



# OXTALES

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

## December 1996

Compiled by VK2TT

PRESIDENT: David Smith VK2DAL 85.1004  
VICE PRES.: Bill Sinclair VK2ZCV 82.0329  
TREASURER: John McDonagh VK2VY 82.0020  
SECRETARY: David Pilley VK2AYD 85.2647

### *President's Report*

*"One man with courage is a majority."  
(Andrew Jackson)*

Well, it's that time of the year again and I would like to, on behalf of all the Committee, wish all members and their families a happy Christmas and a prosperous new year.

Please note that the 1997 annual General meeting of the club will be held at the clubrooms on Saturday 1st February, 1997 commencing at 1pm. Following the AGM, the regularly quarterly meeting will be held. If you would have any items which you would like included on the agenda for the AGM, please let the Secretary know. Only items on the agenda will be dealt with.

As you would be aware, it is at the AGM that the committee for the ensuing year is elected and this year we

are looking for nominations for all positions. It is time for a change as both the Secretary and President have both now done 3 terms and new ideas and leadership are needed.

As you are also aware, on Sunday mornings commencing at 0800 the Club 2 metre Visitors network is conducted. We normally have a participation of about 10 to 12 club member regulars and occasionally, a visitor. This network is a good opportunity for Club members to fraternise, discuss problems and pass on news and other tidbits.

Speaking of the 2 metre repeater, on Wednesday the 4th December at about 5pm Vk2ZCV and VK2DAL had



occasion to go to the repeater site as the 2 metre voice repeater had been locked on transmit for the best part of 2 days. This was not brought to the notice of the Committee until there was a telephone call from VK2HOT to let me know that there was a problem. During the course of investigation it appears that at least one other member of the club was aware that there was a problem, but did not take any action to bring it to notice. When the site was visited the problem was identified as being a fault in the muting circuit of the receiver which allowed the high level of RF at the site to lift the receiver muting and so lock the transmitter on.

The repeater has been removed from Middle Brother to allow repairs to be effected and it should be back in service shortly. In the interim, there is a repeater operating on 146.700 at VK2ZCV's QTH which will provide a limited service to those who can access it. In any case all should be back to normal by the time you read this.

On Saturday the 7th December, the Club BBQ was held at Pilot Beach. As you would no doubt be aware it was a more or less wet day, however we secured the large shelter shed and a BBQ was cooked by VK2ZCV, the sausages, wine, soft drink and orange juice being supplied by the Club. There were 19 people there and a good time was had by all. Some goodies were left over and VK2HOT suggested

that we have another BBQ early in the new year.

*"It is not how far you fall, but how high you bounce." (Anon)*

*73s de VK2DAL*

**O.R.A.R.C. Inc.**  
**Annual General Meeting**  
**1997**

Don't forget to mark  
**Saturday February 1**  
on your social calendar.

That is the day of the  
**A.G.M..**

The Meeting will begin at

**1.00 pm E.A.D.S.T.**

Please come along and  
participate in your club's  
future.

**THE ANNUAL**  
**CHRISTMAS BARBIE**

The weather turned on for the 7th of December was obviously not intended to enhance the enjoyment of members and friends attending the ORARC Barbie at Pilot Beach. Despite the drizzle and stiff breeze, 19 brave souls (members and XYL/YL/Friends/Family) gathered at the venue on schedule and went ahead with the programme anyway.

Attempts by Jupiter Pluvius to extinguish the gas barbecue and cool the hot plate were successfully thwarted by the use of makeshift screens utilising cardboard sheets, folding tables and an impenetrable wall of strategically stacked human body tissue.

The public shelter at the venue provided adequate cover from the light rain to enable the meal to be consumed in comfort at the tables.

There seemed to be little enthusiasm amongst those present for taking a dip in the lively surf that was running at the time. However, lively chatting and erudite discussions over a few goblets of Chateau Cardboard, while munching on a delicately seared sausage or two (by VK2ZCV), absorbed much of the time.

