THE PROPAGATOR

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THE MONTHLY NEWSLETTER OF THE
ILLAWARRA AMATEUR RADIO SOCIETY

A Member Club of the Wireless Institute Of Australia

Published by the
Illawarra Amateur Radio Society
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WOLLONGONG. 2500.

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NOTICE OF MONTHLY MEETING OCTOBER 1976.

Members are advised that the monthly meeting of the Illawarra Amateur Radio Society will be held at the Wollongong Town Hall Meeting Room on Monday, 11th October 1976, at 7.30 p.m.

AGENDA.

1. Apologies and welcome to visitors.
2. Minutes of previous General Meeting.
3. Correspondence.
4. Financial Report.
5. General Business.
6. Film

Film.

At last? "Computer Graphic Display", from IBM.

CHANGE OF ADDRESS.

Please take note that the postal address for all mail is now -

P.O. BOX 1838, WOLLONGONG. 2500.

This month I had intended having a look at C.B. Radio but with the rash of articles freely flowing and the confiscation of equipment in Wollongong in the last couple of days it is getting hard to tell which way the issue will finally go. The general feeling is that it is all but with us - this may be a result of cumulative wishful thinking as the official communications from the Minister still says:- "....it is believed that the Hardphone Radio Service accommodates all those who have legitimate need for two way radio communications" (extract from a letter dated 26 August 1976).

I did however receive a most interesting report with the normal WIA monthly mail issue regarding the C.B. issue. It was a report from the "Citizens Amateur Radio Committee" to the WIA. This committee appears to consist of 5 Full Call Amateurs, but I do not know on what authority they are acting or what the WIA feelings are on this report.

Following is an extract from this report which I feel is worth thinking about and commenting on.

"The Wireless Institute of Australia branches and associate clubs may continue to oppose a Citizens Band on 27 MHz (with no doubt excellent technical reasons) until the day it is introduced OR it may plan for its possible introduction.

It would seem wise to follow the second course and avoid similar conflict to that which occured between amateurs and citizens band operators in the United States when citizens band was introduced and to allow the Wireless Institute to gain access to a new field of amateur type radio operation, viz citizens band.

We propose that:

a) The Wireless Institute of Australia support the introduction of a fourth class of amateur licence, viz the Citizens Amateur Licence, with no examination requirements if the Commonwealth Covernemnt indicates that it is unable, or unwilling, in the near future, to legislate to stop the sale of 27 MHz transceivers, transmitters and receivers to unlicenced users or operators.

b) The Wireless Institute of Australia prepare for the possible introduction of a citizens type radio service by making immediate representations to the Federal Covernment and officers of the department of Post and Telecommunications, that in the event of this type of service being introduced it be made a fourth class of licence within the Amateur Service."

W.I.A. NOTES

Compiled by Geoff VK2ZHU

CONGRATULATIONS.

Secretary Keith now has his Full Call - VK2DHU.

Antenna up, not without difficulties, and FTlOl ready, he registered for QSL before he even got the rig fired up!

Another call sign is being anxiously awaited - Brian Bosley.

WIRELESS INSTITUTE OF AUSTRALIA.

We have received official notification that the I.A.R.S. is now a Member Club of the W.I.A..

In view of this, I wish to give notice that at the October General meeting Nominations will be called for the position of W.I.A. representative.

At present, Geoff VK2ZHU is close contact with the W.I.A. and

RADIO CONTROLLED MODEL AIRCRAFT.

It has been brought to our notice that on Sunday, 26/9/76, model aircraft flying in the area reserved for them at West Dapto, (west of our Moonbounce dish) were experiencing problems from interfering radio transmissions in the area.

Whilst we are sure it was not the work of Amateurs, it would be just as well to note the frequencies used by the aero modellers.

The large numbers of CB radios, with 23 channels to play with, that are on sale to anyone who can afford them, provide ample opportunity for people with a warped sense of humour to "shoot down" a model plane. When one considers, however, that one of these models travelling close to 100 MPH could suddenly dive into a crowd of people watching them, it doesn't seem so funny.

