Feb 05

THE PROPAGATOR.

Club Call VK2AMW

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Meetings held second Tuesday of each month (except January).
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PO Box 1838 WOLLONGONG 2500.
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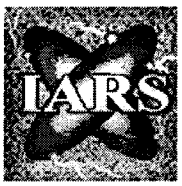
E-MAIL secretary@iars.org.au



Editor Dave VK2TDN
davenn@optusnet.com.au

News Flash....

IARS Affiliatiation With The WIA,
Ted VK2ARA, reports that our club was the first to be recognised as affiliated with the new WIA

Greetings all, I would like to wish everyone a happy new year. I wonder how many new year resolutions have been made and broken already ☺ . Presented in the issue is part 2 of a 2 part article by Fred Backer VK2JFB, On the life of Nicola Tesla. Jack Hayden VK2XQ also presents part 2 of his 6 metre article. Thanks to both of you a good conclusion to both these articles. The Indonesian tsunami and some good storms have kept me busy over the last 2 months with masses of data to be collected. The severe storm that crossed Sydney on the 2nd of Feb caused a good amount of damage in my area (Ryde) and for the first time in 5 years I had to go onto battery power for my 2m and 70cm radios at home due to power cuts. Some of my pics of the damage are available at http://www.sydneystormcity.com/A050202.htm

A reminder to all that I am looking for lots of articles for the newsletter for the coming year. Small construction articles are keenly sought, something that fills an A4 page would be great. So what have you been building?, what cool projects have you come across that would be worth sharing with others. Email them to me at the above address or post printed articles to me at my callbook address. Tho for the last choice it would be good if you could type out the article and email it and I could do the circuit drawings for it, if u have a printed copy. What DX have you been working? Any good 2m or 6m maybe some rare HF DX let us all know its good to hear what has been happening around the bands.

Read on and enjoy this issue of the Propagator cheers Dave VK2TDN Editor

COMING EVENTS.

1) Club Broadcasts Tuesday nights 1930 hrs local time
2) Club Slow Scan TV Monday nights 1930 hrs local time
   The above events take place on the 146.850 and linked repeaters.
   The Tuesday nite club net can also be heard on 3.620MHz
3) The 'new' have a chat net is on 28.320, 1700 onwards, most nights

4) 08/02/2005 when we will be having a guest speaker, Graeme Cashion (VK2QI) , who is passionate about the preservation and restoration of World War II radio equipment (and old mantle valve radios).

5) Max Riley will be our guest speaker for March, give a talk about G5RV's - Trick or Treat.

