

AUSTRALIAN

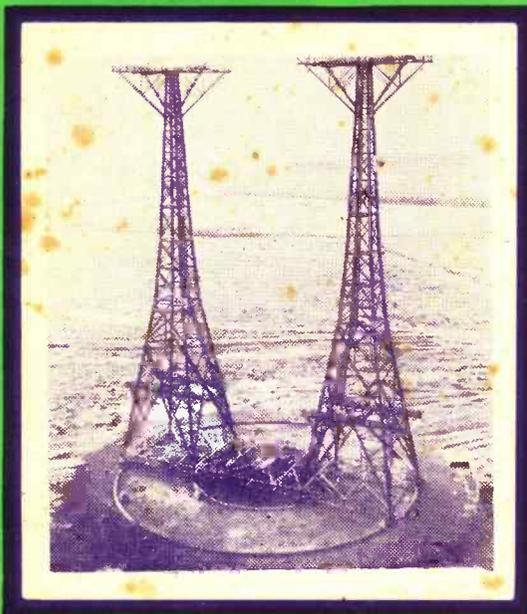
Vol. 1 No. 2

JUNE, 1949

# RADIO

AND

# TELEVISION



NEWS

HOME INTERESTS  
AND  
HANDICRAFTS

1/6

An advertisement for Philips valves. The background is a collage of various vacuum tube valves of different shapes and sizes, some with labels like 'PHILIPS' and 'Mantova'. A white rectangular box is overlaid on the center of the collage.

There's a **PHILIPS** VALVE  
for every socket in your receiver

## THE BUSY BEE GETS THE HONEY

Did you ever pause to consider the activities of the Bee? She doesn't waste any time in unnecessary movement. All the time she concentrates on the fragrant flowers which yield the most honey. In other words, she makes a bee-line for it. As the wise bee makes honey from the flower business, so you may make honey in the radio and television business. Concentrate on the market which will yield you most results. "Australian RADIO and TELEVISION News" will cover effectively for you a market rich in consumer prospects. By placing your selling message in the pages of this magazine your advertising effort will bring home the honey. Make a bee-line for it.

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## Australian RADIO and TELEVISION News

Monthly 1/-

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Name .....

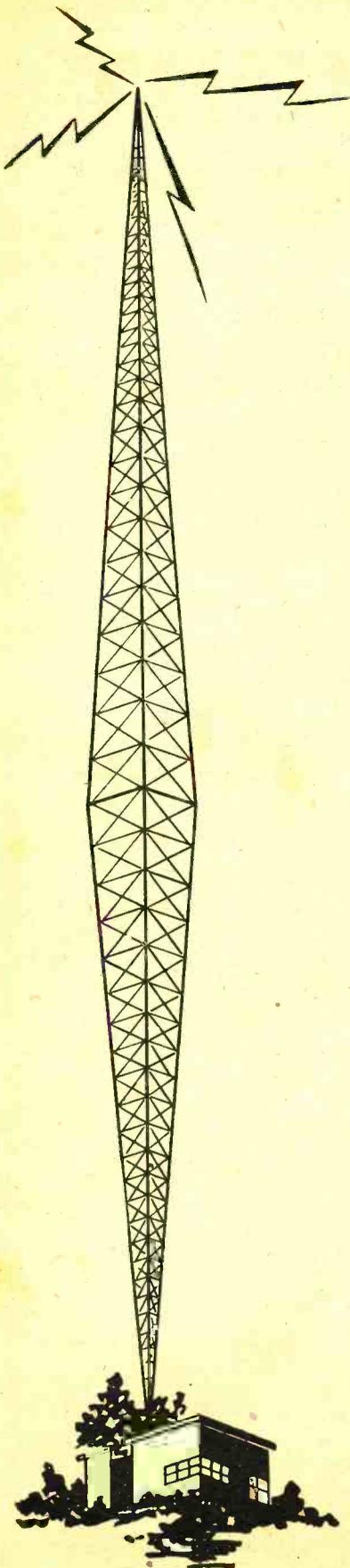
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JUNE, 1949.

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SUBSCRIPTION ORDERS MAY BE PLACED WITH YOUR LOCAL NEWSAGENT.



# AUSTRALIAN RADIO AND TELEVISION NEWS

THE PROGRESSIVE NATIONAL  
JOURNAL FOR EVERYBODY

EDITED BY DON B. KNOCK

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JUNE, 1949

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THIS MONTH'S COVER ILLUSTRATION:—

The famous Netherlands short-wave broadcasting station PCJ features a unique type of rotary beam array whereby the entire structure, including antenna towers, moves on a turntable platform. This installation was in use before 1939 and was found to be undamaged after the Nazi occupation.

READ AND  
ENJOY

# AUSTRALIAN RADIO AND TELEVISION NEWS

A MAGAZINE  
FOR EVERYBODY

Vol 1, No. 2.

SYDNEY, AUSTRALIA

June, 1949

## Radio's Younger Relation

**B**ECAUSE Television represents the realization of a dream of several decades' duration, it does not follow that its introduction will result in an immediate and extensive boom. For Australia, Television will be at first something brand new, a form of intriguing entertainment that will be destined to grow surely and steadily as time moves along. Above all, it will not, any more than will Frequency Modulation Broadcasting, take the place of radio broadcasting as we know it to-day. It will be an entirely different radio service, which, by reason of its sheer novelty, will be attractive enough to the man in the city street to warrant his more than passing curiosity. Radio broadcasting, it should not be forgotten, was like that in the early stages . . . it started with the crystal detector-headphone wave of popularity and grew speedily to vast proportions as valve technique and reception results improved. Despite the fact that in calling the initial tenders for Television transmitters and equipment the Postmaster-General has said on two occasions that there is no committal to Television, it can be accepted that before Australians are very much older, Television will make a start in the Capital cities of the Commonwealth. When that time arrives, the certainty is that Television will not be undertaken as an unknown quantity, for the very good reason that technical arrangements will be a repetition of completely successful overseas practice. Neither in Britain, the United States of America, or other countries is there to-day any doubt about the results obtainable from a modern Television service. No longer is Television "just around the corner"; it has arrived in those countries, and experimental uncertainties are memories of the past. The Television viewer of to-day has no doubt about the technical excellence of the picture on his screen, any more

than he would doubt the miles per gallon performance of his modern automobile.

The excellence of the service technically is well assured; what the hand at the wheel does with the creation of the means to the end by capable scientific brains is another matter. There have been doubting Thomases who averred loudly that Television will never amount to very much in Australia, but such an outlook is as futile as a paper bag in lieu of an atomic missile.

The steady onward march of progress will not be halted. . . . the development of wartime radio and Radar proved that forcibly enough. As in cities of other Nations, the Australian lover of home entertainment at its best will some not far distant day be able to relax to enjoy these triumphs of progress.

### PUBLICATION POINTERS

**T**HIS is the second issue of Australian RADIO and TELEVISION News. To say that our infant first issue met with keen reception is all of an understatement. The response has been overwhelming, and that in the short period between issues. There has been ample indication to those responsible for the production that readers are getting full measure in return for their shilling. It takes more than plain tenacity to establish a magazine of popular nature in this "commercial age," with book-stalls full to overflowing with publisher's brain children of varied conception. There were people who shook their head; opined we were "taking on an impossible job" and muttered "we wish you luck," but against those were lively, imaginative fellows with more acumen and foresight. These cheered us along and didn't stay on the sidelines to do so. Thus, we can say with all confidence, that the optimism of those with faith in our future is well and truly in process of justification. You, Mr. and Mrs. Reader, can give the wheel an extra impulse by telling your friends about this new progressive RADIO and TELEVISION magazine. And . . . if an advertiser's product attracts your attention, tell him where you saw his advertisement.

**DON'T MAKE THE MISTAKE**

of waiting for

*Television*

**BEFORE DECIDING TO BUY THAT NEW  
BROADCAST RECEIVER**

---

**TELEVISION WILL NOT**  
render your present broadcast entertainment obsolete,  
it is essentially a different technique and service.

---

You cannot use your Broadcast Receiver to watch a Television programme;  
nor can you normally use a TV receiver to listen to your favourite  
broadcast session.

**THE TWO ARE ENTIRELY DIFFERENT.**

**BUT**

**YOU, YOUR CHILDREN and THEIR CHILDREN**

will continue to enjoy the broadcasting services  
**AS THEY EXIST TODAY.**

---

You can purchase that new Broadcast Receiver  
**WITH FULL CONFIDENCE ABOUT THE FUTURE.**

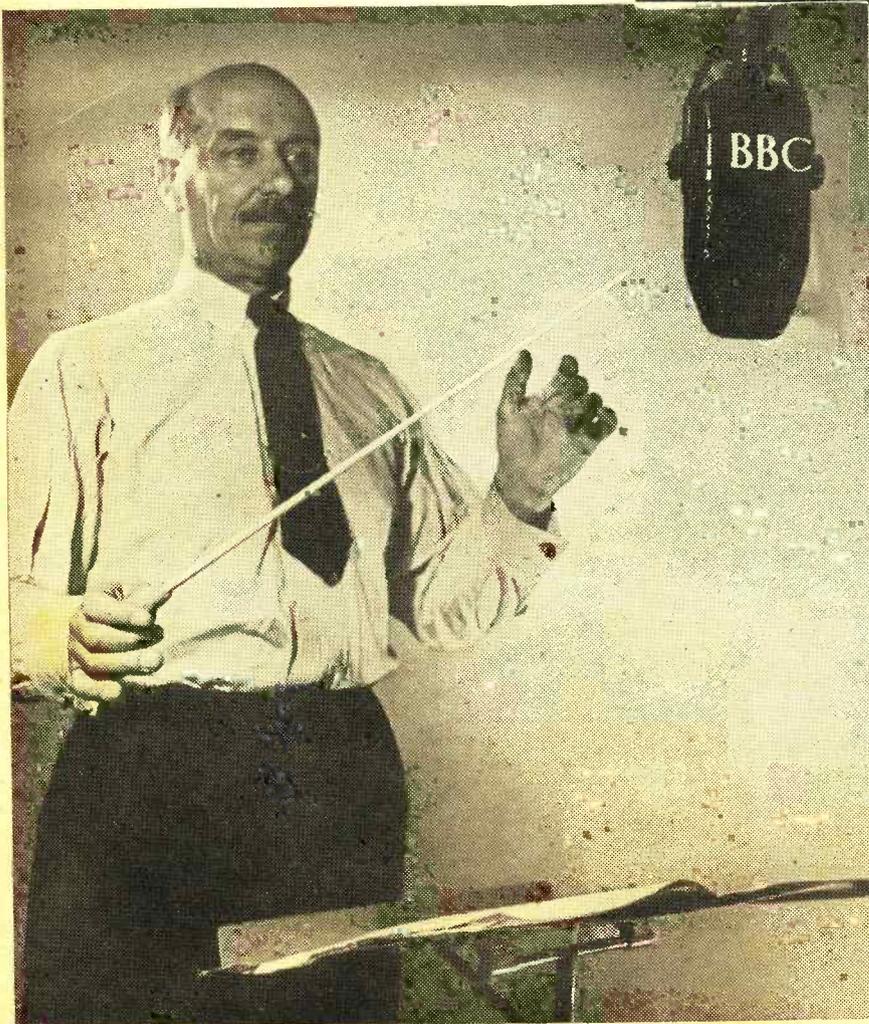
*Don B. Knock*

● Right:—

## The Home of British Broadcasting

Here we see a general view of Broadcasting House, situated in Portland Place, London. This building, commenced in 1928, was completed and occupied by the B.B.C. since 1932. With the exception of the war period it has since then been the active headquarters of the British Broadcasting Corporation. The principle of design embodies accommodation of the studios and their suites suitably grouped in a vast central tower. Artists are segregated on all floors from the administrative and executive departments which are accommodated in well-lighted offices encircling the tower. Over the main entrance is emblazoned a crest with words all nations could well heed. They are:—"Nation shall speak peace unto Nation."

—Photo by Courtesy of the B.B.C.



● Left:—

### Sir Adrian Boult,

Chief Conductor of the B.B.C. orchestras, is shown here in characteristic pose before an orchestral microphone. He has been associated with the British Broadcasting Service from the early days when the Company preceded the Corporation. Sir Adrian has done considerable work on British folk-music, collecting local and traditional music from Scotland, Ireland, Wales and all parts of England, and presenting it on the air. He has kept the B.B.C. Symphony Orchestra up to a high standard, as a result of which probably more people all over Britain have come to take a real interest in the great masters of music.

—Photo by Courtesy of the B.B.C.



## "OPERATION TV"

IN conjunction with the National Broadcasting Company of America, the U.S. Navy recently staged some of the most interesting programme material ever witnessed on a television screen. The whole operation took five months to prepare.

The programme was designated as "Task Force TV," and resulted in an estimated audience of 2,000,000 people sitting comfortably at home and watching the carrier U.S.S. Leyte undergo a simulated attack by its own aircraft. The carrier was 20 miles out at sea, and the transmission from the television equipment on board was sent from the deck to the roof of the Empire State Building in New York. From there it was relayed to Radio City for mixing with the audio channel, and then back to the Empire State Building Television transmitter for radiation to the viewing audience.

One of the television cameramen on the Leyte's deck covered the complete sequence of flight actions despite the fact that he was continually whiplashed by the air blasts from whirling propellers. He was able to present a graphic picture of the dangers faced by the crewmen, even during routine operations, in the deckload of whirling propeller blades. Another camera was placed near the bridge, from which position the take-offs could be recorded, as well as the orders issued by the captain. Another camera was placed between decks in the "ready" room, where it was used to "eavesdrop" on the briefing of pilots before the take-off.

As "Operation TV" was telecast on a Sunday, the vast audience and the popularity of such an afternoon's television programme can be well realised.

Mr. L. A. Hooke, of A.W.A., saw this programme and describes it as a wonderful achievement.

# Television

## LONDONERS LOOK AT AND LISTEN TO ITEMS SUCH AS THESE

Whilst this magazine has been in birth throes, reactions to our policy of telling the man-in-the-street as much as possible about television have been interesting. There are the stodgy people—those who don't like to be jolted out of the groove—who have some misguided notion that TV will spell the doom of radio broadcasting—but they are fortunately a minority. In a great majority we find the others, looking forward eagerly to all that television has to offer—and that is plenty.

Let readers remember these pre-Australian TV-era words a decade or so from now, long after the inevitable establishment. *Television will, some nearby day become part and parcel of our daily lives, just as radio broadcasting has done.* There will be programmes of many kinds to cater for many tastes, and the financial hurdles of TV programming will be surmounted. Take a look, meanwhile, at a selection of recent TV items as put over London's TV station recently—a selection that represents but a small portion. During Christmas 1948 we find for example:—"Christmas Dancing Club," featuring old time dances in the seasonal spirit. Also the much beloved "Toad of Toad Hall" the charming fantasy play the kiddies clamour for. An "All Star Variety Party" collected in the Alexandra Palace a galaxy of favourite radio and television stars for fun and games.

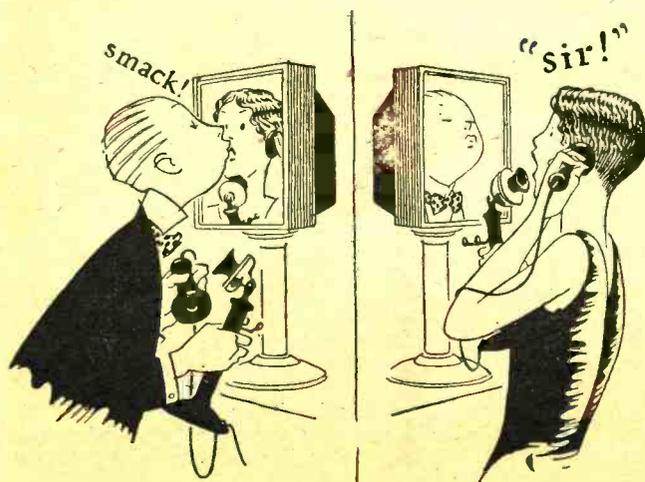
Next a nativity play by Dorothy Sayers, "He that should live," and the children's time at a party from a Dr. Barnardo's Home. The little girl from Wonderland, Alice, came to life in vision and Sound in a delightful series of adventures staged by an experienced and whimsical producer, followed by a first rate Pantomime in the form of "Cinderella." Then the Outside Broadcast people took over with cameras at the ringside of the Harringay Circus. Other features included "The Passing Show," a cavalcade of melodies and memories of past years and Oscar Wilde's popular comedy "The Importance of Being Ernest;" "Musical Hall" wherein stars of the music hall appeared with true atmosphere; "First Time Ever," a series of dramatical stories of the pioneers from music to medical science; and attractions such as Cicely Courtneidge and Bobbie Howes in musical plays. Entertainment? Of course it is—and undoubtedly first-rate.

## B.B.C.'S NEW MOBILE TELEVISION UNIT

The latest E.M.I. Mobile Television Unit—first of two such units ordered from E.M.I. by the British Broadcasting Corporation—is being used by Sir Noel Ashbridge, Chief Engineer of the B.B.C., for a series of television lectures in Britain under the auspices of the Institution of Electrical Engineers, prior to being placed in regular service for "outside" television broadcasts.

This new mobile unit, which employs E.M.I.'s latest G.P.S. Emitron Cameras, was first tried out with great success at the Olympic Games, where the vision results achieved under what, at times, would hitherto have been impossibly low lighting conditions, drew enthusiastic praise from visitors from all over the world. Britain's television audience is already displaying great excitement over the prospect of the early return to regular service of this latest equipment, which will undoubtedly widen very considerably the scope of subjects available for outside television broadcasts.

A new B.B.C. Frequency Modulation station is under construction at Wrotham, Kent. Power will be 25 kilowatts, and at this rating the station will be the first high power FM one to operate in Europe. B.B.C. programmes will be radiated.



★ Many years ago, an American Weekly magazine featured this prophecy of an awkward situation associated with television and the telephone.

# MORE TELENEWS

## NEW FILM SCANNERS FOR ALEXANDRA PALACE

Tremendous strides in the television transmission of film have been made in England recently, and no time is being lost by the British Broadcasting Corporation in making the greatly improved results now possible available to viewers. Two of the new E.M.I. "Flying Spot" Film Scanners have been ordered for early installation at Alexandra Palace, and the B.B.C. is hoping to put them into regular service within the next few weeks. These new E.M.I. Film Scanners provide a very high standard of results from televised film and are arranged to compensate automatically for changes of gamma.

## DISTINGUISHED VISITORS

Recent distinguished visitors to the vast Hayes (Middlesex) factories of Electric & Musical Industries Ltd. have included His Excellency the High Commissioner for Australia, Mr. J. A. Beasley, and the Hon. James McGirr, Premier of New South Wales. The visitors were received by Sir Ernest Fisk, the Managing Director, and were shown many of E.M.I.'s latest television secrets.

## MICROSCOPIC TELEVISION

By an ingenious arrangement of prisms and lenses, the British Broadcasting Corporation recently televised a series of instructive and entertaining programmes in which viewers were able to see minute organisms under a microscope. The various stages in the development of the embryo of a minute egg, including the heart-beats and blood circulatory system, were clearly visible to viewers in the latest of these programmes; a striking tribute to the sensitivity and clarity of detail of E.M.I.'s Emitron Cameras. Further programmes are planned in view of the great success of the first experiments.

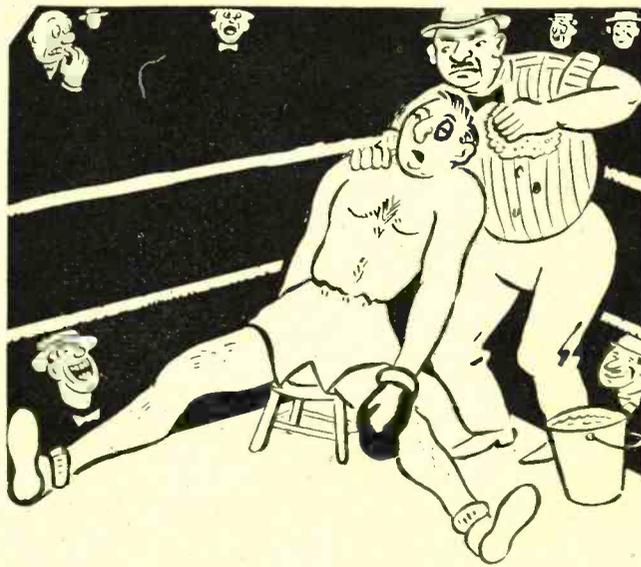
Early in 1948 in America, R.C.A. President David Sarnoff and others predicted Television as a future multi-billion dollar industry. In its annual report, the Federal Communications Commission pointed significantly to the fact that in 1947 Television Broadcast station authorizations and applications had more than doubled over the 1946 period. In the latter half of 1947, Television soared with the year-end count of 17 stations actually on the air, 53 construction permits and 84 applications for Television stations. Receiver sales are constantly increasing.

## INDUSTRIAL TELEVISION

Provision of visual entertainment is, from a public viewpoint, the main attraction of Television, but in the future scheme of things there are important industrial aspects. Television can be used to deputize on an immediate location for human eyes, because it can go where men cannot go, or where it may be dangerous or inadvisable for them to go. It is planned to use industrial TV in such applications as: Detection of slag and metal flow from furnaces, flame detection, remote pressure and level indication, underwater work, observance of dangerous or inaccessible locations in chemical production, railway control, observance of radio-active materials and atomic power plants, looking into oil wells, smoke examination from chimney stacks, meter checking at remote or dangerous points, and for the displaying of charts, documents, drawings and similar records to personnel at distant places. Television is already in use in U.S.A. for the study of major surgical operations.

DEALERS with an eye on the future for sales of Television receivers may well make note of some methods adopted by American dealers in some cities of U.S.A. For a slight rental fee, a temporary installation is made. The prospective customer is allowed to use the receiver for a reasonable time in order to see for himself the advantage of Television. If he decides the purchase, the rental fee is deducted from the price, and a permanent installation goes in. If the decision is not to buy . . . he pays only the rental fee. Another method is to put in a temporary or indoor installation for the night of the demonstration. No charge is made, but if the show is "live," the prospective customer ordinarily will buy. A serviceman usually accompanies the salesman to see that the best and clearest picture is shown.

By the end of 1948, 34 stations in 14 cities of U.S.A. were linked via network or radio relay, and a total of 60 Television outlets, was operating in 35 cities.



★ Television should be particularly popular with Australian sport - loving "viewers." The tense moments of the Ringside will no doubt be portrayed vividly enough for most people.

