less accomplished artist!

In the ranks of the younger musicians of the day, Maurice Besley may be said to hold a somewhat unique position, in that his already wide fame rests

equally upon his acknowledged position as a conductor, and his success as a composer. His conducting has won approval not only in London, the Provinces and Scotland, but also in Vienna. The celebrated critic, Mr. Ernest Newman, speaking of Besley's Mozart, wrote: "The finest Mozart performance since the regretted days of Sir Thomas Beecham."

As a composer Besley is distinguished for his versatility and his love of melody. He writes with ease and grace, adorning his themes with a sense of harmonic beauty which is modern, but never bizarre. In songs his vocal line is always interesting and graceful, and strengthened by a feeling for beautiful curves. For the piano he writes fluently, again with a real melodic sense and (as is particularly noticeable in his "Studies in Tone Colour") with an ability to obtain effect without undue difficulty.

In his orchestral writing Maurice Besley shows great feeling for tone values and skill in instrumentation generally. The "Lullaby for a Modern Infant" with its quite lovely tune and delighted sense of humour, is one of the best examples of good light music produced for some time.

Maurice Besley has a delicate sense of choral writing, and his technical ability in this direction is well seen in his choral arrangement of Bizet's "Carmen," which has won the approval of many choral conductors and is as successful as it is skilful.

Mr. Besley is accompanist to Miss Phyllis Lett, the well-known English contralto, who will shortly commence her Australian tour.

2FC naturally made the most of such a golden opportunity, and on Thursday, 27th January, their listeners were delighted with the excellent lecture Mr. Besley arranged.



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#### The Secret of Perfect Reception

A British Battery from the well known and the earliest established electrical equipment manufacturers in the British Empire.

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**THE WISDOM OF BABES.**

All opinions are welcomed by broadcasting studios, but 3LO pay particular attention to the expressions of their younger listeners—for they are the license holders of the future. Apart from that their views are often more enlightening and wise than those of adults. For instance, 3LO Melbourne recently received a letter from a youngster in the following vein: "I think the discontented people who criticise your programmes are very much one-sided, for if you pay for a ticket to a concert, all the items may not interest you, but you take the concert as a whole and are generally satisfied. Anyway you can never please everybody, and if you try to do so you will be like the man and his donkey, and you know in the end he put the donkey in the cart and walked himself, pulling his donkey. Poor man! So now, 3LO, do not be like him, will you?"

**RADIO TO THE RESCUE AGAIN.**

Just a year ago Victoria and the whole of Australia was shocked by the tragedy of the Victorian bush fires. The immensity of loss to life and property was a stunning blow—one that might have been worse but for the great-hearted assistance from all quarters. In this work 3LO Melbourne did a big share. Warnings, appeals for funds or assistance, and progress reports of the fires were broadcast daily by 3LO, which helped considerably in swelling the relief funds. This year there has been a serious recurrence of the outbreaks, and once again the studio has played a great part. When flames menaced Warrandyte last week 3LO broadcast a message for volunteer fire-fighters. Within a few minutes dozen of motorists reported

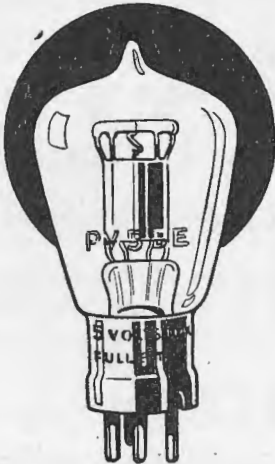
themselves at Police Headquarters in order to join the fire-fighters' ranks.

**UNSHINGLED MOTHERS.**

"We have had a 3LO Bride, Kiddies' Competition, a 3LO Girl—now what about the greatest of all, a 3LO Mother," writes an apparently serious correspondent to 3LO, Melbourne. "I would suggest two sections—one for mothers over 60 and unshingled, and one for mothers who take their daughters as chaperons. Each competitor to send in samples of preserves, etc., which would benefit the hospitals. They should also be able to sing or play, but the conditions would be in your capable hands. Also samples of needlework would be a good test."

