

VK4WIL

Lockyer Valley Radio and Electronic Club Inc.

Jan/Feb 2011

The official news outlet of the lockyer Valley radio and electronics club

13th of February
Club Meeting

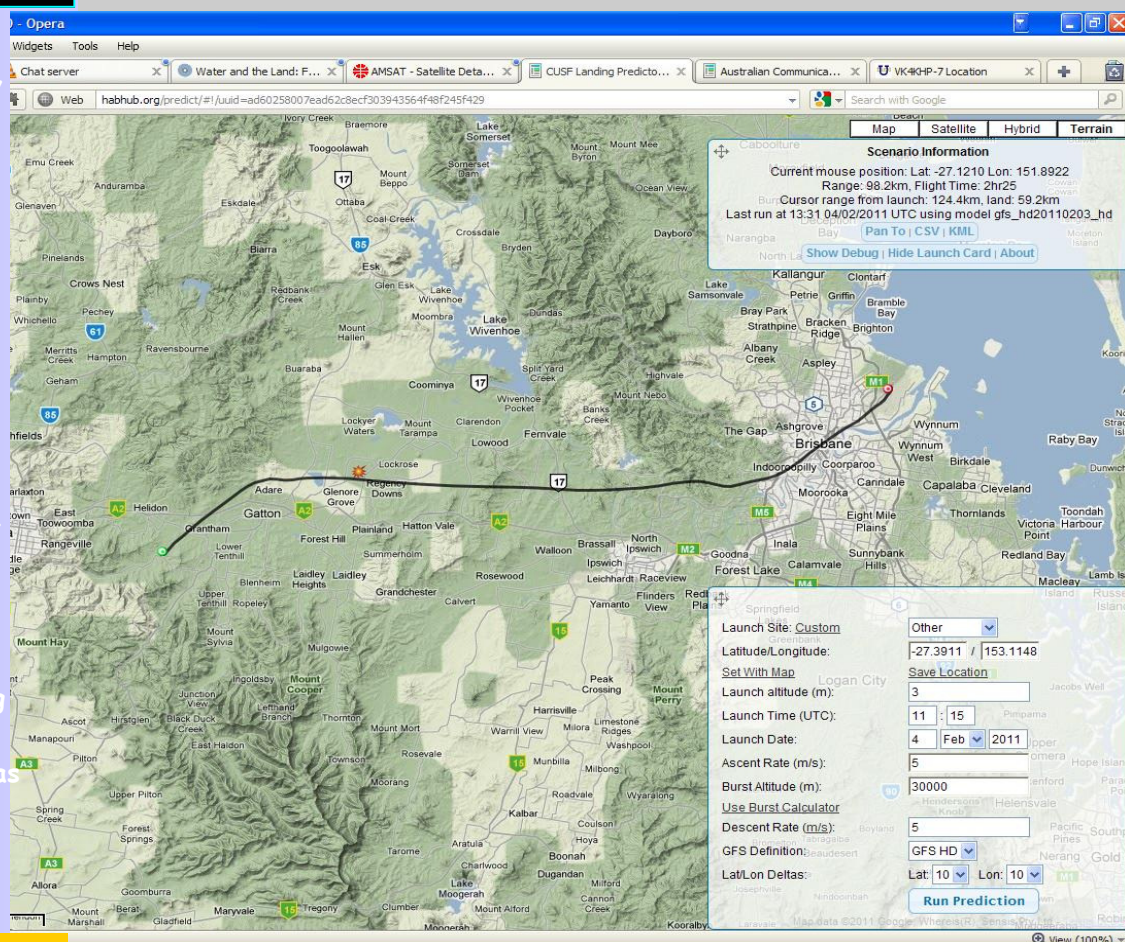
2 pm

Laidley Shire
Community Care
Assn, Mary St
Laidley

This will be a
business meeting

With many inter-
esting items to
discuss.