The power of Television as a straight reporting medium was most effectively demonstrated in recent film shots of a riot in Wall St., New York, U.S.A. Viewers saw clearly the girl striker around whom the trouble centred, escorted to the police patrol waggon, and obviously unmolested or otherwise mishandled by the police. Ten minutes later there were scenes showing handbills being handed out on the same spot, decrying police methods in "manhandling the girl."

At least twenty-four leading newspapers in U.S.A. now make use of R.C.A. Television equipment for Telecasts of special news items.

During 1949, the second British Television station will come into service in the Midlands, it which area it will serve 6,000,000 people. The British radio industry plans to produce 500,000 television receivers during the next three years. It is significant that there will be no change from the technical standards now established so that viewers have no fear that existing receivers may be rendered obsolete. More than 158,000 television receiving licenses have been issued in Britain.

Analysis shows that in New York, 53 p.c. of the Television receivers in use are in the city area, and 47 p.c. in the suburbs.

# CHIT-CHAT

## Facts and Legends

"One of the charms of the history of this place is, that when you dig into the early part of it, the romantic quality of the Celtic mind is such that I, at least, have a time extricating the fact from the legend. The two are so convincingly woven together and the story-teller, if a real Welshman, doesn't want to be convinced of the legendary quality of any part of it. He'd rather believe a beautiful legend than a cold, prosaic fact. I'm not sure that I blame him."  
*(Stanley Maxted talking about Cardiff, the capital of Wales, in the BBC series "Off the Record.")*

## Ants On Toast

"One of the strangest things I remember was the night we were presented with flying ants on toast. They're considered a great delicacy. They taste like bacon. They only come out when it's wet weather, so the natives pour water on the hills to kid 'em it's raining!"

*(Jack Hemmings, a member of the Missionary Aviation Fellowship, speaking to BBC Overseas listeners.)*

## Life On the Land

"We are finding that, although it is good to have money and high wages, that is not everything. Life is even more important, and to many the life of the land calls with an urgency for which they can find no substitute. We are hoping to give them this life in good abundance by settling them in small villages, for only very few want to live in isolation."

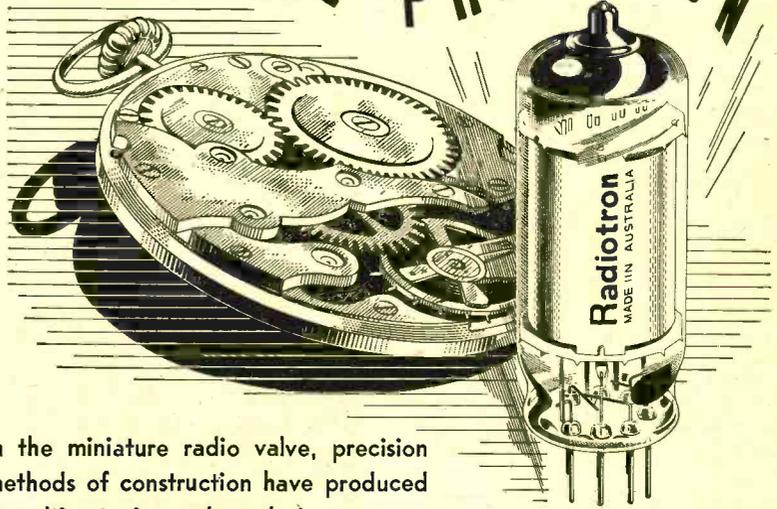
*(L. F. Easterbrook talking on "Farm and Factory" in the BBC's Overseas Service.)*

## Praise For British Housewives

"Friendliness and helpfulness is what I have met all along. Most of all, it is the English housewife who deserves praise. It is she who has had to battle with the hundred and one restrictions and shortcomings of daily life, and after nine years of it she is exceptionally cheerful about it all. I've been to many homes, and although the hostess has always apologised, and sometimes complained of the shortages, I've seen her cope with them in a most efficient manner. Her meals have been frugal but dainty, and it is to her more than anybody else that the credit is due for England remaining the same, though I should say that her cheerfulness does not allow a visitor to see that England has changed."

*(The Begum Ikram-Ullah giving BBC Overseas listeners her impressions of London.)*

# WATCH-LIKE PRECISION



In the miniature radio valve, precision methods of construction have produced the ultimate in modern design.

The standard valve for 1948/9 battery receivers, and now released for electric mains operation.

# Radiotron



## AMALGAMATED WIRELESS VALVE CO. PTY. LTD.

47 York Street, Sydney, N.S.W.

# Television Demonstrations in Melbourne and Sydney

IT IS NO exaggeration to say that the radio industry, press, and other interests in Australia have in recent days been somewhat stirred, and perhaps startled, by the sheer unexpectedness of Television demonstrations in the two Eastern capitals. "Australian RADIO and TELEVISION News" was present at the first Sydney showing, and would be lacking in the strictly "news" sense of the magazine if we did not record our reactions for the benefit of lay readers.

This publication is not particularly interested in the politics of the future of Television for this country, other than an unswerving support for the rights of private commercial interests to have access to the new entertainment medium. Whilst it is no doubt logical that from the standpoint of a National service on A.B.C. lines, the Post Office is the appropriate controlling authority; we consider that in the not-so-distant future

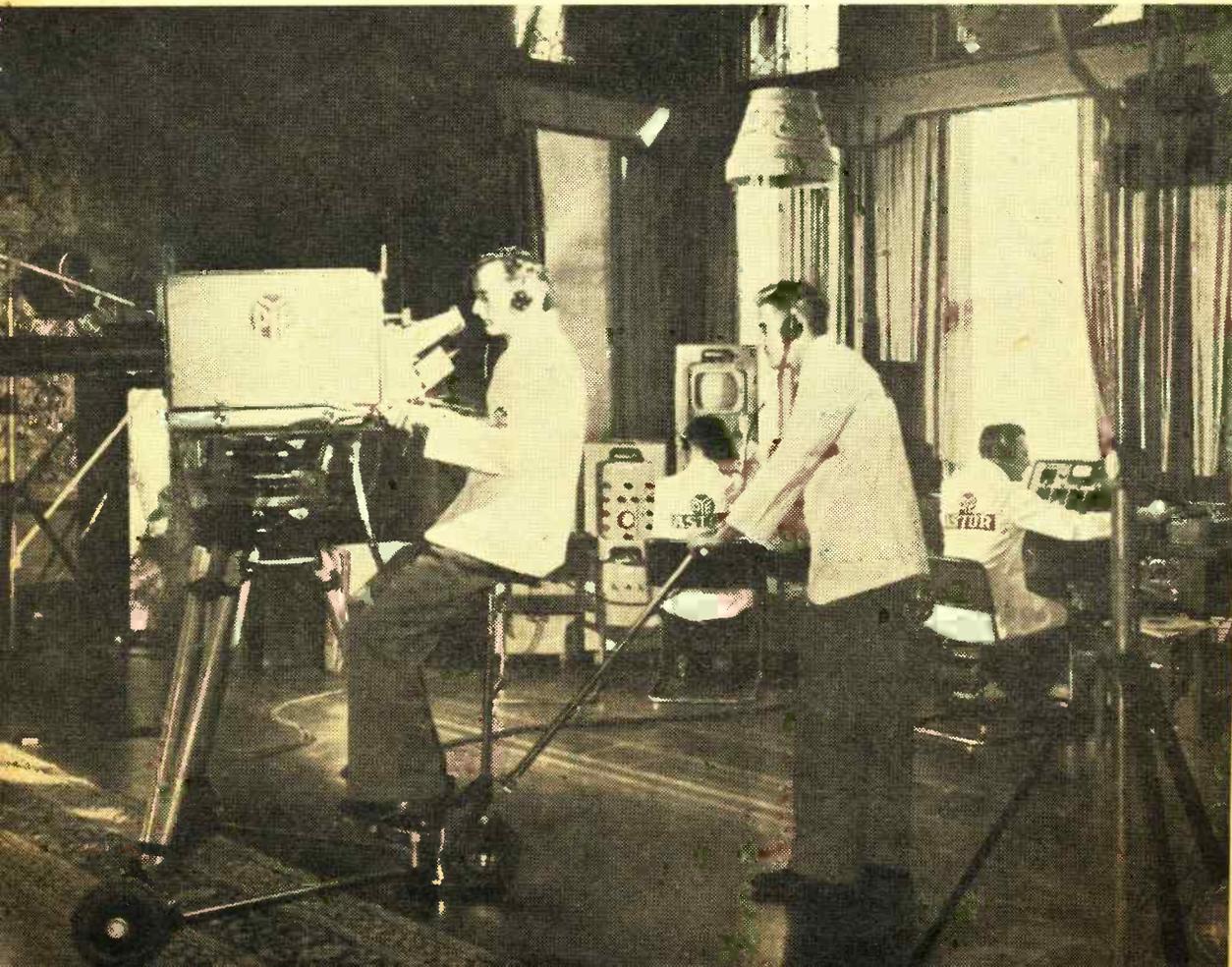
there will be such a clamour for commercial TV licenses that something will need to be done about it. In other words; as with Broadcasting, so with Television. The A.B.C. and Commercial Broadcasting systems have worked out admirably for the Australian public. The only possible objections to more than one station transmitting Television by radio in any city can be but technical, involving allocation of radio frequencies. The design of receivers to cover more than one TV Sound and Vision channel is by no means impossible — the Americans are doing that in many cities, and with great success. For the time then, we leave these points, and turn to a brief observation about the TV Show witnessed at Sydney's Hotel Australia on the evening of April 6th last.

Firstly, those who organised it did an excellent job. Those who are most likely to be interested in TV from

administrative angles came away convinced that modern TV is indeed now right around that corner where it has been hidden for so long; that it is something that will be destined for widespread and overnight popularity with the Australian public no less than with others . . . when it is made available. It was extremely fascinating to watch the studio staff and artists in action, and then to turn the head and see just what was happening on the stage in miniature on the receiver screens placed around the rooms. By looking very closely at the screens, much more closely than would be the case normally, it was just possible to determine the line structure of the scan. Definition is good and light intensity all that could be desired. One feature however, certainly not a serious objection, but nevertheless a feature that impinged itself on the subconscious, is the rather sky-blue toning of the cathode-ray tubes used. We had a feeling that sheer black, or sepia and white, would not be quite so persistent . . . but perhaps that is just *our* viewpoint. To other eyes no doubt the bluish tinge is more acceptable.

(Continued on page 15)

★ Modern Television on demonstration in Australia. Showing the studio equipment featured in the system recently witnessed in action in Melbourne and Sydney. This equipment, with a number of receivers, produced by the Pye Company, was brought to Australia and put into action by the associated Australian representatives, Electronic Industries Ltd. The demonstration aroused a great amount of comment in broadcasting and industrial circles and in Sydney the showing was sponsored by the Shell Company.



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## Television Demonstrations in Melbourne and Sydney

(Continued from page 14)

When Gladys Moncrieff went before the camera, she was there identically on the receiver screens—the world-famous singer—and the camera came in from three-quarter “shot” to close-up, with her head filling the screen, and every minute gesture faithfully portrayed. So with the other artists. The accompanying Sound of course, standard studio technique, completed the picture, and a thought forced itself uppermost about this also. It is that an illusion needs to be overcome slightly—but it is an illusion and not an objection—the relatively small-sized screen image in relation to the full-sized volume of sound available as with any receiver loudspeaker system. We know that American receiver designers raise screen size optically by the use of plastic lenses and no doubt that scheme is fully acceptable. There are also in production overseas some kinds of TV receivers with projected screen image, in one or two instances to a size approximating home movie screen dimensions. All of which is embodied in thought for the future.



★ An untouched photograph of the picture on the screen of a Television receiver during the demonstration in Melbourne recently by the Pye-Astor organisation. This system is in keeping with the British standard of 405 lines and as this shows, the definition obtainable is of a high order, most certainly suitable for entertainment and other purposes.

THE system demonstrated is British in concept and design, being produced by the Pye organisation; represented here in Australia by Electronic Industries Ltd. The fact that the Show was sponsored in Sydney by the Shell Company of Australia Ltd., with reference in the explanatory booklet to ‘documentary films’ answers partially a question that has been in the editorial mind for a while. It is “if the motion picture industry does not make films available for Television purposes when the time comes . . . what might be the answer?” That appears to be given by the Shell Company, and it should go without saying that progressive industrial organisations everywhere have an excellent entertainment and instructive medium for Television application in the form of the ‘documentary.’

As we have already stated, “Australian RADIO and TELEVISION News” is necessarily quite impartial about the politics or merits of any individual Television system. It is confident that Television is destined for tremendous popularity in Australian capital cities once it is established. To whatever organisation or combination of interests gets the green light to go ahead, we extend our whole-hearted expression of good-will and good luck.

DON B. KNOCK  
Editor

### NEW FILM TECHNIQUE

New developments in the British film industry were recently described by Dilys Powell, film critic, in the BBC's General Overseas Service. She explained what is meant by the so-called “ten-minute take,” the use of television in production, and the studio system known as “independent frame”:

“The ‘ten-minute take’ is a narrative idea conceived by Alfred Hitchcock, and put into practice for the first time in a new film soon to be shown in London. The idea is that each individual film sequence, instead of being photographed in dozens of separate shots, which the editor afterwards cuts and arranges in dramatic sequence, should be photographed at the same time, with a camera not breaking off, but following the players from one scene of action to another.

“On the other hand, ‘independent frame’ implies technical revolution. It is the invention of a British art director, David Rawnsley, who believes it can, for one thing, help to solve the problem of the enormous cost of film making.

“Rawnsley's idea is to separate the creative artist in the cinema—the director and the players—from the setting. Up to a certain point, his method might be called pre-fabrication—sets are to be pre-fabricated on the assembly line principle, and to be moved into position when wanted by mechanical means. But Rawnsley's ideas go far beyond the simple principles of pre-fabrication.

“The designer of an ‘independent frame’ insists that television and the cinema must unite. Television, Rawnsley says, will soon be putting its material on film so that a performance can be repeated. What he wants to see is the application of the method of television to the cinema.

“In the cinema, the director shoots his film, then hands it over to the technicians to put it into final form. In television, the director sees the result of his work at the moment of shooting. He cuts and dissolves from one scene to another. That, Rawnsley says, is how the film director should work, using not only the motion picture camera, but television equipment as well. It is a revolutionary idea.”

—From “London Calling.”

*'The Voice  
of America  
-in Russian*

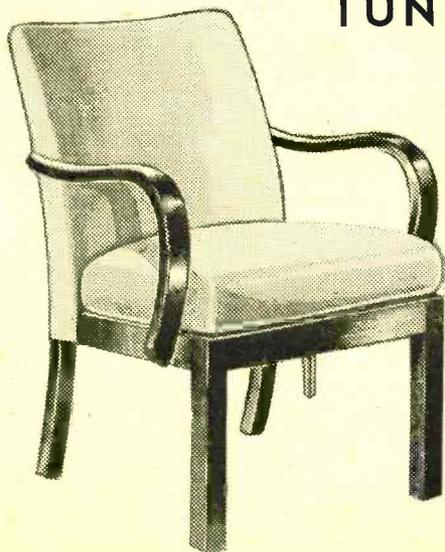
Tatiana Hocker, Boris Brodenov, and Elena Batos broadcast to the Soviet Union on one of the daily Russian-language programmes of the Voice of America. In the control room: Edward Raquello, executive producer, and Irving Morse, studio control engineer.

*Photo by courtesy  
of "Voice of  
America."*



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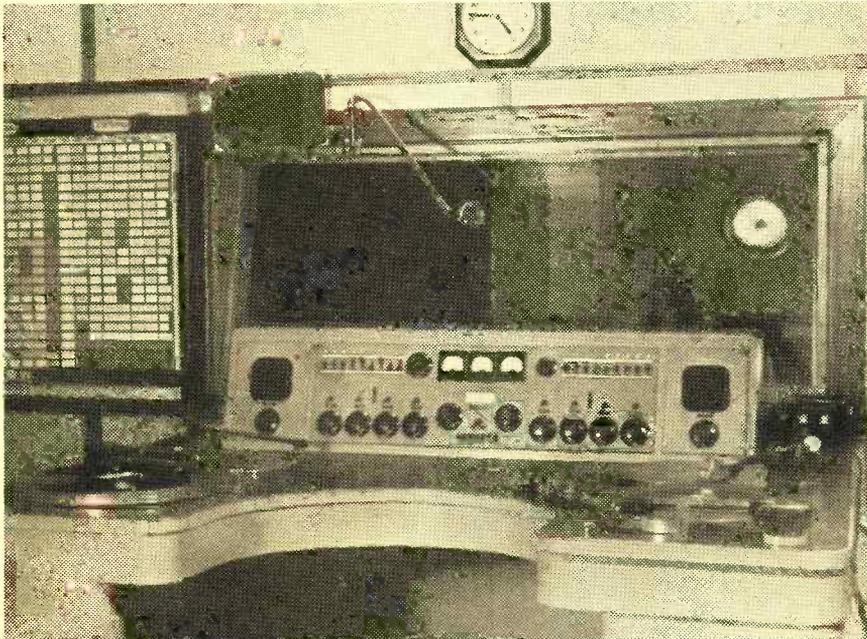


# Australia's PROVINCIAL Broadcasters



● The story of the smaller broadcasting services throughout Australia is interesting, bound up as it is with the history of the many stations serving city and country areas. Each rural station has its essentially localised associations, connected directly with the interests and welfare of the surrounding country. The success of the one is dependent upon the prosperity of the other, and by virtue of the commercial broadcasting systems, country listeners enjoy news and entertainment services additionally to the indispensable A.B.C. stations. The capital city-man knows very little about the service rendered by the provincial stations; to him they are merely call signs on the list. We tell him, in this monthly series, something about these stations and in so doing provide a picture of the various communities in which they function. This is the story of station 3BA, Ballarat, Victoria; the second Provincial Broadcaster to be reviewed. Station managers are invited to forward details to the editor.

**STATION  
3BA  
BALLARAT  
VICTORIA**



● A view of station 3BA's control room panel, looking through the window to the working studio. This arrangement is unique in Victorian Provincial radio, the usual being a combined studio-control set-up.

**T**HE story of the Ballarat broadcasting station, 3BA, is a romantic and colourful history of how an originally small investment in an untried enterprise developed into an important undertaking and flourishing organisation.

In the city of Ballarat, Victoria, there were, prior to 1929, two amateur transmitters, Alf Kerr and Warne Wilson, who had been radiating programmes for local listeners. This was done under the then existing permission of the Postmaster-

General's Department, which permitted amateurs who so desired to operate stations around wavelengths of 200 metres at certain hours. It was from such amateur transmissions that commercial broadcasting services were developed in many instances. In the case of Messrs. Kerr and Wilson, this was one of the instances, for that year the two enthusiasts got together and decided to apply for a commercial station licence for Ballarat district. Stating that if the proposed venture had sufficient business support it would be viewed favourably, the P.M.G. indicated that the application was worth following up, and the two applicants set to in search of the necessary backing.

### Newspaper Takes An Interest

**B**USINESS people who immediately saw the possibilities of the ideas of the two radio enthusiasts were Messrs. J. H. Davey, H. Clogan, F. T. Davies and A. E. C. Kerr. The next step was to secure the support of "The Ballarat Courier," and with this done the company "Ballarat Broadcasters Pty. Ltd." was formed. Those mentioned, with the addition of Mr. W. A. Wilson, were appointed directors, with J. H. Davey Managing Director.

(Continued on page 18)

## 3BA Ballarat

(Continued from page 17)

The first broadcast from the station was made on the evening of July 31, 1930, and Station 3BA became the first provincial station to go into permanent operation in Australia. At this period in the history of broadcasting in Australia, the new entertainment medium was attracting the public in ever increasing numbers, and 3BA very quickly became firmly established with a high degree of popularity.

### Early Location

IN the beginning the transmitter and studios were housed on the second floor of the Commonwealth Bank, at the corner of Sturt and Lydiard Streets, but in 1935 a move was made to the location where 3BA is established to-day. The present premises in Lydiard Street North were specially designed for broadcasting purposes. The power of the early transmitter was very low, being rated at 50 watts, and application was made for an increase to 500 watts. As is the policy with broadcasting stations to-day, the application was granted provided that the transmitter be located somewhere outside the city area. The modern transmitter of 3BA Ballarat is located at Cardigan. The building of the new installation at the time of the move, and the costly proposition of providing a home for it prompted the proprietors of "The Ballarat Courier" to demonstrate their faith in the future of radio broadcasting by taking over the interests of the majority of other shareholders and in making available the funds necessary to effect the move.

## Progressive Broadcasting

IN 1949 Station 3BA is as modern as any other station of its size in the Commonwealth. Time on the air expressed in hours is indeed very different to the 1930 period, when the total worked out at twenty-one weekly. That made a total of 1092 yearly. To-day, the weekly hours work out at 113½, making up a total for the year of 5915. In 1930 the frequency stability of the old 3BA transmitter was correct to a variation of 1000 in one million, but now a standard is maintained at correct to two parts in a million. In those far-off days 3BA radiated one transcription programme in the week, and now, in 1949, there are more than 76 for an average week. Where there was once a record library of 500 discs, now the number is more than 10,000. The once-limited staff of two people, one engineer and one engineer-announcer . . . has expanded to 21, comprising six engineers, seven announcers two programme department members, and a general administrative staff of six.

### Commercial Activities

AS most readers familiar with the difference between National and Commercial stations will know, the latter . . . privately owned and operated stations obtain their income and upkeep from revenue derived from advertising activities. Just how the station presents the commercial side of programming without undue emphasis and consequent detraction from entertainment is an attribute developed by station directors, advertising and programming staff to a high degree.

The listeners will perhaps note at the time the unobtrusive reference to the sponsor, or the goods, but will not be distracted in any way from the actual programme. The truth is that the advertising message is there in the listener's domain, sub-consciously, but assuredly. The commercial side of Station 3BA's activity is handled by the studio Manager and Secretary, Mr. E. J. W. Whykes, ably supported by Miss D. Ellis, the accountant.

### Entertainment

RESPONSIBILITY for programme management and sporting commentaries is that of Trevor Negri, who has been well-known to 3BA listeners for many years. No effort is spared by him to provide listeners with a well-balanced programme, and to do this it is not, as so many listeners may think, merely a matter of picking up a recording, placing it on the turntable, and proceeding with the next. There is nothing casual about this side of the broadcasting business, for programmes must be prepared with meticulous care at least a week ahead. Listeners also, do not realise that for every record played by a broadcasting station, a royalty fee must be paid, and in addition, there are special charges made for the right to use records at all. The staff of 3BA is estimated to use about 52,000 gramophone needles in a year, so perhaps some small idea may be gleaned of what is involved.

(Continued on page 21)



● This occasion made history in Ballarat. It was the first broadcast of an ordinary meeting of a Municipal Governing Body, with the Ballarat City Council "on the air" in "In Town This Week." L. to R.:—3BA's Radio Reporter, the Town Clerk, and the Mayor.