A Construction Quickie

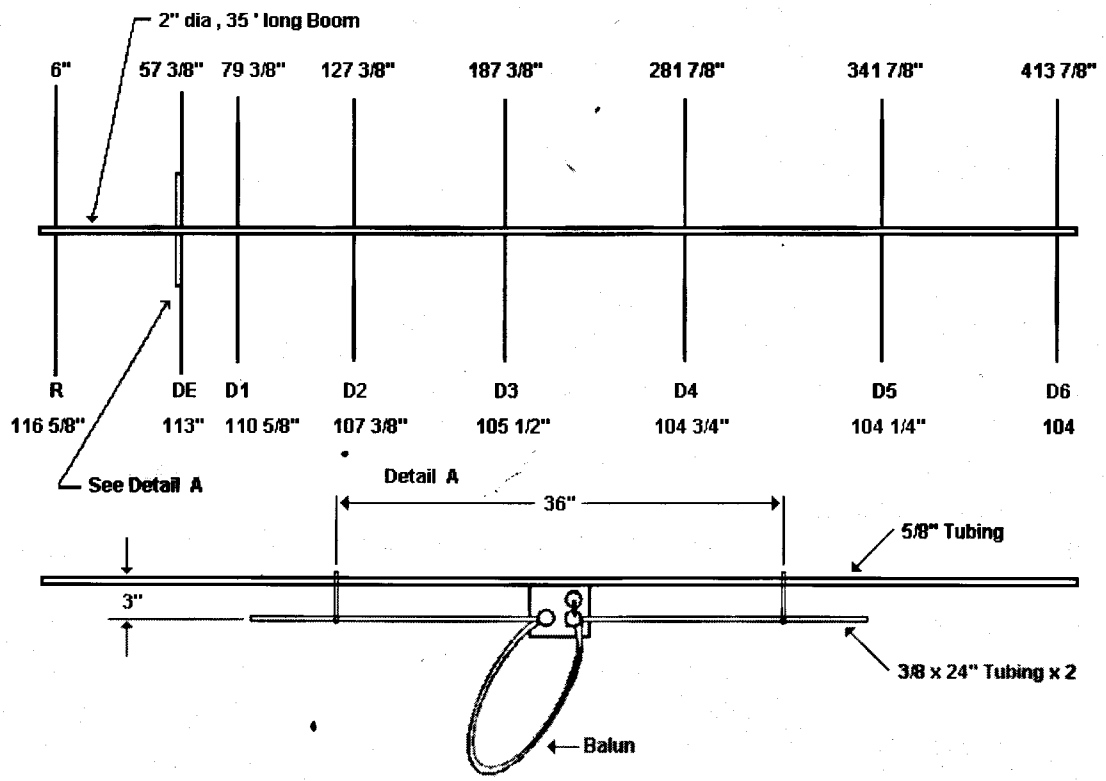


fig. 6. Optimised eight element, 6 metre Yagi construction details. Element location referenced from rear of boom to prevent tolerance error buildup. A 4:1 halfwave balun made from RG 11 75 Ohm coax is used. Overall length of the balun including connectors is 78 inches, Coax can be coiled up in a 6 to 9 inch diameter loop and taped to the boom.

Nicola Tesla

1856 - 1943

The Eccentric Genius of Electricity

Part 2

Westinghouse

Westinghouse already had some interest in AC. In 1883 he had bought the U.S. rights to an English transformer patent. He also employed a young engineer called William Stanley who understood transformers. If he could get Tesla and Stanley to work together he would be home and hosed.

Westinghouse promptly met Tesla in his laboratory to see the new equipment demonstrated. He then persuaded Tesla to sell him the patents for one million dollars plus a royalty of a dollar per horsepower - about half the price he had been prepared to pay. Still, Tesla was happy with the money.

Now Westinghouse had to turn the prototypes into saleable products -and quickly too, because he was embroiled in an expensive patent litigation with Edison about incandescent lamps. Tesla was offered a job as consultant to work with Stanley in Westinghouse's Pittsburg factory, but this never worked out. Tesla just couldn't work with anybody else and was relieved when he could retreat to his New York laboratory to work on new things.

Edison and Westinghouse, meanwhile, went on to wage a monumental "battle of the giants" in and out of courts - DC versus AC systems. We know which system won. When the Pittsburg World Fair opened in 1893 Westinghouse's Tesla AC system powered 96 000 lights.

Resonance

Back in his New York laboratory Tesla sold his outstanding royalties for $26,000 and then got busy spending his money on new experiments. He was totally absorbed by two subjects: resonance, and the wireless energy transmission. He was the first to understand that all wave motion, mechanical, electrical or heat, were basically the same and if he could understand one he could understand the other. This led him to a series of experiments on mechanical and electrical resonance.

His mechanical experiments had some bizarre side-effects. To observe the effects of resonance on mechanical bodies he built a vibrating platfom with variable oscillating frequency. When he connected this to one of the iron pillars that carried the laboratory roof he almost brought down the building when he struck resonance. He then decided to stand on the platform himself and tried to bring his body to resonance. This turned out to have an acute and potentially embarrassing laxative effect.

His electrical experiments during the 1893 - 1895 period centred on combinations of coils and and capacitors, and he gained a deep insight in electrical resonance. This led him to the invention of the invention of the "Tesla Coil", which uses resonance to produce high voltage R.F. electricity at discrete frequencies, and an L-C tuning device for frequency-selective radio reception, both of which he patented.

He found that the RF high voltage from his Tesla coils radiated quite well, as he demonstrated by running a wire loop around his laboratory wall. He placed gas tube lamps (somewhat similar to today's fluorescent tubes) around the lab and these would light up when the loop was energised. He also demonstrated that he could operate lights selectively at a distance by connecting them to a resonating LC circuit for reception.

In 1893 Tesla gave a lecture to the National Electric Light Association in St. Louis. Here he described the essentials of the wireless system we still use today : antenna, ground, resonating circuits in transmitter and receiver tuned to the same frequency, and a electronic signal detector. Tesla had invented radio three years before Marconi made his first experiments.

