

OXTALES

First published 1980

Newsletter of the Oxley Region Amateur Radio Club Inc.

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Club Website: www.orarc.org

November 2011

Compiled by VK2TT & VK2AYQ

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 TREASURER: Keith Anderson VK2FKJA 6586.3988
 SECRETARY: John McLean VK2KC 6584 6220

President's Report

Thank you everyone who helped to celebrate the Oxley Region Amateur Radio Club Inc. 40th birthday. The club was founded on the 2nd of October 1971.



ceived from Jim Griffiths VK2BGG of Wauchope. Jim, who joined the club on the 8th of November 1971 only one month after its formation, was recovering from surgery so sadly was unable to attend. Best wishes for a speedy recovery, Jim. It was a proud moment for Arthur Monck VK2ATM and myself as two founding members, when we joined forces to cut the anniversary cake.

Thank you to Gary Ryan VK2ZKT of Radio Supply at Bellingen for so kindly donating the major prize for the Lucky Door draw. Thank you to Jaycar Port Macquarie for donating the runner- up prize. Bill Sinclair VK2ZCV could hardly contain his excitement when his partner Coralie Dawson
 (Continued Page 3)



The 40th Anniversary Lunch at the Port Macquarie Golf Club on Sunday the 2nd of October 2011 was a great success with some 40 people attending from both near and far. I must mention that an apology was re-

In This Issue :

Item.	Page No.
President's Report	Front Cover
Down the Coax	2
Meeting Dates	2
E-Mail Directory	2
Net Controllers' Roster	2
APRS Packet Reporting Systems	4
ORAC Birthday Party	5
JOTA	5
BAGO Car Rally	6
Telegraph Point Working bee	7
Billy Cart Derby	7
WIA Club Grant	8
Crystal Oscillators	9
HCJB Club talk	11
Membership Register	Rear Cover

Down The Coax
Friday Night Get-Together
Friday 18 November 7.00 pm

Friday Night Get-Together
Friday 16 December 7.00 pm

Christmas Party and
Monthly Meeting
Saturday 3 December 9am to 2 pm

Monthly Meeting
Saturday 7 January 2012 2 pm

E-mail Directory

(as at November 2011)

LEWIS	VK2AG	lewisgreen@bigpond.com
NEIL	VK2EI	neilsan@tpg.com.au
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BILL	VK2ZCV	wsi54224@bigpond.net.au
BILL	VK2ZCW	cabrooke@westnet.com.au
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MICHAEL	VK2FMDW	wardymd@gmail.com
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DES	VK9FLHI	lhibluelag@bigpond.com
TONY	VK2FVAA	tony.perett1@bigpond.com
JOHN	VK2FGAA	winch@midcoast.com.au

Net Controllers' Roster
Nets on Voice Repeater VK2RPM 146.700 MHz

Sundays
 (0830 Local)

Tuesdays
 (1930 Local)

Nov 2011

VK2OA	Nov - 06	VK2ATM	Nov - 01
VK2VIV	Nov - 13	VK2ZHE	Nov - 08
VK2TT	Nov - 20	VK2EI	Nov - 15
VK2OA	Nov - 27	VK2AYD	Nov - 22
		VK2ZCM	Nov - 29

Dec 2011

VK2VIV	Dec - 04	VK2ATM	Dec - 06
VK2TT	Dec - 11	VK2ZHE	Dec - 13
VK2OA	Dec - 18	VK2EI	Dec - 20
VK2VIV	Dec - 25	VK2AYD	Dec - 27

Jan 2012

VK2TT	Jan - 01	VK2ZCM	Jan - 03
VK2OA	Jan - 08	VK2ATM	Jan - 10
VK2VIV	Jan - 15	VK2ZHE	Jan - 17
VK2TT	Jan - 22	VK2EI	Jan - 24
VK2OA	Jan - 29	VK2AYD	Jan - 31

Wanted to Purchase

Kenwood TS-820 or TS-820-S Transceiver
 in operating condition.

Contact : Ian McDonald VK2MWI
 e-mail : ianmcdonald01@optusnet.com.au

Here is a good opportunity to rationalise the
 shack and help out a fellow amateur (Editor)

Congratulations

John William Winchester, of Port Macquarie
 was successful in gaining his Foundation
 Licence VK2FGAA on 20 October 2011.

As per the club's usual gesture of goodwill,
 John has been given free club membership
 until the 30/6/2012.