Model aircraft radio control has been allocated the following frequencies : -

26.975 to 27.255 MHz, 29.72 to 30.0 MHz, 40.665 to 40.695 MHz.

If you detect a "pirate" causing interference with model planes take the number of his car and report it to one of your committee members. Don't feel you are "dobbing" someone in, the fact is that radio Amateurs are being blamed for a lot of "pirate" activity and the only way we can clear ourselves is to find the culprits. In addition, we may be of service in enabling others to pursue their own legitimate hobby of radio controlled model flying with peace of mind.

Anyone like to build a 27 MHz sniffer ?

Keith, VK2BQU.
Ian, VK2ZJA.

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JAMBOREE OF THE AIR 1976.

Arrangements for the 19th Jamboree of the Air are now in the hands of the District Scouting Authorities.

This is an important event in the Scouting movement, and it is another example of the service which Amateur Radio Operators can provide for the community. The purpose of this event is that Scouts in different parts of the World may exchange ideas and to form overseas friendships.

By now most of our Full Call Members will have each received a circular giving appropriate directions for participation.

The Jamboree Of The Air will be held from 0001 H EAST 16/10/76 to 2359 H EAST 17/10/76. The following is a list of the official "OTA JAMBOREE" frequencies : -

Band (metre)	Phone (MHz)	C.W. (MHz)
80	3.740 3.940	3.590
40	7.090	7.030
20	14.290	14.070
15	21.360	21.140
10	28.990	28.190

I sincerely hope that as many as possible are able to offer the Scouts some period of time for the Jamboree and I trust the Scouts have a most successful event.

Ian, VK2ZJA, President.

Illawarra Amateur Radio Society

OFFICIAL STATION VK2AMW. P.O. BOX 1338 WOLLONGONG. NSW. 2500.

21.09.76

The Editor,
Modern Motor.
15 Boundary St.
RUSHCUTTERS BAY.

Dear Sir,

Your article "CB Pirates Stalk Airwaves" was of great interest to me. As the author of the article did not sign it I assume he either was afraid to link his name with it or or forgot what his name was, I'm not sure.

Firstly the CB band is not 27 metres as he stated in the article but 27 Megahertz, secondly there is considerable use of this area of the spectrum by fishing clubs, small boat owners & the coastguard in NSW. I can imagine a couple of pirates using their CB radio to alert their mates that the police radar is down the road while some unfortunate fishermen are drifting off to the middle of the pacific trying to call for help over the fishing club frequency which is being illegally used.

Most radio Amateurs would be glad to see CB operators licenced. This way there would be some control of frequencies used and what was being said over the "air". Also the use for which most CB operators could be expected to employ their radios would not be evasion of law enforcement as the article appeared to condone.

The Radio Branch of the PMG have introduced a "Novice" Radio Licence for people who do not have the necessary technical knowledge to obtain a "Ham" licence. This is quite basic and they feel that anyone allowed to operate more than a couple of channels should have some basic electrical knowledge – at least know that 27 metres is not the same as 27 Megahertz.

In closing may I state that all the poor persecuted pirates would not be operating their "off the shelf" radios if it hadn't been for the pioneering work carried out in radio by the big bad overbearing "hams".

I am,

Yours Sincerely,

Keith Soule VK2BUU

Secretary I.A.R.S.

Above is reproduced a letter which has been sent from this Society to the Editor of Modern Motor Magazine.

The original was presented at the Committee meeting held on 22/9/76, and was approved unanimously.

Committee is of the opinion that, in general, CB radio operators should by licenced, and it appears that there may be more widespread support for such licencing.

Editor.

CB PIRATES STALK AIRWAVES

STYLES of communication may differ but not the need or the importance of the message. Whether it be interstate haulers checking road conditions, tourists seeking directions or Dad'n'Dave chasing up a meandering mob, now the immediacy and directness which Citizen's Band radio offers (instant) is something of which Australians should be able to take full advantage.

Imagine a radio band with 23 channels left open for personal use by citizens. The possibilities are practically limitless but the system is not yet ours to use — there is a small problem. Citizen's Band radio in Australia is illegal — how stupid.

