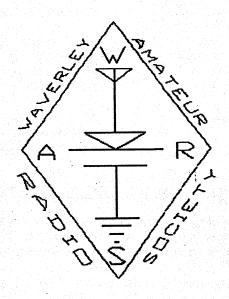
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## CORRESPONDENT



NEWSLETTER OF THE WAVERLEY AMATEUR RADIO SOCIETY
APRIL 1990

Registered by Australia Post. Publication Number NBH 2549

### WAVERLY AMATEUR RADIO SOCIETY

PRESIDENT: STEVE Shore (VK2CSV)	389-9913
VICE PRESIDENT: GEORGE Adams (VK2KEL)	328-7296
SECRETARY: ERIC van de Weyer (VK2KUR)	337-2909
TREASURER: BRETT Wilkinson (VK2XMU)	661-5457
PUBLICITY OFFICER: RICK Cummins (VK2KRF)	661-3816

EDITOR/NEWSLETTER EXCHANGE

Eric van de Weyer 337-2909 Brett Wilkinson 661-5457

MEETING TIME

8.00 PM - Second Monday of every month at the;

1st Edgecliff Scout Hall, Coopers Park Road,

Bellevue Hill.

NET TIMES

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Club nets are held each Tuesday evening commencing at 1930Hrs local time on the Paddington repeater on 147.025 (rpt up) followed at 2015Hrs on 28.505 USB on 10M.

CORRESPONDENCE

All correspondence for the club should be addressed to the club at PO Box 131 Watsons Bay 2030.

### INFORMATION FOR PROSPECTIVE MEMBERS

The Waverley Amateur Radio Society is the oldest continually licenced radio club in Australia. The group was formed in 1919, and with the exception of the war years has been continually licenced ever since.

The society currently meets the second Monday of every month at the 1st Edgecliff Scout Hall, Cooper Park Road, Bellevue Hill. The meetings start at 8pm, with coffee being served afterwards.

Members and non-members are most welcome to attend whether an amateur or not. Every month we have a guest lecturer, lecturing on such topics as commercial radio, power supplies, packet radio, or any topic of general interest. The topics for these lectures are announced both here in this Newsletter and on the weekly WIA broadcast the two weeks preceding a meeting.

Also members and other interested parties get to go on interesting excursions. In the past these have included the Pitt St Telephone Exchange where we were given a guided tour and learned many things including how malicious calls are traced. Also we have visited the Sydney Observatory, OTC and many other places.

If you require more information please contact any of the members listed above as we will only be too happy to help you.

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### EDITORIAL

Well, here we are again. Our second edition of the WARS Correspondent is nearing completion. Has 2 month almost gone already? It seems only yesterday that we started 1990 and it is almost a quarter over.

I am happy to say that there have been a few contributions from a few of our members. Hopefully there will be a lot more forthcoming in the future months so that we can keep the ball rolling. Remember this is YOUR club newsletter and without YOUR input it will soon dwindle away to nothing.

A new feature starting this month has been devised by George VK2KEL and is called Pass The Pen. The Idea, as George states in it is that a person writes a short list of definitions on some subject and describes what each one is. He then Passes The Pen to another member whose job it is to write the next one for the following newsletter and so it goes on. Please don't pass it back to someone who has already had a turn after all, at our current membership, it should take at least 5 years to cycle through all the members.

On a different note, one of the articles has been written by one of the members who is obviously fed up with the lack of enthusiasm from some of the membership. I have decided to publish it as it poses some very pertinent questions.

As next month (April) is the Annual General Meeting of the club, you will find elsewhere in the newsletter a nomination form for the committee as well as a proxy form. These have been included as well as the newsletter being published about a week early as will be necessary to have the information out 3 weeks before the AGM in the future once the Constitution has been finalised. There is a short report elsewhere in the newsletter about the Constitution.

Well, I think that is enough from the editors keyboard for this month.

73 from Eric VK2KUR.

### CONSTITUTION

Just a short note to let you know what is happening with the constitution.

At the January meeting, the suggested constitution for clubs was discussed by those present. In the last newsletter, we published it so that people could read through it and provide comments. At the February meeting, a number of points were discussed especially by Colin VK2EAZ (who is a Solicitor). At Colin's suggestion it was decided to put aside the clubs' constitution and instead to look at the Model Rules for the Incorporation of Associations put out by the NSW Corporate Affairs Commission as these are probably far more appropriate under the current situation especially when it comes to Incorporation of the Club.

It is hoped that in the next Newsletter we will have a full copy of these model rules so that all may peruse them and then comment on them.