(Continued from Page 1)

drew out Bill's ticket for the major prize. Thank you to Bill Brooke VK2ZCW for printing the nice certificates which were presented to all the Amateurs who attended the Anniversary Lunch. A full report with photographs of the event appears in this month's Oxtales. Thanks to Tim Mills VK2ZTM and Trevor Thatcher VK2TT for the report and photographs in November 2011 Amateur Radio magazine.

Saturday the 15th of October marked a milestone for the club. Not only did one group of club members set up VK2BOR in the club's communications caravan and participate in the Jamboree on the Air, but a second group of club members set up their individual portable stations in the forest west of Heron's Creek and provided safety communications for the Bago Forest Classic car rally. It is the first time that the club has participated in two simultaneous major events. Thank you to everyone who participated on the day. It was an impressive demonstration of the ability of a large number of club members to go out in the field at one time when the need arises. The two events are reported in both words and pictures in this issue of Oxtales. Special mention must go this month's editor John Hansen VK2AYQ who started with the JOTA setting up in the morning and then went to Heron's Creek to assist at Rally Headquarters in the afternoon. Like all good reporters he wielded his camera at both venues!

Thank you to Ashley Anderson VK2XSO for travelling to Port Macquarie to present an inspirational lecture on APRS at the club's monthly general meeting on the 1st of October 2011. APRS is short for Automatic Packet Reporting System. The APRS bug has bitten a number of our members. This occurred when Ashley demonstrated capabilities of the free on line APRS server together with a representative sample of affordable hardware for building APRS GPS

trackers. Club members are organizing a bulk purchase of hardware. Contact Arthur Monck VK2ATM for more information if you are interested. The club will soon be installing an APRS digipeater at the VK2RPM Middle Brother Mountain repeater site. To learn more about APRS visit the APRS Australian web site <http://www.aprs.net.au/> Also, have a look at the Google Maps APRS tracking display at <http://aprs.fi/>

Rod and Brenda Worthing presented a very informative talk on the HCJB HF Broadcasting system (see page 11).

Members and their families and friends are cordially invited to attend the club's 2011 Christmas Party under the covered area at Settlement Point Reserve on Saturday the 3rd of December 2011. Settlement Point Reserve is the park just beyond the Settlement Point ferry ramp on the southern side of the Hastings River. To get to Settlement Point just head north along Park Street past Settlement City and follow the road all the way to the ferry. Set up time at the park is from 9am. Finishing time will be approximately 2pm. As usual the club will provide a free sausage sizzle lunch from the on-site barbeque. Please bring your own salads and other nibbles. A fruit salad and ice cream dessert will be provided free, as will tea and coffee together with soft drinks. The club communications caravan will be on site. It will be a great opportunity to see the results of the hard work done by John McLean VK2KC and his helpers in fitting the caravan with a new axle and wheels. The caravan now looks quite impressive with its much increased ground clearance and new support stands. The tea and coffee and soft drinks will be available from the caravan.

A short December club monthly general meeting will be held at Settlement Point Reserve in conjunction with the Christmas Party.

An special invitation is extended to members and visitors to bring along items for "show and tell" at the Christmas Party. It will be a

great opportunity to demonstrate items that you have built for portable and emergency communications.

Yes, we will be holding a monthly general meeting in January. The first Saturday falls on the 7th of January 2012 so our meeting is a week after the New Year. Visitors will be particularly welcome at this meeting. January 2012 Oxtales will be published at about the same time as the meeting. Please send your contributions to Trevor Thatcher VK2TT who is compiling this issue.

The club has ordered copies of the 2012 Amateur Radio Callbook. Please contact me as soon as possible to reserve your copy. We will only have a limited number and reserved copies will be distributed to members as soon as they arrive. My mobile phone number is 0427 947 921. Any spare copies will be available at the Christmas party on Saturday the 3rd of December 2011, and at the Friday night get together on the 16th of December, and also at the January monthly general meeting on Saturday the 7th of January 2012.

The club's 2012 calendar will be available in January, The annual calendar has become highly sought after. It's a must-have.

I wish all members and their families and friends a safe and happy Christmas and best wishes for 2012.



Henry, VK2ZHE and Arthur VK2ATM cutting the 40 Anniversary Cake.

Henry Lundell VK2ZHE
President

APRS (Automatic Packet Reporting System) Links

Supplied by
Ashley Anderson VK2XSO
<http://aprs.fi> APRS viewer

<http://www.aprs.net.au/> APRS Australia

<http://www.foxdelta.com/products/> Foxdelta Kits

<http://www.foxdelta.com/products/foxtrak-m.htm> Foxtrak-m

<http://www.byonics.com/tinytrak4/> Byonics Tiny Track

<http://www.argentdata.com/> Argent Data

<http://www.sparkfun.com/> supplier of GPS modules and other goodies.

