



OXTALES

Newsletter of the Oxley Region Amateur Radio Club Inc.
PO Box 712 Port Macquarie 2444

July 2001

Compiled by VK2TT

PRESIDENT: Bob Brodie VK2EJK 6582.0592
VICE. PRES: Bruce Walker VK2HOT 6583.8360
TREASURER: Roy Burges VK2YOR 6583.9349
SECRETARY: Alan Nutt VK2GD 6582.3557

President's Report

Well the end of our financial year is with us and our Annual Field Day has been a fitting climax to the year.

The Field Day may have been low in numbers but was judged as a very successful event and thanks must go to that regular group of members who do arise to all occasions when required.

Now that this year's activities have come to an end, I wonder how you fared with your thoughts in the survey that was conducted early in the year. Club nets certainly improved as indicated by the increased number of participants. Our general meeting format was streamlined but we still have to give our Friday night projects and guest speakers some more attention. We still have to get off the ground with CW training, so who is to be the leader?

73

Bob Brodie VK2EJK

(President)

Office Bearer Nomination Form

Enclosed with this copy of OXTALES is a form for nomination of Office Bearers. Please complete this form if you wish to nominate a member for a position of office at the forthcoming Election of Officers at the AGM in August. See the Notice of AGM elsewhere in this issue.

Down the Coax

Friday night get-together
7.00pm 20th July, 2001
Club Rooms

Annual General Meeting
1.00pm Saturday, 4th August, 2001
Club Rooms Gordon St
PORT MACQUARIE

August Monthly Meeting
immediately following AGM
Saturday 4th August
Club Rooms

Friday Get-together
7.00pm Friday 17th August, 2001
Club Rooms

September Monthly Meeting
Saturday 1st September, 2001
Club Rooms

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The "Poorly" List.

At the time of going to Press, we have to report that our President, Bob (VK2EJK) is home again after an unscheduled short stint in hospital. He is recuperating well, and we all look forward to his return to normal duties very soon. Get well soon, Bob... there are things to be done... and guess who has to do them?

Also, Allan (VK2OA) has been into the repair shop with a broken leg. Happily he is currently mobile again, but temporarily "Stick-Assisted". Rumour has it that he has a surgically implanted Quarter-Wave whip for 2M in his leg, fitted with a gamma match. I suspect it really is just that, a *wild* rumour.

WANTED: Can anyone help?

Copy of article required

"Smart 12V Battery Controller"

Electronics Australia Jan 1996

Neil Sandford (VK2EI)

For Sale.

Kenwood Transceiver TS130-SE \$300

MFJ-949E A.T.U \$225

Call Terry VK2KL.

Field Day Report.

The club's annual Field Day Weekend was held, as usual, over the Queen's Birthday Holiday Weekend, 9th-10th June. It was held in weather of the type that we are accustomed to in Port Macquarie at this time of year, fine, sunny, and with temperatures mild.

Arrangements, and preparations for this year's event were dogged with misfortune. Our co-ordinator suffered a broken leg in the early weeks leading up to the event and was unable to continue in his role, and our President was taken ill, and hospitalised one week prior to the day. However, with some superb effort brought to bear by our Vice President Bruce (VK2HOT), who stepped into the void, with great support from Bruce (VK2MAZ), and several other willing helpers, (the usual "dog's bodies", who always perform without complaint over the years) the event was brought to a successful realisation without drama, injury

or bloodshed.

The number of registrations this year was a little down on our previous years, with over 70 names and call signs appearing in our registration log.

The Historic Equipment display took a quantum leap this year, with the addition of the purpose built display case designed and built by VK2BZD (Jim). It was chocker full of items ranging from ancient wire recorders to last century telegraph "bugs", or "Jiggers" as they are variously known. Contributions to the display boiled over onto adjacent table space, making it perhaps the most comprehensive collection that has been shown by this club. Take a bow, Jim, and also those who participated.

The demonstrations of PC based modes such as Packet, PSK, SSTV, WIN-Radio, and Networking attracted a pleasing level of interest. Despite some performance degradation due mainly to HF antennae limitations, and a smattering of PC recalcitrance, the advertised demonstrations did take place. Arthur (VK2ATM) is probably still showing off a very good SSTV image of the Sydney Opera House that he managed to "snave" when his "Mouse finger" was in the right place at the right time. Some say it was achieved by sheer luck, others (including Arthur) assert that it was the result of patience and downright skill! One is inclined to wonder, of course.

