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Australian RADIO AND TELEVISION NEWS



CHRISTMAS ISSUE

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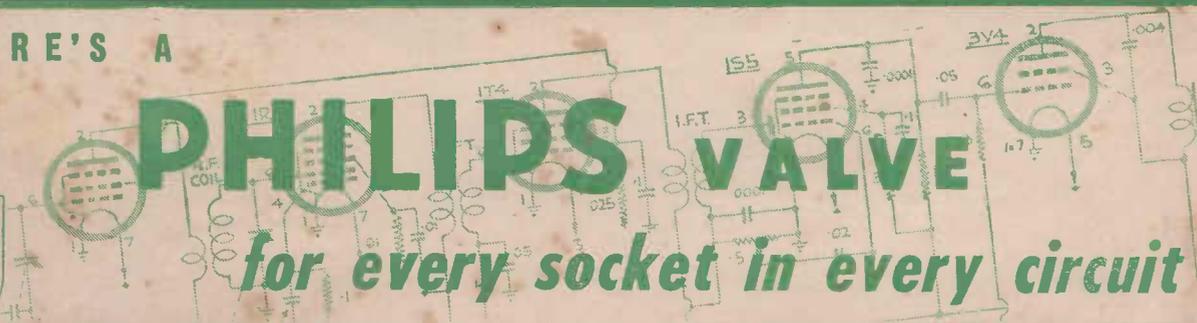
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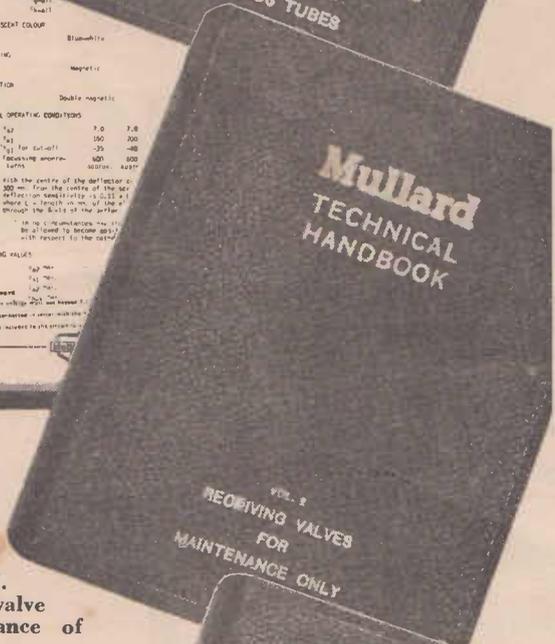
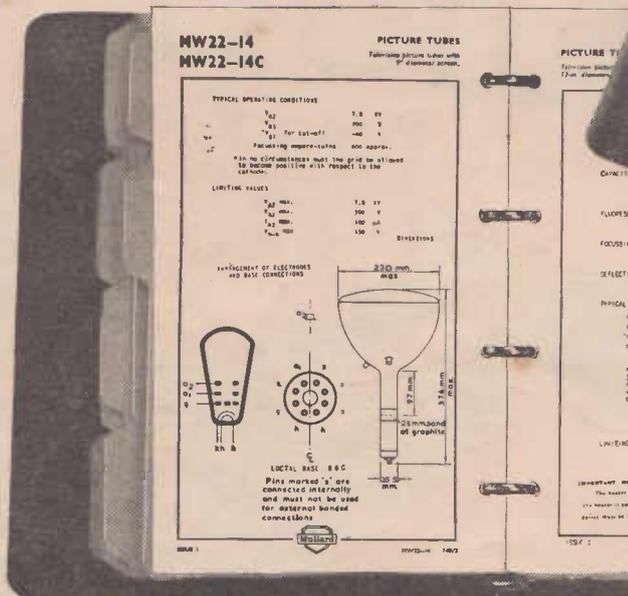
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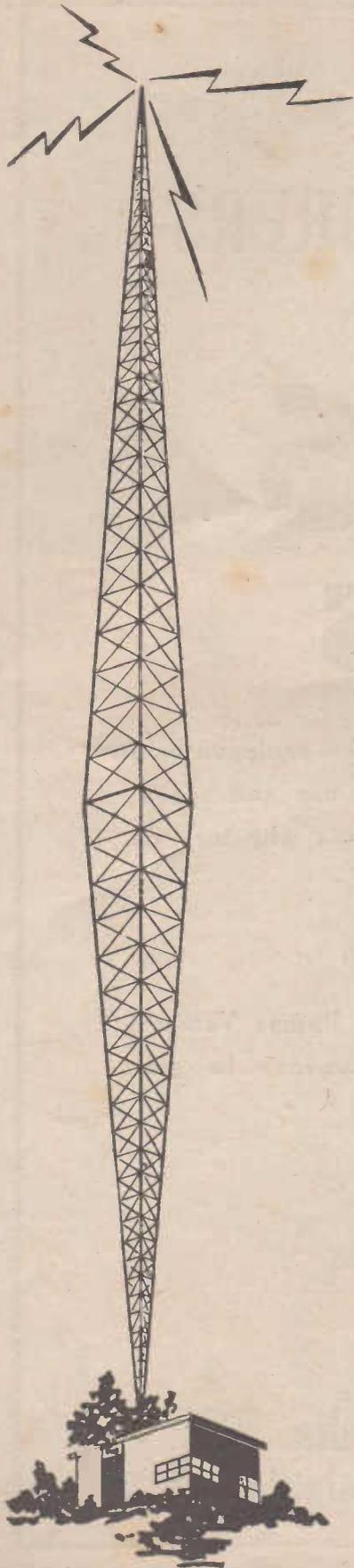
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AUSTRALIAN RADIO AND TELEVISION NEWS



THE PROGRESSIVE NATIONAL
JOURNAL FOR EVERYBODY



EDITED BY DON B. KNOCK

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DECEMBER, 1949

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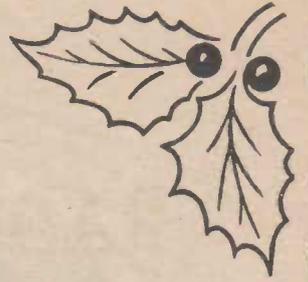
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Philips Electrical Industries of Australia Pty. Ltd.
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IT CAN
BE —



A HAPPY
CHRISTMAS

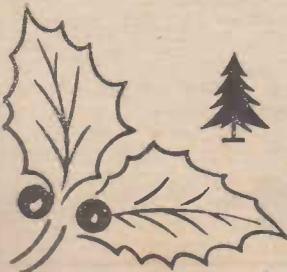


THE old words about Christmas have never before meant so much when they say, "What matters is the spirit of the occasion and not just the festivities and presents." After having brought to an end the most devastating war the world has known, mankind everywhere ought to be secure and more happy than is the case to-day.



Nature is bountiful enough and the means to prosperity is in the hands of man to make the most of—the future could be very bright indeed. The trouble lies there, in something that "could be," for all of us form a habit of thinking or fearing that maybe it will not be so. What is the reason for this way of thinking? It is simply that people throughout this planet are afraid of something; depressions—call them "recessions" if you will—wars, and each other. There is an idea, mostly submerged, but often coming into the open, that there is no such thing as "Peace on earth and good will toward men." It is a strange turn of human nature which in time of war brings out fierce bonds of comradeship between men under stress and threat of death, but which appears to do the opposite in ordinary walks of peaceful life. Wrong thinking and intolerance are mainly responsible, and words without thoughts of the sincere kind to back them up are futile. So let us refrain from using words without thoughts to express the spirit of Christmas this year. Let us put spirit and good will into our daily lives, and then we can be sure that there will be a real meaning to our greeting of "A Merry Christmas."

—DON B. KNOCK.



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Capable of quickly locating most obscure and elusive of intermittent, noisy, open or short circuits.

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Used with Model M.O. oscillator or equivalent, traces signal and determines stage gain in every channel from mixer to speaker.

Ranges: (1) R.F.-A.F. six-range voltmeter: 0-2.5-10-25-100-250-1000 volts A.C. Fitted with polystyrene bushed probe operating on frequencies up to 300 M.C. accuracy plus 0.5 db. to 100 M.C. Input cap., 10 uuf., loading equal to 6 megohms. (2) High resistance D.C. six range voltmeter: 0-2.5-10-25-100-250-1000 volts D.C. Total load 11 megohms—giving over 4 megohms per volt on lowest range. (3) Ohmmeter, six-range—from 0.5 ohms to 1000 megohms.

Detachable co-axial leads, 20 page instruction book supplied. Employs 4 valves.

**PALEC SIGNAL
GENERATOR MODEL S.G.I.**

Frequency Coverage: 150 Kc/s to 30 Mc/s in six overlapping ranges. Accuracy, 1%. Individual coils permeability tuned and fitted with air dielectric trimmers. Vernier dial.

Output: From 0.5 microvolt to 1 volt. Accuracy within 2 db at all frequencies. Detachable universal dummy antenna.

Modulation: Internal—400 cps., variable 0-100%. External—Uniform response with 1 db from 30 to 10,000 cycles, 2 volts required for 30% modulation. 5 volts 400 cycles signal available externally with less than 2% distortion. Frequency modulation negligible.

Leakage: Less than 0.5 microvolt at 30 Mc/s, decreasing at lower frequencies. Triple shielding incorporated.

Attenuator: Ladder type of unique construction, with 10 ohm nominal impedance on all but the highest output ranges. Attenuator has negligible effect on carrier frequency.

Valves: 2-6SN7; 1-1852; 1-6X5. Dimensions of case: 14 ins. x 8½ ins. x 3½ ins. Weight: 29lbs. Available for 220-260 volt A.C. and external vibrator operation.

Note: Model S.O. (High-grade serviceman's oscillator) also available.

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Features

Fitted with large six-inch, 100 micro-amp, sector type meter. A new release.

Housed in our standard size steel case to match other instruments in the Palec range for a neat bench display. Also portable for outside work.

Full floating element selector switching obsolescence free.

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Ohms (internal battery operation) 0-500-50,000-5,000,000 ohms.

Capacity 0.001-0.1 and 0.1-10 MFD.



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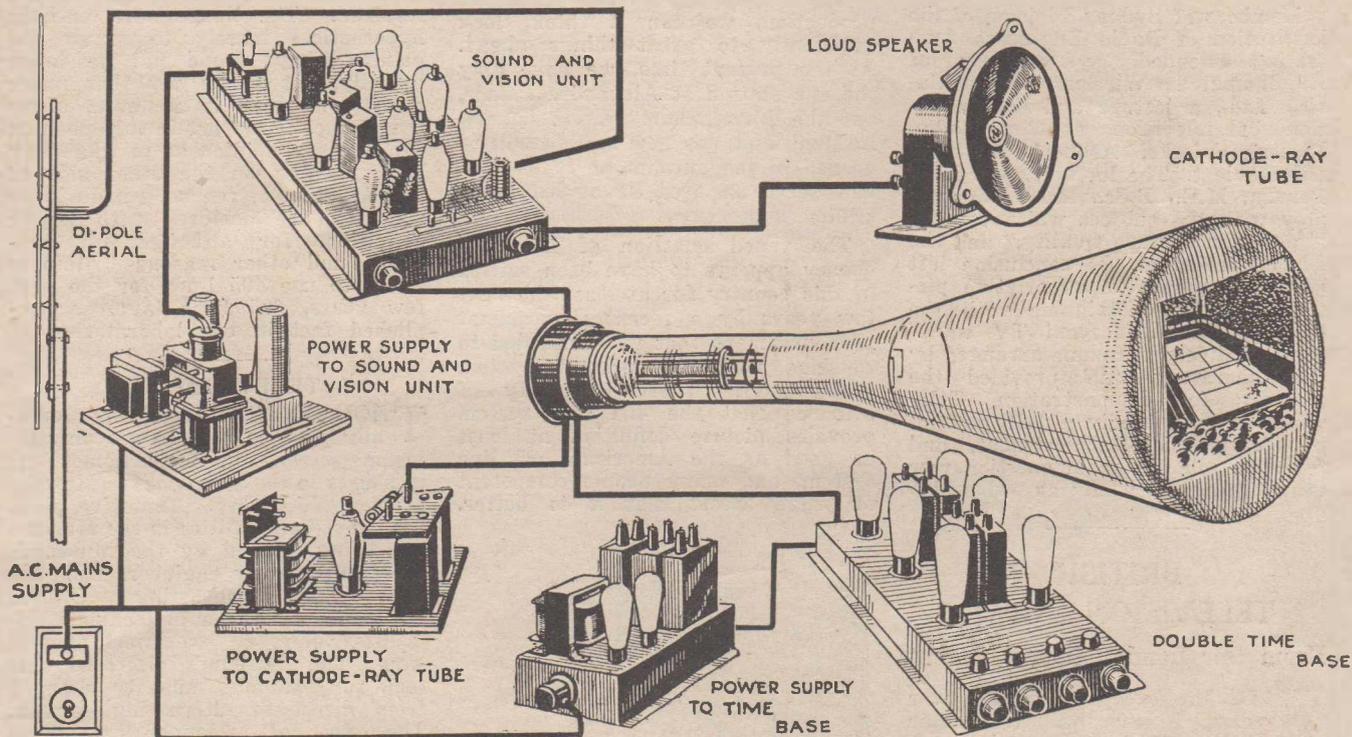
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70 VICTORIA STREET, ASHFIELD, SYDNEY.
Tels.: UA 5266 (5 lines). Telegrams: "Palec."

Television To-Day!

Below:—

Your television receiver will be something like this picturisation of the main units. This schematic shows the parts usually employed in a cathode ray television receiver. Sound and vision receivers are built on the same chassis.



Prominent American radio and TV publisher, Hugo Gernsback, made a prediction of a logical form of television eyeglass, especially for invalids. The idea, like most things in this super-scientific world, is by no means impossible, and is quite likely to be developed some day. This is what he said, and it was as long ago as 1936 that he said it:—

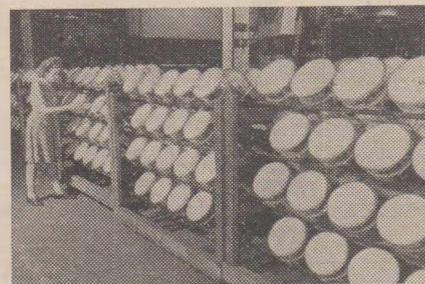
"In that year I wrote an article predicting television eyeglasses. This is an eyeglass frame on which are built two separate miniature televisers. The whole weighs but a few ounces. The images on the two tiny screens are about postage-stamp size, but as the screens are less than an inch from your eyeballs, the small size is no drawback. The dual images, though small, are sharp and clear, exactly as if viewed through binoculars. Now you can recline in your easy chair and really enjoy television. Or, in your office you can plug the Tele-Eyeglasses into your regulation teaset; and if you wish to see an important event, you can stay right at your desk, without

moving about. If you are ill, in bed, the 'tele-glasses' will prove to be a great boon.

"Note well that the television eyeglasses are only an adjunct to a regulation television receiver—they are what an extra speaker, or headset is to a radio set. They will NOT be—at least for years to come—a complete self-contained television receiver.

"The tele-glasses are merely two tiny, lightweight cathode-ray tubes with two controls for sharpening and properly adjusting the images. We have the technical means to-day to make tele-glasses—it should not be many years before they are on the market."

SOME DAY? Television Eyeglasses?



● Cathode ray tubes by the dozen. These Television "Emiscope" are undergoing tests in the tube section of the vast E.M.I. Works at Hayes, England, where a large percentage of Britain's TV Receivers are made.



Teleneews



I.R.E. TELEVISION DEMONSTRATION

Members of Sydney Division of the Institution of Radio Engineers Australia, attended, by courtesy of Amalgamated Wireless (Australasia) Ltd., a lecture and demonstration of television at the Radio-Electric Works, Ashfield, on 18th October last. The lecturer, Mr. J. E. Benson, M.E., B.Sc., M.I.E.E., dealt ably with the subject which covered "Television Picture Quality," and the demonstration at the conclusion left no doubt about the superlative picture definition obtainable with the 625 line R.C.A.-Marconi TV equipment. A live programme arranged by the laboratory staff provided the material for demonstration. Television is undoubtedly a fully accomplished technical achievement, and for Australia the main question now is not so much "what" as "when"?

BRITISH TELEVISION NEWS

From Our London Correspondent

WITH the exception of the war years, I have been a regular viewer since 1936, and my interest, far from waning, seems steadily to increase. In fact, if we now had to do without Television in my household, I shudder at the thought of how very flat it would be. It would take an awful lot to compensate for the loss of the very real entertainment value that Television provides daily.

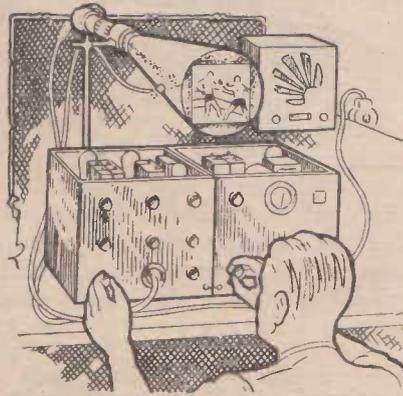
Plays, variety programmes, ballets, etc., are now put over with all the professionalism and polish of West End shows, and the "outside broadcast" units provide us with a very good sprinkling of topicalities.

Outstanding amongst recent events in this respect were the Olympic Games. The pictures really were remarkable both from the swimming pool and from the stadium, and throughout the Olympiad we were able to enjoy five or six hours of "Olympic" Television every day.

As you probably know, there are at present approximately 50,000 Television receivers in use in this country and an estimated audience of a quarter of a million. The rate

of progress in this respect has naturally been restricted by post-war raw-material and other manufacturing problems, but the real point is that the interest is there, and now that industry as a whole is really getting to grips with set production, we can, I think, look confidently to great things ahead. At the present time, we have only the one station at Alexandra Palace, but the Birmingham station is well in hand, and this new station will be opened in the autumn of 1949. That will serve an area of at least five million population.

The vexed question of line frequency appears to have been settled in this country for at least the next few years by a recent Government pronouncement that it is intended to continue with the present system (405 lines). There is plenty of evidence that the 405 line system provides picture definition at least as good as the American 525 line system, and many people competent to judge assert that it is better.



As a matter of interest, that view was advanced by the Captain of the American Olympic Games team, who said that he had never seen Television at home to compare with what he had seen here.

Naturally we like to think that our system is the better, but we do not make any stupid claims. Technically, 525 lines should give higher definition than 405, and if the reverse is the case in practice, it can only be due to greater design care at all the other vital links in the complicated chain, plus the recognised excellence of the Emitron

cameras. A 405 line picture 95 p.c. resolved is, I suppose, better than a 525 line picture only, say, 75 p.c. resolved. The figures are entirely hypothetical merely to stress the point! They should not be taken literally, but I can say that under ideal conditions it is even above the 95 p.c. I am not in any position to offer any opinion as to what may be happening on the other side of the Atlantic. Even so, we do know what can be achieved with higher definition, for although for economic and other reasons Britain is likely to use 405 lines for the next few years, 605 lines is an accomplished fact in our laboratories.

TELEvised ART

THOUSANDS of Americans eventually may be able to see on television screens in their homes art treasures in the Metropolitan Museum of New York City. Tentative plans for television facilities in the Museum are being studied by the Museum's architects and by engineers from the Columbia Broadcasting System (C.B.S.). A number of technical difficulties must be overcome, experts say. The Museum's electrical system, for example, must be changed from direct to alternating current. The effect of prolonged heat from strong lights on valuable paintings and tapestries must also be determined.

Among the Museum's exhibits said to lend themselves particularly well to television are the Costume Institute, with its collection of arms and armour; the American Wing, and the Egyptian, Greco-Roman, and Near and Far Eastern Galleries.

C.B.S. started experimenting with televised art programmes in 1941, when art objects were brought to its studios and were discussed by experts. In 1947, a second programme was televised in the Museum. This combined music and dancing with art displays. Last Spring 148 paintings from the Berlin collection which toured the United States were televised from the Museum.

Speaking of television, a well-known earlier day movie star said, recently: "Television is still in the nickelodeon stage"—in other words, it is not yet ready for showing in M.G.M. or Rank circuits.

AUSTRALIAN

Television

NOW A VITAL FACTOR IN MEDICAL SCIENCE

Australian medical history was made on November 8th, 1949, at Melbourne (Vic.) Women's Hospital, when a rare surgical operation lasting one and a half hours was televised.

Equipment used was A.W.A.'s 625 line R.C.A.-Marconi as demonstrated to the provincial press at Ashfield, N.S.W.—Editor.

Referring to the televising of an operation in the Women's Hospital, Melbourne, Mr. Hooke, Managing Director of Amalgamated Wireless, stated that the equipment used was a Marconi 625 line High Definition Camera and the associated Viewing Apparatus was designed and made in the laboratories of Amalgamated Wireless.

It is the first time an operation has been televised in Australia, and it is one of the many practical uses of television, enabling many people to watch and study the latest surgical technique without interfering or crowding the actual operating theatre.

The arrangements were in the hands of Dr. Refshauge who initiated this interesting demonstration.

The Radio Physicist and Biologist have in many cases combined research to obtain greater knowledge of the human body and its functions. The Radio Engineer has also devised many instruments suitable for biological investigation, such as the Electron Microscope, with its magnification of over 100,000 times, enabling the identification of bacteria and viruses and even the smallest body cells.

Dr. Refshauge said, at a press interview on November 11th last:

"After three months of planning and experimentation a week of televised surgical operations was able to be successfully performed at the Women's Hospital, Melbourne. These made medical history this week, as this is the first time in the Southern Hemisphere that television has been used to demonstrate surgical procedures.

"The clarity of detail of the operations as shown by the receiving units actually surpassed all we had hoped for, and the view afforded the audience was as good as, if not superior to, that of the surgeon himself.

"Once again radiophysics has been called upon to aid medicine. We already have radiotherapy and radiodiagnosis as most important aids to diagnosis and treatment in medicine, and now we have television to aid us in the teaching of the art of surgery.

"Demonstrating surgical procedures to a large number of post-graduate doctors is always a worry. Only a few out of the multitude, when crowded around the operating table or in a gallery, can see any detail of the operation.

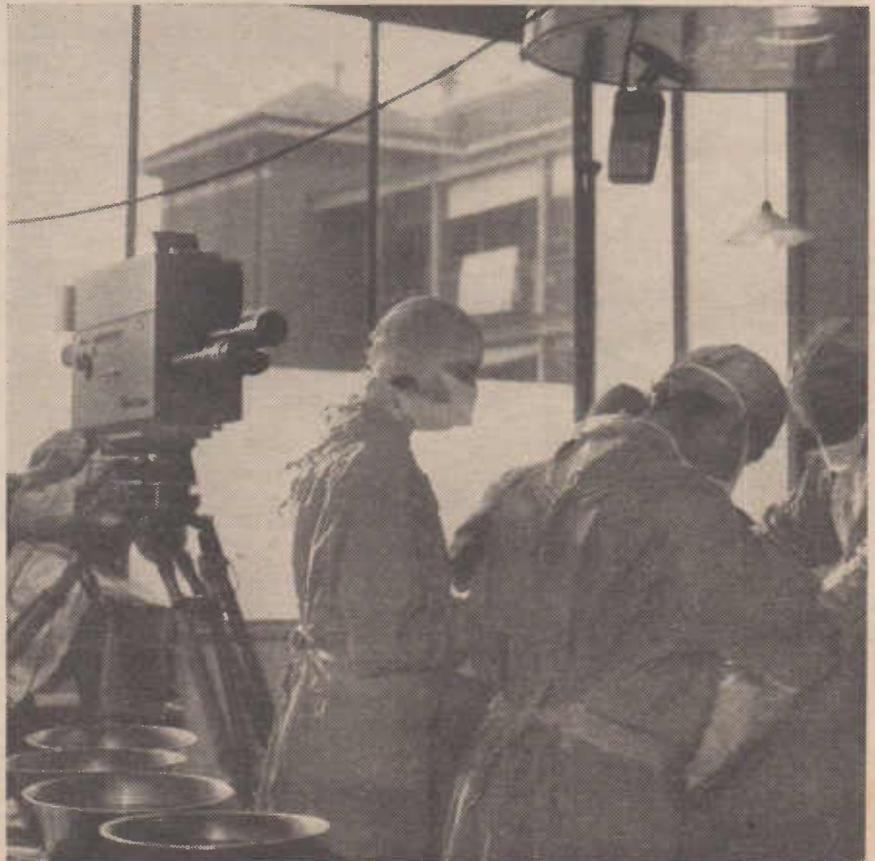
"The Royal College of Obstetricians and Gynaecologists at their bi-annula meetings like to demonstrate a surgical operation and, as the next meeting of the College was to be held at the Women's Hospital, Melbourne, this hospital decided, three months ago, to investigate television as ap-

plied to surgical demonstrations in order to overcome the disappointing results to the onlookers.

"Amalgamated Wireless Australasia were contacted, and by their highly co-operative and untiring efforts this was made possible this week.

"Having seen the televised operations each day I am satisfied that the scope of this method of demonstrating surgery is very wide indeed. Not only will post-graduates in the future benefit but also the undergraduates and the nursing staff.

● Below—The operation in progress at the Melbourne Women's Hospital.



(Continued overleaf)

(Continued from page 9)

"The demonstrations during the week were attended by nurses, medical students, post-graduate doctors, the President of the British Medical Association (Mr. Victor Hurley), the Dean of the Faculty of Medicine in the University of Melbourne (Professor MacCallum), the Chairman of the Hospitals and Charities Commission (Mr. McVilly), the Director of Post-Graduate Medicine in Sydney (Dr. Coppleson), the Professor of Medicine in the University of Brisbane (Professor Murphy) and representatives of many other interested bodies.