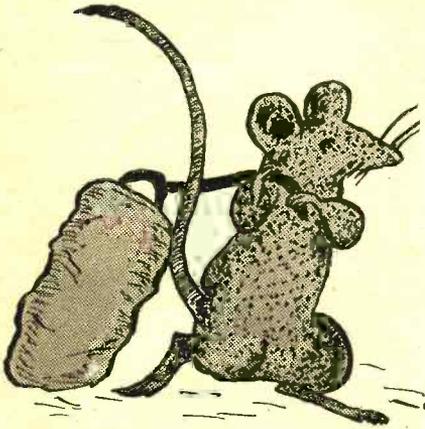


● Chief Engineer Alf Kerr (left) and Radio Reporter Ted Furlong busy with the station's wire recorder which is widely used for such sessions as "In Town This Week" and the Industrial counterpart "In Industry This Week."

(Continued on page 20)

**OHM'S LAW**  
From a Collection by  
"Ratbag"

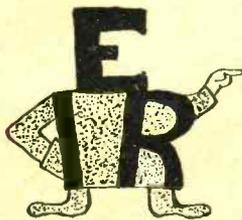
(From somewhere in the archives of his dusty collection of "radioisms", our mysterious contributor has unearthed the following doggerel, written around the Law that is of such profound importance in things electrical and radio. Our younger readers will find a useful guide to memorisation this kind of presentation of 1 equals  $\frac{E}{R}$  etc.)



The law that Mr. Ohm discovered  
You'll find right here completely covered,  
To learn how much a circuit's got,  
Of Current, Volts, Resistance, Watts,  
Just take the two of these you know  
And figure out the others so:—

What's what in Watts you soon will  
spy  
By multiplying E by I,  
Or knowing I and R you'll see  
I squared times R the watts will be.

So since with Watts we've come thus far,  
We'll try again with E and R.  
Divide by R the square of E  
The quotient in the Watts we'll see.



Now E with ease we want to get,  
So don't give up that Ohm's Law yet.  
It's I times R and plain to see  
The product of the two is E.

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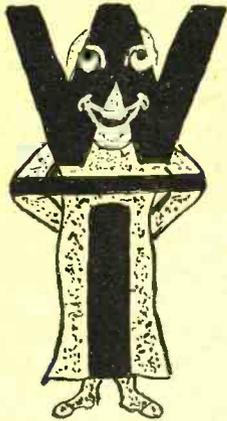
**OHMS Law**

(Continued from page 19)

But now take care, look out, go slow,  
Suppose it's Watts, and R you know  
First R times Watts, then you must  
take  
Their product's square root, E to  
make.



What now? well, given Watts and I  
You'll find that E without a sigh.  
Division is the key to it  
I into watts, it ought to fit.



Now up pops I—where did it go?  
Divide the E by R—you'll know  
With Watts and R upon the table  
Divide by R if you are able.

But—this will surely make you cry  
The square root of the quotient's I  
If after this your mind is sound  
There's one more way that I is found.

With Watts and E within your bean  
Divide by E, and I is seen.  
Oh Boy, the end is now in sight  
There's only R with which to fight.



With E on hand and also W  
Find R—the job won't trouble you  
Divide by Watts the square of E  
And that is R as you will see

With Watts and I beneath your nose  
Just find the R and then we'll close.  
Divide the Watts by the square of I  
And there's Ohm's Law as easy as  
It (Pie).

**THE THINGS THEY SAY**

**The Reason For Existence**

"As one goes about, one takes too much for granted, one gets blunted and blurred, and I don't think the cinema or the newspapers or the wireless, or other modern gadgets, are helpful in sharpening us up. They promote passive acceptance of the world instead of increased wonder. What does sharpen us is talking personally, with its correlative, listening. Talking and listening do get the human race on a little and help it towards the tolerance which is requisite for its existence, and towards the love which is the reason for its existence."

(E. M. Forster, celebrated English novelist, talking about his personal philosophy in the BBC's Overseas Service.)

**Amateur Tobacco Grower**

"Draped from the roof of my garage are long hanks of tobacco leaf. They're being dried off by my father-in-law who had a whale of a time growing tobacco plants in the garden last summer. This is something new for this country and the old gentleman's been swotting up all about curing and pressing and shredding and so on. I gather that the only fly in the ointment is that at some stage in the proceedings he requires some brown sugar. Where he's going to get it I don't know but I have an idea that my missus is going to keep guard over the family sugar supplies with a shot gun. And if the tobacco ever does get to the pipe stage and somebody has to try it out, I fully expect to hear that old cry of the theatre raised in the Reid household—'Is there a doctor in the house?'"

(Robert Reid speaking in the BBC's North American programme "London Letter.")

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Address.....

R & TV News

## 3BA Ballarat

(Continued from page 18)

### Engineering Staff

WITH most broadcasting stations in these days, one hears very little about the technical people, the men who make things "tick." Perhaps it is because the art of broadcasting has now become part and parcel of our daily lives . . . much of the novelty has worn off. Not so long ago, however, a scant 20 years or so, there was more than an atmosphere of novelty about the new entertainment conjured out of the air by sundry collections of gadgetry which were the fore-runners of the faultless and easily handled receiver of to-day. There was an air of uncertainty about things, and the technician was somewhat of a mystery-man. He is, as much as ever, a specialist in his work, but rarely indeed is it that the public sees or hears much about him. With establishment of the 3BA transmitter at the Cardigan site, it was decided to follow the practice of the larger type of station and to place engineers on control in the city studios. Many stations, with transmitter distant from the studio, function with transmitter engineers only, and leave it to the announcer to operate various vital controls in the studio location. Better presentation is possible and is achieved by locating engineers right at the studio control room. The four engineers responsible for the technical side of 3BA Ballarat are: Chief Engineer Alf Kerr (VK3AL), Keith Ridgway (VK3CR), Chief Technician Bert Sctrine (VK3BI), and Mart Chaffer (VK3MH). The callsigns in brackets after their names are those allotted to each personally in their amateur radio activities, for each of these men is rated in the amateur category of "old timer." All have literally worked with radio through a lifetime's period.

### Announcer and Publicity Man

REFERENCE to the activities of 3BA Ballarat would not be complete without a pen-picture of the station's "Radio Reporter," otherwise Ted Furlong. He combines the positions of chief announcer, publicity officer and a version of roving reporter, in which role he is widely experienced. Widely diversified spheres of interest are covered by his interviews, and among the many recorded have been the following:—  
Music, Dr. Boyd Neel; art, Professor Burke; religion, Right Rev. W. H. Johnson; sports, U.S.A. Davis Cup players; travel, Baroness Von Aersson; show business, Mr. Harry Watt; literature, Westminster Librarian, Lionel McColvin; medicine, Dr. Keith Hallam; industry, Mr. Murray Stewart, Conciliation



● 3BA's recording team of Ted Furlong and Alf Kerr flew to Sydney and recorded interviews, set atmosphere, descriptions etc., on the Ealing Studios locale for "Eureka Stockade." Here is Ted interviewing Chips Rafferty.

Commissioner; social service, Food for Britain interviews; civic affairs, City Council broadcast.

Interviews have ranged in length from three to twelve minutes. Places of interview have been as varied as the Governor's private sitting-room at Craig's Hotel, and the lions' cage at Wirth's Circus. Interviews have

been obtained with ease and rapidity ranging from a few minutes spent in the studio, to a six-hour trip to Stawell and return.

Some weeks there are many visitors from whom to choose the Friday night's interviews. Other weeks the reporter is haunting tourist bureaux, hotels and newspaper offices right up to Friday, searching for news of someone interesting who "In Town This Week." So far 9.30 Friday night has always brought its quota of interest from the people interviewed by 3BA's Radio Reporter.

### Some Figures and Noteworthy Broadcasts

IN 1930 there were 12,795 radio licences within 50 miles' radius. In 1935 there were 17,000, while today there are 33,488—and investigations have shown that for the majority of these listeners, 3BA is first choice.

The reason for this is obvious when it is realised that 3BA has offered its listeners these top-flight programmes—Lux Radio Theatre, Australia's Amateur Hour, Shell Show, First Light Fraser, Penfold's Musical Comedy Theatre, Atlantic Show, Music in the Tanner manner, Opera for the People, Crossroads of Life, Sincerely Rita Marsden, Nestle's National Singers, Quiz Kids, P. & A. Parade, and many others of a similarly high standard.

(Continued on page 65)



● Chief Technician Bert Sctrine (VK3BI) holding one of the 833 Class B modulators at the transmitter.

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## IMPROVE YOUR LOUDSPEAKER

This is a working description of an interesting and entirely new type of loudspeaker baffle. More correctly it can be referred to as a compact labyrinth. It is mainly intended for radio receiver application, but will undoubtedly attract the attention of the amplifier enthusiast and the lover of recorded music. This article is contributed by a well-known Australian radio engineer who prefers to remain out of the publicity 'spotlight.' We have his permission, however, to give the article an identification tag and so here it is, as written

by "A.F."

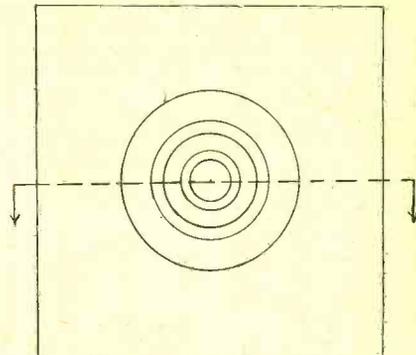
WITH the arrival of frequency modulation, the demand for better reproduction of sound is certain to be demanded by the discriminating listener.

For many years the recorded music enthusiast has known of and used various types of baffles, vented enclosures etc., to improve the frequency range of the loud speaker, but unfortunately this angle has been sadly neglected from the radio point of view. The greatest drawback of the majority of speaker enclosures is their size. The smallest types are usually as large as an average console radio cabinet, which means the speaker is generally a separate unit. While this arrangement is desirable, space considerations rule it out in the average living room.

The speaker enclosure to be described will fit into most console cabinets, beneath the receiver shelf, can be built in a separate cabinet or can be part of the built in book shelves that are so popular in modern homes.

It is a well known fact, and most people have had the opportunity to observe it, that a speaker operating without a baffle has a very poor bass response. This is due to the sound waves produced by the front and back of the speaker cone cancelling out. This occurs at the lower frequencies and as they are increased the effect becomes less, until a frequency is reached where no apparent reduction in intensity of the sound waves occurs. If the front and back waves can be completely separated good results will be achieved. This could be obtained by mounting the speaker in the wall of a room. Actually the ordinary cabinet or baffle board partly corrects this loss of bass response, but a percentage of the back wave will still be operating on the front wave at the lower frequencies. If the back wave can be absorbed and no pressure developed which would affect the cone movement, excellent operation of the speaker will be achieved.

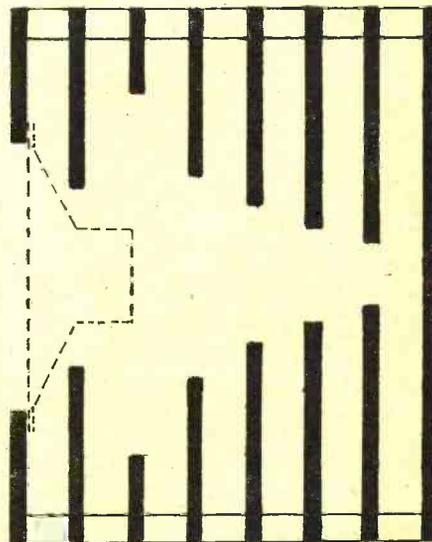
The baffle to be described is not a new idea, as it has been used in various forms for many years. This particular one was built to house a 10 inch speaker and its dimensions were determined to a large extent, by the material available. Tests carried out with several 10 inch speakers have been very satisfactory and apparently the dimensions are not



FRONT ELEVATION

critical. However further tests on similar baffles of different sizes will be necessary before the ideal dimensions can be determined.

The following material will be required to construct a baffle as per the drawings: 8 pieces of canite 18 x 18 inches, 42 feet of 1½ x ¾ inch pine, a small quantity of glue and a few screws.



SECTION THROUGH CENTRE OF UNIT

Number the pieces of canite from 1 to 8, which will be their order from front to back in the final assembly. Cut the following holes, one in each.

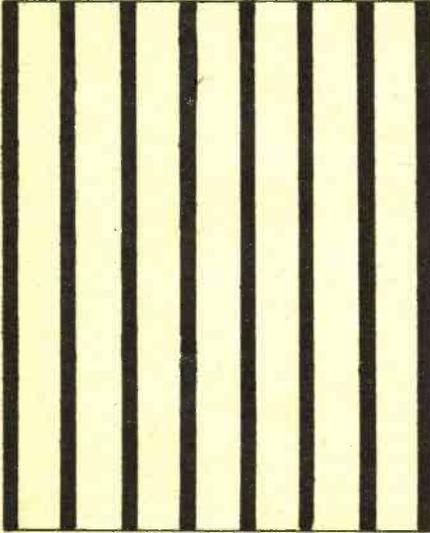
- No. 1 — 9 inch (to suit speaker)
- No. 2 — 6 inch
- No. 3 — 12 inch
- No. 4 — 6½ inch
- No. 5 — 4½ inch
- No. 6 — 3 inch
- No. 7 — 2 inch
- No. 8 — Blank (No hole)

(Continued on page 23)

## Improve Your Loudspeaker

(Continued from page 22)

The timber is then cut to form seven frames 18 x 18 inches with a thickness of 1½ inches. Glue and screw a frame to each piece of canite, except No. 1. The seven sections are then glued together in their



SIDE ELEVATION

correct order, leaving No. 1 to be screwed to the front of the assembly after bolting the speaker to it.

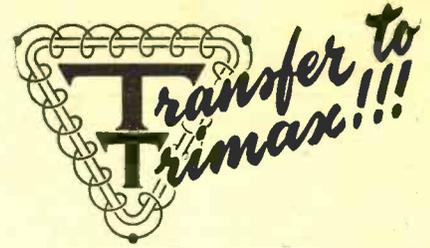
The attached drawings show a front and side elevation together with a section through the centre of the unit. The sections of canite Nos. 1 and 2 may require slightly different size hole of different speakers. For convenience it is preferable to bring the speaker connections through the front of the unit as it is difficult to feed them through the rear after assembly.

A baffle to the above specifications has now been in use for several months and has given every satisfaction. Even the cheapest speakers give results that are a marked improvement on the ordinary cabinet or baffle board.

— 0 —

### "THIS IS NBC TELEVISION"

In the U.S.A. those magic words of the new Television era sound out a dozen times daily for nearly two million viewers over 200,000 receivers in the area now covered by the National Broadcasting Company's Eastern Television network. This company alone had 32 TV stations on the air in 1948, and plans to mature in 1950 are that NBC TV will be coast-to-coast. The public demand for television receivers to-day exceeds the supply, despite the fact that more than 36,000 are being produced per month. By the end of 1948 nearly a million receivers had been installed with some five viewers per set in the average home, and upwards of twenty in public places.



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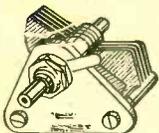
# Radio Components for the "Ham"

### CYLDON Xmitting Condenser



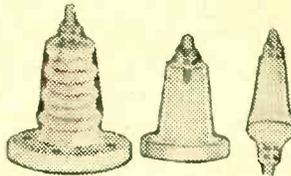
Ceramic insulation, polished plates. 200 mmF. 3,000 V. working. **25/-**

### WAVEMASTER



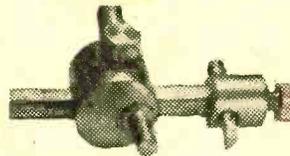
A robust condenser. Ceramic insulation, brass plates. 100 mmF. **8/6**

### STAND OFF INSULATORS



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Behive type 2in. high . . . 3/11  
Standard type 1½ in. high 3/1  
Standard type 1in. high 1/8  
Lead-thru 1½ in. high . . . 3/4

### CHASSIS HOLE CUTTER



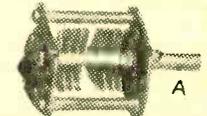
Chassis are expensive. Save money by making your own. This cutter is adjustable and will cut holes in aluminium, steel, etc., from 1in. to 2¼ in. diameter. The cutting tool is high grade tool steel, and spare cutters can be supplied for 3/- each. **16/7**

### UTILITY DIALS



A precision dial for receivers or test equipment. Direct drive or 60/1 vernier. **18/6**

### VHF SPLIT STATOR



A quality condenser with ceramic insulation. Capacity 9 + 9 mmF. **8/6**

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# PRICE'S RADIO

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SYDNEY

"D.B.": The art of the Hollywood trick photographer has invaded the technical side of television. At Alexandra Palace, London, the use of models was demonstrated in a very effective transmission, in which the scene depicted a graveyard at dawn, with tumbled crosses silhouetted against a grey sky. Artillery smoke drifted across to the distant rumble of guns. The effect was obtained with a small cardboard model, across which from behind puffs of smoke were blown miniature bellows. "Artillery" was supplied by the tympani of the television orchestra. It foreshadows trick scenery and effects used as convincingly in future broadcast entertainment as on the screen to-day.

— 0 —

"Ellem": From a thriller called "The Ten Green Brothers": "Once I looked up towards the thin wire which I had noticed ran between the mizzenmast and the stumpy stern mast. And now I saw blue flashes running along it, and quick trickles of light swooping downward towards a point above the companionway. One of the passengers was receiving or sending a wireless message!" One can scarcely credit that a novelist could be so ignorant in these times.

**SAY YOU SAW IT IN  
Australian RADIO and  
TELEVISION News**



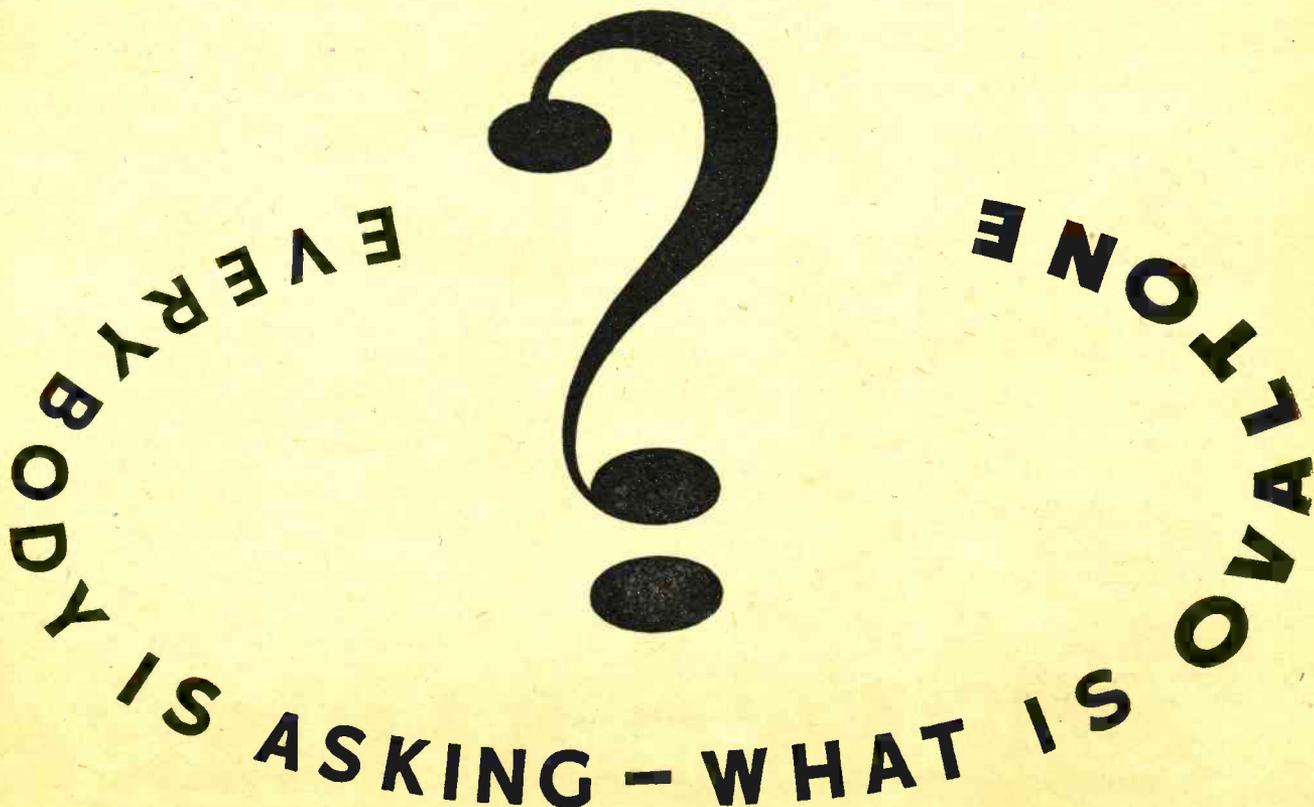
Efficient Hookup

**ANOTHER THOUGHT  
FOR AN IDLE MOMENT**

**THE SOUND OF YOUR OWN  
VOICE**

Most people who have broadcast confess to a shock of horror when they hear their own recordings played back to them. They nearly all feel that something fearful has been done to their voices and that they cannot possibly sound quite so unpleasant in the ordinary course of events. Wilfred Pickles, famous Yorkshire host of the "Have a Go!" quiz programmes, is no exception, although he has heard himself so often that by now he is beginning to get used to it.

But he was rather shaken by another aspect of the question on the first day he heard his voice on the air. He had recorded a short dialect story and knew when it was to be broadcast. He happened to be in a small cafe at the time and asked the woman who ran it if he could have the radio on. He gradually got used to the sound of his own voice, and thought that, on the whole, he was not making too bad a job of the reading. But his satisfaction was completely upset when the woman came back to him and said, "You're not listening to this, are you? You *are* a funny one. That's what gets me about the BBC—they give you yards of muck like this, and our Fred can't even get an audition, and he's the best mouth-organ player in Yorkshire."



# STORIES OF THE GREAT COMPOSERS

## THE LIFE OF HANDEL

By RON BRADER

**G**EORGE FREDERICK HANDEL was a youth handicapped by a barber-surgeon father who looked upon music as one of the world's greatest evils. The father forbade the son to listen to *any* other than religious music. It so happened however, that the disciplinarian Doctor went off to visit a son (by a former marriage) who served in the army of the Duke of Saxe-Weissenfels. George Frederick asked to be permitted to go along also, but was told to stay at home and "be a good boy." Instead of accepting the parental injunction he ran after his father's coach, yelling at the top of his voice that he wished to be taken, and the upshot was that in the end he had to be taken. All went well until at the Duke's Palace he was caught playing on the organ, and hitherto his father did not even suspect that he *could* play. In high dudgeon the Doctor had to submit to a Ducal request that the young man be permitted to play. His Grace soon perceived the latent genius and made it his business to talk to the old Doctor in forceful terms. The result was that the boy was put to musical training. The Ducal intervention had thus swerved the future genius into his destined path instead of the probability of him becoming a barber's assistant, and later a barber.