Communication is a right, not a privilege. The driver's licence is a privilege not a right.

The ease which technology brings to communications should be shared amongst everybody. Citizen's Band radio represents the first real challenge to accepted communications control in Australia.

Objections to the concept are the product of the efforts of a self-interested minority, and a band of bureaucratic poltroons.

"Hey Mable, this is Dave. Will yer tell Dad that Eunice and 'er calf are allway down the bloody road and headin' towards town."

"Struth Dave, I'll go and get Dad outa the dunny and tell him. Gawd 'e'll be mad Dave".

"Orright Mable, get off the bloody radio will yer. I'm gonna call up Kevin and see if 'e can 'ead 'er off before she gets over Flat Rock Creek".

"Okay Dave – gees, thank goodness we got this little radio set. Are you still goin' ter the pub?"

"Of course I am, but don't tell Dad will yer. Over and out."

The complainants consist of members of the amateur radio (Hams) group and members of the Radio Branch of the PMG.

For some unfathomable reason this small group has mounted a protest which could block the introduction of CB radio to Australia. Their argument focuses attention on abuse, availability and necessity.

In America, the birthplace of the CB concept, these problems have largely been overcome.

It's contribution to road safety alone has rendered untold benefits. The concept was introduced to many Australians through the activities of a number of truck drivers who link up on convoy through the use of CB radio.

What is CB Radio?

Citizens Band Radio is, in effect, a two-way radio similar to that operated by taxis, police, fire brigade and TV servicemen, except that it operates (in the US) on 23 channels of a little-used frequency in the radio spectrum.

Commonly referred to as the 27 metre band, CB operators have utilised channels which have practically no use to other operators due to a variety of factors. Firstly there are severe quality problems due to inherent features of this particular frequency — it picks up all sorts of noise, static and other interference (like vehicle ignition) it is essentially line of sight transmission only, and the range only extends up to 100 miles.

These difficulties, allied to the high quality of other frequencies in the available range of channels, have forced most operators out of the 27 metre band.

For instance, unless you and the person you are transmitting to are in ideal locations, then you run the risk of an incomplete transmission and receipt of the message — like if you drive into a valley or behind a large concrete office block.

It is the nature of the waveform in the 27 metre band which makes it undesirable for serious amateur operators, and commercial users who seek 100 percent perfect operating conditions at all times.

Realising this, the communications industry in Japan and the United States proposed that this frequency be made available to casual operators and citizens who had a need for a simple, cheap but effective means of sending and receiving messages via two-way radio.

The CB system does not replace the telephone. Rather, it can generate additional telephone usage.

The CB concept is essentially a service concept. It's more a means of exchanging information than exchanging small talk and pleasantries.

There has been abuse, but in a continent the size of America (pop. two hundred million) it's to be expected. But in a country like ours, where (as in the US) there are long distances between communities, there's a real need for instant and effective communications for the exchange of information which is of service both to the community and the individual.

The emphasis here is on CB's effectiveness in rural areas, both for residents and travellers.

Of course, CB radio has an application for use in cities, but the barriers to 100 percent effectiveness are many (high-rise buildings, a multitude of vehicles and population density which means a concentration of many sets in a relatively small area).

If communication is possible then you could use your car mounted CB to ascertain details of traffic jams, report emergencies, call for assistance and give important information to other road users.

Citizen's Band radio has literally swept America as the newest form of human communication — indeed the major weekly magazine Newsweek says CB Radio is the greatest breakthrough since the invention of the telephone. (The magazine adds: "Its impact on the English language may well be the most devastating since the inception of the talkies.")

It's no "craze" and mustn't be considered a "passing fad" — in the US one car in every 20 has a CB set and the Federal Communications Commission is processing 17,000 new licence applications each day.

So how does it stand in Australia?

At present it is not illegal to sell or advertise CB radio sets, but it is illegal to use them. However it's estimated that there are approximately 12-15,000 sets already in use in Australia, but the figures are not completely accurate and some enthusiasts say usage may run as high as 80,000 nationally.

