



# OXTALES

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

**June 1994**

Compiled by VK2AYD

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## **PRESIDENT'S REPORT**

*"Behold the turtle. He makes progress only when he sticks his neck out." (James Conant).*

I feel that this quotation is very relevant to our Field Day this year. When a one day event was proposed there was a feeling within some areas of the membership that it would not be a success. Further, there was also concern that the day would be further jeopardised when it was found that the kitchen in the venue would not be functional and the Saturday night had to be changed from a sit down meal in the Scout Hall to a gathering of 40 or so people who had a dinner at the Westport Bowling Club. Reserved tables were provided for us by the club management.

These concerns could not be further from the truth. The registrations this year numbered 154 against a similar number for last year which indicates, that so far the attendance was concerned, the one day event attracted the same number of registrations as the two day one.

The lack of kitchen facilities were largely overcome by the hard work and determination of the ladies who assumed responsibility for the catering and who arranged for the transfer of the Saturday night meal from the Scout Hall to the Bowling Club. Tea and coffee with biscuits was provided as required and the BBQ lunch was provided at a very reasonable cost on Sunday.

The standard of exhibits this year was very high and attracted a large amount of interest from both those who did and did not have call signs. It was very gratifying to see the interest displayed and I am sure that this made all those who provided exhibits feel that their efforts were worth while.

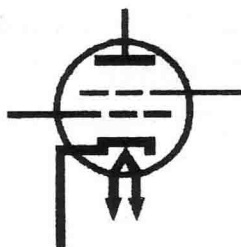
Thanks go to all, both members and non-members, who bogged in and worked to make the day the success that it was. This Field Day was, I feel, a complete success and of a high standard. We should feel proud of what we offered to our visitors. (VK2DAL)

## QUARTERLY MEETINGS

We decided to have quarterly meetings on a Saturday afternoon so that those of you OT's who had problems venturing out after dark could attend.

The June Quarterly meeting was a disaster and an embarrassment to the President and the Club. We organised a Guest Speaker to come all the way from Sydney. ONLY 5 MEMBERS turned up - and not one of them was a Senior Citiz.

So effective immediately, as you won't support the club meetings on Saturday they are out - gone - cancelled - abolished. The next Quarterly meeting will be on Friday evening, September 1.



# Dates for your Diary

*Please pencil these FRIDAY NIGHTS into your diary now.*

**June 24** Basic Principals of Computers VK2BZC

**July 1** Free & Easy

**July 8** The PAKET programme VK2DHU

**July 15** Free & Easy

**July 22** Recent advances in Police Communications Peter Cox

**July 29** Free & Easy

**Aug 5** DAY TRIP TO FIGHTER WORLD VK2ATM

**Aug 12** Awards & Contests VK2AYD

**Aug 19** Weather Satellites VK2XIQ

**Aug 26** Free & Easy

**Sept 1** Quarterly Meeting.

## THE PAST TWO MONTHS

As most of you are aware, our Vice President Charles VK2FSH had heart surgery in early June and you'll be pleased to learn that he is recovery well.

Most of the past 2 months has been spent organising the Field Day.

However, we did have time to have a few excellent evening talks by some of the members. Ian VK2XU gave a talk on Aerials and feeders, Tony, VK2DHU, gave a talk on packet, which indicated some of us need to know more about computers and Paul, VK2BZC has offered to provide this later in June and Tony will give us a talk on how to use PAKET successfully.

Col, VK2VQT, gave a talk on flying and John Howard, VK2AMH, State Co-ordinator for WICEN gave an overview of WICEN and why we should be members.

The Field DAY, as all of you that attended know, went off very well and a big thankyou to all that lent a hand. At the time of putting this to press I have not totalled the pennies, but hope to advise you all at the next Friday meeting. (VK2AYD)

## Thought

*When I was a boy of 14 my father was so ignorant I could hardly stand to have the old man around, but when I got to 21 I was astonished how much he had learnt in 7 years! (Mark Twain).*



Over the past few months we have had some very interesting talks on Packet Radio. For those of you who were unable to attend and are interested in what Packet Radio is all about, the following may help. Much of this is based on an excellent article by Ian Wade, G3NRW, who back in 84 wrote a Packet Tutorial.

### IN THE BEGINNING

In the beginning there was RTTY. Simple to understand. All you needed was a teleprinter, a terminal unit to convert keyboard originated characters into mark and space tones, and a trans-ceiver. Then came the computer which replaced the teleprinter, but the end effect was the same.

