

**Christchurch West Amateur
Radio Club Inc.**

Official Newsletter



**Q
T
C

5
6**



What's on at the next meeting?"

. An update on AMSAT-DL's high orbit satellites".

By Andrew Barron ZL3DW

This talk is a presentation that Peter Gulzow DB2OS, the President of AMSAT-DL, gave to the UK AMSAT Symposium this year.

Visitors and guests most welcome

27th October 2009

Visit the Br 56 web page; <www.radioamateurs.org.nz

Christchurch West Amateur Radio Club Inc.

NZART Branch 56

Clubrooms; Auburn Park, Upper Riccarton,

P O Box 31 095, Ilam, Christchurch 8444.

Br 56 web page; <www.radioamateurs.org.nz

<i>Branch Officers</i>			
<i>President</i>	Baden Melhuish	ZL3VI	384 1584
<i>Vice-President</i>	Keith Stanton	ZL3QH	358 4108
<i>Immediate Past Pres</i>	Mark Carshalton	ZL3BA	322 4518
<i>Secretary*</i>	Doug Pratt	ZL2BCF	322 9961
<i>Treasurer</i>	Peter Tyerman	ZL3IA	332 4885
<i>Committee</i>	Brent Officer	ZL3TUI	385 2742
	Mike Barnes	ZL3TMB	352 2294
	Maurice McNab	ZL3MEM	327 3710
	Bruce Smith	ZL3TFM	343 2432
	John Walker	ZL3IB	348 9084
<i>Trustees</i>	Des Borgfeldt	ZL3ACS	980 9705
	Baden Melhuish	ZL3VI	384 1584
<i>Auditor</i>	Roy Timms	ZL3AIB	358 6347
<i>Branch Officials</i>			
<i>Archivist</i>	Roy Timms	ZL3AIB	358 6347
<i>EMC Officer</i>	vacant		
<i>Free n'Easy Coordinator</i>	Graeme Johnstone	ZL3JO	981 5990
<i>Librarian</i>	Ron Rowlands	ZL3AIV	348 2747
<i>Morse Admin</i>	Des Borgfeldt	ZL3ACS	980 9705
<i>Morse coaching</i>	vacant		
<i>Newsletter editor #</i>	John Walker	ZL3IB	348 9084
<i>QSL cards</i>	Keith Stanton	ZL3QH	358 4108
<i>ZL3VV Station Mgr</i>	Maurice McNab	ZL3MEM	354 1958
<i>850 Repeater Mgr</i>	Doug Pratt	ZL2BCF	358 5004

***Please note change of Secretarial email address; <zl2bcf@nzart.org.nz>**
Newsletter editor <john.zl3ib@ihug.co.nz>

Annual subscription for 2009 is due NOW;

Individual \$35.00, Family \$40.00, Junior \$17.50

Treasurer's home address; 37A Penrith Ave, Chch 8002

Subs can be direct credited to our Westpac Account No. 030802 0590356 00

NB. Please ensure your name is against the bank payment.

If cheques are made "non transferable" or "account payee only" please ensure they are made out to "**Christchurch West Amateur Radio Club Inc.**"

The banks will not accept other names (e.g. Branch 56). Thank you

General Meeting of the Christchurch West Amateur Radio Club

Tuesday 22nd September 2009

Present: Baden ZL3VI (Chairman), Doug (Secretary), 16 members and guests.
Visitors: Dennis ZL3DEN, Ron ZL3RGA, Michael Homes and Mark
Apologies: Graham ZL3SJ and Maurice ZL3MEM, Bruce ZL3TKM, Alan ZL3GX,
Minutes: Confirmation of minutes of August 2009 meeting.
Matters arising: The Eureka Trust grant to be used to replace about 12 windows – John to organise.

Correspondence

Inward: Rag Chew, Meridian Power, Westpac, Digital ATV paper (WVHFG).
Outward: Nil.

Financial: 58 financial members. Payments, Newsletters, Stamps, Lease invoice.

Free and Easy report: Talk by Bob Bennett on type 49 valves.

Classes Report: Dennis ZL3DEN passed his license.

General Business:

- 1 David gave an update on Buildathons. The City Council has provided a grant to promote this activity with volunteers required from the local amateur community. The aim is to have all of the local branches involved.
- 2 A working bee is to be held on Saturday 0930 to lower the beam and measure for a new clamp for the rotator.
- 3 Keith reminded members that he has QSL cards for members.
- 4 The IARU conference is being held in Christchurch between the 8th and 16th of October.
- 5 A BBQ is being held on Thursday the 6th to for local amateurs to meet the delegates.

The formal part of the meeting closed at 2000.

Program

A very interesting talk was given by Gerard Morris on the history of GMT; this included New Zealand's involvement and early adoption of the time standard.