"At the Royal College of Obstetricians and Gynaecologists meeting on 11th November, which was attended by members from many parts of Australia, clinical cases were also televised. I believe this is the first time in the world that this has been performed to such type of medical congress.

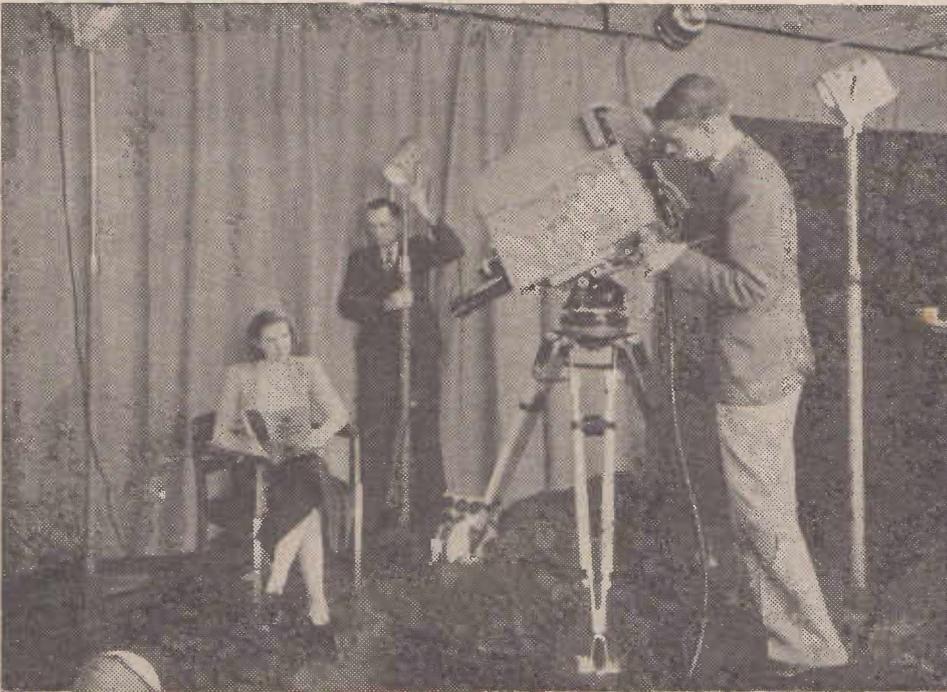
"An amazing success, a wonderful future."

dorf-Astoria Hotel in New York at a meeting of the American College of Surgeons when televising of operations was first done. There the operations were done at the New York City Hospital and were transmitted on a special wave-length to the Waldorf-Astoria where the College of Surgeons was meeting. There were about fifteen hundred members present. The rooms were very crowded, and we saw on large screens the televising. Later, I had an opportunity, by courtesy of the Board of Regions of sitting on a private demonstration very similar to the one that you are looking at at the present moment.

"The demonstration that we have seen to-day is a hundred per cent better in every way than those original demonstrations. The picture to-day is clear, vivid, and to the smallest detail, accurate. The presentation is smooth, there is no interruption, there is practically no flicker. In that, which was two years ago, there was a very great deal of flicker and

the future of teaching in surgery would be largely in the hands of television. How much has that been borne out to-day when, by Australian workmanship, genius we have seen the demonstration which, in my opinion, is magnificent. But this is only the beginning, the next thing will be colour photography in television and then the practitioner, the post-graduate and the student will be able to see the operating field actually as it is. At the present moment obviously there are limitations to the teaching that can be done. The student must have his basic training in the operating theatre, but to the trained surgeon and senior students this opportunity of sitting quietly and in comfort, an august feat which is a considerable factor these days must make his study of surgery not only more interesting, more intelligent but more pleasant and more satisfying.

"I wish to pay a very high tribute to Amalgamated Wireless (Aust.) and I would like Mr. Longstaffe to



★ This shows the identical 625 line A.W.A. television equipment in use at the Ashfield (N.S.W.) laboratory during a press demonstration.

Mr. Maguire, Chairman of the Australian Regional Council said, in his address:—

"Mr. Longstaffe, fellows and members of the Royal College of Obstetricians, ladies and gentlemen. On behalf of the Australian Regional Council and the Victorian State Committee of the Royal College of Obstetricians and Gynaecologists I would express our very deepest appreciation of the wonderful scientific demonstration that we have had to-day. It was my privilege in September, 1947, to be present at the Wal-

there were a considerable number of interruptions. The operations that I saw, were, for instance: an excision of the stomach for cancer; a very large extension from the 9th to the 4th lumbar ganglia, the reconstruction of the outer surface of the right knee-joint. They were very good and I was deeply impressed, and you may remember that in March last year, at the centenary of your Royal Melbourne Hospital, speaking after the late Dr. John Green, whose tragic and early death we lament and which we so deeply deplore, I mentioned, together with him, that we felt that

convey to Mr. Hooke, on behalf of our college and our Committee our very warm appreciation of the work that has been done, and our recognition of the advances that have been made, and our belief that we are standing on the threshold of very much bigger things. You will remember that it is written in Holy Writ 'That our old men shall see visions and our young men will dream dreams.' We older ones can indeed see visions on what the possibilities of the future may be and our younger men, the men who really matter to-day, the men who have been de-

monstrating to us to-day, dream their dreams and see their dreams come to ripe fruition in the years to come. Science is linking with medicine in very many ways. The future of the human race is not to be considered by the atom bomb on the destructive side, but by the constructive side of the linking of Physics, Chemistry and Biology. This is a great historic moment. The first television of surgery in Australia, and I am proud that this should be done under the auspices of our Royal College of Obstetricians and Gynaecologists. Obstetrics is the oldest profession in the world, and gynaecology its handmaiden, is the combination of medicine and surgery in the study of diseases peculiar to women. This is a great moment in our lives. It would have been a great moment had we been present when Ephraim McDowell operated on the first ovarian cyst. It would have been a great moment to have been present at Lister's first operation, or to have seen chloroform administered for the first time. But we have seen something new and in days to come our sons and our sons' sons will look back and see how lucky were they who sat in the Melbourne Women's hospital on this day of November, 1949, and saw the first projection of surgery in Australia—the beginning of very great things.



● One of the giant bowl-shaped paraboloids being installed on six 80-foot towers in Britain between London and Birmingham for the "Relay" of television programmes. The London transmission will be beamed from one to another of these paraboloids on a 33 centimetre wave-length. The operation will be fully automatic; any failure will cause an alarm to be sounded at the London or Birmingham terminal control point, and there will be an automatic change-over to a duplicate apparatus. The intermediate stations will be entirely unmanned and need only be visited once a month for routine checks.

WHERE STATIONS WILL GIVE NATION-WIDE COVERAGE

By L. MARSLAND GANDER,
Radio and Television Correspondent
of the "Daily Telegraph," London.

TELEVISION in Britain began as a public service on high definition in 1936—thirteen years ago—and Britain's world leadership remained unchallenged up to the outbreak of war, in 1939, when the service closed.

When it was resumed ten years later re-establishment was hampered by postwar difficulties, but now British television has not merely recovered but has made great strides in popularity: plans for country-wide coverage are progressing as fast as economic circumstances will permit.

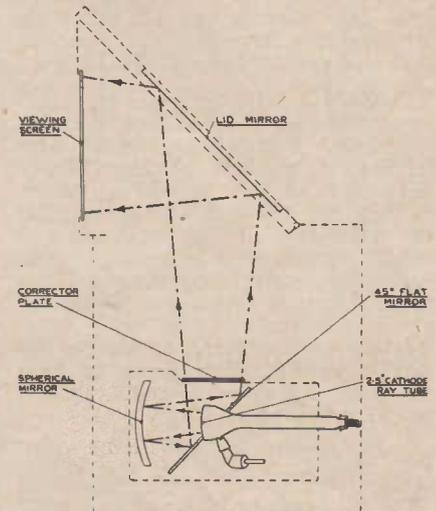
In 1939 there were, at most, 10,000 set-owners in the London area. Today, the number of licensed sets increases by almost that figure every month, and, by the end of the year should reach 250,000. The first provincial station, supplementing the transmissions from Alexandra Palace, has been built at Sutton Coldfield, near Birmingham, England, with alternative connections to London by a radio link or a Post Office cable. This will serve another 6,650,000 people. A third station is projected for the North country, situated on the 1800 feet peak Holme Moss, near Huddersfield, in Yorkshire, from where transmissions will reach another 12,000,000 people. There will be a fourth in Scotland, and there are also plans for extending television to South Wales, South-West and North-East England, Southampton, Belfast, Aberdeen and Plymouth.

Most Powerful in the World

These new stations will all work on the London definition of 405 lines and—according to present proposals—will relay London studio programmes.

The Sutton Coldfield relay transmitter has unique features. It is the most powerful in the world, with double the peak power of Alexandra Palace in its vision transmitter, and four times the carrier power for sound. Its 750 foot aerial mast is built on ground 550 feet above sea level, and is the loftiest in Britain. The great height of the aerial and the increased power mean that the station will have a much wider range than Alexandra Palace. Most experts consider that the British Broadcasting Corporation's estimate of 50 miles is far too conservative, and that its reliable range will be considerably wider.

Emitron Television of Hayes, Middlesex, England, which built the vision transmitter, have used a system known as a symmetric or vestigial sideband (V.S.B.). The object is to reduce the channel width to be occupied on its 4.8 metre wavelength, thus making room for more stations. This system, for which a special filter has to be made, occupies only two-thirds of the frequency band that would be required by the older method used at Alexandra Palace.



Projection of a large image from a small tube.

The radio link, designed and constructed by the General Electric Company, Kingsway, London, England, for Britain's General Post Office, is something completely new. Six 80-foot towers are being built along the 100-mile route between London and Birmingham, and the London transmissions will be beamed from one to another on a wavelength of 33 centimetres. Signals will be directed by means of bowl shaped paraboloids which catch and reflect radio waves. Operation will be automatic throughout and any failure will cause an alarm to be sounded at the London or Birmingham terminal control point. The cause of the failure and automatic change-over to duplicate apparatus will be shown on an illuminated indicator board. All the intermediate stations will be unmanned and need only be visited once a month for routine checks. Eventually this system will permit two-way television between London and Birmingham. But, in order to get it working as soon as possible, a single reversible channel, using temporary masts, has first been built.

World's Best Value

Assurance that the 405-line system will continue indefinitely has made it possible for Britain's 24 television manufacturers to concentrate on mass production of a cheap, reliable and
(Continued Overleaf)

MORE TELENEWS

simple receiver. America is the only other country producing receivers in any numbers, but comparison of prices is difficult, because the U.S. receiver has to be designed to receive more than one station, while Britain has a 33 1/3d per cent. purchase tax added to the cost. If value be the criterion, the British receiver is the cheapest in the world, especially since the change in the dollar-sterling exchange rate. At least four models are selling, with tax, for less than £50, and one has been reduced as low as £36/15/-.

Proportionately, there are more 12-inch tubes in British sets than in American. Flat-ended tubes are also helping to produce slightly bigger pictures. Though direct or mirror viewing off the end of the cathode ray tube is still the most general method, progress is being made with projection models, providing a large picture from a tiny tube. Receivers are more compact and more ornamental, as furniture. Some, for instance, have folding doors to hide the tube; some are shaped to fit the corner of a room.

(Courtesy U.K. Information Office)

Latest: Relayed TV

Relayed television programmes will soon be available for London homes. E.M.I. Relays Ltd., have now perfected a system capable of supplying houses direct by wire with high quality vision and sound at a weekly cost that will be within the range of every pocket.

A special receiver is supplied which is of the size and appearance of a normal table television set. Televiewers will merely have to plug the set into the mains and connect to the special lead-in provided and leading from the master unit.

The unit incorporates a switch which gives a choice of five radio relay programmes as well as the television programme.

A special cathode ray tube will enable viewers to receive clear programmes in daylight or normal room lighting.

Visitors to the recently held Radiolympia were able to see the unit which will be installed in the home and the master receiver-retransmitter equipment installed at the relay station of E.M.I. Relays Ltd.

At a recent meeting an American theatre manager said: "There is a danger that television shows for children might educate them away from the cinema."

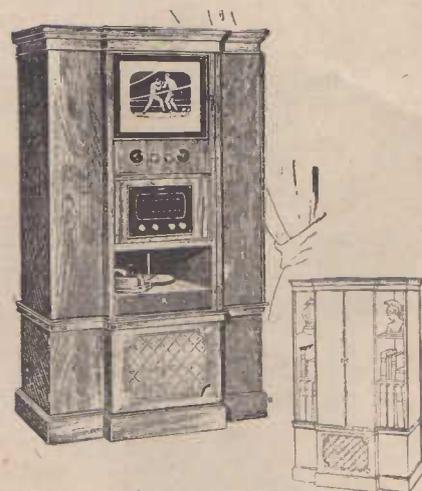
Danger, did you say!

"Oolala": Trust the French to do it differently. The Parisian television station doesn't radiate a geometrical design for pre-programme tuning purposes, Non M'sieu—instead—a picture of a beautiful Folies Bergeres girl. What's more, they change the lady every day of the week.

SAFETY

If only one person can look at a television frame at a time, there will be less jealousy in the household when husband eyes up the television girl.

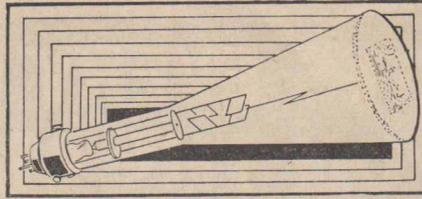
"E.H.W.": Small Class B output transformers of the type designed to match 6N7, etc., to a Class C load of from 3500 to 7000 ohms make excellent Class AB driver transformers when used "backward." They can be used to match a 45, 2A3, or triode connected 807 to Class AB 807's, etc.



● ABOVE—A striking design. This is an American combined television and all-wave radio receiver, plus record player-amplifier and bookcase to complete the ensemble.

● LEFT—A scene during the televising of a children's party in the London TV studios. Such programmes are very popular with British viewers.

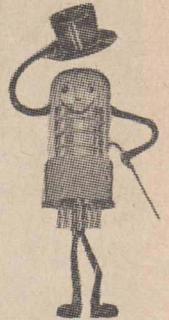
THERE'S



VISION



IN MUSIC



These observations, given here by courtesy of the editor of "Television and the Viewer," England, are of interest to our musically gifted readers. Some day in the narrowing space of time, the vision aspect of music will apply equally to Australia; it will be important that we see the right kind of scene to synchronise with the accompanying sound.—Editor.

WE at Alexandra Palace look forward to making many new friends as television reception spreads through the country. Amongst those friends there must be music-lovers who are wondering what sort of a deal they will get. As one primarily concerned with the effective presentation of music in television—I think it would be interesting to carry out a poll just to see how things stand at the audience end of the screen.

Are you, I might ask, one of those who say, "Of course, I always close my eyes when listening to music"? Or, do you switch on your radio to help you when you fill up your pool forms? Or, when you go to a concert, do you follow the music with a score, do you keep your eyes glued on the conductor, or do you spend most of the time in the bar anyway? Do you care to have a close-up of the bassoon-players's bald head at the beginning of Stravinsky's "Sacre," or couldn't you care less? Do you like ballet, and if so do you go to hear the music, to watch the dancing, or both, or neither, or because you feel you have an affinity with a certain dancer, or for none of these reasons? Or, do you like opera, and if so do you mind if Violetta is portrayed by an elephantine female who could put a diminutive Alfred in her side pocket and not notice it?

These are just some of the questions we are continually asking ourselves, and they apply only to the receiving end—your end—of television. There are many far more complex and difficult ones to consider in relation to the transmitting end—our end. To take one example — a problem which does not arise either in the theatre, in film production or in sound broadcasting—the question of the "sound balance" for a studio production of an opera.

ENGINEERS' PROBLEM

The acoustical set-up which gives a nice balance between singers and orchestra in Act I, played on the main stage, must be adjusted for Act II, played on a side-set; while Act III, back on the main stage, with appropriate scenic changes, will probably upset everything because those changes of scenery have had a

By

JAMES HARTLEY

Head of the Music Section,
B.B.C. Television.

marked effect on the acoustical properties of the studio. And yet the opera must take its course smoothly and agreeably without a break from beginning to end. Our engineers are, of course, used to handling this sort of problem, but each new case presents its own peculiar difficulties.

I do not mention points like these in order to "soften-up" in advance viewer-reaction to possible shoddy efforts on our part, but rather to show that we whose job it is to present an aural art through an essentially visual medium are very much alive to all aspects—technical as well as aesthetic.

It is not enough simply to engage an orchestra and a famous conductor, put them in a studio, switch on a few extra lights, stick a camera up in front of them and ask them to start playing. That is not television at all. Certainly, television broadcasts of notable public concerts, such as the one of Furtwangler and the Vienna Philharmonic, from the Royal Albert Hall, have a very distinct place in our programmes; but those are occasions when we try to convey the view-

er to the concert, rather than the concert to the viewer. It is the sense of an important musical "occasion" at which viewers can participate, although they may be hundreds of miles from the actual scene of the event, that has helped to make those broadcasts successful.

On the other hand, broadcasts of opera and ballet, direct from the theatre, have shown pretty clearly, I think, that these forms of art must be produced in the studio to make their full effect in television. In opera, for instance, many things which will "get by," when viewed from a seat in a large theatre, simply will not do when translated into the intimacy of a screen in your home. As an American music critic despairingly and bluntly puts it: "Won't television take some of the dust off present standards of operatic staging, and especially acting?"

The television camera roams far and wide and in opera it must roam right on to the stage, so to speak, and in amongst the characters. Crude acting, and a grotesque appearance, brought in close-up to our eyes by the all-revealing camera, will kill stone-dead the finest singing on earth, and anything which gets between the viewer and the music must be ruthlessly eliminated.

THE VISUAL ASPECT

The visual aspect must always be made to serve the aural, in musical presentation, and unless it makes a very definite contribution in that direction the result will be poor television.

It follows, therefore, that a very great deal of music must always be left to sound broadcasting, and television does not attempt to do what sound broadcasting can obviously do better. It is in the realm of theatre-music, opera, ballet, film, puppets—that television must seek its musical subjects, adapting and moulding them to its own requirements and, it is to be hoped, creating new works especially for the medium.

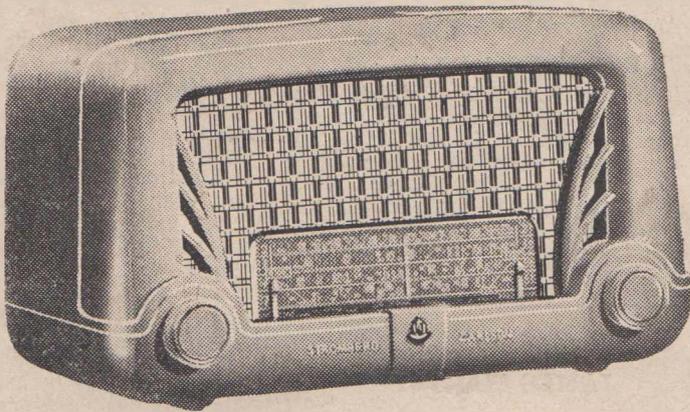
(Continued on page 15)

**OUTDATES EVERY OTHER
RADIO ON THE MARKET**

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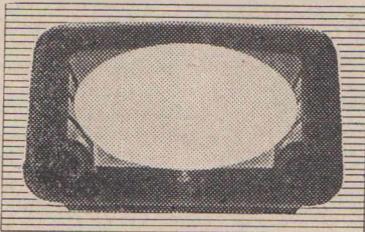
OVALTONE

SETS THE FASHION FOR ALL FUTURE RADIO

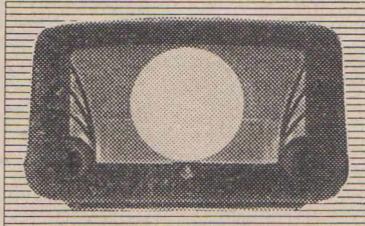


**SUCH RADICAL
IMPROVEMENT
IN RADIO HAS
NEVER BEEN
KNOWN BEFORE.
OVALTONE GIVES
A NEW WORLD
OF LISTENING.**

**X-ray photos reveal basic difference between ordinary
old-type sets & modern Ovaltone.**



**1. X-Ray photo shows special
Ovaltone speaker giving concert-
hall pitch and full colour tone.**



**2. Ordinary type speaker which,
because of small area, misses
"highs" and "lows".**

**BECAUSE NO OTHER RADIO IN AUSTRALIA CAN
EQUAL THE PERFORMANCE OF OVALTONE. ITS
INTRODUCTION CAUSED PUBLIC RESPONSE UN-
PARALLELED IN AUSTRALIAN RADIO SALES HISTORY.**

The magnificent set illustrated above is the Stromberg-Carlson Modenaire fitted with exclusive Ovaltone. This model is a 5-valve, broadcast (or dual wave) receiver possessing the tone, performance and appearance usually found only in the larger and more expensive console models.

Don't be satisfied with an ordinary old-type set when luxurious Ovaltone is no dearer. Your nearest Stromberg-Carlson retailer will gladly give you a "live" demonstration without obligation. **HEAR IT TO-DAY!**

Beautifully designed throughout, Ovaltone Modenaire is available in four new shades — New Ivory, Havana, Brown, Sorrento Blue and Nile Green.

Broadcast—**£24/13/6** in walnut (other colours 10/- extra) or just a few shillings a week.

HEARING IS BELIEVING!

Millions listen to STROMBERG-CARLSON

(Continued from page 13)

There is among English music-lovers a strange ignorance of music of the theatre, owing to the habit in this country of associating the art almost exclusively with the concert hall. That there is a lot of "visual" music which is well worth anyone's money and attention will, I hope, be amply shown through the medium of television.

ACOUSTICAL CHANGES

To give anything like a comprehensive account of what television has already done in the way of musical presentation would require not one but many articles a good deal longer than this one. But I recall notable productions of such operas as "Hansel and Gretel," "Gianni Schicchi," Act 2 of "Tristan," "Aida," "Master Peter's Puppet Show," "Pagliacci," and in lighter vein "Derby Day," "Pepito," and "Jolly Roger."

Ballets ranging from the great classics like "The Sleeping Princess" to specially created works like Spike Hughes' "High Yellow," Eric Coates' "The Three Bears," Prokofiev's "Peter and the Wolf," and the ever-memorable "Fugue for Four Cameras" in which the superimposition of four cameras in turn, all "shooting" the same dancer from different angles, gave a perfect visual interpretation of the principles of fugue.

What they say about

TELEVISION

Sir William Haley, Director General of the B.B.C., thinks sound broadcasting will go on its way unperturbed, making whatever improvements the years can bring. "The talk that sound broadcasting has already received its death blow but does not know it is nonsense. Even in the United States of America, where this talk is most prevalent (and where something of the kind is far more likely to come about), one of the four main networks is so sure there will always be a future for sound radio that it has decided not to embark on the hazards of television.

"Other networks envisage the future as we do, an eventual marriage between television and sound; each being used to its best purpose in an integrated broadcasting system. But that marriage is over a decade away."

On the other hand, the B.B.C. Controller of Television, Mr. Norman Collins, says: "The first casualty of television, possibly the only casualty, is not the local cinema or the county theatre—it is sound radio."

Charles Hull Wolfe, Director of Radio and Testing Bureau of Batten,



● Popular American comedian Danny Kaye in typical mood before the B.B.C. microphone during an "In Town Tonight" session.

Barton, Durstine and Osborn, in U.S.A., says: "Television will glitter brilliantly, but radio will also continue to shine. Even the most ardent television fan will find himself often in a position where he is unable to look at the television set. The person may be shaving, or sewing, or driving a car, or off on a picnic, or at the beach. And while his TV set is left behind in his living room, he can still be enjoying a portable radio."

Merlin H. Aylesworth, former President of N.B.C., says that radio is doomed. "Within three years the broadcast of sound, or ear radio, over giant networks will be wiped out. Powerful network television will take its place, completely overshadowing the few weather reports and recorded programmes left to the remaining single, independent radio stations." Mr. Aylesworth adds that not only

the radio, but also the newsreel, is doomed in U.S.A. by television.

Mark Woods, President of American Broadcasting Company, is adamant that television will never knock out radio. "For the simple reason," he says, "that it has never been found that any one medium wholly displaces the other. In other words, sound movies were merely an evolution of silent films. The horseless carriage was merely putting rubber tyres on the old surrey and equipping it with self-propulsion of some sort. Television is just adding another factor to radio."

* * *

COMIC CUT

"Drink," said a prohibitionist friend of a well known radio comedian, "is the greatest curse of the country. It makes you shoot at your wife." "Perhaps," replied the funnyman. "but it also makes you miss her."

UNCLE SAM'S NAVY MAKES TELEVISION USEFUL IN TRAINING.

Says the American Magazine "Radio Electronics":—

THE U.S. Navy and the booming art of television were introduced to each other and the acquaintance promises to be a long and profitable one for both parties. The nation's tars-in-training can be expected in future to see a great deal of the video screen. The programmes they watch may not be as entertaining as the puppet shows and Broadway plays we view in our living rooms of an evening, but the high quality of the instruction the Navy presents to its men by TV and the large number of students who can participate in it may some day help to determine whether or not we'll be in the vicinity of our living rooms and whether the living rooms will still be there.