RTTY sat on a frequency with an idle mark tone waiting for you to send a character and make it "biddly biddle". If you were a slow typist

the receiving station just had to sit there and bite his nails. On HF it was prone to all sorts of interference and if your signal faded, the character was lost. Not too good for long distance working.

Then came AMTOR which is a very special kind of Packet Radio. Here the message was broken into blocks, or packets, of three 7-bit characters. Each block was transmitted and waited for an o.k. from the receiver before progressing with the next block. This was much better than RTTY, but still quite slow with a transmission rate of 100 baud (RTTY being 50 baud). It also had a disadvantage that it could not transmit over very long distances because of the time frames applied.

So the capabilities of the computer were explored and in the late 70's, early 80's, AMATEUR PACKET RADIO was born based on the already existing commercial standards known as AX-25. On H.F. the baud rate standard has been set at 300 b.p.s. and on VHF at 1200 b.p.s.. Some stations are experimenting with baud rates of 4800 and 9600 but this is currently only on VHF.

The Amateur Packet length has been typically set at 255 characters.

This means that the time spent transmitting data, compared with the time handling an acknowledgment, is much higher than AMTOR. Which makes it 15-20 times faster than RTTY or AMTOR.

PACKET RADIO allows a single channel to be shared by more than one QSO and does not have a maximum range (AMTOR is 21,000km).

The controlling software for Packet also has a built-in monitoring system that prevents two stations transmitting simultaneously thence causing a collision. Also, the slow typist can type a complete line of characters before transmitting, so that no air space is in use whilst he is typing.

### **WHAT IS IN A PACKET?**

As was said earlier, a Packet generally consists of 255 bauds in the block. The general structure is a FLAG (indicating the start of the packet), DESTINATION callsign, SOURCE callsign, CONTROL information including packet sequence number and ordering, MESSAGE block, FRAME CHECK sequence to validate the packet and an end FLAG to indicate the end.

## HARDWARE

The three basic requirements are:

- (a) A computer
- (b) A TNC/MODEM
- (c) A Transceiver

Most of us have (a) and (c) and only need (b).

In modern day technology the programme can be "Software driven" and all you need is a MODEM. However, if you require store and forward facilities you will probably need a dedicated computer.

With the TNC (Terminal Node Controller), it usually has a memory storage area than can save messages when you do not have your computer on. It can also store messages for transmitting at a later date. Some TNC's provide gateways between HF and VHF and a typical local station using this facility is VK2WST who has VHF and HF active.

Our local Bulletin Board/Mail Box is VK2ATM-1 where you can leave messages and retrieve messages.

Now there are the signal basics - now come along on June 24 and listen to Paul VK2BZC who will explain how this relates to your computer and on July 8 come listen to Tony, VK2DHU, explain how his programme PAKET works.



Putting up a new antenna ?  
Using 50 ohm co-ax and a balun ?  
If you are it is a very good idea to test your balun before connecting it to the antenna or feed line.  
To test your balun, connect a non-inductive resistor across the balun (40 to 60 ohm if a 1:1 balun or 160 - 240 ohm if its a 4:1 balun). Use a high voltage resistor (10W+).  
To test, reduce your power to a few watts (less than 10 watts) and with an SWR meter in the co-ax feed line you should see an SWR of 1:1 or better.

## SSTV (or is it colour FAX?)

In the beginning was the key, then came the microphone. AM changed to SSB. Computers took over and Packet was born. How do you escape. Listen on 14.230 and you will find the next era of technology about to descend on us. Its called SSTV (Slow Scan TV). Its been around for 25 years or more, but

only in recent years when colour became possible has it reached the level of new interests.

instead of "Good-day Bill, the weather here is fine", its "Here's a picture of my garden this morning - do you like the roses, etc". A colour picture and a point of conversation.

My first experience was when I acquired a copy of JVFAX early in April and a disk from K3BC. I tuned to 14,230 and received excellent pictures. I called K4GTC and he sent me picture of himself, his shack and his DSP. I said my dam was full of Ibis and he sent me a picture of his dam!

Is this the system of the future ? I predict it is. In 1955 when I built my first SSB rig, everyone laughed and said "that Donald Duck will never take off". I wonder how many of the younger hams know what an AM signal sounds like and all that perfect quality of sound that we strived for in the early days. See you on 14.230.

