The Queensland Radio News

"Your Own Wireless Journal"

6D.

l. III. Tuesday, 1st FEBRUARY, 1927 No. 1

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THE QUEENSLAND RADIO NEWS

A Magazine for Amateurs
A. T. BARTLETT, *Editor*

Humour in the Broadcast Programme

WHAT constitutes the Ideal Radio Programme? Ask this question to a hundred individual listeners and you would be fortunate to secure two opinions that quite tallied.

Broadly, we should say that a good radio programme would comprise a pleasing proportion of classical and popular music, brief but bright educative talks, interspersed with a sprinkling of real humour and an occasional novelty.

A brief analysis of the programmes now broadcast by Australian stations indicates that while the musical efforts and lectures on the whole are of a high standard, and that novelties are quite good and fairly frequent, the humorist is conspicuous by his absence.

If radio is to fulfil a complete mission and win greater popularity among the masses, it must not only entertain and educate; it must also amuse.

To sit before the loud speaker for two or three hours on end without raising a smile can be considered dull entertainment—be the programme of music ever so good. This is the general opinion of the average listener, and we are inclined to agree with him.

Life without humour would be a dreary thing. A play or a motion picture would be considered "flat" if there was not a streak of humour running through it. A radio programme as an entertainment must of necessity be judged by the same standard.

It will be admitted that good comedians are not plentiful, and for this reason we are often forced to listen to humour of a rather insipid nature. Comedians who could be termed successful on the stage often fail before the microphone. Before the footlights a comedian relies to a great extent upon his make-up, his clothes and his actions. In the broadcasting studio he has no laughing audience to spur him on to further antics; he has no funny clothes and no funny face; he must rely solely upon his jokes and his accent to get his laugh on the air.

Despite the dearth of good comedians, broadcasting stations should endeavour to secure the services of two or three really good humorists. Such engagements are valuable. They increase the entertainment value of the programmes, attract more licenses, and swell the revenue.

Behind the Scenes at 4QG

Chief Engineer Stevens "Shows Us Through"

THERE is always much to interest and fascinate listeners in the organisation and methods connected with the running of a big broadcasting station. The listening public is naturally very critical as to the quality of a station's transmission, but few of them realise the vast amount of skill and effort that is necessary to operate a huge transmitting apparatus day and night without hitch and without fault.

The other day a representative of this paper visited Station 4QG with a view of interviewing the Chief Engineer of the station (Mr. F. W. Stevens), and asking him a few questions concerning the methods used in the actual transmission of 4QG's programmes.

Mr. F. W. STEVENS, Chief Engineer at Station 4QG, Brisbane.

Mr. Stevens is the "master mind" behind 4QG's excellent transmissions. A quiet, unassuming style of fellow, Mr. Stevens gives no outward indication of the skill that his work at the station proves him to possess. He is seldom in the spotlight of publicity, but whilst others at the station may take an active role in the organisation and carrying out of the many novel transmissions from outside points, for which 4QG is becoming noted, the success of the whole transmission rests with the "man at the helm," and in leaving this important duty to the Chief Engineer, no qualms are ever felt for the complete success of the undertaking.

We found Mr Stevens only to happy to accede to our request. "Yes, certainly," he said, "come right through, but be careful not to touch or get too close to anything, for 12,000 volts are somewhat dangerous. Radio frequency currents in a high-powered broadcasting station are peculiar things; they have a happy knack of finding their way into unexpected and unwanted places—for instance, your watch chain, trouser buttons, or even a bunch of keys in your pocket."

"We'll first of all visit the studios, said Mr. Stevens. These, as you and your readers already know, are two heavily-draped rooms of different dimensions, the smaller one being used for solo and lecturette items, the larger one for band, choir, and general ensemble numbers."

We passed from the studios into a passage leading to the technical department, laboratory, workshops, storeroom, and then into the transmitting room, or "the station"—the holy of holies.

One was instantly impressed with the cleanliness and orderliness of the huge room. Grouped around the room were great transmitters glowing with many valves—not the valves that we listeners use, but great transmitting valves—about the size of a small melon.

"What a number of valves!" the visitor exclaimed.

"Yes—twenty-five all told," Mr. Stevens replied, "and you will notice that the heat from them is quite considerable."

The Lower Half of the Transmitting Room at 4QG.

"We had better commence at the beginning," smiled Mr. Stevens as we entered the station, "so we go round the room, commencing from the door. "This is the main power board. We receive our initial supply of power from the City Electric Light Supply. It comes in at a pressure of 415 volts, and is 3-phase alternating current. The switches on the board are to control the supply to different parts of the set, and each section may be switched in or out.

The next panel is the drive or "independent oscillator," and is mainly responsible for the steady condition of our wave-length. With this system it is not possible for the wave-length of the station to alter, even if the aerial should swing in a breeze. This 'drive' could be used as a transmitter also if the necessity arose."

"You will excuse me, Mr. Stevents, but do you think it would be possible to tell the readers a little more of how you do things, rather than what does them?"

Well, yes, perhaps it would be better, but is difficult to describe in a few words the work we have to do here in a week to keep the station in readiness for action at any time it may be required. Adjustments must be made, tests carried out, and alterations effected, perhaps a dozen or a score of times before a certain transmission is ready.

"Effect is everything. Supposing a new band were to be broadcast, and they were told to go into the studios and be ready to play in five minutes, and supposing their music was placed 'on the air,' what would the listener hear?

"A band, I suppose," replied our representative.

"No. Nine times out of ten the listener would hear a jumble of music. The instruments of a band must be placed correctly in relation to the microphone. We know approximately where the instruments should go, but they differ considerably with the studio. I spent a whole Sunday morning at 3LO a couple of years ago obtaining a good band balance. By some strange chance that same balance suited our old temporary studio over in the Executive Buildings, but here in the new studio that arrangement is quite useless."

"What about vocalists, Mr. Stevens?" we asked.

"Well, balance is absolutely necessary there, too, particularly with a trio or quartette. Different voices require different placings; generally speaking, the bass is nearest to the microphone, baritones and contraltos next, tenors next, and sopranos farthest away. This even differs if, for instance, a baritone is very strong, or a tenor rather weak."

"How do you manage if a vocalist has a naturally weak voice?" our man asked.

"We can increase the amplification in the station. Do you see that panel over there?"—pointing to an arrangement with three valves affixed to it, and numerous switches and gadgets all over it—"that is the main control panel. Once the station is running all the control is done from there. The small current impulses or, in plainer language, the weak speech and music which comes from the studio, passes through that amplifier and, by means of a control, the song or the voice can be built up several thousand times. If a singer is weak in relation to the piano then, of course, the singer has to be moved nearer the microphone, but if they are both weak the operator brings up the amplification a little."

"How do you manage that quiet change over from one studio to another? Listening at home you seem to just gradually die out, and in a second to steal silently in again. Some broadcasting stations go out with a 'plop' and return with an equally audible 'plop.' It is the same when you change from the studio to a landline or an 'outside show," as you call them."

"That is very simple," replied Mr. Stevens. "We have a small arrangement here of our own design which allows the studio to fade out in much the same manner as the coloured lights in an up-to-date theatre. As soon as the church or hall is switched in, we let it in again slowly."

"By the way," we asked, "how do you work these outside shows?"

"First of all a line is necessary between the station and the place from which we are to broadcast. We have a large number of these permanently installed."

"Yes, but what exactly are the lines? Are they telephone lines?"

"In a way, yes. They could, under ordinary circumstances, be used for telephonic work. We call them private lines. We rent them from the Postmaster-General's Department, and they are used by us alone. They run from here first of all to Central Exchange, and from there to junction boxes located closely to the point of broadcasting. In the case of St. Andrew's Church, South Brisbane, for instance, the lines go from Central to the South Brisbane Exchange, and then on to the church. We have two lines to most of our 'outside shows'—one to broadcast over and the other to speak over to the operator on duty outside.

Well, now," Mr. Stevens continued, "supposing we are to broadcast from a dance hall at 9 p.m. tonight. This morning an operator would go to the hall with a portable telephone and speak to the station on both lines. If they should not test to the engineer's satisfaction the fault would be traced and rectified during the day."

"At 4 p.m., or thereabouts, when the night shift comes on, the operator who would be going to the hall in the evening would take his gear to the hall and install it. There would be a microphone, a portable amplifier, batteries, and a telephone. When everything was ready he would ring the station, and we would listen on the broadcasting line to the sounds in the hall, or a few words spoken by the operator, and if everything proved O.K., the gear would be left until the evening. At 8.30 another test would be put through to the station on the actual dance music to be broadcast, and at 9 p.m., when the announcement is made, 'We are now changing over to the so-and-so hall,' the engineer in the station would fade out the studio, pull out a couple of switches, and put in a couple more, then gradually bring the dance hall in again."

"That is very interesting, Mr. Stevens, and can you tell us how you worked that "Radio Motor Hunt" so successfully a few weeks ago?"

"That was, perhaps, a little out of the ordinary, and we are secretly rather proud of our achievement." admitted the Chief Engineer. "It took several days to have everything ready for that 'stunt.' The voices of the people calling had to be amplified so that they would be sufficiently strong to go to the transmitter—the voice of the announcer in the studio had to be amplified about 1000 times greater than the tele-

(Continued on Page 37.)

The versatility of radio entertainment has never been demonstrated more forcefully to the listening public than of late.

It is a far cry from a Beethoven Sonata to a Talk from the bed of Moreton Bay; from a Lecturette on Gebera Culture to a Radio Motor Hunt, but probably the most thrilling of all the novel transmissions arranged by Station 4QG are the descriptions of the Motor Cycle Races broadcast from the National Speedway, Brisbane.

Probably nothing has captured the imagination and enthusiasm of the people of Brisbane so quickly as has the National Speedway motor cycle races, held regularly at the Exhibition Showgrounds.

Station 4QG, ever on the lookout for something novel with which to entertain its listeners, realised that Speedway motor cycle races offered splendid scope for a broadcasting announcer who could follow the various races, and describe them to his listeners with effect and enthusiasm.

The Speedway motor cycle races are now part of the regular weekly programme from Station 4QG, weather, of course, permitting. A vivid description of the important races is broadcast from the trackside, which, to the accompaniment of the crescendo and diminuendo of the roaring machines as they race around the track make the transmission very realistic and thrilling.

The lines which connect the transmitter at 4QG with the portable apparatus at the Speedway are fixed to a post just in front of the John McDonald Grandstand.

When Speedway races are broadcast these lines are uncoiled and are run across to a tripod in the centre of the ring. The gear is set up on the ground and the microphone is placed in the centre of the ring just in front of the starting and finishing post.

The announcer stands before the microphone and describes the races. He is fairly close to the starting and finishing post and from his position has a good view of the riders during their whole course around the track.

* * * * * *

Have you ever thought, when listening to a broadcast programme of the hundreds and thousands of other listeners who are listening to precisely the same word at precisely the same moment? The thing is so uncanny. Despite the thousands of miles that separate, say, Thursday Island, from 4QG's aerial, listeners in that far-away place hear the spoken word of the announcer at the same instant as you—in your suburban home.

Let us then imagine ourselves in some of these distant places on the evening of Speedway broadcast. First of all we shall let our fancy take us to a distant western sheep station.

* * * * * *

The clatter of dishes in the kitchen and the small groups of drovers and boundary riders drowsing on the long verandah of the station homestead, pulling contentedly at their beloved pipes or cigarettes, signified the close of a long, hot and tiring day.

The cool, sweet gum-scented air of an Australian bush night, the song of myriads of crickets up in the tall trees fell soothingly upon the nostrils and ears of the weary bushmen.

All was quiet and still, broken only by the occasional chatting of a quartette of card-players in the smoking-room . . . . Somebody inside tuned in the radio, and presently the loud-speaker was pouring forth orchestral music—not without a little static it is true—but, nevertheless, clear and enjoyable.

"Pity we couldn't get a brand like that out 'ere," said one. "Wouldn't we have a swell 'op."

Huh!" scoffed another, "yer might have yer band and yer might have yer dance. Yer might even have your starched shirt, but where in the blank will yer get yer Janes?"

A roar of laughter followed.

"Don't worry," replied the first, "they'd come 'undreds o' miles to dance to a band like that"—and as a parting shot—"provided they didn't catch sight of your face."

The announcement that a Speedway race was to be broadcast put an end to what might have resulted in a playful "box-on." The "boys" gathered around the speaker and listened intently as the announcer described the preparations for the race.

The hub-bub of the chattering crowd, the music of the band, the roar of the cycles all broke somewhat harshly into the stillness of the night . . . It seemed strange that these men, so remotely situated from their city cousins, could join in with their enthusiasm.

"They're off!" shouted the announcer.

Breathlessly the "boys" followed the race to the fevered description of the man at the ring-side. The first lap—the second lap—the third lap—and, as the excitement of the crowd worked up to high pitch as the final lap is covered, the men 'way out west feel not a little anxious as to who will fly past the post first.

"Bradley wins!" cried the announcer—" a splendid and very thrilling race . . . Give me a cigarette somebody, quick!"

"By cripes he deserves it," stated one big fellow—and it is safe to say that if the announcer had been within passing distance he would have been rushed with sufficient "smokes" to keep him going all evening.

* * * * * *

In a sick-room at Warwick a young lad lay ill, but not too ill to enjoy a little radio. He had been dozing to the music of the Gaiety Orchestra, but had been awakened by the spirited preliminary description of the final for the Silver Sash.

As the announcer described the crowd and the riders, the walls of the sick-room seemed to fall away, and he became one of an enthusiastic crowd pressing closely around the huge arena.

He heard the cheers of the crowds as the toreadors of the track lined up at the starting post. In his mind's eye he saw it all . . . the starter with his flag, the riders, the packed grandstands, the brilliantly illuminated grounds, and the band. To his imaginative young mind television had at last become a reality.

Breathlessly he followed the machines around the track as detailed by the announcer.

"Pearce is leading, with Yensen pressing close behind," he hears. "Yensen is gaining inch by inch, he intends to make a bold bid for victory. Yensen is gaining on Pearce, and has slipped past him—but Pearce isn't all in yet. Pearce is forging ahead again. Now they are wheel-to-wheel. By joves! they are riding wonderfully, and are going at a terriffic pace. No one can tell whose race it is yet. The last lap, and Pearce is making a final spurt with Yensen right on his tail. Only half a lap to go, and it looks as though Pearce will win . . . Yes! Pearce wins the Silver Sash, and he rode a splendid race . . . A lemonade somebody."

"The crowds are cheering. The band is playing "See the Conquering Hero Comes" as Pearce rides around the track wearing the Silver Sash. Listen to the crowd cheering him."

It's all so realistic to the patient that he forgets his illness, and he lives through the race as though he had sat at the ringside.

Asked whether he enjoyed describing the National Speedway Races, Br. J. W. Robinson, Director of Station 4QG, said—

"I certainly get a lot of fun describing the Speedway Races. It must be realised however, that one must enter whole-heartedly into the spirit of the races if he would infuse the same spirit of enthusiasm into his listeners. Sometimes I become excited and forget my King's English, and people write letters to the dailies criticising me. That does not worry me for I believe that a description of a Speedway race couched in calm, cold and perfect English would lack the necessary "punch."

"After all, we are Australians, and while I do not for one minute approve or censor "slang" announcements from a broadcasting studio, I am inclined to relax just a little—as would any other man—when I find myself in the midst of a throng of enthusiastic and sport-loving Australians."

People on 2GB's (Sydney) Programmes

Mrs. A. B. CROWTHER,
Bed-time Story-teller at 2GB.

Mr. CLEMENT HOSKING,
Baritone at 2GB.

Outline of

4QG Programmes for February, 1927

Tuesday, February 1.—The first portion of the night's programme will comprise a pianoforte recital by Mr. Erich John; a studio concert from 9 o'clock onwards.

Wednesday, February 2.—A studio concert featuring the Studio Orchestra.

Thursday, February 3.—Studio entertainment, including Hawaiian Instrumentalists and an impromptu programme of music by the Brisbane Municipal Concert Band.

Friday, February 4.—Studio programme featuring Hawaiian Instrumentalists and the Studio Orchestra.

Saturday, February 5.—In the afternoon a church service from the Seventh Day Adventist Church at Buranda; the night programme will feature the Gaiety Theatre Orchestra and descriptions of the motor bicycle races from the National Speedway.

Sunday, February 6.—All Saints' Church of England morning and evening services; Federal Band from Botanic Gardens in the afternoon; Brisbane Municipal Concert Band from Wickham Park at night.

Monday, February 7.—Studio entertainment.

Tuesday, February 8.—The complete evening programme will be provided by the Holy Cross Choir.

Wednesday, February 9.—Studio entertainment featuring the Studio Orchestra, and popular 4QG artists.

Thursday, February 10.—The night's programme will be arranged by McLeod's bookstore, and will include a one-act play and dramatic recital by Miss Nell Douglas Graham.