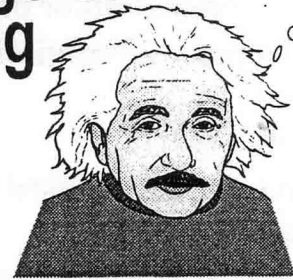
The poor weather prompted early departures, but the venue was most satisfactory, and could cope with virtually any weather conditions.... well, short of a visit from one of Tracy's rellos. Nobody went home really disappointed. It will be better next year.... let's hope.

**STOP PRESS !!**

**Bill, VK2CWR STAYS PUT.**

**There is no truth in the rumour circulating that Bill is leaving the district. Bill is staying put.**

## Test Your Knowledge on Grounding



How well "grounded" is your grounding savvy ?

1. If the wire from your shack to your ground connection is 8ft (244mm) long, it is probably useful as an RF ground below what frequency ?  
(a) 30 MHz (c) 144 MHz  
(b) 10 MHz (d) 1 GHz

2. A ground loop is:  
(a) A loop antenna mounted a few feet above the soil (b) A thin wire loop that connects your radio to ground (c) A condition where multiple paths exist for ground currents (d) A wire that you use to dissipate stray RF currents

3. Ground loops can cause:  
(a) RF feedback (b) distortion or buzzing in transmitted audio (c) 50-Hz ac shock hazards (d) All of the above (e) (a) and (b)

4. True or False ?  
(a) Water pipes are good RF grounds  
(b) A 1/2-wavelength ground connection is a good RF ground  
(c) A good RF ground lowers the SWR  
(d) The ac wiring safety ground is a good RF ground

5. Pick the best ground conductor:
- (a) Steel plumber's iron
  - (b) 4mm stranded copper wire
  - (c) 12 mm copper strap or braid
  - (d) 9mm diameter aluminium tubing

Ok.. How did YOU rate ?

8 points and you're a wizard

7 points and you're close

6 points or below you need to re-read the text books ANSWERS.....(on back page)

## Historic Document

Members may recall that in our August issue of OXTALES, it was foreshadowed that we would be seeing in October OXTALES, a replica of an historic literary artefact. As a consequence of time and production difficulties, it did not make the October issue, but here it is in December's issue, in all its glory, warts and all.

Page 7 of this issue carries a reasonable facsimile of the artefact, albeit rather shrunken to enable an old foolscap page to be depicted on our modern style newsletter page. Reproduction in our modern format has no doubt detracted from its rustic appearance and as a consequence perhaps, robbed it of the romance of the era that it depicts. However, the superb technical journalism that the item exhibited, along with the example of the then cutting edge of technological design,

both come through brilliantly to enthrall the technical reader. Spectacles may be necessary to peruse its erudite contents, but do not be afraid to use them... the effort is well worthwhile.

The item came to light when Ken (VK4WKB), exhumed some documents and newsletters from the mouldering archives of the ancient Fiji Amateur Radio Club that functioned in Suva in the early 1950's. The item was taken from an issue of that club's newsletter, "Splatter".

Associated with this artefact is a competition for financial members of ORARC. The competition is to identify, by name, the author of the article. It is believed by some, that the author is still living and has been, or possibly still is, a financial member of the ORARC. There is a first and second prize claimable by the members who submit the first received correct entry, and the second received correct entry. First prize is a complimentary copy of an OXTALES draft file - winner has choice of issue, and second prize is TWO copies of an OXTALES draft file, again at the winner's choice. Entries should be directed to Ken (VK4WKB) QTHR, who as judge will make the final decision as to the lucky winners of these valuable prizes (they could become collector's items!).

The next issue of OXTALES will carry the winner's names (assuming entries ARE received, and that two will



be correct). Also included will be a reprint of a short "letter to the editor" that subsequently appeared in the F.A.R.C.'s "Splatter". The letter addresses, in some cryptic detail, salient points in the electronic design of the published article. Watch for it.

## World First Eye-Safe LASER Transmits to Space



*Part of an Extract from Ascent Technology Magazine. No 22, August 1996 pg 9.*

An Australian Company has passed a major milestone in its quest to develop optical links with satellites. The new links will be able to carry in free space amounts of information similar to those now carried on Earth by optical fibres.