It is for these reasons that we will not be voting on the Constitution at the Annual General Meeting but will hold that over to a date to be determined once it has been sufficiently discussed and any amendments necessary have been made.

Eric van de Weyer VK2KUR Secretary

### MARCH 1990 MINUTES

Meeting opened at 2003. Steve Shore in the chair.

ATTENDANCE: As per Attendance book.

APOLOGIES: Jim VK2JIM, Jochen VK2TKK, Richard VK2XRC, Richard VK2EEF, Bill Winter.

MINUTES: Not available as we have been unable to get a Minutes Secretary but being taken by Phil, VK2YPW for this meeting. Moved VK2KEL,

seconded VK2KFL, That the Minutes be taken as read. Carried. CORRESPONDENCE OUT: DOTAC re Tahmoor weekend, Mayor of Randwick re relocation.

CORRESPONDENCE IN: Richard VK2XRC re renewal, DOTAC re Licence examinations Aust Post re newsletter registration, DOTAC re portable

operation at Tahmoor.

Moved VK2KEL, seconded VK2XPL That correspondence be

accepted. Carried.

TREASURER'S REPORT: Current in hand and at the bank \$519

Moved VK2KUR, seconded VK2KFL That treasurer's report be

accepted. Carried

GENERAL BUSINESS:

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Brett reported that WICEN has been accredited in the NSW Emergency Services Organization. He also asked for any members who may be interested in joining WICEN to contact him.

Wayne reported on the Tahmoor exercise with the Scouts and also the need for some more volunteers to assist with this activity on Saturday 24/3. Rick congratulated Phil VK2YPW attaining his callsign. Also Mani VK2GDR/VU2LED on his new call and Andrew VK2MGX on passing the 10WPM morse. He reported that VK2KBE is prepared to assist with the classes as well as VK2GDR, VK2KFL and Alex. Peter Vernon is still to be contacted. He has contacted Mr Castle re use of classrooms and is awaiting a reply at this time, however it looks like it will cost us about \$10-15 per night. Rick also reported that he has organised an ad to go into the Weekly Southern Courier in the Community Notice Board. Eric reported on the procedures involved in the preparation of examinations and that at least 6 weeks lead time is required for approval. Rick and Eric reported on the progress with the installation of a temporary antenna to enable Lee VK2AXK to use his radio from the Nursing home where he now resides. They pointed out, however, that as he has caused some problems before by calling for Ambulance or Fire Brigade, this will be closely monitored and if it occurs again, the priviledge will be withdrawn by the Hospital administration.

Rick distributed a copy of the available menus for the Dinner to be held at the Maroubra Seals Club on Wednesday 28th March. Either 2 course at \$16/head or 3 course at \$22/head. Names and Numbers to Rick ASAP please.

George mentioned to the meeting the crackdown currently taking place over For Sale messages on air and asked that they not be promulgated via the

weekly nets except on a person to person basis. Rick proposed that as the 2M net is getting quite busy these days, that 2 people be allocated as net controllers so that when the time comes, one of them can disappear over to the 10M net without disrupting the 2M one. He suggested that a this may be achieved by a roster system.

Eric also reported that the new Model Rules are now being looked at and that it could take several month even till the end of the year before the

constitution if finalized.

Brett mentioned that Nomination forms and Proxy forms will be included in the April Newsletter for the Annual General Meeting however at the meeting, nominations will still be accepted from the floor.

MEETING CLOSED: 2125

### A NIGHTMARE COME TRUE

Pain. Pulsing searing hot pain, which is instantly accompanied by a darkness which seems to palpitate in its intensity, growing lighter and darker in a seemingly endless cycle.

A high pitched buzz begins to invade your mind which up until now has been trying to cope with sensations never before experienced. Reality commences its decline into obscurity as the mind fogs and thoughts although cloudy, turn to ideals of death. Life no longer became important.

Some subconscious instinct forces a scream which totally devoids the lungs of any air. You attempt to inhale but find you can't. Panic begins to temporarily overcome any rational thoughts left. You know you are about to die

You start to feel narcotized as though someone has injected you with copious quantities of an hallucinogenic drug as massive amounts of adrenalin is released into the bloodstream.

The heart is fighting to maintain a regular beat, even though the sinus node rhythm is becoming irregular with the insistent throb of the fifty cycles per second passing across the chest. The muscles and rib cage also pulsate at the same rate. You are stressed to the absolute limit.