Friday, February 11.—An address by the Bishop of London at the Exhibition Hall, and accompanying speeches.

Saturday, February 12.—Studio concert, including Hawaiian Instrumentalists, and popular 4QG artists.

Sunday, February 13.—Morning service from St. Steven's Roman Catholic Cathedral; evening service from St. John's Anglican Cathedral; band concert from Wickham Park, and special entertainment by the 4QG Harmony Four.

Monday, February 14.—The full night's programme will be provided by Mr. Erich John's Concert Party.

Tuesday, February 15.—Studio entertainment, including an interesting debate from 8 p.m. to 9 p.m.

Wednesday, February 16.—Studio concert featuring the Studio Orchestra, and popular 4QG artists; dance music from the Crystal Palace.

Thursday, February 17.—The complete evening's programme will be provided by the Silkstone Apollo Club.

Friday, February 18.—Studio entertainment.

Saturday, February 19.—The evening's programme will consist of a concert arranged by Mr. Pares.

Sunday, February 20.—Church services from Albert Street Methodist Church; Band concert from Wickham Park.

Monday, February 21.—An entertainment provided in the reception hall of Messrs Olsen and Goodchap, Woolloongabba; dance music from the Crystal Palace.

Tuesday, February 22.—Studio concert and orchestral music from the Gaiety Theatre, Toowong.

Wednesday, February 23.—Popular studio concert featuring the Studio Orchestra and 4QG artists.

Thursday, February 24.—The first portion of the evening's programme will comprise a choral recital by the City Tabernacle Choir; the second half of the programme will be provided in the studio and will feature the West End Salvation Army Band.

Friday, February 25.—Studio concert featuring the Postal Institute Orchestra.

Saturday, February 26.—Studio entertainment, including Hawaiian Instrumentalists and popular 4QG artists.

Sunday, February 27.—Morning and evening services from St. Paul's Presbyterian Church; afternoon service provided by the Church of Denmark Abroad; band concert from Wickham Park.

Monday, February 28.—Studio entertainment, featuring the Studio Orchestra and popular 4QG artists.

Broadcasting Notes
From Sydney Town

RADIO FOR PATIENTS.
In Sydney Hospital.

Sydney Hospital is the latest to be equipped with radio receiving apparatus. The wiring installation was carried out honorarily on a Saturday afternoon by 250 members of the Postal Electricians' Union, who swarmed up to the hospital, and in four hours completed the job, laying over two miles of electric wire. As a result 360 beds now have headphones attached. A receiving set has been loaned to the hospital so that all patients who are not too ill may while away the long hours of the day and night listening to the "song and story" of the broadcasting stations. A permanent set, however, is wanted, and subscriptions for that purpose are being invited. The value of radio in this way is shown by the fact that 7000 in-patients pass through Sydney Hospital every year.

The following hospitals also have now been equipped with radio:—Royal North Shore Hospital, Royal Prince Alfred Hospital, Royal South Sydney, Liverpool State Hospital, Lazarette, Little Bay, Waterfall Sanitorium, Home for Incurables, and Queen Victoria Hospital.

RADIO TO ENGLAND.
From Sydney Stations.

A series of experiments is being conducted by Mr. A. J. Scott-Dack, chief wireless officer of the Orient liner "Oronsay," to determine the strength of broadcasting station 2FC Sydney. Recently 2FC received a letter from a Mr. Stanley Dodman, of Frensham, Farnham, Surrey (England), stating that on October 27 at 12.5 p.m. Greenwich mean time, he listened to 2FC broadcasting the Californian dance band from the Palais Royal.

In view of this Mr. Scott-Dack has agreed to listen to 2FC daily on the present trip of the "Oronsay," and on his arrival in England on January 24, 25, 26 and 27, at 7 a.m. Sydney time (equal to 9 p.m. on the previous night in London). Special messages will be sent from 2FC for Mr. Scott-Dack, Mr. Dodman and other listeners to hear—if they can.

After all the feat is practicable enough. Radio has already reached such a point that listeners who go to the trouble with their sets, can pick up stations all over the world. In the near future we may expect to have concerts in London broadcast to Australia and relayed (re-broadcast) by the Australian stations that the every day listener can hear. In the meanwhile the Sydney stations are on the air daily for longer periods even than the celebrated London station 2LO.

TIME BY RADIO.
Listener's Request.

A radio listener at Lakemba has written to broadcasting station 2FC Sydney, asking that the G.P.O. clock and chimes be broadcast more often. He explains that listeners in his neighbourhood set their watches and clocks each night, before going to bed, taking the time from the radio set. As a matter of fact both the Sydney stations tune in G.P.O. every hour, and occasionally work in the quarter and half-hour chimes as well. Watchmakers and jewellers usually take the time over the air, and a number of country schools check the clock in the same way.

ASSES' MILK.
Radio Saves Baby.

Radio continues to prove its usefulness in urgent and unusual circumstances as evidenced again last evening by the saving of the life of a two-months-old baby, reports the "Guardian's" London correspondent.

During the broadcasting of a concert a musical number was suddenly shut off, and an appeal went out from an anxious mother.

Only asses' milk would save her baby from death. Could anyone supply the required milk, and, if so, how soon?

Within two hours of the news being broadcast, the mother had received a number of offers.

It is a coincidence that several months ago a similar appeal was broadcast throughout England with successful results.

RADIO INTERVENES.
Not Like Journalism—One-Sided Conversation.

Interviewing for broadcasting purposes is sometimes an amusing business. It is very different for a trained journalist to chat with some person who has come into the limelight and later write his impressions of the conversation, and for a radio announcer to drag his victim before the microphone and ask him questions which everyone who owns a radio set can hear.

The journalist may spend an hour with his subject and then condense the latter's remarks and opinions into a quarter of a column, rounding off the sentences and trimming up the grammar as required. But every word of the radio announcer, and the replies of the person interviewed, go into the microphone and are heard by listeners for hundreds of miles around.

The humour enters into the question when the hero of the occasion will not talk. A journalist, finding his subject reticent may draw him out with questions. "Do you believe in the vegetarian theory?" he may ask. "Are you a supporter of the feminist party?" and in accordance with the replies the published inter- might read, "Mr. Smith said he was a believer in vegetarianism, but he did not support the feminist party."

The radio interviewer—(and incidentally it may be mentioned that pressmen make the best interveiwers for broadcasting)—cannot do it that way. This was discovered by "Uncle George" (Mr. Saunders), the announcer of Broadcasting Station 2BL Sydney recent when broadcasting from the Marouba Speedway.

The big event of the evening was a motor cycle race in which Cecil Brown (America) beat Harry Peel (N.S.W.). At the conclusion "Uncle George" hauled Brown before the microphone and started to make him talk to the listeners. Brown was shy, and Mr. Saunders found it heavy going. "How did you

feel when you saw Peel 50 yards ahead?" he asked. "All right," was the brief reply. "I suppose this is your first time in front of a microphone?" said "Uncle George. "Yes," said Brown. "And I suppose you felt quite confident that you would catch Peel?" Again Brown said "Yes." And to half a dozen more questions he continued to say "Yes" with an occasional "No."

At last, in desperation, the interviewer remarked: "I suppose you know plenty of people who will be listening-in to-night?" "Yes," said Brown." "Well," observed "Uncle George," "Speak to them."

No answer from Brown.

"Call anyone you like," said "Uncle George." Still the speed king had nothing to say "Can't you think of anyone you would like to speak to?" "No."

"And isn't there anything special you'd like to say?"

Again Brown answered with the one word, and at that "Uncle George" gave him up.

The man who lost the race was a much better talker. Asked how he came to be beaten when he had gained a lead of 50 yards, he replied, "I think the bike overheated; towards the finish she began to sicken up. But I hope there will be a return match."

Some of these radio interviewers are amusing because the chief performer has nothing to say. Others talk so hard that the only way to stop them is to cut off the switch. And still they go on talking, but as no one can hear, no harm is done.

THE STREET SINGER.

A Radio Incident.

David Mansfield, the street singer who recently had an engagement to sing from Broadcasting Station 2FC Sydney, has been given a chance to get on his feet. Mr. Mansfield is almost blind, and the Sydney Industrial Blind Institution has now arranged with Mr. William Asprey to teach him singing, Mr. Gordon Lavers (himself blind) to teach him Braille music, and Mr. Herbert Thompson to teach him to reach and write in the Braille type. The committee of the Blind Institution have made other arrangements also, so that it appears likely that the ex-street singer will be heard again by radio listeners before long, and that he will be a much improved performer.

TREATMENT FOR EYES—BROADCAST STATION HELPS.

All sorts of information is given by the broadcasting stations in reply to the inquiries of listeners. Last week a woman wrote to Station 2BL: "We are miles from the nearest doctor," and asking what she should do for her boy, aged six, who was having trouble with his eyes. The mother described the child's symptoms, and the broadcasting station obtained expert advice, which was duly sent for the information of the mother. In case the treatment might interest other listeners, Mrs. Jordan, of 2BL, also explained over the air, what should be done. —

THE MAKING OF HAGGIS.

A Radio Argument.

A vigorous argument is going on among the diggers of Randwick Military Hospital as the result of a recent lecture given by Mrs. Jordan from Broadcasting Station 2BL, Sydney. Mrs. Jordan is an authority on many branches of cooking, and it transpires that the convalescent diggers make a point of listening to her daily talks on cookery and domestic science.

In connection with the New Year festivities Mrs. Jordan described how the famous Scottish haggis is made. The stomach of a sheep, it transpires, is stuffed with the liver and lights of the animal; onions, oatmeal and other comestibles are added, and the orthodox method is to souse the whole thing with whisky before it is boiled.

Mrs. Jordan described in detail the grand ceremonial pertaining to the entry of the haggis, and although her lecture was, in most respects, a masterpiece of learning, she made one tremendous error by telling listeners that it is optional whether whisky is used or not. Hence the argument among the Randwick diggers.

One section who were reared on mountain dew maintain that there is no choice at all in the matter, that haggis without whisky is not haggis, the other section agree that the whisky is entirely optional. The first maintain that their tee-total comrades cannot be true Scots, or they would never endorse such a desperate heresy. So the argument goes on.

The authorities have every hope of averting a civil war at the hospital, but if conflict actually arises they intend to blame the radio for it.

MISS GOODIE REEVE.

Back on the Radio.

Radio listeners will welcome the return to Broadcasting Station 2FC of Miss Goodie Reeve, after a protracted period of ill-health. Miss Reeve is being heard in "Talks behind the scenes." She has already chatted with Miss Judith Anderson, who has returned to Australia to play in "The Cobra," and with Miss Strella Wilson of Gilbert and Sullivan fame. Further talks from the other side of the footlights are being arranged.

Other new artists proving popular with 2FC listeners are Miss Norah Hill (Irish soprano), who has a particularly pleasing voice over the air; Miss Daisy Richards (violinist), Miss Eileen Boyd (contralto), Miss Eleanor Stanton (contralto), the Whichello Dance Trio, Miss Suzanne Ennis (contralto), Miss Leslie Elliott (popular entertainer from 2LO), Mr. Brunton Gibb and Miss Elsie Long, whose clever sketches are much appreciated; Mr. Alfred Cunningham (English baritone), Mr. Cliff Arnold (novelty pianist), Mr. Norman Francis (baritone), Mr. Walter Whyte (tenor), and Miss Belle Pollard. Mr. Whyte has been out of the limelight for some years, owing to a severe nervous breakdown, but despite his illness, his voice still holds a pleasing quality which the microphone enhances.

Are you building your Sets to excel others, and obtain superlative results?

NOT unless you are using the following:—

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23 plate SLF Condensers	£1	19	6
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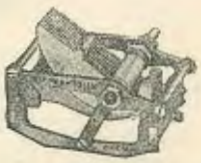
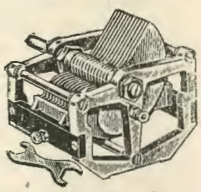
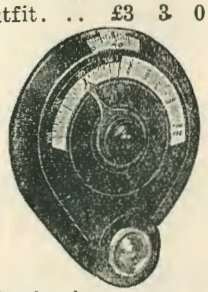
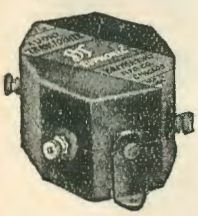




Short Wave Outfit. .. £3 3 0

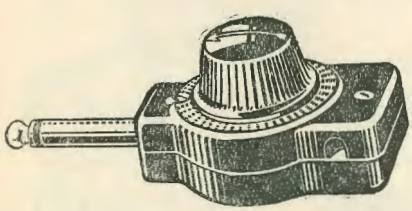


Bremer-Tully Tuning Control Dial £0 16 6

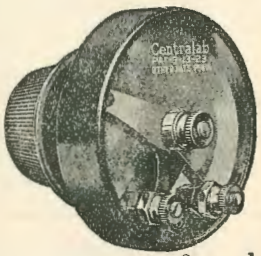


Bremer-Tully Euphonic 2.2 to 1 Transformer, No, 210 .. .. £1 14 0

Bremer-Tully Euphonic 4.7 to 1 Transformer No. 410 .. .. 1 17 0



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:—



	£	s.	d.
No. 2 M. Radiohms	0	14	6
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No. 500 Modulators	0	14	6
No. 106 Variable Grid Leaks, without condensers	0	9	0
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No. 206, 6 ohm Rheostat	0	9	0
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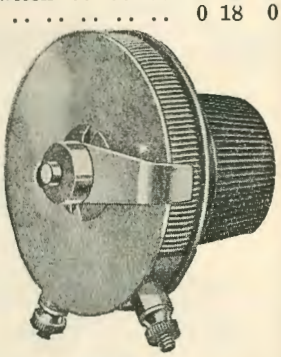
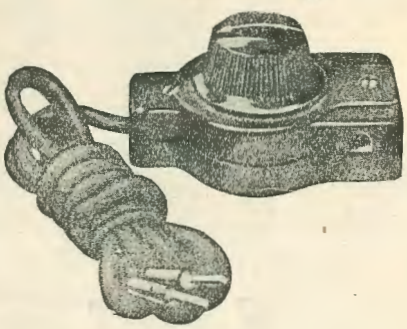
No. 110, 200 ohm Potentiometer	0	12	9
No. 111, 400 ohm Potentiometer	0	14	6
Centralab Push-Pull Battery Switch	0	3	6
Centralab Modulator Plug	0	18	0



The Centralab Rheostat the best obtainable — the standard in Udisco Sets

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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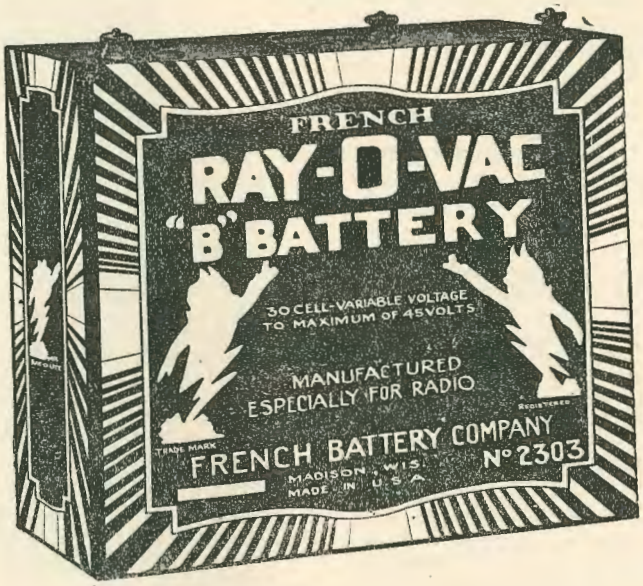
Look Inside Any Ray-O-Vac Battery



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No. 231R.

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.
2.—Water and acid proofed egg grate partition.
3.—Connecting wires securely soldered.
4.—Insulating compound between cells.
5.—Waterproof outer container.
6.—Screw Post Terminals make positive connections with wire, eyelet or spade connector.
7.—Binder in upper seal.
8.—Heavy non-bulging top seal.
9.—Screw post terminal soldered securely to individual cells.

No. 2303.

No. 9303—The Master Ray-O-Vac 45 volt; double the amperage of ordinary 45	£1	16	0
No. 2301—45 volt flat, with 7 tappings	1	6	0
No. 2303—45 volt upright, with 3 tappings	1	6	0
No. 2151—22½ volt flat, with 6 tappings	0	15	9
No. 2153—22½ volt upright, 2 terminals only. Specially recommended for detector valve	0	15	9
No. 5151—BP 22½ volt medium	0	12	6
No. 4151—22½ volt for portable sets	0	10	6
No. 231R—4½ "C" battery. Voltage adjustment of 1½, 3, and 4½ volt; can be used as A, B, or C battery	0	4	6
No. 531R—4½ volt Grid Bias C Battery	0	3	6
No. 1211—1½ volt A battery—the best 1½ volt single cell o nthe market to-day	0	3	3
No. 6 —1½ volt cell for radio or telephone use	0	3	3
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Inspector Armstrong Has a Word To Say

A Chat with Queensland's Capable Radio Inspector

I tapped at the door labelled, "Radio Inspector," feeling very much the same way as Daniel when he entered a den of lions many thousands of years ago.