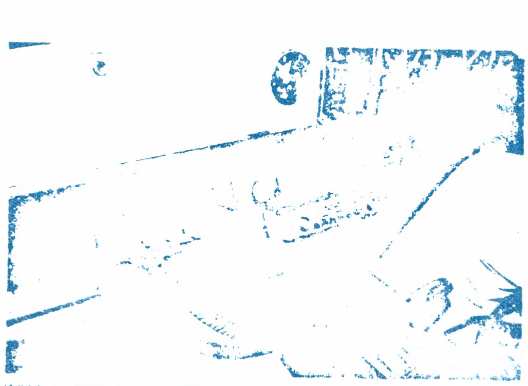
The sets are mostly those which are made for sale in the United States, Japan and Western Europe.

They operate only in the 27 metre band, offer 23 channels and the quality is typical of the current state of the Japanese electronics art — good. Some sets are made in Taiwan, but makers like the American Midland company have set up huge plants with stringent quality control systems which produce large numbers of CB units at extremely low cost.

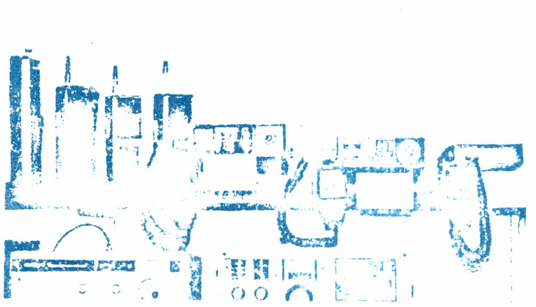
This explains why Australians can buy an efficient CB unit for as little as $110.

It's difficult for us to work out exactly what different set of circumstances

Advertising: *A marked police car with lights on*
Back Door: *Last vehicle in a convoy*
Bear: *Policeman*
Bear Cave: *Police station*
Bodacious: *Good signal, clear transmission over two-way radio*
Bone Box or Blood Box: *Ambulance*
Breaker (one oh): *I want to talk (on channel ten)*
Camera: *Police radar unit*
Check the seat covers: *Watch for a female driver with skirt pulled up*
Eatum-up: *Road side restaurant or diner*
Front door: *First vehicle in convoy*
Georgia Overdrive: *Neutral gear for going downhill – also Mexican, or Midnight Overdrive*
Going home hole: *High gear*
Handle: *Slang name for radio identification purposes*
Keep the bugs off your glass and the bears out of your arse: *Mind how you go*
Let the channel roll: *Let someone speak*
Loaded with sailboat fuel: *Running empty*
Negatory: *No, negative reply*
Plain wrapper: *Unmarked police car*
Pregnant roller skate: *Volkswagen*
Pumpkin: *Flat tyre*
Ratchet jaw: *Non-stop talker*
Roger Rollerskate: *Passenger car that's going more than 20mph over the limit*
Smokey: *The Bear, named because the hats some state troopers wear are similar to the cartoon Smokey Bear's park ranger hat*
Smokey with Ears: *Police tuned to CB*
Tijuana Taxi: *Well marked police car*
We gone: *Stopping transmission*



INSTALLATION of a standard CB unit is no more difficult than a stereo cassette player



A WIDE range of CB units are already available in Australia ranging in price from about $110 to $250

France and Italy, which stops the Radio Branch from encouraging the government to open the CB band for use by citizens.

If the Branch needs convincing why not consider the following cases where CB radio directly influenced the saving of lives.

- The first news of the 1975 Darwin cyclone was broadcast to most of Australia by an unlicensed Citizen's Band radio operator.
- CB radio operators in earthquake-torn Northern Italy helped transmit news of the quake, co-ordinate relief services, advise new casualties, and assist police and army units to pinpoint new emergency zones.
- In Ohio, America's most CB oriented state, the police units in each area of the state have fitted CB sets to all patrol cars and police stations to monitor emergency calls. This has, in one month alone, saved a truckdriver's life, resulted in the apprehension of several cars thieves, relocated two juvenile runaways, prevented a rape assault and a number of breaking and entering crimes.

In the United States a group calling itself Radio Emergency Associated Citizens Teams (REACT) has set up monitoring stations in nearly every part of the United States and volunteers monitor Channel 9 twenty-four hours a day.

