

THE PROPAGATOR.

VOLUME 00/01 Issue 3 February 2001 PRINTED BI-MONTHLY

PRICELESS

Meetings 2nd Tuesday of each month (except January) S.E.S. Building Montague St Nth Wollongong
Starting At 7:30 P.M. Official Newsletter Of The Illawarra Amateur Radio Society P.O. Box 1838 Wollongong 2500

Well it's a New Year. I hope everyone had a good break over the festive season and now feel invigorated to face the true start of the New Millennium.

With the club there are quite a few things happening. Firstly the Society has marched into the 21st Century in a big way. We now have our own Web Page Courtesy Of Our Latest Advertiser 1 Earth Internet. I have had several looks and I like what I see. Although still under development it looks very good. There is a facility to look up the owners of callsigns and also to add your E-Mail address to your call.

If you are interested have a look at

<http://iars.1earth.net>

We also have a e-mail address which is:

iars@1earth.net

A big welcome to the people at 1earth from the members of the society. If you are looking for an ISP then get in touch with 1earth. I'm sure that they can provide exactly what you require. Remember all our advertisers support our club so give them the support in return.

Brian (VK2UBF) is also after some early history of the club for inclusion on the web site so if you can assist drop him a line.

Its now February and with February comes the Wyong Field Day. I haven't been for a few years now but I will be looking forward to it. The club will be trying to arrange a bus for those members that would like to attend in style. If you are interested and want to come along on the Bus be at the February Meeting,

When the numbers will be counted to see if there are enough people interested. The information on the Field day is on pages 5 & 6 of the magazine.

Our March Meeting will be held at Cataract Dam. I attended the last one there and it was a most enjoyable day. See Inside for More details.

Some of the other things in this edition include:

- An Introduction to PSK31.... One of the newer digital modes.
- An Update on amateur Radio On The International Space Station.
- A design for a 2Mtr Cubic Quad that looks quite simple to build
- As well as a host of other things.

That's about it or now. Remember if you have any projects or useful tips or comments to the editor, send them to me.

I'll see you at the next Club Meeting

73's Bill de VK2JBS

Whoops.....

In the last Issue I got just a few Things Not Quite Right. (Editors Never Get Things Wrong!)

First off Peter Campbell VK2AXJ is a Member Of The Mid South Coast Amateur Radio Club And is Not Connected In Anyway to The Central Coast Radio Club As Stated. *Sorry About That Peter.* Also in the Membership Listing I published there Were several Calls That I got Mixed Up. Including Peters...(Again)

SO I have reproduced the corrected version. Fingers Crossed this Time. See Page 8 For Mk 2 I apologize to those members.

Minutes of General meeting held on December 12th

Jim VK2ZWG in the chair and he welcomed all those present.

Opened at 19:30. With 25 in Attendance.

Apologies from: VK2KRH , VK2CAV, VK2EZD, VK2FEJ, VK2ZDM, VK2TPH, VK2AGB, VK2ZRF, VK2BES.

Visitors: John VK2AVE, Robert VK3ZZP.

Correspondence in: ATO Application to cancel ABN. ATO Australian Business Register. ATO GST registration notice, ATO Aust Business Number registration number, ATO change of registration details. Central Coast re the field day Sunday 25th Feb 2001, Thank you letter from the mid south coast club re the uhf repeater we donated to them. E-mail from W.I.A re books available at the office. Minutes of Council meeting held 13th October, Resignation from the club from Robert Bonnella. Letter from Bruce Renn VK3JWZ re 80 m VK/Trans Tasman Contest. To be held Saturday 1st May 2001

News letters from: Central Coast (smoke signals) St George (dragnet)

Correspondence Out: Newsletter to all members. Letter to Robert Bonnella VK2SRB . Letter from Rob VK2MT to the Bega club re non linking to their repeater. Moved VK2UBF Seconded by VK2TTH

Minutes of meeting being as read in December newsletter. Moved VK2UBF 2nd VK2TTH

Matters arising from: nil

Treasurer's report: Jim was not present. A copy is attached

Repeater report: Rob spoke of 6975 being off air and what was wrong with the repeater. It's hoped the repeater will be back on air Sunday 17th. He also spoke of the resignation of Michael VK2YC and why it was not reported fully on the Sunday broadcast.

General Business: The March meeting will be held at Cataract dam date to be confirmed at Feb meeting (march 10th?) Lyle spoke on the effects of the new E.M.R. regulations and how it WILL effect ALL Amateurs. John VK2KEJ spoke on the support the members gave to the raffles during the year. It was also spoke about the BUS trip to Gosford and members will have to pay the money at Feb meeting.