I may as well be honest as to the cause of my apprehension. Interference of the Xmas holidays and perhaps shortage of spare cash had caused me to overlook the renewal of my radio license, which fell due nearly three weeks ago. Only yesterday I intended to send the innocent office boy around to lift the burden of debt from my guilty shoulders . . . but had forgotten.

And now, this morning, Fate played me a cruel trick. My arrival at the office was greeted with the chief's command, "Arrange an interview with Mr. Armstrong and get him to say a few words." My heart sank. "You—you mean the Radio Inspector?" I faltered. "Yes, he's your man," was the short reply . . . . Weakly I reached for the telephone . . . .

So, as I stood at the door of the Radio Inspector's office, my brow was wet with dishonest sweat. I felt and looked every inch a radio pirate.

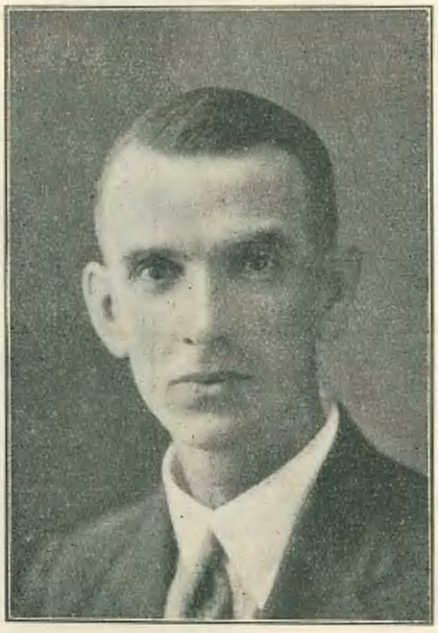
I was ushered through the general office where busy clerks were "wading" through countless index cards, to Mr. Armstrong's office. A tall, erect, youngish looking man rose to greet me, and cordially motioned me to a chair.

My thoughts of fear partially vanished in his genial company, but my guilt again swept over me when, as the inspector turned to answer his phone, a dreary monotone floated through the office partition: "List for prosecution:—H. J. Jones, Ascot, V. L. Robertson, Hendra, ..."

Hooking up his receiver Mr. Armstrong turned towards me. "So you want me to say something to your readers. Well—what is it you want to know?"

I plied him with questions. "Well, to begin with, how do you consider Queensland is shaping her wireless destiny?"

"I think Queensland is doing very well indeed," replied Mr. Armstrong, "and I am very optimistic for the future. One only has to recount the amazing progress in Queensland during the twelve months just past. Take for instance the increase in the number of licensed broadcast listeners. In January, 1926, there were only 3000 licenses in Queensland; in December, 1926, there were between 19,000 and 20,000, with comparatively few cancellations. Radio has come to stay in Queensland, and is following closely the steps of the motor industry, in that refinement follows refinement so rapidly that the receiver model of some months previously soon becomes practically obsolescent. The utilitarian aspect of wireless is now a main feature of its popularity, the novelty of listening-in having now worn off."



Mr. T. ARMSTRONG,
Radio Inspector, Fourth District.

"What do you anticipate the figures will be for the coming year, Mr. Armstrong?"

"A conservative estimate would be in the vicinity of 25,000."

"Do you consider Queensland listeners well catered for?" I asked.

"Queensland is indeed fortunate in possessing in Station 4QG one of the finest technical equipments in the Commonwealth, being extremely powerful, and the latest model of its type, and when the revenue received is compared with the amount received by the station in the Southern States, the Queensland listener is getting the very best value possible for his subscription. As has been publicly announced on several occasions, the station is out to give service to the public of Queensland and not for profit, and the more license fees we can collect, the greater will be the satisfaction to the ever-increasing number of listeners. It is the aim of this department to search out every individual 'pirate,' and if the co-operation of the licensed listeners could be obtained it would redound to their advantage, in the matter that every increase in revenue would enable the broadcasting of the very highest grades of entertainment."

"I suppose that you and your men have quite novel experiences when pirate-hunting?" I queried.

"Yes, it is marvellous to what lengths some people will go to evade paying their license. The camouflaged clothes-line, fitted with green insulators, is perhaps the most common. It is by no means novel for our men to visit a house with the weeks washing

fluttering gaily from the aerial. Another trick is to make use of the telephone lines. Pirate-hunting today may not be as dangerous as it was in days gone by, but it is almost as thrilling."

"What is your personal opinion of the wave-length question?" I ventured.

"The problem of the separation of the different frequencies is simply a question of receiver design," was the reply. "Outside of a three-mile radius of, say, Station 4QG, any really well-designed receiver should bring in the southern stations with ease. Within this radius, however, owing to the 'shock effect' of a powerful broadcast station, sets require careful and effective shielding construction in order that discrimination between the different broadcast stations be made. Wave-traps are merely a palliative. Shielding of receivers by beginners, however, very often gives disheartening results, but scientifically applied as in the latest models, yields excellent results."

"I daresay that the marine installations you frequently inspect also reveal signs of much advancement?" I commented.

"Yes," Mr. Armstrong replied, "at the present time most large oversea passenger vessels are equipped with long-wave 1 k.w. valve transmitting sets in addition to the standard 1½ k.w. spark installation. Direction finding apparatus is also being installed as rapidly as possible, and these direction finders are finding much favour with navigating officers. Most of the Australian vessels proceeding overseas are fitted with 1 k.w. short-wave valve transmitters."

"Amateur activities in Queensland seem to be improving, Mr. Armstrong'" I stated.

"While Queensland may not have large numbers of experimental stations, she does not lack in enthusiasm amongst the present holders of transmitting licenses, as anyone who burns the midnight oil listening on the short wave-lengths will soon realise. In my experience with amateurs in the other States, the Queensland experimenter can easily hold his own. During the past year over twenty candidates obtained the coveted Proficiency Certificate, issued by the Postmaster-General, and I am looking forward to great activity during 1927. I noticed in a southern contemporary that it was remarked that no crystal-controlled experimental transmitters were operating in the fourth district, but it should not be long before this can be refuted, as I am aware of several stations that have been experimenting with crystals, locally produced and also imported, with success, and the piping note of the fourth district C.C.'s should soon be heard on the 36-37 metre band. In the interstate tests recently concluded Queensland stations did exceedingly well."

"How long have you been associated with wireless, Mr. Armstrong?" I asked.

"Since pre-war days. I left the Telegraph Department in 1914 to enlist for foreign service with the Royal Australian Naval Radio Service. In 1916 I was placed in charge of the wireless section with the A.I.F. in France. Since the cessation of hostilities I have been stationed at Melbourne, Sydney and Brisbane."

"I dareesay your remiscences in those spheres would make interesting reading," I remarked.

"Yes, I supposed they would, but it is too big a subject to touch now. Some day when I can spare a little time I may give you some of my experiences in these fields."

"We would be very grateful," I replied. n

Then, observing that the inspector was very busy, I rose to go, but felt I could not do so without making some sort of a confession.

"It has been most interesting to hear you speak about and condemn radio pirates, Mr. Armstrong," I began awkwardly, "but all the while my ears have been burning. I—I am a pirate," I confessed shamefacedly. "My license ran out nearly three weeks ago. I received your notification, but I forgot to renew—I'll pay my cheque now."

"It's strange that the matter was just before me this morning," Mr. Armstrong replied. "I thought it strange for a "Radio News" man to be a defaulter, and I intended to ring you about it. However," he smiled, "we'll let you off with a warning."

I left the office with a considerably lighter conscience than when I entered, and the richer by a friend—"Tom" Armstrong—a capable inspector and a splendid fellow.

Personalities

A surveyor's life need be a lonely one no longer—at least that is what Reg. Bunnett, of the Government Survey Department, says. Reg. was recently in Brisbane on holidays, and when he goes back to the Gulf Country he's going to take along his new three-valver with him.

Mr. Jack Clark, well-known among the Brisbane hams as an experimenter, has obtained wonderful success in tuning-in the Rugby phone transmissions. He states that tuning is very critical.

Young Brian Lawrence, the young vocalist with the Diggers Company, recently returned to Brisbane on a short visit after touring Australia and New Zealand. He states that during his travels he heard and visited all the Australian and New Zealand broadcasting stations. He added that 4QG is the loudest inter-State station received. Brian has now left for England, and when he returns he most likely will tell us us all about 2LO, London.

Three young chaps bearing the names of Hudson, Langford and Burnett, attached to the Education Department, recently journeyed down from the wild and wooly Northern Territory to Brisbane for their holidays. Each of them is taking back a radio set to keep in touch with civilisation and to educate the blacks.

Chris. Daley, who had a hand in erecting the steel structures of the New Town Hall, is also rebuilding 4CM's new power plant at the Observatory Tower.

Mr. Christensen, the genial manager of Home Radio Service, Ltd., spent his recent holidays in Sydney—his home town.

After twelve months of ear-straining with V.I.B. headphones, Hec. Moore is on his three-weeks' annual holidays. He hopes his ears will, by that time, resume their normal shape.

Listeners who heard "Uncle Ben's" recent submarine trip commented upon the remarkable knowledge evinced by the worthy captain of the craft. It transpires that the "captain" was none other than Mr. Pearce, of Thornton and Pearce, Estate Agents—as big a land-lubber as ever there was. Nevertheless, Mr. Pearce performed his part well, and gave a fine radio impersonation of a good old British sea-dog.

"The Sandman"—otherwise Jim Tyson—established a world's record for oyster consumption during the bed-time storytellers' Xmas sojourn at Coolangatta. We know that one can get fine oysters around the Tweed way, but we didn't know they grew to be as big as saucers. Still, there is a fair amount of elasticity about the make-up of an oyster, which would allow for a little stretching so far as size is concerned.

We are pleased to report that Mr. Bob Littler whom we announced in our last issue to be suffering with a rather serious injury to his right eye, has now recovered sufficiently to resume duties at Wireless House Ltd., although he is still undergoing daily treatment.

Mr. Ashwin, a well-known figure in Brisbane wool circles, now finds radio something of a haven for his storm-tossed soul after a busy day's buying or selling. The new set is operating well at his residence, Northgate Junction.

We have been requested by a reader to issue a warning to keepers of tame lions, tigers or any such jungle beasts. He states that there is a real live game hunter in our midst, and it would be well to keep their pets under cover. If Harold Walsh (4HW) can stalk wild game as well as he stalks down down Queen Street in his big White Helmet—well, we don't give the office cat much chance!

All radio fans who know Gordon Knipe, of the Thomas Radio Coy., are anxiously waiting for his debut upon the National Speedway track. Although Gordon's special racing machine hasn't yet arrived from the old country, he is an enthusiastic follower of the sport. Gordon, do be careful—our printer is rather short of black border rule !

BOOK REVIEW.

We have just received a copy of the Emmco Radio Handbook, a most instructive publication, produced by Electricity Meter Manufacturing Company, Limited, Sydney.

Containing 24 beautifully illustrated pages, the book is packed full of useful information for both amateurs and broadcast listeners. A list of "A" class broadcasting stations in Australia and New Zealand (showing their respective wave-lengths) is followed by a full and up-to-date list of Australian and New Zealand call-signs including amateurs, trawlers, and special licenses. A specially compiled list of high-power American stations will be found handy by those people anxious to go after DX reception.

Six pages are devoted to a description of selective circuits suitable for use in Australia, including a split secondary 2-valve receiver, 3 valve 3-coil regenerative receiver, 4-valve Browning Drake, 5-valve Neutrodyne, and 7-valve Super Heterodyne. In addition to the circuit, a back of panel wiring diagram of each receiver is shown. The rest of the book is devoted to a description of the well-known Emmco parts, and, all told, the book is one that should be in the hands of every radio enthusiast.

We are advised that a copy may be obtained by any user of Emmco parts, from radio dealers.

Joins Amplion (A'sia) Ltd.

Shown here is Mr. W. J. McLellan, who has been appointed to the position of Sales Manager of Amplion (A.'sia) Ltd., Sydney. Although only 33 years of age, Mr. McLellan has packed a great deal of wireless experience in this period. Educated at the London and Edinburgh Universities, he later joined the research department of the General Electric Co., London. Leaving that concern he came to Australia in 1921 and became manager of the wireless department of the British General Electric Co., Ltd., in which capacity he visited all Australian States and New Zealand.

He was a member of the committee of the last Radio and Electrical Exhibition in Sydney, and is also a member of the committee of the Radio Broadcast Bureau.

Mr. McLellan has a genial personality, which has made him many friends in the wireless world. He has been associated with many movements for the advancement of wireless, and the announcement of his appointmnt to this important post with Amplion (A.'sia), Ltd., will be received with pleasure by the trade generally.

The Call of the Popular Song.

To many of the listening public the popular song has a definite call. It expresses "sentiment" for them and if delivered with a touch of artistry, the effect is often a happy one.

Certainly the popular ballad loses nothing in its rendition by that capable and well-known tenor (Mr. Gerald Cashman) who is making a welcome return to 4QG programmes.

On February 1st the station will broadcast this artist in the favourite number—"The Land Where the Shamrock Grows."

McLeod's Book Store Concert

Special Programme from 4QG on February 10th next

Realising the close relationship that exists between good literature and good music, McLeod's Bookstore have arranged a special concert to be broadcast from Station 4QG on Thursday, February 10th.

At considerable expense this enterprising concern has sceured the services of a group of talented artists. An excellent entertainment has been arranged, as reference to the following detailed programme will prove.

The whole entertainment has been capably arranged by Mr. W. A. Braiden, manager of the technical and general department of the store, in conjunction with Miss Nell Douglas Graham, A.T.C.L.:—

Announcer.—Mr. Harry Borrodale.
Accompaniste.—Miss Hazel Stirling.

1.—"Poet and Peasant" overture (Suppe), McLeod's String Quartette.

2.—Scene from "Romeo and Juliet" (Shakespeare) —Juliet, Miss Patricia McGregor; Nurse, Miss Nancy Neild.

3.—"The Lass With the Delicate Air" (Arne), Miss Doreen Morgan (soprano),

4.—"Love's Old Sweet Song" (Molloy), banjo solo —Mr. Ernest Norton.

5.—"The Soldier's Farewell" (Kinkel), McLeod's Male Quartette.

6.—(a) "Harmony Rag" (Hal G. Nicols), (b) "Sahara Foxtrot" (Horatio Nichols), McLeod's String Quartette.

7.—Humorous item by Lauri, the entertainer (assisted by Mr. W .A. Braiden).

8.—"Minuet" (Paderewski), pianoforte solo—Miss Hazel Stirling.

9.—Dramatic recital: (a) "Lichtenberg" (Kipling), (b) "Apple Blossoms" (Martin), Miss Nell Douglas Graham, A.T.C.L.

10.—Hauser's "Hungarian Dance"—violin solo, Miss G. Fagg.

Announcements.

11.—"Arion" overture (W. Walter), McLeod's String Quartette.

12.—"Tit-Bits"—a one-act play (H. Swears). Cast: Lady Windish, Miss Estelle Dent; Miss Dove, Miss Connie Springall. Scene: Miss Dove's Drawing-room.

13.—"Nellie Was a Lady" (an old plantation melody), McLeod's Male Quartette.

14.—Dicken's sketch—"Joe, the Crossing Sweeper" (from "Bleak House")—Miss Agnes Finney.

15.—"Se Saran Rose" (Arditi), Miss Doreen Morgan (soprano).

16.—Dramatic recital, selected, Miss Nell Douglas Graham, A.T.C.L.

17.—"Sweet Genevieve (Adams), banjo solo—Mr. Ernest Norton.

18.—Humorous item by Lauri the entertainer (assisted by Mr. W. A. Braiden).

19.—Clarionet solo, selected.

20.—Humorous recital from "The Sentimental Bloke" (C. J. Dennis)—Miss Rose Ball,

RADIO IN GERMANY.

Radio is in quite a flourishing condition in Germany. There are 1,205,880 licenses in operation, and in Berlin alone there are well over half a million listeners. Hamburg is "runner-up" with 155,214.

FIGHT BY RADIO.

Announcer's Ear Punches.

Recently a full description of the Dempsey-Tunney fight was broadcast by Station 2KY (Trades Hall, Sydney) from the Arcadia Theatre. The announcer had the microphone in the dress circle, and happened to sit in front of a gentleman who became very excited. In spite of it being only a picture, this individual insisted on giving Dempsey his advice; once he became quite carried away and told Dempsey "to slam the right in." Suiting the action to the words he caught the announcer on the ear. As he was a fairly big fellow, and the sample of his right was convincing, the announcer decided that discretion was the better part of valor, and moved to safer quarters.