Please come along
and put your
thoughts and ideas
forward



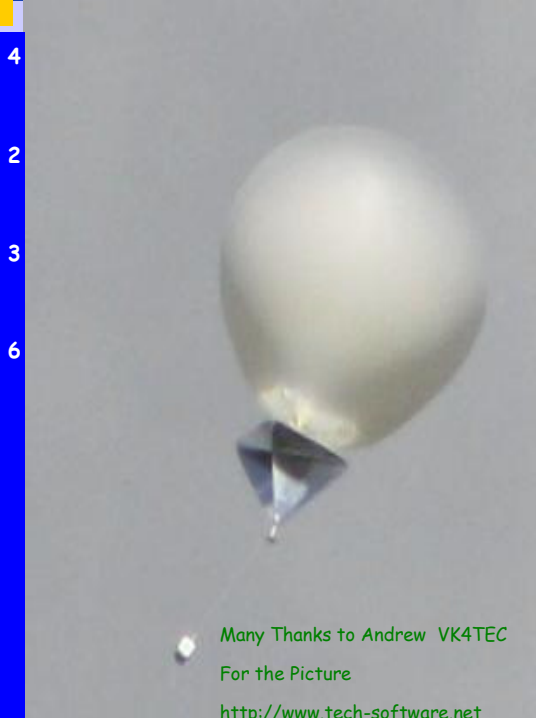
Inside this issue:

Satellites

Club bits

Contesting

Antenna projects



Many Thanks to Andrew VK4TEC
For the Picture
<http://www.tech-software.net>

A weather balloon track prediction for the 4th Of February 2011. the orange star near Glenore Grove is when the balloon burst at around 30000 meters. What's this got to do with amateur radio? Well not a lot, apart from the fact, that the telemetry is sent via radio, around 401.500 MHz (there is some drift in frequency related to temp changes)

It transmits in wide band FM, but your average hand held radio or scanner will receive it. Has an output power of around 200—300 mW. Andrew VK4TEC and myself have been tracking them for about two months now. And usually receive them just after launch to when they hit the ground, The signals are very strong

They are launched at 09:15 and 21:15 each day

I am sure one landed close to my place, one night. But was around the same time of the flooding. So couldn't go too far to find it. A flight Normally last 2 to 2 1/2 hours

This could be a good fox hunt for the club one weekend, the VHF fox hunt antennas that members of the club have made, work fine on 70cm and also on this frequency.

VK4WIL THE CONTEST CLUB

Lockyer Valley Radio and Electronic Club Inc.

CONTESTING with Alan VK4SN

Welcome to a new year of contesting. Last year saw awards being sent to various club members gaining recognition for their part in populating the airwaves. Well done to all.

GENERAL NEWS-----

The AR Magazine has Phil, VK4BAA, back to write the contesting column. This months mag includes lots of info and some results for past contests. Welcome back Phil.

For those getting into contests, there is an article on Contesting for Beginners.

VK4KW was notified this week, of the Lambda contest groups placing, in the WW WPX Contest.

1st VK, 1st Oceania, and 16th in the world for the Multi Op, Two Transmitter category.

VK4 Ops were BAA, NDX, HAM, TI and SN.

The VK Contest Club had its annual get together at the Ipswich Jets League Club in December. Once again it was good to catch up with Ops and enjoy a few stories a meal and alcoholic beverages.

Attendees were John VK4IO, Catherine VK4GH, Mike VK4DX, Paul VK4FPDW, Mike VK4QS, Phil VK4KW, Alan VK4SN, Trent VK4TI, and Dave VK4NDX.

CLUB NEWS-----

The ARRL 10mtr contest was to have been a club event, but due to personal commitments some pulled out, so I tackled the contest on my own. Initially the club was to set out and see if we could beat our record in 1999, but as it turns out the band was in worse condition than it has seen in many years and was - in my opinion - a huge flop. On the brighter side, next year is looking to be heaps better and the club can have another go at the record in better conditions.