General meeting will be held: February 13th 2001

Meeting close: 20:20

Committee meeting: to be held December 20th

Raffle won by: Peter VK2HPR a VERY nice Christmas hamper. Not a bad prize for a \$0:70 c donation

Snowball \$30 membership number 15 .As per list John Morris VK2BES as John was NOT present the snowball will be \$40 at the February meeting.

Thanks go to all members that brought a plate as there where many plates of goodies on the tables and everybody eat their fill with lots of food going home with the members. Vaughan had the test equipment with him and tested a lot of radios and the clubs repeater 166:975.

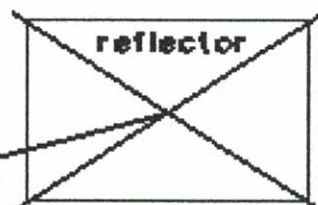
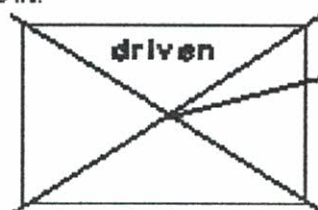
Noel had many torch batteries on the tables and many members when home with them.

2 meter cubical quad

DRIVEN WIRE LENGTH 82 1/4 IN.

DRIVER CROSS ARM 30 IN.

BOOM LENGTH 18 IN.

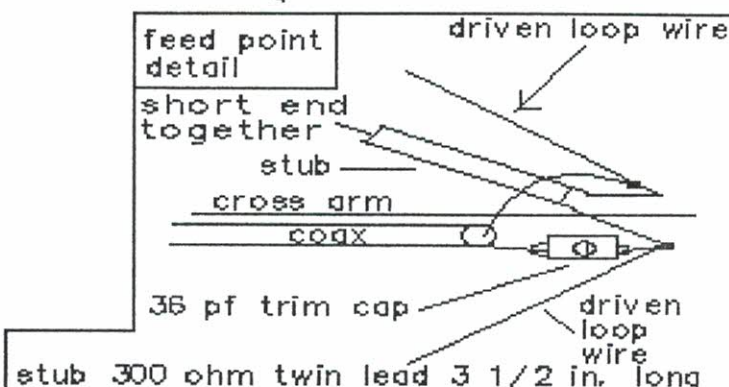


REFLECTOR CROSS ARM 31 1/2 IN.

REFLECTOR WIRE LENGTH 85 3/8 IN.

CONNECT FEED POINT TO SIDE OF DRIVEN LOOP FOR VERTICAL RADIATION AND TO BOTTOM FOR HORIZONTAL RADIATION.

I HAVE BUILT THIS QUAD IN A SIX ELEMENT FORMAT I JUST CALCULATED ALL THE DIRECTORS TO BE 5% SHORTER THAN THE PREVIOUS ELEMENT. IT WORKED WELL WITH JUST RETUNING THE 36 PF CAP AT THE FEED POINT FOR THE LOWEST SWR. FEED WITH ANY 50 OHM COAX. FOR BEST RESULTS MAKE THE BOOM OUT OF NON-METALLIC MATERIAL SUCH AS PVC TUBE OR FIBERGLASS.



This design for a Cubical Quad Was Forwarded to me by Jim Beaver VK2ZWG. This may be a easy way to get a High Gain 2 Mtr Antenea for those who like build their own Anteneas (Like Me). Thanks Jim.

Is there Anyone Out There That Is Interested In Obtaining A Engraved Badge With Their Name And Call On It ? If So See Brian (VK2UBF) Who Will BE Placing A Order For Them. The More Orders We Get The Better The Price.

I.A.R.S. CLASSIFIDES

For Sale:-

Citizen A.M. Base Station CB Radio. Inbuilt Power Supply 40 Channel.

For More Details Contact Ted Hawkins VK2TTH

CB Radio Uniden AX144 AM/SSB In Good Condition. Contact Ted Hawkins VK2TTH Price Negotiable.

HO Scale Model Railway Items. Some Very Rare (Collectors Items) Loco's and Rolling Stock. Various Prices.