Brown

The perfect Loud Speaker

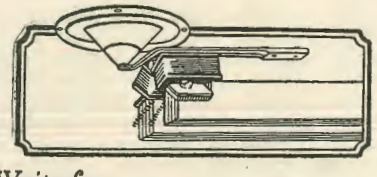
Type HQ.

Height, 20 inches.

2,000 Ohms. **£8/10/-**

This handsome new Loud Speaker possesses the same beauty of outline as the luxurious Q Type, whilst retaining the full volume and sensitiveness of the well-known H1.

A superb instrument, which charms everyone with its exceptional fidelity of reproduction.



Write for Illustrated Catalogue.

Do You Know How Sound Waves are Produced?

Sounds from the Gramophone are produced by the point of the needle riding in the groove of the record transmitting the vibrations, which are set up to the mica diaphragm of the sound box. As the mica diaphragm vibrates, so it produces sound waves, which are conducted through a tapered horn, thereby being greatly amplified. This mica diaphragm is connected to the stylus bar—at the end of which is the needle—at its exact centre. Thus, when the mica diaphragm vibrates, it does so from its centre outwards. If it were coupled in two places, or if two needles were used simultaneously, its flat surface would be distorted and would be unable to reproduce sound waves true to life.

The Gramophone Sound Box Principle.

This "centre pull" principle is incorporated in the Brown Loud Speaker—and used in this form appears in no other Loud Speaker in the world—the reproducer consists of a cone-shaped aluminium diaphragm anchored at its exact centre to the end of a vibratory reed. This reed is attracted and made to vibrate over a wide range of harmonics (from 100 per second to 3000 per second in ordinary speech) by the current which passes through the coils on the end of the magnet above it.

The Brown Loud Speaker has acquired an exceptional reputation on account of the purity of its tone and its remarkable volume. The tuned-reed method of construction permits a much more faithful rendering of both the high and the low notes, with an entire absence of the distortions often attributed to Loud Speakers.

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OBTAINABLE FROM ALL RADIO DEALERS.

A Short Wave Transmitter

By H. L. HOBLER, A—4DO.

The great interest displayed in short-wave amateur radio work the last year has been very marked, noticeably by the number of new stations which have been heard, and by those who have acquired their A.O.P. certificates with the hope of shortly being active transmitting stations. The true radio amateur has found that the real fascination of radio lies in the exchanging of signals with others in all parts of the world and not in turning the dials and knobs of a broadcast receiver.

A transmitting set, of course, requires a little more study and experimentation than does a receiving set, before it can be thoroughly understood. A transmitter is no harder to construct than a receiver, but when we are manipulating a receiver we can hear our results, whereas, with a transmitter, we have to rely very much on the indicating metres to tell us how the instrument is working. The correct adjustment of a transmitter is also essential for the production of a steady wave of the desired wave-length, still if one understands the fundamentals of a receiving set there is no reason why he should not be able to construct and operate a transmitter, too.

Valve transmitters make use of similar parts to those used in valve receivers, but they are generally of a more substantial nature, so that they will withstand the larger currents and voltages used in transmission. Transmitters have their valves, coils, condensers, and sources of energy just like a receiver, and because it has been proved that good material betters the results from a receiver, let is be a guide to us and let us also use good apparatus in our transmitter.

Before constructing a transmitting set of any kind it is necessary that you be in possession of the amateur operator's certificate of proficiency. The holder of this ticket is permitted to operate a low-powered transmitter on certain wave-lengths with a certain amount of power. The examination consists of a theoretical paper and an operating test of 12 words per minute. When the certificate has been secured application is made for a transmitting license, and when this is granted you obtain your call-sign and are ready to start.

The heading of this article introduces the instrument about to be described. It is a simple little transmitter designed primarily for lowpower work on the two active amateur bands, namely, 40 and 80 metres. The circuit employed is the shunt fed inductively coupled Hartley, adopted for its simplicity, efficiency and flexibility, and is illustrated in Fig. 1.

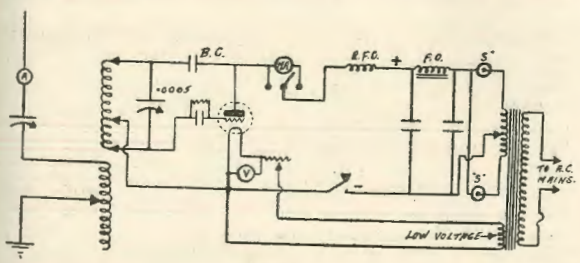

FIG. 1.

Before commencing to make up the set it is necessary to decide on what valve and power is to be used, and purchase the respective parts accordingly. As the set described is intended for low-power work, let us take a suitable, efficient valve for the purpose and design our transmitter accordingly. The UX-210 tube has proved very efficient, so we will adopt this as a basis for use in the set described.

Fig. 2.

Fig. 2 shows the panel layout of the transmitter. Three indicating metres (Jewell) can be seen and are all that are required. The top meter is the thermo-couple ammeter which measures the aerial current, the bottom left is the plate milliammeter for ascertaining the plate current, and the alternating current filament voltmeter is at the bottom right. At the top right-hand corner the aerial tuning condenser is situated, while at the opposite corner a dial is fixed to balance the appearance of the set. There is nothing behind this dial—the space being provided in case a second aerial condenser was required for very short-wave transmission. On the left of the middle row of controls is the milliammeter switch, used to cut the plate meter out of circuit once the power has been measured. If this meter were left in circuit when transmitting the continual fluctuation of the pointer every time the key was depressed and released, would tend to shorten the meter's life, hence it is cut out after the set has been tuned for use and the power measured.

The rheostat and peep screen can also be seen in the centre row and need no explanation, save that the rheostat must be of suitable dimensions to carry the current taken by the filament of the transmitting tube.

The bottom condenser is of .0005 mfd. capacity, and is shunted across the grid-plate coil as shown in Fig. 1. This is the main tuning control.

The Coils.

The primary and secondary coils are of copper strip, spaced wound with celluloid strips holding the

turns apart. Each coil has 10 turns, but only 5 turns of the aerial coil are used. Complete details of how these coils were constructed will be found in the November, 1926, issue of this paper.

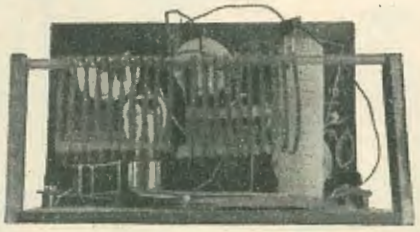

Fig. 3.

Figures 3 and 4 show back views of the transmitter, and most of the apparatus can be readily identified. The coils are seen supported on a glass tube (similar to ½in. steam gauge glass), the variation of coupling between them being effected by sliding the coils to or from each other. The glass tube is supported by two pieces of pine of suitable height to permit the coils to have ample clearance in all directions, and fits into a groove made in each piece of wood.

The radio-frequency choke coil has 175 turns of 24 D.C.C. wire on a 2in. cardboard former, and is arranged so that tappings can be taken at 75, 100, or 175 turns. It is mounted on the baseboard near the power supply terminal board, and not far from the plate terminal of the valve socket.

A 5-watt UV202 tube is shown in the photographs and when it expires—or perhaps before—will be replaced by a UX 210. It has proven a great tube, having worked overtime and overloaded all the time for a period of seven months. In fact the plate is a dull cherry-red three seconds after the high-tension is switched on.

On the right-hand side of the set (from front) a terminal strip carrying two terminals, is mounted. These terminals are for the aerial and earth. A similar strip is also mounted on the other end of the baseboard carrying four terminals—two for the plate supply and two for the filament supply. No, it is not a direct steal from April, 1926, "QST." The set was built long before that.

The plate blocking condenser is a home-made one and better than a number of those which have been tried. It is made up of tinfoil and layers of varnished paper, the whole being rolled up to a size similar to a Ford spark coil condenser. The two connecting wires are attached to the respective sheets of foil by cementing with celluloid and celluloid cement, made of acetic aether in which a small piece of clean cinematograph film has been dissolved. These wires are then brought to two connecting studs, arranged on a suitable cover into which the condenser is fitted. Under short tests this condenser has withstood 550 volts A.C. and is, when working, subjected to approximately 350 volts R.A.C. (rectified alternating current). It is absolutely essential to use a good condenser for plate blocking which will stand the voltage across it, otherwise a breakdown will result in a direct short-circuit of the high-tension supply. A condenser breaking down in such a circuit as used in the set described will result in a deal of arcing taking place at the manipulating key contacts.

The panel should be very rigid, because, when the rheostat is being used a certain amount of tension is put on the panel, which will cause it to wobble if loose. When fairly large currents are used in the filament circuit it is sometimes of advantage to have the rheostat mounted on a separate panel.

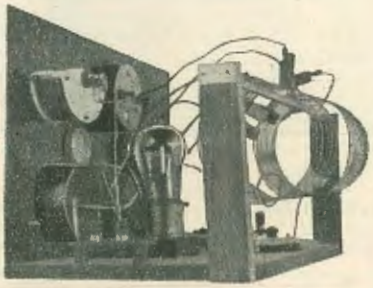

Fig. 4.

Power Supplies.

Having sufficiently described the layout of the transmitter and the necessary components to use. it is now necessary to deal with the power supplies. The simplest way of getting suitable energy for the plate and filament, when alternating current is at hand. is to use a step-up and step-down transformer. This method for obtaining both high-tension and low-tension current can be a single transformer with high and low voltage windings, or a separate transformer for each case. When only one transformer is used for both supplies a slight drop in the filament voltage occcurs when the key of the transmitter is depressed. This is due to the extra load being put on the transformer, when the high voltage is taken from it. The filament drop is only a fraction of a volt, and nothing really to worry about, so please yourself whether you get the single transformer for both purposes or a separate one for each supply.

The circuit diagram shows the connections for a single transformer having both filament and plate windings. Fuses are inserted in the respective circuits to prevent damage to the windings. The primary of the transformer is connected to the A.C. mains from which it is designed to work satisfactorily. The output windings should give such voltages and amounts of current to suit individual requirements, and the plate winding must have a centre tap. A centre tap in the low-tension winding is also beneficial at times and well worth having.

To smooth out the rough low-frequency alternating current it is necessary to use some means of rectification. One of the most simple, efficient and cheapest methods is the gaseous tube rectiger, where rectification of voltages for amateur transmission purposes is desired. The Amrad S tube is thus a very handy rectifier for our purpose, and I would advise you to use a couple of these tubes in a full wave rectification circuit. The chemical electrolytic rectifiers are fast becoming obsolete for high-tension supply work, and for the most are messy and as a rule not to be compared with the gaseous tube rectifier. Two Amrad S tubes are shown in the schematic diagram in Fig 1 and it will now be observed why the plate winding of

the transformer must have a centre tap. Of course, the voltage between the centre tap and each outside terminal must be the same.

Other power supplies may, of course, be used and if pure direct current current can be employed through out, it will be possible, by the proper proportioning of contestants and use of the correct components, to emit a pure signal much resembling a whistle. This is what is called a "direct current note," and comes next to a crystal controlled signal for perfection.

Without some sort of filter the rectified supply will not be anything like direct current. A good filter is shown in the diagram of the circuit, and consists of a choke coil having an inductance of at least 30 henries, and two condensers having a capacity of not less than 2 mfds. each. It is not essential to use a filter, but better signals will be transmitted by doing so, and remember, a good note is practically everything in low power long distance work.

Tuning.

The transmitter, being completely and correctly wired up and ready for operation, it is now necessary to tune the set to the required wave-length for transmitting. Place the clips on the grid-plate coil as follows:—Grid clip at extreme end near aerial coil; panel clip at other end; filament clip four turns from grid clip. Shunt the tuning condenser right across the grid and plate clips.

Turn on the power supply to the primary of the transformer, after seeing that all of the filament rheostat's resistance is in circuit. Now gradually cut out the filament circuit resistance by "turning on" the rheostat. Continue to do this until the filament voltmeter shows the reading at which the filament of the valve should be burnt. This valve is given by the manufacturers of the valve, and is marked on the carton as "filament voltage.'

Put the plate milliammeter in circuit and listen-in on a short wave receiver, situated near the transmitter, on the wave-length band in which you wish to radiate your signals. Press the transmitting key and the pointer of the milliammeter should deflect. Vary the capacity of the shunt grid-plate coil tunning condenser until you hear your signals in your receiver on the desired wave-length. Now couple the aerial coil to the grid-plate coil inductively, having the coils about one inch apart. Tune the aerial circuit now, to resonance with the circuit already tuned. The aerial being connected to the end of the coil nearest the grid plate coil, it will only be necessary to alter the earth clip and aerial condenser capacity to obtain resonance, which is indicated by the maximum deflection of the aerial ammeter pointer. Final adjustments can be made to all tappings and condenser settings if necessary for the production of the best signal. The coupling distance between the two coils can be altered, and the greater this distance the better the signals emitted —in most cases, although I have found at my station that very loose coupling makes the wave very broad and weaker than when fairly tight coupling is used. However, don't have the coupling too tight, otherwise the set will not oscillate or will only oscillate intermittently.

When the transmitter has been finally adjusted for maximum radiation and transmission on the desired wave-length, with fairly loose coupling employed, very slightly detune the aerial circuit by altering the condenser capacity in that circuit. This will result in a drop of indicated aerial current, but it will make the transmitted signal steadier, and the strength will be just the same.

Experiment extensively with the coil tappings and tuning condensers, for their correct position will make a big difference to the strength and tone of your signals.

When the transmitter is oscillating properly on the wave-length you desire to work on you are in for some of the greatest fun ever had, and if you are keen you will find that radio, particularly amateur radio, does take up your time.

The results from such a transmitter as the one described should be most gratifying. With a good note and a signal equal to those of other stations using similar power, you should be able to reach right across the world, and should get to the U.S.A. and nearer countries regularly, when using a wave-length in the vicinity of 35 metres. On the 80-metre wave-length band you should have no trouble in raising all Australian and New Zealand districts with ease. Such a transmitter will also work excellently with very low power input, signals being copied up to 1000 miles distant when using 90 volts high-tension. Again, using 350 volts on the plate and an indoor aerial 12ft. long, communication has regularly been carried on over distances of 800 miles.

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Perhaps, for the first time in the history of broadcasting, a definite system of time signals has been instituted at 4QG.

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For the scientific man who needs correctness to within a second this is quite useless, and no doubt the innovation at 4QG will be appreciated by surveyors and others "far from the maddening crowd."

The transmission of Eastern Australian standard time will be made by the Queensland Radio Service at 2.0 p.m. and 7.45 p.m. each week day excepting Saturdays, when there will only be the evening transmission.

A high-pitched buzzing note constituted the actual method of signalling, and from the time the signals are switched in a bizz sounds every second until a minute is reached when a blank for a second is noticed

The next minute is ticked off in the same way until the last buzz is sounded, which indicates one second before 2.0 p.m. or 7.45 p.m. as the case may be.

This is surely another example of the way in which 4QG is continually striving to cater for the listening public, and as the time is transmitted direct from the Observatory by courtesy of the Surveyor-General, it may be taken as absolutely correct.

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WYNNUM AND MANLY.—Secretary, P. J. Golden, c/o Trackson Bros., Ltd., Elizabeth Street, Brisbane.

Wireless Institute [*Q'land Divisoin*]

Advice has been received from the Postmaster-General that all amateurs must keep off the band between 20 and 38 metres between the hours of 5 p.m. and 7 p.m. every night until the H.M.S. Renown returns home to England. The attention of all is drawn to this matter, and it is hoped that no complaints will be caused by 4's.

The President of the Division, Mr. W. I. Monkhouse, A.M.I.E., is showing a splendid example of enthusiasm to members. Besides undertaking the bulk of the work in wiring the new transmitter, he has prepared a series of instructive lectures on wireless matters which will be broadcast.

This will supplement the slow Morse practice which was commenced some months ago.

A very novel feature of the lectures will be that all financial members will receive before each lecture, a sheet of diagrams, and as the lecturer will use these freely in his talk, the subject matter should be made much clearer than it otherwise would. Any constructive criticism will be welcomed, and members are urged to write and state their views offering any suggestions they care to. The wave-length allotted is 250 metres, and no trouble should be experienced by even a moderately selective set in separating 4QG and 4WI. It is hoped to commence these transmissions on Friday, 4th February, and thereafter according to the interest displayed by listeners.

Subscriptions sent in promptly will enable the council to extend the activities of the division and meet the obligations they are under. Any body is what its members make it. Show interest and your council must get a move on.

The Tasmanian Division have issued an excellent little Australian Call Book, copies of which may be obtained at 1s. each. In the last issue of "Harmonics," the bulletin of the Victorian Division, we find that it is practically assured that a Radio Research Board is going to be formed by the Council of Scientific and Industrial Research, and the institute can take the credit of being the body that brought matters to a finality.

It will be remembered that this subject took a very important place in the agenda of the last Federal Convention of the Invention, and was the subject of an address by Professor Madson of Sydney University to delegates.