<http://www.4dsystems.com.au/> 4D systems, GPS modules and other parts.

http://www.ebay.com.au/itm/ws/eBayISAPI.dll?View-Item&item=330584579266&ssPageName=ADME:L:OC:AU:1123#ht_3960wt_1187 cheap GPS modules

<http://www.rfmodules.com.au/rm/rm.htm> Radiometrix RF modules

http://www.universal-radio.com/catalog/fm_txvrs/0710.html Kenwood mobile radio with APRS.

<http://www.ui-view.org/> UI View32

<http://www.aprs.org/doc/APRS101.PDF> APRS 101 (white paper with technical details)

<http://ibcnu.us/> APRS app for iPhones

<http://aprsdroid.org/> APRS app for Android phones



(Ashley VK2XSO setting up)

Oxley Region Amateur Radio Club Inc. 40th birthday. *(As reported in Amateur Radio by Tim Mills VK2ZTM)*

The Oxley Region Amateur Radio Club celebrated their 40th anniversary with a lunch on Sunday 2 October at Port Macquarie Golf Club. There were 40 in attendance on a rather wet day, which did not detract from the enjoyment of the occasion. The club had been formed in 1971 to develop a two metre repeater for their region. Lucky door prizes were presented with the major one donated by Radio Supply going to Bill VK2ZCV. The second draw—provided by Jaycar of Port Macquarie—going to Judy VK2HZV. For those without callsigns, prizes were won by Linda Court and and Dee Pilley.



Good food and companionship at one of the tables at the 40 Anniversary. Note Dave VK2AYD demonstration the correct way to hold glass (and the similarities to a Morse key!) watched intently by Charles VK2KCE and Tim VK2ZTM)

JOTA Jamboree On The Air *Henry VK2ZHE*

It was a wild and windy rain swept day on Saturday 15 October 2011 when John VK2KHB towed the caravan to the Sea Scouts hall to set up for JOTA.



Bill VK2ZCV, Henry VK2ZHE, Lyle VK2FCVI and MarkVK2FMGM set up the club's Communications Caravan adjacent to the Port Macquarie Sea Scouts' hall and operated the club station VK2BOR for the Jamboree on the Air.



Bill VK2ZCV, Mark VK2FMGM and Lyle VK2FCVI preparing the station.

The HF propagation was not good and 2 metres was used for the contacts. HF propagation has not been good in previous JOTA events. As an interesting aside the amount of RF hash emanating from the motel next door was considerable at several S points on the signal meter.

Approximately 40 Scouts and Guides from Port Macquarie and the Camden Haven took their turns at the microphone to qualify for one of the communications badges.

Even though most of the Guides and Scouts were familiar with using mobile telephones and the internet for social networking; their enthusiasm for using radio as a communications medium was pleasing to see.



Henry VK2ZHE

Bago Forest Classic Car Rally

The day started off wet as we gathered at the reccy point at the Herons Creek turn bay just off the Pacific Highway.

From there we were directed or in some cases were led to our respective points. Even though it was raining, the Forestry roads were in good condition, all positions were taken up without mishap.

By mid morning the rain had abated and although muddy underfoot, it turned out to be a great day.



(Setting up at a communications point)

Despite a reccy carried out in the week prior to the event to check what frequencies would work by John VK2KC, Arthur VK2ATM, Bruce VK2HOT and Keith VK2FKJA checked each point to make sure contact could be maintained with the repeater on Middle Brother. It was decided that we could use 70 cm through the Middle Brother repeater, in some cases communications were marginal but copyable and even one point was marked with rocks to ensure on the day the antenna would be in that exact position to guarantee that contact could be made.

For the newcomers, the fact that 6" made the difference between being able to communicate or not was a new lesson to be learned

about the vagaries of 70 cm propagation in difficult terrain.

Strangely as the day wore on and conditions changed, (maybe as the foliage dried?) most of us found that 70 cm couldn't be used, so we reverted to 2 metres and managed to accomplish 2 way contact.

We all were in for a few surprises, some found that a lack of working knowledge with a borrowed transceiver and the need for CTCSS was a problem, some experienced defective connectors which made us painfully aware that if we are called on for communications in any emergency we would be have to be better prepared. It was a great wakeup call!



(Sideways motoring was the order of the day)

Scott Keys the event organiser was pleased with the outcome on our stage, as their communications system, UHF CB, wouldn't work due to the mountainous terrain.

There was a serious accident on stage 4 (also stage 8 as there were 5 stages each stage run twice) that forced the officials to cancel the stage, thus shortening the event, so most of us made it home by 8pm.