Neil (VK2IE) put his GigaHertz gizmo-box through its paces for the xxxxx minded, showing how highly effective equipment and accessories can be home-brewed with surprisingly little reliance upon commercially built components, but with heavy dependence placed upon ingenuity, and personal effort.

Feeding of the masses was taken care of by a team comprising, in no particular order of importance (because they were all important) John (VK2JJ), Bruce (VK2MAZ), Will (VK2XXU aka "Old Wilbur"), John (VK2KHB), Charles (VK2FSH). At the time of "Oxtales" going to press there were no reports of starvation, privation, digestive abnormalities, or damage to dentition - maybe Bill (VK2CWR) will report later on this one? - Thus one can feel assured that the catering crew, and their helpers, did the club proud through the kitchen servery window.

The Fox Hunting events, under the organization and control of Bill (VK2ZCV),

Henry (VK2ZHE) and Larry (VK2CLL) were held in perfect weather.

Craig (VK2HBM), making his debut in the field of open competition in the Fox Hunt events, did us proud! Without first checking historical records of the Fox Hunts on our past Field Days, one might venture to say Craig's results are the best ever for one of our own members. This fact will be checked.

The timely preparatory research, design, construction, and shake-down tests of Craig's hunting/sniffing gear, really paid off. Assisted by son Adam in the actual hunt, they proved a force with which to be reckoned. Their fine results (see below) speak clearly for their efforts. Their equipment, as they combed the wilds of Port, caught the eye of curious passers-by, with some even being so bold as to question the purpose of the mechanism mounted on top of the hunt vehicle. It's marvellous how inquisitive some people can be!

The overall results of the Fox Hunts and other events are as follows:

2-M Talk-In winner VK2HBM (Craig)
Navigator (Adam)
Runner-Up VK2BZC (Paul)

40-M One Tx Winner VK2DGT (Ken)
Runner-Up VK2HBM (Craig)

2-M Two Tx Winner VK2YMW (Chris)
Runner Up VK2HBM (Craig)

10-M One TX Winner VK2HBM (Craig)
Runner Up VK2ADA (Arnold)

2-M Pedest. Winner VK2YMW (Chris)
Runner Up Adam

Fox Hunt Champ VK2HBM (Craig) 12 points
(Bob Todd Trophy)
Runner Up VK2YMW (Chris) 10 points
(World Time Clock)

Best Presented Amateur Vehicle
VK2ADA (Arnold)
(Bob Todd Trophy and car care kit)

Home Brew winner:
VK2EI (Neil) with a TV Reference Generator
(Cordless Drill)

Mens Lucky Door:

- 1 - Picnic Pack VK2TM (Tim)
- 2 - Fishing Pack VK2AYD (Dave)
- 3 - Garden Pack VK2KHB (John)
- 4 - Car Care Pack VK2XU (Ian)

Ladies Lucky Door:

- 1 - 3 Cushions - Pam (VK2PE)
- 2 - Plate - Marie (VK2ZCO)
- 3 - Cushion - Robin (VK2DGT)
- 4 - Cushion - Meg (VK2DPE)

Ladies Raffle:

- 1 - Basket of Goodies - Carol (VK2XXU)
- 2 - Cushion - Helen (VK2YMW)
- 3 - Neck Cushion - Name not recorded.

Major Raffle:

- 1 - \$100 Voucher on Big W - VK2ELN
 - 2 - Cassegrain Wine - VK2MTD
 - 3 - 2 Bottles Wine - VK2AYD
 - 4 - Westport B/C Dinner for - VK2CLL
- Five supplementary prizes were won by VK2XU, VK2AIF, VK2YMW, VK2TT & VK2TB, with six further minor prizes won by unnamed ticket holders.

Winners of the Ladies' Raffle, and Lucky Door prizes were loud in their praise of the quality of the prizes that were prepared and donated by Wendy Monck (XYL of VK2ATM). Significant time, effort, and expense must have been necessary to prepare the comprehensive "packages" of useful items (craft products, comfort accessories, and handy household items) all attractively presented ready for the lucky winners. Thank you once again, Wendy, for this valuable contribution to our Field Day... also, thanks to Arthur (no doubt he assisted?... well we hope he did!).