Federal President Phil Renshaw has had several consultations with Mr. Malone in connection with deliberations of the Federal Convention, and an interesting report of results has come to hand. The various points discussed were settled, and in the majority of cases in favour of the institute.

The secretary of the Queensland body is at present Mr. A. A. Jackson, who will be glad to give any information about institute matters. Letters may be addressed either to the Institute, "Courier" Buildings, or to him at "Clock House," Elizabeth Street, Brisbane.

Wooloowin Radio Club

Now that the holidays are over our meetings have reached their old standard of attendance. From one's corner seat in the club-room a sea of dusky faces greets one's sight, showing that the club contributed its share of holiday-makers to the seaside. Among the foremost of this sunburned gang one's eyes linger on Bill Blaikie, who looks "as fit as a filament," and whose muscular arms speak well of the pleasant hours spent rowing YL's about at Palm Beach, and pushing boat-loads of same off sandbanks. A little further down the line one sees Nim Love and Kenna, both pretty dark except for a white patch over each ear, and faint but unmistakable white lines running over each head—showing where the sun was prevented from doing its stuff, due to phones being worn almost continually during their trip "down the Bay."

Well, to get to business. The latest "all club" movement, as you probably know, is the inter-change of lectures between the various clubs in the metropolitan area. Wooloowin and Eastern Suburbs have set the ball rolling, and have already "done their stuff." 4WN visited Eastern Suburbs and gassed on "Battery Charges" for a while. Eastern Suburbs then produced, apparently from nowhere, a very excellent supper. The following evening the Eastern Suburbs visited 4WN in force and told us about the erection of their seventy-foot lattice mast. Several other distinguished persons were present at this meeting in the person of Mr. Coffey and Mr. J. Price, of Wireless House, Ltd. It was Mr. Price's first visit to our club, and we extend to him a very hearty invitation to visit us again. Our old friend and adviser, Mr. Coffey, was a little more talkative than usual (Hi-Hi), but he did not say a hundredth part of what we would wish him to. "If you want me to talk," said 4KY, "take me to Townsville and give me a coupla!"

All the gang are spending their spare time on the spare allotments 'round, practising cricket, of which more anon—perhaps. You'll need it, gang; rumour hath it that they are good players, whoever they are.

Our friends of Eastern Suburbs certainly have an artist in their midst, as 4WN will remember of a recent meeting of ours. Their greeting to us consisted of a neatly drawn-up card on which was a sketch of the relations existing between the two clubs. Sure F.B. O.M.'s and may it get no worse than the sketch —Hi.

As previously explained, 4FK was temporarily installed on our patron's yacht, the "Sweetheart." Nim Love and Kenna had, therefore, a very fine opportunity of exploring the bay from a radio point of view. The set operated on a wave of about 85 metres, and very satisfactory results were obtained. Their main QSO man was 4RG, who worked very consistently. The power supply for the transmitter was derived from 300 volts in accumulator "B" batteries. They would be very pleased to receive reports on any of their transmissions. Several amateurs reported excellent reception of a couple of dozen garfish, per radio, when their frying performance was broadcast.

Toombul Radio Club

The year 1926 ended rather notoriously for 4TC. On December 21st the club members assembled in goodly numbers to do honour to the jolly old Yuletide season. At the appointed hour the club-room was well filled with members, ginger-beer and tucker.

The general business of the meeting was dispensed of with wondrous speed, after which the members settled down to the more serious business of the evening. After an hour and a half's munching, gurgling and guzzling, the party considered their appetites somewhat appeased, and with the exchange of appropriate greetings the party dispersed on the many and varied conveyances.

During the Xmas holidays the club packed up their troubles along with 4TC's transmitter and receiver, and sojourned to Woody Point. Communication was maintained with some of the stay-at-homes up in "Brisie," also with 4FK (of 4WN) who, with a few of his club mates, was holidaying on a motor-launch out in the Bay. A good holiday was spent and the club returned home sore and sunburnt, but very happy.

The noble sec. has been doing good work on 33 metres under the call of 4NW. Using 25 watts on a UX201 he has been in communication with U.S.A., Mexico, Canada, Hawaii, Japan and the New Hebrides besides all Aussie and N. Zedders.

4AW is also doing good work. He has been QSO with U.S.A and Japan, whilst a South Aussie reports his signals R8. The Rag Chewers' Club have now claimed 4WG as a member.

Recently 4AW and 4WE of the Toombul Club visited the Auchenflower Radio Club to give them a little enlightenment, as it were. Great interest was displayed, and we are looking forward to the return lecture from the 'Flower-ites.

The third annual meeting of the Toombul Club is fixed for the first week in February. Visitors will be cordially welcomed.

The club meets every Tuesday evening at the residence of Mr. A. E. Walz, corner of Eton Street and Sandgate Road, Nundah.

Townsville Radio Club

The fortnightly meeting of the Townsville Wireless Club was held in the club-rooms at the Fire Station on Wednesday, Jan. 5. There was a good roll up of members, and a very interesting trial of a new aerial resulted in it being declared a complete success. With this new aerial no insulators are required, one end is simply made fast to any convenient tree or pole, and the other end taken direct to the receiving set, without regard to whether it touches the building or not.

Two receiving sets were also loaned for trial—a four-valve Browning Drake with horn-type speaker by Mr. C. M. Stephenson, and a five-valve tuned radio frequency set with cone speaker by Mr. W. Poulney. The Browning Drake delivered more volume than the tuned radio set, presumably because no regeneration was used in the latter set. The cone speaker was a distinct improvement on the horn type for, while the latter delivered more volume, the quality of reproduction with the cone more than compensated for the difference.

Either set with a stage or push-pull amplification attached, and the cone speaker, would be an ideal combination.

At the next meeting, it is proposed to try out another set or two, with a view to ascertaining the most suitable type of set for North Queensland conditions.

It is hoped that very shortly the club mast will be erected and in use. The above-mentioned aerial was loaned to the club by Mr. O. Kingsberry, and after being so successful, was commandeered by the club for the time being.

Notes from 3LO

(From Our Special Correspondent)

3LO Breaks News Ground.

The universal ether being as familiar to the engineers of 3LO, Melbourne, as the solid earth is to a suburban gardener, it is not surprising to find those enterprising experts blossoming out or causing the ether to blossom out with new ideas for the benefit of listeners-in. "Dual transmission" is one of the latest experiments being conducted, and it is now well on the way to full bloom. By this system sound can be broadcast from two places at once as, for instance, someone may be giving a recitation in the studio of "How We Beat the Favourite," and the actual sounds of a racecourse could be heard transmitted at the same time from Flemington. This, of course, is only an elementary application of a very broad principle. One might imagine a broadcast from the Stadium being superimposed on a church service, so that anyone with selective ears might relieve the Te Deum of the church with the Stadium of a boxing contest, although this is hardly an edifying instance. The difficulties of the system lie in the independent control of two circuits ending in the one transmitting system, but careful design of balancers and amplifiers, above all, frequent practice in handling these controls, are likely to lead to early success.

A New Microphone for 3LO.

Another series of tests being made at 3LO have to do with the new Reisz microphone, which is one of a type recently adopted by the B.B.C. Its advantages are very great. None of the hissing and blurring inherent in many microphones when over-amplified are noticeable in this instrument, which gets nearer to absolute fidelity of reproduction than any other microphone so far available. When these are installed the promoters of the sounds competitions will have to look to their laurels, as most things will then sound just like they really are and not otherwise. This fidelity under extreme amplification, however, means much more than that, and will probably show up to great advantage in the new relay stations recently proposed by 3LO.

3LO Relay Stations.

The management of 3LO has announced a forward policy of relay stations, to serve Victorian country listeners. The first is to be at Bendigo, but others to follow will probably be situated at Maffra, Wangaratta and Hamilton. These stations will be fed with programmes from Melbourne, very much as Braybrook at present receives its supply from the studio, over its special land lines, and they will amplify and broadcast those transmissions simultaneously with the main station. This will prove a great boon to listeners distant from the Braybrook aerial, and will enable many isolated settlers around these relay stations to pick up on a crystal set what at present is denied to anyone below the level of two or three valves at least.

The Melbourne Hospital Junior Birthday League.

In response to appeals made from 3LO Melbourne since February last by "Billy Bunny," "Mary Gumleaf," "Miss Kookaburra," "Bobby Bluegum," and other friends of the children, the nice little sum of nearly £350 has been collected in half-crowns and other amounts from little listeners-in who remembered the hospital on their birthdays. This means that 2409 birthdays have started well during the last 10 months with a kind thought for the suffering, and who knows how far-reaching such a good habit begun on a birthday is going to extend for ever after. The direct result was that the entire upkeep of a great hospital for 40 hours was defrayed by eager little folk who seized on this as a splendid opportunity for emulating the first Good Samaritan. Over the entrance to the Melbourne Hospital is a stained glass picture of that Great Man busily engaged on his work of succouring the sick, and it is most fitting that generations should rise up to call him blessed and even to better His famous example. The Birthday League is merely a good resolution that will, in many cases, result in further and continuous giving on other days of the year also, or else of course the hospital could never continue its good work.

St. Paul's Bells.

A permanent special line for broadcasting the beautiful peal of bells at St. Paul's Cathedral, Melbourne, is now being provided, and the rest of the apparatus installed, so that by means of a relay the control room at 3LO Melbourne will be able to switch on to that line direct whenever the bells are being rung, and a special feature on future Sunday mornings therefore will be the ringing of the bells of St. Paul's. To get the proper effect of these peals without the clang of the clappers and the internal reverberation of the belfry, the microphone must be installed some distance away and not, as popular imagination pictures it, up among the very bells themselves where the actual din is deafening and would be far from musical if broadcast from there. The art of bell-ringing is known as Campanology, and some very fine examples of the art have been performed by the Campanologists of St. Paul's. It consists in ringing the bells in a constantly varying musical sequence known as changes, and the possible number of changes that can be rung on the bells of St. Paul's runs into several thousands without repeating even once. As each bell is rung by a separate person, the successful ringing of a complete sequence of changes, known as a Peal, entails close co-ordination among the ringers and is justly regarded as a feat which reflects great credit on all concerned.

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COPY OF TESTIMONIAL.

COWRA, October 22, 1926.

The Manager,
Mingay's Wireless Mftg. Ltd.,
Dear Sir, SYDNEY.

I gave your "Unique" 5 a trial last night, and, although there was a good bit of atmospheric disturbance, all Interstate stations came in distinct with plenty of volume. I have no doubt at all but that this set will be by far the best seller on the market, and is all that you claim for it in your advertisement.

I tried it on a small loop aerial, and got all stations on it at good loud speaker strength.

Yours faithfully,

MINGAY WIRELESS MFTG., LTD.
DARLINGTON, SYDNEY, N.S.W.

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.

56 Alma Street, DARLINGTON

SYDNEY

Agents wanted in unallotted territory

("Behind the Scenes at 4QG"—Continued from Page 8)

phone voices, because our studio microphones, while being much purer than a telephone, are only about one-thousandth part of the strength of a telephone. The voice of the announcer had to be fed to the transmitter, and it also had to be fed to the telephone line so that those calling could hear his reply, and a means had to be provided for the announcer to hear what the person calling was saying. I tell you, it was quite a problem, but with amplifiers, some transformers, half a dozen batteries, and a handful of short pieces of wire, it is wonderful what can be done."

"Thank you very much, Mr. Stevens, is there anything else you would like to tell the readers?"

"There certainly is, but it seems so impossible to express my views in words. I can show these things to you, but its so hard to tell you what to say to the readers.

"With a staff of the best youngsters—for we are all young people up here, you know, only one of us is over the age of 30 years (and I won't say who that one is)—fifteen as keen and conscientious young folk as you could find in any undertaking, the management of the technical section of "A" grade broadcasting station offers one endless possibilities, and makes the long hours on duty a real pleasure."

Broadcasting Record

NEW YORK HEARS 2GB.

The Theosophical Broadcasting Station has received a letter from Mr. W. H. Jefferies, of 45th Street, New York City, N.K., reporting on his reception of 2GB. In his letter addressed to "Theosophical Radio Station, Sydney, Australia," he states: "On the 3rd September, about 6.15 on the morning of the above date, the writer feels certain, in a nine-tube super Het. that has already heard 2FC and verified in my log, of picking up your station, a Miss Gladys Evans was announced and the air, "Joyous Bird" was heard briefly, being familiar with the air. This is my second letter in reference to the reception for fear the first might go astray. The reception was very brief, for about three minutes, but audible. Anxious to hear whether this is O.K. and can but await your reply and will forward a sworn affidavit in this report for the asking. (Signed) W. H. Jefferies." Miss Gladys Evans, the singer referred to, is the well-known dramatic soprano frequently heard from the 2GB Studio. 2GB is to be heartily congratulated for establishing this record in long distance telephony transmission, and Mr. Jefferies deserves great credit for his reception.

Novel Radio Competition

Valve Sets Offered as Prizes for Most Original and Efficient Crystal Sets

A novel competition has been organised by the Radio Department of the Globe Furnishing Coy., Stanley Street, South Brisbane, whereby crystal set owners are given the opportunity of entering their sets for a novel competition with a chance of winning one of the following three handsome prizes:—

First Prize:—1 "Happyman" 3-Valve Wireless Set, complete with speaker, valves and batteries, ready to listen into. Value, £15.

Second Prize:—1 "Happyman" 3-Valve Kit, with complete instructions and speaker.

Third Prize:—1 Crystal Set Valve Amplifier.

Rules for Competition.

(1) All competitors must build the set themselves for the competition; parts can be bought anywhere, no restriction, any brand or make of crystal can be used, but no power batteries or valves must be applied.

(2) The competitive sets must be left with the Globe Radio Department, where the utmost care will be taken of them, but no risk will be taken by the company.

(3) The judges will comprise one lady and two gentlemen, members of the outside public. No member of the Globe's staff will be eligible for entry.

(4) The judging will be in heats, and the public will be invited to listen to the sets. Special aerial and earth wires will be used. All sets will be judged on this apparatus. A Spitfire loud speaker and pair of Spitfire headphones will be tested and sealed away during the competition, and on these only will the judging be done.

(5) Entries for the competition will commence at once, forms are free on application. Write or call in, put in your application early. There is no age restriction, anyone can enter providing he or she be an amateur. Tone, sound, purity and volume will be judged, novelty of build, originality and finish—all these qualities will be considered in the judgment of sets.

(6) The winner of each heat will be announced over 4QG Globe advertising session, and the winners in final will be advertised in daily press, as well as over 4QG; also the names will appear in "Globe" window.

The Manager reserves the rights to add any new rule, and his decision shall be final.

Make application now. Build and bring your sets and compete for the handsome prizes. The address is:—

THE GLOBE FURNISHING COMPANY,
Stanley Street (near Clarence Corner),
SOUTH BRISBANE. [ADVT]

RADIO IN THE WEST.

Mr. J. S. Mulholland, of Mulholland Garage, Jandowae, was recently in Brisbane on business, and during his stay secured the agency for the Elliott Three Radio Receiver in his home territory.

Mr. Mulholland is a firm believer in the value of radio in the country, and considers that a good radio agency run in conjunction with his garage should be of advantage to people of the west, who realise the advantages and enjoyment to be derived from linking up with the broadcasting stations of the capital cities of Australia.

Masters Colin and Stanley Craddock, of East Brisbane, who recently entered for a Fancy Dress Competition as "Uncle Ben's Book-o'-Fun" and "Queensland Radio News" respectively.

The Transmitting License

(By Q.R.N.)

ARTICLE V.

The first four articles of this series dealt with the conventional Q-signals, the Morse code, and with various aspects of traffic procedure.

With this article a commencement is made in the theoretical knowledge required by candidates for the Amateur Operator's Proficiency Certificate.

Such knowledge required covers the general elementary theories of electricity, a good grounding in the behaviour of, and control of, electric current, both direct and alternating, and a sufficient insight into the various phases of radio electrical work.

In this issue consideration will be given to some of the various units and terms used by amateur transmitters.

The **VOLT,** which is probably the most familiar of all electrical terms, is used to measure electro-motive force, or E.M.F., as it is more commonly called. The existence of this E.M.F. in its turn depends upon a potential difference in the sphere of action of the E.M.F. This potential difference may be defined as the difference of electrical pressure between any two points in an electrical circuit. If there be no measurable difference there is, of course, no E.M.F., and as a natural sequence, no volts to be taken into consideration. Now it is, of course, understandable that different electrical circuits and conductors will differ from each other in terms of their potentials. For the purpose then, of giving ease to calculation dealing with potentials, it is usual to refer to such in terms of their relation to earth potential, regarded as zero. From a consideration of this fact, too, it will be seen that insulation plays an important part. An insulator is any substance or object used to confine an electric current to its destined path, and to prevent such current from leaking away through any neighbouring conductor; and by the use of appropriate insulation the potential difference of any electrical conductor in respect to any other may be preserved. As an example, take the ordinary municipal lighting circuits. The electric light or power lines are usually referred to as 240-volt, or 100-volt, or 5000-volt lines and so on, as the case may be; and all are very carefully insulated with porcelain or glass or other insulators. These lines are carrying electric currents which are at a high potential as compared to the potential of the earth (zero). This disparity in potential is measured in volts, and may be, as in the example, 240, 100, or 5000 volts. Any conductor that is directly and electrically connected to earth is at zero potential, hence in speaking of the usual two-line light or power system as 240-volt lines, one means that one of the lines has such a potential difference in respect to the other —for invariably one of the lines is "grounded," that is, at earth potential.