Contact Ted Hawkins VK2TTH

The Propagator February 2001

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Coming Events:

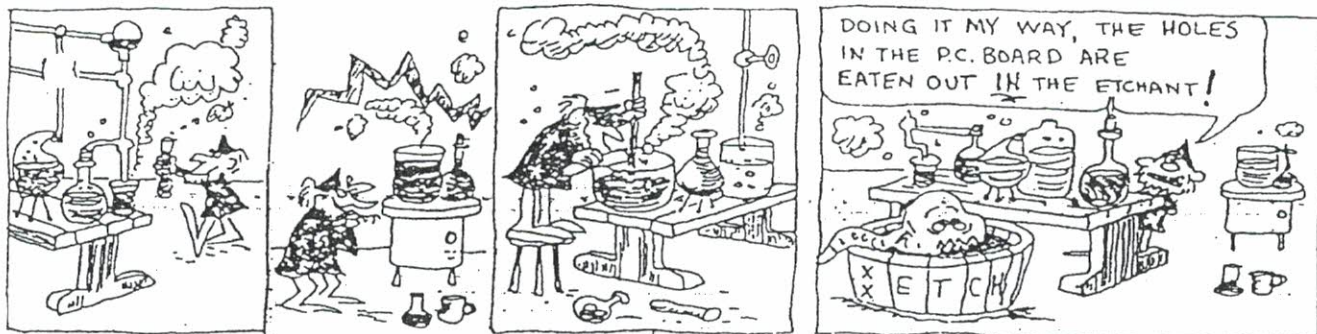
Feburary:

Club Meeting To Be held at 7PM
Tuesday 13th at SES Headquarters.
**A demonstration of PK231 is also
planned at this meeting.**

Wyong Field Day. The Club Will be
attempting to organise a Bus to the
Gosford/Wyong Field Day.(see Details
Elsewhere) If you are interested in going
along on this Bus be at the Feb Meeting
so that numbers can be determined. If
there is enough interest then there will
need to be a deposit paid on the night.
Costs Will Be Determined On The
Number of Participants

March Meeting.

The March Meeting will be held at
Cataract Dam Picnic Area. (Appin Road)
On Saturday The 10th At 11:00 A.M. This
will be a family Picnic (BYO) with a BBQ
Lunch followed by the club meeting.
Come along, as the last time we had the
meeting there it was a top day. If it
becomes necessary to cancel the
meeting due to unfavourable weather
listen out on 146.850 in the morning for a
decision as to cancellation. **If the
meeting is cancelled** then the Normal
Club Meeting will take place on The
Following Tuesday night. (Mar 13th)



Central Coast Field Day

for

**RADIO AMATEURS AND ENTHUSIASTS,
COMPUTER AND ELECTRONIC HOBBYISTS**

Sunday 25th February, 2001

at Wyong Racecourse

Gates Open 8.30 am

- **Truck loads of pre-loved equipment at giveaway prices in the flea market and disposals area.**
- **See all major radio and electronics equipment suppliers together under one roof with many dealers showing the latest offerings and great bargains**
- **Interesting technical lectures, seminars and workshops**
- **Packet Radio - Computerised Communications Displays**
- **Scanning and Dx Listening displays and information**
- **Vintage and Historical Radio Exhibits**
- **Radio fox hunts**
- **Amateur television transmission Demonstrations**
- **Free off-street parking**
- **Free entry tickets to the New Australian Reptile Park**
- **Bring your picnic lunch or buy hot and cold food and drink from the stalls in the ground**
- **Entrance fee: Adults \$10.00, Seniors Card, pensioner concession, students \$5.00, Children under 12 free.**

**DON'T MISS THE BIGGEST FIELD DAY
& HAMFEST IN THE SOUTHERN
HEMISPHERE**

Presented since 1957 by THE CENTRAL COAST AMATEUR RADIO CLUB INC.
For further information write to The CCARC, PO Box 346, Woy Woy, 2256 NSW
Phone 02 43402500, Web www.ccarc.org.au Email vk2afy@hotmail.com

THE CENTRAL COAST FIELD DAY at WYONG RACECOURSE

Sunday 25th February, 2001

The **CENTRAL COAST FIELD DAY** is one of the longest running events in the Australian amateur radio calendar. The next Central Coast Field Day will be held on Sunday, 25th February, 2001 at **Wyong Racecourse**. This will be the 44th year of this popular and growing event.

As usual the large contingent of well-known suppliers of electronic equipment, components and books will be attending. These companies will have their latest products on display and many traders will have items on sale at very special Field Day prices.

Last year the popular "**Flea Market**" attracted a large number of people who traded an enormous amount of surplus electronic equipment to eager buyers from trestles, their trucks, trailers or from the boot of their car. The organisers expect the flea market to boom with even more vendors than last year.

The organisers, the **Central Coast Amateur Radio Club Inc.** have kept the format for the Field Day in line with the changing face of amateur radio. In recent years seminars on a wide range of topical subjects ranging from packet radio to satellite communications have been a popular attraction. This year an even bigger program of interesting lectures and equipment displays has been arranged. Some attractions however have remained unchanged and ever popular, among these is the so called "disposals sale" of many thousands of new and used items of surplus equipment ... many bargains going up for grabs.