Channel Nine is known throughout America as the emergency channel and if there's need to report an accident, fire, crime or civil emergency then the news can be relayed through Channel Nine and the REACT monitoring volunteers will pass the details to the closest Civil Defence Authority for immediate attention.

The REACT national headquarters in Chicago is sponsored by General Motors and maintains a liason between government agencies and the army of national CB users. The head office circulates details of operational guidelines to volunteer groups to ensure Channel Nine procedures are consistent nation wide.

One United States expert forsees the time when vital information for motorists will be transmitted automatically on the Citizen's Band and such information will be automatically monitored by the vehicle unit without recourse to voice transmission.

With the application of new and improved technology it's possible that police and ambulance vehicles will be equipped with direction-finders to allow the services to locate emergency cases by monitoring just the transmission signal, not just the operator's voice.

There's absolutely nothing complicated or difficult about CB radio.

This is probably one thing which riles the serious HAMS. They spend a lot of time and effort studying all the many facets of radio design, waveforms and associated electronic data.

The CB's simply buy a set, hook it up, press the mike button and "go to air".

We borrowed a set from Dick Smith, the electronics specialist of Artarmon (NSW) so that we could see what's involved in fitting the unit. Of course it's dead easy. Mounting instructions come in the pack and wiring up is as simple as fitting an ordinary car radio.

The set we sampled was an American-made Midland unit (model 830) and comes complete with fitting kit, mike and assorted screws. It's fairly basic and reception is critically related to aerial fitment. We did not operate our set (because it's against the law), but confirm that fitting up is easy and following the simple instructions would make operation a breeze.

In the US many campers use a vehicle-mounted CB unit, with additional walkie-talkie type sets to communicate with their wandering family who may be hiking long distances from the original campsite. Like we said, the uses are limitless, and very beneficial in most cases.

Cost seems pretty acceptable too — a car unit like the one in our photos cost $109.50, the aerial $22.50 and that's it. If you wanted to instal a unit in your home, then a base station could cost around $110, with $30 for a regulated power supply (12V, 2A) and $28 for a nine-metre ground plane aerial.

Remember however that operation of these freely available sets is against the law and you risk confiscation and prosecution. However, if you're concerned about detection and you live in the Sydney area, keep a lookout for a blue Toyota Hi-Ace camper van with floral curtains, a roof rack and Commonwealth plates.

You could be forgiven if you see CB radio as yet another gimmick, and in the initial stages maybe it is just an expensive toy.

However, we at Modern Motor see a big future for the system in Australia and are eager to support it to the full.

We believe the concept can offer a great deal, especially in rural areas and on Australia's long and lonely highways. For instance if cars were widely equipped there's a good chance that eastern state police forces would have more leads on the recent spree of hitchhike murders.

At the moment, in Australia, CB is being used in contravention of the regulations, and the air waves are filled with enthusiastic amateurs learning the potential of this new communications system, but things will get better when both government and citizens put the stamp of approval on the concept. ■

Further inquiries to:
NCRA
P.O. Box M101
Sydney Mail Exchange
SYDNEY 2012

The Federal WIA has its own Constitution and is registered in Victoria where it has its headquarters so long as the headquarters of the Radio Frequency Management Branch has its headquarters here. Its name is "The Wireless Institute of Australia" as distinct from those registered in the various States and ACT which are named "The Wireless Institute of Australia, Victorian Division", "The Wireless Institute of Australia, New South Wales Division", etc.

The affairs of the Federal WIA — let us call it the WIA to save words — are controlled by the Divisions acting together in the Federal Council. This Federal Council is made up of a representative, called the Federal Councillor, from each Division. Normally the Federal Council meets once each year at the Federal Convention.

The day to day affairs of each Division are managed by a Divisional Council (commonly of 10 members) which is elected by the Divisional membership annually.

The day to day management of the WIA is done by the Executive assisted by a number of sub-committees. The members of the Executive — six altogether — live in Victoria but are not members of the Federal Council. The Chairman of the Executive is the Federal President and he is usually the Chairman at Federal Conventions. The members of the Executive are elected at the Federal Convention.