The pain and panic subside and are replaced by an overwhelming tranquility. You feel nothing but a strange peacefulness and for a moment you can recall with total clarity every event and feeling experienced within your lifespan. Everything is there at the one time but nothing is confused. Your life has just passed before your eyes.

A shroud of pure darkness engulfs you and you see hear and feel nothing. Thoughts still echo through your mind and you wonder if this is death. Then there is nothing.

Soon you hear voices. They sound familiar but briefly remain unrecognized. Daylight returns along with severe muscular and chest pain. Consciousness is restored.

The entire event lasted no more than fifteen seconds. One distraction to cause suffering and almost death. A short moment which almost ended a lifetime.

There are lessons to be learned, and ways of prevention to be recognized. The crux of the matter is one can never be too careful when working on live equipment.

### ELECTROCUTION CAN HAPPEN TO YOU.

### JOTA REPORT

Up until now, the JOTA Committee has received very little response from the Scout Association in regard to this years JOTA. Brett (VK2XMU) recently had a meeting with Mr John Nordon, in regard to JOTA. John suggested that we might consider giving ourselves entirely to his group.

This would not be entirely in the spirit of the weekend, as we should be available to assist all groups who attend the campsite, but until the local sections of the Association cease their internal differences, we are left with little choice at this stage.

John has booked a sight at Pennant Hills Scout camp, where he suggested that they would erect a 30' tower on which to mount aerials. This suggestion works in with the idea of having a camp on the JOTA weekend. John stated that they would be looking at having around thirty Scouts at the camp.

The JOTA committee is yet to procure any other offers as John is the only Scout leader to have shown any interest at this time. I would like to get some feedback from the members on this suggestion, as well as some volunteers who would be available to attend the camp at Pennant Hills.

Further to this, the Central Sydney District branch which controls the JOTA activities is actually biased towards holding the event at the activity center at Bankstown, where the Scouts have a fully operational station (VK2SCB) operating on all bands.

The Scouts also have a coastal campsite in the peninsular district, but details of any camps to be held there are still not forthcoming from the Association. The JOTA co-ordinator did not seem overly enthusiastic to supply details.

I will be able to obtain further information when the current commissioner returns from overseas, hopefully before the next edition of the newsletter.

Wayne Brack VK2XPL JOTA Committee.

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### WHAT IS WRONG WITH THE SOCIETY ?

This is a question that every member of the Waverly Amateur Radio Society should be asking themselves. If the answer is an honest one it can only be that YOU are what is wrong. For example:-

Why were YOU not at the last meeting?
What have YOU contributed to the club in the last six months?
What was the last activity YOU participated in?
Will YOU volunteer to participate in the next activity?
Will YOU actually show up if you volunteered?
Are YOU giving any thought to those who do all the work?
Why don't YOU do any work for the club?
Why do YOU jeopardise the club name by failing to help?

These are some questions that every one of YOU should be asking yourselves.

Perhaps the answer is that YOU are a lazy, self centered, bludging shirker who is awe inspired about your own self importance, lost in the delusions of grandeur.

I further think that it is disgusting that a club, such as ours, with a membership of over 50 people and boasting that it is the oldest club (perhaps the members think they ARE the original members ) can't get people to do anything.

Every time something is done for the club, it is ALWAYS the same few members that have and/or are doing it. To those members I apologise. This message is not for you.

I make no apologies to anyone else. If you don't like my comments, tough. Perhaps it will shake some of you out of your perpetual comas and into the land of the living.

This club can not and will not survive without 100% support of its members. If YOU don't start involving yourself then perhaps YOU might resign your

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membership. We don't need hangers-on. Vultures waiting for the praise and glory of jobs well done we don't need or want.

Some members with a little foresight can see that the club is headed for oblivion. It has folded before because of the intactness of its members. Don't kid yourselves, it will happen again unless YOU get your collective backsides into gear and DO something.

I put my name and callsign to this as I am doing something for the club. If the rest of YOU wish to remain anonymous and stay in your collective 'old boys' school, do it somewhere else. There is no room for you at the W.A.R.S.

### WAYNE BRACK. VK2XPL.

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### "PASS THE PEN"

I would like to start a regular column for the "WARS Correspondent" in which in each issue a different person compiles a list of terms or definitions used in Amateur Radio and nominates another person to do likewise next issue.

Whilst many people will know the answers to all the definitions, I feel that some will not and in any case it won't do us any harm to refresh our memories.

To start the ball rolling I will list ten terms used in Digital Radio Techniques such as RTTY, AMTOR, Packet etc.