### Later Years

As time progressed the boy Handel had grown into a big burly fellow who would brook no nonsense from anybody. In Hamburg he met Mattheson, a famous Opera composer, and the two became close friends. One night however, the friendship all but foundered. Mattheson had written an opera and suggested that Handel should conduct the first act so that he himself could take part in it. When the second act came on Mattheson went to the orchestra and asked Handel to let him take the baton but Handel retorted rudely that he would "be damned if he would." Mattheson had no alternative than to wait.

### A Duel

After the opera was over, the two met outside and Mattheson flew at Handel. Swords were produced and in no time the two were fighting in deadly earnest. Mattheson lunged suddenly at Handel and caught his rapier on a metal button, breaking

the point. As well that it did, for the world would not since have been able to enjoy Handel Festivals. The next night Mattheson sent Handel a letter asking him to dinner . . . the invitation was accepted and the friendship between the two became firmer than before. It was in 1709 that Prince George of Hanover offered Handel a position as Court Composer, which he accepted, and later, taking a liking to some English nobility he asked the Prince's permission to accept an invitation to visit his new-found friends in England. This was granted and the attraction of Italian

but Handel was completely ignored, a snub that left him quite undaunted. Shortly after this occasion the King sailed up the Thames in his State barge, but Handel had heard of the intention previously. He worked through the night writing music and held a hurried rehearsal with some musicians the next morning. Then he packed them and their instruments into a flat-bottomed barge, and sent them off to intercept the King. The music entranced King George and he stopped his barge and enquired who was responsible for it. On being told that it was Handel's, the King sent for him the next day. That is the story of the writing of Handel's Water Music; a story that is not completely authenticated, but which appears to have some truth about it. At this stage Handel's position was a social triumph and he was in great demand by the elite everywhere. All might have progressed smoothly but for the appearance of Buononcini, an old rival. He had a considerable following and his cronies declared that he was indeed a rival to Handel: Factions arose and there was a great deal of ill-feeling. It is said that Byron wrote the following, which at the time caused some amusement—

"Some say that Signor Buononcini, Compared to Handel is a ninny, Whilst others vow that to him Handel, Is hardly fit to hold a candle, Strange such difference should be 'Twi'xt Tweedle dum and Tweedle dee."



GEORGE FREDERICK HANDEL

Opera in London resulted in him over-staying the period he was to be away. He became very popular at the Court of Queen Anne, and soon started writing operas for the Haymarket. A note from Prince George insisted pre-emptorily on his return, so he put in an appearance, but tiring quickly of German Court life, left again for England. Queen Anne died and Prince George succeeded to the English throne as George I, an event somewhat disturbing to Handel, who presented himself at Court, all smiles. The King, however, refused to have anything to do with him. "I can wait," said Handel.

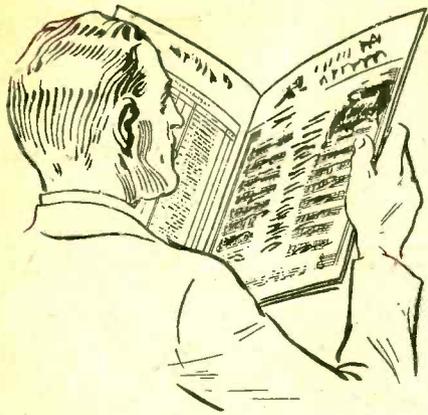
### Handel Snubbed

The time came when an Italian violinist came to play before the King and Handel was the accompanist. A kingly fuss was made of the Italian

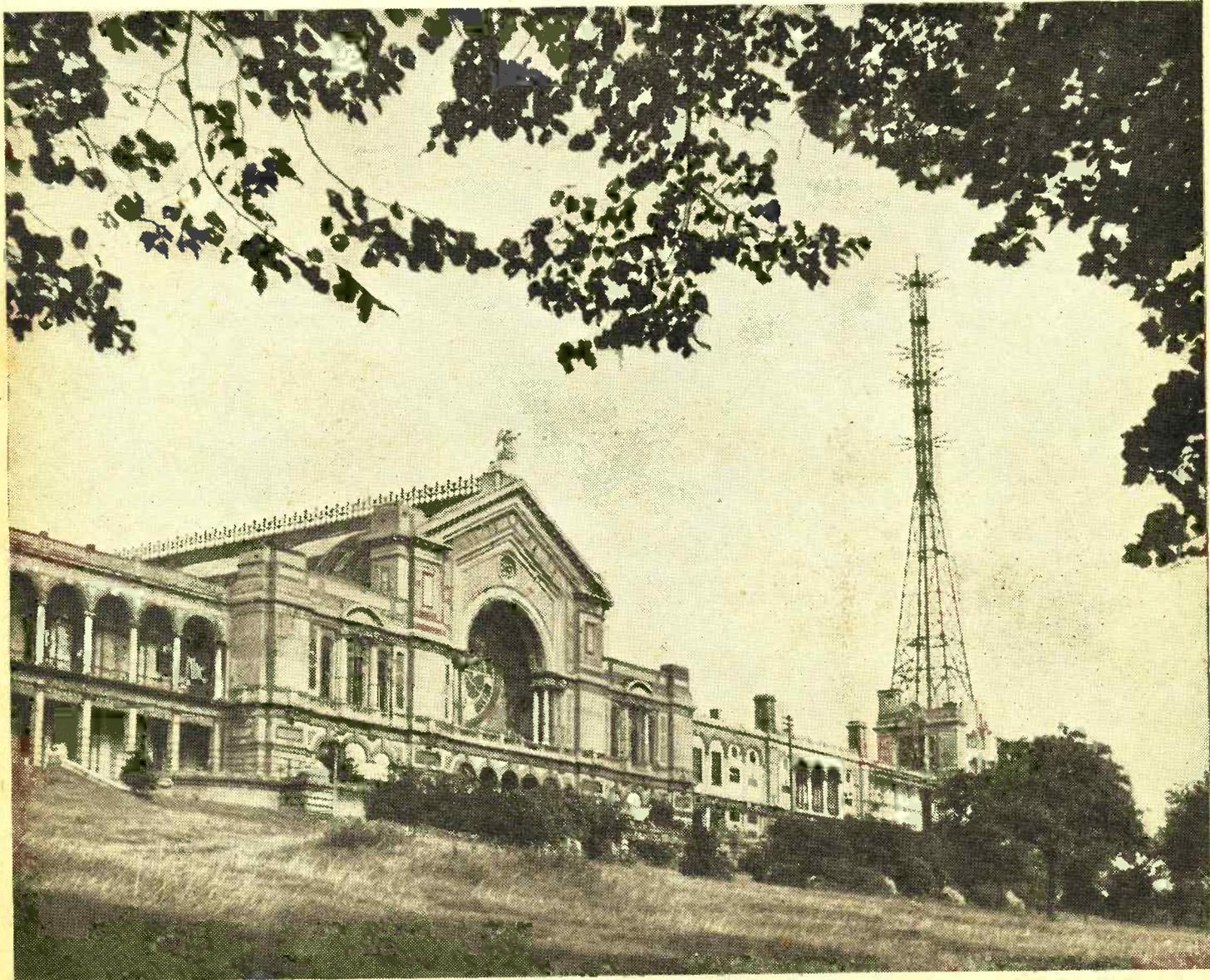
### Firm Opinions

This doggerel left Handel quite unmoved other than to say "What the Devil I care which likes which!" With his success Handel began to have things much his own way, and he made singers obey his will. Bad times came along however, and his operas began to fail for the reason that he was headstrong enough to ignore the fact that London had tired of Italian Opera. This was long before he commenced writing oratorio. On one occasion Carestini returned an aria of Handel's with a polite note intimating that he did not care enough for it to sing it. Handel flew into a rage and shouted "don't I know better than yourself what you should sing . . . you will sing what I give you or I shall not pay you a penny." The song was sung. Worse

(Continued on page 65)



# Radio and Television News Illustrated



★ B.B.C. Television Service. This is a general view of the approach to the London station of Britain's Television system at Alexandra Palace. The first high definition television transmissions were radiated from this historic building in November 1935. —Photo by Courtesy of the B.B.C.

34 Australian RADIO  
and TELEVISION  
News" June, 1949

★ Right:—

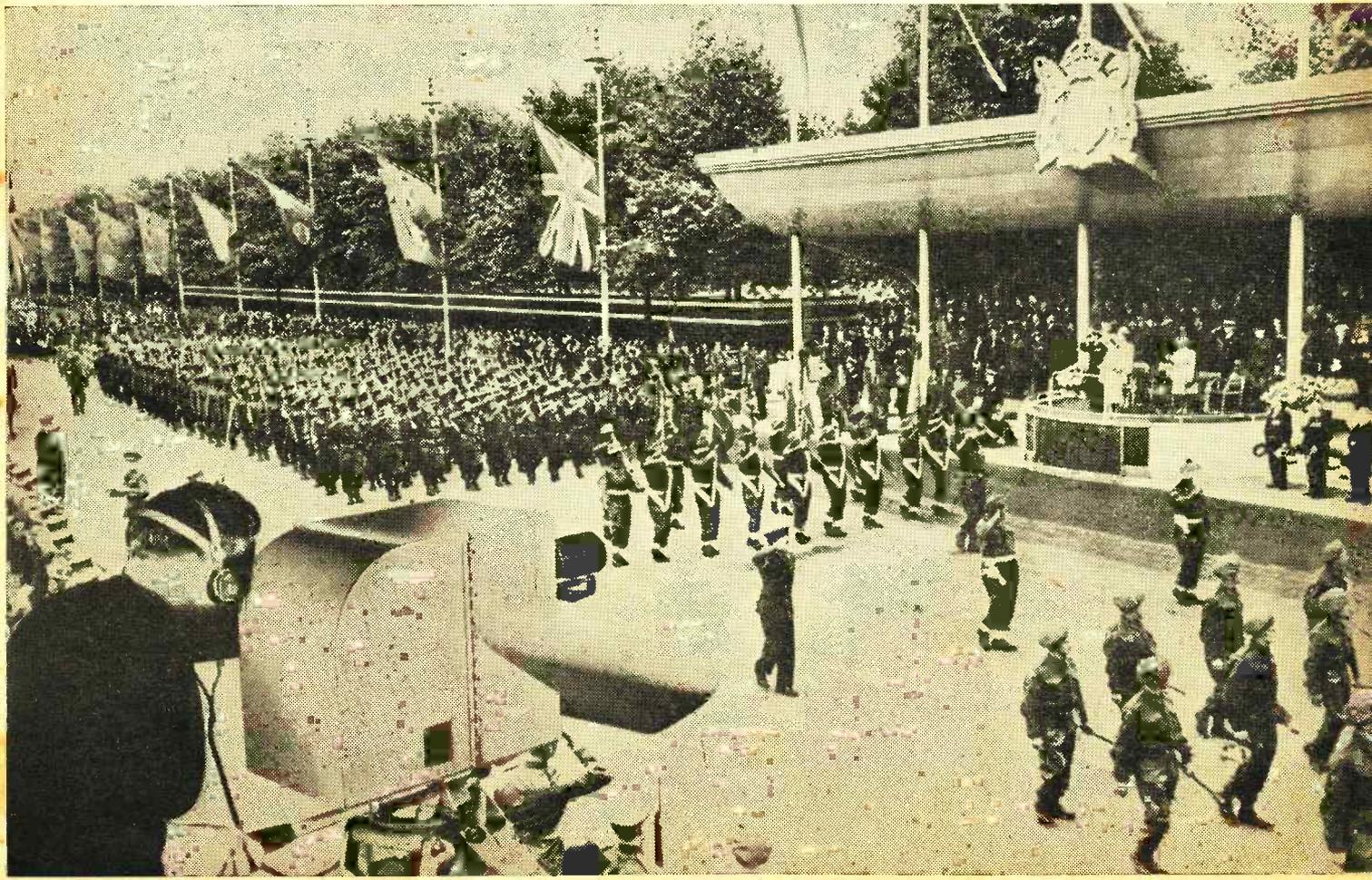
Telling America's story Abroad. Short-wave listeners are well familiar with the powerful transmissions from the "Voice of America" stations. Here we see Yun-I T'an and Shi Pao Hu, translator-announcers, broadcasting in Mandarin language as the "Voice of America" beams its daily programme to China.



★ Below:—

A highlight of the post-war re-opening of the B.B.C.'s television service from London was the televising of the Victory Parade. An E.M.I. mobile unit placed opposite to the saluting base in the Mall enabled viewers to see this historic occasion in close-up.

—(Photo by courtesy of E.M.I. Ltd. Hayes, Middlesex)





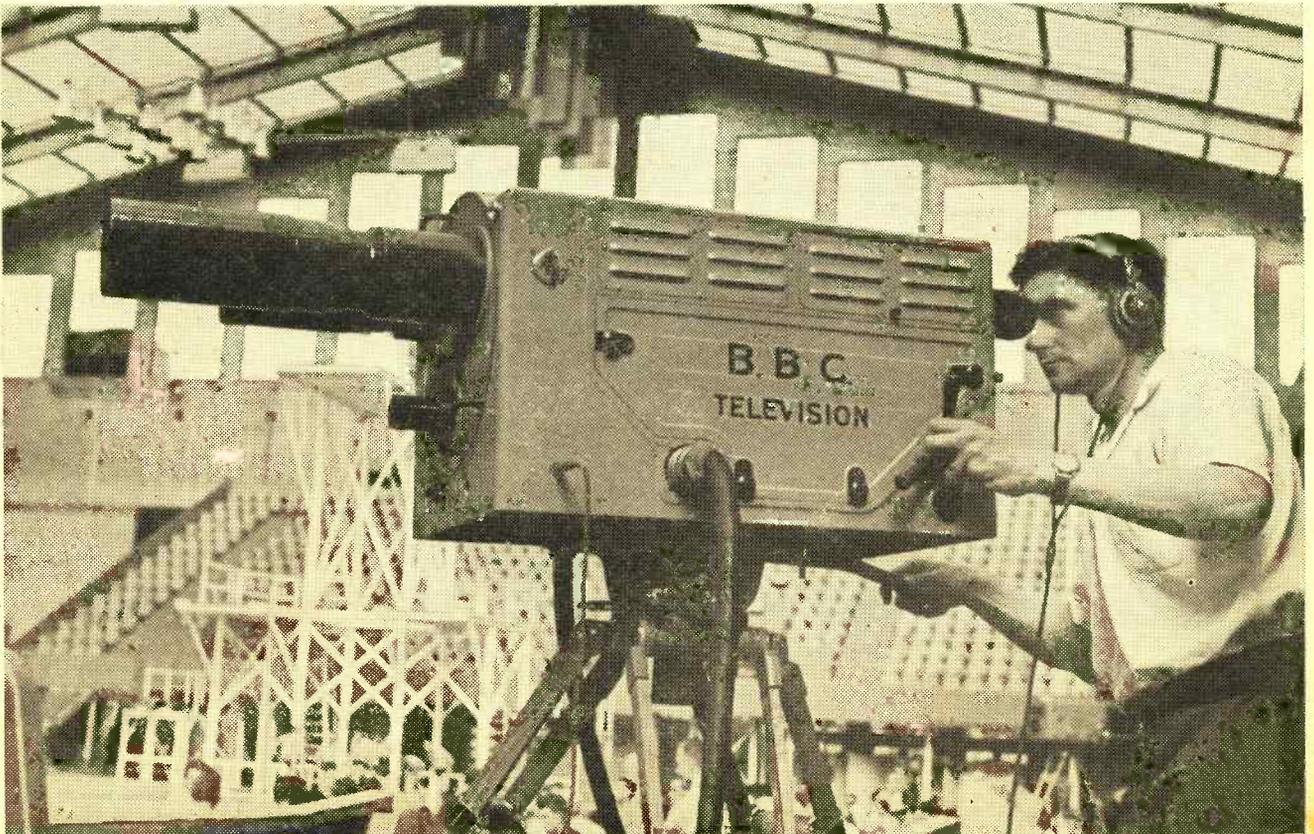
### 'Much-Binding-in-the-Marsh'

Left: If you get a laugh out of the antics of the comedy team making up this B.B.C. feature through A.B.C. National Stations on Sunday evenings—you may like to see what two of them look like. Here are Richard Murdoch (left), "I don't think much of that line, Sir," and Kenneth Horne.

—Photo by Courtesy of the B.B.C.

Below: Looking almost like war-time equipment is this C.P.S. Emitron television camera shown here in action at the Olympic Games last year. With the C.P.S. camera it is possible to produce clear images almost up to the point of failing light.

—Photo by Courtesy of E.M.I.





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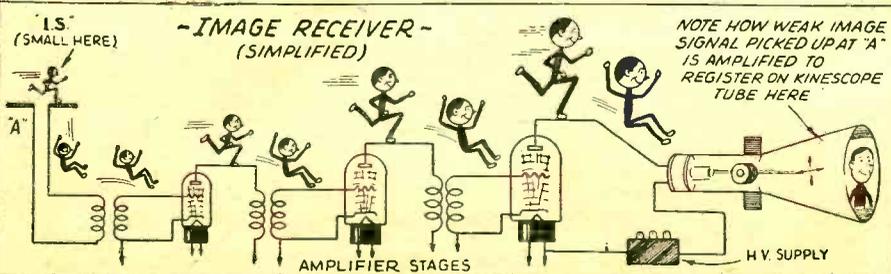
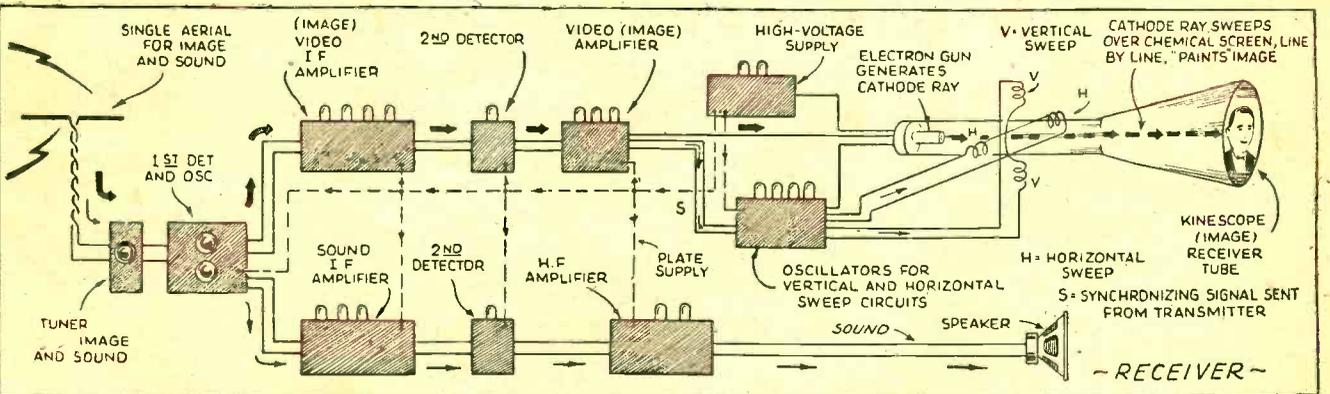
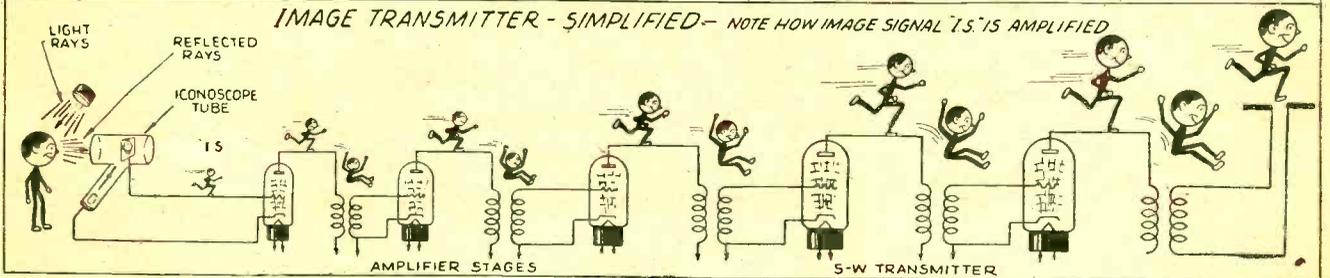
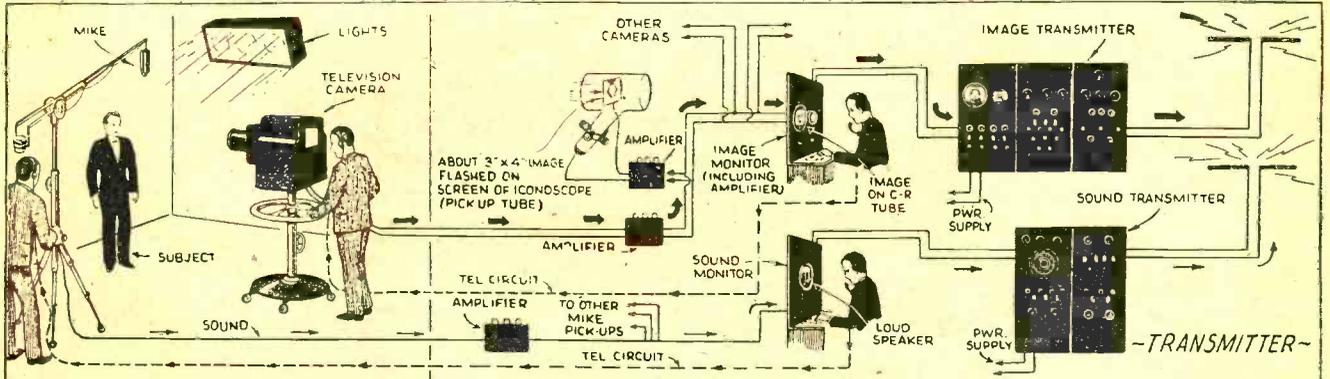
# Television To-Day!

## A SIMPLE PICTORIAL EXPLANATION

For non-technical readers, showing the principles involved in transmitting and receiving Television.

### PICTURES AND SOUND

from "Short Wave Craft," U.S.A.



The process of picking up, transmitting and receiving the television image, as well as the sound is shown in the diagrams above and to the left. The lower diagram is presented for the general reader who may find it difficult to follow the more technical diagram above. Note how the image, as well as the sound currents, is continuously amplified.