**AN IMPROMPTU PARTY.**

When the programmes of 3LO Melbourne recently notified the inclusion of a "dressing room" talk by Olsen and Johnson, the two American comedians at the Tivoli Theatre, listeners naturally expected just one of those interesting little chats that an actor finds time to squeeze in while making up for the show. However, Olsen and Johnson were unconventional. They conducted a little studio of their own for about 20 minutes, and many other artists on the programme were included. Instrumental and vocal items (even including a Xylophone solo), topical songs, recitations, and talks followed with pleasing variety in the little programme. Mr. J. C. Brancks, creator of the newspaper comic character "Ginger Meggs," said a few words to the children at the request of Olsen and Johnson. The little party was such a success that another was given like it by Olsen and Johnson on February 26th.

**The P. V. 5 Valve**

The finest power valve on the market to-day. A dull emitter type requiring a filament voltage of 5, but with a low current consumption of 0.25 amperes. The plate requires a voltage of from 50 to 150 volts.

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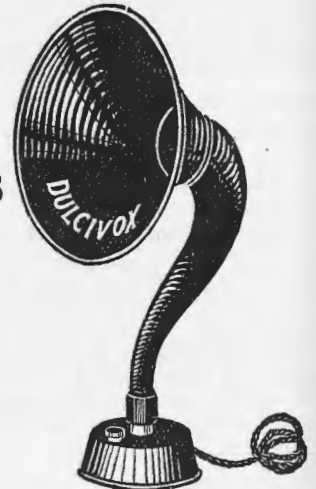
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Loud Speaker**

A small speaker yielding splendid tone and good volume. Ideal for average family use. Many beautiful finishes are available, including Black, 45/; Brown or Gold, 47/6; Mahogany Walnut, 50/. AT ALL DEALERS.

# The A.B.C. of Wireless

## *A Simplified Description of Wireless for Beginners*

### Headphones and Loud Speakers

We now come to what is perhaps the most interesting part of the receiver—the part which produces the actual music or speech. Without headphones or speaker our set is useless, because it is these that converts the audio waves into sound waves.

It will be remembered that in a previous article it was explained that first we have radio frequency waves, these being amplified by radio frequency valves (if any). They are then converted by the detector valve (or crystal) into audio frequency waves which are then amplified by the audio frequency valves.

These waves have now to be converted into sound waves, and this is the function of the phones or speaker.

#### Headphones.

The main parts of the headphones are a bar magnet, 2 coils of wire which are wound around each end of the magnet, and a thin metal plate or diaphragm.

So as to follow this explanation, take your headphones and unscrew the ear-cap. You now see the diaphragm. Try and remove this, and you will find that it does not move easily owing to the attraction of the magnet, which is immediately beneath it.

Don't lift this diaphragm, but slide it off the magnet. Now you can see the two ends of the magnets around which are wound the two coils of very fine wire. These coils are wound in series, that is to say, one coil is wound and then continued on to the other coil, forming an unbroken circuit, the free end of each coil being connected to the phone cords.

In our previous talk on transformers it was explained that when a coil of wire is electrically charged a magnetic "field" is formed around it.

Now, the magnet also has a magnetic "field" which keeps the diaphragm in a certain state of tension, so that when the electrical waves from the receiver reach the phones this "field" is considerably increased, and pulls the diaphragm nearer. These electrical impulses, which vary in strength according to the speech or music being broadcast, cause the diaphragm to vibrate at such a rate as to produce audible sounds, which vary in pitch according to the rate of the vibrations.

Having had a good inspection of the interior of the phones, replace the diaphragm and screw on the ear-piece. The other ear-piece is an exact duplicate, and is used solely to increase the volume.

#### Loud Speakers.

Loud speakers are constructed on the same principle as the phones, with the exception that most

models have a screw for adjusting the distance between the diaphragm and the magnet. It is most important that once this screw is correctly adjusted it should **never be altered.**

If the volume is not as loud as the previous night do not meddle with the diaphragm screw. Look to your set for the trouble. Either you have not tuned in properly or your batteries need recharging. If the volume is too loud, then detune your set by slightly altering the setting of the condensers until satisfactory results are obtained. It is unnecessary to readjust your speaker, **so leave it alone.**

Have you ever come across the "tuning" fiend—the man who can never leave his set or speaker alone? If he is not re-tuning the set—"trying to get it a bit louder"—he is adjusting the speaker. This person does more to make radio unpopular with listeners than anything else, as his results are usually distorted, for which the transmitting station is blamed.