Trading and all programmed activities will commence at 8.30 am.

ADMISSION ... Adults \$10.00 ... Children under 12 Free ... Seniors Card \$5.00 ... Pensioner \$5.00 ... Students \$5.00.

A special group concession will also be available on application.

FIELD DAY ATTRACTIONS INCLUDE ...

- | | |
|---------------------------------------------------------------------|-------------------------------------------------------------------------|
| <input type="checkbox"/> ALARA Stand | <input type="checkbox"/> Flea Market |
| <input type="checkbox"/> Disposals | <input type="checkbox"/> Various Amateur Television Groups |
| <input type="checkbox"/> WIA Historian Stand | <input type="checkbox"/> Packet Radio Displays |
| <input type="checkbox"/> QSL Bureau | <input type="checkbox"/> Fox Hunts |
| <input type="checkbox"/> Seminars, Technical Lectures and Workshops | <input type="checkbox"/> Historical radio displays |
| <input type="checkbox"/> VK2 Education Service Stand | <input type="checkbox"/> New Reptile Park Visit |
| <input type="checkbox"/> Trade Displays and Sales | <input type="checkbox"/> Satellite Television Receiving demonstrations. |
| <input type="checkbox"/> WICEN Display | <input type="checkbox"/> Various listener and Scanner Groups |

SEMINARS AND WORKSHOPS ... Several sessions throughout the day on topical subjects. Included will be talks on specialised topics and presentations by equipment suppliers. Check the Club's Web site often for the latest list.

A FIELD DAY INFORMATION SERVICE will be provided on the Gosford 2 metre repeater (6725) on Saturday afternoon and Sunday morning using the callsign **VK2AFY/P**.

TRAINS ... Sydney and Newcastle trains operate frequent services to Wyong Station.

WYONG RACECOURSE is a short 5 minute walk from Wyong Railway Station.

PARKING ... Plenty of off street parking is available within Wyong Racecourse grounds.

ACCOMMODATION ... Accommodation is scarce on the Central Coast at Field Day time, and prior booking is advised.

CATERING ... Tea, coffee and biscuits will be available from 8.30 am to 3.00 pm at no charge in the Dining Room. Takeaway food and refreshments can also be purchased within **Wyong Racecourse**.

CALLS PRESENT ... Bring your QSL cards for the "**CALLS PRESENT**" boards.

EXHIBITORS ... Companies, persons, groups or clubs wishing to set up a traders table or display at the Field Day should contact the Field Day Committee at PO Box 346, Woy Woy, 2256 NSW before 31st January, 2001.

DISPOSALS ... Disposals lots for the 2001 Field Day will be limited to a minimum lot value of \$20. Vendors who wish to sell items of small value are encouraged to sell via the flea market. Forms for Disposals and lot numbers may be obtained in advance by sending a stamped self-addressed business size envelope to - The Field Day Committee, PO Box 346, Woy Woy, 2256 NSW. Items for disposals may be booked in on Sunday, 25th February between 8.30 am and 10.30 am. Please note that 10.30 am is the cut-off time for booking-in of disposals items and late arrivals cannot be accepted. Improperly tagged or catalogued items WILL be refused.

FLEA MARKET ... For those who wish to by-pass disposals and sell their own equipment open boot or tailgate sales may be conducted in the Flea Market. Setting up will be available from 7.30 am. Charges are \$25 per area (approx 2 car parking spaces), plus standard entry fee for each person, to set up and an additional \$25 per trestle if required.

INFORMATION ... On the **Wyong Racecourse** venue, Group Concessions, Trade Displays, Flea Market, Disposals, Programs or any other Field Day information can be obtained by writing to...

CCARC Field Day Organising Team

PO Box 346, Woy Woy, 2256 NSW Phone 0243402500

Packet: **VK2AFY@VK2XY** email: **vk2afy@hotmail.com**, Home Page **<http://www.ccarc.org.au/>**

More than two thousand people attended last year's **Central Coast Field Day**. The next one at Wyong Racecourse will be bigger than ever, so mark 25th February, 2001 down in your calendar to go to the Central Coast Field Day at **Wyong Racecourse**. Gates will open at 8.30 am in wet or fine weather and displays are under cover.

PSK31 Digital Mode.

Digital mode PSK31 is a new generation software driven communications package designed for the Amateur service by Peter Martinez G3PLX , narrow bandwidth and low signal level copy make this new mode a spectrum space saver whilst allowing world wide amateur communication at moderate To low power levels, since PSK is 100% duty cycle most stations only run between 10 and 50 Watts.