Down but not out

Tesla spent the last remains of his money on building a series of radio transmitters and receivers. In 1895 he was ready for a demonstration, which would involve communication with a ship he would hire to sail the Hudson river. Then calamity overtook him: his laboratory was completely gutted by fire the night before the final tests. Equipments, records, tools, all were lost. Typically Tesla had not bothered with insurance, and as his money was gone, Tesla was ruined.

Surprisingly he managed to get a $40,000 grant from a banker and soon Tesla was busy resurrecting his radio system from memory. In 1897 he had perfected a multi-channel wireless system, his patents were secure and he was ready to show the world his new marvel.

Typically, Tesla completely bungled the demonstration. Instead of higlighting the system's huge telecommunication potential he put on a circus-like show centred on a 5 foot model boat floating in a water tank in Madison Square Gardens. Tesla made the little boat go, stop, turn left and right, turn its lights on and off, and even submerge, but the public was not impressed. Neither was the Navy, to whom he touted the model as a prototype for an unmanned submarine. Press reports spoke of "mind control", which didn't help Tesla's scientific reputation. Tesla abandoned the project and turned to other ideas.

Marconi

To appreciate just how far ahead Tesla was with his frequency-selective system, let us look at the principle behind Marconi's early "non-resonant" transmitters. Theoretically you could still rig up such a transmitter today from a few scrap parts. To to so in practice, though, would be potentially lethal apart from being quite illegal: you would be likely to blank out out communication in your neighbourhood.

All you would need is a 12V car battery, an automotive ignition coil, an old style electromechanical interruptor - say from an old bell or buzzer , an antenna of indeterminate length and an earth connection. Connect the high-voltage side of the ignition coil to antenna and earth, connect the coil primary to the battery in series with the interruptor, that's all. Close the primary circuit and the transmitter will produce damped waveform oscillations, generating a nasty RF noise over a wide frequency band. There is no tuning, no resonant circuits. To receive this noise all you need is an (equally unselective) receiving antenna, earth, and a signal diode rectifier with, at its output, sensitive headphones in parallel to a small capacitor.

In the early days this brute force method actually worked fairly well over short distances, mainly thanks to the fact that hardly anybody used radio waves and the RF spectrum was immeasurably quieter than it is today. Amazingly, last-ditch emergency transmitters built along this principle could still be found in some lifeboats up to WW II.

Tesla later went on to experiment with very low frequencies. He actually managed to make his signals circle the world whilst Marconi was still struggling to cover 100km.

Marconi, however, was way ahead of Tesla in realising the huge potential of wireless telegraphy. He had a head for business and could work with others in commercialising his systems. Whilst Tesla kept playing around with whatever grabbed his attention at the time, Marconi systems went on to conquer the world.

Fred Backer VK2JFB
19.11.2003

I came across an interesting TxRx programme called MULTIPSK3.3
From Rob VK2XIC

Some one in the Club may be interested in giving it a go. What it does,

Translation of BPSK31, QPSK31, PSK63, PSK63F, PSK10, PSKFEC31, PSKAM10-31-50, CW(Morse between 10 and 54 words per minute), CCW (Coherent CW) at 12, 25 and 50 words per minute, MFSK8, MFSK16 with SSTV capacity, MT63, THROB, THROBX (evolution of THROB 1 and 2 bauds), RTTY at 45, 50, 75 and 100 bauds, AMTOR ARQ, SITOR A, AMTOR FEC, SITOR B, NAVTEX, FELD HELL, PSK HELL, HF FAX and SSTV (Martin1 and 2, Scottie1, 2 and DX, Robot 36 and 72, B/W24).
The pseudo mode FILTERS allows AF processing with filters low-pass, band-pass, rejector, noise reduction... An automatic detection of BPSK modes (from PSK10 to PSK63F) is available.
Transmission in BPSK31, QPSK31, PSK63, PSK63F, PSK10, PSKFEC31, PSKAM10-31-50, CW, CCW, MFSK8, MFSK16 (+ SSTV), MT63, THROB, THROBX, 45 bauds RTTY, AMTOR FEC, FELD HELL, PSKHELL, HF FAX and SSTV. Panoramic reception of 23 channels in 3 different modes (BPSK31, PSK63 and PSKFEC31).
Supervision functions: beeps and blinking on reception (among one of the 23 channels) of a predefined text ("CQ CQ", for example) or automatic return to the main decoder. Automatic reception and location (on the world map) with possible recording of the received calls and making of a reception report.
Alarm on reception of a call.
Possible working in beacon.
Function "Beeps on your call": beeps and blinking on reception of the operator call.
Possibility to transmit and to receive in two different modes (for non-graphical modes except PSKAM modes).
Possibility to translate a sound file (.WAV) and to record one.
Country determination according to a prefix or to a call and location on the world map. Selection of the transmission on an AF spectrum.
Adjustment of the input and output levels with AGC.
Possibility to create and transmit 12 sequences of 5000 characters.
Macros system available.
Storage of the 65500 first characters transmitted or received.
Log book to record QSOs.