* * *

The Navy believes television has two special values. First and most obviously, it is a means of instructing tremendous numbers of men at one time. Naval training, like that of the other armed forces, is—or attempts to be—standardised, so that trainees of any particular course will graduate with the same quality and

quantity of knowledge. In actual practice, not all instructors have the same facility for teaching. With students all over the country watching and hearing the same instructor, standardisation would be a fact.

* * *

In the event of a national emergency, the results of the Navy's television experiments may prove a vital factor in protecting the U.S. With country-wide armed-forces centres linked by video, millions of men in places separated by thousands of miles can be shown and taught procedures and techniques evolved only the day before. Dependence on printed training directives alone, or sending men to centrally located schools may be a thing of the past.

* * *

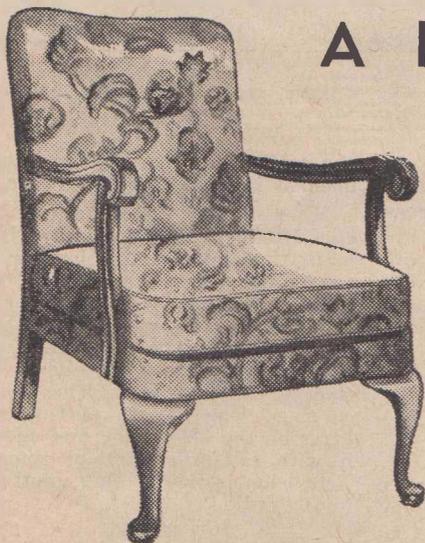
The Managing Director of Electronic Industries Limited, Mr. A. G. Warner, announced that, subject to the approval of the British Government, Pye Limited, of Cambridge, England, had signed a cross-licensing agreement with Radio Corporation of America covering, among other things, patents, etc., for broadcast receivers, television equipment and television receivers.

BACK COPIES

Requests are received from our many new readers for copies of preceding issues. A few of Volume 1, No's 1 and 2 (May and June, 1949), are available and will be mailed to applicants on receipt of stamps to the value of one shilling and threepence.

Our Broadcast Critic says of "Take It From Here," heard on A.B.C.'s Interstate programme Tuesdays, 7.15 p.m. Eastern time: "This series of B.B.C. transcriptions does little justice to the talents of Joy Nicholls and Dick Bentley. Hardly a sentence passes without an undercurrent of quips of dubious nature which, although on the funny side at first, begin to pall after a few minutes. The gag men must have worked overtime on the theme. One laughed louder and longer at the late Tommy Handley's sallies, which, although salty enough at times—were never really blatant, never jarring."

—N.C.



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WITH ENGLAND'S BEST FABRIC-COVERED SPRINGS

Choose your gift this year from Beard Watson's. A Parker-Knoll Chair is a gift of lasting comfort styled to suit any furnishing scheme. There are many designs available in a selection of beautiful coverings. Call and see the special Tension-Suspension Springing system that has made Parker-Knoll Chairs so famous. Parker-Knoll Chairs are made by and obtainable only from Beard Watson's.

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● Scene during a 2CH (Sydney) broadcast of "Kitchen of the Air," a weekly feature on Fridays, 11.45 a.m. to 12.15 p.m. Morning tea is served to all women who attend the auditorium. There are quiz contests and cookery demonstrations by June Clyde.

★ 2SM's Globe-trotting News Editor, Tom Jacobs, is back at H.Q. after a world coverage, during which he provided listeners with a wealth of topical fare. Tom says Cairo was a tough spot for interviews.



PERSONALITY PARADE



★ Dom Harnett is one of the 2SM announcing staff needing no introduction to that station's vast public. He has been prominent on the 2SM air almost since the inception of the station.

★ BELOW—On 2SM you hear John Sherwood's fine voice in "Hall of Fame." This session brings to listeners some of the world's finest music on Tuesday nights.



★ In serious mood is Keith Ashdown of 2SM, an announcer with a serious job to handle. Under his capable control are the station's record and transcription libraries.



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Ducon Motor start capacitors are in use throughout the Commonwealth and have been so for many years. They are used in every capacitor start motor manufactured in Australia. The splendid performance of this new Ducon Motor start capacitor is one more illustration of Ducon's 17 years of leadership in the Capacitor field. Your good judgment is confirmed when you specify Ducon for all exacting capacitor applications.



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BROADCASTING BREVITIES

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:

"That it is in the best interests of Australia's radio-listening public for private enterprise to operate free and independent broadcasting stations is proven in two ways.

"A radio station run on strictly businesslike lines by private enterprise not only can but *must* study exhaustively the needs and wishes of the public. To persuade a radio listener to turn the dial to their particular programmes the commercial stations vie to present the most attractive, most balanced radio fare. And as no single station can hope to satisfy everybody, a variety of radio fare results."

COMMUNITY SERVICE

3BA Ballarat Aids Education Week: During Education Week in Victoria last month, the management of Ballarat Broadcasting Pty. Ltd. donated 15 minutes at 3.30 p.m. daily for the duration of the week for special "school participation" programmes on Station 3BA. Speakers, who included the Mayor, the Inspector of School, teachers, school committees and mothers' clubs, were followed by school choirs (up to 70 mixed voices), verse-speaking choirs, a drum and fife band, and junior singing groups. Colleges, Church Schools, Secondary and State Schools all participated.

Educational Competitions For Juveniles: Inaugurated under the direction of Station 4BH in September, 1947, the Peters Pals Club has acquired in less than two years a membership of more than 15,000. From 5 p.m. to 6 p.m., juveniles are catered for with a bi-weekly serial in company with junior live artists, selected recordings, and educational competitions. Children under eight are given word building and simple painting; those under 14 are asked to build furniture and model houses from match boxes; and those under 17 are set the task of drawing figures, making maps, etc. Prizes include cash, sporting goods and bicycles, the latter specially built to suit the age and height of the competitor. In the concert party programme, instrumentalists and vocalists compete for bursaries for tuition amounting to £300 annually. A full-time teacher is engaged to teach harmony to the youngsters, thus assuring competent support in a choral capacity for songs presented in live artist productions.

ALL FOR THE LITTLE WOMAN

The idea that the Lady of the Home prefers to listen to plays while she's doing the household chores is just another one of those bright theories.

The 2SM "Homefolks" session, arranged and presented by Dom Harnett, has proved a wonderful follow-up to Dom's "Working to Music" feature, heard in the afternoons. Dom's big worry is trying to cope with the request programmes . . . so if you haven't heard yours, please have patience.

This Morning feature, offering the music that the average woman wants to hear, is broadcast from 2SM from 9 a.m. to 11 a.m. Monday to Friday.

MULTI-MUSICIAN

Browsing through the 2SM Record and Transcription Library . . . per the kind permission of Chief Keith Ashdown . . . we came across an interesting Capitol disc featuring instrumentalist Les Paul.

Elizabeth Schumman, Joseph Schmidt, Lawrence Tibbett and the late Richard Tauber all made records wherein they harmonised with their own voices . . . and the double bites at the cherry proved very successful. But in the two discs made by Les Paul we discovered he performs on three melody instruments, plus the double-bass and drums, and his choice is the colourful "Brazil" and the Rodgers-Hart number, "Lover." He appears to play the melody on the mandolin, then comes in with counter-melodies on Spanish guitar, and follows up with maracas, double-bass and drums! All on one record! What a performance!

TWO AT A TIME

2SM's announcer, John Sherwood (he of the fine voice), is probably at his best as compere of the laughable Friday night session, "Raising A Husband."

John has the happy knack of putting the couples he interviews at ease before the microphone. This enables him to extract many interesting and humorous sidelights on their married life.

The fun is good and wholesome, and the couples taking part apparently enjoy the session as much as the listeners..

Sponsored by Whatmuff's of Paramatta, listening time is 9 o'clock Friday night.

"ATLANTIC SHOW" RENEWED

The Atlantic Union Oil Co. have recently signed up Bob Dyer's "Atlantic Show" for a further 12 months of broadcasting from 2UW at 8 p.m. Saturdays. It took the air for the first time in 1946, and has been gaining in popularity ever since—so much so that, at the present time, there is a waiting list numbering 50,000 of applicants for seats to see the show at the 2UW Theatre.

SPECIAL BROADCAST FOR FACTORIES

Recently a number of factory managements approached 2UW, asking that they devise a regular programme of music suitable as background for their employees whilst at work.

After a close study of all the psychological factors involved, 2UW arranged an experimental broadcast on April 1 last. It occupied the two hours between 10 a.m. and 12 noon, and when highly favourable reports of its reception came in it was decided to continue the programme as a regular weekly feature every Friday morning, commencing at 10 o'clock, as "Harmony At Work."

Great care is taken with the music selected for these programmes, particularly as regards style and tempo, and response shows that they are achieving the desired result implied in the title—harmony at work.

"WELCOME VISITORS"

With more and more distinguished visitors arriving in Australia from abroad, 2UW has arranged a weekly session which gives them the chance to have an informal chat with radio listeners.

Every Sunday evening at 9.30 two of the week's most interesting arrivals are introduced to the 2UW audience. They talk about themselves, the personal backgrounds of their careers, famous people they have met, and odd experiences gained all over the world and their impressions of us and our country.

Among the visitors welcomed in this session have been Tommy Trinder, English comedian and film star; Commodore Higgs, of the luxury liner "Port Brisbane"; the champagne-selling Countess de Mezaurban; Benjamin Collins, R.A., famous sculptor; Bob Hall, one of America's most prominent television experts; Aleksander Hellmann, world famous pianist; Mr. and Mrs. Maurice Colleano, Tivoli variety stars; Lady Butterfield, and Brigadier Goffin, N.Z. Salvation Army leader.

● "And now, gentlemen, dropping television for the moment — who ordered garlic sausage on top of Scotch?"



A Popular Appointment

Apart from Governing Directorship of Britain's widely known "Wilkins Servis" washing machine Company, now getting into stride nicely in Australia, popular Harry Tovey has personal interests in a field of Sport well to the forefront with Australian fans. He has been appointed Manager of the English motorcycle speedway team just arrived in Australia. What Harry Tovey does not know about this increasingly popular sport is just not in the book. The many thousands who flock weekly to Sydney's Sports Ground speed track will find plenty of excitement generated by the performance of a team backed by his experienced Managership. This magazine has no difficulty in visualising the time when these stirring, flashing events will be on home television receiver screens here in Australia, as elsewhere. Such home entertainment won't result in a drop of speedway attendance — but quite the opposite. People who for the first time see such events on the screen will be attracted to the scene of action to see favourite riders at first-hand.

A station is responsible for libellous statements made by a speaker before its microphone. Now, if the speaker could only get the station to pay his other bills!

"MUSICALE" A FAMILY AFFAIR

Age and taste don't matter on Sunday night at 9.45, when 2UW presents "Musical." The whole family can settle down and enjoy this half-hour pot pourri of music culled from every variety and class of musical presentation, and carefully fitted to the mood of any family circle gathered round the radio on Sunday night. Orchestras, bands, instrumentalists, soloists and choirs are all included—the finest of to-day's performers rendering music delicately balanced between the old and the new.

Anybody who wants to be an announcer on a chain these days had better get a B.A. first and then forget all he learned.

* * *

Nobody should kick if the quest for short-wave stations serves no better than to take one's mind off the more distressing facts of the moment.

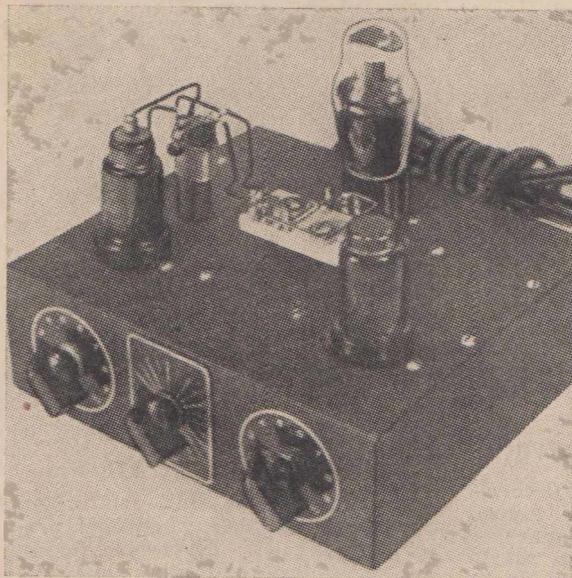
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Radio waves are about the only things left that can get out of one country and into another country without duty.

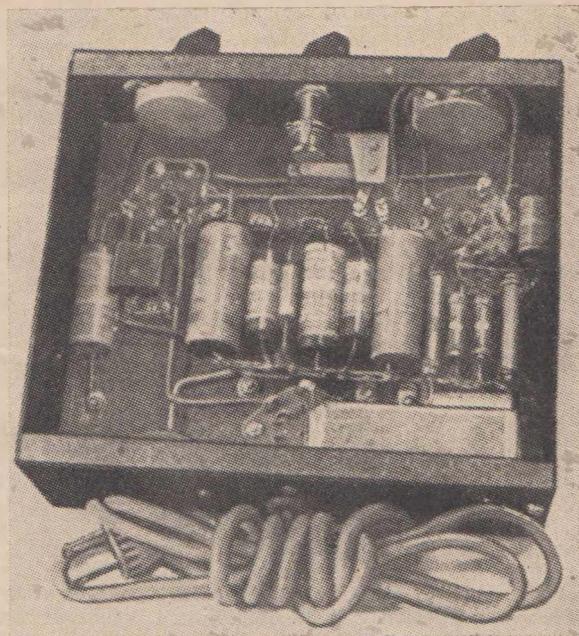
COULDN'T STAND LIKING LIFE

Some persons make a great deal out of nothing, while others never listen in for fear that life will turn out to be surprisingly enjoyable.

For the Constructor



The top and under chassis views of the Electronic Metronome.



MAKING AN

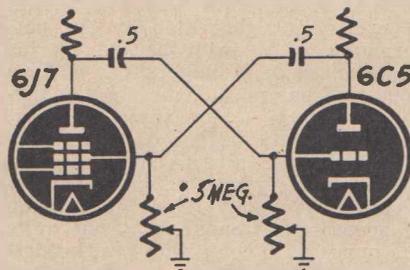
ELECTRONIC METRONOME

Here is something for the junior musical reader and it is no more difficult to construct than a simple audio amplifier. It works on the principle of the multivibrator.

THIS electronic metronome will be found very handy for all students of music. It works on the principle of the multivibrator, in that it distorts the wave shape to produce a multitude of harmonics.

A multivibrator is essentially a two-stage resistance-coupled audio amplifier with the second stage coupled back to the first. By varying the size of the coupling condensers and grid resistors, oscillations—varying in frequency from the supersonic range to one or so per minute—can be produced. This instrument is so constructed that two frequency ranges are available, one in the range required for a metronome; the other suitable for a code practice oscillator.

The principle may be easily understood from Fig. 1. On the metronome range, audio output from the 6J7 is fed to the 6C5 grid. The 6C5 output is fed through a 0.5 mfd. coupling condenser back to the 6J7 through a condenser of equal size.



Fundamental circuit of the device.

Variable 3-megohm grid resistors are provided. The frequency depends on the natural discharge rate of the resistor-condenser combinations, and if necessary can be calculated by the formula: $1/(R_g C + R'_g C')$ cycles per second. R_g , C , and R'_g and C' are the blocking condensers and grid resistors of the first and second tubes respectively.

The 6J7 is connected also as an ordinary grid-tickler type radio-

frequency oscillator, with one exception. The lower end of the grid coil returns to ground through a high resistance. When, as part of the multivibrator, the 6J7 is conducting, it oscillates at a broadcast frequency, determined by L^1 and C^1 . Pulses of R.F. are thus sent out at the multivibrator frequency.

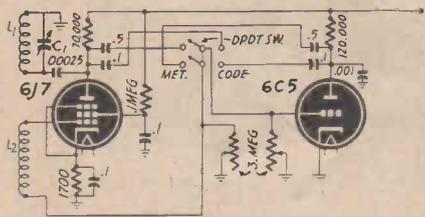
The coil L^1 , L^2 , is an ordinary broadcast antenna coil; the low-impedance aerial winding is L^2 , the grid-tickler winding. If this type of coil is unobtainable, you can wind your own, on a coil form 1½-ins. in diameter. Wind 90 to 110 turns of No. 28 wire on this. The grid-tickler is composed of fifteen to twenty turns of No. 30 or 32 wire. This should function satisfactorily with the two trimmer condensers in parallel, which serve as the tuning condenser, C^1 , for the R.F. oscillator. No antenna is necessary, as there is sufficient radiation from this coil.

The multivibrator frequency range
(Over to next page)

is much greater than can be obtained with a metronome. With the values shown in the schematic (Fig. 2) it is possible to obtain a beat as slow as twenty per minute. By switching in the .01 condensers, the complete audio spectrum can be covered.

When the .01 condensers are thrown in the circuit, you have a code practice oscillator. A key can be inserted between the cathode and ground, and any desired tone can be obtained by carrying the .5-megohm potentiometer.

Any suitable type valves can be used in place of the 6J7 and 6C5. A



● The metronome is adjustable for wide frequency variations. The power supply can be from a standard 220 volt pack with 16.3 volts for heaters.

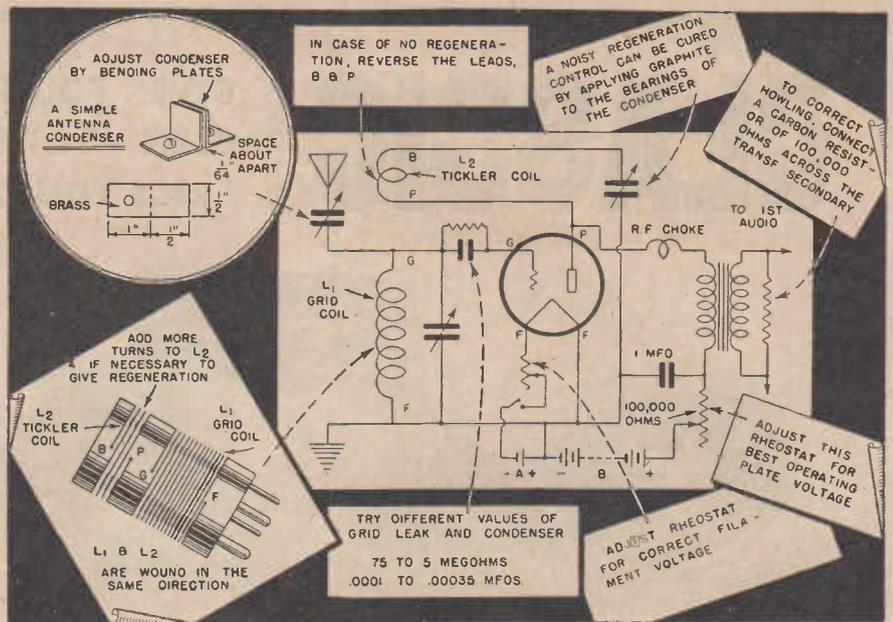
6A7 would be suitable, as you can use the plate and the No. 4 grid as the R.F. oscillator and the No. 1 grid for the multivibrator control. A type 76 works very nicely in conjunction with a 6A7.

Operation of the metronome is simple. Just turn it on, tune in on your radio like a phono oscillator, adjust it to the desired beat, and your radio will click out the rhythm while you proceed with your musical practice. One precaution: Be sure that you are not radiating such a strong signal that you are creating interference. There must be absolutely no interference with other radio reception. Should a neighbor—say 30 feet away—hear your metronome or code oscillator while listening to a local station, your machine will need completely shielding in a metal box.

LOCATING TROUBLES IN SIMPLE RECEIVERS

THIS article points out some of the more common mistakes made by radio beginners in building short wave sets or converters. Many are the builders who thought they had followed diagrams exactly, yet finished with a set which gave very disappointing results.

First of all, if you are building a short wave receiver, a good aerial is necessary. A small antenna condenser, variable over a range of 5 to 35 mmfd., will materially increase the selectivity of the set. The small capacity is needed for the short waves,



● Common troubles of a regenerative short wave receiver circuit are labelled above, with their cures. Bookplate antenna condenser, construction of which is shown, is adjusted once if only one coil is used in set, then left fixed, since it merely tunes antenna to set. This condenser should be readjusted each time plug-in coils are changed, to get maximum volume and distance. Importance of proper coil connections cannot be stressed too much. Windings should be same direction.

and the larger capacity, with the plates close together, for the broadcast band.

If you are building an adaptor—this being simply a detector stage which feeds into the audio stages of an existing radio set—do not expect good results if the set itself is a poor performer.

It will be impossible to get any regeneration if the tuning coils are wound or connected incorrectly. Be doubly sure that in winding your coils you make both tickler (reaction) and grid coils turn in like directions.

If the set will not regenerate, reverse the connections to the plate winding of the plug-in coil. If this does not help, increase the number of turns on the plate (tickler) winding until the set does regenerate.

If just the right plate voltage is used in a regenerative detector, the set will be far more sensitive and easier to operate. The plate voltage may be varied by connecting a 100,000 ohm rheostat in the plate lead to the detector valve and placing a .1 mfd. condenser from the rheostat to ground as shown in the above circuit. A filament rheostat will also help to control regeneration, if the detector tube is of the filament type.

A carbon resistance of about 100,000 ohms, connected across the secondary of the first audio frequency transformer, will correct annoying howls due to feedback.

If the set works poorly, try different values for the grid resistances and capacities, ranging from .75 to 5

megohms and from .001 to .00035 mfd.

If 2-volt valves are used, never go over this voltage on the filament. No rheostat will be needed, if ½ volt valves are used from a 1½ volt A battery as the slight drop in voltage will take place through the wiring.

PANEL LABELS

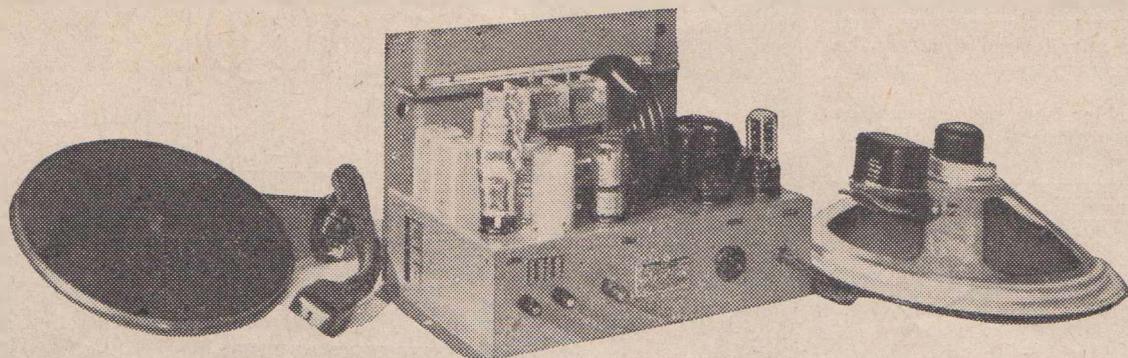
Here is a tip for making name-plates for use under meters, switches, controls, etc. Type the desired information (Tuning, Gain, On-Off, etc.) on a piece of paper of the desired colour and then cut the paper to size. The labels are then stuck on to a piece of Durex (Scotch) transparent sticky-tape with the markings facing the adhesive side. Trim the tape to leave about 1/16-in. border around the label and press into the required position on the panel. Such labels are easily removed should the function of various dials or meters be changed.

“Querex”: Beware of the cheap D.P.D.T. knife switch when dealing with high-voltage R.F. Such switches for use in aerial feeders of transmitters should first have the composition bar removed and replaced with W.T. 22 or isolantite. It is futile to carefully insulate feeders in a spaced transmission line and to provide a leakage path in the aerial change-over switch.

CLASSIC

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★ SIX-VALVE DUAL-WAVE RADIOGRAM CHASSIS

★ IMPORTED COLLARO RADIOGRAM-UNIT (WITH AUTO-MATIC STOP)

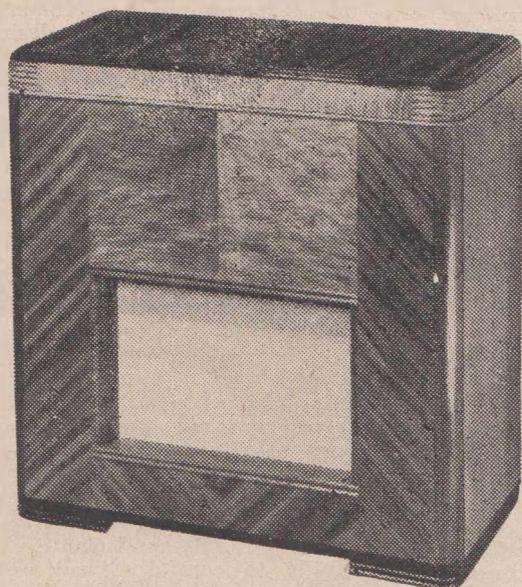
★ 12 INCH PERMAGNETIC SPEAKER

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COMPARE THESE FEATURES:—

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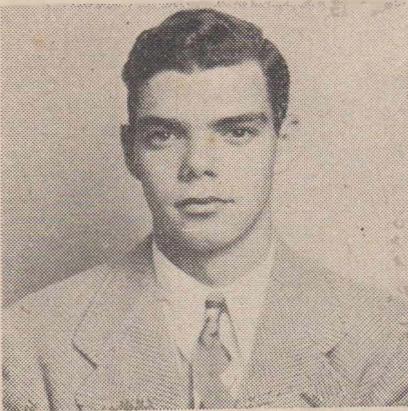


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● William E. Bryant, Radio Officer on S.S. De Pauw Victory, is also an American Radio amateur. His call-sign is W9BUL.