See you all next year for another enjoyable function.?

Numbering Systems

(By Alan Nutt, VK2GD)

Binary

This is a counting system that only uses two numbers or digits, a 1 and a 0. Big deal! How far can you count with only two numbers? Well, the number of different digits doesn't really matter, it's how we *use* the digits and *where* we put them in relation to each other than really counts (Ha!).

To make all this a bit clearer, lets have a look at the way we actually use numbers when we're counting. We'll use an example from the *decimal* or *base 10* numbering system which is more familiar to us. (Base 10, by the way, just means there are ten different digits, 0 - 9, used in the system. Get it? Probably had

something to do with the fact that, in the beginning, God gave us ten fingers and ten toes. If He'd only given us eight fingers and toes we would probably be happily counting in octal or base 8 and not thinking twice about it.)

Weighting

Let's see what happens when we write down a decimal number, say 976 for example. Without even thinking about it, we put each digit of the number into a separate position or *column*, each of which has a special value or *weighting*. Generally, we write down a number from left to right, starting with what is the most significant digit and finishing with the least significant digit in the extreme right hand column. This right hand column has a weighting value of 1, the next column to the left a weighting of 10, the next 100 and so on and on and on for as far as we like to go, depending on how large the number is. In our example, the digit 6 in the first, or right hand column has a value of 6 multiplied by the value of the column it is sitting in, i.e., $6 \times 1 = 6$. The 7 of our sample number is in column 2 which has a weighting of 10, so the 7 really has a value of 7×10 , or 70. In the same way, our last digit in the third column has a value of 9×100 , or 900. So our number is made up of:

$$(9 \times 100) + (7 \times 10) + (6 \times 1) = 976$$

All good primary school stuff, I know, but we need to have it clearly in our noggin if we want to progress to the upper levels.

Now, the more discerning reader may well ask, "Who or what determines the weighting that should be given to each column?" Well, since you asked, I should give you two very simple rules which apply to ALL numbering systems having any base value.

RULE 1:

In any numbering system having a base equal to N, the largest digit which can appear in any column is equal to (the base N - 1).

Examples:

- In a base 7 system, the digits in any column can range from 0 to 6, where the largest digit, 6, is equal to (the base 7 - 1). Any digit over 6 is invalid.
- In a base 9 system, the digits in any column can range from 0 to 8, where

the largest digit, 8, is equal to (the base 9 - 1). Any digit over 8 is invalid.

No problem so far?

RULE 2:

In any numbering system having a base N, the weighting of the first or right hand column is always unity, or 1. The weighting of each subsequent column to the left is the weighting of the previous column to the right, multiplied by the base, N.

Let's see if we can make that a bit clearer by a couple more examples:

a) In the decimal, or base 10 system, the first or right hand column has a value of 1, the second has a value equal to the weighting of the first column (1) times the base (10), or 10; the third a value equal to the weighting of the second column (10) times the base (10), or 100; the fourth a value equal to the weighting of the third column (100) times the base (10), or 1000 and so on.

b) In the octal, or base 8 system, the first column has a weighting of unity as before, the second a weighting of 1 (the previous column weighting) $\times 8$ (the base), or 8; the third 8×8 , or 64; the fourth 8×64 , or 512 and so on. The decimal value for the octal number 532 for example can be easily found since the 532 can be broken up into:

$$(5 \times 64) + (3 \times 8) + (2 \times 1) = 320 + 24 + 2 = 346$$

In mathematical terms, we say that the weighting of each column in any numbering system can be expressed in *ascending* powers of the base, N.

$$\text{i.e. } \leftarrow \dots N^3, N^2, N^1, N^0$$

(Remember, any number raised to the power of zero is equal to 1.)

In the case of the *binary* or base 2 system, this gives us column weightings of:

$$\begin{array}{cccc} \leftarrow & \dots & 2^3 & 2^2 & 2^1 & 2^0 \\ & & & & \text{or} & \\ \leftarrow & \dots & 8, & 4, & 2, & 1 \text{ etc.} \end{array}$$

We can now calculate that a binary number such as 1101 has an equivalent decimal value of:

$$\begin{array}{cccc} & 1 & 1 & 0 & 1 \\ (1 \times 8) + (1 \times 4) + (0 \times 2) + (1 \times 1) = 13 \end{array}$$

The Binary Advantage

The advantages of using a two digit counting system like binary is enormous since the two digits can be so easily represented by

any pair of opposite states or conditions, i. e., on/off, up/down, hot/cold, in/out etc... For example, we can display a string of binary 1's and 0's using a row of lamps, turning a lamp on to represent a 1 and off to represent a 0.