PSK31, Phase Shift Keying with a signalling rate of 31.25 Bauds and a bandwidth of 31.25 Hz, by using the DSP functions of the 16 bit PC Sound Card and the Varicode element structure designed by Peter is a very effective mode of amateur communications, since the mode is Software designed, and Peter has made it freely available on the Internet to all amateurs the mode has taken off across the world since being released in 1999, another point is that simple passive interfacing is required between the PC Sound Card and the Transceiver. The normal convention is USB on HF bands and is not sideband sensitive, PSK will also work on AM or FM (goes great on VHF FM). the mode is very robust and experiments conducted with local stations using a simple Cheap mono tape recorder (RX speaker to Mic. /recorder speaker to Transceiver Mic) proved this during several tests.

Most PC's with Internet capability have all that is needed to run PSK31 , most software packages of which there are a few now available need a minimum of Windows 95 and 16 Bit Sound card The two most common at This time appear to be Logger and DigiPan with DigiPan the one most favored locally, Gerry VK2APG has been using the mode for just over 12 months since migrating from RTTY, others in recent times on both HF and VHF are VK2...SX ,BES ,BHO ,BZE ,EDB ,FHN ,UBF ,ZXC . DX stations have been worked on HF and VHF even through satellite OSCAR 10 (VK2APG to ZL3TIB) others have been VK , ZL , FK8 and JA on 50Mhz, USA , Europe, Japan, Israel and India on HF bands , If you are a RTTY op who has done it all, a keyboarder who has not been on air for a while, or simply interested in trying something new,

Then take a look at PSK31 and see if it fires up your interest again in Amateur Radio,

Frequencies where you hear PSK are 14.070 Mhz, 21.070 Mhz, 28.120 Mhz, 50.090 Mhz, 50.195 Mhz, other bands have frequencies assigned to PSK but as yet very few stations have been heard to date , the signal sounds like a warble of two tones closely spaced and is very distinctive .

Try these sites ...

<http://aintel.bi.ehu.es/psk31.html> (the official PSK site)

<http://www.qsl.net/wm2u/gnr.html>

<http://members.home.com/hteller/digipan/>

73 and see you on PSK31

John VK2BHO Jan 2001 .

BTW this file was sent via PSK31.

Then via E mail to the Editor

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Membership listing as at November 18th 2000

Have you ever been curious whom that call sign you hear belongs to???

Here is a full listing of the membership of The Illawarra Amateur Radio Society.

1	VK2ALU	Lyle Patinson	35	VK2ASN	Ian Bowmaker
2	VK2CAG	Graham Dowse	36	VK2AXJ	Peter Campbell
3	VK2OB	Keith Curle	37	VK2HPJ	John Peary
4	VK2AW	Basil Dale	38	VK2JBS	Bill Stone
5	VK2MT	Rob McKnight	39	VK2VZQ	Mike Ramsay
6	VK2TTH	Ted Hawkins	40	VK2ZDM	John Mathhews
7	VK2HPR	Peter Reid	41	VK2CRM	Bob Maughan
8	VK2XBC	Chris Stevens	42	VK2ZRO	Ronald Ryall
9	VK2EMK	Henry Manning-Knight	43	VK2KET	Alex Berkuta
10	SWL	Peter Gulyas	44	VK2KVH	Vic Hee
11	SWL	Neville Koosachi	45	VK2YC	Michael Corbin
12	VK2TNB	Noel Black	46	VK2BHO	John Hodgkinson
13	VK2UBF	Brian Farrar	47	VK2MKM	Ken Morgan
14	VK2KO	Roy Parton	48	VK2ZLJ	John Lodding
15	VK2BES	John Morris	49	VK2AGB	Peter Corkeron
16	VK2KFQ	Tim Causer	50	VK2DZJ	Paul Ferguson
17	VK2TBF	Wayne Bradwell	51	VK2MRJ	Robert McKie
18	VK2FJE	Colin Vaughan	52	VK2XIC	Robert Heyer
19	VK2EZD	David Downie	53	VK2KPJ	Pat Kennedy
20	VK2CAV	Jim Christensen	54	VK2BHL	Hank Lauuw
21	VK2FHN	Phillip Miller	55	VK1ZMC	Michael Cheng
22	VK2APG	Gerry Rosham	56	VK2KBI	Vaughn Williamson
23	VK2VWT	John Pratley	57	VK2ZLN	Luke Neeson
24	VK2JHW	Harry Williamson	58	VK2XQX	Simon Ferrie
25	VK2KEJ	John Lawer	59	VK2GCE	Brian Clark
26	VK2ZOO	Ken Dobell	60	VK2UAR	Alan Ross
27	VK2WRJ	Bob Walker	61	VK2TJQ	Brian Withers
28	VK2KRH	Rick Hanna	62	VK2XGD	Jack DeCesco
29	VK2KLD	Les David	63	VK2TPH	Phil Howchin
30	VK2AIV	Roger Graham	64	VK2ZRF	Rob Freebain
31	VK2AGV	Ned McIntosh	65	VK2DMR	Dennis McKay
32	VK2ZWG	Jim Beaver	66	VK2MPZ	Les Birch
33	VK2SX	Dominique Zanni	67	VK2GNV	Michael Echardt
34	VK2TNK	Bob Skelcher	68	VK2HGH	Geoff Howell