many of the modes I haven't heard of but thats nothing .....
I have downlowded a copy and thought I would have a 'poke or peek' at the CW area with SHF in mind.

The URL is http://wwwi6kzr.it/index.php

Regards
Rob.

Introduction to Six Metres

Part 2

Jack D. Haden VK2XQ

Six metre beacons

As with tracking the rising MUF, the monitoring of beacons is also an important task of the 50MHz DXer. There's a worldwide six-metre beacon network and a list can be found in the annual WIA callbook.

As with the 45-49MHz TV frequencies, you can programme a number of prominent beacon frequencies into the memory bank of the transceiver. By placing important beacon and TV frequencies in the memory you can access them more quickly to make propagation path judgments.

Liaison for 50MHz

The internet plays a very prominent role in the exchange and monitoring of information regarding six metres. There are a number of web sites, both in Australia and around the world, offering further information.

For those who are not on the web there's the 28.885MHz six-metre liaison frequency. Many six-metre operators congregate on 28.885MHz SSB when the band is open. News and information is readily exchanged here.

Designated calling frequencies

The international DX calling frequency is 50.110MHz CW and SSB, a sub calling frequency of 50.095MHz also exists for CW only. However, stations in the USA tend to use 50.125MHz CW/SSB as a calling frequency throughout North America.

A VK local and interstate calling frequency exists on 50.200MHz SSB, however, it's seldom used. The FM call frequency is 52.525MHz simplex and is often very active during interstate openings with many contacts taking place.

The allocation 50.220 to 50.240MHz has been set aside for the digital DX modes. PSK operators usually congregate on or around 50.220MHz, MFSK and JT44 on 50.225MHz and finally, FSK441 or fast Hellschreiber on 50.230MHz.

As with all calling frequencies, it's a common courtesy, and the mark of a good operator, to move to another frequency once a contact has been established.

Grid Squares

You will find many people on the VHF and UHF bands, and six is no exception, collect grid square information. Many also collect QSL cards to confirm a two way contact with a particular grid square.

Grid squares are not new to radio; the German U-boats used grid squares during WW-II as an additional plotting tool.

The world is divided into 32,400 Maidenhead Locator Squares, in the 1950's; the system was adopted by European radio amateurs to define more closely their locations, usually during contests.

During these contests scoring was based on the distance, normally one point per kilometre and the so-called "QRA Locator", which was renamed in 1972 to "QTH Locator". The system used two letters to indicate the largest unit, "square", that was two degrees (longitude) one degree (latitude). Without repetitions the system covered the area 0-52 degrees eastern longitude and 40-66 degrees northern latitude.

The grid square idea proved so popular it spread to North America and it was decided at a meeting of the European VHF managers in Amsterdam in 1976 that a world wide locator system be employed. In 1978 plans were formulated throughout the regions and in 1979 (after a number of submissions were examined) a system was proposed dividing the entire world into grid squares.

In 1982 the Maidenhead locator system was adopted by the IARU Region-3, and by IARU Region-2 in 1983 and Region-1 in 1984. It became a worldwide system officially adopted on New Years Day in 1985.

Grid Square Atlases for radio amateurs have been published (ARRL), and there's numerous pages on the internet covering the subject. Generally, most of Wollongong is located in QF-55, whilst Sydney, north of Campbelltown through to Teralba is in QF-56. It's possible to work out your exact grid square locator by using a GPS fix; this bearing is then converted by a calculation to give two letters by two numbers by two letters. The last two letters further define the bearing.

For example, generally, Sydney is QF-56, two letters by two numbers being the main square in general. However to further exact the position my own location, for example, becomes QF-56ne. The lower case "ne" further defines the position within the main QF-56 square within a few hundred metres.