The lamp pattern below represents the binary number in our previous example, 1101 - or 13 decimal:

ON ON OFF ON

Just imagine how much more complex it would be to try and represent all ten digits in the decimal system using lamps!

In digital circuits, which make up the "works" of a computer, the two binary digits are often represented by the presence or absence of a voltage at the particular point of interest. On or off - there can be no ambiguity or mistake about the digit that is being represented and, in addition, the change from one state to the other can be made extremely fast. Just how fast is "extremely fast" in computer terms? Well, how about 2 nanoseconds, that is 2/1000,000,000 of a second as an example? Generally speaking, digit changes which take longer than one microsecond or 1/1000,000 of a second, are considered slow in the world of high-speed computing.

Bits and Bytes

Each binary digit is referred to as a *bit* and is the smallest logic unit that can be dealt with by a computer. A group of four bits is called a *nibble* and a group of eight bits is called a *byte*. The byte is often used as a measure of the storage capacity or speed handling capability of a system and can also represent an alphanumeric character. (Alphanumeric? Just means a letter or number that can be found on a keyboard.)

Microprocessors love binary numbers and can't really exist on any other diet. Mere mortals such as ourselves, however, often have a lot of trouble reading large binary numbers simply because our eyes do not easily follow lengthy strings of 1's and 0's.

Hex Magic

Take a look at the next two lines and see how long it takes you to work out whether the two binary numbers shown are equal or not:

111110000010110001110000101011111011

111110000010110001110000101011111011

Sure, you can do it but it's a pretty slow process. Because of this human frailty, we make a concession when using our computers and choose a numbering system that we can more easily relate to but, at the same time, can be readily converted into binary when necessary. This system is the *hexadecimal*, or base 16 system. Being lazy, we often refer to this numbering as just "hex".

If we apply our previous numbering rules, we could assume that the largest digit in a hex column would be (16-1), or 15. But 15 is not a digit - it is *two* digits and so is unacceptable. What to do? Simple - we just make use of some of our alphabet letters to represent the digits from 10 up to 15 as shown in the following table:

A =	10	D =	13
B =	11	E =	14
C =	12	F =	15

The digits 0 to 9 have the same value as their decimal counterparts and so are not shown here.

This makes for some pretty odd-looking numbers at times which often don't look like numbers at all! Consider for example the perfectly valid hex numbers, DEAF, FEED or F00D. Still, they say you can get used to anything in time.

The column weighting in hexadecimal follows the same rule as outlined earlier:

<---- 16³ 16² 16¹ 16⁰
or
<---- 4096 256 16 1

Part II (Final) will appear in next OXTALES

NOTICE OF ANNUAL GENERAL MEETING.

Members of the O.R.A.R.A.C. Inc., are advised that the club's 2001 Annual General Meeting will be held on Saturday, 4th August, 2001 at 1.00pm. The venue will be the Club Room at the S.E.S. Centre, in Gordon Street Port Macquarie, N.S.W. Nominations for the election of office bearers may be lodged in writing by completing the enclosed nomination forms and arranging for their delivery to the Secretary, O.R.A.R.C. Inc., P.O. Box 712, Port Macquarie, N.S.W. 2444 prior to the meeting, or by nominations at the meeting.

The A. G. M. will be followed immediately by the August monthly meeting of the club.

MEMBERSHIP SUBS DUE.

All members of the O.R.A.R.C. Inc., are reminded that membership subscriptions for the financial year 1/7/2001-30/6/2002 fell due on 1/7/2001. To be eligible to vote at the Annual General Meeting, scheduled to be held on 4th August, 2001 (see notice elsewhere in this issue) members must be financial. Make sure you ensure the continued successful operation of our club, by submitting your membership subscriptions NOW, or as early as possible, to the Treasurer. To be eligible to vote at the A.G.M., members must be financial.

Repeater Report

At the time of going to press, Middle Brother repeaters were all operating satisfactorily.