The list of volunteers and the positions they were assigned to:

Kendal Rally HQ: Arthur VK2ATM, Ross VK2RR and John in the PM VK2AYQ

Rally Start: Dave VK2DFN and Bill VK2ZCW

Spectator Point 1: Keith VK2FKJA and Richard VK2CHC

Road Closure Point 1: John VK2KC

Road Closure Point 2: Bruce VK2HOT and Barry VK2FBRG

Rally Finish: Larry VK2CLL and Stuart VK2KSM.



(Arthur VK2ATM at Kendall HQ)

Thanks very much to all that volunteered for the day the ORARC Flag was held high. The Rally organisers were also most impressed with the communications organisation. Also a big thank you to Bruce ,VK2HOT for his organisation.

John VK2KC

Editors note: Thanks very much to John for writing the above report. Bruce, VK2HOT is still recovering.

Telegraph Point Repeater Site Working Bee:

Those present at the site maintenance working bee at the VK2RCN repeater site at Telegraph Point on the morning of Wednesday the 9th of November were Rob Frost VK2CRF, Bill Brooke VK2ZCW, Ross

Boyd VK2RR, Stuart Melville VK2KSM, Arthur Monck VK2ATM and Henry Lundell VK2ZHE. Particular thanks must go to Rob, Bill and Ross who brought their whipper snippers, brushcutter and chainsaw to make short work of the grass and undergrowth around the building and antenna mast. The site is now clean and tidy for the summer.

The repeater equipment, batteries, building and mast, antennas and feeders are all in good order. It really was a case of many hands making light work of the many tasks completed during the visit. Thank you to everyone who assisted on site and thank you to Bill VK2ZCV and Neil VK2EI who stood by at their home stations and confirmed that everything was working normally before we left the site.

Henry VK2ZHE

Beechwood Billy Cart Derby 6 November 2011



The 6th November was time once again for the running of the 2011 Beechwood Billy Cart Classic. A traditional day which sees this little rural village comes to life with all the excitement of a real country fair. The event was very well attended this year.
(Continued on Page 8)

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Car parking was at a premium with vehicles lining both sides for the full length of the Main Street right down to the general store and beyond. Parties of spectators gathered in groups to occupy all the best vantage points from which to witness the white knuckle feats of the competitors in their highly technical and streamlined, homemade billy carts. Speeds in excess of 90 kph were attributed to some of the leading vehicles and all but one completed the course without mishap.

Cart 10 was forced out, experiencing wheel or suspension failure about half way down the track. Understandably at these speeds and given the steep topography of the track, it is necessary to officially close the road and monitor progress of carts through the tight, often blind and twisting turns in order to ensure the safety of all concerned. To this end the organisers enlisted the aid of seven flag marshals, plus members of the Oxley Region Amateur Radio Club to provide communications as well as additional flag marshals.

Richard Court VK2CHC once again organised and coordinated this task and would like to express his gratitude and appreciation to all volunteers for their enthusiastic and efficient participation, without which it would be impossible to safely run the event.

Trevor VK2TT looked after the linking of the public address system in the main street to the commentary van via 146.425 MHz simplex. While Charles VK2KCE, provided technical support and equipment monitoring in the commentary van. *(How is your heart Charles?)*

Henry VK2ZHE, in his usual competent manner, setup and ran Base Control on 146.500 MHz FM simplex from his vehicle near the start line at the top of the mountain. He reported, that while some of the check points in the more heavily tree shrouded areas were a little down in signal strength, all

were perfectly readable. A very pleasing result considering that most were using hand held.

The eleven check points as staffed, in numerical order, were:

Lewis VK2AG, Richard VK2CHC, Bill VK2ZCW, Ross VK2RR (Thanks for the photo), Stewart VK2KSM, Rob VK2CRF, Mark VK2FMGM, Arthur VK2ATM (Motorcycle Mobile) John VK2FJAA, Dave VK2AYD and last but by no means least Keith VK2FKJA

The event organisers were very appreciative of our help and expressed their thanks again to one and all for a job very well done. Please keep next year in mind, the date of which will be posted in OXTALES as soon as we are advised so we can confirm numbers well in advance.

Club Grants

The Wireless Institute of Australia has given the club a grant of \$1,500 towards the cost of developing the mobile communications shack.

The flowing is from the Wireless Institute of Australia's Club Grants Committee Report 20011.