"The standard, or requirements, that must be fulfilled by any marine radio station are determined by International agreement between all the nations of the world. One such agreement was reached just a little over a year ago, and the modifications agreed upon at this meeting are now in force. The primary requirement of marine operation is to protect life and property at sea so that there will not be another 'Titanic'.

By
WILLIAM BRYANT
 Radio Officer
 S.S. 'DE PAUW VICTORY'

"Thus every ship station must maintain a continuous listening watch either by automatic means or by actual human operators for all the time that the ship may be at sea. Secondly, the ship station must keep the navigators of the ship informed as to serious weather and navigation conditions. The International Law is so constructed that it covers the above mentioned things and the equipment that is necessary to maintain this type of operation.

"Since the main consideration in marine communication is the so-called 'necessary communications,' it will be best to investigate these first. First and foremost a distress operator (whether automatic or human) must be on duty at all times. Usually this is done by means of one man standing eight hours on watch a day, but on passenger ships, more operators are needed, and then the setting of an automatic receiver is employed to notify the operator of an 'SOS' if one occurs while he is not on watch. Five hundred kilocycles has been established as the distress frequency, and all operators listen to this frequency most of the time. (8280 kilocycles is also a distress

WANT TO BE A BRASSPOUNDER?

An outline, for the benefit of our younger readers who may be thinking of a sea career in radio, written especially for "Australian RADIO and TELEVISION News" by a radio officer of the United States Merchant Service.

MARINE RADIO OPERATION



● This was a marine radio installation of the 1920's. The sea-going operator of the 1950 era has much more comprehensive equipment under his control, especially on the larger vessels.

frequency, but it is only watched by shoreside stations). When the operators are not listening to the distress frequency they are copying weather, navigation or time information.

"The importance of weather, navigation and time information cannot be over-emphasised. By means of weather broadcasts a ship is able to avoid very bad weather conditions most of the time and thus avoid possible loss of life and property. Navigation broadcasts contain information about changes in coastal lighthouses, buoys, and the like, plus warnings or objects adrift on the oceans, or warnings of current war practice sessions. Without this information a ship might be accidentally shelled by some practising war-

craft, or might run aground by expecting to see a certain lighthouse that is out of operation. Time signals enable a ship to correct clocks to the exact correct time. If the correct time is not available, the correct position of the ship could not be obtained from any star or sun sight. Also, incorrect timing might mean that a ship station would miss the broadcast of vital marine information which could cost the life of the crew and vessel. Weather, navigation and time broadcasts are broadcast by the Governments of the various areas that the ship may be in. The times and frequencies of these broadcasts plus the areas of coverage and the information to be

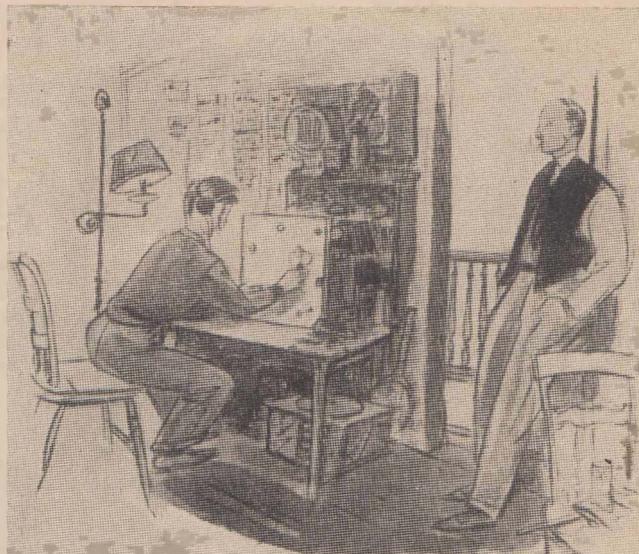
(Continued on page 24)

included are published before the time of the broadcasts. It is the duty of the ship stations to tune in at the correct times and places to copy these broadcasts.

“THE second duty of a marine radio station is to maintain company and personal communication with the outside world. This message communication is termed by the field ‘traffic communication.’ Generally the same procedure is followed in this communication as is followed in the ‘necessary communications.’ All the traffic coastal radio stations of the world send out lists of ships for which they have messages. At certain times and frequencies, the ships listen to, or copy these lists; then if their listing is in this coastal broadcast, the ship calls the coastal radio station to get the message. As soon as the coastal station is sure that the ship station is able to understand him reasonably well, he sends the message. Upon correct reception, the ship station notifies the coastal radio station that the message has been correctly received. Without this checkback system the message remains on the coastal station’s listing as not having been sent.

“A similar system is followed for ship to shore messages. In this case the coastal radio stations are continuously listening to established frequencies. The ship station has only to call the coastal radio station wanted on this frequency, and the coastal station will answer that he is receiving him, or he will tell the ship what the receiving conditions are at that time. As soon as this is affirmed, the ship radio station sends the message, whereupon the coastal station will answer as to whether he has the message correctly or not. In both the ‘ship to shore’ and the ‘shore to ship’ types of communication thus covered, it is assumed that the ships are at great distances from the coastal stations, but another, easier system is employed when the ship is quite close to the coastal station (say, a distance of 500 miles). In this distance range all ships and coastal stations are listening to the distress frequency. Since everyone is listening to this frequency, all calls indicating traffic communication are given on the distress frequency. As soon as such a call is made, the station that the message is intended for answers, and then both stations change frequencies for further communication and message traffic handling. By this method no unnecessary interference is caused to any possible distress communication. This type of communication, over a short range, is done over the ‘intermediate radio frequencies and is called ‘intermediate communication’; whereas the aforementioned communication is known as ‘high frequency communi-

● “He says why don't we line up a coupla chicks next time his ship is in.”



cation’, because it is done over the high radio frequencies.

“THERE are other factors that enter into the scope of marine radio operation, but these are not directly in the communication field. Probably the most important related factor is the operation of the common shipboard radio direction finder. This device makes possible the plotting of the position of the ship, when it is near a coastline, by means of radio direction bearings. Almost every country maintains radio beacon stations which continuously send out radio signals. The radio direction finder is so constructed that it will only correctly receive a radio signal when the antenna of the receiver is directed toward the transmitting radio beacon station. By turning the direction finder in the direction of the coastal radio beacon station, and then recording the direction from the ship to the station, and applying simple trigonometry, the exact position of the ship may be determined.

Another factor dealing with marine radio, but yet not directly connected with communication, is the use of radiar on ocean going ships. The operation of this device is too intricate to be covered here, but it will be sufficient to say that this device makes it possible for ships to see through any kind of weather. By the use of this device, a ship can easily navigate through very restricted places that normally would mean a wait until the weather clears. There is another device that is just starting to find very valuable use in marine radio operation. This is called ‘Loran’. It is very similar to radar in principle and is very similar to the direction finder in operation, as it automatically makes use of the triangular principle. The ‘Loran’ equipment receives signals

from two or more shore-side ‘Loran’ stations, and then the equipment automatically supplies information to the ship’s navigator, who easily converts this into the correct and exact position of the ship. It is easy to see that this information would be very valuable to a ship when traveling under bad weather conditions. Big advantage of this device is that it can be used on almost any ocean of the world, and it is not restricted to nearby coastal operation, as is the radio direction finder.

This is a brief outline of marine radio operation. We have seen why such operation is necessary, how it is controlled, how it operates, and how it has proven itself to be a necessity of modern day marine commerce. With the additions of radar and ‘Loran’ to the marine radio field it is obvious that the field is one that is expanding. Time is bringing many more additions and advancements to this field which has made marine radio vital to any foreign commerce, and at the same time increasingly important. Marine radio is one of the very basic essentials of future commerce.

When you subscribed to “Radio and Television News” or bought this copy from your newsagent, did you realise that you received a gift of at least the amount you paid?

No magazine of this kind can be produced and distributed for much less than twice its “circulation revenue.” Regrettable—but true. The additional value is a gift to you from our advertisers.

They’ve helped you. Isn’t it fair that you help them by showing preference for their products when suited to the job at hand?

Soldering Suggestion

Ever try soldering three wires together with wires that seem to be made of spring steel? The catch is, a fist full of soldering iron—solder, and one spare hand only, what time the three wires hide behind a by-pass condenser in the most awkward corner of the chassis. You've all been through it. Behold the cure. All you need are a few pieces of brass rod varying between 1/8 inch and 1/4 inch



WITH 2 TYPES OF CONNECTIONS BEFORE SOLDERING

and a small spool of 28 bare tinned copper wire. Wind a tight spring on the rod, slide it off and cut it into short lengths. Slip the copper spring on to one of the wires and insert the other two. Each wire will pull against the others and assembly will hold. Flow solder over the lot and the job is done.

A WORD FOR T.R.F.

Some years back the tuned R.F. receiver faded completely from the Australian market. The reason was its poor selectivity as compared with the then new superhet. Now, however, such "straight" sets can be built around iron dust cores with ample selectivity when correctly aligned. A band-pass tuner ahead will further improve selectivity. T.R.F. advantages are extra good quality and complete absence of background hiss. Also, the all-round sensitivity makes it well suited to tropical conditions, and servicing is not so troublesome as with the superhet. The oscillator in a superhet consumes plate and filament current without amplification. This is of little importance in an A.C. job, but not with the battery set. England and the Continent produce excellent T.R.F. sets, usually three-valve affairs. They have emerged in these times with adequate selectivity. Our manufacturers would do well to consider the T.R.F. receiver in modern dress.

—Tuner.

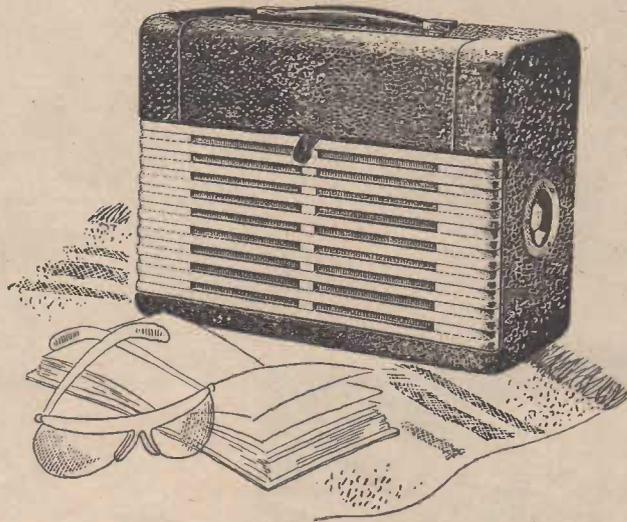
(The tuned R.F. receiver is not by any means extinct. We came across a modern version in midget mantel form recently in the Reliance Radio Co's Sydney Showroom.—Editor)

* * *

Extract from a novel:—

"The big plane was ready for the take-off with the three engines ticking over smoothly. Everything was complete and THERE WAS VERY LITTLE OSCILLATION IN THE RADIO."

That was something to be grateful for anyway!



A portable radio with punch and personality

This new A.W.A. Radiola portable is the finest receiver of its type available. It provides long distance reception, perfect tone, very economical operation and the high standard of workmanship and reliability always associated with A.W.A. products. The easy carrying case is available in a range of attractive colours. Any Authorised Radiola Distributor will be pleased to give you a demonstration. Ask to see the Radiola portable Model 452P or 453P (dual wave).

There is an A. W. A. Radiola for every purse and purpose—Mantels, Consoles, Radiograms, Portables and Car Radios!



RADIOLA

THE WORLD'S FINEST BROADCAST RECEIVER

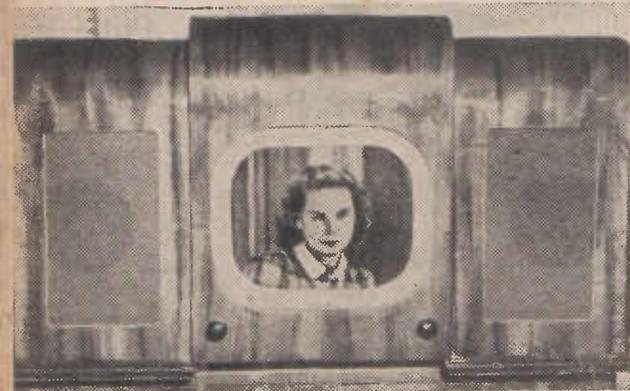
Radio and Television



● LEFT — This is an untouch photograph taken direct from the screen of a Marconi-R.C.A. television receiver during a press demonstration at A.W.A. laboratory, Ashfield, N.S.W. Definition is 625 lines in conformity with the decided Australian standard.



● Maj Britt, Swedish skating star, in the London television interview studio before going on to the ice to give a skating display.



● Showing the 625 line receiver used in television demonstrations by Amalgamated Wireless. The picture on the screen is a true reproduction of the televised subject. The remarkable clarity is evident.



● The new process of projecting television images on to a large flat-surfaced screen. The system has been perfected by the Mullard Wireless Service Company, Shaftesbury Avenue, London, England. The ample size and clarity of the picture is evident from this striking photograph.

NEWS VIEWS

● **BELOW**—A B.B.C. "shot" of Marie Burke and her daughter Patricia Burke taking part as guest artists in a programme, "To Town With Terry."



● **ABOVE**—Salim Halali, Arab entertainer, before the B.B.C. television cameras at Alexandra Palace, London. He is a Tunisian Arab who runs his own cabaret and was brought to Britain specially to appear in a programme "Maglo Carpet."

● **BELOW**—Remember Cicely Courtneidge in "Under the Counter" in Australian theatres recently? Here she is with husband Jack Hulbert in the version adapted by him for television in London.



SHORT WAVES

EDDIE STARTZ

and

The "Happy Station"

Probably, among the world's radio voices, Eddie Startz, famous announcer of the pioneer short-wave broadcaster, PCJ, Holland, has the greatest following. Among the reasons for his popularity we find that ever since he commenced broadcasting in 1928, he has demonstrated a knack of "ad libbing" and injecting personal remarks into his programmes. We have had ample proof of this when Eddie has addressed personal remarks to the editor of "R & TVN" by knocking his knuckles on his desk top! A sort of "Knock Knock . . . who's there?" Many years ago we knew that he was talented to the extent of speaking seven languages; and no doubt by now he has added to those, for we know he has been moving around the world a bit.

REASONS FOR POPULARITY

Obviously when a foreign announcer can speak to listeners in widely diversified countries in their own language, and at the same time interlard his sentences with an atmosphere of good fellowship and mixture of features, his stocks are

● Here is PCJ's world famous announcer-compere, Eddie Startz, in characteristic pose at his microphone.



AERIALS ELIMINATED

The **CAPTAIN AERIAL UNIT** equals a 50ft. high aerial, gives tone, volume, sensitivity, more stations, freedom from lightning. Reduces static, fits inside your set. Does away with poles and guy wires. Broadcast or short-wave reception. Installed in a minute—nothing to get out of order.

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bound to rise. There is nothing stodgy about anything that Eddie Startz says, no matter what the subject. He has made himself fully acquainted with many of the national customs and daily habits of people everywhere, both in pre-1939 and post-war days, and during the German occupation of Holland, of course, Eddie had plenty of opportunity to come into close contact with Nazi habits! As he lived for a number

of years in U.S.A., he needs no training in the ways of Uncle Sam. Realising that the personality of the people doing the talking from a power short-wave broadcaster could make or mar the programmes, he set out to cultivate the charm which is so characteristic of all his broadcasts. There is no session goes by during which he doesn't mention the names of people in distant places . . . not so long ago I heard him

calling by name the R.A.N. radio operators on Macquarie and Heard Islands in the Antarctic . . . just a little thing to do, but another link with the outside world for the hearers. If he receives a letter from a friend or listener, he invariably reads it out over the air. He is never at a loss for original ideas during broadcasts; many of them happening on the spur of the moment.

ABOUT PCJ

For long associated with the name of the vast Philips Radio organisation at Eindhoven, Holland, the transmitting station, located at Huizen, is now administered and operated by the Netherlands Government. In the days when the Philips concern commenced short-wave broadcasting in earnest, around 1928, the original station had the call-sign PCJJ, and this was later changed to PHOHI. There was, as early as 1922, a station operating from the Hague under the call-sign PCGG, but this was not a short-wave station, the frequency being around 1800 Kc/s (200 metres). The PCJ of to-day is easily heard in Eastern Australia with special programmes each week, mainly in the 9.5, 11.5 and 15 Mc/s channels, and it is understood that the famous rotary beam aerial is still used. This array, which was the subject of the cover illustration for our June, 1949, issue, is unique in concept and action. A massive motor driven turntable takes round the huge towers holding the radiating system. The Germans did some damage to it during the war, but the Dutch radio engineers lost no time in re-designing it.

Although tape recorders of the magnetic type may be applied now, the Philips-Miller method of sound recording has been used by PCJ for many years. There is nothing new about this method; at the time of its development many years before World War II, it was considered to be far in advance of the predecessors to the wire and steel tape recorder methods. The Philips-Miller method uses a thin tape coated with black emulsion. A wedge-shaped sapphire stylus engraves an impression, varied by the sound impulses, cutting the background away cleanly. To play-back, a photo-electric cell and light source on the tape is used. PCJ programmes are recorded under the supervision of Mr. Startz and then played to the parts of the world for which they are intended, as many as seven times.

WHAT HAPPENED DURING THE WAR

Eddie tells us of a few incidents during the occupation. It was on the night of May 10, 1940, that the chief engineer broke the news that Germany had invaded Holland. For a few days and nights PCJ gave de-

tails of the happenings. Then there was a blast of high explosive, and PCJ was demolished, rather than let the Nazis walk in and use it. After 12 years of goodwill programmes, "The Happy Station" was silent. The Gestapo moved in and rebuilt the station by forced labor, in order to hurl propaganda overseas, and around this time Eddie Startz conveniently "disappeared." Just before the Allied invasion a storm put the rotary beam mechanism out of action, and by a bit of shrewd sabotage the staff fixed the gear so that for the rest of the war the Nazi propaganda was being directed at the Eskimos and the Penguins at the Poles. When the Nazis finally left, they looted everything of value, including a vast library of valuable recordings, and the station was then destroyed again. By 1945 PCJ was back on the air, functioning under the control of Mr. Startz, and may be heard at the following frequencies and times:—

Station PCJ, Huizen, Holland

Channels used:

6026 kcs. (49.79 metres).

11730 kcs. (25.58 metres).

9590 kcs. (31.28 metres).

15220 kcs. (19.71 metres).

17770 kcs. (16.88 metres).

"Happy Station" programmes, in English, are broadcast at the following times:—

Sundays and Wednesdays:

1530-1700 GMT: 15220, 17770

and 6026 kcs.

2100-2230 GMT: 11730, 9590

and 6026 kcs.

0230-0400 G.M.T.: 11730, 9590

and 6026 kcs.

Tuesdays:

0800-0930 GMT: 17770, 9590

and 6026 kcs.

Postal address: Radio Station PCJ, P.O. Box 150, Hilversum, Holland.

SWL

"Jake": Although one hears political speeches a-plenty from overseas stations in many countries, there seems to be little of the sabre-rattling of just over a decade ago. I well remember speeches by Hitler over Zeesen, with the Führer as modest as a jaguar, addressing the Reichstag with a circuit-breaking, fuse-blowing technique. They were quite some gatherings—a case of "Heil," "Heil," the gang's all here!

Short-wave dial twisting now produces much calmer and saner entertainment.

7354 RADIO STATIONS

The Postmaster-General (Senator Cameron) announces that Australian authorised civilian radio stations total 7354, of which 2754 are amateur and 4600 commercial.

Two hundred stations have been approved for business undertakings, 2400 for police, ambulance, electricity undertakings and similar organisations, and 650 in outback areas.

Train now for Television!

A complete correspondence course in BASIC TELEVISION is now available in Australia. This course has been prepared in England by E.M.I. Institutes Ltd. It is written by the engineers and scientists who *invented, developed and supplied* the E.M.I. Electronic high definition Television Transmission System to the British Broadcasting Corporation.

A thorough knowledge of Radio is essential for intending students of television. Courses in Preparatory Mathematics & Physics, and in Basic Radio are available for those not already qualified.

Write now for prospectus and full details . . .

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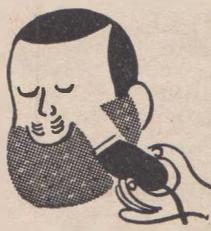
USE *Your head*



SAVE *Your face*



BUK



Your Beard

Start shaving the civilised way—the BUK way—no water—no blades—no soap—no mess. BUK Electric Dry Shaver gives the fastest, smoothest shave of all. BUK'S 60 self-sharpening cutting edges mow down the toughest beard.

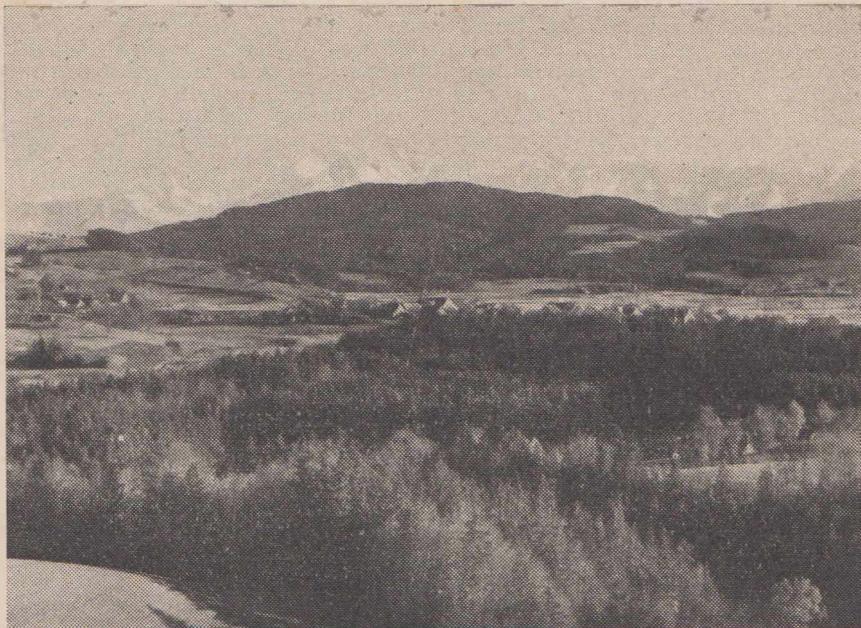
To
Breville Radio Pty. Ltd.

67 MISSENDEN ROAD, CAMPERDOWN

Please send me without obligation details of the BUK Electric Dry Shaver.

Name.....

Address.....



● Schwarzenburg, near Berne, the site of the transmitters of the Swiss Shortwave Service. In the background are the Alps.

SWITZERLAND CALLS THE WORLD IN SEVEN LANGUAGES

FROM its studios in Neuengasse 28, Berne, the capital of Switzerland, the Swiss Shortwave Service directs twelve separate transmissions daily on short waves, not to speak of the European medium-wave service in French, German, Italian and Schwyzerdutsch.

The nine daily transmissions in English are beamed as follows: one to Great Britain and the Republic of Ireland; three to the North American Continent; one to Australia and New Zealand; one to the Western Coast of Australia and the Far East. Others are beamed separately to South-East Asia, India and Pakistan, the Middle East. The broadcasts in Spanish and Portuguese are transmitted to listeners in Spain and Portugal, and South America.

New features of the winter programme which began on October 1 include a series of programmes planned to show Europe's contribution to classical music through the centuries. The performances are by outstanding Swiss and European orchestras and performers. Music by Swiss composers and the Symphony hour are further items for music lovers, while the lengthy sessions devoted to Swiss folk music in general, and regional folk music is continued. On each of three nights every week the larger cultural groups of Switzerland are represented in hour-long programmes: the Alemanic Swiss, with their gay laendlers, their exciting yodels and other mountain

music; the French-speaking Swiss, with their music and songs taking a part of their influence from their neighbor, France, and the Italian-speaking Swiss, from the Ticino, whose music reflects the sunshine of the little country bordering Northern Italy.

SWISS daily life is shown in the friendly and easy-going sessions of the Swiss Curiosity Shop, presented every night: fifteen-minute programmes in words and music for your entertainment; Switzerland at Work and Play: programmes designed to show all aspects of Switzerland and the Swiss; The Shopkeepers: in which two of the staff of the Curiosity Shop present their gay adventures; Among Us Girls: a programme mainly for the womenfolk, but which seems to interest the menfolk as much; the bright and sparkling music of the Orchestrina Radiosa; We Recorded for You: a survey of what's worth knowing about Switzerland for the past week; You Asked for It: a programme by and for the listeners, whose questions about Switzerland are answered on the air; and the Music Box of Lucas, the charming presentation of byways in Swiss folk music and living. Home News from Switzerland, the reporting of the daily life of this small democracy in the centre of Europe, begins the programme every evening, and afterward follow surveys of Swiss Press comment: valuable indications of the state of mind of the people, for the large number of small Swiss newspapers faithfully show what the people are thinking; afterwards come Swiss Viewpoints, short talks by Switzerland's

foremost radio commentators on home and foreign affairs, cultural and sporting matters. An interlude of jolly music preludes the series Towards a Better World, the daily feature that represents the constructive background of the Swiss Shortwave Service. Again the speakers in these brief but informative talks are among the most outstanding in the Swiss radio world.

Once again, the subject matter of this session is not confined to Switzerland, but includes the whole world.

The advance programme schedule of the Swiss Shortwave Service is available free to readers by simply addressing a post-card to the Swiss Shortwave Service in Berne, Switzerland.



● Hedi Schaub, announcer in the English Language Service of the Swiss Short Wave System, who presents "Among Us Girls," and "The Shopkeepers."