## A British De Luxe Radio and Television Receiver

AS a point of interest for readers wanting to know all they can about Television, we give details here of an excellent example of the trend in Radio/TV receiver design in Britain. This is a model now in production by McMichael Radio Ltd. of London. Virtually, it is two receivers in one, with the radio section on the left and Television on the right. As such, it is not an inexpensive job as may well be realised, but at the same time we would mention that here in Australia prices approximating the figure asked for this ultra-modern production have been in vogue for radio-gram combinations of the more elaborate "cocktail bar" kind. £185 sounds a lot of money; but divide the price by two and the purchaser gets a high-grade radio receiver and an undoubtedly highly efficient Television receiver at £92/10/- each, which is normal enough in these times of high production costs. Of course, in Britain, there is a purchase tax of £41 on top of the £185 asked, and that is certainly a very solid governmental "slug." For the benefit of those who might like to know what makes this McMichael production "tick," we give the technical details as supplied to us by the maker.

### Specification Television Receiver

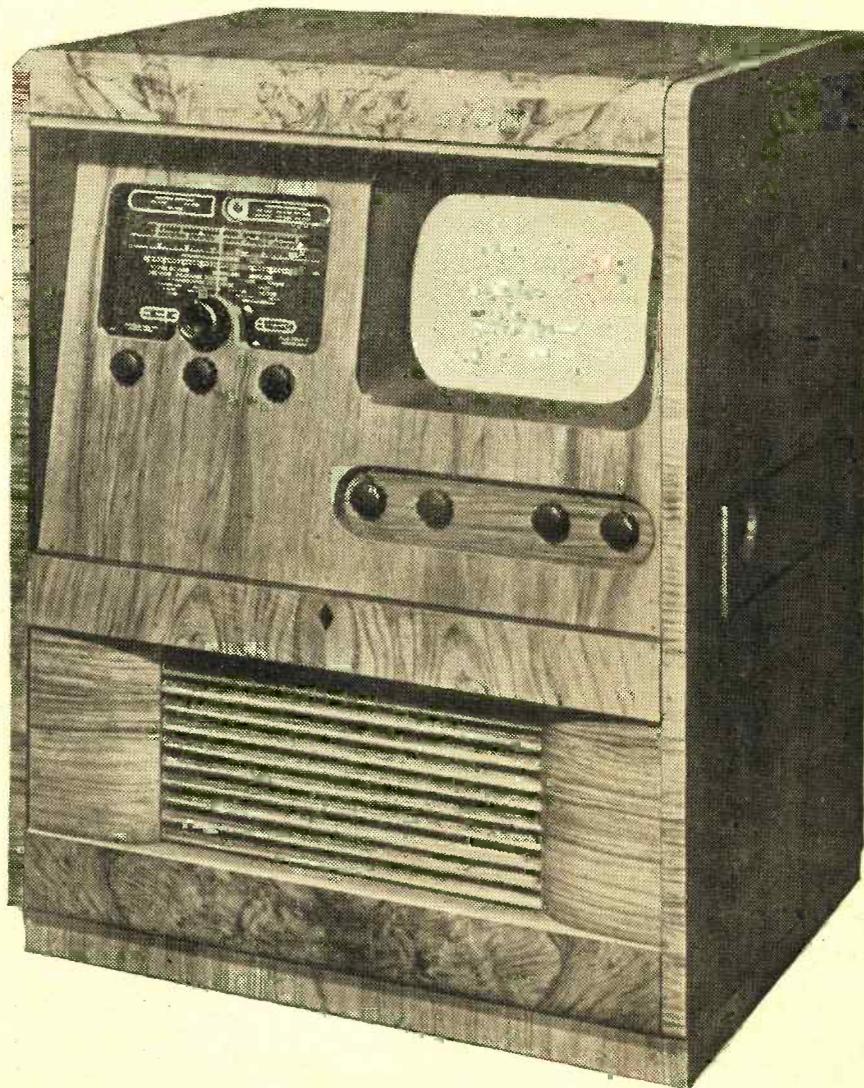
A.C. mains operation—190 to 250 volts.  
Power Consumption 250 watts.  
Picture size—10in. x 8in.  
Receiver R.F. bandwidth—6m/cs.  
Sensitivity—Full black and white tubemodulation for 150 microvolt input.  
Audio input—4 watts into 10 inch moving coil speaker.

### Radio Receiver

4 Waveband superheterodyne.  
Wavebands—13.5 to 50; 50 to 170; 170 to 550; 800 to 2,000.  
Full A.V.C. applied to F.C. and I.F. Valves.  
4 watts audio output.  
Tone control—3 position switch.

### Television Receiver

A 25 valve vision and sound superheterodyne for A.C. mains operation 190 to 250 volts 50 cps. A dipole with coaxial feeder is required. The first stage is an R.F. amplifier (SP.41) followed by a frequency changer (SP.41) with a separate oscillator (P41). The R.F. and F.C. are common to both vision and sound, the sound channel being fed off the 1st I.F. cathode. The F.C. is followed by 3 I.F. stages working at 13 m/cs. comprising band pass circuits with 3 SP.41 amplifiers. The overall bandwidth of the R.F. and I.F. sections is 6 m/cs. Following the 3 I.F. stages is the vision detector (D.1) and video stage (SP.42). From the anode of the SP.42 the vision signals are fed to a D.C. restorer (D1) and the grid of the 12 inch cathode ray tube (CRM.121). The response of detector and video is flat to about 3 m/cs. The sync separator (D1) the limiter (SP.42) are also fed from the SP.42 video stage. From the limiter the line sync pulses are fed through a differentiating network to the line saw tooth generator (T.41). The thyatron is followed by an amplifier (PEN.46) which is transformer coupled to the line scan coils. Also from the sync limiter, a further net-



work feeds the frame pulses to a second limiter (SP.41) which is followed by the frame saw tooth generator, also a thyatron T.41. The second limiter in conjunction with a critical time constant differentiating network provides perfect interlacing at all settings of the frame frequency control. The thyatron is

followed by an amplifier (PEN.45) coupled to the frame scanning coils.

The sound I.F. is fed via a condenser from the 1st vision I.F. cathode. One stage of amplification is used with an SP.41 and circuits tuned to 9.5 m/cs.

The Radio chassis is a 4 waveband superheterodyne covering the range of 13.5-2,000 metres.

The aerial circuit with I.F. wave-trap is fed to a triode hexode frequency changer (ECH.35). This is followed by an I.F. stage (EF.39) operating at 465 k/cs. A double diode triode (E.B.C. 33) is used for detection, A.V.C. and L. F. amplification. The power output valve is an E.L.

33. A magic eye tuning indicator (EM.34) is provided and a 5Z4G for H.T. rectification.

The cabinet is of outstanding design and built from figured walnut, beautifully finished. CABINET SIZE—2ft. 6in. long x 1ft. 10½in. wide x 3ft. 4in. high. PRICE — £185 PLUS P/T £41/1/-.

## Questions You Will Ask About Television

Although Television is, for Australia, a future and not a present consideration, the time is opportune to discuss a few of the more salient features, as they will some day concern the "viewer." We commence here a series of likely questions and answers, with the primarily important subject of receiver price.

Q.: It is understood that Television receivers may sell between £40 and £200 according to type. As demand increases it is assumed that production will be of the "mass" kind, similarly to radio receivers. Would prices be likely to reduce after an initial period?

A.: This depends upon whether or not manufacturers will be able to produce in quantity at economical figures. There are many more components and valves of specialised nature in a TV compared to a radio receiver—perhaps with as many as 24 valves. Some models, of the mantel, smaller screen kind, may be produced for reception of the Vision only, and these would be cheaper than similar models for both Vision and Sound. An "initial" period before any substantial price reduction could be considered may be placed at a period of about three years after inauguration of Television transmission services.

Q.: Is the cost of running a TV receiver high with regard to valve, vision tube replacements, and current consumption?

A.: Valve life may be longer than in the average receiver for the reason that TV is not likely to be "on the air" continuously as with radio broadcasting. Transmission is for limited periods as in the case of theatrical productions and film screenings. Running costs and consequent overall current consumption may be placed at less than the radio receiver under such circumstances.

Q.: Are TV receivers easily damaged by ordinary use?

A.: Not if ordinary care is taken. Care should be taken in moving a receiver if this is necessary. It should not be switched off and on without allowing a short interval of time.

Q.: What is the greatest distance at which consistent reception can be obtained?

A.: Good reception has been obtained at distances of rather more than 200 miles, but this involves the erection of a special highly-elevated aerial. The greatest distance for consistent reception is about 50 miles using ordinary equipment, but with an efficient aerial. Normal service range can be estimated at around 35 miles.

Q.: Is the TV receiver likely to become obsolete in a short period?



A.: No. Design is based on standardised principles, and although progress is certain to be made, revolutionary developments are unlikely.

Q.: Will be possible to use an indoor aerial for reception?

A.: There should be little difficulty about this, especially if a horizontal system is used at the transmitter. It will need to be a correctly designed and resonated "beam" type aerial excepting where the receiving location is in close proximity to the transmitter site.

Q.: Does viewing cause eyestrain?

A.: Eyestrain is caused by flicker, and this is no more evident in a television picture than with a "movie" film. In fact, the picture frequency is slightly higher with television. There is, of course, the fact that the picture is relatively small in the home TV receiver and strain will result if there is concentration on a smallish picture at too great a distance. Manufacturers are devising several methods of increasing picture size.

Q.: Will Television be in colour or plain black and white?

A.: Colour television is theoretically possible, but there are practical difficulties which will take time to overcome. It may be assumed that for some time monochrome will be standard.

Q.: Is interference from motor car ignition and other sources so bad as to mar programme enjoyment?

A.: Only in exceptional circumstances. It can, as a rule, be almost entirely eliminated or so reduced as to be negligible, but the main cure

for such interference is at the source. It would be a wise move to introduce legislation NOW, not later on, to ensure that all motor vehicles and domestic house appliances are fitted with simple interference suppressors. It was done with military vehicles in wartime, and there seems to be no reason why it cannot be applied to civilian requirements without argument.

### THE C.P.S. EMITRON A New Camera For British Television

Before the war, E.M.I. Research laboratories in England had developed Television cameras known respectively as the "Emitron" and "Super Emitron." These types, still in use in the Television Service of the British Broadcasting Corporation, give very good quality pictures and reasonable programme variety. Both have limitations in that very good illumination was necessary for a good picture.

Studio illumination at Alexandra Palace is uncomfortably intense, and for broadcasts from theatres direct, the stage lighting had to be increased to such a degree that the show could suffer in picture quality. Outside broadcasts were frequently of poor quality because of bad lighting. The new CPS Emitron camera overcomes these defects by applying a method known as Cathode Potential Stabilization, developed by E.M.I. engineers in 1934. The basic principle is that secondary electrons are not knocked off the surface of the mosaic. Undesirable shading and other spurious signals are eliminated and much higher efficiency is obtained. Normal lighting is all that is required for comfortable working, and considerably less than is needed for use on a theatre stage normally. Outdoor broadcast are now made with the new cameras right up to the period of dusk, and gloomy weather has little or no effect.

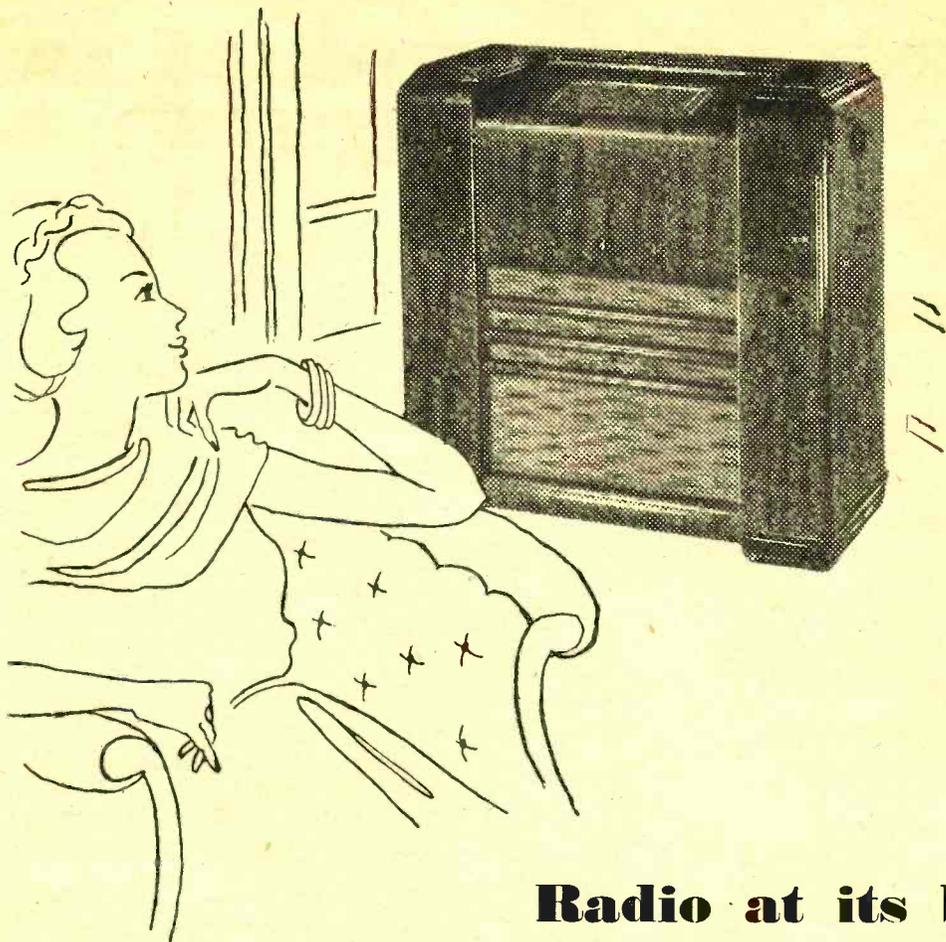
Television receivers mounted on three jeeps run by an Automobile Club in U.S.A. made it possible for some additional thousands of people to see telecasts of political conventions through Station WCAU-TV, Philadelphia. Receivers are mounted so that they face the pavement when the jeeps are parked. Ten inch direct view screens are used with a collapsible dipole antenna. Such mobile installations are found to be useful for the observance of Television reception in various locations, and they can be used to give demonstrations to prospective purchasers. It may be looking a bit far ahead, but Australian radio dealers with something more than a passing thought for the future, will do well to make a note of the idea.

# SHORT-WAVE STATION LIST

Country	City	Call	Band Meters	Freq'cy Mc	Broadcasting Time E.S.T. (U.S.A.) (Daily unless otherwise stated)
China	Chungking	XGOY	31	9.646	East Asia and South Seas beam, 7.35 to 9.40 a.m.; North American beam, 9.45 to 11.40 a.m.; European beam, 11.45 a.m. to 12.30 p.m.; East Asia and South Seas beam, 12.30 to 1.45 p.m.
China	Chungking	XGOY	25	11.900	Allied Forces in Far East, 8.00 to 9.00 p.m.; Asia-Australia, New Zealand beam, 6.00 to 6.30 a.m. East Russian beam, 6.30 to 7.00 a.m.; Japan beam, 7.00 to 7.30 a.m.
China	Qwelyang	XPSA	41	7.010	heard 10.30 p.m. to 12.15 a.m.; also 4.00 to 9.00 a.m.
China	Shanghai	XGRS	25	11.690	11.15 a.m. to 12.30 p.m.
Columbia	Armonia	HJFH	60	4.880	heard at 10.30 p.m.
Columbia	Barranquilla	HJAB	60	4.785	6.00 to 11.55 p.m.
Columbia	Bogota	HJCA	60	4.855	evenings.
Columbia	Bogota	HJCV	60	4.945	7.45 a.m. to 12.15 p.m.; 5.00 to 7.00 p.m., 8.00 p.m. to 12.45 a.m.
Columbia	Bogota	HJQC	60	4.955	evenings.
Columbia	Bogota	HJCX	49	6.018	heard at 11.55 p.m.
Columbia	Bogota	HJCD	49	6.160	heard at 11.50 p.m.
Columbia	Bogota	HJCT	49	6.180	
Columbia	Cartagena	HJAP	60	4.925	10.00 a.m. to 2.00 p.m.; 8.00 to 11.00 p.m.
Columbia	Cartagena	HJAE	60	4.965	heard at 8.30 p.m.
Columbia	Medellin	HJDE	49	6.145	5.00 to 11.30 p.m.
Costa Rica	San Jose	TIPG	31	9.615	heard at 9.00 p.m.
Cuba	Camaquey	COJK	39	8.665	
Cuba	Havana	COCD	49	6.130	10.00 a.m. to 11.00 p.m.
Cuba	Havana	COCW	49	6.330	8.00 to 11.00 p.m.
Cuba	Havana	COCL	41	7.053	
Cuba	Havana		41	7.100	heard at 9.30 p.m.
Cuba	Havana	COCG	41	7.190	heard afternoons.
Cuba	Havana	COCO	39	8.696	8 a.m. to 12.30 a.m.
Cuba	Havana	COCQ	39	8.830	5.30 a.m. to 1.30 a.m.
Cuba	Havana	COBZ	31	9.030	8 a.m. to midnight.
Cuba	Havana	COBX	31	9.270	heard at 1.00 a.m.
Cuba	Havana	COBC	31	9.365	heard at 6.30 p.m.
Cuba	Havana	COX	25	11.616	noon to midnight.
Cuba	Havana	CMCY	25	11.680	afternoons and evenings.
Cuba	Havana	COCY	25	11.740	afternoons.
Cuba	Havana		25	12.270	evenings.
Cuba	Havana	CMA5	19	15.505	7.45 to 8.30 p.m.
Cuba	Santa Clara	COHI	49	6.455	9.00 a.m. to 2.00 a.m.
Cuba	Santiago	COKG	39	8.905	7.30 a.m. to 11.00 p.m.
Curaco	Willemstad	PJCI	50	5.945	Saturdays only, 12.00 to 12.45 a.m.
Curaco	Willemstad	PJY9	31	9.340	
Danmark	Copenhagen		31	9.520	heard at 8.00 to 11.00 p.m.
Dom'can Rep.	Ciudad Trujillo	HIIN	49	6.243	evenings.
Dom'can Rep.	Ciudad Trujillo	HIIZ	49	6.315	6.00 to 10.30 p.m.
Dom'can Rep.	Ciudad Trujillo	HI2G	31	9.130	heard at 10.00 p.m.
Dom'can Rep.	Ciudad Trujillo	HI3X	25	12.110	noon to 5.00 p.m.
Ecuador	Quito	HCBJ	49	6.240	evenings.
Ecuador	Quito	HCIBF	41	7.160	
Ecuador	Quito	HCBJ	31	9.958	afternoons and evenings.
Ecuador	Quito	HCJB	25	12.445	afternoon and evenings.
Ecuador	Quito	HDD	25	13.000	3.45 to 4.30 a.m.
Ecuador	Quito	HCJB	19	15.110	mornings and afternoons.
Egypt	Cairo	JCJC	41	7.220	12.30 to 2.00 a.m.; 6.00 to 11.00 a.m.; noon to 5.00 p.m.
Egypt	Cairo	SUV	31	10.050	
El Salvador	San Salvador	YSO	41	7.315	
El Salvador	San Salvador	YPSA	31	10.400	evenings.
England	London	GRC	104	2.880	North American beam, 8.00 p.m. to 12.45 a.m.
England	London	GSL	49	6.110	North American beam; 5.15 p.m. to 12.45 a.m.
England	London	GRS	41	7.065	African beam, 9.00 p.m. to 4.30 a.m.; 3.30 to 6.30 p.m.; Mediterranean beam midnight to 4.30 a.m.; 1.00 to 6.30 p.m.; Italy beam; 11.45 a.m. to 6.30 p.m.
England	London	GRM	31	7.120	Pacific beam, 1.45 to 4.30 p.m.
England	London	GWI	41	7.250	Near East beam, 3.30 to 5.00 p.m.
England	London	GSU	41	7.260	North American beam, 5.15 p.m. to 12.45 a.m.
England	London	GWN	41	7.280	African beam, midnight to 1.30 a.m.
England	London	GRJ	41	7.30	Near East beam, midnight to 2.00 a.m.; 1.30 to 5.00 p.m.; South American beam, 7.00 to 11.30 p.m.; Italy, midnight to 5.00 a.m.; 1.30 to 5.00 p.m.
England	London	GSB	31	9.510	Near East, midnight to 2.00 a.m.; 11.45 a.m. to 5.00 p.m.; South American beam, 5.15 to 10.15 p.m.; Far East, midnight to 4.00 a.m.; Italy, 5.00 to 6.00 p.m.; 12.45 to 2.00 p.m.
England	London	GSC	31	9.580	South American beam, 5.15 to 10.15 p.m.
England	London	GRY	31	9.600	African beam, 1.15 to 5.00 p.m.; Near East beam, 2.00 to 6.00 p.m.
England	London	GWO	31	9.625	African beam, 1.00 to 2.15 a.m.
England	London	BVZ	31	9.640	North American beam, 6.15 to 11.45 p.m.; Pacific beam, 1.45 to 5.00 a.m.
England	London	GWP	31	9.660	Middle East beam, midnight to 2.30 a.m.; 1.30 to 3.00 p.m.
England	London	GRX	31	9.690	Australian beam; 1.45 to 6.00 a.m.
England	London	GRH	31	9.825	North American beam, 5.15 p.m. to 12.45 a.m.; African beam, 2.30 to 8.00 a.m.; 3.00 a.m. to 5 p.m.
England	London	GRU	31	9.915	Pacific beam, 8.15 to 10.00 a.m.; African, 1.15 to 4.30 p.m.; Far East, 8.15 to 11.15 a.m.; India, midnight to 1.30 a.m.; 12.15 to 1.15 p.m.

(This list of stations and operating times will be continued in order of countries in the next issue)





## **Radio at its best**

The superiority of the A.W.A. Radiola is the result of A.W.A.'s thirty years leadership of the radio industry and unequalled research and manufacturing resources. The range of A.W.A. Radiolas comprises twenty different models covering all city and country requirements including personal portables, mantel models, consoles, radiograms and car radios.

Authorised Radiola Distributors in all parts of the Commonwealth will gladly arrange demonstrations.