Generally, most VHF DXers on 50MHz are only interested in the two letters by two numbers location, however, on bands two metres and above, many will seek the last two letters for more distance accuracy.

Conclusion

I have deliberately refrained from excessive detail; this is merely just a guide to introduce the basic fundamentals of the 50MHz band. There are many more detailed aspects covering six metre DXing, especially the field of antennas, propagation and grid square locators.

One thing is for certain, you never stop learning when it comes to the art of VHF DXing, and there's always a new challenge. Six can be very confusing, frustrating and at times, appear very boring but somehow it still manages to embrace many radio amateurs from around the world under its spell. It's not called the magic band for nothing!

73 de Jack D. Haden VK2XQ (ex VK2GJH).

PLEASE SUPPORT OUR CLUBS SPONSORS AS THEY SUPPORT OUR CLUB.

Two antennas meet on a roof, fall in love and get married.
The ceremony wasn't much, but the reception was excellent.

Presidents report for the propagator 27/01/05

Happy New Year to all members, it's good to be back after a hard earned break.

What's in store for this year? Well, it's up to all of us to make things happen. We as members of the best amateur radio club in Australia will continue as a club to prevail with your support. Every bit of assistance is appreciated and you would be surprised how far that goes. If every member did just a little, it soon adds up.
Financially, we are in quite a good position, in fact probably the best we have been for many years. Let's not get too complacent however, as with commercial interests etching away with site fees etc; we should always be on the look out to raise money and to conserve the money we have.
Just like business, we in the committee as bean counters must spend money in the right ways. I'm sure the members would expect, and have the right to expect that to happen.
It's great to see the smoke is settling after major changes with amateur radio throughout 2004. Unfortunately, I can see no other way that long overdue changes could have been made. As they say, no pain no gain, and let's face it is human nature is to sit on ones hands.
Anyway this year certainly looks like it will be bigger and better than ever. I look forward to seeing more of you at the club meetings and who knows with members support maybe even a few special club events throughout the year.

Best 73's
Tony Stone
VK2TS
IARS President

Some more WWW Sites From Rob VK2XIC's Favourites List

http://www.siliconchip.com.au/cms/search/index.html (This site is very good)
http://au.geocities.com/vk3hjq/vk3hjq/packet.htm
http://www.qsl.net/soundcardpacket/
http://www.saao.ac.za/~wpk/map/sitemap.html#astronomy
http://www.ve1alq.com/downloads/dishfeeds/dishfds.htm
http://status.irlp.net/statuspage.html
http://www.minikits.com.au/
http://www.ukirlp.co.uk/

Art Union Tickets will again be available for sale by club members this year
They will be available from Feb meeting and must be returned by March meeting.
Making good sales of these tickets will ensure funds to pay for maintainence/licencing
of at least one of our repeater sites

PLEASE support this fundraising activity it has worked so well for the club in past years

Our Committee.

President. Tony Stone VK2TS vk2ts@bigpond.net.au ph: 0404 839465
Vice President. Rob McKnight VK2MT mcknight@winnsw.com.au 0408 480630
Secretary. John Bennett VK2AAL vk2aal@comcen.com.au ph: 4297 6065
Treasurer. John Lawer VK2KEJ ph: 4228 9856
Committee.
Ted Thrift VK2ARA tthrift@iprimus.com.au Ph:4272 9521
Geoff Howell VK2HIC Ph:4276 1434 (Public Relations)
Boris Rewak VK2JJJ boza@ihug.com.au
Peter Reid VK2HPR vk2hpr@1earth.net
Ned Macintosh VK2AGV criticalmass@hotkey.net.au
Daniel Brem VK2TAU dan@knowmore.com.au Ph 0419 288682
Fund Raising Committee. Dom VK2SX, Peter VK2HPR
Editor. Dave Nelson VK2TDN, e-mail davenn@optusnet.com.au ph: 9808 5902
Publicity Officer. Geoff Howell VK2HIC Ph:4276 1434
Membership secretary. John Bennett VK2AAL vk2aal@comcen.com.au ph: 4297 6065
Repeater Committee. Rob VK2MT, John VK2AAL
Canteen. Leigh Whitmarsh, Peter VK2HPR.
Web Master. Michael EckArdt VK2GNV, with help from Daniel VK2TAU.