1 Oxley

We felt that the Oxley Region Amateur Radio Club has presented a very comprehensive application with very detailed costing. This is a very small club with only 34 members of which 17 are WIA members. This is borderline in regard to the membership requirement. The addition of a mobile shack as a promotional tool to attract new members has some merit, in addition to Field days and emergency communications
(Continued on Page 9)

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within their local area. It is pleasing to note that there exists a variety of skills within the club to ensure the project is successful

We suggest support for this club to the tune of \$1500.

A huge thank you to John VK2KC and Keith Anderson VK2FKJA for their excellent work in developing the submission to the WIA.

President's Note: The WIA is our National and International representative on matters relating to Amateur Radio. The WIA is made up of people interested in amateur radio such as ourselves and depends upon the membership. In addition to looking after Radio Amateur interests both Nationally and Internationally the WIA publishes Amateur Radio magazine and sponsors affiliated clubs.

Technical talk from the Net
Crystal Oscillators and Circuits
Submitted by Bill VK2ZCV

This feature is quite lengthy and quite technical and as such will form the basis of a continuing article in OXTALES over several issues.

It is often required to produce a signal whose frequency or pulse rate is very stable and exactly known. This is important in any application where anything to do with time or exact measurement is crucial.

It is relatively simple to make an oscillator that produces some sort of a signal, but another matter to produce one of relatively precise frequency and stability. AM radio stations must have a carrier frequency accurate within 10Hz of its assigned frequency, which may be from 530 to 1710 kHz. SSB radio systems

used in the HF range (2-30 MHz) must be within 50 Hz of channel frequency for acceptable voice quality, and within 10 Hz for best results.

Some digital modes used in weak signal communication may require frequency stability of less than 1 Hz within a period of several minutes. The carrier frequency must be known to fractions of a hertz in some cases. An ordinary quartz watch must have an oscillator accurate to better than a few parts per million. One part per million will result in an error of slightly less than one half second a day, which would be about 3 minutes a year. This might not sound like much, but an error of 10 parts per million would result in an error of about a half an hour per year. A clock such as this would need resetting about once a month, and more often if you are the punctual type. A programmed VCR with a clock this far off could miss the recording of part of a TV show. Narrow band SSB communications at VHF and UHF frequencies still need 50 Hz frequency accuracy. At 440 MHz, this is slightly more than 0.1 part per million.

Ordinary L-C oscillators using conventional inductors and capacitors can achieve typically 0.01 to 0.1 percent frequency stability, about 100 to 1000 Hz at 1 MHz. This is OK for AM and FM broadcast receiver applications and in other low-end analogue receivers not requiring high tuning accuracy. By careful design and component selection, and with rugged mechanical construction, .01 to 0.001%, or even better (.0005%) stability can be achieved. The better figures will undoubtedly employ temperature compensation components and regulated power supplies, together with environmental control (good ventilation and ambient temperature

(Continued on Page 10)