# **RADIOLA**

**THE WORLD'S FINEST BROADCAST RECEIVER**

*MANUFACTURED AND GUARANTEED BY*

**AMALGAMATED WIRELESS (AUSTRALASIA) LTD.**

**AUSTRALIA'S NATIONAL WIRELESS ORGANISATION**

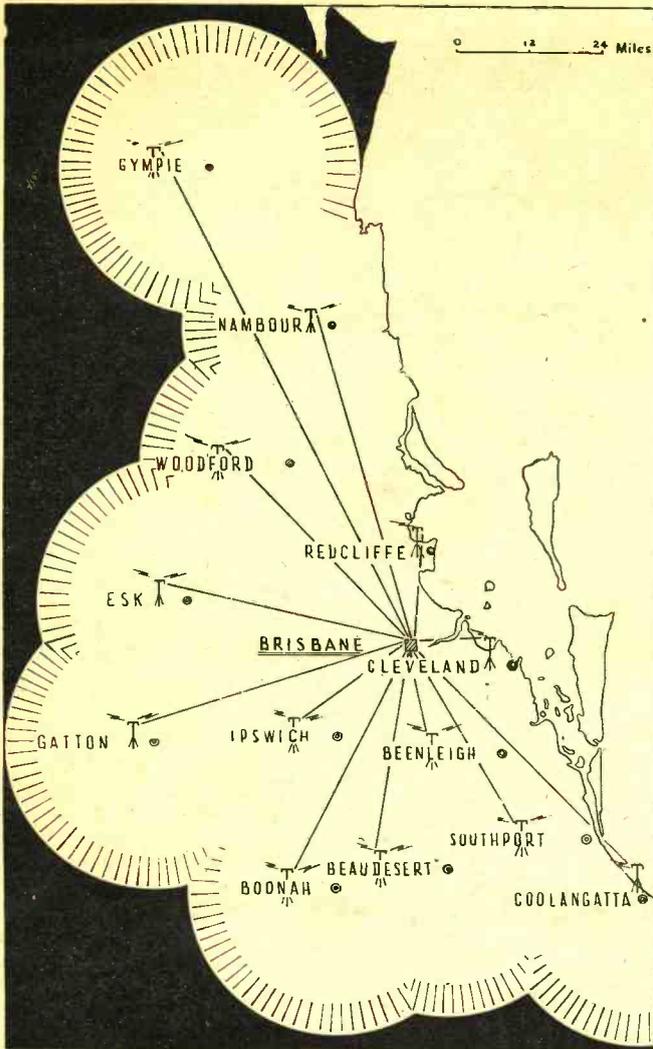
# PRIVATE RADIO TELEPHONE FOR QUEENSLAND COMPANY

Brisbane's City Electric Light Company which supplies electric power and light to an area of over 10,000 square miles is to install a private frequency modulation communication network to cover 13 districts.

The system which is Australian designed will be built by Amalgamated Wireless (Australasia) Ltd., and is the most extensive of its kind yet developed in Australia.

The Electric Light Company Head Office transmitter will operate to initially 13 district central stations with two-way communication and each central station will control two-way channels to each car on district strength. This will involve at present 54 vehicles, but Company's plan embodies extensions to other centres and vehicles. With this network it will be possible for any field operator on an outlying district inspection or maintenance check to have his requirements or reports relayed at once to Head Office by calling up his district central from a telephone handset on the dashboard of his vehicle. At the same time the executive administration will be able immediately to contact staff on maintenance standby anywhere within 120 miles of Brisbane and direct them to operations at any point in the area without delay.

The system designed for the City Electric Light Company is the most up to date in mobile radio telecommunications and is designed to provide an organisation operating over 10,000 square miles with internal communications throughout its entire zone of operations. The installation of this system is a clear indication that the mobile telephone has arrived to stay in Australian industry. But it is of interest to note that with the completion of A.W.A.'s immediate commitments for this type of equipment in Queensland that State will be operating approximately 25 per cent of Australia's mobile telephones.



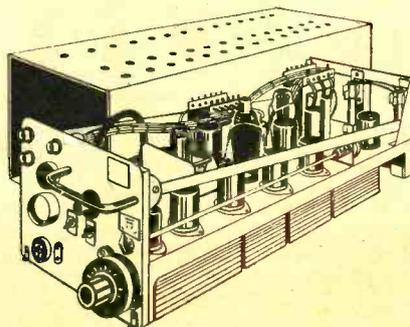
## TELEVISION

### Scope For Home Constructors

IN Britain, Television, under the aegis of the British Broadcasting Corporation, has, slowly but steadily, and with infinite skill, made amazing progress in the two spheres of studio performance and electronics in recent years. There are acknowledged experts who say that British Television now leads the world, an achievement the original band of enthusiastic pioneers and the B.B.C. may take pride in justifiably. Consequent of a transmitter to cover the Birmingham area, a new phase in Television technique and development is inaugurated, making the charms of this most delightful of latter day inventions available to ever-increasing numbers. It is contemplated extending the service eventually to cover all the British Isles, and when that time arrives, viewers may expect to have available a day-long service. It is not difficult to visualise the utility for school children in particular, with Shakespearean plays and symphony

intermingled judiciously during school hours with Disney cartoons. There is the prospect of 12 hours daily Television entertainment. As things stand, Television receivers are by no means cheap, and they can be expected to remain in the high price class for years to come. With the cost of living rising continuously, the purchase of a TV receiver is out of the question for many people. This is where the radio home constructor can score nicely, and the fact is not being lost sight of by a few retailer/service-

man in England. Ex-service Radar receivers and associated equipment similar to the receiver shown here are being offered, with conversion instructions. The hobbyist with a good background of radio receiver construction finds it possible (in England) to construct a very effective Television receiver for about £10. We of Australian RADIO & TELEVISION News consider that when the time arrives in Australia, that there will be a reasonable demand on the part of the radio constructor for advice and the necessary components to make up TV receivers. It is all in the future; but reader may rest assured that we shall be on the job for them at the appropriate time. Meanwhile, we suggest you read all you can about TV. That's one reason we are producing this magazine.



**SUBSCRIBE NOW!**

For 12/- a year you get  
"RADIO and TELEVISION"  
MAILED DIRECT



# READER'S FLOODLIGHT

79 Victoria St.,  
Lewisham,  
SYDNEY  
March 10, 1949

"Dear Mr. Knock,

I would like to convey my thanks to you for the complimentary subscription which you forwarded to me as being the first recorded subscriber to 'Australian RADIO and TELEVISION News,' and also to tell you again just how proud I am to have this honour. I wish you all the success in the world with "R and TV." I know that this will be the best journal we've ever seen here. I hope to contact you one of these days if ever I get a rig on the air and whilst studying for the A.O.C.P. I am building up a fair sized receiver. You can expect a few letters from me for the short-wave listener's section when I get things popping.

Yours faithfully,  
CLIFFORD A. LLOYD."

(We take this opportunity of wishing you good luck for the A.O.C.P. exam when the time comes. SWL reports will be welcomed.—Ed.)

:: :: ::

146 Brighton Bvde.,  
BONDI, N.S.W.

The Proprietors,

"Australian R and TV News,"

"Dear Don & Co.,

With 'D' Day rapidly approaching it gives me very great pleasure indeed to forward my subscription for the coming year. Accompanying it are my wishes for future success of the 'News' with the inward satisfaction of a job well done by those responsible for its policy. I see that you are breaking an old Lancashire tradition of 'little for little and nowt' for nowt' by giving us a lot for a little. I am sure that as a radio fan I shall never be sufficed; some journalists can never really satisfy the fan's appetite but I'm sure you will. We are all keenly interested in this publication, the life of which we hope will extend into the dim future,

Cheerio,  
FRANK STROUD (alias 'Pop')."

(Thanks "Pop" for the kindly sentiments. When you absorb what we shall tell you about television, we can see you becoming a TV Fan also.—Ed.)



## SEND THEM IN!

This, the second issue of this magazine, is, you will agree, no less attractive in make-up and readerlore than its No. 1 predecessor. This is the way we intend to keep it—always at a high standard and well in the front rank in its own class. There are plenty of good ideas simmering in the editorial department—it is part of the editor's job to keep reader interest at a high level, but the result can be even better with co-operation. Which means simply that readers may be able to pass on their own ideas to others by the contribution of suitable material. You can see what our range of subjects embraces; why not obey that impulse now and submit your written ideas for consideration? You may have journalistic talent nestling up your sleeve, but you won't know unless you try your hand. If your contribution is appropriate and, in the editor's opinion, likely to be of interest to a majority of readers, it will receive full consideration. If accepted it will bring remuneration, upon publication, at prevailing journalist rates. If you don't make the grade for the time being, don't despair . . . try a different angle. A word to the wise . . . send articles in TYPED, with double-spacing between lines. Send them along!

P.O. Box 127,  
Geraldton, W.A.

"Dear OM,

Listening on 28 Mc/s recently I heard you in contact with another VK, and I was reminded that I hadn't written you for some time. I have built myself a new receiver and claim to have had about the last remaining TRF receiver in Westralia until recently. At last I've completed the task, starting from pieces of paper on a drawing board and a vir-

gin chassis. Line-up is 6AK5 RF, ECH35 M/O, 6SS7 1st IF, 6S7 2nd IF, 6U7G 3rd IF, 6H6 2nd det, AVC and noise limiter, 6C8G one half "S" meter valve and other half B.O., 6J7G 1st audio, and 6G6G output. All heaters are run from a 6 volt accumulator and HT derived from DC mains eliminator including OC3 VR tube for 100 volts to ECH35 oscillator anode and all screens. This receiver uses plug-in coils and the bandspread tuning is by means of a bandspread condenser in the oscillator tuning. I.F. is 1900 Kc/s, chosen for freedom from images; certainly a characteristic of the receiver, but Oh My, the selectivity!! Between 2nd and 3rd IF stages I have transformers back-to-back, and again between 1st and 2nd stages, a total of six IFT's sitting up there among the valves. The back-to-back IFT's are coupled by means of 10 pf condensers in series with AWA air trimmers. The trimmer is screwed right out so the coupling must be somewhat less than 5 pf. The selectivity is what I'd judge to be slightly better than that given by one stage of iron-cored 455 Kc/s IF. Let this be a warning to anyone who may have ideas like mine of avoiding double conversion.

I originally tried band-passing the back-to-back transformers, tuning the windings alternately 1898 Kc/s and 1902 Kc/s, but no matter how carefully I went over them the response finished up lop-sided. So I peaked all six of them on 1900 Kc/s dead. I think the answer may lie in a 1900 Kc/s crystal filter. What do you think? . . . 73 and all the best,

R. H. Atkinson, VK6WZ"

(It would be well worthwhile re-designing the receiver for a 1900 Kc/s crystal filter. A special receiver used exclusively for 28 Mc/s (10 metres) at the writer's station uses back-to-back 1900 Kc/s IFT's and crystal. Selectivity is very good, but an improvement would no doubt be by using a twin crystal (band-pass) filter. For general DX and domestic band coverage these days however, the carefully designed dual conversion receiver is much more effective, especially where a low frequency IF is used in the second channel.—Editor.)

(Continued on page 65)

Letters on any topical subject  
are welcomed.

What do YOU think about  
"R and TV News"?  
Tell the Editor about it.

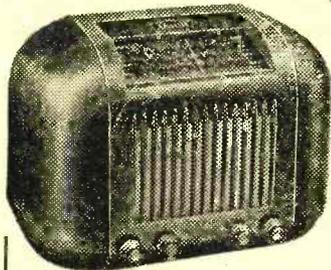
# TRIPLE-THROAT



Sealed  
World-Range  
Triple-Throat  
25½ GNS.

## Sensational KRIESLER Sealed RADIO . . . . . for 3 times the entertainment value!

Once you hear Kriesler Triple-Throat you will never again be satisfied with ordinary radio. Kriesler Triple-Throat, whether as the brilliant, powerful Table Model, or the amazing Midget, will thrill with its lifelike "musical instrument" tone.



Triple-Throat Sealed MIDGET  
18 GNS. WORLD RANGE

Kriesler brings you features no other make can offer . . . Triple-Throat, Built like a Musical Instrument, "Phantom-Valve" circuit with 12,500 miles range guaranteed, and it's sealed for your protection. Hear Kriesler, and be amazed. At leading radio retailers everywhere.

# KRIESLER *Sealed* RADIO

THE BEST SET AT ANY PRICE!

## GREAT DISCOVERY IN TELEVISION

When the facts of Television are carefully and dispassionately considered, some remarkable discoveries emerge.

In the United States, for example, where the public acceptance of Television has made such great progress, the following figures provide food for thought.

In 1948 in America, 14,000,000 "straight" radio sets and 850,000 Television receivers were sold.

These figures from a country where Television has been an established service for years is a true and actual guide to radio listening habits, foreshadowing what may be expected in Australia.

It means that roughly one in three homes are buying new radio receivers; that Television is becoming an additional home service, increasing the concentration of entertainment within the home, and thus maintaining the use and importance of orthodox radio as a unit of home entertainment.

The public is thus assured that even when Television reaches the highest degree of organisation in Australia, they will still be using "straight" radio, buying new sets to replace obsolete models, and enjoying their programmes in the usual way—as they are to-day.

The manufacturers of Kriesler Sealed Radio realise these facts, and are pushing ahead with the production of the still greater numbers of outstanding Kriesler models required for the increasing demand.

By presenting the public with such sensational advances as Triple-Throat, Sealed Radio Built Like a Musical Instrument, the Sound Vibration Bridge, a guaranteed radio range of 12,500 miles (enabling overseas programmes to be received at full local volume), Kriesler provides to-day's buyers with outstanding radios that are years ahead in design and performance—radios that can be bought with the confidence that they are the best sets at any price—now and in the future.

### RADIO AMENITIES

"I called at your flat last night, old man," said K'foops. "There was no answer when I rang, repeatedly. I thought you must be in, because I heard your wireless going for all it was worth."

"Oh, we were out," said Bloggs. "We left the wireless on—you see, the wife's had a row with the neighbours."

\* \* \*

"I think the tips you get from broadcasting stations are much the best," remarked the Mug Punter. "They always explain why the horses they gave you didn't win."

\* \* \*

"Really that radio drama was quite too thrilling!" exclaimed Mrs. Shish. "I was just awfully interested, only I got a bit mixed up about the characters. I couldn't get hold of the names properly, except the funny name of the man who got the girl at the end."

"I missed that," replied Miss Lisenin. "What was his name?"

"Dawson's Antiseptic Shinplasters, wasn't it?" returned Mrs. Shish. "What a queer name for a hero!"

**R**ADIO Corporation has placed on the market a most revolutionary model—it's Astrogram KK at a price of 43 guineas.

Operation of the automatic record player in this combined radio and gramophone is simple. The only physical action it calls for is the opening of the door, sliding in of the disc and reclosing of the door.

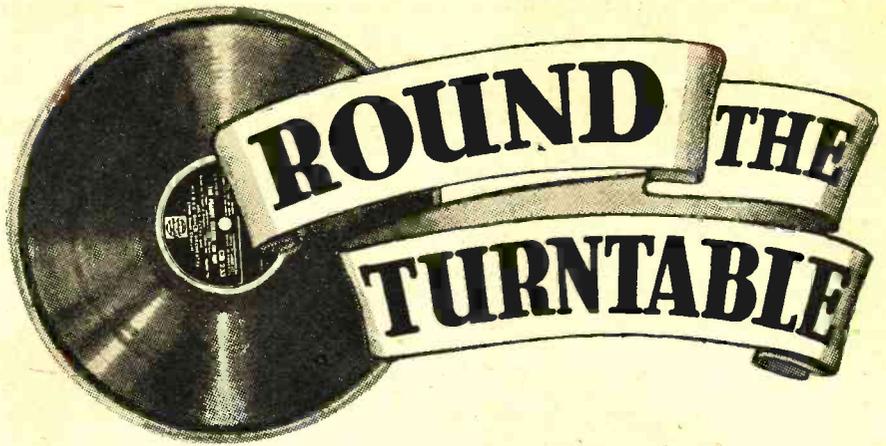
The record is then automatically positioned on the turntable. The motor starts automatically and the pick-up needle is automatically located on starting groove of the record. An automatic cut-off operates when the record is finished.

Needle pressure is 1½ to 2 ozs. and the needle is sapphire pointed and permanent.

It is probably the first time an automatic record player of this kind has been incorporated in any make of set in Australia.

The cabinet is a Gainsborough masterpiece and is only 17ins. wide by 14ins. deep and 12ins. high. Volume is sufficient for dancing in quite a large hall.

The radio unit also offers flawless performance, including a rich resonance of tone.



suit individual taste. The shelves should not be less than 13 inches deep, and divided into partitions every 12 inches. Records in bulk are rather heavy, so that the shelving needs to be substantial and sound. The partitions are important, so that small numbers of records may be stored securely in an upright position; thus minimising any tendency to warping. It is necessary to fit a backboard and a front curtain to exclude dust, and, of course, the front can be fitted with doors alterna-

tively. It is not good practice to store 12 and 10-inch records together in the same compartment, because this may cause uneven pressure on the surfaces.

#### Keep Dust Off the Surfaces

Before playing a record, it should be firmly but lightly cleaned with a soft-haired brush, and, if possible, try to handle the record only by the edges. The recorded surface will stand up a lot to wear and abuse,

*(Continued on page 54)*

### TAKING CARE OF YOUR RECORDS

With ordinary care, long life may be expected from the modern disc recording as purchased from your dealer or musical store, but it really isn't good enough to play them over and merely put them back time after time into their manilla covers. A little forethought and simple attention will ensure that the discs maintain their initial fidelity and brilliance indefinitely.

#### Watch For Blemishes

Examine the surfaces with care and see that they are polished brightly and free from scratches. Where records have been played many times with steel needles, and in particular on a turntable with poor pick-up alignment, there will be evidence of "greyiness" in the grooves.

#### Simple Storage

The manilla cover should invariably be used when the record is not in use, and apart from the commercially made rack holders readily available, it is not a difficult job for the practical man to make himself suitable shelving. The illustration shows the kind of arrangement needed, and this can be made from 5-ply, then varnished and stained to

## AVAILABLE NOW

FROM  
THE BIRTHPLACE OF ELECTRONIC TELEVISION  
... E.M.I. England

Initial Stocks of Lessons and Material for Postal Courses in  
**BASIC TELEVISION**  
**BASIC RADIO**  
*and*  
**PREPARATORY COURSES**

*For further details and prospectus apply in writing to*

The General Manager of Works,  
E.M.I. (Australia) Pty. Limited, 2 Parramatta Rd., Homebush

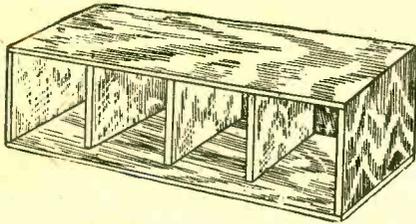
**E.M.I. (AUSTRALIA) PTY. LIMITED**

2 Parramatta Road, Homebush, N.S.W.

## ROUND THE TURNTABLE

(Continued from page 53)

but it is, nevertheless, important that it be kept free from scratches, dirt, and grease. The useful life of a record with grooves showing signs of wear can be prolonged by carefully treating it with finely divided graphite. The graphite should be rubbed well into the grooves with a circular motion, commencing from the centre of the record and working towards the edge.

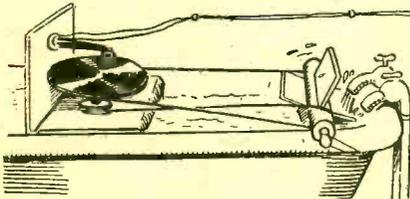


*A container can easily be constructed on these lines, and overcomes the problem of storing the records.*

### A Cure For Warping

Warping is usually caused by faulty storage, or by allowing the record to come into contact with heat. The most satisfactory cure is to warm, NOT heat, each side of the record before a fire, radiator, or other suitable source of heat, holding it in the finger-tips by the edges. As soon as both sides are equally warmed, place the disc between two sheets of plate glass, and place on top a few heavy books. They will provide the necessary pressure and the warping will be corrected. Another method is to place the warped records in a simple screw press and leave it in a sunny spot on a warm day. The main point in applying heat from a fire or radiator is to be sure that it isn't overdone, or the grooves may be damaged beyond repair.

### REVOLUTIONARY!



**POWER BLACKOUTS?  
PHOOEY!**

Our irresponsible friend "Rat Bag" sends in this "bright" idea for the recorded music enthusiast.

## HANDY-TALKIE



### ARE YOU COLOUR-BLIND?

The question isn't facetious or impertinent . . . it really has got a point . . . and quite a sound one at that. If you are one of our readers who purchase one of our many thousands of copies on a book-stall or newsstand you will appreciate the point. Magazines these modern times are a blaze of colour . . . with designs of all kinds to grace the eye, some dignified, some modest, and some bizarre. They all sport colour in a variety of ways. There are magazines which have become firmly established in the mind's eye by virtue of cover designs of long standing, and there are those which change completely in appearance from issue to issue. You will find a change each month in "Australian RADIO and TELEVISION News" but it will not be one of design. That will remain the same . . . but there will be a change of cover colour. Our first issue was launched with the distinctive Orange shade for the body of the cover; this second issue is quite different in colour — all with an objective. Simply to help you spot immediately each month's issue as it appears on your book-stall. In other words . . . if its a change in colour . . . its another month's issue.

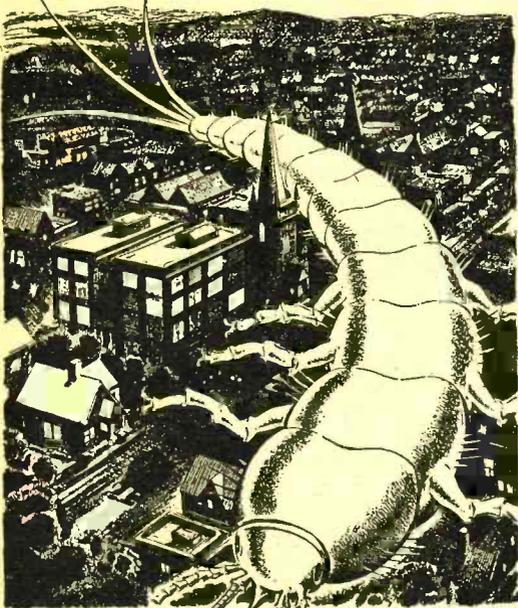
### COLUMBIA AND "H.M.V." RECORD ACCESSORIES

Record collectors will be pleased to hear that new stocks of Columbia and "His Master's Voice" miniature thorn needles and sharpeners are now available. These high grade needles are suitable for use with light-weight pick-ups and achieve a noticeable reduction in noise level and record wear. 5/6 buys a packet of ten, and when worn, they may be accurately and evenly repointed with the needle sharpener. This convenient little accessory also looks after standard thorn needles and is very simple to operate. It retails at 18/- and will give many years of service to the collector who values his discs.

### INTERESTED IN RECORDED MUSIC?

Let us have your ideas on this question. Topical and technical contributions and discussions are welcomed for this section.