The Number That Appears Next To Each Members Name Is Their Membership Number For
This Financial year For Purposes Of The Snowball.

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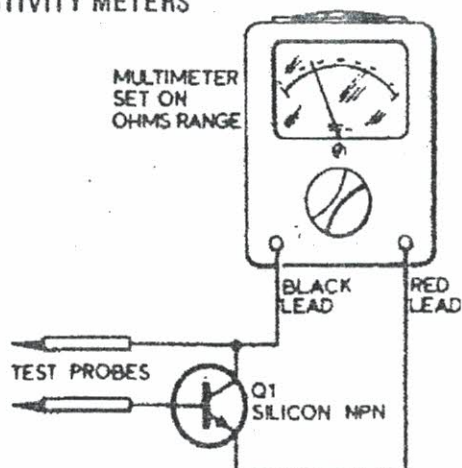
Or even visit the web site <http://users.bytelink.com.au/atrc>

Email atrc@bytelink.com.au

Hints And Tips.

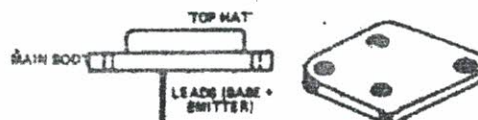
Each Edition I Will Try And Present Some Small Tips That May Be Of Use To Our Fellow Operators. If You Have Some Simple Idea (Like The Ones Below) Fwd Them To Me So We Can All Gain From Them.

MEASURING HIGH RESISTANCE ON LOW SENSITIVITY METERS



Many inexpensive multimeters are unable to give useful readings on the ohms range much above 47k. However, by using almost any silicon NPN transistor (BC107 for example) in the arrangement shown will give considerable deflections for quite high values. The meter's scale will not apply but by noting the readings from high tolerance, high value resistors and some interpolation, fairly accurate measurements can be made. Note that on a multimeter the Black (negative) lead connects to the battery positive on the ohms range.

TEMPLATE AND HEAT SINKS FOR POWER TRANSISTORS



Power transistors similar to OC35, 28 etc., can be useful even when there is a complete electrical breakdown. They can be modified and utilized as either a power transistor heat sink, or as a making out and drilling template. Just remove the 'top hat' part of the transistor, by squeezing it in the jaws of a vice.

The top hat should fully detach itself from the main body and the main body can be modified further by filing it flat. Then remove the ceramic insulators and base and emitter leads by pulling with a pair of pliers. Little effort is required to do this.

TRANSISTOR SOCKET

If you have ever built a transistor tester and use it a lot, for testing large batches of unmarked devices for instance, you are probably aware of the shortcomings of normal transistor sockets which, in fairness, are not designed for continuous use.

A really hardy socket can be made from a B9A or B7G valve plug (not socket). These consist of pins which are hollowed out and are mounted on an insulated base. The spacing between the pins is ideal for use with most types of transistor.

The Following Was Fwd To From John Simon With an Update As To Amateur Radio And The ISS.

I have had several inquiries as to "what's up" with Amateur Radio operations on the ISS. I hope to provide you as much information as we have at this point in time. Miles Mann recently defined some of the mechanics of communicating with ISS. This represented a good run down for each of you to prepare for amateur radio operations. The following, while long, will give each of you a good understanding of where we are and where we are going with ARISS ops. I would suggest that you save this information for the future.

Before I get into what is happening today on ISS, I would like to cycle back a few years ago. In 1996 an international group of radio amateurs got together with a common vision---to develop a single amateur radio station on ISS. In September 2000, this international team, called Amateur Radio on the International Space Station (or ARISS), realised this dream with the launch of the first complement of amateur radio hardware on ISS. I want everyone to know that this event represented the culmination of a very formidable task. If you could have seen, day to day, how difficult it was to develop and qualify hardware for ISS (remember there were no precedents before us) you would understand that this international team did something that was near impossible. Actually we blazed a trail for NASA, Energia and all the other ISS countries by being the FIRST to get our "payload" hardware qualified. During this formidable process, some areas associated with ARISS were not completed as rigorously as others. In particular, the on-board procedures for the hardware need to be improved and the U.S. team would like to better educate the U.S. crew on operations in the context of the three primary goals of ARISS ops--School Group Contacts, General QSOs and Family Contacts.