EO&E

HAMCALC 113 now available for free downloading at <cq-amateur-radio.com>

HAMCALC recent versions

HAMCALC 113 - 23 SEP 2009; New Programs Upgrades

Coax Cable L/C tank Coaxial Cable Characteristics

Transmission line Q Coax Cable Traps

Helical Resonators

Stubs - Coax Transmission Lines

HAMCALC 112 - 24 AUG 2009; New Programs Upgrades

Helical Resonators

Insertion Loss

Transmission Line Mismatch

What's on at the next meeting ?

An update on AMSAT-DL's high orbit satellites".

By Andrew Barron ZL3DW

This talk is a presentation that Peter Gulzow DB2OS, is the President of AMSAT-DL gave to the UK AMSAT Symposium this year.

It is a long awaited update on the two high orbit satellite projects being undertaken by AMSAT in Germany. The satellites are called P3E which is a HEO satellite like AO-40 was and the other is the rather more ambitious P5E satellite which is being designed to travel to and orbit Mars.

The presentation has lots of photos of the satellite, team members carrying out tests, the test centre, and various components transponder circuit boards etc. Also discussion on the funding issues, relocation of the installation facility, and possible launch vehicles... even a weather forecast for Mars.

Free and Easy

At our meeting on the 9th of September our guest for the afternoon was Dr Bob Bennett ZL3RU who spoke to us about a transmitter project centred around the type 45 valve. The idea for this was first started by the late Phil Howell ZL3RH who, at the time was a Senior Technician at the University of Canterbury as.

This project in its finite form was mounted on the end of an apple box on which all the components were placed. Bob described in detail the problems with chirp and what created this phenomenon and how it was cured. Over an extended period of time satisfactory solutions were applied and the vagaries of this circuit were resolved but not without a great many hours of experimenting and reading. The perseverance that went into reaching a finite solution was time consuming but the wait was worthwhile. This presentation was enhanced with transparencies shown on the overhead projector; these covered the Hartley and Colpitts oscillators and a variety of filters which were required.

I thanked Bob for his efforts in making the afternoon a pleasant and interesting experience. At our next meeting on the 14th of September I shall be giving a presentation on living in Fiji as a resident and travelling around the pacific on a flying boat. I trust this will give a different perspective on the Pacific

73s Graeme ZL3JO

A simple dual- band VHF-UHF antenna

By Richard Smart ZL4FZ

With the large number of dual-band radios available, the need for an antenna that can operate on both 2m and 70cm has increased. Whilst there are a number of commercial designs readily available, for those who wish to keep costs to a minimum there is a simple alternative.

Many operators have used a simple quarter-wave whip as their mobile antenna, but may not be aware that the same antenna can be tuned or “cut” to operate on both 2m and 70cm. The 70cm band is harmonically related to the 2m band; that is because the third harmonic of 144MHz occurs at 432 MHz in the 70cm band. If a 432 MHz transmitter is connected to a dipole tuned to 144MHz it will operate as a “three half-wave dipole” and still present a low impedance at the feed point.

The length of the quarter wave whip can be calculated from $l = \frac{300}{4f}$

where l is the length in metres and f is the frequency in MHz.

The practical length is usually about 95% because of end effects so a quarter wave whip for 146 MHz ends up at about 488mm. A quarter-wave whip for 435MHz is about 163mm so a three-quarter-wave whip ends up at 419mm; very close to a quarter wave on 146 MHz.

Having recently purchased a dual-band radio but then reached the budgetary limit before a suitable dual-band antenna could be funded, I decided to have a go at installing a 2m quarter wave whip and see how well it worked (if at all) on 70cm.

I obtained a VHF antenna from the local Dick Smith Electronics shop, and installed it on the rear of the family car. I initially cut the antenna to approximate length and then trimmed it using a SWR meter for the bottom end of 2m. After achieving a reasonably low SWR, I checked the antenna on 70cm and found that it was best near 430MHz and got progressively worse the further up the band I went. I progressively trimmed the antenna a few millimetres at a time, while checking the SWR on 70 cm and finally achieved a reasonable SWR mid-band on 70cm and on 2m.

Recently, I was able to borrow a network analyzer, and check the original results more accurately. The antenna operates with SWR of less than 2:1 across the both 2m and 70cm which is should be satisfactory for most transceivers. Results are shown in Table 1.

Simple quarter wave whips have a roughly donut shaped radiation pattern, with little signal radiated immediately above the antenna and radiation increasing nearer to horizontal in all directions. Of course mobile antennas suffer from the fact that they are often mounted to one side of the vehicle and near one end; not in the middle of an ideal flat ground plane! Despite this, in practical terms the simple whip usually achieves an adequately even ‘coverage’ in most directions around the vehicle, at least consistent enough to work most local repeaters.

Vertical dipoles that are multiple wavelengths long are expected to produce radiation patterns with multiple lobes. In practice, the effect of the lobes appears to be insignificant and I have not noted any problems working the variety of repeaters around Christchurch over the last year or so that I have been using this antenna.