The transmissions of the Swiss Shortwave Service are broadcast at the following times and on the following wavelengths:—

EUROPE—throughout the day:			
	HER 3	6.165 Kc.	48,66 m
	HER 4	9.535 Kc.	31,46 m
AFRICA—daily			
05.15 — 06.40 GMT	HER 5	11.865 Kc.	25,28 m
10.00 — 12.30 GMT	HER 8	21.520 Kc.	19,94 m
15.30 — 22.00 GMT	HEU 5	11.815 Kc.	25,39 m
AUSTRALIA, NEW ZEALAND AND FAR EAST			
07.15 — 09.45 GMT	HEI 5	11.715 Kc.	25,61 m
	HER 5	11.865 Kc.	25,28 m
	HER 6	15.305 Kc.	19,60 m
SOUTH-EAST ASIA			
12.45 — 14.30 GMT	HER 5	11.865 Kc.	25,28 m
	HER 6	15.305 Kc.	19,60 m
INDIA AND PAKISTAN			
14.45 — 16.30 GMT	HER 5	11.865 Kc.	25,28 m
	HER 7	17.784 Kc.	16,87 m
MIDDLE EAST			
16.45 — 18.30 GMT	HEU 3	9.665 Kc.	31,04 m
	HER 5	11.865 Kc.	25,28 m
UNITED KINGDOM AND REPUBLIC OF IRELAND			
18.45 — 20.30 GMT	HEU 3	9.665 Kc.	31,04 m
	HER 5	11.865 Kc.	25,28 m
SPAIN AND PORTUGAL, SOUTH AMERICA I			
20.45 — 22.15 GMT	HEU 3	9.665 Kc.	31,04 m
	HER 5	11.865 Kc.	25,28 m
NORTH AMERICA I			
22.30 — 23.15 GMT	HER 4	9.535 Kc.	31,46 m
	HEU 5	11.815 Kc.	25,39 m
	HEI 7	15.320 Kc.	19,58 m
SOUTH AMERICA II			
23.30 — 01.00 GMT	HER 4	9.535 Kc.	31,46 m
	HEU 5	11.815 Kc.	25,39 m
	HED 7	15.120 Kc.	19,84 m
NORTH AMERICA II			
01.30 — 04.00 GMT	HER 3	6.165 Kc.	48,66 m
	HER 4	9.535 Kc.	31,46 m
	HEU 5	11.815 Kc.	25,39 m

A WORLD FELLOWSHIP

Listening on short wavelengths, the radio historians would say, has been technically practical since the beginning of radio communication. But it is only during the past twenty years or so that listening to programmes by this particular means has permeated the home life of the ordinary man and his family.

Because of the value of these wavelengths to the international broadcaster, short-wave listening has become synonymous with long-distance listening, and, from the first, the excitement of conquering distance, of bringing into one's home evidence of places hitherto but names on the map, has appealed to the imaginative.

It was inevitable that, out of this human reaction to the wonder of wireless, should grow associations and clubs of listeners, and those who found their particular satisfaction through a short-wave receiver automatically brought into being a new kind of international alliance.

Such associations are valued by broadcasters as sources of responsible reaction to the qualities of their services, and, more, they have made

a very real contribution to friendship.

On October 1, the oldest association of listeners, the International Short Wave Club, celebrated its twentieth anniversary, and the B.B.C. included a special programme in commemoration of the event.

Though its headquarters are now in London, the club originated in the U.S.A.—at East Liverpool, Ohio. At various times it has taken part in a variety of officially sponsored listening experiments and tests; in the nineteen-thirties, for example, it was associated with the B.B.C. in the activities of the World Radio Research League, and, during the war, its aid was sought on several occasions by Government ministries.

To-day the I.S.W.C. has nearly 800 members, spread over no fewer than 140 countries. The commemoration in the G.O.S. of the anniversary was the climax of a series of similar programmes in honor of the club broadcast during the year by stations overseas. The programme showed how short-wave listening can have a place in the ordinary life of Everyman, using as an illustration the enterprise and example of enthusiasts

such as the members of the I.S.W.C.

It included contributions from a young girl listener, a West Indies barrister, a New Zealand pioneer, and the present honorary secretary of the club, Mr. Arthur E. Bear. There were also recorded excerpts from the commemorative programmes of other broadcasting bodies.

—From "London Calling."

LATE DELIVERY

We occasionally get complaints that "R & TV News" is not obtainable in some places until the month is well advanced. Our publication date is the first of each month, and supplies are sent to the distributors in good time. If you place a regular order it will help your newsagent. You cannot expect him to order many copies if readers do not place firm orders. Don't forget also, we are glad to accept direct subscription orders, 12/- per annum post free in Australia. That ensures early delivery by mail.



READER'S FLOODLIGHT

LETTERS to the Editor, on any aspect of radio or television, are always welcome. Where space permits, selections will be published. A pen name may be used but it is essential that the writer's correct name and address be supplied. The Editor holds the right to abbreviate letters where necessary. The publishers do not necessarily agree with the opinions expressed in letters.

C/o Post Office
Palgarup, W.A.

To the Editor,
Australian Radio & Television News

Dear Sir,

It may be of interest to yourself and other hams to know that KNBA and KNBI, Columbia Broadcasting Stations on 30 and 31 metre bands broadcast a session to the "Amateurs of the World" every Sunday night at 9 p.m., W.A. time. Have heard the last two programmes which have included a rebroadcast of part of a field-day conducted by the Bloomfield (New Jersey) Radio Club, a talk by the commissioner of the Federal Communications Commission on ham activities and regular predictions regarding DX possibilities on the various bands, with other interesting items. The session is conducted by Bill Leonard, W2SKE, and is organised in conjunction with the A.R.A.L. So it may be of some interest to the followers of amateur radio in Australia. A part of interest is the commencement in California of amateur activity in the television field, three W6's being away to a start already. Another item of interest was the 1000 mile contact on 144 m/c between two hams in Eastern U.S.A. recently.

I am a subscriber to your very fine publication and wish you all the success in the world. The approach to Australia of the television era makes the task of acquainting both the radio enthusiast and the tyro with the development in this field obviously important and I congratulate you on your efforts to bridge the gap for the Australian public and radio world.

Yours truly,
Douglas L. Proctor.

36 Yaldwin Street,
Kyneton, Victoria.
12/9/49

The Editor,
Radio and Television,
Box 5177, G.P.O., Sydney.

Dear Sir,

Your picture on page 31 of the current issue of "Radio and Television" certainly revives "old" incidents in radio. The photograph was taken at Manly, N.S.W., on 19th March, 1932, and represents the "Roving Mike" and the two members of the crew ready to start with their interesting and successful experiment. Messrs. Knock (VK2NO) and Mr. F. E. Buckell of the Osram Valve Department, British Gen. Electric Co. Ltd., are the principals concerned and gave the "Roving Mike" a try-out prior to being used at the opening of "Our Bridge" at which they provided the link between the ceremony and station 2UW.

Sincerely yours,

M. Ireson, VK3AIR (Prev. VK3ZY).

Sydney, Australia,
SS De Pauw Victory,
October 7, 1949.

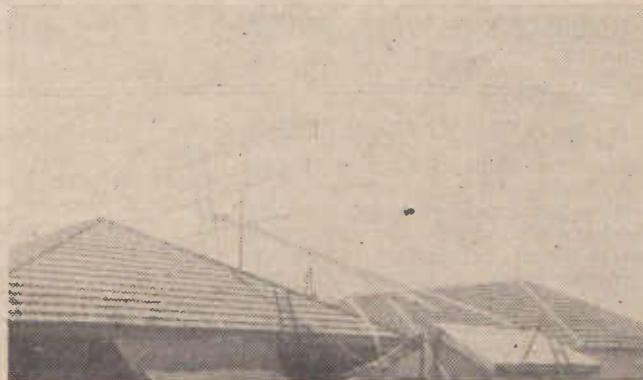
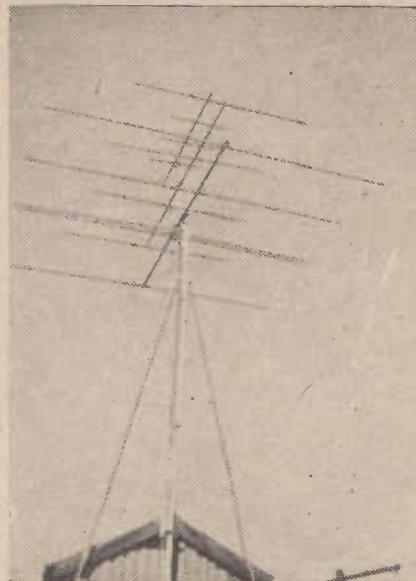
The Editor,
"Australian R & TV News".

Dear Don,

I would like to thank you and all the other radio amateurs I met whilst here in Australia for the wonderful hospitality you have shown me. It was certainly a thrill being able to see the conditions that amateurs of this country operate under in comparison with the United States. I can assure you that my opinion of your operation is very favourable, and you can be justly proud of your achievements. The welcome extended to me makes me feel very glad that I too belong to this great family of radio amateurs. I believe that the various world radio organisations are right in their contention that better international co-operation can be had through amateur radio. We would all profit considerably by support of such programmes. Thanks again fellas, and I will be looking forward to working you when I get back home.

73's
William E. Bryant/W9BUL,
Radio Officer,
SS De Pauw Victory/KPZN.

● One of our enthusiastic SWL readers is Mr. J. G. Challoner of Granville, N.S.W. He made up a multiple rotary beam for HF and VHF bands as in the upper photograph. The lower shows a sad finale for the array, when one of Sydney's devastating gales swept through.



Old-timer Bill Sievers, VK3CB, 2 Darling Street, South Yarra, Victoria, writes:—"If I didn't know you I would think that pencil drawing in the current issue (No. 4, Vol. 1) does not do you justice. Congratulations on the magazine. . . . I find the amateur news very interesting. . . . reminds me of the time when you were radio editor of 'The Bulletin' . . . nice to see Notes from VK3 although not enough of them. . . ."

(That caricature was done in 1938, at which time we perhaps tipped the scales a bit more than ordinarily. . . . but the intervening war years and arduous service have made quite a difference. The question of amateur Notes and News is up to the fraternity as a whole. . . . if they don't send 'em in we can't print 'em. . . . the amateur pages of "R & TV News" are entirely at the service of readers in that respect. Thanks for the nice remarks Bill.—Ed.)

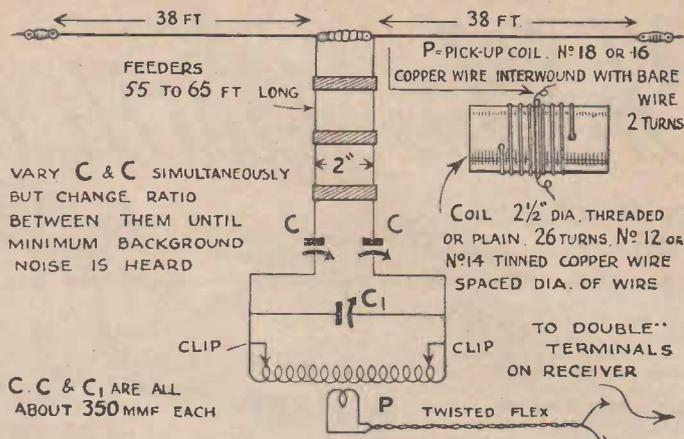
"J.B.": Made an important discovery by accident recently, and thought I had solved the outback A-battery problem. While overhauling a battery super. near Cairns (N.Q.) I happened to flick my test prods between the chassis, which was earthed, and an odd-wire dangling inside the cabinet. A reading of five volts was obtained. Inspection showed that the chassis earth was connected to a 3 inch galvanised-iron drainpipe, and the spare wire, I was informed, to a large sheet of copper. Hence the potential between the two "earths." The electrolyte was the caustic-soda which drained through the pipe from the washup basin in the kitchen, and was discharged around the copper sheet.

A Noise-free Receiving Aerial

One of the problems in short-wave listening is how to cure local interferences and how to obtain maximum signal strength with minimum noise level. A very satisfactory low-noise aerial system is described here. The theoretical circuit is shown here, from which it can be seen that the arrangement is quite simple and does not take up much room. The aerial itself consists of two 38 ft. sections with 55-65 ft. feeder lines spaced two inches.

Actually, the two top lengths can to advantage be cut to resonate in the centre of the most important band for this will give a slight increase in signal strength.

The series condensers C and C have to be adjusted simultaneously until minimum noise level is obtained; the positions for the tapping points should also be obtained experimentally for maximum signal strength. The aerial coil can be wound on a standard 2½ inch coil form and wired as explained in the circuit. Twisted lamp flex can be used to couple the aerial coil to the receiver, but any unnecessary loss can be overcome by utilising some of the Telcon special low-loss 72-ohm cable.



The listening amateur troubled with local interference should try this special noise-suppression aerial for which excellent results are claimed.

“J.B.”: Whilst idly tuning my “magic eye” indicated receiver from station to station, the action of that tube brought home a realisation. The engineers who developed it years ago in U.S.A. missed the chance of a lifetime. They could have progressed to the “elfin eye,” the radio advertiser de-bunker, which, when the serious-sounding announcer shovels out the garbage, winks slyly at the audience.

From “Colliers” (U.S.A.):—

“Don’t laugh at a wife who repairs a television receiver with a kitchen fork. The average husband wouldn’t even be able to find the fork.”

In 1913 radio was hailed as a great boon in Central Africa. It seems that the telegraph people there had experienced no end of headaches when native belles tore down their wires and fashioned the copper into pretty bracelets and other “fal-de-lals.”

“The YORK”

4 VALVE BROADCAST MANTEL KIT SET

“The York” features:

Attractive Bakelite Cabinet (as illustrated); size 10½ in. x 6½ in. x 6½ in. Also available in cream.

Rola 5 inch speaker,
R.C.S. Intermediates.

Valves, 6J8G, 6G8G, 6V6GT,
6X5GT.

Full Vision Dial.

A proved circuit with full instructions, easy to follow.



Complete to the last nut and bolt, including valves.

Price
£15/19/-
retail

Attractive Discounts to the Trade.

Build your own Radio Set and save pounds.



BLOCH & GERBER LTD.

WITH WHICH IS ASSOCIATED

THE WELDON ELECTRIC SUPPLY CO.

46-48 YORK STREET, SYDNEY

TELEGRAMS: “LESAB” SYDNEY

BX4221 (10 LINES)

Also supplied as a Foundation Kit Set — a boon to the small manufacturer. Prices on application.

In Tune with the Trade

SYDNEY WHOLESALE HOUSE

Bloch & Gerber Have Wide Range

About the oldest established wholesale radio concern in Sydney, the company of Bloch & Gerber Ltd. is a centre where all city and country trade requirements can be fulfilled with a minimum delay. Country radio dealers who visited Sydney's 1949 R.A.S. will remember the B & G stand in the Commemoration Pavillion, and the ample range of goods on attractive display. "R & TV News" had a look over the lines now available at 46-48 York Street, Sydney and found no lack of the following:—

Radio: A wide selection of the latest types of Mantel and Console Models, including Weldon (a Bloch and Gerber product), Airzone, H.M.V., Mullard, Radiola, Ferris Car Radio, and other leading makes.

Radio Accessories and Test Equipment: All types of components, including Mullard and Radltron Valves, Test Equipment, etc., available from stock.

Electrical Household Requirements: Bloch and Gerber are State Distributors for the famous Snow Queen Refrigerators and Washing Machines; Snow Queen, Airzone, and York De Luxe Vacuum Cleaners.

Full ranges of **Electrical Appliances** in leading brands—Air Circulators, Bed Warmers, Clocks, Fans, Floor Polishers, Food Mixers, Grills, Hot Plates, Immersion Heaters, Irons, Jugs, Kettles, Lamps (Bed/Desk/Wall), Radiators, Stoves and Stovettes, Table Cookers, Toasters, Urns, Wash Boilers and Water Heaters.

For the **Electrical Contractor.** Ample stocks of all types of accessories in Clipsall, H.P.M. and Ring Grip brands, Switchgear, Conduit, and Fittings.

It's worth a call at B & G, no matter what your requirements.

Congratulations to Chas. W. Perry who was recently appointed to managership of the radio and electrical department of A. J. Benjamin Pty. Ltd., Chatswood, N.S.W. "Bill" Perry served in the 2nd A.I.F. as Staff Sgt., Signals.

PERSONAL PARS

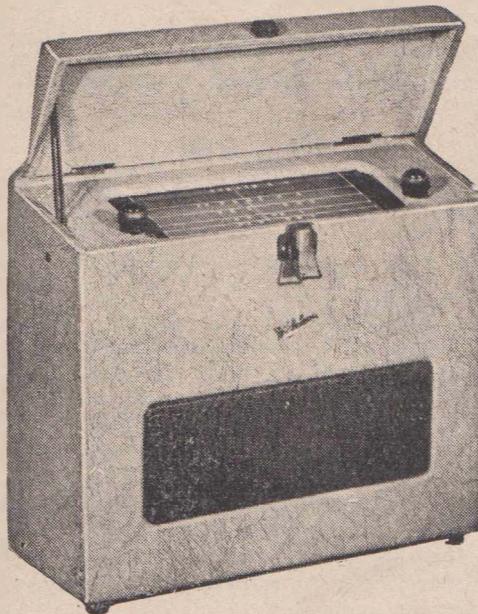
During a visit to Ducon Condenser Co. we were shown a bright idea for a Christmas card by Managing Director Cliff Gittoes. A drawing of a TV receiver has the end of the C.R. tube backed by a piece of highly buffed convex metal. One sees oneself apparently shimmering on the screen, and the result is effective and topical.

H. E., the Governor General of New Caledonia, Monsieur Pierre Canarie, accompanied by Madame Canarie, and Monsieur Monjouze, have inspected the Amalgamated Wireless (Australasia) Limited's Radio Electrical Works at Ashfield, as the guests of the Managing Director, Mr. L. A. Hooke.

NEW H.M.V. REPRESENTATIVE FOR N.S.W.

Mr. K. F. Kerr, Radio Sales Manager for The Gramophone Company Limited has announced the appointment of Mr. Bert Fryer as Northern N.S.W. representative. He will take over the territory covered by Stan Everett, who was obliged to resign owing to ill health.

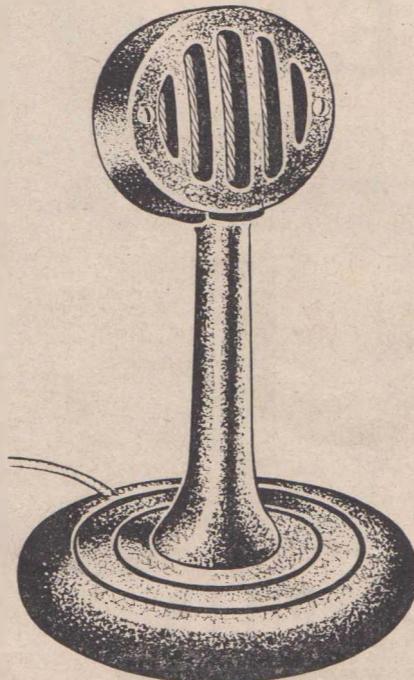
Mr. Fryer joins the Company with a wealth of knowledge of the radio industry, and he is well known throughout New South Wales. "H.M.V." feels certain that his genial personality and wide experience will be welcomed by Northern Retailers.



● This "Weldon" portable by Bloch & Gerber is a 5 valve B/C model with R.F. stage. The aerial is fitted inside the back of the case. Weight is 16lbs. and retail price £27/18/6, including batteries.

Something with an appeal in particular for the amateur phone man is the Amplion speech microphone type A depicted here. It is also a handy type for general public address; office and factory call-systems, and commercial mobile transmitters for business channels. This is a special form of crystal microphone with frequency response limited to the range between 200 and 3000 cycles per second. Advantage of such restriction is immediate for the amateur especially; the utility for long distance working being paramount. As shown the unit is supplied in cast aluminium case with 9 feet of shielded cord and at the attractive price of £6/17/6 it is an excellent proposition to grace the operating table. Available from AMPLION Australasia Pty. Ltd., 36 Parramatta Road, Camperdown, N.S.W., these type A microphones incorporate the well-known ACOS MIC. 14 insert, product of Cosmocord Ltd. of England.

SOME U.K. manufacturers seem to be lacking in ability to capitalise on an advertising scoop. In 1929 we purchased in Australia a well-known British make of 50 watt electric soldering iron. In 1944 that same unit is going strong—using the same element. It has been left switched on for 12 hours at a time, with almost constant use, but refuses to burn out. Recently, we photographed the iron—and sent a picture and story to the makers, praising the virtue of the British product; suggesting they could use it in advertising "copy." They were not interested. An American maker would not be so "slow on the uptake" as that, we feel sure.



A Fine Hotel FACING A PARK

The one thing you will immediately notice when you stay at the Wentworth is the peaceful atmosphere . . . the absence of noise and bustle. . . . The Wentworth faces a park . . . yet it is merely "round the corner" from the centre of the city. The rooms are all you would wish . . . the service and cuisine excellent.

THE WENTWORTH in Sydney

Phone BW 1361 (10 lines)
C. D. MacLurcan, Managing Director

JUDGING THE 'H.M.V.' LITTLE NIPPER COMPETITION



● Mr. Jim Best, Advertising Manager of The Gramophone Co. Ltd. looks on while Mr. T. C. Harvie, Official R.A.S. Dog Judge, Mr. Jim MacDougall, Columnist, and Mr. Lex Lippman, News Editor, choose 25 winners from the thousands of entries which poured in from all over Australia. 25 Little Nipper mantel model radios were awarded to owners of pups most like Nipper—the listening terrier in the H.M.V. trademark.

H.M.V. 32-VOLT ADAPTOR

Model—This adaptor has been designed to enable the following "H.M.V." 6-volt vibrator operated receivers to be operated from a 32-volt home lighting plant: Models C25A, 268, 328, 188, 327, 326, 329, 320, 321, 359.



Selling features—Output of 6 volts is maintained within equals 3 per cent with an input supply voltage between 24 and 40 volts. Current consumption of 2.3 amps. No modification of receiver circuitry required. May be plugged into any 32-volt outlet socket. R.F. interference suppression circuit incorporated in unit. No moving parts. Smaller than the accumulator it replaces, and may be conveniently housed in the cabinet of a console model.

Dimensions—Height, 5½ inches; Width, 9½ inches; Depth, 6¾ inches.

Retail Price—6 guineas.

Availability—Now.

GRAMOPHONE CO'S HOUSE ORGAN

From the Homebush, N.S.W., headquarters, we have received Vol. 1, No. 2, of the bright and well produced "The Voice," an art paper magazine of more than passing interest. Circulating among H.M.V. dealers and musical traders, the news value of the topical articles are right up to date. Sir Ernest Fisk speaks of the latest television developments and Sales Manager W. G. Simpson elucidates many points about the relationship of TV and Broadcasting. Other articles cover the evolution of the gramophone, show window displays by H.M.V. retailers, television training by E.M.I. correspondence courses, and staff news. Recording manager R. V. Southey writes a practical article on disc recording; altogether, "The Voice" has plenty of interesting reading.

* * *

Pye-Electronic Ltd. has been formed in Melbourne with a nominal capital of £100,000. Pye Ltd., of Cambridge, England and Electronic Industries Ltd. will be joint shareholders in the new company. The special research and engineering division of Electronic Industries Ltd. will be transferred to the new company immediately. Initially the company will manufacture all types of electronic and telephone communication equipment for Government departments and general industry. This will include special equipment developed in England by Pye Ltd., including blind landing equipment for the Civil Aviation Department, ship to shore wireless telegraph equipment, and wireless telephone equipment for use in the interior for the P.M.G. Department.

Among the directors of the new Company is Mr. A. G. Warner, chairman and managing director of Electronic Industries Ltd., of 126 Grant Street, South Melbourne. Registered office of the new company is at Park Street, Abbotsford.



● This model by H.M.V. is the type F33A Electrogram, imported from England. It is an ideal instrument for the recorded music lover.

H.M.V. CONSOLE

Model—C43B.
Selling Features—5 valve, A.C., D/W, Deluxe receiver.

Tuning Range — 540-1600 Kc/s. 16.5-51 metres.

Flywheel tuning control gives exceptionally smooth tuning.

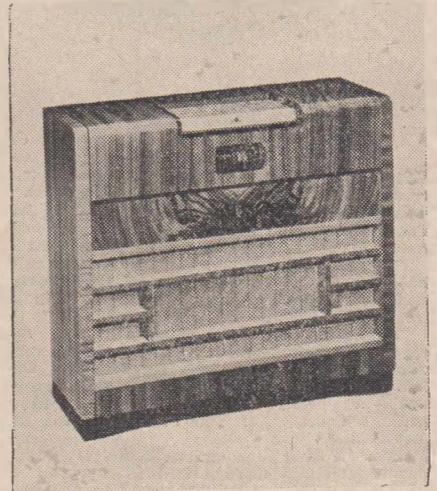
Large edge-lit dial with station names printed in selected type to facilitate reading.

Short-wave band calibrated in metres and megacycles.

On/Off switch combined with volume control. Pick-up or F.M. tuner operation controlled by wave-change switch.

Acoustic range selector provides independent control of bass and treble response.

Sound reproducing system incorporates new type "H.M.V." elliptical speaker with high efficiency permanent magnet.



Provision for extension speaker. Specially developed A.V.C. circuit minimises fading.

Inverse feedback applied over the entire audio system ensures high standard of tonal quality.

Stability of performance ensured by the use of permeability tuning and dustproof air trimmer condensers.

Woven coppered speaker grille gives increased acoustic efficiency.

All control knobs engraved and filled to indicate function.