Let's walk through some of the operational concerns the ARISS team have received from you:

GENERAL QSO OPERATIONS

One thing we all need to keep in mind--the crew members really define whether they want to use the equipment or not. Depending on their interest and the crew workload, various facets of the hobby will be engaged or not. My past work in SAREX made me acutely aware of this fact.

VOICE OPERATIONS

There are some things we do know regarding general voice QSOs. Those that have been involved in Amateur Radio on Human Spaceflight vehicles know that Sergei, U5MIR enjoys amateur radio operation. He was extremely active on Mir and was the same on Shuttle

Missions that carried amateur radio. Many of you have notice the absence of Sergei from the radio. It is our belief that he is quite busy over the US with the 143.625 Communications. You can hear him and Yuri on that frequency nearly every US pass. The ARISS team has gotten reports that the Russian crew have started general QSO ops in Russia. Bill Shepherd (Shep) has done a couple of general QSO ops. Based on what we have learned from operations over the past 2 months, the ARISS team would be surprised if this first crew will do a substantial number of general voice QSO's. Shep did not get instruction on general QSO operations from the US team and discussions with him have recently led us to believe that he wants to concentrate on School Group contacts and autonomous packet radio operations. In the future, the ISS crews will be switching from the 143.625 frequency to TDRSS. When this happens, the crew will not be constrained to a few 143.625 passes over the US and Russia. I am sure that this will open up additional opportunities for the crew to do general voice QSOs. In the meantime, listen to the school group contacts and hopefully we will hear one of the crew members on the air doing general voice QSOs.

PACKET OPERATIONS

I made an announcement a couple of weeks ago that the packet system was going to be turned on. Well, it was turned on and I am sure each of you along with my team listened intently for the packet beacon to no avail.

Over the past few weeks we have been working with Shep to understand what happened. Let me explain to you what we know and the steps we are taking to get the packet operating.

First, we do know that the packet was operational after launch because we heard the beacon on one of the first engineering passes over the US. Based on the discussions we have had with Shep and some of the characteristics of the ground system we think we have a handle on the problem. We have generated some in-flight maintenance procedures to help resolve and potentially correct the problem.

We believe that one of two things have happened---either the ram backup battery died in the TNC or the TNC experienced a single event upset. In either case, we believe that the RAM parameters were either corrupted or set to the default. We believe that the most likely scenario is a dead battery since we recently saw one of the batteries in a training unit die. If we are able to fully check out the system, this problem can be easily corrected and the packet system will again be fully operational.

I must remind everyone that these early stages of ISS introduce complications that we hope to not see in the

later portions of the ISS operations. We are pioneering the use of the ISS hand-in-hand with NASA, Energia and the other international space agencies. As stated before, we don't have a good set of in-flight procedures on-board to recover from this problem. The ARISS team has tapped a team to work on a full set of on-board procedures for the operations of the whole ARISS System--including failure recovery procedures. This is a long-term process, but will reap good dividends in the future. Also, there are too few Station Support Computers (Sacs) on ISS and there are none in the FGB where the amateur radio station resides. To do the full checkout and recovery will require the crew to disconnect one of the SSC computers from another area and use it to perform the checkout and recovery procedure. We are not sure when this will happen--probably in the next 2-3 weeks. We will keep you informed on this. We expect to fix this problem and move into autonomous packet operations soon.

SCHOOL GROUP CONTACTS

As you know, we have had 3 successful school group contacts. We are rapidly converging on a program that will allow us to conduct 6 school Group contacts per month. The ARISS team will provide updates on these contact times. Stay tuned.

FAMILY CONTACTS

The lack of TDRSS coverage has resulted in a stronger need for the increment 1 crew to rely on the ARISS equipment to talk with their family. The ARISS team understands that this is impacting the general QSOs for now. I must tell you all how proud I am that amateur radio is playing such a big part of the psychological well being of the ISS Crew. I am certain that Shep will put in a very big plug for amateur radio when he does his post light debriefings.

THE FUTURE

We are working with the team in Russia to train the follow-on ISS crews. The increment 2 & 3 crews have gotten sufficient training in Russia. We are working with the JSC team in Houston to get a bit of time with these crews to complement the great training that our Russian colleagues have given the crew.