The John Moyle Field Day is upon us again, over the 19th and 20th of March. The club plans to work this contest as a field day exercise. Setting up

Friday afternoon in readiness for a 11am kick off Saturday should see the station ready for action on time. Operation over the whole weekend is planned.

Please let our Contest Manager, Wazza VK4FJ know if you are interested in joining in the fun, even if it is only for a couple of hours on either day to give some time off for those Ops sleeping over. Do it now!

Remember to keep an eye on the clubs website for upcoming events, being news, or contesting. I have a full list of contests on my website for this year and on the club website I normally keep notification about 2 months ahead. If I have missed some and you would like to see it listed, please email me the details.

Club = www.lvrec.org

VK4SN = www.vk4sn.com

73's and good DX till next issue.

Alan, VK4SN.



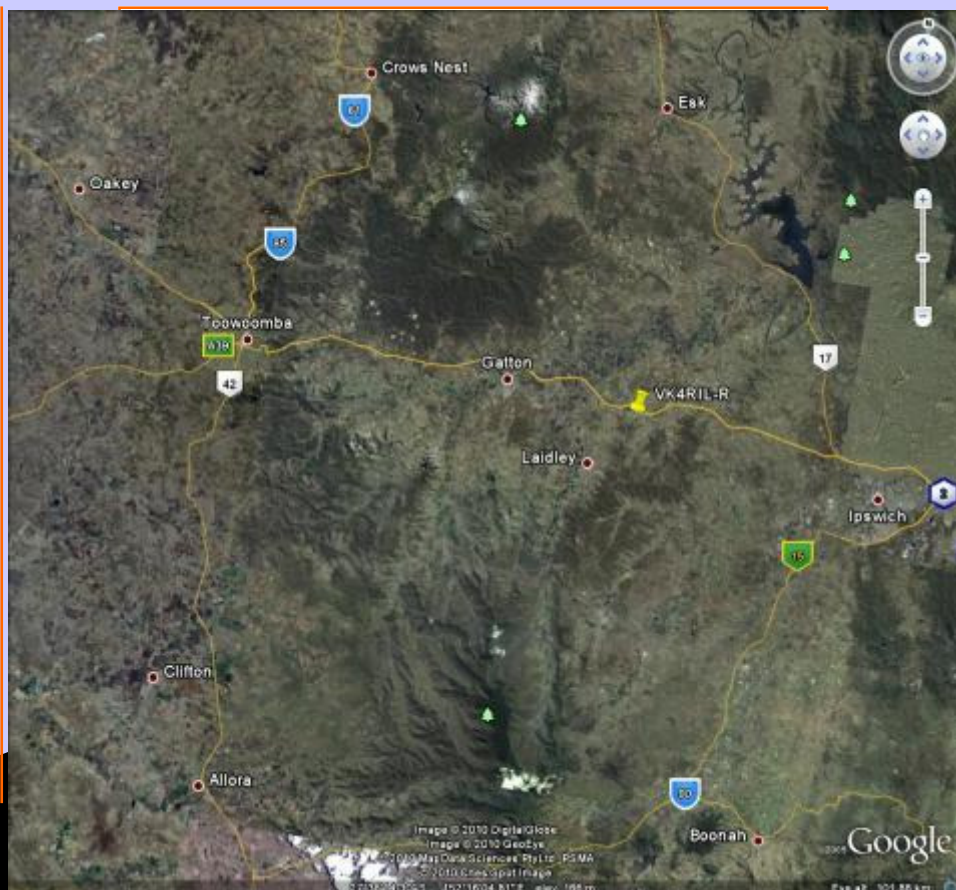
Club Details

The HF Club net : Friday
nights @ 7:30 PM
On 80 meters 3570 KHz

Club meetings: 2nd Sunday of
the Month at 2:00 pm
Venue: Laidley Shire
Community Care Assn, Mary St
Laidley