**IT STALKS BY NIGHT!**



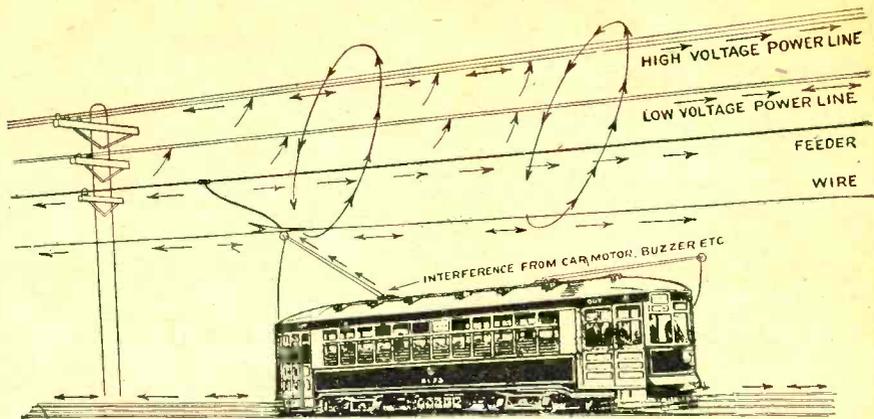
## Kill Silverfish with INSECTIBANE

The destructive Silverfish destroys while you sleep . . . ravaging in your wardrobes, your cupboards, your drawers and your carpets . . . lurking atop picture rails and under skirting boards—always destroying, unless you destroy him! Your best protection against Silverfish is double-action Insectibane. It spreads a thin lethal film of powder that contains Pyrethrum for quick killing, D.D.T. for delayed-action . . . any Silverfish that touches it is sure to die. Sold everywhere in 2-oz. tins with perforated shaker tops.

**USE INSECTIBANE FOR:**  
**CARPET BEETLES . . .**  
**COCKROACHES . . .**  
**FLIES . . . FLEAS . . .**  
**MOTHS . . . ANTS**



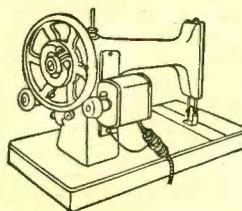
A Product of the Laboratories of  
**ROCKE TOMPSITT & COY. LTD. MELBOURNE**



## RADIO-INDUCTIVE INTERFERENCE

*The Need for Action*

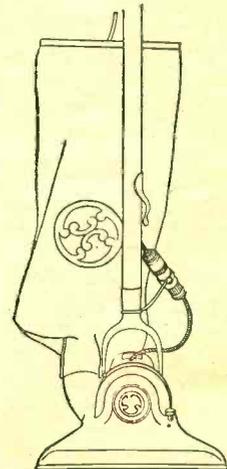
AUSTRALIA will do well to take note of the manner in which Television is going ahead in the Old Country, for despite many handicaps, apparently insurmountable obstacles are being hurdled. By the close of March, 1947, there were approximately 14,500 licensed TV receiver owners, and now the figure has gone to 400,000, a very great increase. This number would have been much greater had manufacturers in Britain not been saddled with an exorbitant Purchase Tax, or if raw materials had been made available for the home market as well as export. Man-made interference would not have militated against installation of TV receivers in many homes had it been suppressed at the source. That latter is a point of which Australia should take particular notice for it is something that can be tackled now, BEFORE Television comes along.



THIS IS A NOISEMAKER

It should be emphasised too that for the modern TV receiver, almost any AC voltage can be used, provided that the frequency is around 50 cycles per second, but that not much can be done about DC areas, short of installing special converters. In the London area, the problem of interference from car ignition and such-like sources has been tackled quite seriously by the most affected concerns such as the G.P.O., the B.B.C., radio manufacturers, and technical magazine publishers, but there are

yet many thousands of vehicles on the road that spread havoc for viewers in homes that they pass during TV programme hours. It costs but a small amount to fit any motor vehicle with ignition suppressors so that it really wouldn't be out of place in these progressive times to make it a matter for legal supervision of all vehicles in the matter of suppression.



AS IS ALSO THIS

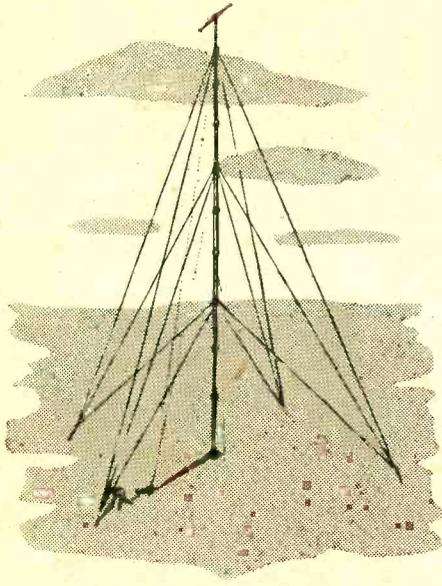
One way of looking at it would be for the P.M.G. to class unsuppressed vehicles virtually as unlicensed transmitters of radio impulses; as indeed they are.

It is as well to remember that when the late war got under way, military people at first put up with the din from unsuppressed vehicles in the vicinity of Service stations, but as matters became really serious and the war became a testing and proving ground for technical advancement, the Signals people decreed that all vehicles be turned out to specifications which included ignition suppression. As TV progresses through the years, future generations will no doubt consider any internal combustion engine or electrical equipment not designed with full regard for suppression as something better suited to the tombs of the Pharaohs.

—D.B.K.

# COMMERCIAL BROADCASTING

## NEWS and NOTES



The following extracts from the official Bulletin of the Australian Federation of Commercial Broadcasting Stations are made available by the courtesy of the President, Mr. J. E. Ridley.

From an editorial. "... What makes a radio advertising executive? ... we ... have found to our disturbance that there is in Australia no adequate course of training to provide intending radio executives with a sound basic knowledge of the industry they are expected to handle. ... Imagine any newspaper providing, for the service of agencies, a staff of copy-writers, artists, and layout-men! ... we are hoping ... that by a fuller understanding all round, radio as an advertising medium will be able to develop rapidly to the full extent of its unique usefulness."

**Broadcasting Control Board in Operation.** On the 9th March, 1948, all commercial stations in Australia were officially notified by a Press Telegram signed by Mr. L. B. Fanning, Chairman of the Australian Broadcasting Control Board, that the Board had "commenced operations in conformity with the provisions of the Australian Broadcasting Act, 1948."

Stations were advised that all existing rulings relating to the conduct of the commercial service should continue in force for the time being unless varied by the Board.

The message ended with "My colleagues and I send greetings on this occasion and assurance that aim of Board will be to co-operate fully with all broadcasting interests in any measures calculated to improve service for the nation."

The commercial stations of Australia appreciated the courtesy extended them in the despatch of this message, and heartily reciprocate the goodwill expressed. The Board is assured of their fullest co-operation towards a continuing improvement in broadcasting service.

**Community Service, Cyclone Relief.** On Thursday, 10th February, Cooktown, North Queensland, received the full force of a cyclone which severely damaged practically the whole of the town. Approximately 80 families lost all their possessions, and the day after the cyclone the town presented a scene of desolation.

Stations 4TO Townsville and 4CA Cairns immediately opened an appeal for Funds to assist those in need at Cooktown.

Announcements and acknowledgments of amounts received, were constantly made throughout the succeeding days and nights until noon on Saturday, 19th February.

Station 4TO raised nearly £1,500 and 4CA £500 in cash. This money was urgently transferred into needed warm clothing, mattresses, foodstuffs, etc. To avoid delay in bringing benefit to the stricken people, the local Red Cross was enlisted and within two days of opening the appeal, goods had been purchased and were being flown into the stricken area. Although donations of clothing were not requested, a good deal was received and this was packed in special cartons by the Red Cross and flown to Cooktown.

**Bushfire Fought By Radio.** Although the bushfire season may reasonably be expected to have passed, we should record the excellent co-operation given by Station 2DU Dubbo in organising a successful battle with an outbreak in the Collie district, 64 miles from Dubbo, during the past summer. Within four minutes of the first report of the fire the Dubbo station was broadcasting a message of warning to residents near the outbreak, and calling up volunteer help. The Collie Bushfire Brigade telephoned to Gilgandra, thence to Dubbo, where the message was handed to the radio station. The

normal programme was interrupted for the immediate broadcast of the message, and volunteers rushed to the scene with help. This prompt chain organisation took exactly four minutes and as a result, the fire was beaten.

**Food For Britain.** Another shipment of food for Britain has brought the total subscribed by listeners to Station 3CS Colac to £2,170. An appreciative letter was received from Miss Sybil Irving, Red Cross Executive Officer, who used the funds to ship 321 cases of foodstuffs to the United Kingdom.

**Australian Talent Encouraged Through Commercial Radio.** Yet another (44 stations) talent quest programme takes the air in the first week of April, adding to the growing list of opportunities available to talented amateurs in every field of entertainment to "show their paces," publicly.

The new programme follows up the very successful "Opera For the People" series which established the names and initiated the operatic careers of Glenda Raymond, John Lanigan, Eleanor Houston and David Allen.

The new programme offers £1,760 in prize money in a nation-wide search for Australia's best singers. An entirely new string-orchestra, the Australian Symphony Orchestra, has been formed to accompany the show.

Quite apart from considerations of listener interest and entertainment, it is gratifying to note the readiness of sponsors, stations and producers to co-operate in making commercial radio one of the most generous and consistent media for the encouragement and employment of local artists in Australia to-day.

Working specifically among the young and inexperienced radio aspirants, 4BH Brisbane has five sessions current which give opportunity for self-expression to young people. Through these sessions, young people are being invited to the microphone and given a chance to show what they have in the way of entertainment talent, dramatic ability and radio presentation possibilities. All five sessions are popular among young folk of talent, and many "discoveries" have been used in subsequent programmes.

# In Tune with the Trade



## SPECIALISED RECEIVERS

**R**ADIO Disposals dealers vary somewhat in the ex-Service items available, but mostly cater for the intending purchaser of adaptable parts and "bits and pieces." Their domain is the happy hunting ground of the practical amateur and SWL constructor. High-grade Communications type of receivers are not now available in haphazard manner as a result of Government sales and it is to the specialist in such equipment that the intending purchaser goes. It is well worth a visit to the top end of Sydney's William Street (at the 'Cross') to look over the attractive array of receivers available at Radio Exchange, No. 261.

Among several of the world-famous Hallicrafters types we spotted an SX28, something to satisfy the most discerning of DX men. An RCA BC348 rubbed shoulders with a National NX100 and for seekers of the popular Marconi series we saw one of those excellent B28's. The B28, by the way, is the same as the CR100, and you may ask any English amateur or SWL what he thinks of *that* receiver. For the VHF man, Radio Exchange had in stock when this was written, a Marconi B38 . . . a fine job taking in everything between 10 and 60 Mc/s (30 and 4 metres). We would be surprised at any of the receivers mentioned remaining unsold for long. Readers interested should call and discuss their receiver ideas with the Manager, Mr. Baker. Telephone number is FA7455.

Mr. L. M. Stuart, a Director of Electronic Industries Ltd., has been re-elected Chairman of the Radio Section of the Victorian Chamber of Manufacturers. It is Mr. Stuart's second year of office.

Rola's new Model 12-0 12 inch permanent magnet type loudspeaker, the release of which last month attracted widespread attention in trade and technical circles is now being supplied fitted with an F23 type cone. This new cone gives the loudspeaker response characteristics which are particularly suitable for high quality radio reproduction and for use with gramophone amplifiers.

The F23 cone response is substantially flat from 60-70 cycles (depending on the fundamental diaphragm resonance of individual loudspeakers) to 6.5 K.C. and does not exhibit the rise in the 1500-4500 c.p.s. region which was introduced into the F22 cone to compensate for the high note loss due to sideband clipping in selective radio receivers.

The overall performance of the Rola Model 12-0 equipped with the F23 cone is extremely smooth and free from undesirable peaks. Though rated only to cover the 60 to 6,500 c.p.s. range it will be found in practice that Rola Model 12-0 will give a useful output at frequencies well above 6.5 K.C.

Power handling capability of Model 12-0 fitted with the F23 cone is the same as for the F22 cone i.e., 7 watts continuous, which means that the loudspeaker will handle the full output from a 15-16 watt amplifier.

The two cones may be readily distinguished. The F22 cone has 15 narrow concentric corrugations across its surface. The F23 cone has 5 wide concentric corrugations.

Retail price of Model 12-0 has been fixed at the extremely competitive figure of 71/6d.

## PERSONAL PARS.

Mr. W. A. Donner, Managing Director of Electric and Musical Industries (Australia) Pty. Limited, has, with Mrs. Donner, been on a combined business trip and holiday in New Zealand.

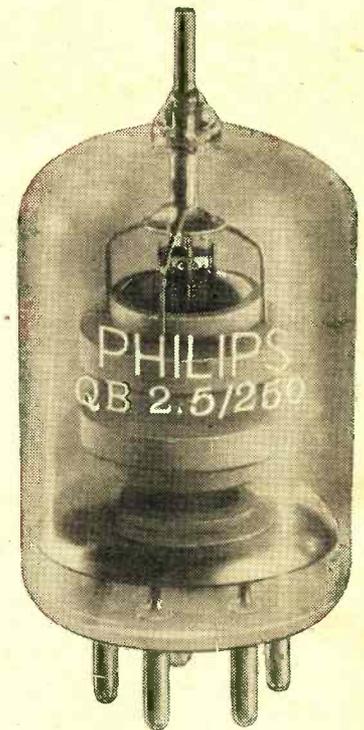
Re-establishing contacts in Sydney was jovial H. R. Howard, of Wyper Howard Limited, "His Master's Voice" distributors in West Australia.

We saw him under the guidance of General Sales Manager, Wally Simpson.

Tasmanian visitors were Messrs. K. A. Findlay Pty. Ltd., Launceston and S. T. Sims, General Manager of Findlay's Hobart Branch. Harry Waddell, volatile personality who directs the Radio and Record activities at Nicholsons Ltd., Perth, was also in Sydney. Harry has given the Record Industry long and valuable service. He and Wally Simpson were together back in 1919 as H.M.V. and Columbia Record Distributors in West Australia. Harry joined Nicholsons straight from school and exemplifies the principle of one-man-one-job.

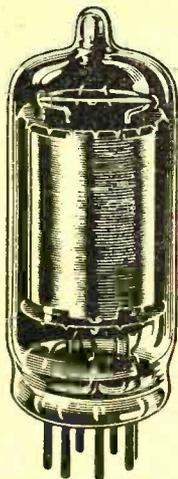
## PHILIPS QB 2.5/250 TETRODE

The recent introduction in the Eindhoven Valve Factory of the new "powder glass" series of transmitting valves included the Philips tetrode shown here. It is designed for use at very high frequencies and will deliver 155 watts output at 100 Mc/s and as much as 225 watts at 60 Mc/s. When used in equipment with good natural ventilation now artificial cooling is called for up to 60 Mc/s. but the designers say that a small air stream is desirable; at 1/2 cubic foot per minute at higher frequencies. This valve is based for the large 5-pin arrangement corresponding to the Ameri-



can "Giant" socket. Note that there is complete freedom from internal insulating supports and that the large shield near the base is connected to the screen grid internally. In transmitter lay-out it is recommended that the valve be mounted with the socket recessed so that this shielding plate is at chassis top level. Main characteristics are that filament is 6.3 volts at 5.4 A, anode voltage 3000 maximum at 156 Ma. and screen 500 volts at 39 Ma. Grid drive required is between 4 and 6 watts according to frequency and application. Full operating data, details of price availability will be given on application to the Transmission Dept. Philips Electrical Industries of Australia Pty. Ltd., 69 Clarence St., Sydney.

(Continued from page 57)



### SPEAKING TRAFFIC SIGNALS

The first speaking traffic signal, described by experts as a revolutionary contribution to road safety, was recently demonstrated at the Hayes factories of E.M.I. in the presence of Government Officials and Police Authorities. Developed and manufactured by E.M.I. Factories Ltd., the speaking signal can be fitted to existing traffic lights and arranged to work synchronously with the changing of the lights. In a quiet, persuasive voice, the speaking signal urges pedestrians about to cross the road to exercise caution and to look both ways before leaving the pavement. By utilizing a new principle in recording and reproduction, the speaking signal, with a loop of magnetic tape less than two yards long, can be arranged to carry any desired cautionary message synchronised with the changing of the lights without in any way affecting their sequence or operation. The speaking signal is of particular value for children and may materially assist blind persons.

### DIFFERENT BATTERIES

Two new primary cells using magnesium instead of zinc for the negative electrode are being produced in U.S.A.

### MINIATURES

Although not radio components, small spark-plugs for model aero engines will be of interest to aeromodellists interested in radio control. The British K.L.G. concern is now producing plugs only 1/4-inch long in the body, and they are absolute facsimiles of the famous standard K.L.G. plugs.

During the recent floods in outback New South Wales, the radio-telephone subscribers equipment supplied to the Post Offices last year by Electronic Industries Ltd. has had its busiest period and is reported to have worked satisfactorily throughout. It is installed at Tiboburra, Whitecliffs, and other centres out from Broken Hill.

At the height of the floods the ABC broadcast a radio-phone interview with the Postmistress at Tiboburra, Mrs. Rankin, with the police and others.

The Post Office is reported to be considering further extension of this equipment in outback areas.

"Trol." Prominent radio inductance manufacturer Ron Bell, chief of the RCS concern, has turned to the 14 Mc DX channels for relaxation and can often be heard chasing DX phone from VK2ER. He was using a Collins ART13 transmitter as originally applied, from accumulators but has since ditched them for AC power. No wonder, with genemotors etc. soaking up juice to the tune of 25 amps or so! He has been working a G or two lately.

### TELEVISION EXPLAINED

From England we have received a copy of "TELEVISION EXPLAINED" by W. E. Miller, M.A. (Cantab.), M. Brit. I.R.E. Second Edition, published by The Trader Publishing Co. Ltd. Size 8 1/2 x 5 1/2—52 pages including 58 diagrams and photographs.

Following the success of a previous book by the same author dealing with radio receiving circuits in a step-by-step survey, it was felt that a treatment of television receiving circuits in the same simple style was overdue and as a result, "Television Explained" was first published in 1947. In less than a year a new edition has been necessary because of the demand for it.

The book is addressed to knowledgeable members of the public who, having some acquaintance of radio circuits, are equally interested in their television counterparts; to radio service engineers as a grounding in the circuitry they will encounter in maintaining television sets; and to students in radio and television in technical colleges.

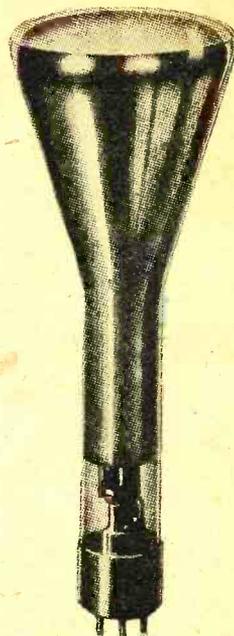
The book is non-mathematical, and is written in simple language. In addition to television reception of circuits, aerials and aerial systems are fully explained, and receiver installations and operations are described and illustrated.

Publication of a second edition has provided the opportunity of including additional information on the latest methods of providing the E.H.T. supply for receivers.

Contents include: — Aerials — The Signal — The Receiver — The Cathode-Ray Tube — Scanning Units — Deflection Amplifiers — Power Supplies — Receiver Installation and Operation—Picture Faults Illustrated—Index. With television likely to be in action in Australian cities before long, this book is a definite acquisition.

Our copy is from Iliffe & Sons Ltd., Books Department, Dorset House, Stamford Street, LONDON, S.E.1.

The price, in England, is 3/6 plus 2d. postage and intending Australian purchasers can order through Technical Book & Magazine Co., Swanston St., Melbourne.



### COMPREHENSIVE BRITISH VALVE BOOK

We have received a copy of "RADIO VALVE DATA: Characteristics of 1,600 Receiving Valves" by the staff of "Wireless World". Published for "Wireless World" by Iliffe & Sons Ltd.

The annual issue of the "Wireless World" Valve Data Supplement had, by the time the war started, become the standard source of information; but publication has been unavoidably suspended since 1940 owing to paper restrictions. At last it has been possible to produce the first post-war edition. The material now appears as a separate book, containing 80 pages of "Wireless World" size. The price, in England, is 3/6d. plus postage.

"Radio Valve Data" gives the main electrical characteristics of 1,600 British and American receiving valves, the information comprising figures for normal operating conditions arranged in tabular form. Valves are classified according to type under the headings Frequency Changers, Screened Tetrodes and Pentodes, Output Valves, Diodes, Triodes, Rectifiers (Valve and Metal), Tuning Indicators, Barretters and Voltage Stabilizers. The British valves are further grouped under manufacturers' names and then sub-divided into obsolete, replacement and current types, according to the makers' categories.

Additional tables and diagrams give the base connections for all valves, and an index enables any valve to be easily found by type designation. A separate list of American-type valves is included; data is also given on crystal valves and signal-frequency metal rectifiers.

Contents include: Explanation of the Tables — General Abbreviations—Tables of Valve Characteristics: Frequency-changers, Screened Tetrodes and Pentodes, Output Valves 1, Output Valves 2, Diodes, Amplifier Triodes—Valve Rectifiers, Metal Rectifiers, C.R. Tuning Indicators, Barretters, Voltage Stabilizers — British-made American Types—Explanation of Valve-base Connections—Trade Names and Manufacturers' Addresses—Index.

Our copy is by courtesy of Iliffe & Sons Ltd., Dorset House, Stamford St., London, England.



# AMATEUR RADIO SECTION



## Future Status in Youthful Hands

**T**HERE are signs of danger ahead in the future of amateur radio, and the time is opportune to consider them. Commercial tendency is to grab more and more frequency territory, a fact that is all too obvious when we listen to what goes on in our once exclusive "forty metre" band. Any morning a welter of broadcasters in countries large, important, not-so-important, and non-descript, can be observed battling out "programmes" of some kind or other. Whether or not any SWL listens seriously to the programme material is anybody's guess; the only likely observance is the pastime of station identification. Frankly, we don't see why valuable amateur territory should be thus prostituted, and make no mistake, it is valuable. The more frequency territory amateur radio has for interchange of personal contact and ideas between younger generations of nations—the better for the whole world. Commercialism though, doesn't see it that way—only in terms of hard cash. Another danger, an unfortunate one which can be overcome by co-operation between amateurs, receiver manufacturers, and "viewers," is that of interference to TV reception. At the moment that problem doesn't affect VK's, but it assuredly will in years to come. It will need to be tackled thoroughly if we are to survive. The main trouble with amateur radio is our lack of numbers; we need a continual increase in numbers in order to have a loud enough voice in our affairs, and the increase must come from the youth of this and succeeding generations. In the teeming millions of this world's population, U.S.A. lists 80,000 amateurs. Australia, supposedly to show a total of 8000 amateurs five years after the cessation of war, has at present only 2600 licensees — but a drop in the ocean. It is high time to start selling our hobby to the teen-agers — schoolboys, boy scouts, and other organisations. We can appoint suitable speakers to address such groups to tell the story, all about the hobby of radio, and what it has meant to us all in times of emergency. Those who seldom venture outside the "shack" to discuss amateur radio can

play their part on the air by being "youngster-minded" and adopting an unselfish attitude about overcrowding on DX bands.