Dimensions — Width, 32 inches; Depth, 12 inches; Height, 29½ inches.

Retail Price—£57/15/-.

Availability—Now.

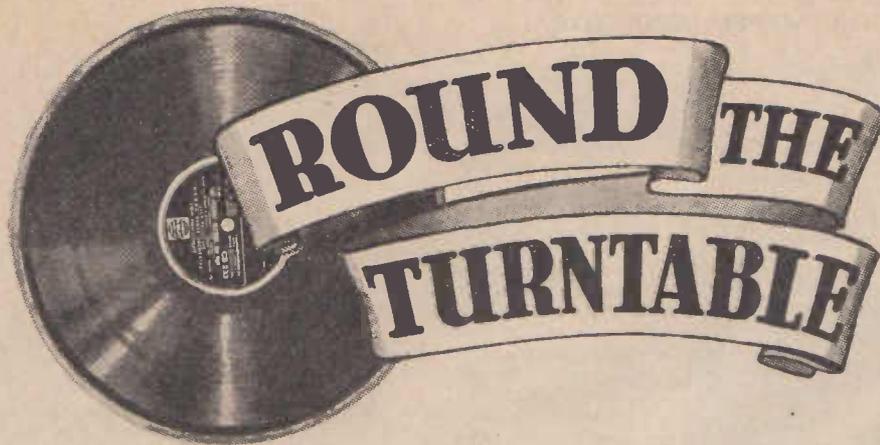
WATERPROOF SPARK PLUGS TO BE MANUFACTURED IN AUSTRALIA

During one of Sydney's wettest months the N.R.M.A. answered 2,181 breakdowns resulting from wet ignition alone, and the announcement that an Australian Company has commenced manufacture of the waterproofed K.L.G. spark plug should be welcomed by 2,181 motorists at least. Not all these ignition failures were due to plugs but, given a waterproof plug and good insulated high tension leads, the average car owner has only to keep those leads clean to prevent the majority of breakdowns of this nature.

The manufacturers, S. Smith & Sons (Australia) Pty. Ltd., state that the plug was originally designed to meet the rigorous conditions of England's T.T. racing and motor cycling mud scrambles. It was evolved from aircraft plugs that were especially shielded to combat interference with radio signals.

Most standard sizes are already available, and production will soon commence on other sizes. The plug is identified by the prefix "W" before the normal type number.

* * *



NEW RECORDS

FOR those Spike Jones fans who want to do their Christmas shopping early "His Master's Voice" issue this month disc numbered EA3849 wherein the "King of Corn" tells us that "All I Want For Christmas Is My Two Front Teeth." He keeps up the seasonal slant on the reverse with "Happy New Year."

That evergreen favourite, "My Melaucholy Baby," comes in for some smooth Como treatment on EA3850. Perry smooths it up with a current best-seller, "Ah You're Adorable."

"Riders in the Sky" makes a further reappearance this month. Yes, it's Bing's version on Decca Y6172, he's supported by the Ken Darby Singers. On the other side Crosby waxes a number from "A Yankee in King Arthur's Court," "If You Stub Your Toe on the Moon."

From the same film, on Y6173, Bing, William Bendix and Sir Cedric Hardwicke present a bracket of two unusual numbers, "Busy Doing Nothing" and "Twixt Myself and Me."

On D03302, Columbia offers two favourite vocalists, Dinah Shore and Buddy Clark, in "My One And Only Highland Fling," one of the top numbers from the film, "The Barkleys of Broadway." Buddy takes the reverse as a solo—"I Still Get A Thrill."

We find local boy Johnny Wade on the Columbia label D03305 this month in an attractive presentation of two Australian compositions, "Reluctantly" and "In the Islands." It is interesting to hear another Australian song, "Christmas Candles," recorded by such top line American artists as the Andrews Sisters and Guy Lombardo's Orchestra. This is a Decca record (Y6177), and the backing is a natural for the girls' talents—"I Didn't Know The Gun Was Loaded."

From "H.M.V." on EA3846 comes a pleasing coupling of overseas hits. One is the Tommy Dorsey version of "Someone Like You," and the other is Sammy Kaye and his Orchestra playing "Careless Hands."

Songbird Ella Fitzgerald makes a very welcome reappearance this month with a hit from the forthcoming film "Neptune's Daughter"—"Baby, It's cold Outside." The reverse is "Don't Cry, Cry-Baby." Ella's music makers are Louis Jordan and his Tympany Five. The label number is Y6176.

Two names in the list of imported English records leap to the eye—Schwarzkopf and Malcuzyński. Their recent concert appearances in Australia have delighted music-lovers.

On Columbia LX1196/7, the distinguished Viennese soprano presents Mozart's "Mutette: Exsultate Jubilate, K165." This thrilling anthem, sung in Latin, includes the well-known "Alleluja." Miss Schwarzkopf has the support of the Philharmonia Orchestra, conducted by Walter Susskind and the organist is the distinguished Australian, George Thalben-Ball.

Malcuzyński groups three Chopin works on the one disc, Columbia LX1203, and, of course, interprets them in masterly style. They are "Study in G Flat ("Black Keys") Op. 10, No.

5; "Study in C Minor ("Revolutionary"), Op. 10, No. 12; and "Study in E Major, Op. 10, No. 3."

Decca gives us an outstanding new recording of Grieg's ever-fresh "Lyric Suite, Op. 54." The Suite comprises "Shepherd's Boy," "Norwegian Rustic March," "Nocturne," and "March of the Dwarfs." It is played by the National Symphony Orchestra, under the baton of Sir Malcolm Sargent. The number is AK1412/3.

To Artur Rodzinski, conducting the Philharmonic Symphony Orchestra of New York, comes the distinction of making the first recording of Prokofiev's "Symphony No. 5 in B Flat Major, Op. 100." This brilliant performance on Columbia LX8630/4 by this leading American conductor has helped to establish it as one of the most significant symphonic works of our time.

During recent years the library of recorded Debussy music has increased enormously. The most recent addition appears this month on H.M.V. DB6706—Debussy impressionism at its best, exquisitely played and recorded—"Nuages" (No. 1 of "Nocturnes"). Honours are shared between conductor Victor De Sabata and the Symphony Orchestra of the Augusteo, Rome.

Due to visit Australia next year, top-ranking artist, Alfredo Campoli, waxes for "His Master's Voice" (C3144) two favourite violin solos which need no introduction—Mendelssohn's "On Wings of Song" and Schubert's "Ave Maria."

The clear musicianship of Boyd Neel's String Orchestra is heard to perfection in "Concerto in E Minor For Strings" by Avison, an English 18th century composer. This charming work was arranged by Peter Warlock, and it is certain to claim many admirers of graceful period music.

They should also enjoy pianist Harriet Cohen's offering of Elizabethan-style pieces on Columbia DX1552. The composer, Orlando Gibbons, became organist of Westminster Abbey in 1623, but he is best known for his writings for the harpsichord and the virginals. The titles in Miss Cohen's group are "Hymn Tune Prelude on Song 13;" "Ayre;" "Alman;" "Toy;" "Coranto;" and "Mr. Sanders His Delight."

The Vienna Philharmonic Orchestra, conducted by Herbert Von Karajan, plays some more unusual, but very beautiful music on Columbia LX1155. It is "Masonic Funeral Music," K477 by Mozart. This impressive ceremonial work will have special interest for Freemasons and Masonic institutions.

For opera lovers "H.M.V." presents three interesting releases. The first is DB6712/3 with soprano Gabriella Gatti and contralto Nancy Evans in a moving episode from Verdi's "Otello" given in complete form. The arias include "Era Liu Calmo?" "Willow Song," and "Ave Maria."

Kirsten Flagstad records one of the greatest scenes in Wagnerian opera—"Brunnhilde's Immolation—Twilight of the Gods." Her remarkable artistic achievement is accompanied

by the Philharmonia Orchestra under Wilhelm Furtwangler. The record numbers are DBS9323, DB9324/5.

The final operatic record (C3879) features Joan Hammond in two Verdi arias. They are "Forza Del Destino—Pace, Pace, Mio Dio," and "Ballo in Maschera—Morro, Ma Prima in Grazia."

NEW RECORDS FOR DECEMBER, 1949

THOSE Christmas shoppers who disdain the more prosaic gifts, such as the uninspired tie or handkerchiefs, and give records for Christmas will find many interesting titles in the December lists.

Each month sees the revival of an old-timer which bounces to the top of the hit parades in the face of modern numbers. "Ballin' The Jack" is such a one and Lou Preager and his Orchestra wax it for Columbia on D03306. Peter Yorke and his Orchestra back it with "Somewhere Beyond the Stars."

England's sensational singing star, Donald Peers, makes his Australian debut with "Twelfth Street Rag" and "It Happened in Adano." After years of marking time in show business, Peers' meteoric rise to stardom at the age of 41 is one of the most talked about musical events of the year. Hear him on H.M.V. EA3852.

Film star vocalist Doris Day in songs from her forthcoming film will draw her fans to the record stores this month. The titles are "My Dream Is Yours" (theme-title of the movie), and "I'll String Along With You," and it's on Columbia label D03309.

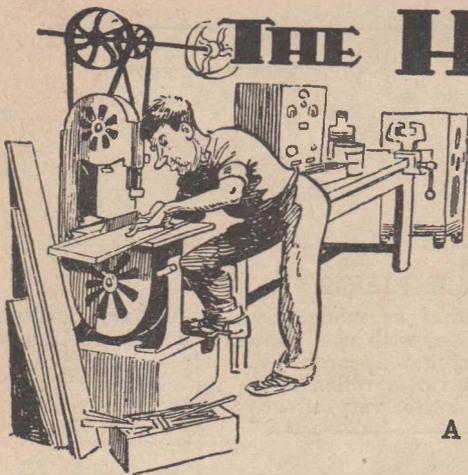
The irrepressible Danny Kaye is back again, this time with the famous orchestral fantasy, "The Little Fiddle—Parts 1 and 2." Decca is responsible and the catalogue number is Y6181.

From the same studio comes a first recording by Joy Nichols, the Australian artist who has swept to stardom in British variety, radio and television. Joy teams with Benny Lee on Y6179 in "On The Five-Forty-Five" and "A Strawberry Moon."

Columbia takes care of some current movie music on D03313. It brackets "Through a Long and Sleepless Night" (from "Come to the Stable") with "Lavender Blue." The delectable Dinah Shore gives a lively rendering of this hit song from Walt Disney's "So Dear To My Heart," and there seems little doubt that America's leading songstress will take this number to the top of the best seller list.

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THE HOME WORKSHOP

A Section For The Handicrafter

A USEFUL ACCESSORY FOR THE AMATEUR PHOTOGRAPHER

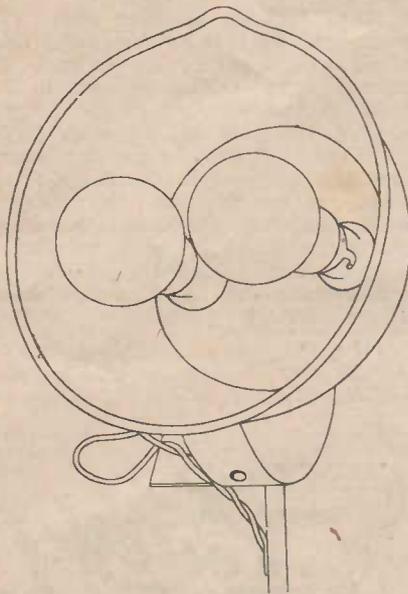


Fig. 1. The Assembled Unit.

Small photoflood lamps, which are so useful for indoor lighting for the amateur movie and still photographer, have a life of about two hours when burned at full voltage.

In two hours a photographer can make many hundreds of exposures, but it is not exposures that eat up the light, it is the time expended in focussing and arranging the subject for best lighting effects.

With the lamp unit shown, which can be built at a small cost, you can burn the photoflood bulbs at reduced brilliance for focussing, then switch them on to full strength for a few seconds while the exposure is made. In this way a set of bulbs will serve the average amateur for months, and the practice of reduced voltage burning is beneficial, as the filaments are warmed up in this way and do not have to stand such a severe shock as they do when switched on from cold. Consequently their life is extended considerably.

The unit employs two small photoflood lamps and therefore gives a maximum illumination equal to that from ordinary lamps which consume a total of about 1500 watts, but each lamp draws only about 275 watts, or a total of 550 from the unit.

During exposure the two lamps burn in parallel, but for focussing they burn in series. This reduces the light output but prolongs their life.

The reflector is made from a 4-pint aluminium measure. In addition to this, you will need two lamp-holders of the batten type and a double-pole double-throw switch.

Other items required consist of a number of round-head wood screws, a block of wood—10 to 15-ft. of 5-amp lamp flex with plug, and a stand. The last item can be a folding music-stand.

Mount the two lamp-holders in the holes cut in the bottom of the measure, placing them $3\frac{1}{2}$ -ins. apart between centres. Turn the reflector over and mount the block of wood, which has been cut and shaped, as shown. This block of wood is drilled with a number of holes at different angles to permit lighting the subjects from all positions. The block

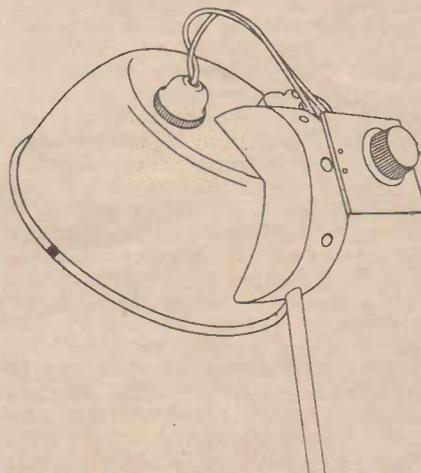


Fig. 2. Side View, Showing Switch.

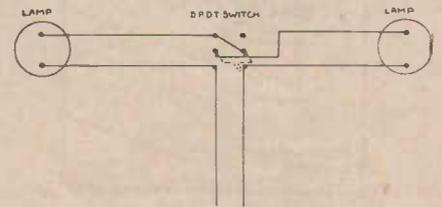


Fig. 3. Wiring Diagram for Photoflood Lamps

of wood is $1\frac{1}{4}$ -ins. thick and is cut from a circle 4-ins. in diameter. It is fastened between the lamp-holders by means of three or four wood screws passed through from inside the reflector.

The D.P.D.T. switch is mounted on a small plywood panel which is, in turn, fastened to the wood block. The switch is wired, as shown in the diagram, and it will be seen that when the centre and upper contacts are connected the lamps burn in series, having at this brilliancy a life of perhaps 1000 hours. When the centre and lower contacts are connected the lamps burn at full brilliancy.

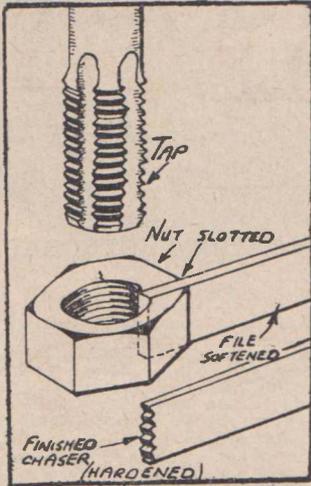
With the lamps burning at maximum brilliancy, exposures of objects from 2 to 3-ft. from the lighting unit can be made at $1/25$ second at a lens opening of F8, using extra fast panchromatic film. When using Verichrome, Selochrome, or similar roll film, or film packs, it is advisable to use the longest lens opening, and with a shutter speed not in excess of $1/25$ second.

Two of these units, built as outlined above, will supply sufficient light for taking rapid exposures of large objects or home groups, and will enable you to take home movies without an ultra-fast lens. Depending on the distance of lights to subject, cine exposures can be taken at from F5.6 to F8, adding much depth of focus and sharpness to the pictures.

(Turn to page 38)

MAKING A CHASER

If you have not a chaser of the correct thread it is an easy job to make one up quickly if you have a nut of the required thread. Soften and use flat file and grind smooth

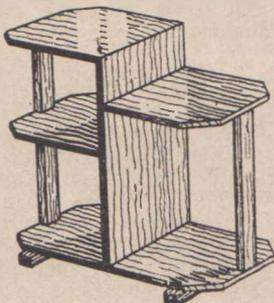


Making a Chaser.

at end, slot the nut to receive the file as shown. Now grip nut and file in vice and "tap" the nut, at the same time the tap will cut the thread on the chaser. Now harden the file grind. and back off to finish the chaser.

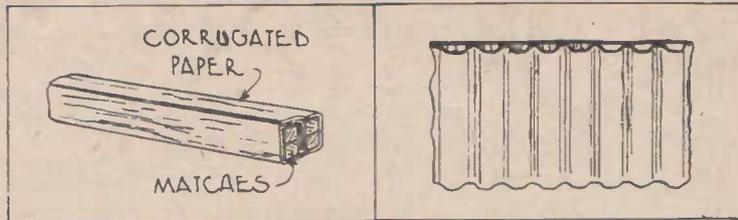
A MODERN BOOK TABLE

A simple but attractive design for a book or coffee table is illustrated on this page, and its construction is well within the ability of the amateur woodworker, for the joints are easy ones and the shapes of the various members are quite plain.



A Modern Book Table

The timber suggested is walnut, polished to a natural colour, or, alternatively, pine sprayed with coloured cellulose in order to give bright colour effects.



WALL PLUGS

Makeshift wall plugs can readily be made when proprietary products, such as Rawlplugs, are not available, with used matches, which are inserted in the pockets of a strip of corrugated cardboard. If two matches are inserted in each pocket and the strip is rolled up to the size required and cut with a safety razor blade or knife, very effective wall plugs result.

RADIOTIPS

"Ubeaut." Want a really midget microphone transformer for portable or similar work? Then don't discard that old pair of H.R. headphones with one bobbin burned out. Dismantle the other from the assembly and over the outside of the bobbin wind on about 150 turns of 38 DSC copper.

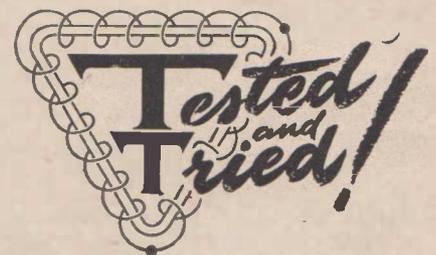
Result: A small transformer with about 2 ohms D.C. resistance for primary, and 1000 ohms for secondary. The efficiency probably is not too high, but it works.

"F.H.N.": Aluminium is specially favored by amateur constructors owing to the ease with which it can be worked and its screening efficiency. But although it can be bent, drilled and adapted to any design, by reason of its softness marks and scratches on the surface often spoil the appearance of the finished apparatus. The following method is useful in getting a frosted effect: all that is required is one pound of caustic soda and a gallon of water. An earthenware container is best for mixing the dip, as the solution is very corrosive. The water should be heated to about 120-deg. Fah. Add the soda to the water and stir with a stick till it is dissolved. The metal-work should first be thoroughly cleaned and then dipped in the solution for a few seconds, then removed and washed immediately in warm water. Rinsing with cold water after this will remove all traces of the dip. Dry off in warm air—over a gas-ring or before a fire. If heavy frosting is needed, add a pound of common salt to the solution before dipping the aluminium. Rubber gloves are an asset in the process, or a pair of long-nosed pliers can be used to hold the work while dipping. The solution must not be allowed to touch the skin. When disposing of the dip, dilute it thoroughly with water, and if the drainage system of the house is used to pour it away. flush through

with more water to remove all traces of the fluid.

"LOG": Since amateur and SWL radio got back into its post-war stride there has been a fair amount of attention to self-calibration deals. Here in Australia the Philips people started the ball rolling with their "LOG-DIAL," and then a few overseas types appeared. Such dials are attractive for the man who likes to make his own calibrations for various purposes, but there is a call for a model with a hinged escutcheon to enable calibration to be made without dissembling.

(We will pass on the suggestion to EFCO—the Australian dial people.—Editor).



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TRANSFORMERS
and
METAL-WORK

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by

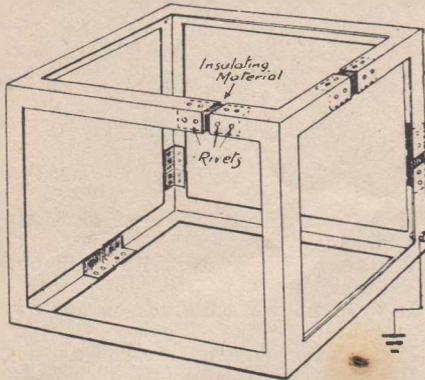
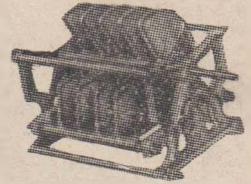
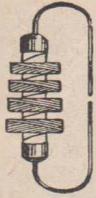
TRIMAX Transformers

DIVISION OF CLIFF & BUNTING PTY. LTD.
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RADIO TIPS

For

PRACTICAL PEOPLE



● Showing a method of splitting a welded angle iron frame of an R.F. generator and linking up the split members with insulating material in order to eliminate circulating current losses. Note: every member of the structure does not require to be split, only sufficient to interrupt any circular paths.

807 Precautions

After a lengthy period of playing around with beam tubes of the 807, 1625, and 6L6G variety, we have come to certain conclusions, especially where such valves are used as modulators.

Don't be tempted to use ordinary wafer sockets—they have a habit of going up in smoke from the audio voltage, especially when mounted on a metal, earthed chassis. Ceramic or Micanol sockets are the safest bet. Another thing — paralleling valves sometimes results in parasitic oscillation at radio frequencies, due to the high transconductance. A small R.F. choke or 100 ohm resistor in the plate lead to one of the paralleled valves will usually cure the trouble.

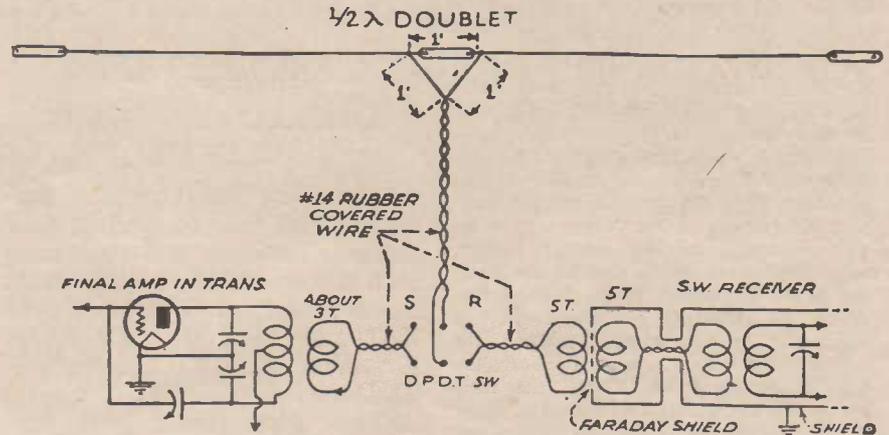
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V.H.F. TUNING WAND

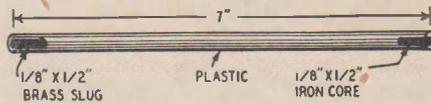
This tuning wand is intended for the 2-metre amateur band.

Use a polystyrene rod 7 inches long and at least $\frac{1}{4}$ inch in diameter. Drill $\frac{1}{8}$ -inch diameter holes in each end, each hole being $\frac{1}{2}$ inch deep. Into one hole, force a $\frac{1}{8}$ -inch length of $\frac{1}{8}$ -inch diameter powdered iron core salvaged from an old i.f. or r.f. coil; into the other hole place a brass slug of the same size.

When you have built a v.h.f. tuned circuit which seems unable to hit resonance, try inserting each end of the



● Both for SWL's and transmitting men, the twisted pair half-wave doublet antenna is an ever useful performer. It is about the best of the noise reducing systems for reception.



wand into the coil. If inserting the iron end resonates the tank, more inductance is needed because the iron adds inductance. If the brass end does the trick, less inductance is needed because the brass lowers the inductance of the coil. If neither end improves matters, either the circuit is at resonance or it is very far off.

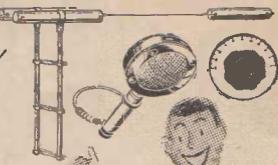
“Oyez:” I recently made a T.R.F. high-fidelity receiver for a friend, and during my absence in the country trouble developed. First thing the user of the set did was to visit the nearest dealer. A youth popped the valves, one after another, into an impressive-looking gadget with a large indicator, and convinced the seeker of information that “all the valves were weak, around 55 to 60 p.c.” Fortunately, the set-user awaited my return. Those valves had been purchased only two weeks previously, and when I tested them they all showed 100 p.c. Trouble lay elsewhere in the receiver circuit. When in doubt about them, get your valves tested at the headquarters of a large and reputable valve agent if possible.

“D.I.P.”: Not all meters are suitable for mounting on metal panels. Writer had the experience of an internal short from the mechanism to a mounting bolt (moulded into the case) which nearly wrecked the instrument. For transmitter work it is advisable to insulate such metal from the panel or else use meters in which mounting is by means of bolts passed through the rim. The metal then in contact with the earthed panel is well away from live parts.

“Hivolt”: The astatic shield or winding in a power transformer is very similar to the Faraday screen sometimes used in transmission in that, to be effective, it should screen without consuming power. When the shield is in the form of a winding one end only is brought out to a terminal or connected to core internally, the other end remaining “dead.” A single turn of thin copper or brass foil is sometimes used with adequate insulation at the overlap. The necessity for this insulation is apparent when it is realised that one complete shorted turn of low resistance material (such as copper foil) can consume a large amount of power. I recently saw an expensive high-voltage transformer reduced to a smoking wreck after only a few minutes' use because of faulty insulation on the astatic shield.