Club Repeater 147.700 MHz
Negative Off-set
Echo Link Node: 491940

www.lvrec.org



General Club bits and pieces

Well I can safely assume that we
are all grateful that no members of
the club suffered any personal dam-
age during mother natures attempt
to turn the Lockyer valley into a
massive lake

Thankfully Dennis VK4OC didn't
loose the house, this time. Although
from the video on utube

<http://www.youtube.com/watch?v=LS8iPRVxBks>

I would dare say the ute has seen
better days and Bob VK4BY....X has
had a few land slides on the road up
to his country cottage

As mentioned in the Contesting sec-
tion, Please spare a couple of hours
for the John Moyle field day 19th and
20th of March. And provide a bit of
support either operating or any help
that maybe required..

Contact Warren contest manager
vk4fj@netspace.net.au

If you have something you would like
too see in the newsletter or have an
article or news item

Please send me an email to
vk4khp@netspace.net.au

Well I managed to get a Kenwood TH-D7AG2 off Ebay.

For a great price. These radios are great for APRS (built in TNC's) and Brilliant for Satellites and can be picked up cheap, now that the new Model has been released.

I compared the receive to an FT-60, on the D7 I could receive AO-51 with the rubber duck antenna. Could not hear it on the FT-60

I have had a number of APRS connections through the international space station and AO-51 and SO-50 Voice contacts just using the rubber duck antenna on the radio, this is a cheap and easy way to get into APRS and FM Satellites

I normally use the tape measure fox hunt antenna, which works very well on both 2 meters and 70cm. And can work the satellites from horizon to horizon.

I hope you will hear a lot about ARISSat-1. it will be hand launched during a space walk on the international space station, the 15th of February

It is directed at schools and has some great stuff for us amateurs

The FM transmissions will cycle between a voice ID, select telemetry values, 24 international greeting messages in 15 languages and live SSTV images.

The CW transmissions will be callsign ID, select telemetry, and callsigns of people actively involved with the ARISS program.

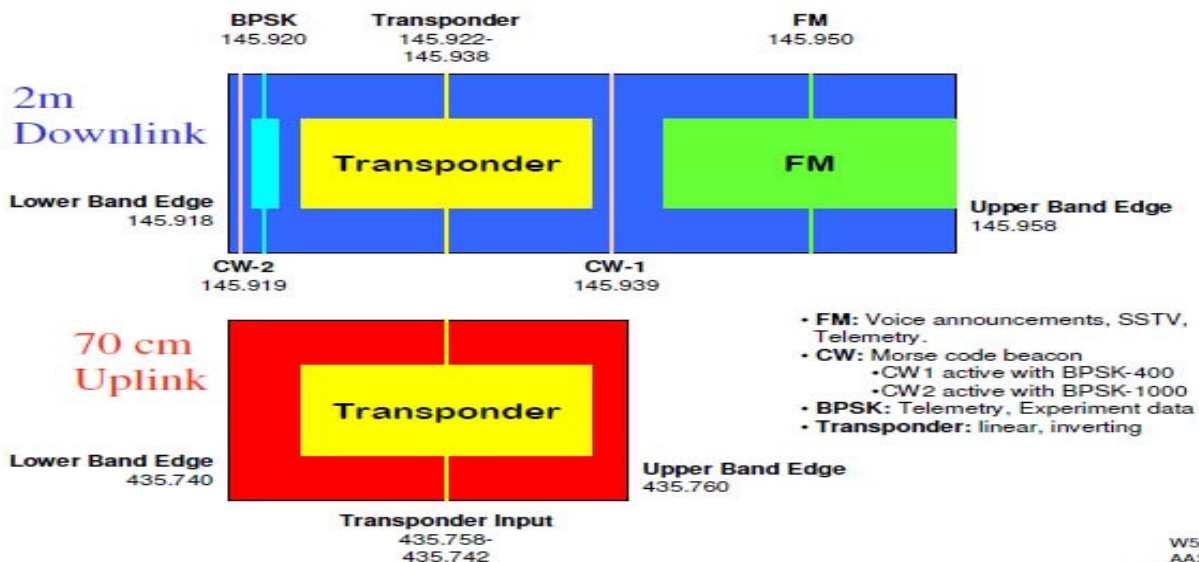
The BPSK transmissions will feature a new 1kBPSK protocol developed by Phil Karn, KA9Q to be readable in low signal level conditions. The BPSK data will alternate between telemetry and Kursk experiment data. Free ground station soundcard demodulator and display software will be available before launch for multiple platforms.