- ASCII American Standard Code for Information Interchange.
- (Level Two) The American Radio link-level packet protocol adopted in October 1984 by the ARRL.
- ARQ Automatic Repeat Request. A technique used to control errors. In Amateur Radio, AMTOR uses ARQ methods to ensure almost error free communications
- BAUD
  A unit of speed used for data communications. Typically it measures the rate of signaling elements per second. It maybe, but is not always, the same as bits per second.
- Bits Per Second the number of actual data bits transmitted per second. With some modulation techniques, this is the same as the baud rate. However more sophisticated modulation schemes can encode multiple bits per Baud so B.P.S and Baud rate are not always the same.
- FRAME
  A block of data that includes not only the information destined for the other station but also the additional information necessary to get it there. A packet can consist of multiple frames of information.
- FLAG In packet radio a special sequence begins and ends each packet or frame. In AX.25 protocol 01111110 is the flag used.
- P.B.B.S Packet Bulletin Board System.
- SYNCHRONOUS
  In data communications a bit stream having a constant time interval between successive bits. The sender and receiving stations must be synchronized to a common clock signal. Packet radio is a synchronous form of data communications.

<u>T.N.C</u> Terminal Node Controller. The device that interfaces the transceiver to the computer terminal.

(The major source of the above information came from "Digital Communications with Amateur Radio" by K9EI. A book I can recommend)

I would now like to "Pass the Pen" to Steve VK2CSV to present a further glossary of terms for the next issue.

73 George VK2KEL.

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### MARITIME MOBILE AMATEUR ANTENNA SYSTEMS.

Many amateurs dream of setting themselves up in a yacht and sailing off carefree over the horizon to glorious unknown places. However, most fail in this pursuit because the extent and cost of preparation is far too great for most. Other plans for expeditions founder for many diverse reasons. However, we shall not dwell upon these for the time being, rather we shall discuss the problems associated with setting up a viable amateur radio station aboard a sailing yacht. Quite different criteria apply to motor boats.

Aboard a sailing boat the primary criterion must be the seaworthiness of the vessel and the function of the sails and the rigging. Any secondary aims including amateur radio must be fitted in around the hull and rigging and shall cause only a minimum disruption to the day to day operation of the vessel. Directional antennas are simply not on.

Medium frequency and high frequency marine radios have been installed in sailing yachts for many years. The international distress and calling frequency is 2182 kHz. Supplementary distress and calling frequencies are 4125 kHz and 6215.5 kHz. Marine working frequencies in the 2 MHz 4 MHz and 6 MHz bands are not harmonically related. The yacht racing frequency is 44 83 kHz. Yacht to yacht communications is on 25 24 kHz. Further marine distress, calling and working frequencies exist up to about 22 MHz. Two separate antenna systems for MF/HF operation exist.

Firstly, the back stay of the vessel can have insulators inserted into it and can then be used as an antenna. The back stay is the wire from the stern of the vessel to the top of the mast which stops the mast falling over frontwards. The availability of wire lengths in the back stay makes this system ideally suited in the operation of the 2 MHz band as it is possible to approximate a quarter wave length from the connection to the keel bolt to the upper insulator in the back stay. Operation on the 4 MHz band can be accommodated by the use of a broad band tuner device. At this stage, we must advise that the primary function of the back stay is to hold the mast up. It is not possible to remove the back stay whilst at sea and replace it with a back stay with an insulator in a different location just to suit the needs of the radio operator. Accordingly, the antenna tuner must be able to accommodate the various harmonically unrelated and spread out spot frequencies. Should one wish to operate amateur radio using the back stay, one must first disconnect the marine HF radio and re-connect the amateur device. Most amateur tuners will not tune the random length of wire of the back stay so the marine tuner should be used. For safety reasons, the marine radio should only be disconnected for brief periods when operating amateur qear.

At this stage, a few words should be said about the antenna system itself. Generally the system operates as a

ground plane type antenna. The conductive salty sea water acts as the ground plane. It is normal to connect the bottom end of the antenna to the sea using either the metal keel of the yacht, the rudder of the yacht or a dedicated "dynaplate". A lead from the dynaplate or keel bolt is attached to the earth connection of the antenna tuner. A lead from the antenna tuner is taken from the tuner to the back stay. This system is satisfactory for the lower HF amateur band frequencies of 80 metres and 40 metres. At frequencies above 6 or 7 megahertz, other factors come into play. Firstly, the insulator in the top end of the back stay has a tendency to have a specific capacitance. At higher frequencies, this capacitor at the top end of the antenna will have the effect of appearing to be a short circuit. It is therefore inadvisable to use a standard back stay insulator in an antenna intended for use above 6 or 7 megahertz. The problem can be overcome by the use of a pair of insulators in series. However, this proposal is both expensive and inconvenient to install. At this stage, we also note that the length of the antenna, measured from the keel bolt to the capacitor at the top of the back stay, is starting to get a little bit long to produce a satisfactory horizontal type radiation pattern.