VK2RCN at Telegraph point was still awaiting the antenna repair, with waterproofing treatment yet to be completed. It is expected that this work could be completed prior to the July meeting.

The ROSE switch at Cabbage Tree (VK2RGL) is still out of service and advice is to hand that it is unlikely that the current hardware will be restored. Action is in hand to replace this switch with a PC based FPAC switch. However, it is understood from a report received from VK2AAB that the VK2RND installation at Newcastle ceased operation as from 1st July, 2001. This has interrupted the ROSE VHF switching path between the Mid North Coast and Sydney. There are no indications at this stage as to whether there will be alternative VHF arrangements set in place in the foreseeable future.

Barry (VK2AAB) has established an HF ROSE switch on 7040.5 MHz that currently operates between 0700 and 2000 (E.A.S.T) daily. This switch enables HF packet users to switch into the VHF network in Sydney, using the normal ROSE addressing syntax.

73

Trevor (VK2TT)

Conference of Clubs

David (VK2AYD), attended the June Conference of Clubs in Sydney. David compiled a comprehensive report on the wide range of items discussed. Members of ORARC Inc., who have e-mail capability, will have received this report from David. Those without e-mail facilities may peruse the Club's copy.

Net Controllers Roster.

July 2001

<u>Sundays</u>	<u>Wednesdays</u>
1st VK2DAL	4th VK2ATM
8th VK2EJK	11th VK2EI
15th VK2MAZ	18th VK2AYD
29th VK2HOT	25th VK2GD

August 2001

5th VK2JJ	1st VK2ATM
12th VK2TT	8th VK2EI
19th VK2AIF	15th VK2HBM
26th VK2OA	22nd VK2GD
	29th VK2MAZ

September 2001

2nd VK2BZD	5th VK2AYD
9th VK2TT	12th VK2EJK
16th VK2AIF	19th VK2DAL
23rd VK2OA	26th VK2HOT
30th VK2BZD	

A Sad Antenna Story

A few years back a fellow amateur friend of mine died when he fell from his tower. We sometimes read of towers toppling over into power lines, but this event was with just a 2 metre ground plane. From the ARRL News Letter.

A Kentucky Amateur Radio Emergency Service member died May 20 while installing a 2-meter antenna he'd just bought at the Dayton Hamvention. Ronald L. Oller, KG4JVT, of Irvington, died when the ground plane antenna he was installing fell onto the overhead electrical service line to his house. He had been a ham for about eight months.

So please, use caution when installing your antenna.

David (VK2AYD)

PIK

The PIK is a semi-automatic Morse Code keyer that is simple in design construction and operation, requiring very few parts and without compromising convenience and quality of generated Code.

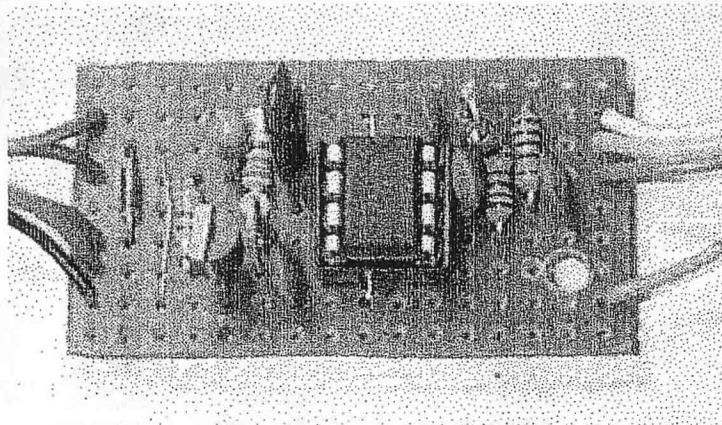
The PIK was designed to have low power requirements from a 12VDC supply; provide an open collector output for contact-less keying of modern solid state transmitters, and support the basic functions for semi-automatic Morse Code generation.

Features provided include: automatic generation of dits and dahs; iambic keying; optional forced inter-character space (Auto-space), provision for inverted output, and a wide range regulated power supply.