An Australian manufacturer of laser range-finders and satellite tracking equipment has achieved a world first with the development of an "eye safe" laser that can transmit to satellites with sufficient power that the reflected energy can be detected on Earth.

With further development, the company expects the laser will be able to emulate the information-carrying properties of optical fibre, sending at

least 100 times more information to satellites and space stations than presently possible using radio or microwaves.

Lasers have been successfully used to track satellites for 30 years, but beams sufficiently powerful to act as carriers of information have been off limits because of possible danger of damage to human eyes, in particular to the retinas of aircraft crew and passengers.

Now Electro Optic Systems (EOS) Pty Ltd, based in Queanbeyan, NSW, has generated a powerful laser beam in a narrow band of the light spectrum (1.4- 1.6 microns) that has for several years been recognised as being safe.

"We have shown we can reach a satellite and maintain the laser at a constant power level that will not do damage to the human eye," said EOS Research Director George Poropat.

"In the process, we have developed all necessary pointing systems, lasers, software and infrastructure.

"The next step will be to increase the repetition rate to a point where it will be worthwhile for communications (the repetition rate is the speed at which a laser can be turned on and off.)

"Lasers can represent a 1 by a pulse, and a 0 by the absence of a pulse, and are a very effective means of carrying digital information because they can

switch on and off billions of times per second.

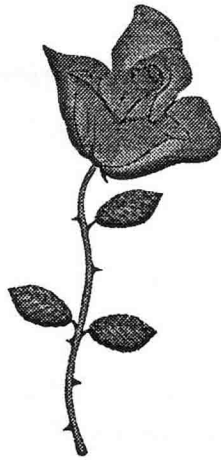
"There has been a one-thousand fold increase in the repetition rate in optical fibres over the past 15 years, and we believe our program with eye-safe lasers will evolve a lot faster than that.

"We're not saying we will achieve the desired rate this financial year, but it's not as far off as some people might think."

## THE ROSE SITUATION

I am a packet user, but at best could only be classified as a "fringe-dweller" in the digital community. However, my perception, over the past few months, has been that even moderate success in use of the ROSE system southwards to Sydney has become a thing of the past. Northwards to Lismore is, at best, patchy.

Sad thing about it all is that one experiences a high level of frustration if one embarks on a fact finding mission that is aimed at getting the big picture. I have not been successful in locating any information in the BBS's (they seem to be getting their messages through) which could throw light on the problem. I do not believe I



am unique in my lack of success on the ROSE, so I am assuming that other users would be either thirsting for this information, or are "full bottle" on it, and perhaps playing it close to their chests.

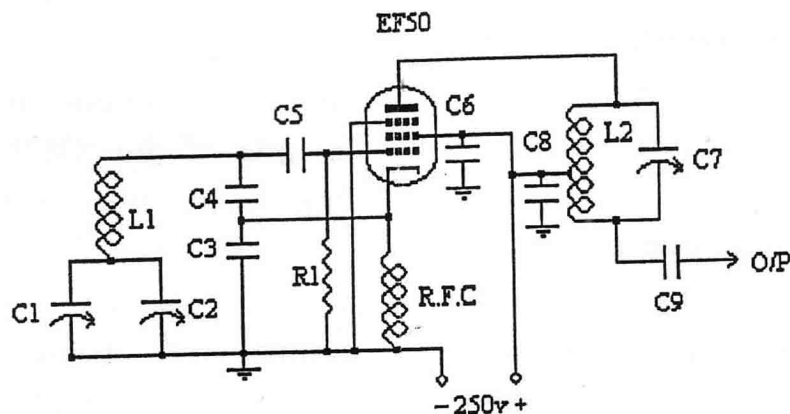
The purpose of this whinge is to try and flush out some good info from the obviously taciturn Gurus who have the answers. It would seem reasonable to expect that the information exists somewhere, but for whatever reason, be it a fraternal code of silence designed to maintain the masses in a state of blissful ignorance, or just plain old lack of that elusive "Round Tuit" in the shacks of the knowledgable, it aint getting spread around too thickly... a personal view, of course.

Anybody else out there having related problems.?