Remember, distortion is not caused by the broadcasting station, but by faulty assembling of the set, using inferior parts, or, last, but by no means least, bad tuning.

If the phones or loud speaker fail, then it is usually because the coils have burned out or the magnets have become demagnetised.

Either of these faults require the services of an expert, so unless thoroughly conversant with carrying out such delicate repairs, our advice is—leave the job to an experienced radio engineer, otherwise you may cripple the apparatus entirely.

It will be noticed that on one of the terminals of the phone or loud speaker cord the binding is threaded with red cotton. This denotes the positive terminal and should be connected to the positive of the set. By trying the terminals both ways the correct connection is easily found.

## REPAIRS

We do rewinding and overhauling of all kinds of Electrical Apparatus, including Armatures, Meters, Phones, Loud Speakers, Coils, etc., and guarantee the work. Also Panel Engraving.

## HAMILTON & PASS

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# New Price 45/- Each



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## The Table-Talker

**makes a friend of the electrical impulse**

Acoustics is the science of sound. Radio acoustics is the science of transforming the electrical impulse into audible sound. The electrical impulse is a jolly little fellow who needs to be consulted if you are to get the best out of him. We've been making friends with him for seventeen years and the *Table-Talker* is but one result of our efforts. The goose-neck horn means clearer and more rounded tones, and the patent material of which it is constructed eliminates any suggestion of harshness or metallic resonance. Fitted with an adjustable diaphragm, it is finished in a pleasant shade of neutral brown. Height 18", bell 10".

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# Joe Aronson's Orchestra

Australia's Greatest  
Dance Band  
Engaged by 3LO

Perhaps the most important and expensive engagement ever made by 3LO Melbourne is that of Joe Aronson, the noted musician, together with his splendid Syncopated Symphonists' Band, which up till recently has been featured at the Wattle Path Palais, Melbourne. For concert and dance programmes the orchestra has no peers, even in America, and the Sunday recitals given at St. Kilda never fail to draw an audience of thousands.

Joe Aronson does not control a jazz band. His orchestra plays syncopated symphonies—which is a decided difference. And here will be a delight for all listeners, not only those who like syncopation.

This orchestra which is recognised throughout Australia as the finest engaged in palais or concert work is almost entirely Australian in its membership. Joe Aronson comes from America, it is true, but he has been so long in this country that his sympathies and outlook are entirely Australian.

"In my musical travels throughout the world, I have conducted many bands, and come into contact with the finest musicians of all nations," says Mr. Aronson, "and I am quite sincere when I say that the most versatile and talented musicians of the lot are Australians."

"My present band contains the finest talent I have experienced, and every one of my members would be ensured of an engagement with the best American bands. Let me introduce them to you. First there is Roger Smith, who as a trombonist and violinist has no equal when it comes to versatility; Ned Tyrell, plays the banjo, ukelele and comedy effects; Neville Stoneham plays Violin and Saxophone; H. Danslow, Saxophone, Violin and Cello; V. Nicholl, Saxophone, Clarinet and Clarinet; W. Walters, Trumpet; H. Walters, Trumpet; Les Richmond, Piano; J. Franks, Saxophone and Bass; and last, but not least, Clarrie Aronson, the sixteen year old drummer, xylophonist and tympanist."

Aronson's career has been a remarkable one. At the age of 12 he formed a small band among the boys in the little American town in which he was born. A visiting circus fired his imagination and his services



with the circus band were eagerly availed of. Later he secured an engagement as a saxophonist in the famous Rector's Cafe in New York. From there he went to Earl Fuller's orchestra, and was one of the first players to make jazz records for the Victor Gramophone Company.

Aronson's Band has played in New York, San Francisco, Shanghai, Japan and all through the East—and ten of its members are Australians.

## DYIN' FAST!

I live in a narrow street  
Where my neighbour on my left  
Has a Synchronyne !!!  
And the one on my right  
A Heterodyne !!!  
And the man above me  
A Neutrodyne !!!  
And the one below me  
A Superdyne !!!  
So naturally I can't rest until I have  
An Anodyne !!!

(Apology to Blanche Goodman in Saturday "Evening Post," 15/5/26, on page 34.)

Leighton Gibson  
RADIO SPECIALIST

Box 106 B, BRISBANE

Phone J 3167

## Who Gets the Listeners' License Fees

(By MEISNER.)