When the WIA was formed the Federal Council (i.e. each Division's Federal Councillor) decided that, as it had been agreed by all the Divisions that there was a great need for a central office function, Central Office must take over, on behalf of the Divisions, all the work involved in subscriptions and membership records. Thus it came about that the Executive office does this work (through EDP) as well as acting as a central point for the Federal Councillors and a host of co-ordinating and other work in the Federal sphere.

The Executive is also responsible for publishing the journal "Amateur Radio" which is wholly owned by the Federal Council. In practice, AR, as we call it, is managed by a Publications Committee under the control of the Editor. This Publications Committee also looks after the publication of the Call Book and the Magpubs operations.

Because all the executives of the Institute at Divisional and Federal levels are volunteers, it is only natural that the paid staff of the Executive office is called upon to perform a wide range of duties, including ghost writing, exchange of information at all levels, preparation of reports, briefs and so on, much of which would have been done by the various executives themselves if they had formed part of a commercial organisation. The Secretary arranges interviews with Government officers and other persons and normally is in attendance for the purposes of co-ordination. He also attends Federal Council, Executive and other WIA meetings, all of which ensures a continuous pool of knowledge, documentation and information to facilitate the operation of the WIA.

Channels of communication by individual members are direct to their Division unless some special subject requires otherwise — for example subscriptions to Executive office, comments direct to a Federal body, etc. If you write to the Executive office about Divisional matters (for example, membership grading) delays will occur because your letter will be sent to the appropriate Division to deal with.

The central WIA's Executive is assisted in its day to day work by a number of Federal sub-committees or persons expert in specialised fields. The Publications Committee is one, the Project Australis Group, VHF/UHF Advisory Committee and Federal Repeater Committee are others.

Other fields are covered either by "Co-ordinators" at a central level — Intruder Watch, YRCS, EMC — or "Managers" — Federal Contests, Federal Awards, Federal QSL, SWL Awards. Additionally, there is the Federal Historian and the IARU Liaison Officer. In theory all these sections correspond with their Divisional counterparts but there is considerable flexibility depending on the subject.

Each Divisional Council controls and manages a number of important local matters. Amongst these are dealings with the respective State Radio Branches on State affairs such as local repeaters, Amateur Advisory Committees (which are most important arbitrators, as it were, between the individual and the Radio Branch) and the acquisition and sale to members of disposals, components and equipment.

Many of the Divisions conduct their own classes and courses to prepare people for amateur examinations in theory, regulations and morse code. Some clubs also carry out these functions on their own account. Another local function is the QSL bureau both inwards and outwards for the benefit of members. This has assumed increasing importance as the postage rates go up.

Each Division conducts a broadcast at specified times to disseminate news and items of interest for country members and interested listeners. The broadcasts are usually done on Sunday mornings on most of the lower HF amateur bands as well as on VHF. Every Division issues a bulletin or news sheet (often times as an insert in AR) covering items of Divisional interest so as to free the pages of AR for technical articles and matters of general, as opposed to local, interest.

Yet another important function of Divisions (and indeed the radio clubs as well) is to provide a focus for numerous social activities, lectures, specialised groups, field events and so on. Indeed, the larger Divisions own or rent their own central premises and in two cases have an office manned by a paid clerical assistant.

The Divisions also provide certain other facilities devoted to the advancement and betterment of amateur radio for their members. One specific item worthy of mention is advice or assistance if an amateur encounters interference problems or difficulties in getting planning permission to erect masts and aerials.

JOIN THE WIA

WIRELESS INSTITUTE OF AUSTRALIA

Application for membership forms are available from Geoff Cuthbert, VK2ZHU, or direct from The New South Wales Division of the W.I.A., 14 Atcheson St., Crows Nest, NSW. 2065.

An organisation is only as strong as its members, so lets see what you can do towards reaching the target membership of 8000.

Reprinted from QST October 1948, and reproduced below from the September 1976 issue of the Mosrabbin & District Radio Club newsletter.

HOW WRONG CAN YOU BE!