At the higher HF frequencies, it is necessary to begin to work with a shorter stern rail mounted whip antennas. With whip antennas, the horizontal section of the antenna from the tuner to the keel bolt begins to play a significant part in the operation. We must remember that all parts of the antenna above the ground plane tend to radiate and the highest current exists close to the ground plane. Accordingly, we do not wish to radiate the greatest amount of energy somewhere down about half a metre or so below sea level. Accordingly, it is necessary to reduce as far as possible the length of the earth connection from the antenna tuner to the "dynaplate" or earth connection. Of course, the other side of the compromise coin is that a dynaplate placed too far aft in a modern yacht may be out of the water for a significant proportion of the time.

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Dynaplate type connections to other than dedicated dynaplates and keel bolts are somewhat difficult. Attempts to connect to the sea via the propeller shaft are doomed to failure because of the need for the propeller shaft to rotate from time to time. In some yachts, there is a propeller shaft support skeg close to the propeller towards the stern of the yacht. This can be used to advantage at the higher frequencies. However, structural considerations in the skeg frequently mean that the connecting bolts are glassed over. You may also find that there are frequently poor connections between the bolts supporting the skeg and the skeg itself because of the extent of vibration movement induced by the propeller. Basically, you regularly end up with loose bolts supporting a propeller skeg and you cant depend on the electrical connection between the skeg bolt and the skeg. The head of a bolt is not a very effective connection as it does not have the area to carry the necessary current. In addition, connections to metal rudders also suffer from the need of the rudder shaft to move. However, in yachts where a metal plate rudder has been constructed, some installations have proved satisfactory.

To make a higher frequency operation work suitably, the wire antenna path from the dynaplate connection to the sea must be as straight and vertical as possible. This means that the antenna tuner should be located close to the dynaplate and that the wire from the tuner should run as vertically as possible to the back stay or whip. In addition, the cable path must stay away from other wiring in the ship. It is not unusual for the navigation lights to flash in time with the modulation from a ships HF radio. Attempts to reduce this effect regularly end in despair.

Attempts to install radio antennas in steel or metal hulled vessels require special attention.

The installation of VHF and UHF antennas on sailing yachts is a problem. The ideal antenna location is at the mast head where the antenna must compete for location with the wind speed and direction instruments as well as the mast head lights. The cable inside the mast must compete for space with the various sail halyards. It is also necessary to secure the cable inside the mast by some means to prevent it flapping and making a noise while the yacht is at anchor. Nothing is worse than trying to sleep on a boat gently rocking when the antenna cable inside the mast goes "crash, crash, crash", back and forth inside the mast as the boat rocks at its mooring.

Most amateurs would recommend a high gain antenna for mobile operation. However, sailing yachts have a major problem. The heel over. It has been found that 5/8 wave antennas operate beautifully at moorings and whilst under power. However, as soon as you start to sail the boat, the radiation pattern goes straight up into space and down into the sea. The most satisfactory compromise has been found to be the old quarter wave antenna.

It is difficult to locate an antenna at the mast head as it is usual for the ship's VHF antenna to be located there and interference on that radio cannot be tolerated from an insignificant service such as amateur radio. Accordingly, most amateur VHF antennas end up located on the stern rail where the stainless steel handrail around the stern of the boat forms the ground plane. This arrangement tends to work quite well provided satisfactory waterproofing details are provided. Remember that large quantities of nasty wet salty sea water end up on the exposed connections and waterproofing is of paramount importance. Denso mastic material, although reputedly glossy, has proved successful in some installations.

For VHF SSB operation on 70cm and 2 metre, halos and turnstiles are possible but take up a lot of room and are also inappropriate to masthead mounting. The thought of a 6 metre turnstile is just too awesome to contemplate.

We wish you good sailing and satisfactory maritime mobile operation.

Ships VAF Autenna -Wind Instruments Navigation Lights -. Mosthead Insulator: Head Sail Backstay -Forestay Main Sail The Mast. Insulator Wire Earth Strap TUNE WATER (Tastes Salty) Lead Ballast -Keel Bolt SCHEMATIC YACHT WITH BACKSTAY ANTENNA.