If the packet battery is dead, we will either develop an in-flight maintenance procedure to replace the battery or will swap the TNC with the Flight spare. Please remember that a dead battery does not kill the packet system--we either need to keep it powered up or have an SSC on-hand to upload parameters right after power-up.

We have additional equipment, such as the SSTV equipment and new antennas for the Service Module, that we hope to launch this year. (Actually the Russian team have already conducted a series of EVA training sessions in the Hyrdolab watertank in preparation for our antenna installation). We will continue to improve the hardware and operations.

Just like the pioneers of the 1800's, the amateur radio community is blazing a new trail for human spaceflight. Trailblazing is not for the faint of heart. We WILL have complications and problems along the way---just like the US team's forefathers did as they crossed the US. Let's all be patient and persistent. The ARISS team did just that with the hardware and we were ultimately successful. We are well respected and admired by our (full paid) colleagues in the space agencies. If we continue to be patient and persistent as a team, we will all guide this program into a fantastic future with exciting opportunities for school students, the general ham community and the on-board crews.

Wishing you all 73 thanks for your interest in ARISS.
Frank H. Bauer, KA3HDO
Chairman, ARISS
AMSAT V.P for Human Spaceflight Programs

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THE EMC CHECK-LIST. (Or How To Keep On Good Terms with Your Neighbours)

- Make friends with your neighbours before, putting up antennas.
- Make sure your TV and radios are free from breakthrough in case you need to demonstrate the fact.
- Keep your shack as far away from the neighbour's property as possible. (Doubling the distance between transmitter and TV/radio will quarter- the strength of any interfering signal.)
- Keep antennas as far away from adjoining properties as you can. A 3-element beam or a G5RV dangling over a neighbour's roof is inviting trouble.
- Choose antennas that are in keeping with the size and shape of your property.
- Use screened antenna leads next to properties.
- When using a dipole or any balanced antenna fed with coax, use a balun.
- Use an ATU and get really well connected to earth.
- Choose the best quality low-loss coaxial cable and make sure it is properly terminated.
- Get your antenna as high as possible.
- Run the lowest power level needed to communicate.
- Do not over-drive the transmitter - it causes harmonics, splatter and spurious signals.
- Keep an accurate station log - it is your first line-of-defence in the event of a complaint.
- Regularly check your connections, coax terminations, antenna joints etc. for signs of corrosion which can lead to mixing products.
- If you receive a complaint, be courteous and try to investigate it (as far as you can) as soon as possible.
- When talking to. neighbours remember they are probably not technical - keep it simple:
- Try to get to know other amateurs within a reasonable radius of your QTH - they may have information about their own experiences which might be helpful.
- If you are living in-rented premises, get the landlord's permission - in writing.

Originally Taken From "Smoke Signals" (The Newsletter Of The Central Coast Amateur Radio Club)

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*Club Meetings are held at 7.30pm on the 2ND Tuesday of every month (except January),
in the S.E.S. Building, Montague Street, North Wollongong.*

Committee Meetings are held on the 3RD Wednesday of EVEN months.

MEMBERSHIP: Full - \$20 Concession - \$15 (Expires after August A.G.M.)

<u>Callsign</u>	<u>Freq.In/Out</u>	<u>Type</u>	<u>Location</u>	<u>Linked to:</u>
VK2RUW	29.520/29.620	VOICE	KNIGHTS HILL	(OFF AIR)
VK2RBT	146.075/146.675	VOICE	MT BOYNE	RMP & RIS
VK2RMP	146.250/146.850	VOICE	MADDENS PLAINS	RIS & RBT
VK2RIS	146.375/146.975	VOICE	SADDLEBACK MTN.	RBT & RMP
VK2RUW	433.225/438.225	VOICE	KNIGHTS HILL	(OFF AIR)
/K2RMP	433.725/438.725	VOICE	MADDENS PLAINS	RGN/RHR/RGI/RTW
VK2AMW-1	144.725/144.725	GATEWAY	WOLLONGONG	(OFF AIR)
VK2AMW-3	144.700/144.700	NODE/DIGI	MADDENS PLAINS	VK2AMW-4
VK2AMW-4	144.925/144.925	NODE/DIGI	MADDENS PLAINS	VK2AMW-3
VK2AMW-5	147.575/147.575	NODE/DIGI	MT BOYNE	
VK2AMW-7	147.575/147.575	NODE/DIGI	MT MURRAY	
VK2XGJ	53.100/53.100	BBS/SATGATE	DAPTO	
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/K2XGJ	147.575/147.575	BBS/SATGATE	DAPTO	
/K2XGJ	440.050/440.050	BBS/SATGATE	DAPTO	

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