## Club Nets

Every Wednesday evening at 8 pm on  
3597.5 kHz

Every Sunday morning at 8 am on  
146.7 mHz

# Jupiter



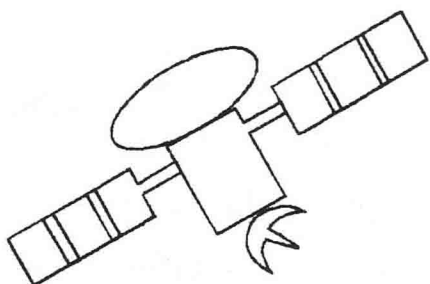
## and the "Big Bang"

**P**lanet Jupiter is well known to the HF buffs as it transmits a signal between 1 and 20 mHz. The emission sounds like ocean waves coming in one to three times a second. It occurs at 10 hour intervals (that's Jupiter's rotation time).

On July 16 - 22, Jupiter will be hit by the fragments from Comet Shoemaker-Levy 9. There are 21 known fragments (located by the Hubble telescope). The fragments will enter the planets atmosphere at a speed of 60 Km/s (130,000 mph). The resultant explosion will about equal or greater than 200,000 Megatons of TNT with temperatures created of 4,000c. The explosion will cover a radius of a few thousand kilometres.

So What has this to do with Amateur Radio ? The results of these explosions may, or may not, effect our ionosphere. Its the first time in our life time that we will

have witnessed such an event on any of the planets of our solar system. I have the predicted times of impact but as yet haven't worked out the azimuth and elevations. Any takers ?



## SATELLITES

A few members of the Club are into weather satellites on both VHF and SHF. Their results are excellent and hopefully we can get one of them to give us a talk on their achievements.

In the meantime have you considered using one of the numerous Amateur Satellites (OSCAR's - Orbiting Satellites Carrying Amateur Radio) that are circling around planet Earth ?

There was an excellent section in the 1994 ARRL Handbook which is well worth reading.

It appears there are 7 different modes/combinations of frequencies

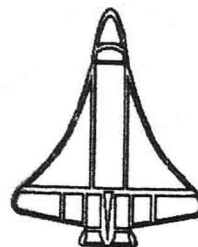
For example Mode "A" is UP on 2 m DOWN on 10 m

"B" is UP on 70 cm DOWN on 2 m

"J" is UP on 2 m DOWN on 70 cm.

The one that caught my eye was satellite RS-12 which operates UP on 15 m and DOWN on 10 m. (Known as Mode "K"). RS-12 was built by the Russians and launched in February 92. It has what is known as a ~~100~~ transponder. It receives signals between 21,210 - 21,25 and retransmits them on 29,410 - 29,450. The beacon frequency is 29,408 kHz. The footprint (or coverage area) is approx. 4,500 miles. With the guidance of a good tracking programme such as ITRACK and the latest Keplerian elements acquired off our BBS, VK2ATM-1, I found the correct time to listen firstly on the beacon frequency and then over the 29 MHz band.

I found having 2 vfo's on my TS-930 was useful as I could set one to Transmit and the other to Receive. Try it - you'll like it!





## LEAD IN YOUR TEETH

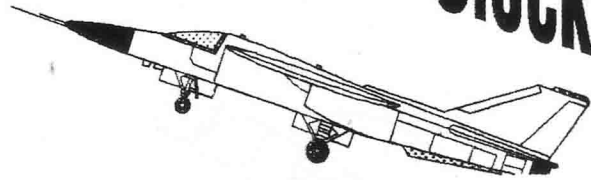
(from Oct 93 QST)

A 46 year old microwave technician in the USA was diagnosed as having a lead level in his blood 10 times higher than other members of his family. It seems that for 20 years he had been stripping the insulation from wires with his teeth and sometimes chewed on bits of wire insulation! An analysis of the plastic found it contained 10,000 to 39,000 micrograms of lead per gram. The lesson is - use your wire strippers - not your teeth!

The fumes from soldering are also not good for you. Try to use a small fan to move the fumes away from your face or wear a face mask. I understand silver-tin is better - but who can afford it!

Sorry, no members list this edition. One will be printed in the August edition.

## Bandit at 12 O'Clock



If you haven't yet booked your seat on the bus to FIGHTERWORLD scheduled for August 5, then I suggest you contact Arthur VK2ATM pronto. Its going to be a great day out and you'll regret it if you miss it.

## ADVERTISING

"For Sale" and "Wanted" ads are free to members. If businesses or non-members would like to advertise we would be most pleased to negotiate a great deal!

73's

VK2AYD

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