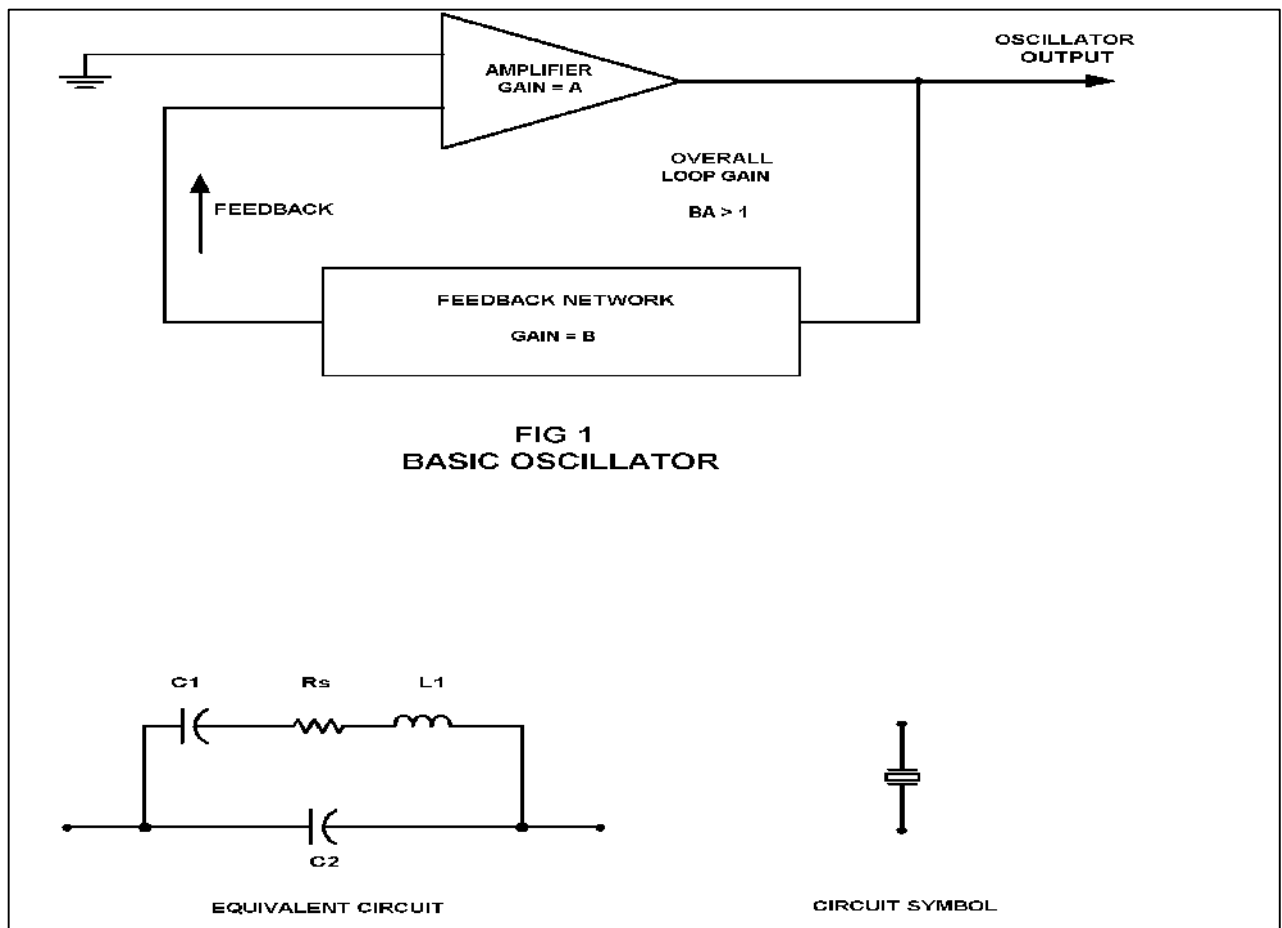
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regulation and “battleship” mechanical construction. This has been done in some communications receivers used by the military and commercial HF communication receivers built in the 1950-1965 era, before the widespread use of digital frequency synthesis.

An oscillator is basically an amplifier and a frequency selective feedback network (Fig 1). When, at a particular frequency, the loop gain is unity or more, and the total phase shift at this frequency is zero, or some multiple of 360 degrees, the condition for oscillation is satisfied, and the circuit will produce a periodic waveform of this frequency. This is usually a sine wave, or square wave, but triangles, impulses, or other waveforms can be produced. In fact, several different waveforms often are simultaneously produced by the same circuit, at different points. It is also possible to have several frequencies produced as well, although this is generally undesirable.

In an oscillator, the feedback network determines the frequency and stability of the generated signal. Frequency is of course the number of cycles per unit time produced and is generally specified in Hz, kHz (1000 Hz), MHz (1 million Hz), or even GHz (1 billion Hz). Stability is another matter. What we are trying to express is how much the oscillator frequency will change in a certain amount of time.

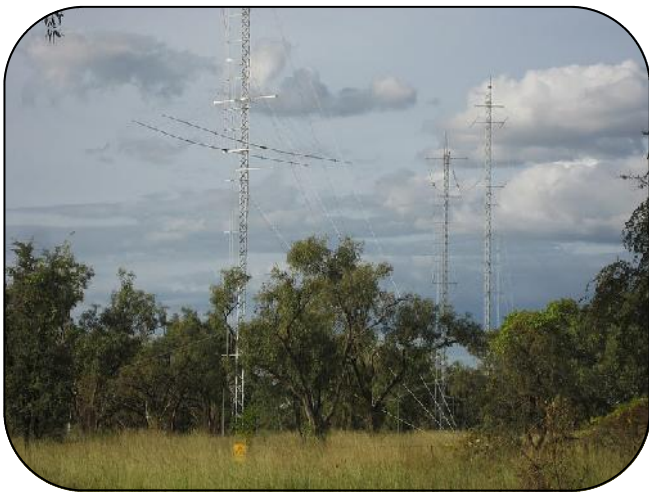
The key here is the length of time. Long term stability is generally expressed in frequency drift (ΔF or $\square F$) per unit time or specified time interval. Long term drift is caused by component aging due to electrical, thermal, physical, and chemical changes in components over a relatively long (100 hours or more) time period. This is generally, but not always is generally compensated for by readjustment of circuit parameters, either manually or automatically. Short-term stability is usually caused by component changes due to circuit heating, warm-up, temperature fluctuations, and instability of components. (to be continued)



HCJB

HCJB is part of a Christian Radio Service that broadcasts missionary work on HF around the world. The service operates a transmitting station at Kununurra Western Australia and transmits into China, India and the South Pacific region in local languages.