Two cows are standing in a field. Daisy says to Dolly,
"I was artificially inseminated this morning."
"I don't believe you," said Dolly.
"It's true, no bull !" exclaimed Daisy.

A couple of pics of Dave VK2TDN and Vaughn VK2KBI doing some WBFM 10GHz experiments at Vaughn's location late Dec 2004.

Below, Vaughn is using my Gunnplexer with a 12x8 cm horn antenna and his IFR communications test as a 30MHz receiver. Unfortunately is isn't designed as a sensitive receiver and by the time we got to 700m between xceivers it couldn't hear the other transmitter. I need to build another WBFM 30MHz receiver and pre-amplifier.

Dave VK2TDN

Members profile

Member LYLE PATISON VK2ALU

How do you compress 80 years of life and 58 years plus of amateur radio experience into even a few pages, let alone an item of Propagator size!!!
So here goes -

Lyle was born in Sydney and started his working life in the power generation industry in 1940, as a junior electrical operator in the Department of Railways metropolitan Power Stations of Ultimo and White Bay.

In the late 1930's he became interested in radio as a hobby and prior to World War 2 built short wave receivers - to "listen to the world" Inevitably, he found the amateur bands and that, after much self study, culminating in passing his AOCP exam in 1942 (yes, they were still being held - and included Morse code at 12WPM, as it was "Full Calls" only in those days!)

In 1943, Lyle joined the RAAF and was first "bitten by the microwave bug" while using aircraft airborne navigational radar equipment over Europe.

After the war, shift work and part time attendance for the Electrical Engineering Diploma course, reduced time for his amateur radio activities for several years, but an Experimental License under the callsign VK2ALU was received in 1946 "to erect an Experimental Wireless Station and to operate the said station for a period of twelve calendar months" - "Amateur" Station Licenses came into being later!

In this year equipment was built and operated on 168MHz, then, in 1947, on 7MHz and 14MHz, followed by 50MHz and 290MHz in 1948, and on 580MHz in 1949 (On 50MHz he "Worked All States"- as it was then and New Zealand, in the 12 months to January 1949!)

Over 100 contacts were made on the above VHF and UHF bands with the relatively small number of amateurs in the Sydney and Blue Mountains area who experimented with fairly simple homemade AM and CW equipment on the higher frequencies prior to 1950 - while many enjoyable contacts were also made on the HF bands (again on AM or CW, as SSB had not been heard of and even FM was not "intentionally" used!).

One of his more novel projects, at that time, was the construction of a 168MHz two way amplitude modulated oscillator transmitter/super regenerative receiver "Handy Talky", with which several "pedestrian mobile" contacts were made while walking around the streets of Gladesville with other members of the radio club (the Gladesville Amateur Radio Club). He still has this HT, as an example of 1949 amateur VHF type equipment!

Lyle first venture into "amateur microwaves' was on the 10 GHz band, with a home-made amplitude modulated klystron oscillator type transmitter and crystal detector receiver - the components for which were salvaged from War Surplus items when they became available for purchase from Price's Radio, in Angel Place Sydney (anybody remember them?). This was strictly "backyard stuff" so no contacts were made with it - as, from memory, the only other amateur in Sydney who had any 10 GHz gear at that time lived on the south side of the city in Allawah, and Lyle lived on the north side in Lane Cove.

After graduating as an Electrical Engineer in 1948 and later becoming married to Dot - work took them to live at the Power Station at Cowra in 1952, where he was able to make contacts on the new 144MHz band with amateurs in various mid-western country towns - and also back to Sydney on one or two occasions "when conditions were right".

They left Cowra some four years later with a baby daughter, and after a short period in Wollongong, where Lyle worked at Port Kembla Power Station, they moved again in 1958 - this time to Tamworth, for work at Tamworth Power Station. HF, 50MHz and 144MHz were the bands used by Lyle there.

In 1962, with another baby daughter, they made their final move - back to Wollongong again to work at Tallawarra Power Station, from where he retired from work, as Deputy Manager, in 1984.

In the 1960's his amateur operation continued on the various HF bands (over 100 countries worked) and on 6 and 2 meters.

A new field of amateur interest opened for Lyle in late 1969, when Lyle was approached by the Wollongong University College (now University of Wollongong) to set up equipment for, and operate, their (ex CSIRO Radio-physics Division West Dapto Solar Research Station) 30 ft diameter polar mounted dish (which was still at the West Dapto site) as a radio telescope facility.