Not to Scale.

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RICHARD CORTIS

VK2XRC/MM

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Dear Members,

The last year of operations by our club has been a good one for our members.

- A. We have held some well attended functions over the last year.
  - 1. O.T.C. La Perouse Attended by over 100 persons, other clubs also attended these outings.

    Thankyou for your help St George and Engadine clubs.
  - 2. Seals Club dinner and night out function 25 persons attended 3. Visit to submarine on open day with the assistance of Greville VK2FEI. Thankyou Greville for your help 15 persons attended 25 persons attended 25 persons attended
  - 5. JOTA Scouts club event As arranged by Eric VK2KUR and Brett
    VK2XMU. Thanks for the help in the event.
    Six members and visitors attended, thankyou
    for your help.
  - 6./ Seals Club dinner function Thanks to Mrs Castle for the club sign for this event. 35 persons attended.
  - 7.X Telephone exchange visit to Pitt Exchange as arranged by Wayne VK2XPL, thankyou for your help. 20 persons attended
- B. The loss of John Zwart VK2FCZ was a blow to all the members of the club. We have lost a good club member who helped in all events over the years of the club activities

  Our deepest sympathy is extended to his family.
- C. The Sydney cycle event was arranged by Gerard VK2XEA, John VK2FCZ, Brett VK2XMU, Andrew VK2MGX and Phil now VK2YPW and Troy a visitor and many more who attended this club and Sydney Cycle event of 1000 cyclists, 10 members etc who attended this event well done. Thankyou for your help.
- D. The events were made great events by your attendance only. Thanks to all our visitors and members who assisted in any way for your help and good will in our club events this year.
- E. But remember we and the committee can only arrange and put on events if you the members can arrange and be there when the function is arranged for you.

  You are the Club and the Club is You.

Give us your support and help when it is required by your committee

I Would like to thank the committee for the year 1989/90 for all your help and assistance this year.

(signed)
Rick Cummins VK2KRF
Publicity Officer

### COMING EVENTS

March 23/24/25 Scout activity at Tahmoor. Please contact Brett or Wayne for details of location etc.

March 28 Club Dinner at the Maroubra Seals Club 7.30PM. Names and numbers to Rick

April 9 April Meeting and Annual General Meeting

May 14 May Meeting. Talk on Packet Radio by Brett VK2XMU.

# MARGERLEY AMATEUR RADIO SIDCIETY

Invites you to attend it's

A.G.M.

on Monday 9th April, 1990 AT THE SCOUT HALL, COOPER PARK ROAD, Bellevue Hill COMMENCING AT

2000 (APM)

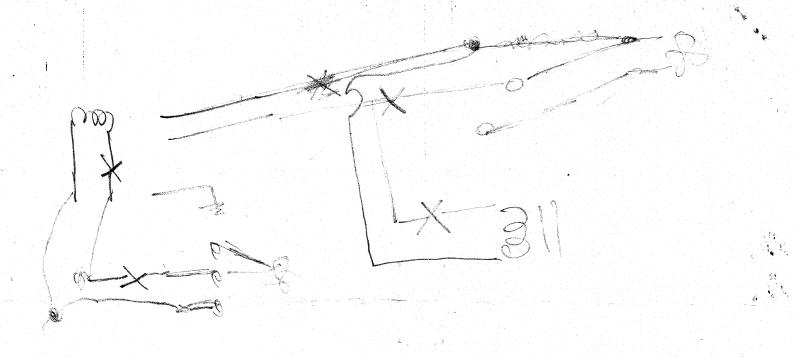




### PROXY FORM

being a member of the Waverle	ey Amateur Radio Society do hereby appoint
also a member of that associati	ion, as my proxy to vote for me on my behalf
t the meeting of the association	on to be held on theday
of19	and at any adjournment of that meeting.
My proxy is authorised to vote appropriate) the resolution (ins	e in favour of / against (delete as sert details).
To be inserted if desired.	마이트 마이트 등에 보고 있는데 그는데 그는데 그런데 그런데 그런데 그런데 그런데 그런데 그런데 그런데 그런데 그런
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NOTE: Nominee, Proposer and Second must all be Financial members of the association.



### WARS CORRESPONDENT

Registered by Australia Post Publication Number NBH 2549

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WATERLOO
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Mr. G T Adams VK2KEL 6 Elizabeth Place Paddington 2021 21 90

W.A.R.S. PO BOX 131 WATSONS BAY NSW 2030