The "Transistor"-an Amplifying Crystal

There was a time in the early days of radio when the"oscillating crystal" could be catalogued with sky hooks, left-handed monkeywrenches and striped paint, because no one knew how to amplify a signal with a galena, silicon or other crystal. All this is changed by the recent Bell Telephone Laboratories' announcement of the "Transistor", a small germanium-crystal unit that can amplify signals, and hence be made to oscillate.

Housed in a small metal tube less than one inch long and less than a quarter inch in diamater, the Transistor has no filament, no vacuum, and no glass envelope, and is made up only of cold solid substances. Two "catwisker"-point contacts are made to surface of the small germanium crystal, spaced approximateley 0.002 inch apart.

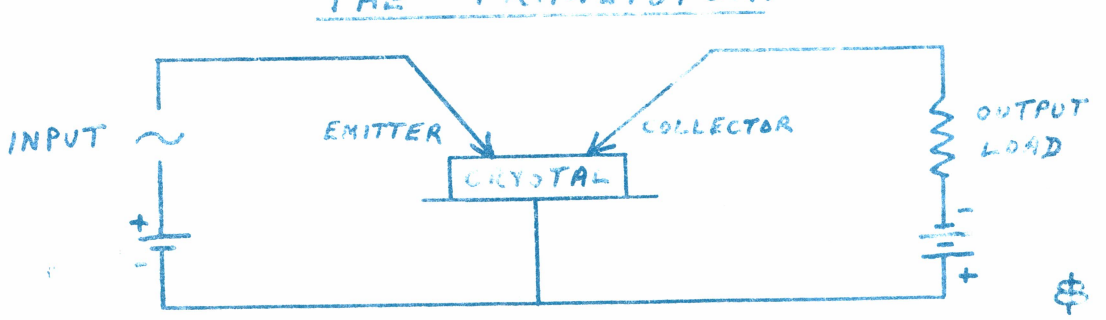
The Transistor shown is connected as an amplifier in the accompanying sketch. The contact on the inputside is called the "emitter" and the output contact is called the "collector" by the Bell Labs. A small positive bias of less than one volt is required on the emitter, and the output circuit consists of a negative bias of 20 to 30 volts and a suitable loade. The input impedance is low (100 ohms or so), and the output impedance runs around 10,000 ohms.

In operation, a small static current flows in both input and output circut. A small current change in the emitter circuit causes a current change of about the same magnitude in the colector circuit. However, since the collector (output) circuit is much higher-impedance circuit, a power gain is realized. Measuring this gain shows it to be on the order of 100, or 20 db., up through the television video range (5 Mc. or so). The present upper-frequency limit is said to be around 10Mc., whsre transit-time effects limit the operation.

The Bell Labs have demonstrated complete broadcast-range superhet receivers using only Transistors for oscillator and amplifier functions (with a 1N34 second detector and selenium power rectifiers). An audio uotput of 25 milliwatts was obtained by using two Transistors in a push-pull connection. However, it seems likeley that in the near future Transistors will find their maximum application in telephone amplifiers and large-scale computers, although their small size andzero warm -up time make them very useful in hearing aids and other compact amplifiers.

It dosen't appear that there will be much use made of Transistors in amateur work, unless it is in portable and/or compact audio amplifiers. The noise figure is said to be poor, compared to that obtainable with vacuum tubes, and this fact may limit the usefulness in some amateur applications. Theseclever little devices are well worth keeping an eye on. -- B.G.

THE TRANSISTOR.



Moonbounce Report - October 1976.

Scheduled moonbounce tests were carried out on the morning of 26th September with W5LO, who was not heard, and WB5LUA, who transmitted that he was hearing VK2AMW at 'M' copy. We heard his signals weakly for most of the test period and they came up to 5dB. above noise on his last transmission. This allowed copy of full callsigns but the test period ran out before a contact could be made.

Letters were received from K3PGP and W4ZXI before the test weekend, requesting tests with each of them during the hour immediately prior to the scheduled tests. However moonrise was such that our allowable first transmit time was only 15 minutes before the start of the scheduled tests. Both stations were called during the 15 minutes but no replies were heard.