After discussion with members of the Illawarra Branch of the WIA (as the IARS was then called) an enthusiastic Group was formed from within the branch, with Lyle as Coordinator and with some advice and assistance from others willing to help.

We had in mind the added purpose of using this facility as an Amateur Radio Moon-bounce project and to this end an operating frequency of 432mhz was chosen for which the equipment was to be constructed. Arrangements were then made for an Amateur High Power Permit, which allowed for operation of the transmitter at 1000 watts DC input on CW- (giving an RF output of some 600 watts into the 30dB gain dish).

Construction reached the stage in 1971 where the first Earth-Moon- Earth contacts were achieved - and the Moon-bounce Group subsequently carried out some pioneering work for Australia on 70cm EME, including many successful tests with overseas stations of the small band of amateurs operational at that early stage of EME activity, plus one or two most interesting experiments - using the (these days, Illawarra Amateur Radio Society) callsign of VK2AMW.

Unfortunately the Dapto site had to be abandoned in 1977 due to repeated vandalism of equipment by intruders.

After much discussion with University people by Lyle over the next few years, the EME Project was reactivated when they relocated the 30 ft dish and its mount to another site, this time on the escarpment west of the City of Wollongong. -where construction of facilities by them and of new equipment by the Moon-bounce Group allowed it to become operational again, in 1983, this time on the higher frequency Amateur 23cm band, at 1296 MHz - with a transmitter power output of 150 watts and circular polarization.

Further successful EME tests and experiments were then carried out with overseas amateurs on 1296 MHz- until, yet again, in 1986, repeated damaged was sustained from intruders - to the point where, finally, the Project had to be completely abandoned after major items of equipment were stolen and most of the other items were destroyed.

Reminders of the achievements of the IARS Moon-bounce Group in the 1970's and 1980's include the Australian Record, which still stands, for the contact on 1296MHz in 1985 between VK2AMW and G3LTF in England.

Lyle has maintained this interest in the higher microwave frequency of 10GHz over the years but, because of lack of others in the Wollongong area with a similar interest; it was the advent of Amateur Communication Satellites in the 1970's which next claimed his attention.

First came the reception of the beacon carrying Oscar 6, then, after construction of suitable equipment and antennas, contacts with local and overseas Amateurs via Oscar 7 between 1977 - 84 using satellite modes A,B and J, via Oscar 8 Mode J in 1978, via Oscar 10 Modes B and L (for which a 1.7 meter dish was also used) between 1983 - 91 and finally via Oscar 13 Modes B and L, 1988 - 91.

Meanwhile he had achieved his first contact on the 10GHz band by constructing "wideband" FM gear of 15 milliwatts output and using a 50cm diameter dish antenna which was operated portable from Mt Gibraltar, in the Bowral area, in 1978 - with VK2BHC (now VK5ZO) on the north side of Sydney. Several such contacts with VK2BHC/P were carried out in 1979-80, over distances of up to 112km.

Serious operation on the 10GHz band commenced in 1989, when Lyle built his first "narrowband" SSB/CW portable transceiver on 10.368 GHz, having an output of 25 mW, followed in 1992 by construction of a "state-of-the-art" fully transistorised portable SSB/NBFM/CW transceiver which initially had an output of 200 mW, this being increased to 1 watt in 1993 (to give an EIRP of 1 kilowatt from its 48cm diameter. 30dB gain dish antenna). This equipment has been used to carry out tests over the subsequent years (mainly with VK2ZAC SK of Sydney), both stations operating portable over paths of up to 218km in length and these were most successful, including the achievement of the then State 10GHz distance records for VK2 and VK1 (and still held for VK1).

Plans where made with VK2EI, of Port Macquarie, to attempt somewhat longer paths on 10GHz - using surface ducting, over the coastal waters and "rain-scatter", as a means of possible propagation over a "home-to-home" path.

In 1993, his two main amateur radio interests of microwaves and Earth-Moon-Earth path propagation finally came together, when, using what he had learned from his earlier experience of 432MHz and 1296MHz EME operation and from construction of 10GHz gear for terrestrial operation - equipment was built to operate on 10.368GHz from his home over the EME path

Lyle's first contact via 10GHz EME was made on 9/10/94, with WA7CJO, in Phoenix, Arizona - over a terrestrial distance of 12,600km (and some 700,000km over the actual EME path) - using 15 watts output to a 1.7m diameter dish antenna. This was the first ever Australian Amateur 10GHz EME contact and was over a new Amateur 10GHz record distance.