Table 1		
Frequency (MHz)	Return loss (dB)	VSWR
2 m		
144	-24.9	1.12
145	-24.3	1.13
146	-21.6	1.18
147	-17.2	1.25
148	-17.1	1.32
70 cm		
430	-11.0	1.79
432	-12.5	1.62
434	-14.9	1.44
436	-17.6	1.30
438	-17.9	1.29
440	-15.6	1.39

HAMADS

For Sale by tender (on behalf of Avalon Gough-Jones); the highest or any offer may not be accepted. Heathkit items (mostly test gear).. Most items have their original manuals and are in in good condition but have not been tested; sold “*As is, where is*”.

GC-1A “Mohican” transistor SW Rx;

MT-1 “Cheyenne” mobile Rx, 10 - 80m, 9 valves, incomplete, parts only; unit appears to have been disassembled.

IG-28 Signal generator, + EF3 adapter unit;

IT-22 Capaci-tester ;

IT-10 Transistor-diode checker;

ID-29 Auto tune-up meter;

IO-12 Oscilloscope 5” tube, + EF2 scope applications unit;

MM-1 Volt/Ohm meter;

EI-1 Vacuum tube voltmeter, + EF1 applications unit;

IG-102 RF signal generator 100kHz – 110 MHz;

X-3 RF probe.

For more info on Heathkits see

<http://www.nostalgickitscentral.com/heath/products/test.html>

“AVOminor” Mk4, multimeter with leather case but no test leads. Transmission line ceramic spreaders, 6 inch wide (10 items). Antenna “egg” insulators; white. (2 lots of 6 items). Antenna insulators; ceramic, green electric fence type; (8 lots of 6 units). Valves; types 6L6 (x3). AKAYO coax antenna switch. Aluminium project boxes (x6). For more detailed information please send SAE (220x110 size) to John Walker, 19 Athol Tce, Christchurch 8041 or email <john.zl3ib@ihug.co.nz>.

For Sale. Laptop computer. Toshiba Satellite 3000; in excellent condition but battery life is short due to age. *Specifications*; Pentium III 850 MHz, 320 Mb RAM, HD; 15 Gb, Drives; DVD/CD and 3.5” floppy disc, Ports; USB (x3), LAN, modem, printer, VGA, IR, TV out (S-connector), Smart carder reader slot, PCMCIA two-stack slot, Windows XP SP2, Carry case, Instruction manual and startup disks. Contact John ZL3IB <john.zl3ib@ihug.co.nz>.

For Sale. ICOM IC10 Scanning Communications Receiver & Wideband Handheld for sale. Additional antenna, charger, user and service manuals. VGC. Email or call for full spec. and brochure. New \$800. Reasonable offers sought. David Searle <ZL3DWS@nzart.org.nz>, 03 358 9776

HAMADS in QTC56 are a free service to members.
Send to John ZL3IB at <john.zl3ib@ihug.co.nz >.

Calendar for 2009

ZL3VV on air; Tuesday evenings, contact Maurice ZL3MEM.

Theory and CW classes, Workshop activities, etc. Wednesdays at 1930 hr when required.

CARDS meeting, 3rd Wednesday; All welcome.

Free & Easy - Second Wednesday at 1330 (1.30pm)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
	11	11	8	13	10	8	12	9	14	11	9

Committee Meeting - Third Tuesday at 1930 (7.30pm)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
	17	17	21	19	16	21	18	15	20	17	

General Meeting - Fourth Tuesday at 1930 (7.30pm)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
26	23	23	27	26	23	28	25	22	27	24	

Free & Easy:

14th Oct A presentation by Graeme ZL3JO on living in Fiji and travelling around the Pacific on a flying boat.

General Meetings

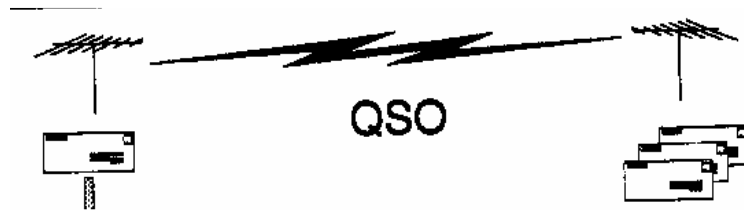
27th Oct "An update on AMSAT-DL's high orbit satellites". A presentation by Andrew Barron ZL3DW

Your committee welcomes suggestions for topics and/or offers of talks for Branch meetings.

Interested in Old Radios?

The Christchurch section of the NZ Vintage Radio Society now meet in our club rooms. Meetings are normally held on alternate months on the first Tuesday of the month. If you are interested please contact Jim Lovell ZL3AGS (ph 342 7760) or David Chapple, email <canda@netaccess.co.nz> for more information.

QTC56



Monthly Newsletter

Christchurch West Amateur Radio Club Inc.

NZART Branch 56