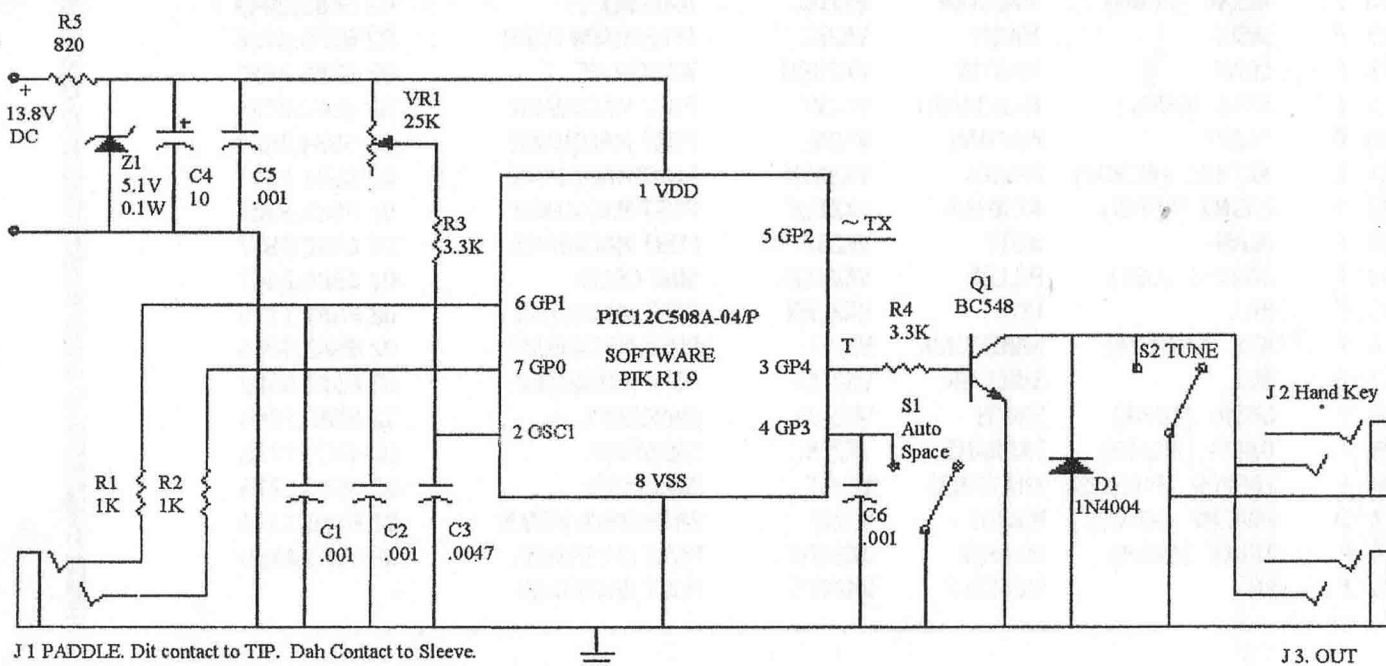
The keyer is implemented using a microcontroller (MCU), which is a small micro computer with program and data memory packaged on a single chip. The keyer speed is controlled by a potentiometer that sets the MCU clock rate, and all timings are derived from the clock oscillator for consistent and accurate timing over all practical operating speeds. The PIK is simple to construct, and does not require any alignment or calibration.

All the parts except the programmed MCU are easily obtained, or easily substituted. Programmed MCUs can be obtained from the author for A\$10 including postage anywhere in Australia.

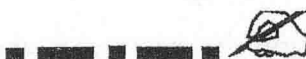
There is more information on the PIK including a link to an on-line discussion group on the Internet at www.owenduffy.com.au/electronics/pik/pik.htm.



Prototype PIK constructed on Veroboard



PIK circuit schematic diagram



OXLEY REGION AMATEUR RADIO CLUB Inc.
MEMBERSHIP REGISTER.
(At 30th June, 2001)