- Trevor VK2TT



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See article on page 4



VALUES. C1,C7 = 50 pf Variables  
C2 = 100 pf Variable, C3,C4 = 500 pf Silver Micas  
C5,C9 = 100 pf Micas. C6 = .01 mfd mica  
C8 = .005 mfd mica. R1 = 100,000 ohms.

Coil Data. (All coils wound on 1-1/4" forms)  
The following data is for 7 megacycle coils only.

L1. = 17-1/2 turns of 20G (SWG) enam., (Winding Length 1-1/4")  
L2. = 27 turns of 22G (SWG) enam., (Winding Length 1-3/4")  
tap at 14-1/2 turns, counted from Anode end of coil.

(Ten Meter coil data is available if required!)

### SA VINAKA DUE DUA NA V.F.O.

This is not a "Find the Faults" competition, or a "Let's Start an Argument" bait.

Now that you have cast your critical eyes over the above circuit, and probably said unkind things about it, let me say a few words in its defence.

This V.F.O. has been constructed and tested in the laboratories of VR2CZ, and after weeks of exhaustive research into its performance, it has been placed into sterling service on the 14 megacycle band.

Prior to its installation in the rig, one of the impressive tests it passed was as follows. With the 7 megacycle coils installed it was allowed 5 mins to "warm up", then tuned to zero beat with a 7 Meg. crystal test oscillator. After half an hour of listening on a receiver tuned to the second harmonic, the drift was absolutely negligible. It didn't even give a reasonable growl!

The above test was performed with an unregulated power supply which happened to be handy, and as expected, when the mains voltage took a few dives and loops, a little later during the peak dalo cooking period, there was some noticeable changes. However with a regulated supply attached later, and working into a normal load, the stability was all that could be expected of it, and she was placed into service. At present she is running at 7 Megs. and working into a doubler, which results in 5 ma/s drive (if you want it) to a single 807.

If you have an EF50, or even an EF55 collecting mildew in your shack, and you want to cease being a "shag on a rock", just slap it together, bearing in mind that mechanical rigidity is a must, I feel sure that you will be favourably impressed by the performance of this simple, inexpensive V.F.O.

## Answers to the Grounding Quiz

1. (b) An 8-ft conductor is  $1/8$  wavelength at 14.6MHz. As the length of a grounding conductor increases beyond  $1/10$  wavelength, its RF impedance begins to increase rapidly and it begins to act as an antenna.

2. (c) When more than one path exists for ground currents, this condition results in a "ground loop". It is called a loop because the physical configuration usually resembles a loop, however distorted that loop may be. It is usually the result of a system that has multiple grounding points. Ground loops are a problem in systems with two or more components because there are usually multiple ground currents flowing in each conductor. This can result in unwanted interaction between systems. Connecting more than one piece of equipment to a single ground wire can also cause unwanted interaction.

3. (e) Transmitted RF is often picked up by ground loops and conducted into audio and control inputs to transceivers. Unwanted RF in an audio input often causes distortion or sounds like humming or buzzing on the transmitted signal.

4. Every answer is FALSE.

(a) Plastic water pipes are often used and even metal pipes may have

unreliable joints and make long runs before entering the ground.

(b) This length of wire acts more like a dipole than a ground, although the RF impedance at the end opposite the ground connection may be low.

(c) SWR is unaffected by grounding of shack equipment. RF flowing on the outside of the SWR meter may cause improper indication though.

(d) Never use the ac safety ground as an RF ground! It may not be connected to ground for a long distance and the RF currents flowing in this conductor may upset other electronic equipment.

5. (c) Wide, high-conductivity straps are the best ground conductors.

More in the next Oxtales

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de VK2AYD

## APOLOGIES FROM EDITORIAL STAFF

No doubt members would have observed in the last two issues of OXTALES that an error was perpetuated in the "credits" on page one. The office bearers list showed VK2ATM (Arthur) as Vice President, which it should really have been VK2ZCV (Bill). Our apologies to all, including Bill and Arthur, for this oversight... just goes to show that to err is human, but to really screw things up good and proper, it needs only minimal assistance from a computer... a CASU, to coin a new acronym? But we try!