Much more sophisticated 10GHz EME equipment was then constructed over the next 2 years - using a 3.7 meter diameter dish antenna (kindly donated by a firm in Sydney) which had to be mounted on a homemade mobile trailer type unit (welding kindly carried out by Mike, VK2DFK) to allow it to be moved/towed, as is required for EME tests, from its "stow" location at the side of Lyle's house to a location on the front driveway, (with assistance kindly provided by 2 or 3 IARS members each time). Transmitter power output was increased to 25 watts (using a Travelling Wave Tube Amplifier unit kindly sent out from UK by G3WDG) and the operator's position, was under cover in the garage under the house.

The first 10GHz EME contact using this remotely controlled equipment, was with G3WDG in Northants. England on 18/8/96, over the then 10GHz EME World Record terrestrial distance of just over 17,000km. (and still the Australian 10GHz EME Record)
This was the first Amateur VK to G 10GHz EME contact (It is, maybe, the first time that radio communication has been successfully carried out between England and Australia by anybody, not employing the assistance of a man-made satellite, and using a frequency in the Super High Frequency (SHF) part of the radio spectrum?)

Since then several more 10GHz EME contacts have been made with Amateurs in UK and USA and more where planned, hopefully also to include stations in Europe etc. which go to make up the small group of Amateurs currently operational worldwide on 10GHz EME. (about 20 or so). Sadly illness took its toll on him and I he has had to give up all this EME work.

And for the future - Lyle and Dot have finally sold their house in Wollongong and by the time this is in print they both will be living in a retirement estate, near Perth, Western Australia. From there perhaps, a little 10 GHz portable operation could take place!
Lyle will miss the meetings as it's been a VERY long time since he first started coming to meetings of the IARS. He wishes the club and all members the very best for the future.
The above information was obtained from Lyle just before his move to the West

Thanks for the profile Brian, it makes for excellent reading and we all wish Lyle and Dot all the best in their new home in Perth. Thankyou Lyle for all you input and activities in the club over the years

(Ed)

From the Secretary's Desk

I suppose like everyone else, the last few months have been really hectic, it's the busiest time of the year for most people, Christmas, New Year, holidays and the kids all seem to come just when the propagation is good! I hope all our members had a wonderful time during this period, as we did and that 2005 is a wonderful and happy year for all.

This year will also be a busy year for our Club and our hobby. This year starts the new licensing system with the introduction of the new Foundation licence and the restructure of the current licences and the issue of BPL, its time to make amateur radio stronger than ever.

For those who "humbug" our hobby, you only have to look at the history of Communication in times of trouble or disaster and the "ham" comes into the forefront of helping others in situations where normal communications are impossible.

During the recent Tsunami disaster the only form of communication available was the ham radio network and the role it played in directing aid and information was critical to the survival of thousands in need, that was, until their batteries ran flat. (For the full story see the WIA webpage, wia.org.au). Is this a hint for more batteries or maybe a small generator , something to think about, a power failure in the Illawarra is not unusual and could be used as a great excuse – but please do not tell John!

Our first meeting for 2005 will be on Tuesday night 08/02/2005 when we will be having a guest speaker, Graeme Cashion (VK2QI) , who is passionate about the preservation and restoration of World War II radio equipment (and old mantle valve radios). This should be a very interesting and informative to all who would like to attend. Graeme is also assisting in establishing a new radio museum in Kurrajong. It's good to see history and historical items being preserved for future generations.

Max Riley will be our guest speaker for March, give a talk about G5RV's - Trick or Treat.

I would like to congratulate Shane Sorgsepp for being our newest member to have passed his examinations and receive his call sign, VK2HSS. Listen out for him and please give him any assistance he needs.

As always, if you have any ideas or suggestions for activities, items of interest or any information you feel will interest your co-members in the IARS, please tell them to a Committee member so they can be incorporated into our program for 2005.

See you at the meeting,

Regards
Maeva Bennett
VK2HUG
Assistant Secretary

That's it for this issue,
73 Dave VK2TDN