Having dealt with the idea of electrical pressure, or voltage, one naturally turns to its correlatives—amperage and ohmage or resistance.

The application of some amount of electrical pressure or voltage to a conductive circuit has the effect of setting up a state of strain or stress in the conductor. At the instant at which the voltage is applied, the point of application may be regarded as being at a higher potential than the rest of the circuit. So long as this potential difference exists, a current will flow in the direction of the lower potential.

Now the amount of current that will pass along a conductor depends upon two outside conditions; firstly, upon the pressure (i.e. voltage) urging it on; secondly, upon the nature of the path along which it is required to pass, or in electrical terminology, upon the resistance of the conductor.

The quantity of current that flows along a conductor is known as the amperage, and is measured in terms of units, called **amperes.** The obstruction offered to the passage of such a current is known as the ohmage or resistance, and is measured in units called **ohms.**

The relationship between these three units—volts, amperes and ohms—is given by an old equation known as Ohm's Law. This was first established by Dr. G. S. Ohm, a renowned German physicist, in a pamphlet published in 1827, and states that, given a constant resistance in a electrical circuit, an increase of voltage will result in a proportionate increase in amperage.

Expressed in terms of an equation we have—

$$\text{Current equals } \frac{\text{Voltage}}{\text{Resistance}}$$

Or more familiarly: $C = \frac{E}{R}$

(The letter C or I is usual to express current, and E to express E.M.F.)

A second form is: $E = CR$

An a third form is: $R = \frac{E}{C}$

Thus it will be seen that if any two of the factors —voltage, amperage or resistance—are known, the third may be ascertained directly.

Having given the three units their theoretical relationship, one comes to consider their quantitative significance. This, however, is simple, thanks to a

prescient agreement between the scientists of early days, and an international ampere is defined as that current produced by a pressure of one international volt in a conductor having a resistance of one international ohm.

Electric currents of varying amperage and at various voltages are used in radiotelegraphy, chiefly for heating the filaments of the valves in use, and for supplying the plate circuit of such valves.

However, a great difference lies between the values of the currents used in the filament and in the plate circuits. The former is always of low voltage, even a big 250-watt. transmitting tube has a filament voltage of a mere 12 volts—while the amperage in the filament circuit is always comparatively high.

In the case of the plate supply, however, the reverse is the case. Here one finds high voltage, ranging up to thousands of volts, coupled with low amperage usually measuring a few milliamperes.

For filament lighting the average amateur generally uses accumulators or dry cells, though on occasions use is made of such things as step-down transformers working from the alternating current supply, to heat the filaments of transmitting and rectifying tubes.

As an accumulator or dry cell only has a voltage ranging from 1 to 2 volts, it is usual to connect several together to increase the available voltage to a suitable value. It is, of course, well known that, to increase the voltage beyond that supplied by one cell, it is necessary to link up further cells in **SERIES.** The amperage of the battery so made is not thereby increased. The method of doing this is shown in Fig. 1.

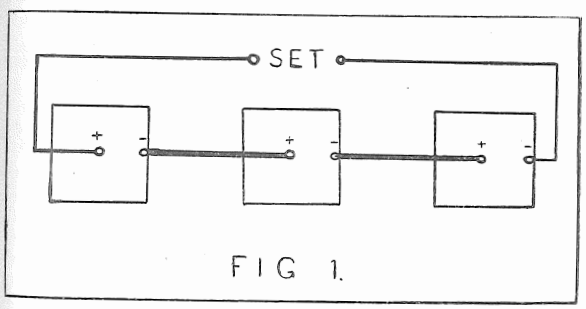


FIG 1.

When, however, it is found necessary to increase the available output of the battery without altering its voltage, additional cells are connected in **PARALLEL** as shown in Fig. 2.

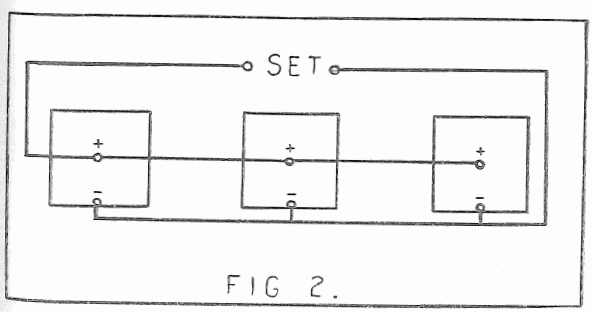


FIG 2.

Thirdly, a combination of these two methods has the effect of increasing both the voltage and the amperage of the battery, the increase in either case being proportional to the number of individual cells connected. A **SERIES-PARALLEL** arrangement is shown in Fig. 3.

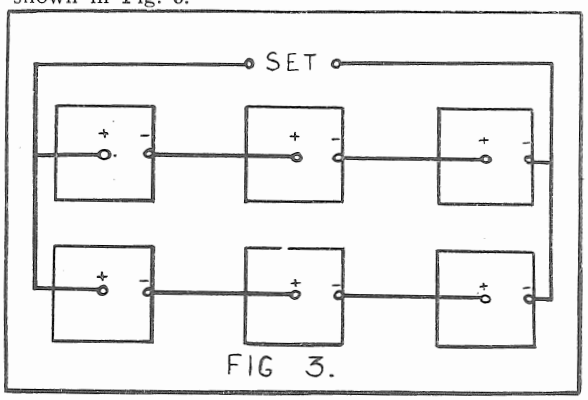


FIG 3.

A knowledge of the action and construction of dry cells and accumulators is necessary, but as such is given in most books dealing with electricity no time will be taken up in this series of articles in giving the matter further consideration.

Resistances.

Every electric circuit has resistance, though for purposes of calculation the resistance of a plain circuit is regarded as negligible. However, it is very often necessary to add resistances to various parts of wireless circuits to perform various functions. Thus it is usual to find resistances placed in the filament circuit and in the grid circuit of the usual receiver. When one known resistance is inserted in any given circuit the resultant values of current and voltage are calculable by the formula of Ohm's Law. When more than one resistance is used, however, they must be reduced to one equivalent resistance before further caluculation be made.

Resistances in Series.

When two or more resistances are placed in series with each other as in Fig. 4, the equivalent value thereof is simply the sum total of their individual values.

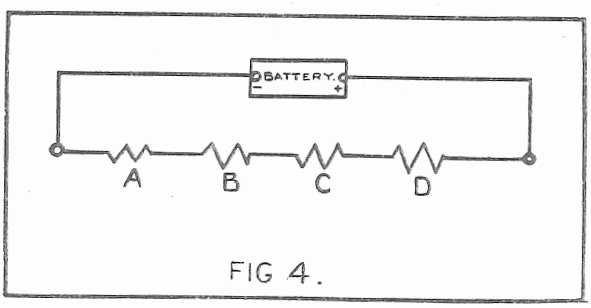


FIG 4.

That is to say R equals A plus B plus C plus - - - - where A, B, C, etc., are the individual resistances; and R is their equivalent expressed as one resistance.

Resistances in Parallel.

If the separate resistances (A, B, C, D, etc.) be connected in parallel (Fig. 5) the equivalent resistance R is given by the formula :—

$$\frac{1}{R} \text{ equals } \frac{1}{A} \text{ plus } \frac{1}{B} \text{ plus } \frac{1}{C} \text{ plus } \frac{1}{D} \text{ plus } ----$$

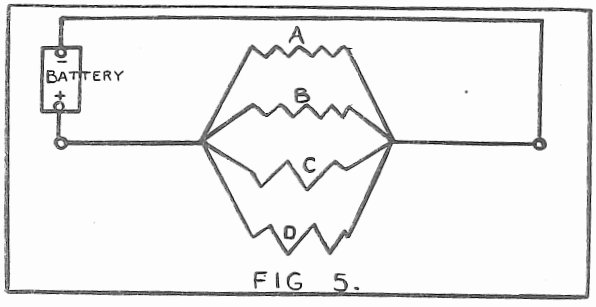


FIG 5.

In this special case of two (only) resistances in parallel this resolves into the following formula :—

$$R \text{ equals } \frac{AB}{A \text{ and } B}$$

Resistances in Series Parallel

When various resistances are placed in series-parallel as in Fig. 6, it is necessary first to find the equivalent value of each group, and then find the total resistance of the result.

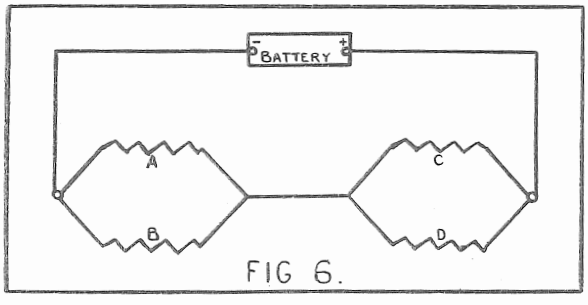


FIG 6.

It should be noted carefully that when resistances are connected in parallel, an equivalent resistance is obtained the value of which is less than any of the individual values of its component members.

KOOKABURRA BY RADIO.

Man Versus Bird.

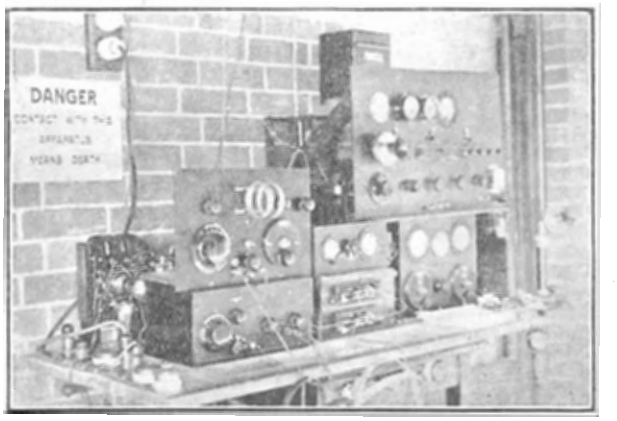
Following the announcement that Broadcasting Station 2FC Sydney was anxious to broadcast a kookaburra laughing, arrangements have been made for the owner of a bird to bring him into the broadcasting studio on the evening of Tuesday, February 8.

This particular kookaburra will laugh "on request." "Imito" (Corporal Phillips) will also be at the station to do some kookaburra business. A number of calls will be given, and listeners will be asked which is the man and which is the bird.

Stations 4HW - 4WR

Operated by HAROLD D. WALSH)

Station 4HW is an experimental station working on short waves, and 4WR is a dealer's transmitting station working on the 200 metre band. Both stations are situated at Toorak Hill, Hamilton and use substantially the same apparatus. The photograph shows fairly clearly the layout of the apparatus. On the extreme left is seen the power supply unit, which gives A.C. for filments of transmitting and rectifying tubes, and Direct Current for plate supply. Rectification is effected by 4 201A tubes, 2 on each leg of the transformer, with grids and plates connected together. In front of this unit are two receivers, the top one, using Schnell's circuit being used for short waves and the lower, a standard Crossley three, is used for wavelengths between 150 and 700 metres and also supplies the household with broadcast music, a line being run to a loud speaker the other side of the house. Behind the receivers is also the filler unit, which consists of a 50 henri choke with a 4 mfd. condenser across the the line on either side of the choke. To the right of the receivers is a panel with two send-receive switches for short and long waves, and two meter with a switch; these read plate supply up to 600 volts, A Battery voltage and B Battery voltage, a switch switching the meter to which-ever supply it is desired to read. The resistors for these metres are mounted behind the panel. The keying relay is mounted on the baseboard behind this panel; it consists of a modified Ford Cut-out, and closes the high tension circuit for both transmitters. The cut out is operated by the main 6 Volt storage battery, and is closed by keying or turning a switch. On the right are seen both transmitters, the "broadcast"' one, which is better known to most listeners, being on top. It employs a five watt tube in the Armstrong tuned plate circuit, and a second five watt tube is used in the Hoising modulating system. Both tubes can be placed in parallel for CW work by throwing a switch. A stage of speech amplification consisting of a DE5 tube and Silvertown transformer, is used where necessary to increase volume, as in piano transmission. On the panel are meters for showing aerial current, filament current and voltage and plate current. There are also a microphone, two condensers, three rheostats, jacks, and a number of switches. A series of lines with plugs are used to connect up the set with the room in which the programme is being enacted. The usual wavelength used with this transmitter is 248 metres. The aerial is a ship type two wires with centre lead in, 35ft high and 80ft long. Below this set is the short wave transmitter, using a UX210 tube in the standard shunt fed coupled Hartley circuit. On the panel are meters reading aerial current, filment voltage and plate current, a rheostat, and two condensers. By throwing a switch the plate supply for the set may be modulated under control of the modulator tube of the set above, and telephone tests can thus be successfully carried out on wave lengths as low as 18 metres. Two keys and a microphone are seen on the extreme right of the baseboard. Under the table are a 6 volt car battery,



The Apparatus at 4HW.

used for filment lighting and kept charged by a vibratory charger, 90 volt storage B Battery, charged by a home made charger, two 4 volts accumulators used for microphone circuits and grid biassing, and a heavy duty 45 volt dry battery for grid bais on the modulator tube. A Tungar value rectifier is also used for charging accumulators.

These stations have not been on the air very much lately, owning to the pressure of other work and experimental work, but it is hoped to do more in the near future. Reports from listeners and other amateurs are always appreciated. Most experimental work is done apart from the station apparatus, and a laboratory has been established in the operator's bedroom. The apparatus here includes check sets and wavemeters for observations on transmission, various aerials, loops and receivers, calibrated oscillators, and a full range of meters. At present two crystal are being tested, and quite satisfactory results have been obtained. It is hoped that in the course of a few weeks 4HW will be under crystal control on 36 metres. A 250 watt tube is also being tried out, but to date a suitable plate supplv have not been obtained. Details of pending experiments will be given later.

There appears to be a general slackening off in ham activities everywhere since the setting in of the summer months. There are, of course, the ever-increasing number of "freshmen" coming on the air, but the majority of the older enthusiasts have disappeared. Affairs in the fourth district are much the same, although one or two little things have happened to break the monotony.

4AW worked his first Yank the other night, U-2BQH it was. He has hooked a few more and a couple of Japs. since F.B. Most of his work is done with under 20 watts input.

4NW, who should have been mentioned in last month's notes as a newcomer, is already ringing-in plenty of DX on a low-powered set. He has been QSO U.S.A., Hawaii, Borneo, and Japan.

4YN, Dennis Harkin, late of 3YN, now firmly established with the Air Force gang in Bowen, is using a Z2 bottle in a modified Colpitts circuit. He says he has worked U.S.A., Portugal and Japan with 33 watts input. F.B.

4HW, I believe, has something in the way of a large bottle (respectable sort) and a goodly sized transformer up his sleeve. He is waiting for the word to begin on 30 metres.

4WE's low-power sigs. on 80 metres have covered practically the whole of Australia and New Zealand. He seems to prefer "rag chewing" on 80 than DXing on 30 metres. ('Tis the spirit OM!).

That rectifier troubles have been badly besetting 4RB is plainly evident by his worried countenance. "Nope, OM," ses he, "S toobs are N.D.G., they won't pass more'n 150 mills apiece." . . . Elk!

It has been reported that 4RG, with only 90 volts on the plate of a 201A, hooked up with a Hawaiian ham a few nights ago. I have not seen either "CS" or "HS" of 4RG to get this verified. If it is accurate it is certainly a very good performance which does not fall far short of an Australian record.

4LJ is one of the few very active "fours." His sigs. are louder than ever, but the QSB has developed asthma or something. It now sounds a cross between wheeze and a frog croak; not one half as good as it was before.

The results of the W.I.A. Traffic Test number 1, which, I think, have not been made known before, are as follows:—4RB, 280 points; 4WN, 230 points; 4CG, 210 points; 4AW, 170 points; 4MM, 150 points; 4AN, 90 points; 4DO, 60 points; 4WH, 40 points.

For those hams who are thinking of putting up a Zepplin Hertz to work on the 30-metre band, the following dope and measurements which come from 4RB will be of help:—

(a) The antenna is 55 feet (fundamental) in length.

(b) The feeders can be made to any reasonable length, but the dead-ended feeder should be tuned to a quarter wave-length. At 4RB both of these feeders are about 43 feet long.