AMATEUR RADIO SECTION



A BIT of a "blue" is raging editorially in London amateur radio circles about the intrusion of B.B.C. transmitters in hitherto amateur territory on the 7000 Kc/s band. Naturally it was assumed that the B.B.C. itself would have some say in the why and wherefore of things, but not so. That, our correspondent states "they are in no way responsible for this state of affairs, since their operating frequencies are allotted to the Corporation by the General Post Office, the authority for the control of frequencies in this country." When the British G.P.O. was questioned about the B.B.C.'s appearance on "Forty," the reply was to the effect that they "are well aware of the difficulties arising by reason of operation on 'unauthorised' frequencies, but that amateurs are not alone in suffering in this respect; that international conditions in the field of radio are abnormal; and that the G.P.O. does not consider any real improvement to be possible until the agreements reached at Atlantic City are fully implemented." Thus, the position is that the B.B.C. is clearly not in any way to blame, and for the moment, it is plain also that the British Post Office is unable to rectify the position. Which, WE think, leaves amateur radio in the position of being between devil and deep sea, garnished with an aroma of that great military and political pastime of Passing the Buck.

MARYBOROUGH (Q.) AMATEUR RADIO CLUB

When old-timer VK4GH was recently seen casting with a fishing rod from the top of the Town Hall tower, some bystanders asked how they were biting! However, the line was attached to the end of a 132 foot antenna, which was rigged up vertically for the occasion of the local Hobbies and Handicrafts Exhibition.

The public not only saw the prettiest of the ham gear in the town, but saw stations operated on 14 and 7 mcs., forty contacts being made. As a result, several new members have been enrolled, and a bigger and better display is being arranged for next year.

All stations contacted will receive a special QSL as a souvenir.

VK4GH's call-sign was used for the occasion, and the Club will soon have its own call-sign.

SIX METRES

AUSTRALIANS WORK HAWAII

It has long been an aim of Australian VHF men to emulate their overseas brethren and work some real DX on "SIX." The trick was turned in good style between 0900 and 1050 hrs. E.A.T. on November 2, 1949. Bob Godsall, VK2ARG, worked KH6PP and KH6NS with signal level running to S9. His achievement was followed by similar contacts with the two KH stations by Ted Howard, VK2XX; Alan Llewellyn, VK2AH; and John Peell, VK2WJ. On this day VK2ARG also heard two W9 stations. A few days previously a W3 was heard by VK2GU, "Arch" Cox, Canberra, A.C.T.

Congratulations to all concerned.

EDITORIAL LAMENT

Getting out this magazine is no picnic;
If we print jokes people say we are silly;
If we don't they say we are too serious.
If we use things from other magazines
We are too lazy to write them ourselves;
If we don't we are stuck on our own stuff.
If we stick hard on the job all day,
We ought to be out hunting up news;
If we do get out and try to hustle,
We ought to be on the job in the office.
If we don't print contributions,
We don't appreciate true genius;
If we do print them, the pages are full of rubbish;
If we make a change in the other man's write up,
We are too critical;
If we don't we are asleep.
Now, like as not some other fellow will say,
We cribbed this from some other magazine—
We did.

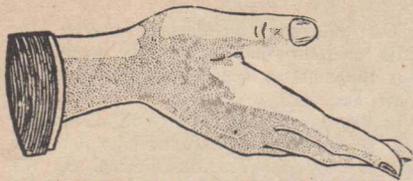
MOORABBIN & DISTRICT (VIC.) RADIO CLUB

"R and TV News" is pleased to inform readers in the vicinity that the first meeting of this newly-formed club on 25/10/49, resulted in a good roll up of prospective members. Included were transmitting amateurs, S.W.L's, and beginners. Jim Keenes (VK3KE) was elected President with Ted Scott (an S.W.L.) Secretary, and Ed Manifold (VK3EM) Treasurer. Lectures are planned for all meetings which will include displays of U.H.F. equipment, pictures dealing with television, morse code practice, field days and social activities. Intending members and visitors should contact the President at 73 Daley Street, Bentleigh, Victoria.

"Breathes there a Ham with soul so dead, who never to himself hath said—let me put on the house a radio mast?"—the answer from the family usually include one, or more, terms like *inartistic, impossible, unsightly, atrocious, disgraceful, or such-like.*



● Over-modulation indicator suggested by an American Amateur in pre-war days. The idea is as good as ever!



STATION OF THE MONTH

VK2QR, West Pennant Hills, N.S.W.

ONE of the best known Australian 20 and 10 metre phone DX stations is that of Bob Burstall, whose call-sign was once synonymous with "the little one horse town of Beecroft." A year or so ago, VK2QR upped anchor and moved to the present location, "Carlotta," in Castle Hill Road, West Pennant Hills, a few miles north west of Sydney—quite handy in fact to the attractive Koala Park area.

Bob may be considered as a youngish "Old-timer," for his familiar voice was reaching places distant in the pre-war years following his commencement in amateur radio. He, like many more of us, went completely inactive in the amateur radio field during the war, but exchanged the art for the uniformed variety — he served at length throughout the Hitmusstojo effort. Since we re-acquired the "right" to radiate and "earbash" each other per medium of key and mike, Bob has been well to the forefront with a signal that just isn't passed over lightly. His two-way phone work has brought verifications to date from 154 countries, and he has made WAC in 45 minutes on one occasion.

Location is favoured by the station being atop a hill, 700 feet above sea level. Bob says that the previous owner of the home feared for the sanity of the new occupant, when the latter arrived staggering under the weight of a 75lb. communications receiver. This was installed in the lounge room as an insistent measure so that a period of listening could be covered before "parting with the cocoa-nuts". Hi. During sixteen years of action the transmitter has undergone many changes and at present runs four stages. A Command Unit is used as VFO with alternative 6L6 crystal oscillator, 807 doubler, 813 buffer-doubler and VT127A as P.A.—all enclosed in a glass cabinet. The audio equipment comprises 1603, 6N7, 6F6's as triodes, and 807's in Class AB2, with the assembly built into a desk which serves to isolate it from the RF portion. Rotary beams are used on Ten and Twenty, with the latter mounted on a 40 feet solid oregon tower. There are four motors for control of rotation and indication of direction. A pair of Power Selsyn motors turn the beam through a 1 to 50 Radar gearbox, and indicator selsyns show the direction on an edgelit azimuthal map on the operating desk. The receiver is an SX28 Hallicrafters. Bob



● Bob, VK2QR, doesn't need to call very hard to have the DX come rolling back at him.

Burstall holds licenses for amateur radio, broadcast operation, and commercial marine work and is at present employed by the technical services of the Australian Broadcasting Commission.

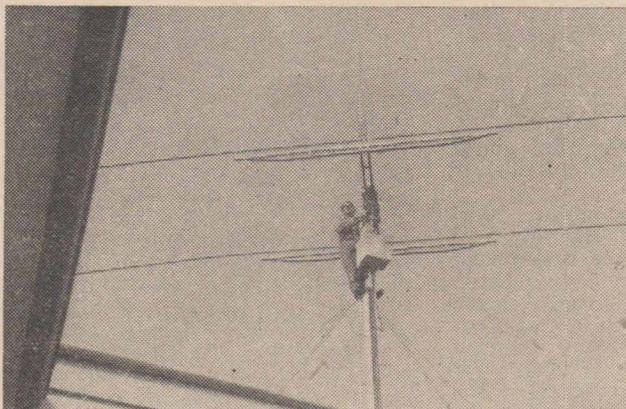
Long may his familiar signal in the amateur radio sphere of activity continue to grace the ionosphere.

—D.B.K.

with the ground to go with them also!

VK3AMN, Windsor. That STECO sounds good Sandy, that is, if you have finished same and using it. I wonder? Gear still in the corner by the "chimes."

VK3MR, Clyde. Welcome back on the air Snow, even if t'is only battery operated. Where are the 852's these days? Hope your AC arrives soon.



● VK2QR, monarch of all (DX) he surveys, from atop his telephone pole supported 2 element Beam.

VICTORIAN NOTES AND NEWS

OUR Southern correspondent, Mart Chaffer, sends along the following chit chat this month:—

VK3QL, Kaniva. Putting out very FB signal—both CW and phone—nice fist, good modulation. Keep it up Hayward.

VK3KR, Benalla. Ken heard quite a lot these days on 20 phone. Believe you are using a 2 el beam, correct? Also keeps twice weekly skeds—don't ask me who with!

VK3UT, Ballangeich. What sort of aerial do you prefer Wally? If you complain any more about those V beams—can I have 'em? Of course,

VK3DW, Woodend. Only heard on skeds with KR and MH. What height is the water up to now Doug? Did you get the line down again OK?

VK3ARS, Trentham. Hope the snow didn't disrupt your aerials Pix. Not heard as much as usual or are the extra trees coming down? Ready for bigger and better masts?

VK3ABJ, Windsor. Very nice phone Bas. Notice you still on the network as well as getting on with that shack in the wilderness. Any BCI?

VK3HG, Coleraine. Neil continues to pop up on 40 for a yarn with the boys—also heard plenty DX calling him on 20. Good work Neil.

(Over you go)

Ballarat Boys. A visit to the Garden City and the lads there, produced the following notes:—

VK3GR. Bob has 40 and 20 metre folded dipoles in the air—getting out FB with them. Of course, the new 20 and 40 rig has lots to do with it. PP 807's in final, in 6 feet six black crackle finish panel rack. Operating table in centre with the nearly-finished 80/40 rig on the other side. Quite an influx of visitors too. Bob, by the way, is a very proud Grandpa. Congrats fella.

VK3VA. As usual the 40 feet high 2 element beam continues to get out in spite of 1—y conditions. Has been using CW lately, and pushes the 40 sigs over to W-land. Yes, a folded dipole on 40. Quite a lot of DX work on 10 too. I should say, by looking at his log, that Bert's is the most consistent signal outside VK-land. Nice going Bert.

VK3AMH. Rather handicapped by aerial, at least as far as height is concerned. Using folded dipole but nevertheless can raise the DX. Notice you have lost that audio howl Bill.

VK3HW. Has at last finished the wide spaced 4 element beam and pleased with results, although rather worried whether the tower or the Ballarat winds will win. So far, the tower. When I left everything was covered in snow!

VK3SE. Stan was out when I called. Wonder where? The boys tell me it is a case of YL-itis, but Stan has been heard on CW. Your guess is as good as mine.

VK3ALM. Quite a nice layout Lloyd, although suffers from lots of man-made noises. Can work the DX at the most odd hours. What aerial have you in mind now Lloyd? Better be a beam I think.

VK3BE. Andy pops up now and then on the bands. Met him all dressed up for the occasion—among the 813's!

VK3MH. Can you imagine a 40 metre folded dipole with 37 feet feeders inside a 10 by 8 room, complete with furniture? That is Mart's set up at the moment, but will have the FD outside in a couple of weeks.

VK3DS. George very busy with B/C sets. Had a yarn with him at the shop. Works 80 quite often and has lots of useful ideas for the rig when he can get around to it.

VK3BI. Eye trouble on and off but still has his Super-modulation going and sounds FB. Is getting the bush fire set up under way for the hot weather. Asked when Ballarat expected hot weather but reply was a withering look!

VK3ABI. Gordon is up to his neck in rebuilding and has little to report in the way of activity. Promises big noises soon. We'll be listening.

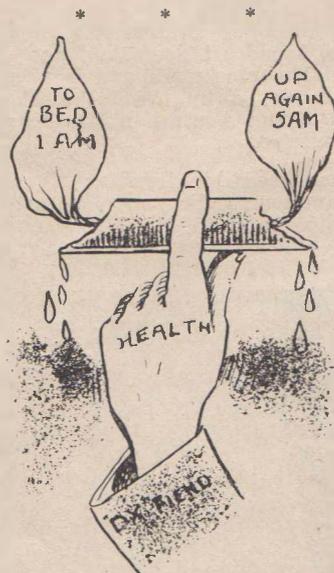
VK3ZL-VK3GM. Eric and George can be coupled together working mainly on 6 and 2 metres. Both have consistent communication with Mel-

bourne on those bands, as well as VK4's and ZL's when the lower frequency opens up.

Ballarat visitor's book showed:—VK3TW, 3RE, 3RU, 3ABJ, 5GF, 3HG, 3GN and 3AAW. The latter is now in VK4-land.

GEELONG (VIC.) AMATEUR RADIO CLUB

An interesting lecture was given by club member Peter Cartwright, his subject covering Radar. It has been decided by members that the Club will exhibit a mobile unit during the forthcoming Gala. Discussion at the last meeting started at the club rooms and was continued at the station of Phil Grigg, VK3APG, where he took the opportunity to demonstrate his gear. An interesting feature is the G8PO ribbon beam for 20 metres.



IN THE BALANCE.

"R & TV News" proffers congratulations to the Old Sugar Apple, otherwise VK2SA, who moves up in rank in the profession of those who keep law and order in the land. He goes meanwhile inland to the Western N.S.W. area. The amateurs fortunate enough to enjoy his ken wherever he goes will find Wal one of the keenest of the fraternity and above all, a 100 percent.

OFF Frequency?

It is one thing to dash into print to cajole recipients of official admonition to "accept them in the right spirit," but quite another when origin and motive may be a matter of another "spirit" altogether. We know of one ex G VK who has been constantly pin-pricked, yet the "observant" one's own transmission wouldn't wash very white on the line. This "spirit" of things is all very fine, but personal motives do sneak into the picture, despite official protestation that somebody is "merely doing a good job." Bosh!

The principle difference between the radio amateur and short-wave listener is that the amateur has a voice and the listener has not.

In one sense that is a small difference, but the difference between the amateur and the listener can be widened by the shortcomings of a few.

There is, for instance, the radio amateur who, like the small-time politician, has a colossal contempt for anyone not directly associated with his own group. More often than not, these are amateurs of the younger generation who bask in the light of their elders or their more experienced and more competent brethren. This type of amateur is a pain in the neck to everyone, including his own associates, and he does more actual damage to amateur radio than all the silly talk ever spread in the amateur bands.

On the other side is the type of short-wave listener who knows so little of the technicalities of radio that he is unable to appreciate the efforts of the serious-minded amateur toward the improvement of communication facilities, and is, in consequence, ready, and for some reason eager, to attribute most of his difficulties to the amateur.

Amateur radio is by no means a closed corporation. There are literally thousands of amateurs who welcome visits from short-wave listeners and who welcome intelligent reports from them. We know of listeners who aid materially in amateur work by their own efforts—listeners who co-operate with amateurs and get a big kick out of doing it.



R-C-S

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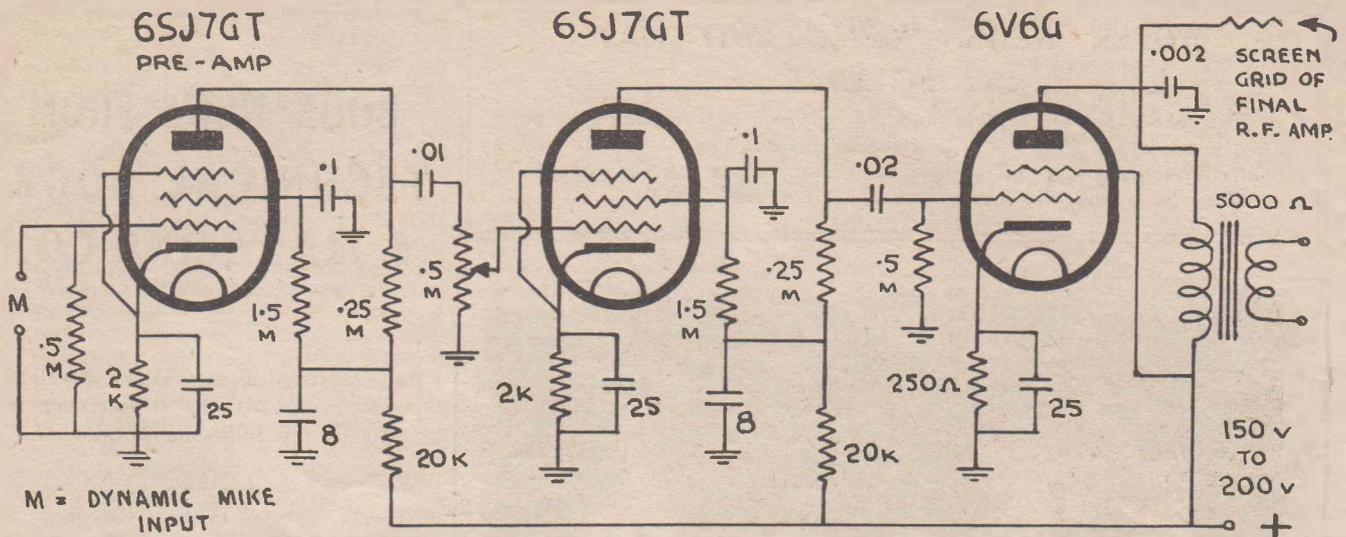
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A SIMPLE EFFICIENT MODULATOR

THE average amateur transmitter uses a comparatively inexpensive RF generator, even to attain the maximum power rating permitted by the P.M.G., 100 watts to the final amplifier.

The "dyed in the wood" CW amateur has no worries compared with his fellow man who desires to employ speech.

The latter is faced with several problems, particularly if he wishes to use the full 100 watts of RF allowed. Naturally plate modulation would be selected for outright efficiency, discounting the cost of the modulator, but it is considered that approximately 50 watts of audio would be necessary to achieve good results.

With finances limited, a common peculiarity with amateurs, plate modulation is restricted to the wealthy few of our ranks.

Other alternatives include Grid and Series Cathode Modulation. Grid modulating systems, although cheap to install have the disadvantages of being inefficient and awkward to adjust. Listen to the grid modulated disposals transmitters oh dear! Modulation percentage is poor and of the quality, the least said the better. Series Cathode also requires a considerable amount of audio power and results in expense.

The writer has been toying with Screen Grid Modulation for some time now, and failing to see any information on the subject in various radio journals decided to burst into print and perhaps help newcomers to attain good modulation cheaply and easily.

THE MODUS OPERANDI

THEORETICALLY, the operation is simplicity itself. The Screen grid voltage is varied at an audio rate

by applying the screen voltage to the modulator's output valve plate and to the screen grid of the RF amplifier through a common load, a choke.

Variations in plate current drawn

BY
GEO. E. HEINRICHS,
VK3KT.
Royal Army School of Signals,
Balcombe, Victoria.

by the plate of the modulator output valve, cause corresponding variations over the choke load, thereby varying the Screen grid voltage, at the same audio rate.

As the Screen grid voltage varies, so will the plate current of the RF amplifier change, thus Amplitude Modulation.

As can be seen by the circuit, the modulator is very straight forward, and provided that elementary rules of wiring and layout are observed, no trouble should be encountered in its construction and operation. For low level microphones a 6SJ7GT pentode pre-amp then another 6SJ7GT as a pentode drives a 6V6G Class A output valve.

Should a carbon microphone be used the pre-amp is not necessary, but of course the input circuit would be altered slightly for such a microphone. Either a microphone transformer into the grid of the 6SJ7GT or placing the microphone in series with the cathode and control grid earthed is satisfactory.

Points to note are:—

(1) The common HT for modulator and screen grid should NOT exceed 200 volts when using 807's or 813's as the RF amplifier.

(2) The screen grid bypass condenser must NOT be larger than .002 mfd. The usual .1 mfd. will bypass the highs.

(3) The decoupling condensers and resistors in the plate circuits of the 6SJ7GT's are included to obviate instability and may be omitted on the trial and error basis.

(4) The modulating choke is the primary of a small speaker transformer—5000 ohms. If required for PA work the secondary could be connected to a speaker, or speakers, in the normal way, but for modulation this winding is left open circuited.

RESULTS

To give readers some idea of the capabilities of this system here are some of the results achieved:—

An AT5 transmitter, with parallel 807's as final RF amp, input 50 watts, has been modulated over 100 per cent. with the modulator described.

Another transmitter running 100 watts to an 813 final results in S8 and S9 reports from U.S.A. on 14 mc—quite satisfactory for only a watt or two of audio. Viewed on a CRO, the output is linear up to 80 per cent. of modulation, but the small amount of distortion seen over that level and up to 100 per cent. modulation is not noticeable to the human ear.

In conclusion, the writer makes no claim to be the originator of this efficient, cheap system, but considers that it will probably interest those who require good telephony at little cost.

(Next page please)

**NOTES, NEWS, "GEN," CHIT-CHAT
and SCANDAL.**

You who subscribe to this magazine—if you are reading this page you are obviously interested in amateur radio. That being so—what about contributing your bit so that the other fellows can read about it? Drop us a line and leave the rest to us. Do it NOW!



Then he picks up the 'addick, and says, "I'll give that S9 plus" of suthnick . .

From G6FO's excellent "Short Wave Magazine" we take the liberty of reprinting this gem of amateur radio humour.

Berserk Phonetics

There are heard day in an day out, weird and wonderful interpretations of call-signs — expressions intended no doubt to attract the attention of elusive DX. Among these we have our own examples, as in the case of one station averring that he is possessed of ingrowing toenails; or phonetics to similar effect. It doesn't do any harm, and is a mild expression of fun and games even though a slight jarring sensation may be felt along the spine. More than a sensation, in fact, a severe jolt, should be occasioned by the effort referred to in "Short Wave Listener" (England). The DX Scribe there says that EK1MD in Tangier calls himself "EXPLOSIVES KILLED ONE MAD DOCTOR." Can anybody beat that? We doubt it.

* * *
If Arthur, VK2ACKX, hasn't yet raised that elusive CR5UP in Portuguese Guinea on 14 Mc/s phone he certainly deserves to, judging by the almost plaintive calls around 0700 hrs. E.A.T. West Africa is a difficult trick to turn from Eastern Australia any old time, and it is a bit harder than normal—if that be possible—around breakfast time.

Every once and so often some sort of fluff takes place in one of the amateur 'phone bands that provides our imagination with a queer twist.

For instance, two amateurs were running a QSO into the ground one evening, when the fellow talking was interrupted by the ringing of the telephone. Presumably the 'phone was on the table right close to the mike, because the voice of the person on the wire was clearly understandable.

It turned out that the person had the wrong number.

What we were thinking was, what a jolt that person would have received had he known that an innocent little wrong number led to his question, "Is Annie there?" being flung to the far corners of the earth.

That man will die never knowing that the name "Annie" on his lips shook God's ether like so much jelly. He will die never knowing that he inadvertently provided thousands of listeners with Annie's 'phone number.

The day may come when, through this ironic error of science, he will learn that Annie doesn't live there any more.

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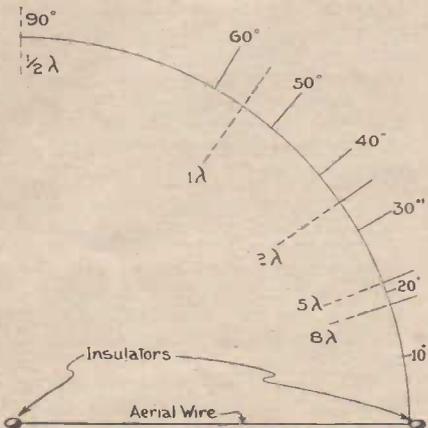
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RADIATION ANGLE

The angle of radiation from a transmitter is a very important point. When the aerial is suspended above the ground in the directional characteristic is changed as some of the energy radiated towards the ground is reflected back into space. The reflected energy reinforces the original space radiation at certain angles in the plane perpendicular to earth and cancels it in others. The earth, therefore, affects the angle of radiation to a very great extent.

The amount of bearing on the radiation angle depends upon the position of the aerial with respect to earth, the height above ground and the characteristics of the ground itself. If the ground is a good electrical reflector the vertical radiation will be enforced and the horizontal radiation cancelled, when the horizontal aerial is a quarter wavelength above the ground.



A graph of this kind showing radiation angle should interest every amateur.

As the height is increased, radiation at lower angles is enforced, although purely horizontal radiation is always cancelled with a horizontal aerial. On frequencies where a low angle radiation is required, such as on 14 mc. and higher, the horizontal aerial should always be at least half-wavelength above ground.

The effect of the ground is exactly the same with a vertical aerial and an even number of half-wave long, denoting that horizontal radiation is cancelled. This proves that a vertical aerial should not be full-wave long if very low angle radiation is wanted.

The sketch shows the angle of maximum radiation measured from the line of the aerial or aeriels of different lengths in terms of operating wavelength looking down on the aerial wire. The angles shown are for one quadrant, but naturally correspond for the other three. The relative length of the extended lines indicating the angle of maximum lobes show power ratios compared with the maximum for half-wave doublet—90 degrees—assuming the



● We hope you don't do this—we would prefer that you BUY a copy of "R & TV News," instead of browsing. That goes for the newsagent too!



same current at a current loop for each case.

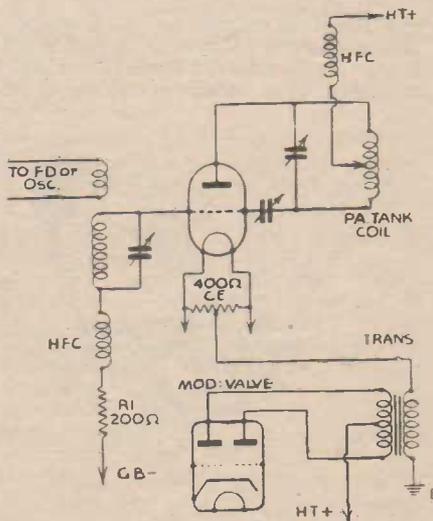
—D.B.K.