Our echoes peaked to 9dB above noise during this test period.

Sun noise was checked at 13dB above sky noise.

A further series of scheduled tests were carried out during the evening of 26th. September with European stations. OZ9CR was called but not heard. SK6AB was heard calling us and he was acknowledged, but another European station came on frequency during the last part of the test period and blotted him out.

The last half hour of the test periods was scheduled as a 'CQ period' for VK2AMW. We were called by LX1DB in Luxembourg, who gave us 'O' reports (good signal strength). His signals peaked at 7dB above noise and we were able to copy full calls without any difficulty. Reports were acknowledged both ways for the first Australia - Luxembourg 70 centimetre contact.

Noise 'signal' emanation from the stars at the Galactic centre was checked at better than 2½dB above cold sky noise. This information is now being evaluated to provide antenna gain - receiving system noise figure relationships which can be correlated with sun noise measurements and cold sky - 50ohm input termination resistor noise variation. ([illegible])

VK2ZEN and VK2ALU carried out the September tests.

Lyle VK2ALU.

[illegible]

23 Princes Highway [illegible]

COMPONENTS FOR SALE.

BOOKS.

Basic Electronics. A very useful book, especially for beginners. Published by Electronics Australia. $3.00

Projects and Circuits. Over thirty Electronics Australia projects combined into a book of 112 pages. $1.50

Westlakes Novice Licence Manual. A very good and inexpensive book. Sample Novice Exam paper available free. $2.50

GENERAL.

Pair meter leads with alligator clips	50c
Vernier dials 35mm. 4 turns knob for ½ turn dial	$1.50
DPDT slide switches	25c
4 pin plug and socket - pair	15c
Alligator clips - large, insulated. Red or Black.	20c
Coax sockets UHF.	40c
10K A and 15k A potentiometers	50c
500k C switch potentiometers	60c
Ground Plane Antenna Base.	$1.00
Edge connectors.	$1.00
Tag strips.	10c

CONDENSERS.

.0068 mf feed through capacitors.	10c
Ceramic trimmer, mica insulation.	30c
Small solder type feed through capacitors.	5c
Wire wrap type trimmers.	10c
Ceramic bolt-down trimmers.	10c

A special purchase of 25V Electrolytics.

4.7 uF	6c
100 uF	12c
220 uF	15c
470 uF	20c
1000 uF	25c

Greencaps. 100V.

.0047, .01, .002	8c
.047	12c

NEOSID.

Formers	8c
Balun formers - small	12c
large	15c
Cans - single	10c
double	12c
Slugs - F 29, F 16, long ferrite beads.	7c

METERS.

S Meter. 400uA 1 3/8" x 5/8"	$2.50
Level Meter. dual 200 uA meters, illuminated.	$3.00
0 - 1 mA Meter. 50mm square.	$1.00
0 - 1 mA Meter. 75mm x 50mm.	$2.00
0 - 10 A Meter. 75mm x 50mm.	$2.00

RESISTORS.

Bag of 160 ½ watt resistors. $4.00
10 each of values 10, 47, 68, 100, 220, 470, 680, 1K, 2.2K, 4.7K, 6.8K, 10K, 22K, 47K, 68K, and 100K.

The I.A.R.S. Store is stocked with selected purchases of good quality components. A small profit is marked up on these items but prices are quite good. The profit goes towards expanding the range of items kept in stock.

Bring your money on meeting nights and keep stocked up with those often needed components.

STOP PRESS. SOME GEAR EX VK2AFF WILL BE AUCTIONED AT OCTOBER MEETING.

THE PROPAGATOR.
Newsletter of the Illawarra
Amateur Radio Society.

WOLLONGONG
2.30PM
5 OCT
1976
N.S.W. 2500

PLEASE POST EARLY
BEFORE 10 A.M.
BEFORE FOUR O'CLOCK

MR.L. PATISON VK2ALU 82
98 HEASLIP STREET
WOLLONGONG 2500

I.A.R.S.
P.O. BOX 1838,
WOLLONGONG. NSW. 2500.