(c) Bakelite strips 6ins. long and spaced about 8ft. apart, are used to space the feeder lines.

(d) The operation is simple. The feeder circuit is tuned so that the two meters (one in each line) are both, together, showing a maximum reading.

Other constructional dope can be found in last July's issue of "QST."

There are quite a number of "New" countries putting themselves on the radio map; there are thus quite a number of strange "nationality break signs" finding their way into our 'ceivers every night. Below is a list of all the new intermediates which have come into use during the last four months. As a number of them have not been officially sanctioned by the I.A.R.U., we find the same intermediate, in many cases, being used by two or more totally different countries.

New Intermediates.

AI: Tripoli.	JM: Jamaica.
BC: Belgian Congo.	KY: Kenya Colony.
BG: British Guiana.	LA: Norway.
BN: North Borneo.	NC: New Caledonia.
BO: Bolivia.	NH: New Hebrides.
CO: Columbia.	OE: Austria.
CS: Czecho-Slovakia	P: Madeira.
CZ: Canal Zone.	P: Pt.'guese Col. (China).
EG: Egypt.	PE: Palestine.
EI: Dutch East Indies.	SR: Salvador.
FA: Algeria.	T: Poland.
FM: Morocco.	T: Turkey.
GH: Ecuador.	TJ: Trans-Jordania.
GC: Gold Coast (Africa)	TN: Tunis.
IC: Iceland.	W: Hungary.
IC: Indo-China.	YS: Yugo Slavia.

The Ham's Glossary.

For benefit of the uninitiated:—

Storage Battery: Device designed to leak acid in small dribbles (quart size) on carpets and polished floors.

Ether: Hard, soft, thick, thin substance which is rigid, flexible and stiff—any one of either.

Arc: Harmonic factory—a hot sketch.

Choke Coil: Invented by the great orator, Patrick Henry; used to keep audience in submission.

Magnetism: Comes out of a magnet and picks up nibs, but can be used in wireless to makes the telephones gee.

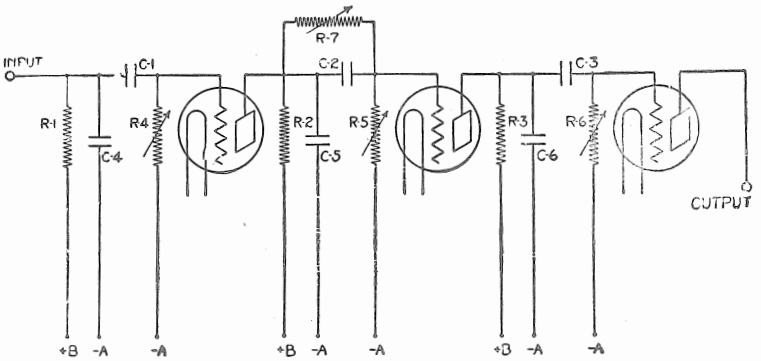
Morse: Dots and dashes once made in America. Now used by amateurs and other things of that kind, if any, and by Marconi operators at sea.

OF INTEREST TO EXPERIMENTERS.

That enterprising amateur, 4AW, is arranging schedules for experimenters in five-metre work, the time for transmission being Sunday mornings, 11.30 to 11.45 a.m.; wave-length is 4.7 metres. This station will be on the air on 190 metres on Sunday evenings between 6.15 and 7.30 p.m. Reports on either of these transmissions will be greatly appreciated by the owner-op., A. E. Walz, Eton Street and Sandgate Road, Nundah.

Improving and Adapting The Resistance Coupled Amplifier to the "B" Eliminator

(By William H. Fine, E.E.)



Those who have experimented with resistance coupled amplifiers are fully aware of the usual difficulty encountered in determining the most efficient values to use in both the plate and grid circuits. While it is generally recognised that resistance coupled audio amplification preserves the original purity of the incoming waves to a more pronounced degree than any other present known method, still, the final output remains more or less distorted, due primarily to the fact that ordinary resisters cannot be made to take of that small fractional part of resistance which would undoubtedly afford greater clarity and more perfect fidelity of reproduction. Experimenters with this type of amplification have undoubtedly often felt, when trying fixed resisters of various values, especially in the grid circuits, that if they could only increase or decrease the resistance just a trifle, practically perfect reception would be established.

Another annoying and really serious problem which has but recently been brought forcibly to the attention of resistance coupled enthusiasts, is the continuous "putting" or motor-boating as it is more commonly termed, which manifests itself to varying degrees of intensity when "B" eliminators are connected to this type of amplifier.

These plopping sounds, which generally rise to such intensity as to drown out the incoming signals, are caused by low frequency audio oscillations, and to the average layman present an almost unsurmountable stumbling block.

The information given in this article is the result of extensive laboratory experiments, and not only solves the "motor-boating" problem, but sets forth the use of variable resistances in a manner which tends to lift resistance coupled amplification up to a still higher plane of excellence.

In the plate circuit R-1 is a fixed Muter resister with a value of .75 megohms; R-2 .5 megohms, and R-3 .5 megohms.

In the grid circuit R-4 is a Radiohm resistance variable up to 500,000 ohms; R-5 a Radiohm resistance variable up to 250,000 ohms, and R-6 a Radiohm resistance variable up to 100,000 ohms. If a power tube is used in the last stage a Radiohm resistance variable up to 500,000 ohms was found to give maximum results.

It might not be amiss at this time to impress upon the reader the fact that the resistance in the grid circuit of the last tube is the one that actually governs the final tone quality of the receiver and, therefore, only by employing a highly dependable make of variable resister can the proper value be determined which will assure both clear and undistorted reception. The various variable resistance illustrated can be readily mounted direct on the sub-base of the receiver, and when the most efficient operating values are once determined, further adjusting is unnecessary.

The isolating condensers C-1, C-2 and C-3, have a capacity of at least 1 mfd. C-4, C-5 and C-6 are of the small by-pass type and are low in capacity, about .00025 mfd. These by-pass condensers keep the radio frequency currents out of the resisters in the plate circuits, and were found absolutely necessary for best results. It was found better practice to connect these by-pass condensers to minus A, as they will then by-pass the batteries as well as the resisters themselves.

To eliminate all semblance of the aforementioned "putting" or "motor-boating." it was found advisable to shunt a variable Radiohm resistance across the isolating condensers C2, coupling the first and second stages. This resistance is shown in the illustration as R-7, and should be variable up to approximately 5,000,000 ohms.

Last, but not least, when bulding a resistance coupled amplifier, as well as any other piece of radio apparatus, it is well to bear in mind the fact that the final results of your labours depend entirely upon your own workmanship and the quality of the parts used. This is particularly true in the selection of the isolating condensers, and the resistances, especially the variabel types. Metalised fixed resisters are recommended for the plate circuits because their values do not readily change as is the case with those made of cardboard or other material steeped in indelible ink.

Centralab variable resistances were selected by the writer as the most dependable, it being found that the values remained constant indefinitely, and that they could be accurately logged while the various compression types changed their values after being in operation, sometimes for but a few minutes, thereby making continuous adjustments necessary, this being particularly noticeable on the high resistances.

Notes from 4QG

A Radio Engineer's Library.

Listeners often may think that the engineers in a broadcasting station have attained sufficient knowledge to carry them through the rest of their lives. Such an impression is quite an erroneous one. The successful wireless engineer, even if he may be employed at so modern and so up-to-date a Station as 4QG, must of necessity study every available minute of his spare time.

This fact has been borne in mind by the Director of 4QG, and a very complete wireless library is included in his office, and is available to any member of the staff at any time.

Natural Studio Lighting.

One of the features of the bigger of the two studios at 4QG is the fact that it is naturally lighted, and this makes it much more comfortable for artists to perform in the day time. In order to naturally light the studio, a considerable amount of precaution in regard to the construction of the windows had to be exercised. The side of the studio faces the side of the building which overlooks a public street, and had ordinary windows been included, perhaps a number of street noises would have found their way into the transmission.

In other studios in other parts of Australia, this has been overcome by the building of a blank wall which is quite sound-proof, but at 4QG it was considered desirable to light the studio naturally and, therefore, double windows were included. These admit light while keeping out all sound.

Obviating a Squeaky Door.

Many listeners to Station 4QG at one time remarked that it was possible for them to hear the studio door squeaking during an item. This has now been overcome by the fitting of special patent door closers. Locks and catches have been completely removed from the studio doors, and now the announcer, when moving from one studio to another, merely pushes the door open, enters, and lets door go. The patent door closes very quietly and very securely, thus obviating any bang, rattle, or squeak.

He Saved the Price of His Set !

The far-reaching effect of wireless on the business as well as the social life of the community, was exemplified recently in connection with a business transaction in a rural centre.

A country produce dealer purchased a line of onions from a farmer, the price he paid being based upon the previous day's rates. Shortly after the purchase was completed, the dealer, listening-in to the market reports broadcast by 4QG, was informed that onion values slumped considerably. Facing a big loss, he telephoned to another trader in a northern coastal town offering the onions at a figure lower than the previous day's market rate. The trader to whom the offer was made, having no radio set, was ignorant of the altered market conditions, and quickly snapped up the offer. The dealer equipped with wireless showed a small profit on his transaction, whilst his less progressive friend had to suffer a heavy loss.

A Fine Song Made Famous.

Certain songs seem to become linked in the memory with certain singers. So much so that the one naturally suggests the other. An association of this kind is brought to mind by the well-known song "The Silver Ring," which is to be broadcast from Station 4QG on February 2nd. Mention of this song brings memories of Madame Clara Butt, the great contralto, who made it famous. Listeners to Station 4QG will hear it under the happiest circumstances, as its rendition will be entrusted to that capable artist—Mrs. Chas. Willey.

Rain Causes 4QG's Wave-length to Vary.

Does heavy rain effect a station's wave-length? In the majority of cases certainly not, but 4QG is different.

The aerial of any station is actually a plate of huge condenser, the earth being the other, and the intervening space the air dialectric.

In the case of 4QG, an earth screen or counter poise is used about midway between the aerial and the actual earth, making as it were, a centre plate in the condenser.

The roof of the State Insurance Building, on which 4QG is built, is flat, and holds much water; the walls of 4QG are concrete and absorb a certain amount of moisture, as also do the walls of the State Insurance Building.

So much moisture was absorbed and retained during the recent heavy rain that the capacity of the "aerial-earth condenser" varied enough to alter the wave-length of 4QG five metres.

Of course, a careful watch is always kept on such possible happenings, and a variation of portions of the apparatus in the station soon puts matters right. As the moisture in the building dries out, so the wave-length will gradually have to be kept steady again.

The Speaking Flame.

The field which extends beyond the ends of the spiral copper tubing which forms one of the tuning inductances at 4QG is so strong that conductors some distance from it are heavily charged and become alive. If two pieces of metal are placed in this field and separated by about one inch, a heavy flame will jump through the air and from an "arc" between the metals.

During the transmission of music or speech this flame speaks with great volume and clearness, and the broadcast items can be heard throughout the whole transmitting room. This is mainly due to the varying intensity of the flame caused by the modulation of 4QG's carrier wave.

Consistent Reception

Writing in the January issue of the American "Radio News," Mr. J. Moskovita of San Pedro, California, says—"I have been fairly successful during the past year in picking up quite a number of foreign stations. My best reception of any foreign station is from 4QG, Brisbane. I have tuned in 4QG for twenty seven consecutive mornings it is the most consistent of any foreign station

These remarks amply demonstrate the the evenness of transmission from the big northern station.

A Jackass that didn't get Mike-fright.

Human nature always responds to anything novel, and the broadcast listener is just as susceptible to the unusual as others.

Programme directors are, therefore, always on the alert for something new and strange to include in the transmuissions.

Recently a southern station announced that shortly an attempt would be made to include the "laugh" of the kookaburra in a transmission. It was proposed to instal a microphone in the gardens and hope that the Jackass would be kind and laugh heartily, for the benefit of those listening in.

However, a Jackass in Queensland has the "laugh" (in two senses of the word) over the southern fraternity, because on Sunday afternoon recently he sat on an electric light standard in the Brisbane Botanic Gardens and laughed to his heart's content at the microphone which was waiting for the band programme.

The operator in charge of the amplifier at the gardens was quick to appreciate the novelty the jackass was affording listeners, and he accordingly controlled it so satisfactorily that the "laugh" came through just as thought the "stunt" had been rehearsed.

A Popular Story Book

Uncle Ben's "Book O'Fun" the delightful volume for kiddies which which was produced by the bedtime story telling staff at 4QG has met with a wonderful reception, and the first edition has been almost sold out within six weeks. Orders for the "Book O' Fun" have reached Brisbane from all parts of Australia and New Zealand, thus illustrating the fact that 4QG's bedtime story sessions are extremely popular in all parts not only in Queensland but all over the Commonwealth.

Sir Arthur Sullivan's Songs.

There is a touch of irony in the fact that composers do not always achieve fame by medium of their best work. Sir Arthur Sullivan wrote the great oratorio, "The Golden Legend," but his comic operas made his name universally known. Ed. German to a lesser degree, had the same experience. Perhaps his great facility to write breezy melody is responsible. However, listeners to Station 4QG will find no fault with hearing his fine song "Rolling Down to Rio" rendered by a capable artist—Mr. James Geddes, who broadcasts from the Studio on February 12th.

Serving Everybody.

4QG is certain "in the air"! you hear it spoken of in the train, in the tram, and on the street.

The bedtime stories are looked upon by the children as part of their very lives. The "sports" rave about the Speedway, and the "stay-at-homes" love music. Picnic parties take their portable set, and gay, passenger steamers flood the musuic room with 4QG.

The other day a member of the staff of 4QG visited Sydney, and on his way down listened to his own station on the "Woolongba." He made the Hotel Sydney his headquarters, and after a brush-up, retired to the lounge for a quiet smoke. The first thing to greet him was a loud speaker announcing that "Miss So-and-So" would render a contralto solo. "Miss So-and-So" was none other than one of 4QG's popular artists also visiting Sydney and broadcasting from a Sydney station.

Arranging Church Broadcasts

The method which is adopted at Station 4QG for the broadcasting of church services is such as guarantees the public being given transmissions from various denominations in a very fair manner. The Registrar-General's figures regarding the percentages of religion from various places of worship being broadcast according to the percentage of religions among the population of Queensland.

There are quite a number of Danes, Norwegians and Swedes in Australia and in Brisbane a Danish Lutheran Church exists. At the request of many Scandinavian listeners 4QG has arranged to broadcast one or two afternoon services from this church during the present year.

Striking Advantages of the New

S.R. TYPE CLYDE
Radio Batteries

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
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6SR5	4	25 „	50 „	3 10 0
4SR7	6	40 „	80 „	3 0 0
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Whispers from Maoriland

So far as wireless is concerned the year which we entered upon just a few short days ago promises to be an exceptional one indeed, for hardly had "Old Man 1926" made his final bow to the world when we find "Mr. Buyer" in London having a chat with "Mr. Seller" in New York per medium of wireless telephony. This year has been foretold as one of startling events, and if the progress in wireless made at its beginning continues through until the end, then—well, who can tell how far we may go?

A correspondent writing from Warkworth to an Auckland paper reports that recently Mr. Tudor Collins, using a five-valve with an exceptionally high aerial, picked up the Canadian Westinghouse Broadcasting Station at Montreal, and held it almost continuously from 4.40 until 9.20 p.m. The night was wet, with heavy thunderstorms, but the conditions were good, though there were occasional atmospheric interruptions. Mr. Collins heard Montreal calling up a ship on the way to the North Pole, and also a saxophone solo and song. The items were audible and clear in loud-speaker. Montreal was also sending out Xmas greetings from King George to Iceland, and greetings to North-West River and Labrador. A copy of the messages received has been sent to Montreal for confirmation.

Following in Wellington's footsteps, a movement is now afoot to provide the Auckland Public Hospital with a large listening-in set. Medical Superintendent Maguire has just returned from a holiday visit to Australia, and from what he saw in institutions there is a strong advocate of the curative tendencies of listening-ing, that if, of course, in certain cases.

It is certainly the best of good news that we are to have in New Zealand a broadcasting station with an output of 5k.w. Such a station would be a worthy rival of the best Australian stations, and make crystal reception possible in any part of the Dominion. It is to be hoped that the new station will operate on a wave-length that will not interfere with the reception of 1YA or 3YA and that the quality of its transmission will be in keeping with its power.

Exceptional daylight transmission.

Another instance of short-wave, low-power transmission is revealed in the report of a British amateur, C. R. Ponting, of Bristol, who writes to say he heard the N.Z. amateur station Z-3AI at 10 to 1 p.m. (British time) on November 21st. Z-3AI at the time was using an input power of 60 watts and was in communication with U-2CU at New York. The distance is about 12,000 miles and about one half of its being in the daylight zone.

Wireless for Christmas seemed to be the prevailing mode for those in search of seasonal gifts, and the retail trade did a roaring business, especially in ready-made sets.