CATHODE MODULATION

Several VK's are getting "fair to middling," and oft-times good results from cathode modulation, which is a simple enough arrangement to get going. The circuit diagram given here shows the essentials. Basically, of course, it could be considered as a modified form of plate modulation, or grid modulation; and then again, we can look upon it as a combination of the two. It is termed Cathode Modulation for the reason that audio injection is by way of the P.A. filament. The D.C. resistance of the transformer coupling modulator valve to P.A. is around 200 ohms. A class B valve of the 6N7 kind is excellent as

VHF DOINGS

During October last, VK2ARG effected the first two-way Six metre contact from Eastern Australia with DX other than New Zealand, in the shape of a KH6. This was not cross-band or a case of hearing at one or both ends, but was a definite contact. Previously, the one (and first) 6 metre two-way outside Australia had been between VK5KL of Darwin, N.T. and KH6PP. Not so very long ago, Bob Godsell, VK2ARG, was a VHF SWL. Licensed inside the last two years, he has wasted no time in making the most of the VHF channels. His station sports multiple arrays for 6 and 2 metres and is located at Palm Beach, a handful of miles North of Sydney.



modulator, and can be driven by the usual class B driver transformer. Of course, a single-ended modulator is equally applicable with a 1 to 1 ratio transformer in the usual way.

"VIC EDDY." The Canadian amateur districts are VE1 to VE8, but maybe it isn't generally known that there is a special significance for stations with prefixes VE6, VE9 and VE10. These mean, respectively: Training Schools, Experimental, and Amateur Broadcasting Stations.



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AMATEUR



FIRST AUSTRALIAN VHF DX. WHEN WAS IT?

Although we haven't too much of a nostalgic feeling for those "good old days," it is interesting at times to take a look back through old records in amateur radio affairs. One realises that the steady movement through the passage of years to the 1950 era of acceptance of VHF's as a vitally important commercial communication region really started with the old "Five Metre" band. Many people think that it was only in the 1930's that amateurs began to do things seriously on 56 Mc/s, and that it wasn't in this country, but overseas where anything of note happened. Looking through some old magazines we came across a copy of the old "Radio" (Australia) dated August, 1927, and therein is quite a story written by Leighton Gibson, then A4AN; headed "Success on Five Metres." He, by the way, is Philips N.S.W. Manager in these times, and of the participants in the occasion, 2DY, who no longer holds the call, is a senior A.W.A. engineer. 2IJ, 2JY and 2GW are still active amateurs, and can be seen at N.S.W. Division W.I.A. meetings. Here is the story—a piece of VHF history in Australia, as told in those days by 4AN:—

"I suppose nearly everyone knows that a good many Australian amateurs have been working more or less continuously on the five metre problem; but perhaps everyone does not know that already quite a fair meed of success has been attained in this field by some of our experimenters.

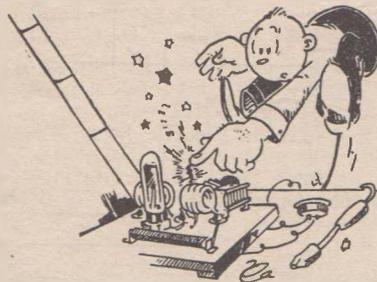
"Well, this story should have been written some time ago—four months ago, to be exact. Also, I must explain that I'm writing it because no one else would—one, 2IJ, was so excessively modest that nothing could be gotten out of him. I think the facts should be known—better late than never, so here they are.

"Last March, while the 'Uni' boys had holidays, 2IJ, 2DY, 2JY, and 2GW got busy and built five metre sets of various types. A wavemeter was sent by mail to Sydney from 4AN, and the Sydney sets were lined up with the Brisbane end by this means. (2IJ says '4AN's calibration

is up the pole', which is quite likely, but we needn't argue that here). Two of us were active in Brisbane (4AW and myself), and the Sydney fellows arranged with us for a week-end test on five metres. They arranged things well, too, by the way.

"There is no necessity for me to go into full details of the arrangements, suffice to say that 2IJ and 2GW took a five metre receiver and a complete thirty-five metre outfit to Bowral, where, I am informed on good authority, is a fair-sized mountain. At 2IJ, in Killara, a five metre set was operated by 2JY, while 2DY operated another set at his place at Gordon, and worked a thirty-five metre set in addition. The five metre transmitter at 2IJ was the best of the whole bunch, as it used a 210 with plenty of power behind it—about seventy watts, I believe.

"THE test commenced at 9 o'clock in the morning, the various New South Wales and Queensland stations adhering to a schedule, taking it in



"Yes OM, I'm radiating a half inch blister."

turns to transmit and listen on five metres, while they kept in touch with one another via the thirty-five metre channel. The business continued right throughout the day, and on to 8 o'clock at night; and in the afternoon, our old friend 7DX, who had been advised by radio, got his receiver on the job as well.

"Well, as far as we up here were concerned, results were disappointing, as neither 4AW nor I heard a squeak. However, this was more than compensated for by the success which attended the efforts of the southern fellows.

"The five metre signals from 2IJ's transmitter at Killara (one of the northern suburbs of Sydney) were received strongly and consistently all through the day and evening by the party at Bowral.

"More than this, the five metre signals came through with splendid intensity when the signals from the Sydney thirty-five metre set had dropped to total inaudibility; that was after sundown.

"So there you are: low-power five metre signals covered an airline distance of sixty miles!

Long Aerial Best

"DAVE GRAY, of 2IJ, tells me that they tried various types and sizes of aerials in connection with the five metre receiver on the mountain. They eventually came to the conclusion that the longest single wire available, rigged like an ordinary untuned aerial system, but MINUS the earth connection, gave the best signal strength. He says also that he is inclined to think they were receiving the ground wave from the Sydney transmitter, the reason for this assumption being that the signals did not alter appreciably with the oncoming of darkness.

"Every one of the Sydney fellows mentioned worked hard to make a success of the test, and I know they went to an awful lot of trouble, so their success was well deserved. Although the set which did the good work was the property of 2IJ, it is needless to add that the success was a COLLECTIVE one—not merely a personal one, and the credit must be equally apportioned.

"As I don't know very much about his set, I will leave it to Dave Gray or one of the others to let us have a description of it, and the other apparatus used. And if, at this late date, he should happen to read this scramble, let us hope he will take the hint and do his duty—as I have done mine! Amen."

Some further points of interest are quite important—they are not mentioned in the story. This was NOT telephony communication — it was CW telegraphy. The receiver was a straight simple "Bloopster"—201A detector and audio—not even a "squegger." In fact, the super-regenerator had not in 1927 seen the light of day in amateur Five Metre application.

* * *

"FAREGO." "Getting close to the broadcast" say some VK2 Sunday morn gossipers on forty; referring to VK2WI and the 1100 hours schedule. Trouble is that so often the broadcast has been running for at least 5 minutes and others have to put up with the QRM situation caused thus by people who don't think to check timepieces before going on the air.



"Spare me days, I wish I had a copy of 'R & TV News'."

ABOUT BEADED COAXIAL CABLE

ONE or two people seem to have acquired the idea that the air-spaced coaxial cable of the beaded variety is the last word in such material, and far better to have around the place than the solid polyethylene kind. There are traps for young players in the beaded stuff, and they become obvious after but a little usage. This kind of coaxial cable was discarded in Service use for any purpose where flexing of the line is necessary, and even where a rigid fixture was the case; it wasn't trusted too far. The trouble is that strands of the fine copper wire making up the braided outer conductor have an annoying habit of working down between the polystyrene beads and thereby shorting on to the inner conductor. Before using any beaded coaxial cable—especially of ex-war stock—the first thing to do is to put a high reading (2 meg) DC ohmmeter across it to see what shows. You might find that it is all O.K.; but on the other hand you might discover that it shows a resistance between conductors of 50,000 ohms or even a few ohms. To find the place along the line where the short is occurring calls for the gift of X-ray eyes. Personally, we scrap the lot and use the poly beads as miniature lead-through bushings on metal chasses, or something like that. Coaxial cable of the beaded kind can be packed with lots of headaches where where subject to movement by wind and weather.

* * *

WESTRALIAN DOINGS

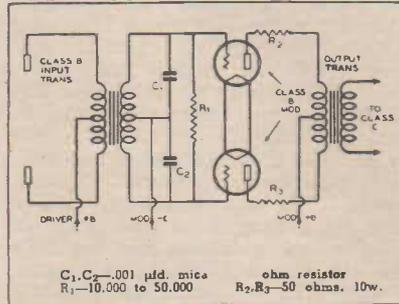
Official journal of the Radio Society of Western Aust. Inc., "The Wave Trap," records the recent annual dinner, details of meeting, Remembrance Day Contest scores among the VK6's and a series of personal pars. A bright little monthly, and typical of the teamwork and keenness of the Westralians.

* * *

BAKED HAM

QRX Gabriel.
I'm comin' in on the beam,
Another careless ham
Cooked by electron stream.

Class B modulation systems have a tendency to regenerate and frequently even to oscillate in the higher audio spectrum. Since the frequencies are in the range from 20 to 30 kc., the oscillations are usually quite easy to stop by means of a few resistors and condensers judiciously placed in the circuit. The accompanying diagram will give an idea of the approximate values and proper positions for the condensers and resistors. All the components may not be needed to cure the condition.



The resistor R_1 , however, will improve the performance of almost any class B or AB modulator. It should have a value of from about 10,000 ohms for low impedance grid valves, to about 50,000 ohms for high impedance valves. Valves with intermediate values of grid impedance should have appropriate intermediate values of R_1 . The condensers and the resistors R_2 and R_3 should be used only when required to stop the parasitic oscillations.

* * *

"SECOP." In their flush of enthusiasm for sporadic DX, some people in metropolitan areas have reached a stage of quibbling about others working between 50 and 50.4 Mc/s. They lose sight of the fact that "Six" is NOT a DX band, no matter how they colour or camouflage it. It IS a first-rate local band for up to 100 mile coverage and should be occupied always with that thought foremost. Nobody has any claim whatsoever to any "spot" in ANY band, no matter how skilled they may seem in the art of cajolery. Co-operation in keeping the LF end of the band clear WHEN DX is breaking through is reasonable enough to request, but if a newcomer to the VHF bands happens to work on ANY frequency inside the band limits, he should not be scared off by any seemingly superior person with a self styled "claim" to that possie.

* * *

"WEN." Re that 21 mc/s band for amateurs. According to "Short Wave News" (England), the countries already licensed (in July, '49) for the band were, CN8, ZE, VE and U.S.S.R. stations.

FINISHING CRYSTALS

Several methods have been suggested for getting rough checks on the frequency of a Crystal Blank during the grinding process, but none of them seems as simple as this.

Take a flat sheet of aluminium or copper about six inches square, and connect it to your antenna, post by a short lead. Place the plate glass on which the grinding is being done over this sheet. You can tune in the crystal frequency on the receiver by the scratches you hear as the crystal is being ground. You can then follow the scratching noise along the dial as you grind. When nearing the frequency you desire, the regular methods of crystal checking must be used, but up to this point the scratches will tell you what you want to know. It saves the time usually taken to wash and dry the crystal, replace it in a holder, and fire up the oscillator each time you want a rough check to show just how far you still have to go.

* * *

When using twisted pair feeders, the feeders should be of the water-proof variety and be taped at the point where they separate, otherwise they may cease to function in rainy weather. A layer of rubber tape wrapped with a layer of friction tape and a good coating of clear lacquer will make this point really watertight and weatherproof.

* * *

"ZILCH." There was a VK who decided to erect a 20 foot two by two on top of one of his 40 foot poles to gain extra height for a 10 metre beam. Although there were iron steps up the pole for climbing purposes he took the precaution of wearing an improvised safety belt. This was a leather strap around his body and the top of the pole. After nailing the 20 foot length to the pole, he found he had nailed safety belt and all to the pole, and had no tools in hands or pocket other than the hammer. The strap was fastened through the buckles by brass harness rivets!

* * *

"Bureau." It takes some explaining away, when a dyed-in-the-wool CW man to whom phone has been through the years like a red rag to a bull—suddenly appears on phone—and on Forty at that. What's more he is well and truly in the lunch-hour(s) groups, and having the time of his life—in between callers in the dispensary. It's good phone too, Jim—welcome to a progressive and modern method of communication!

* * *

Somebody thought a dipole antenna was one which needed two masts. If you can't see this straight away, think it out.

Wandering Willie

Say a prayer for bloke with the VFO,
Who swishes all over the band—
Looking high and low for a hole in
the mess—
A place for his signals to land.

He whistles "Hello" when he lobs on
you,
As he passes he does it again,
Then continues his search for what
he can't find,
On forty, twenty, or ten.

So he shifts down to Six, then to one
forty four,
Thinks he'll give those regions a fly,
This wandering soul with the VFO,
Who whistles as he passes by.

He then winds some coils and drops
in on Eighty,
Chirping merrily over that band,
As he twiddles the knob of his VFO
With a steady unshakeable hand.

So he continues the hunt for the
elusive spot,
A hole through which signals will go,
Whistling cheerily all of the time,
This bloke with the VFO.

* * *

We Hear That . . .

An Australian VHF man, faced with an opportunity of a six metre two-way with some 6000 mile DX, couldn't turn the trick because of no morse key—only 'phone. A pair of wire cutters and a make and break between two loose ends could have been effective.

* * *

Screen Voltage on 807's

The anode current of a valve such as the 807 is dependent more upon the screen than the anode voltage. Thus, if the screen voltage is low, it will be impossible to get the valve to draw nominal anode current even with heavy excitation and loading. Many amateurs cannot understand why it is impossible to get an 807 to go to 90 ma out of resonance in an R.F. amplifier when the data sheet calls for approximately this amount of anode current for normal operation at resonance. Reducing bias or raising anode voltage will have but little effect on the off-resonance anode current. The only way to get anode current up to where it should be is to raise the screen voltage. Allow for the drop across a cathode resistor by measuring voltage from screen to cathode instead of earth. 40 volt makes quite a difference in anode current. Watch the screen and see that you don't raise the voltage high enough to show colour.

"DAMOCLES." Once upon a time, there was a radio exhibition run by an amateur organisation. A certain amount of equipment was on display, and there happened to be on a table a buzzer hooked to a key. A visiting Radio Inspector gravitated to the table and began toying with the key. A young fellow of about 16 summers listened to him awhile, and then said that he too knew the morse code. Pleased, the R.I. turned the key over to the youngster who went about it with great zest. After batting out quite a little message he signed off with a VK3 two letter call. Looking quizzically at the boy, the R.I. seemed to be of the opinion that he was rather young for such a call. Questioned, the youngster told the R.I. that he had not taken the A.O.C.P. exam, but had seen a lot of letters in a call list and had picked one that had a nice swing. Pumped further, he said there was very little chance of his being caught for operating his station minus a licence for the R.I.'s were old blokes who couldn't catch up with him. Whereupon the R.I. disclosed his identity and the lad said:—

"Don't some funny things happen when you least expect them? Here I am telling you all about myself not having a license and you being an old cove. You know, I never thought about what I was doing. Well, I didn't know who you were and I don't suppose you have an idea who I am, do you?"

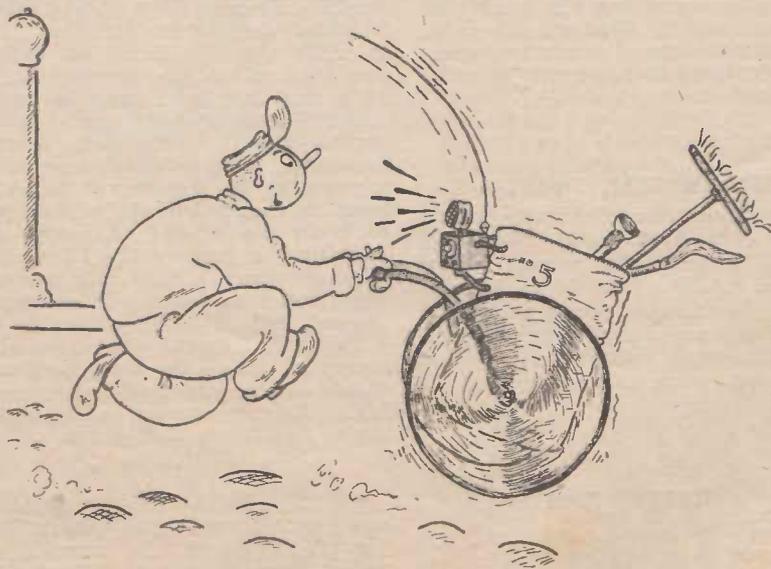
The R.I. was taken a bit back by the question and agreed that he did not have any idea who the youth was.

"That's a swell break for me!" said the boy, as he turned on his heel and dashed out of the building.

In Britain, where they have the 70 centimetre (420 Mc/s) band, they are going great guns and steadily building up the mileage covered. 96 miles was the distance between stations effecting contact, according to RSGB Bulletin's September, 1949, report. On 2 metres (144 Mc/s) contacts of 240 miles are common, but in U.S.A. the maximum distance covered between two stations now stands at 1000 miles. All this is reminiscent of the pioneering days of the old 5 metre (56 Mc/s) band with the big difference that there is little haphazard about the methods applied. Even on 70 cms the superhet receiver is used by many G stations, and of course, HF technique now applies to 2 metre receivers and transmitters the world over, including Australia. It wouldn't be a bad idea for the VK authorities to do something about granting the 420 Mc/s region here as overseas instead of the present 575 Mc/s allocation. Reason for the suggestion is merely that most of the overseas Handbooks contain a vast amount of technical data on 420 Mc/s gear which can be applied without modification for our present allocation. Also, and this is a much more important point, certain valves will perform well at 420 Mc/s but are not so "hot" at the 585Mc/s region.

* * *

"Asdev." An identity well-known in the earlier days of amateur radio—the 200 metre days of the 1920's—passed on after a lengthy illness. Old-timers will remember Joe Marks who once had a radio dealer's store in King Street, Sydney. The ranks of the OT's—like the Gallipoli men—are thinning out.



● "Calling Unit Five—a pickup, corner Main and Broadway—that is all—OUT."

"Banshee." If N.S.W. Div. of W.I.A. would really like to render a service to members and all right-thinking amateurs in and around Sydney, it could do far worse than organise a carefully planned Vigilante search for the person or persons causing the wilful unmodulated carrier QRM on 7 Mc/s phone. It shouldn't be difficult to do if tackled along DF hunt lines, and there has been lots of practice at that in days gone by at Field Days. The miscreant who breaks in on stations with such ejaculations as "Bull," should remember that the quadruped often gets grabbed by the horns and taken for a severe toss.

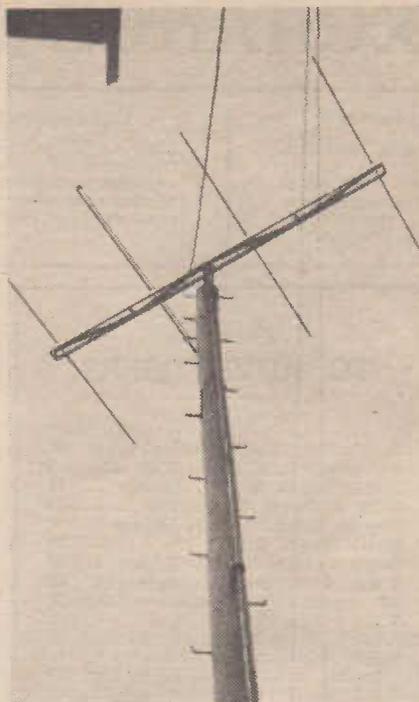
* * *

THAT DON 8 CABLE

When the war receded it appeared to leave a mass of ex-army field cable about, until certain people bought it up in quantity and sold it again in 100 feet coils. Despite the fact that we may have cursed its vagaries at times when lines went "out" because of Bren carriers chewing it up, it is handy stuff to have around the amateur station. Best use for it is for light guy wires on small masts, or it can even be used for wrapping parcels. Don't however, fall for the mistake of using it as radiators in transmitting aeri-als; although there are no snags at all to using it for reception purposes only. If you work out a radiator length according to a 14 gauge wire formula from the handbooks, and use D8 cable for the job, you are in for a disappointment. The RF resistance of the seven strands of steel against the one strand of copper is extremely high at HF's and a length to resonate at a given frequency in a half-wave set-up will be anything but what you expected. It will be many feet out—even yards for an 80 metre radiator—and it won't be at all efficient. Yes, we know quite well it WAS used early in the Hitler scrap for emergency aeri-als for 109's, 101's, FS6's and the like, but it was a case of operation over but a mile or two, and a cockie's fence would serve the purpose equally well. We once saw a relatively inexperienced Sig officer trying to cajole RF from a 109 Set along a pair of twisted feeders made of Don 8 to a radiator of the same stuff and which was miles off resonance. He didn't know then—but he learned as time went on.

* * *

The new P.M.G. Handbook of call-signs (now available at the Wireless Branch Offices) is a lot thicker than of yore, with a total of about 2800 VK's. The blank pages on the left side are a good idea for individual corrections or amendments in QTH's.



The 6 metre 4 element wide spaced beam at VK2RU, Gosford, N.S.W.

"SHRAP." In this game of amateur radiophone, many of us have to exist in close proximity to one or more of our fellow band users. Well and good . . . or it would be if due attention were paid to automatic modulation control or peak limitation. There is simply no excuse in these times for fellows wilfully tearing the band to shreds whilst one waits for them to subside in order to get through send and receive spells. There is little or no expense involved for example in a high level negative peak clipper, and in fact it wouldn't be at all a bad idea for those who decree what we shall and shall not do to make it a *must*.

* * *

Keen VHF man Les Page, formerly VK2YQ and now sporting a new call-sign, is heading back for the 6 metre and 2 metre bands. He has just moved into a new home at Kingsgrove, N.S.W. and can be expected on the bands again at almost any time.

* * *

"Nitchevo." When soldering up a beam array located some distance from the 240 volt power-point, we wasted much time by trotting back and forth with the soldering iron. Then we got the idea of using the 300 ohm Telcon as a 240 volt line.

Disconnect the line (of course) from the antenna, then remove it from the transmitter and connect the line to the 240v point. Don't handle the line whilst the 240 is on it, and make sure also that nobody else does.

Feline Foolery

*This is the story of Niggy the cat
A sage of brave deeds and daring,
It's a tale of a tail, blokes, that once
saved the day,
The tale of the tail he was wearing.*

*Niggy was owned by a radio ham
Who one day just by chance and a tip,
Discovered his cat had a thousand
volt drop
'Cross his tail from the root to the
blip.*

*Now radio men are oft full of
schemes,
They're a specialised type, who, I
hear,
Are always alert for a slick source
of power,
To operate emergency gear.*

*So Niggy the cat went into a cage,
Electrodes were hooked on with care;
The power thus derived was fed to
the shack,
To heat up the tubes that were there.*

*Then the floods came, and the power
was off,
And a blue was on without fail;
This radio man's portable rig saved
the day
With the volts from Niggy's fine tail.*

*But Niggy's gone west now — he's
with us no more,
And in case you are wondering why,
He was courting one night away
down the road
And shorted his power supply!*

* * *

There have been, and still are, at the time of writing, shockingly bad conditions prevailing on forty. The erstwhile regular "natterers" must feel the pinch, what with two months or more of weak fading signals, to the accompaniment of a hefty static barrage. Nevertheless, as Bill Potter, VK2WP, tells us—there's a tidy bit of DX to be had on the band around the 0530 hrs. mark in the shape of sundry UK and Europeans. CW . . . of course.

* * *

On 14 Mc/s John of VK2AGT is a staunch exponent of a half-wave vertical radiator. A system of this kind is giving him good results at his new QTH, Bexley North, N.S.W., and he tells us that he has been able to get S7 phone reports from such people as G8IG, 6XN, and 3BUU. He uses a 600 ohm feedline, tuned, 125 feet long, and the antenna, made of galvanised conduit, stands on a 4 by 4 with the base 7 feet off ground, and fairly well in the clear. He is toying with the idea of a ground-plane for the band in order to drop the radiation angle a bit further.

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NOTE. Where a direct reply is requested to a Box Number advertisement, it is advisable for the enquirer to include a stamped and addressed envelope. This will be passed on to the advertiser concerned and will ensure

HARD to get valve types. Have quantity of 4 volt AC and battery valves, all in good condition. Replacement types for old receivers. Drop me a line; I probably have the type you want. Box 415, c/o "R & TV News."

USE up these old 201A's as rectifiers for small power supplies. Quantity available at 2/- each from "J.B.M.," c/o "R & TV News," Box 5177, G.P.O., Sydney.

HUMLESS HT supply units for small receivers are Philips B units. These are in perfect order with 500 type rectifiers. Price £2 each. "AR10," c/o "R & TV News."

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NUMBER of copies of "Radio (U.S.A.), 1933-1937, for sale. Excellent constructional articles for beginner-amateurs. Price 2/6 per copy. "B.N.C.," c/o Box 5177, G.P.O., Sydney.

FOR SALE—English H.T. Transformer 2000-1500-0-1500-2000 volts at 500 milliamperes (never been used). Can be inspected by appointment. Perfect. £10/10/- (less than cost). Box 407, "R & TV News," P.O. Box 5177, Sydney.

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EX R.A.F. phone and CW Transmitter Type T1154 for sale. New and unused, in steel case and with wooden transit case. Requires 6 volt LT supply and 1250 volts at 200 Ma. Two PT15 valves in final stage. Complete with detailed official blue-print. Accept £15. No offers. R.P., c/o "R & TV News," Box 5177, Sydney G.P.O.

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