Cat.	FIRST NAME (Spouse)	SURNAME	CALL SIGN	TOWN/CITY	TPH. NO.	
1	F	JOHN (FLORENCE)	BAILEY	VK2KHB	PORT MACQUARIE	02 6582.2192
2	F	JOHN (MARY)	BAYLIS	VK2JB	LAKE CATHIE	02 6585.5703
3	F	BOB (JOSIE)	BRODIE	VK2EJK	PORT MACQUARIE	02 6582.0592
4	F	ROY W (JUNE)	BURGES	VK2YOR	PORT MACQUARIE	02 6583.9349
5	F	BRUCE	CLARK	VK2MAZ	PORT MACQUARIE	02 6582.5279
6	F	LARRY	CONNER	VK2IPO	WAUCHOPE	02 6585.3436
7	F	KEVIN (JUNE)	COULTER	VK2MAM	PORT MACQUARIE	02 6583.8325
8	F	IAN	DALRYMPLE	VK2XU	PORT MACQUARIE	02 6584.9922
9	F	TRACY (CINDY)	DIGNUM	VK2GTM	HERONS CREEK	02 6585.7061
10	F	CHARLES (PAT)	EDMONDSON	VK2FSH	PORT MACQUARIE	02 6584.0495
11	D	STAN (BETTY)	ELLIS	VK2DDL	TUNCURRY	02 6554.7996
12	F	BADEN (VALERY)	GLEESON	VK2MOQ	PORT MACQUARIE	02 6582.2018
13	F	LEWIS (PAMELA)	GREEN	VK2AG	PORT MACQUARIE	02 6584.9162
14	F	RICHARD J	HALL	VK2BXO	PORT MACQUARIE	02 6582.6588
15	L	KEITH	HANLON	-	PORT MACQUARIE	-
16	F	DAVID (ISOBEL)	HARDING	VK2AIF	WAUCHOPE	02 6586.4980
17	L	PETER	HILL	VK2BZA	LAKE CATHIE	02 6585.5349
18	F	SNOW	HODDER	VK2DV	PORT MACQUARIE	02 6583.7095
19	F	WILL (CAROL))	JAMIESON	VK2XXU	DUNBOGAN	02 6559.8622
20	F	DON	JONES	-	PORT MACQUARIE	02 6582.5084
21	F	JOHN (THEA)	JONES	VK2IJ	LAKE CATHIE	02 6585.4522
22	F	GARRY (LINDA)	LAWER	VK2TRK	PORT MACQUARIE	02 6582.0597
23	L	LARRY	LINDSAY	VK2CLL	WAUCHOPE	02 6587.1155
24	L	HENRY	LUNDELL	VK2ZHE	PORT MACQUARIE	-
25	F	KEITH (GWEN)	LUTTON	VK2KDL	TELEGRAPH POINT	02 6585.0321
26	F	ALLAN (DAWN)	MADIGAN	VK2OA	WAUCHOPE	02 6585.2043
27	F	JASON	MARIS	VK2FT	TELEGRAPH POINT	02 6585.0426
28	F	CRAIG	MARTIN	VK2HBM	WAUCHOPE	02 6585.3452
29	F	JOHN (KARIN)	MCDONAGH	VK2VY	PORT MACQUARIE	02 6582.0020
30	F	TERRY	MEEHAN	VK2KL	PORT MACQUARIE	02 6584.2997
31	L	ARTHUR (WENDY)	MONCK	VK2ATM	PORT MACQUARIE	02 6583.1311
32	F	LAURIE (ROBIN)	NEWHAM	VK2ELN	PORT MACQUARIE	02 6583.5387
33	F	ALAN	NUTT	VK2GD	PORT MACQUARIE	02 6582.3557
34	F	DAVID A (DEE)	PILLEY	VK2AYD	KING CREEK	02 6585.2647
35	F	BILL	ROTH	VK2CWR	PORT MACQUARIE	02 6581.1776
36	F	NEIL (VERENA)	SANDFORD	VK2EI	PORT MACQUARIE	02 6582.5830
37	F	BILL	SINCLAIR	VK2ZCV	PORT MACQUARIE	02 6583.9302
38	F	DAVID (ROMA)	SMITH	VK2DAL	WAUCHOPE	02 6585.1004
39	F	DAVID (AILEEN)	TARRANT	VK2TBC	SARATOGA	02 4369.8738
40	F	TREVOR (PHYLLIS)	THATCHER	VK2TT	WAUCHOPE	02 6585.2278
41	D	GRAEME (JOYCE)	VIRTUE	VK2GJ	BRUNSWICK HEADS	02 6685.1336
42	F	BRUCE (GWEN)	WALKER	VK2HOT	PORT MACQUARIE	02 6583.8360
43	F	JIM	WEBSTER	VK2BZD	PORT MACQUARIE	-

F = Full Member

D =

Distant Member

L = Life Member