Some strong remarks for the benefit of wireless enthusiasts who use oscillating sets were made by the announcer of 1YA one evening recently during an interval of the special concert. "Last night I was listening in for Australian stations after we closed down here, and it was a perfect nightmare. First one fiend would "howl" his sets, and then hundreds of others would do the same, in an attempt to drown the other fellow," said the announcer. "It is not playing the game, and you people who are overstraining your valves by forcing them should remember that there are others besides yourselves who want to listen in. If you try a little patience you will find that you will get excellent results. Try reducing your filament consumption and don't overtax your valves. You may not know it, but to do so is illegal, according to the Post Office regulations. If an improvement is not affected shortly we will have to insist that sets which radiate are not installed.

"AUSTRALIAN ACCENT."
Head by Radio.

"A gentleman with a distinct Australian accent talked for five or ten minutes," writes H. G. Donkin, a radio listener of Los Angeles, California, in a letter to Broadcasting Station 2BL Sydney. Mr. Donkin explained in his letter that he has been listening to the Sydney station, and he gives a number of items which he has heard. Among the orchestral numbers enjoyed were those played by the Ambassadors Salon Quartette. He also mentions a soprano singer (Miss Dorrie Ward). The "gentleman with the distinct Australian accent" was Mr. Loris Ingamells, who has been speaking from Broadcasting Station 2BL on modern medicines.

The Children's Corner

A Letter from Uncle Jim

Hello Kiddies !

First of all I must tell you how pleased I am to be writing my first "Radio News" letter to you. When the Editor asked me to write to all the young readers of the "Radio News" I naturally was very pleased, for I know there must be many thousands of them.

Now, "Uncle Ben" has had this page for quite a long time, and you have all enjoyed his letters and competitions, I feel sure. Naturally I would like to know that all my little Radio Friends are going to take a similar interest in my letters and competitions and I want you all to rally round and give me a rousing welcome to this page.

Elsewhere on this page you will see particulars of "Uncle Jim's Drawing Competition." Now I want you all to enter for this. The Editor of the "Queensland Radio News" has offered two prizes of 7s. 6d. each for the best drawing of Tony and for the funniest sketch of him.

Some of you may be a little gifted at drawing—well, you will have a good chance at winning the prize for the best sketch. Others may not be able to draw a good picture of a horse, but you could very likely draw a funny sketch. So you see you ALL have a chance, and I want you all to try. Read the conditions of the competition in the next column. Remember, the winning sketches, together with the photograph of the prize winners, will be published in the next issue.

Oh, dear me! I just had such a fright. "Uncle Ben" came along and looked over my shoulder and said, "I hope you are not writing anything about my motor car in your letter."

Just wait until he sees this issue of the "Radio News"—and then the next issue—won't he get a surprise? I wonder what he'll say?

Well, my space is just about filled, so I'll have to say "good-bye."

Don't forget to enter for my competition, will you?

Good-bye everybody—lots of love from your
"UNCLE JIM."

Can You Draw Tony ?

"Uncle Jim's" Novel Competition for Boys and Girls.

Can you sketch ? It does not matter whether you are handy with your pencil or not—every boy and girl has an equal chance of winning a prize of 7s. 6d.

The competition is divided into two sections with a separate prize of 7s. 6d. for each. One section and prize is for the BEST drawing of Tony, and the other is for the FUNNIEST drawing of Tony.

The winning sketches and the photograph of the successful boys or girls will be reproduced in our next issue.

WHAT TO DO.

(1). Draw in dark-coloured inch (Indian in is best).

(2). Use white paper or card.

(3). Write your name, age and to which section the drawing belongs, marking it "Best Sketch Section" or "Funniest Sketch Section."

(4). Address the envelope "Uncle Jim's Competition, c/o 'Queensland Radio News,' Box 1095N, Brisbane."

(5) Send your entry to the "Radio News" Office by the 18th February, so as to give us time to secure the photographs of the winners.

This Competition Definitely Closes on February 18th.

Result of "Uncle Ben's" Word Building Competition

Hundreds of entries were received for this competition, and no doubt the attempts involved an immense amount work on the part of the children who competed. We handed the entries to Mr. A. Dean, an authority on English words, and he returned the following report to us:—

First.—Jack McDonald, Hendra—1814 words submitted, 1709 words correct.
Edna Clark, of West End, sent in the second greatest number of words—1230, and Dorothy Wobcke of Thompson Estate was third with 1096 words.

A prize of 10s. will be forwarded to the winner, and "Uncle Ben" and the Editor extend their hearty congratulations to this clever young man.

"Uncle Ben's" New Song Competition

Entries for this competition (which is divided into two sections, and was announced in our last issue) are still coming to hand, and it appears that by February 20th there will be a fine big pile to choose from.

Most Suitable Name.

A prize of £1/1/ is offered for the best title suggested for the new song "Uncle Ben" has been singing from 4QG on Saturday nights latterly.

Best Verse.

Three prizes are offered for the three best verses sent in—First £1 1s., second 10s. 6d., third 5s. See last issue of the "Radio News" for a specimen verse.

This Competition Closes on February 20th.

(The Editor, "Queensland Radio News," Brisbane.)
31st December, 1926.

Dear Sir,—The articles on "The Transmitting License" are greatly appreciated, but I have one small request to make. Could you find space to explain, more fully (in, perhaps, a separate section of the paper) some of the amateur abbreviations? It is stated in Article III. that they are well-known, but as the articles are being written for the absolute novice I would suggest that a little more elaboration would be acceptable. For example, "FB" and "ES" are at present puzzling me. Some abbreviations such as "CU" are fairly obvious from the context, but "RB" and "ES" are not. Then again, "QSL" is an abbreviation I have frequently heard. The meaning of this I have located, but it certainly would not be known to the novice.

Trusting you can see your way to letting us have a little further light on this matter,

I am, yours faithfully,

TERENCE O'BRIAN.

[The full list of amateur abbreviations was published in our November issue—"The Transmitting License," Part II.—Editor.]

(The Editor, "Queensland Radio News," Brisbane.)
Fewings Street, Toowong, 28/12/26.

Dear Sir,—A2NS, writing me at a recent date enclosing membership card of the newly-formed "Rag Chewers' Club," requested me to broadcast the news, appointing myself a boosting "agent." I can think of no more appropriate method to comply with his wish than to ask you to set up this letter; points of the club are hereunder in skeleton form:—

All "hams" who hold 'mitting tickets to be approached—provided they are willing to "chew the rag" with Aussie R.C.C. members, and leave the old familiar "How mi QSB," etc. stuff alone and use their senders as a means of cultivating friendships.

No fees are charged. A2NS philanthropically stood the burden of initiation.

An intending member must "yarn" for a solid half-hour on topical matters to qualify. He must be QSO an RCC member throughout his nomination.

That member will advise 2NS by letter or radiogram, and the candidate for admission to the club must forward his card to the secretary, stating his desire to join up and particulars of both advices must coincide.

That is all. Present members in Q. as per latest advice are 4RB, 4GO and self. Perhaps other 4's are members at present.

As I wish this matter to be in the hands of all, please arrange for insertion in your welcome monthly.

Fraternally yours,

M. O'BRIEN 4MM.

Some Points for the Crystal User

(A Talk Recently Broadcast from 3LO by H. K. Love.)

In my previous talks I have dealt with subjects which have primarily been connected with valve receivers.

I would not like those using crystal receivers to think they have been forgotten. There are many little points which may be watched on a crystal receiver, and if these are observed, results may be much improved.

One of the most important things about the crystal itself is that it should be a good piece, it should always been clean, free from dust and grease. If a crystal is picked up in the fingers a light film of oil will often be deposited on it, and this will at once reduce its sensitivity. If it is necessary to remove it from its holder at any time, it should be lifted with a small pair of pliers or tweezers. If there is any doubt about the cleanliness of the crystal, take it out and give it a good washing with a tooth brush in clean water, a little soap may be used provided it is well rinsed off before the crystal is replaced. The crystal should not be held in the fingers during this operation.

Dust should be kept from the crystal by mounting it in a dust-proof container—these are supplied with most of the crystal detectors now on the market, and consist of a small piece of glass tube.

The adjustment of the catswhisker or contact point of a crystal detector should be very fine. Not sufficient care is being taken by many users of this point. Many of the old crystal detectors used by the amateurs during experiments before the war had some wonderful vernier arrangements for adjusting the pressure of the contact point on the crystal. A great deal of sensitivity of the unit depends on this adjustment.

It must be remembered that the range of a crystal receiver in the days before the valve was very considerable, we do not seem to obtain results like the old times on crystal receivers.

I have, night after night, sat in my shack and listened to spark signals from Adelaide, Perth, Port Moresby and New Zealand on a crystal receiver, one doesn't hear much of this kind of thing now.

If listeners will take the pains to make their crystal receiver a little more than "just a crystal set" there is no reason at all why very good medium distance reception should not be accomplished. There are cases on record where crystal listeners have been able to receive both 3LO and 2FC from somewhere in the centre of Victoria.

One of the chief troubles of the city crystal receiver is the problem of interference. It can samely be said that most of this is caused by the inabilty of the receiver to tune sharply, or, in other words, lack of selectivity.

It is quite impossible for a single coil receiver, which uses the same inductance to tune the aerial and the close circuit, to cut out interference. All crystal sets should be altered to loose coupled circuits, in which the aerial is tuned by a coil and condenser and the closed circuit by a coil and condenser which is inductively coupled to the aerial coil.

Then by close tuning and a variation of the coupling the unit will become reasonably sharp. Sharp tuning means more volume, therefore there should be no objection at all from the operators point of view.

A good deal of experimental work may be necessary in order to get the best results with this lay out, but every crystal user should make the change, as it will pay in the long run.

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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It's In The Air !

Radio Irritations

(By a Man with a Grouch.)

I like wireless. Radio is my friend. I am on fairly good terms even with static, since I recognise that it plays the part that fleas play in the scheme of things. As David Harum said, "A moderate amount of fleas is good fer a dawg—keeps him fr'm broodin' over bein' a dawg." Same with static; it is the crumpled rose-leaf in the bed of radio.

But I feel bound to "let out" now and then on some of the more idiotic features of radio. There is a sort of "air-sickness" about broadcasting to-day, which badly needs either a doctor or a moral gyroscope to keep the thing on an evil keel.

I am tempted sometimes to wonder if there is any originality in the world, so quick are men to follow sheep-like the lead given elsewhere. Take moving-pictures, for example. No sooner does a picture with the word "flaming" make a success than a half-score films still in the making are given a twist which will enable them to have the word included in their titles, till the flaming things cover every hoarding in the country. So from "Manhandled" we get "Woman-handled," and the next thing we'll see "Flapper-handled," I suppose.

Coming back to radio. consider the number of uncles that have been added to the world since the first wireless uncle was invented. What a riot of unoriginality. Uncles mean nothing in the lives of most children, except grouchy, down-at-heel individuals who come on visits and cadge money and tobacco from father, and make mother wonder when in the world they will go. Yet this avuncular relationship is foisted on bedtime story men the world over. We have "Uncle Ben," "Uncle George," and "Billy Bunny," all talking to the kids in a sugary, sickly tone that ought to give a species of air diabetes to half the population. What miserable specimens they are, too, lying their heads off in the interests of a spurious morality. They get letters from parents, telling them the secret vices of Maudie, aged 3, and Willie, aged 5, and they solemnly pull up their sox before the microphone, smooth out the betraying letter, and in honeyed tones they say—"Oh, Maudie darling, a little bird has been telling me that you have been smoking daddy's cigars. Now, Maudie, that is a very, very wrong thing to do. Those cigars cost daddy credit at the tobacconist's, and besides, you should wait till you are a couple of years older before you take to smoking. Your darling mummy never smoked till she was eight. And, Willie, I am sorry to say the Wireless Bird has told me that you are chewing tobacco. My dear little lad, you'll never grow up like daddy, if you chew tobacco. Tobacco, my dear little boy, was made to smoke, not to chew, except in America, where the poor people get nothing nice to drink, and so must do something to take their minds off trouble."

There, that's the sort of bunk they put over, till Maudie and Willie get a set on birds they never get rid of. They wring the necks of every bird they can catch, never dreaming that it is "Uncle Sillyas" who is doing the dirty work.

Then, here's a funny thing. Every announcer believes that he is the world's best announcer. I have known several, and they have all confided to me that of course it sounds like conceit, but they have had letters from as far north as Timbuctoo, where they have been picked up several times, and these letters tell them that there is no announcer at any station who has quite the same timbre in his voice as he has. All the time the timbre isn't in his voice, but in his head. I have always thought that the demeanour of an announcer going to the microphone is modelled on that of an archangel going to the hole in the floor of heaven with a message to mankind. There is the same dignity about it, the same air that "Now, I'm going to make a stir in the world." I really believe there is no announcer in the world who does not tell his friends—"It's a funny thing to think of, you know, old chap, but I suppose not even the Prime Minister is as well known as I am," only in America they made it the President, and in England and Spain the King. The principle is the same.

Thank Heaven we haven't yet copied the idea some American stations have of reading the telegrams of congratulation that come, telegrams enthusing over the way the announcer read the weather reports last Tuesday night, or the fine way Madame de Squalli rendered the ballad. "Ah! Miouw!" from "Les Persians." I believe that the reading of these congratulations sometimes takes a couple of hours. Just think of the boredom of the wretched listeners, forced to hearken to all this. We have long gone beyond the point when everything over the air was wondrous, and even the sound of a scratching whisper, conveyed with static drew a delighted squeal from mother and the girls. We want entertainment, and the announcer reading wires telling how they loved his voice in Portland, Oregon, isn't going to make us love him. One sufferer in the United States has mentioned an even worse thing they do over in the land of liberty. Before a song is sung, the announcer announces that it is dedicated to someone, often one of the listeners who has made the special request that it be sung. This is going too far.

I sincerely hope that this innovation won't reach Australia. It would be terrible to hear Mr. Smith announcing that Mr. Alberty Agnoz will now play "Sometime or Never," a composition expressly composed by the composer to compose his nerves, and dedicated to Mrs. McSwiggin of Woop-woop, who first gave the musician his inspiration." My friend in the United States foresees that if this thing is going to continue, we shall soon have it introduced into other walks of life. He says that the tram conductor will soon be intoning that he intends to stop the car at Pueblo Crescent for Mr. and Mrs. Brown. The stop after that is dedicated to Mr. Harold Kiwi, the polished journalist." Or he has the horrible fear that the theatre usher may cry as he threads his way among

the pews—"Well, folks, I am finding seats, B.10 and 11 dedicated by kind permission of Messrs. J. C. Williamson, to the well-known Mr. and Mrs. John Smith of "Emoruo."

Personally, my chief aversion on the radio is to the lady who tells her fellow-woman what the well-dressed sisters of the sex are wearing this season. She adops a familiar, hospitable style that assumes that the said sisters are actually in the room with her.

"That's right, ladies," she says, "come right in. I am just waiting for you. No, Mrs. Brown, don't sit there, come over here where the fire is warmer. You sit over in the cold, Mrs. Smith. You're stout and won't feel it. Oh, my dears, talking about stout women, the latest dresses are all plus silhouette than ever," and so on. Yet there is a dreadful fascination about her quips and oddities that forbid me to tune her out and reach after loftier things like Rupert Hazell. Oh, well, it's New Year, and a grouch is out of place. Still, you know what I mean, don't you?

Clergyman's Radio

Message To His Brother

One of the most popular of the Sydney Churches whose services are broadcast from time to time is the Newtown Congregational, the Minister of which, Rev. Mearns Massey has "branch churches" in various parts of the country. At these "branch churches" usually worshippers gather round a loud speaker and listen to Mr. Massey private sermons over the air perhaps hundreds of miles away.

Mr. Massey, who spent many years in America has been anxious that his brother, a residence of California, should hear him. Recently he arranged for the latter to listen to see if he could hear the Newtown service. The test was made on a recent Sunday night, when in his address Mr. Massey spoke direct to his brother. A cable was received during the week stating that the brother had received the message. He had sat up till the early hours of the morning before a receiving set in California, and apparently the message came through quite distinctly.

Stations carry very long distances, it is of interest to know that during this week the other A class station in Sydney 2FC received a letter from a Mr. Tessuc Kusumoto of Tokyo, Japan stating "I have been having nice music last night from your broadcasting station in New South Wales."

LIBEL BY RADIO—PENALTIES IN SPAIN.

While modernising the old penal code of Spain, cognisance was given to the possibilities of radio in crime. Although there has been, so far, no cases of blackmail or libel over the radio, Spanish judges will have a law to go by if such a thing happens in their country. Severe penalties are provided for blackmailing or libel, either newspapers or by radio. Slander, threats, or abusive utterances, either in the newspapers or by broadcasting, are other cases anticipated by the new penal code of Spain.

Printed and Published by the Proprietors, The Read Press, Ltd., Douglas Chambers, Adelaide Street. P.O. Box 1095 N.