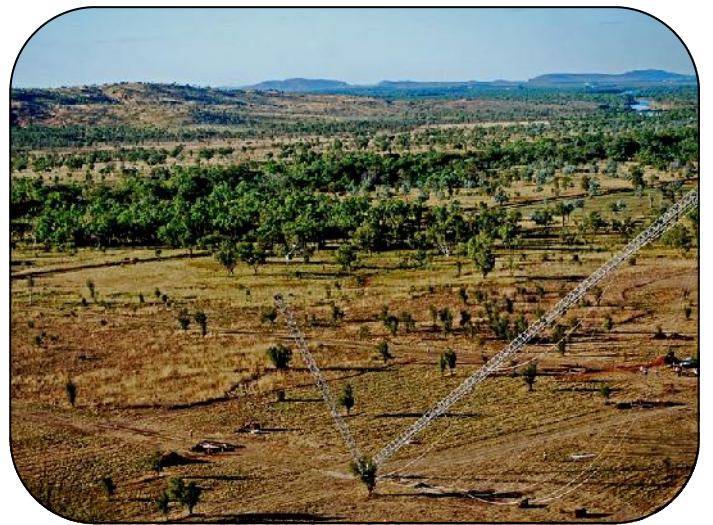
The 3 transmitters that are used are 100Kw refurbished units broadcasting in the 19 and 25 metre bands, using local languages and dialects.



(The three transmitting towers with curtain arrays)

The entire station is run by volunteers and financed by donations both of which come from all over the world, an incredible effort to be able to run such a huge complex at no cost.

Rod and Brenda Worthing presented at the ORAC November general meeting a laypersons point of view on the erection of the 3 large transmitting antennas that are used. Unfortunately a broadcast engineer that was to accompany them was not able to make the meeting. Rod and Brenda were not able to talk on the technical aspects of the transmitters or the antennas. However they were able to provide some fascinating pictures and perspectives on the physical erection of the towers.



*(Two views of the main towers being erected)
(A close up of the South Eastern Asian antenna)*

OXLEY REGION AMATEUR RADIO CLUB Inc.

MEMBERSHIP REGISTER.