Whilst the political and social aspects of the hobby appear to be inseparable at monthly meetings of amateurs; this is not really the case. If it is imperative to settle questions of organisation policy at short notice then a special meeting should be called for the purpose. Most certainly a monthly meeting should not be given over entirely to the politics of amateur radio, for in that direction lies loss of interest by the younger members, who, new to the hobby and knowing little of what has gone before, may be bored to distraction.

## GLADESVILLE DISTRICT EXPERIMENTAL RADIO CLUB

**A**MATEUR transmitters and those intending to take up the hobby who reside in the Gladesville district Sydney are fortunate in having in their area this eminently progressive suburban radio Club. It is indeed a happy stamping ground for the VHF-minded radio hobbyist, and that applies to SWL's also. During February this year a popular launch picnic was held for members and families; a rare occasion when radio was excluded in favour of strictly social activity. Another such outing is planned, but 50 Mc equipment will come in for an airing. The Field Day



● Introducing that sturdy DX battler VK20Q, otherwise, Harry Capsey. This station is operated under adverse location conditions, but despite handicaps has an enviable record. 50 watts does the trick, not to mention the full-wave antenna, fed, for 14 Mc/s at  $\frac{3}{4}$  wave with low impedance line.

"G-whiz." Must have been a blushing few minutes for the VK2 country amateur who, after a siesta, one recent hot afternoon, awoke after dreaming of fire, to find part of his property really burning up. Rushing out clad only in short underpants, he seized bucket and water and set to vigorously to fight the blaze. In the excitement, during which the fire was subdued, the VK, unbeknownst to himself, shed the underwear, and then suddenly found that he had an entranced audience—comprised mainly of females. Whereupon a swift retreat was beat to the shack or somewhere.

held also in that month was non-social, with three stations participating at Mt. Kurin-gai, Mangrove Mountain, and Kurrajong respectively. Communication was established on 288 and 144 Mc/s channels with relaying over two of the signal paths. An expected hook-up with the Wollongong Club members at Mt. Keira did not materialise although the 144 Mc band was searched carefully. "Better luck next time" says the boys. Intending members for the Gladesville Club are invited to get into touch with Kenneth Whitmore, 5 Elston Avenue, Ryde, N.S.W.

(Continued on page 60)

## Amateur Radio Section

(Continued from page 60)

early morning at his end, you can imagine what that meant right through an English winter!

Dennis is 33 years old, married, and has two "harmonics"; sons, one nine and the other four. He graduated from SWL ranks to amateur status, and for some time his CW "fist" was familiar around 14100 Kc/s. His crony G8LP, Geoff Hanley, talked him into making a modulator, and then it was "on" with a vengeance. He is a radio Service engineer, prior to which he was a fitter and turner with the G.W.R. An active member of the Wolverhampton Radio Society, he is always good for a "rag-chew" with the lads at meetings or on the air. His propensity for "nattering" away with the famous chuckle interspersed is well enough known to VK's in all States.

Main "chuckle putter-out" at G3BUU is the excellent 3-element C.S. beam with elements of  $\frac{3}{4}$ -inch brass pipe. The radiator is a Folded Dipole fed with 100 ohm Co-ax, and uses 12-gauge wire with the pipe, giving a 10 to 1 step-in. Director is 6 feet 6 inches away and Reflector 7 feet from the Radiator. Reason that this array radiates prop-

erly is because of the care taken in tuning it up.

Adjustments were made with the array 18 feet from ground, using a F.S. meter, and Dennis took from 9 a.m. until 11 p.m. one summer's day to do it. Dennis says he has tried delta matches, Tee matches, quarter-wave stubs, open wire lines and all the usual tricks, but that the present set-up tells the best story.

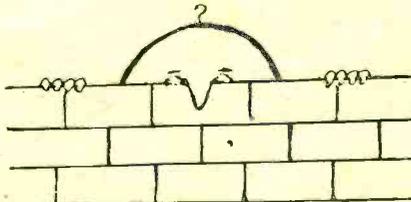
The rig at G3BUU was until recently a modest affair . . . finishing up with two 6L6's in P-P at 50 watts. Now the power is boosted to 150 watts with an 813 in the final. As for receivers . . . you can rest assured that if Dennis says he hears you well . . . he does just that. Available in the shack are an AR88, BC348, BC312, a couple of Canadian jobs and an RAF 1155, but most of the work is done on the AR88. That, of course, is a receiver and a half.

Fine business, Dennis. Long may that characteristic chuckle tickle our fancy and speaker diaphragms.

—D.B.K.

### WANTED!

THE following criminal is at large, whose main vice is peering over walls. Five thousand microfarads will be paid for the capture of Hop-along Capacity, who escaped from a primary cell last night. He is armed with a carbon rod and is wanted for the inductance of an 18-turn coil who was found burned out just outside the oscillatory circuit. If captured will offer great resistance, which must be neutralized. The potential difference between him and



other criminals is that he always returns to the screen of oscillation in a complete circuit. The Electro Motive Force has been searching for him for several ampere hours in the surrounding magnetic fields, but so far with no result. When last seen he was riding a kilocycle at a speed approaching the 10-hour rate. Charges against him are under Ohms Law.

"Exgee." For a first-rate battler in the 14 Mc whirl of DX the boys on that band will have to be good to leave Harry Capsey, VK2OQ 'waiting for the bus.' No! Harry doesn't sport any beam; just a full-wave wire fed at a quarter-wave in from one end by low impedance line. What's more, the location is enough to break any DX man's heart—lack of space and directional orientation,

## PARS ABOUT AMATEUR PERSONALITIES

Staunch VHF man Ken McTaggart is back again in Victoria under his VK3NW callsign. After two years in G-land, Ken has lost nothing of his liking for VHF and UHF territory, and is busy trying out gear for 580 Mc/s. He is one of the few people in this part of the world lucky enough to have an 8025; a type of triode made by RCA that is good to around 600 Mc/s at 20 watts. 8025's are to be had as War Surplus in U.S.A. and U.K.; in fact, they sell at 15/- in London. An enquiry of the local valve people resulted in a quotation of more than £6!

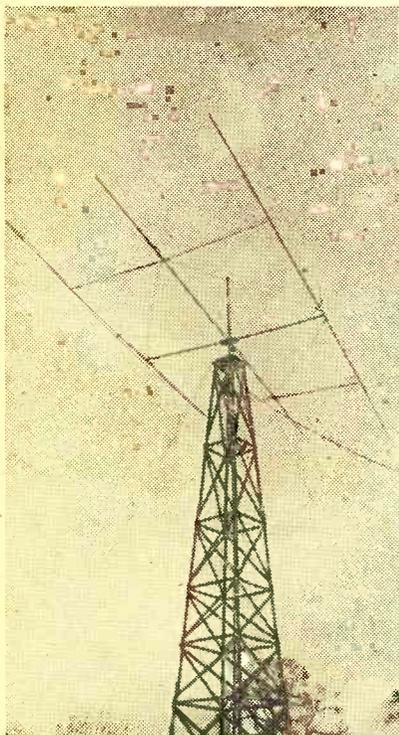
\* \* \*

From Horsham, Vic., VK30D sends in some gen about his gear and activities. He works all bands between 80 and 2 metres with the following line-ups:—

- 80 metres:  
2 stage 6V6G, PP 807's — 100 watts.
- 40 metres:  
2 stage 6V6G, PP 807's — 100 watts.
- 20 metres:  
3 stage 6G6G, 807, PP HK24G's — 100 watts.
- 10 metres:  
3 stage 6G6G, 6V6, 829B — 100 watts.
- 6 metres:  
4 stage 6V6, 6V6, 807, 829B — 100 watts.
- 2 metres:  
5 stage, 6C5, EF50, EF50, 832, 829B—100 watts.

All the gear is crystal controlled, and the 144 Mc job will work on 288 Mc/s doubling in the oscillator and running the PA straight at about 70 watts. Receiving gear comprises an 8-valve super for 80 to 20 metres; for 50 Mc/s a Converter using 6AG5/ECH35; a broad band Converter for 144 Mc/s using 6AK5, 6AK5 and 6J6, and on 28 Mc/s a Converter with 9003, 9003 and ECH35. VK30D had a very successful season last summer on 50 Mc/s, commencing operation on 28/11/48. Up to 16/2/49 he had over 500 contacts on the band, including all VK and ZL districts. He had over 30 VK6 QSO's, some lasting over 3 hours. During the F2 openings to Westralia signal level stayed at S8-9 for hours on end. By using a tilting angle of 5 degrees on his 50 Mc/s beam, Mr. Welsh has been working from Horsham into Melbourne suburbs with S8-9 signals, the distance being 188 miles.

and a public highway of the industrial variety with all that means in the way of car ignition, etc. FB Harry, may your RF continue to percolate Europe-wards off that wire.



The beam array at G3BUU, Wolverhampton, England. This antenna system is responsible for dropping the remarkably consistent transmissions into Eastern Australia through all kinds of conditions.

# READER'S EXCHANGE AND MART

## Classified Small Trade Advertisements.

5d. per word. Minimum charge 12/6d. No series discounts. Charges payable with order. This section is available to members of the radio (and other) industry for the insertion of advertisements not normally comprehensive enough for display in the advertising pages of this journal. Only bona fide trade advertisements accepted.

## Classified Small Private Advertisements.

Charge 2½d. per word. Single numerals, groups, and combinations of figures and letters count as one word. Replies to advertisements can be addressed to a Box number c/o. this office. In this case allow four words for Box address and remit 6d. extra to cover cost of handling and postage of replies. Please use block letters only.

### PRIVATE ADVERTISEMENTS

(Continued from Column 3)

**WILL SELL**, ex-British Navy receiver tuner. Constructed very solidly with multiple barrel-type wavechange switches. In heavy cast aluminium chassis with cover. Designed for low frequency coverage. Buyer to collect in Sydney. Price £3. AR10 c/o. "R and TV News."

**WILL EXCHANGE** for photographic enlarger. Inductance-capacity measuring Bridge, 240 volt AC operation. Wide range instrument with Magic Eye balance indicator. Write No. AR11 c/o. "R and TV News," Box 5177, G.P.O., Sydney.

**EXCHANGE OR SELL** 12 inch Amplion Dynamic speaker, 2500 ohm field and pentode output transformer; unused in original carton. Also Philips B eliminator with rectifier. Have also one Philips trickle charger but no rectifier valve. What offers? No. AR12.

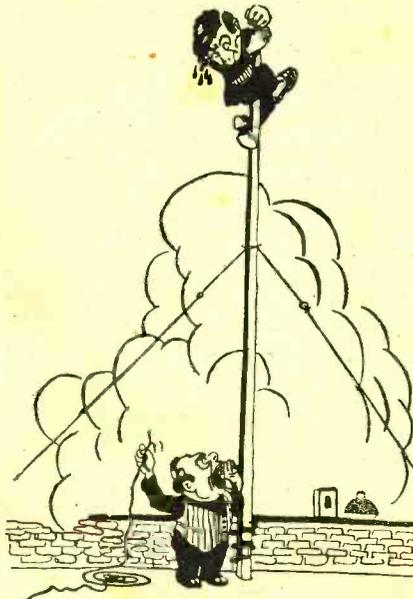
**REPLACEMENT Valves** for 2 volt battery receivers. Advertiser has the following hard-to-get types in good order:—1 RCA 1A6, 6 Sylvania 15, 2 Kenrad 1C6, 1 Mullard PM2BA, 1 RCA 1M5G, 2 Mullard PM22A, 1 Osram QP21, 1 Mullard PM22, 1 RCA 32, 1 Cossor 220B, 1 Mullard PM2DX, 1 Kenrad 1A4, 2 RCA 199, 1 Osram B21, 1 Mullard PM1DG, 1 RCA 1J6G, 1 Marconi DER, 2 Philips KF3 (P base), 1 Osram 210HF, 1 Osram VP21, 1 AWV 19, 1 Kenrad 1B5, 2 Mullard PM202. Price 5/- each or the lot to clear at £7. Box AR1, c/o. "Australian RADIO and TELEVISION News."

**FOR SALE**—High gain tuned grid-anode Preselector, covering 14 and 21 Mc bands. Uses EF50. Couples in to any receiver covering those amateur bands. Socket connector for external power supply at 6 volts, heater and up to 250 volts anode. Unit with valve £3. Cash with order, postage extra. Write Box AR3, c/o. "R & TV News."

**QUANTITY** of UX201's UV202 and similar valves for disposal. Have their uses as small power rectifiers etc. 2/- each to clear. Cash with order. Box AR2. "R & TV News."

**VALVES** for old type receivers for sale: 3—A409, 1—A415, 1—B406, 2—A609, 3—224A, 1—227, 2—232, 1—238 and 1—245. 5/- each or £2/10/- to clear the lot. Box AR7, c/o. "R & TV News."

**FOUR ONLY** "Micropup" valves, in good order. For sale, 10/- each. E. Wilding. No. AR13 c/o. "R & TV News."



Another thought for an idle moment—  
**"IF I HAD THE WINGS OF AN ANGEL."**

### AMATEUR CHATTER

A 14 Mc/s phone station to look for as a rarity is RV2/F08, operated by Roland D'Assignies, Observatoire Meteorologique, Raivavai Island, near Tahiti. This is a low powered station of the simplest kind, using a Hartley oscillator with a 6L6, anode modulated at 10 watts. The "antenne" is a 66 feet Windom type.

A Mexican station particularly keen to contact Australians on 20 metre phone is XE1YE. He is ex-W2FHG and a broadcast station engineer in Mexico City. His signal from only 100 watts is around the S9 level, and originates from a simple ribbon-type Folded Dipole antenna.

### DON'T MISS OUT!

PLACE A FIRM ORDER FOR  
**"R. and TV. News"**  
 WITH YOUR  
**NEWSAGENT**

**FOR SALE**—Modulation Transformer for Collins ART13 transmitter. This is new, and matches Class B 811's to a single 813. Price £5/-, plus postage. R.F.W. No. AR10 c/o. Box 5177, G.P.O., Sydney.

**HIGH SPEED** fractional HP 240 volts AC/DC motor for sale. Does 12,000 revs., suitable for small bench grinder and polisher, or for light flexible shaft drive. Ball-bearing armature, needs no attention. £4/15/- plus any postage. E. J. Peece-Jones. No. AR11. "Australian RADIO and TELEVISION News," Box 5177, G.P.O., Sydney.

**QUANTITY** of UX201's, UV202 and similar valves for disposal. Have their uses as small power rectifiers etc. 2/- each to clear. Cash with order. O.H. No. AR2, "R. & TV." Box 5177, G.P.O., Sydney.

**FOR SALE**—Ex British Admiralty type 53 amplifier. This is a comprehensive 6000 kc/s intermediate frequency unit designed to take EF50 type valves. It is quite unused and complete with power supply components originally designed for 180 volts 500 cycle operation. Easily altered to 240 volt supply. Contains large selenium rectifier. Built like a British battleship... a somewhat massive affair. Will except £5 but purchaser must collect in Sydney. Enquiries through Box AR8 "R & TV News."

**WILL SELL** speech amplifier unit for Collins ART13 "Autotune" transmitter. This is minus valves, which are standard types, and ready to plug in to ART13. Includes driver transformer for Class B operation of 811 type valves; also microphone transformer for dynamic and carbon types. Price £3. C.W.O. plus postage. W.N.A. Box AR9 c/o. "R & TV News."

**WANTED**—Transmitter type 3Mk2. Circuit details and tuning instructions. Mr. A. S. Moye, VK2BW, Box 72, Wagga Wagga, N.S.W.

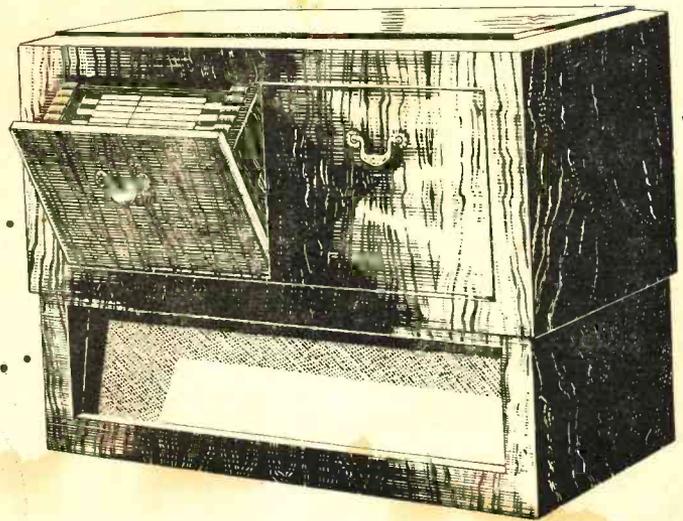
**MODULATION TRANSFORMER, HIGH POWER**, Gladstone make, Class B for 809's or 811's. Will handle 200 watt of audio. Suitable for commercial station application, unused, price £10. sacrifice. Apply to "Modtran", No. AR14, "R & TV News."

**SUPPRESSOR MODULATION TRANSFORMER** designed for use with 802 or 803 type valves; wide frequency range, sell for £2/10/-. No. AR15, "R & TV News," Box 5177, G.P.O., Sydney.

(Continued in Column One)

# It's Exclusive...

## TO THE "PETER PAN" RADIOGRAM



### ISOTONIC PERFORMANCE

Only the Peter Pan Radiogram gives you Isotonic Performance. This magnificent radiogramophone, a five-valve, dual-wave receiver with world-range, brings you tone of a richness and clarity never heard before; thanks to Isotonic Performance. Isotonic Performance means perfect balanced tone at all times . . . under all conditions. It means greater listening pleasure in every way. Housed in a gleaming modern cabinet of rich hand-polished wood, the Peter Pan Radiogram adds grace, beauty and dignity to your home. Have your local Peter Pan dealer demonstrate this wonderful instrument. You'll love it's smooth, flowing lines; be thrilled by its warm, "living" tone. Take your choice of any one of three fine woods . . . Walnut, Mahogany or White Sycamore. Ask for the Peter Pan Radiogram — the *only* radiogramophone with Isotonic Performance.



# Peter Pan

FOR PERFECT PERFORMANCE

DESIGNED AND MANUFACTURED BY

**ECLIPSE RADIO PTY. LTD.**

(Division of Electronic Industries Limited)

Available From Authorised Peter Pan Radio Dealers Everywhere

EC/4432

**AEGIS KC4.**  
4-Band Tuning Unit.

*The most advanced*  
**COIL ASSEMBLY**  
*ever offered in*  
**AUSTRALIA**

**AEGIS**  
can now supply  
IF's 1900 Kc's and  
110 Kc's as men-  
tioned in leading  
article of this issue.

*Here's something for*  
**the EXPERTS**

The new Aegis 4-band, bandspread tuning unit illustrated at right is definitely the answer for the amateur who desires to build his own communication receiver. Here are the plain facts of this latest Aegis triumph:

4 Wave Bands	Band Spread—5 Bands
550 Kc. — 1500 Kc.	3.5 — 4.0 Mc. 80 Metres
1500 Kc. — 4 Mc.	6.9 — 7.3 Mc. 40 Metres
4 Mc. — 11 Mc.	14.0 — 14.4 Mc. 20 Metres
11 Mc. — 30 Mc.	20.5 — 22.0 Mc. 15 Metres
	27.0 — 30.0 Mc. 10 Metres

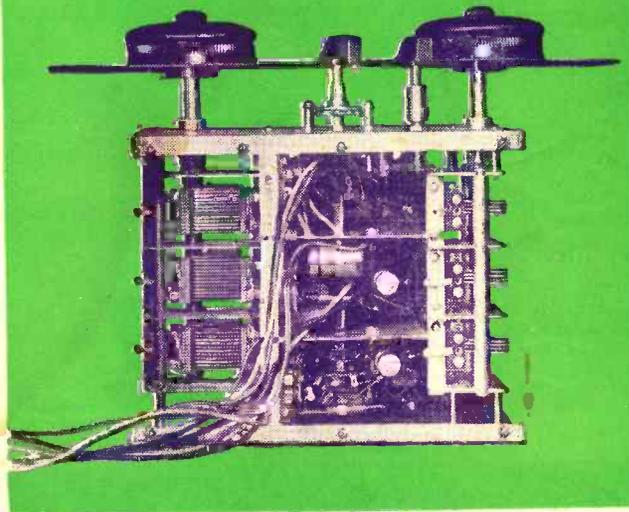
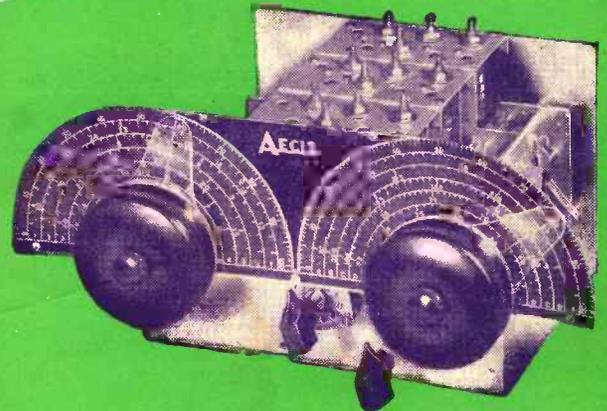
Actually constructed in 3 sub-sections comprising R.F., Converter and Oscillator stages. Finally assembled in one unit, which incorporates Band Set and Band Spread condensers, together with 2 Slow Motion Drive Assemblies 55/1 and directly calibrated Plastic Dial. Valve sockets for R.F. (6SK7GT) Mixer (6AC7) and separate oscillator (6SK7GT) stages are already wired. Concentric air trimmers are used throughout, and the 6 section "Oak" Type Switch includes shorting banks for all coils not in use. Aerial Trimmer is brought out to front panel with 1/4 in. shaft. Screws for iron core adjustment in all coils are readily accessible from top of unit, as are also the Trimmer Screws.

For use with the KC4, we recommend Aegis I.F.'s Type Nos. J22 and J23, specifically designed for communication work. A complete set of blueprints for connecting this unit plus a most comprehensive communications Receiver Circuit are supplied with each Kit.

See your distributor right away for your  
Aegis KC4 Coil Assembly.

# AEGIS

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