The appointment by the Government of a Royal Commission on Wireless is a matter of first rate importance to listeners. The procedure of the Commission and its decisions will be followed with unusual interest. One of the subjects under discussion is the payment of fees by listeners, and an investigation of the distribution of the revenue received from the fees.

It is an interesting and not untimely prelude to the Commission's investigations to find much publicity being given to the question of patent royalties. Both in Sydney and Melbourne the publicity in the press given to this subject will do a useful service.

### Patent Royalties absorb 20 per cent. of the Revenue.

Many people are under the impression that the whole of their fees go to the broadcasting stations, and some people even think that they get all the twenty-seven and sixpences. They are not aware that the Post Office first of all keeps two shilling and sixpence for collecting the revenue and keeping the records of licences. That proportion of the fees can be said to be earned reasonably. But it will come as a surprise to many people to learn that of the remaining twenty-five shillings, a large wireless company in which the Commonwealth Government has the preponderance of shares, claims about five shillings, leaving the balance to be split up between the broadcasting stations in the respective States.

The listener naturally asks: "What does the wireless company do to earn the five shillings per license?" The reply of the company is something to this effect: "We own all the patent rights on all the devices and methods used in wireless transmitters and receivers. Before anyone can use a transmitter or a receiver, he must pay us a royalty, and from the broadcasting companies we want 5s. per listener's license every year. In addition to that we must charge a large annual rental for the use of the transmitting station, and if the broadcasting station earns any other revenue, such as by means of advertisements or announcements, we want 16 2-3rds per cent. of that revenue, too."

The wireless company also demands from listeners who use valve sets, through the traders, a royalty payment of 12s. 6d. or 17s. 6d. per valve according to the country of manufacture. So the company really gets as much, if not more, than the broadcasting stations from listeners.



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Subscription 6/6 year



Miss  
Maggie  
Foster

Violinist at  
3LO

One of the most talented and delightful of our younger violinists is Miss Maggie Foster, a charming Sydney girl who has been engaged to broadcast for a brief session from Studio 3LO.

A great many listeners throughout Australia have already made the acquaintance of "Maggie Foster and her Violin" for this young artist has been fulfilling vaudeville engagements for the past few years, in addition to which she has travelled throughout Australia and New Zealand, and also South Africa.

## ARCADE Wireless Depot

BRISBANE ARCADE,  
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We stock the Famous Crossley Sets,  
Fada Neutrodyne, Rico-Dyne,  
Udisco Three and Five Valve Sets,  
Radiola 4, latest.  
Demonstrations daily.

### 1 Valve Amplifier

1-Valve Amplifier to attach to Xtal Set, £ 3/5/-—beautiful tone and guaranteed loud speaker results.

Let us quote you for Repairs,  
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# Life-Like Reproduction Perfect Amplification With the A.W.A. Audio Frequency Transformer?

*A Letter that Speaks for itself*

"Orwell",  
Orwell Street,  
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SYDNEY.

Amalgamated Wireless (A'sia) Ltd.,  
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Dear Sirs,

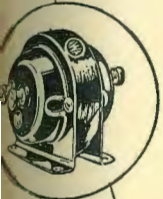
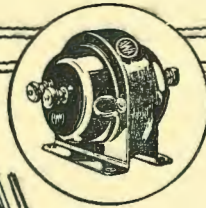
You may be interested to hear that I have constructed a Super Heterodyne Receiver, and have used two of your Audio Transformers. The reproduction of this set is the most life-like I have ever heard and as for volume, well there is no need to mention it when using A.W.A. Audio Transformers.

The success of this set is very largely due to the perfect Amplification in the Audio Stages and I am mightily well pleased with the A.W.A.'s performance. I have heard sets using imported Audio Transformers costing well over £2/- and they have nothing on A.W.A.'s. In the two most important things - quality and volume. People who have not used A.W.A. Audio Transformers in their sets have not yet got the best of reception.

It takes a good Transformer to amplify correctly from a Super Heterodyne, and after having heard many, I bought A.W.A.'s. for mine.

Yours faithfully,

*Douglas Smith*



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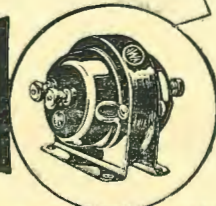
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