No.	Cat.	Surname	Given	Spouse	Call	Locaon	Tph
1	O	ANDERSON	KEITH		VK2FKJA	LAKE CATHIE	02 6586.3988
2	O	BAILEY	JOHN	(FLORENCE)	VK2KHB	PORT MACQUARIE	02 6582.2192
3	D	BELL	ALAN		VK2BEL	COOLONGLOOK	02 6554.1689
4	D	BLACKMORE	MARK		VK2XOF	BAULKHAM HILLS	02 9639 0663
5	L	BLYTH	BOB		VK2XIQ	TELEGRAPH POINT	-
6	O	BOYD	ROSS		VK2RR	LAKE CATHIE	02 6585 4903
7	D	BRICE	GRAHAM	(CYNTHIA)	VK2VV	SCONE	02 6545.0411
8	L	BRODIE	BOB		VK2EJK	PORT MACQUARIE	02 6582.0592
9	F	BROOKE	AILSAS	(BILL)	VK2FABJ	PORT MACQUARIE	02 6581.0547
10	F	BROOKE	BILL	(AILSAS)	VK2ZCW	PORT MACQUARIE	02 6581.0547
11	O	BURGESS	ROY	(JUNE)	VK2YOR	PORT MACQUARIE	02 6583.8801
12	O	COURT	RICHARD	(LINDA)	VK2CHC	PORT MACQUARIE	02 6584.6872
13	O	DANIEL	JIM		VK2FJKD	PORT MACQUARIE	02 6583.1933
14	O	EDMONDSON	CHARLES	(PAT)	VK2KCE	PORT MACQUARIE	02 6584.0495
15	D	EKERT	BRUCE	(YULIA)	VK2EM	FORSTER	Mob 0414532496
16	D	ELLIS	STAN	(BETTY)	VK2DDL	TUNCURRY	02 6554.7996
17	F	FLETCHER	PETER	(CAROLINE)	VK2HPE	PORT MACQUARIE	02 6584 5191
18	F	FLETCHER	CAROLINE	(PETER)	VK2CZF	PORT MACQUARIE	02 6584.5191
19	O	FROST	ROBERT	(SUSAN)	VK2CRF	PAPPINBARRA	02 6587.6129
20	O	GILSON	BARRY	(FAY)	VK2FBRG	PORT MACQUARIE	02 6583.8814
21	L	GREEN	LEWIS	(PAMELA)	VK2AG	PORT MACQUARIE	02 6584.9162
22	O	GREENWOOD	GRAEME		VK2ZIS	McMAHONS POINT	-
23	L	HANLON	KEITH		-	PORT MACQUARIE	-
24	O	HANSEN	JOHN		VK2AYQ	PORT MACQUARIE	02 6582.7932
25	O	HARDING	DAVID	(ISABELLA)	VK2AIF	WAUCHOPE	02 6586.4980
26	O	HOLMES	JOSH		VK2FJDH	BONNY HILLS	02 6585.5148
27	D	HUTCHESON	COLIN	(PAULINE)	VK5DK	MT. GAMBIER	08 8725.5527
28	D	JANES	LES	(BEVERLY)	VK5JL	SALISBURY HEIGHTS	08 8281.3878
29	O	KOPPEL	HORST		VK2FHKO	LAKE CATHIE	02 6585.5992
30	L	LINDSAY	LARRY		VK2CLL	WAUCHOPE	02 6587.1155
31	L	LUNDELL	HENRY		VK2ZHE	PORT MACQUARIE	02 6582.0534
32	O	MADIGAN	ALLAN	(DAWN)	VK2OA	WAUCHOPE	02 6585.2043
33	O	MARTIN	CRAIG	(JENNY)	VK2ZCM	SANCROX	02 6585.3452
34	O	McGUIRE	MARK		VK2FMGM	PORT MACQUARIE	02 6583.8875
35	O	MCLEAN	JOHN	(CORRINE)	VK2KC	PORT MACQUARIE	02 6584.6220
36	O	MEEHAN	TERRY		VK2KL	PORT MACQUARIE	02 6584.2997
37	O	MELVILLE	STUART		VK2KSM	BONNY HILLS	Mob 0419043316
38	D	MILLS	TIM		VK2ZTM	BEECROFT	02 9868.1434
39	D	MINAHAN	CHRIS		VK2EJ	HALLIDAYS POINT	02 6559.3516
40	L	MONCK	ARTHUR		VK2ATM	PORT MACQUARIE	02 6581.0960
41	O	NEIL	JIM	(CAROL)	VK2VIV	PORT MACQUARIE	02 6581.2481
42	O	NEWAY	DAVID	(LEONIE)	VK2DEN	PORT MACQUARIE	Mob 0439925065
43	O	NEWAY	LEONIE	(DAVID)	VK2LPN	PORT MACQUARIE	Mob 0401015220
44	O	NEWHAM	LAURIE	(ROBIN)	VK2ELN	PORT MACQUARIE	02 6583.5387
45	D	NIVEN	TREVOR	(BETH)	VK5NC	MT. GAMBIER	08 8723.2432
46	O	PILLEY	DAVID	(DEE)	VK2AYD	KING CREEK	02 6585.2647
47	O	ROMAINE	PAUL		VK2UPR	PORT MACQUARIE	
48	O	SANDFORD	NEIL	(VERENA)	VK2EI	PORT MACQUARIE	02 6582.5830
49	L	SINCLAIR	BILL	(CORALIE)	VK2ZCV	PORT MACQUARIE	02 6583.9302
50	O	SMITH	LYLE	(JEANNINE)	VK2FCVI	WAUCHOPE	02 6585.2497
51	O	STOFMEEL	BILL	(TONI)	VK2BST	PORT MACQUARIE	02 6582 5612
52	D	TARRANT	DAVID	(AILEEN)	VK2TBC	ILUKA	-
53	O	TRAYNOR	JOHN		VK2FMJT	PORT MACQUARIE	Mob 0487748338
54	O	THATCHER	TREVOR		VK2TT	WAUCHOPE	02 6585.2278
55	O	THOMPSON	DES	(BETTY)	VK9FLHI	LORD HOWE ISLAND	02 6563 2152
56	O	WALKER	BRUCE	(GWEN)	VK2HOT	PORT MACQUARIE	02 6583.8360
57	O	WARD	MICHAEL	(RUTH)	VK2FMDW	PORT MACQUARIE	Mob 0427291276
58	O	WINCHESTER	JOHN	(PAULINE)	VK2FGAA	PORT MACQUARIE	02 6580 3031

Category Key: O = ORDINARY A = ASSOCIATE D = DISTANT H = HONORARY L = LIFE