There also is a 16kHz wide amateur radio U/V transponder between the BPSK and FM signals.

The Kursk experiment will be sampling the amount of vacuum each day for 90 minutes and sending down data to map the vacuum change as the satellite slowly spirals into the atmosphere.



ARISSat-1 Band Plan



ARISSat-1 Summary

ARISSat-1

Common Name: ARISSat-1 Alternate Name: RadioSkaf-V, KEDR

Satellite Type: Microsatellite Launch Date: 28 January, 2011

Launch Location: Baikonur Dimensions: 55 x 55 x 40 cm

Weight: 30.000 Kg

Organization: AMSAT and RSC Energia

Frequency Information

Mode V Digitaltalker (Voices Messages and Telemetry):

Downlink 145.9500 MHz FM

Mode V Imaging (Robot 36 SSTV from onboard cameras):

Downlink 145.9500 MHz FM

Mode V Telemetry (1000 baud (400 baud backup)):

Downlink 145.9200 MHz BPSK

Mode V TLM Beacon (CW-2, active with BPSK-1000):

Downlink 145.9190 MHz CW

Mode V TLM Beacon (CW-1, active with BPSK-400):

Downlink 145.9390 MHz CW

Mode U/V (B) Linear Transponder (Inverting):

Uplink: 435.7580 - 435.7420 MHz SSB/CW

Downlink 145.9220 - 145.9380 MHz SSB/CW

Callsign(s)

Beacon: RS01S

Detailed Description

ARISSat-1 is a microsat developed as a follow-on to the SuitSat-1 project. The satellite was launched to the ISS on January 28th, 2011, with deployment during an EVA (spacewalk) on February 16, 2011 UTC.

The satellite will downlink live SSTV images from four onboard cameras, live telemetry and messages on the CW, FM voice, and BPSK downlinks, as well as provide a 16kHz wide transponder for two-way contacts. All the uplinks and downlinks are based on software defined radio systems.

Antenna Projects. The Bobtail Curtain

Want a cheap. Easy to build and high performance single band antenna

The Bobtail curtain is the antenna to use

Now do a search through all your books and the internet.

Chances are you will come across the design pictured to the right.

It looked like a bit of a pain to set up

An earth stake, a Box to house the Coil and cap, keeping it all water proof and lawn mower friendly.

Had to be a better way. More Google searches later, we found there is

A much better way.

An end fed Bobtail

This is much easier

As the picture to the right will show. This is a picture from a seller on Ebay

http://cgi.ebay.com.au/HF-BEAM-ANTENNA-5-Element-20m-Bobtail-Curtain-Array-/330518461772?pt=LH_DefaultDomain_0&hash=item4cf46f7d4c

Please check out his site. For some info

I decided to build my own. And added a current balun to feed the beast.

I built a 3 element for 15 meters, and quickly threw it up. It was a bit low, with the elements laying on the concrete. But to my surprise, comparing it against the vertical on the roof. Signals that were in the beam-width of the antenna were 3 to 4 s points stronger than the Vertical.

The big plus to this antenna, is it's quiet.

I have a TS-B2000 computer controlled HF to 70cm radio

It has two HF antenna inputs.

When I switched to the input from the Bobtail. I had to check if it was connected

As the noise level was almost zero.

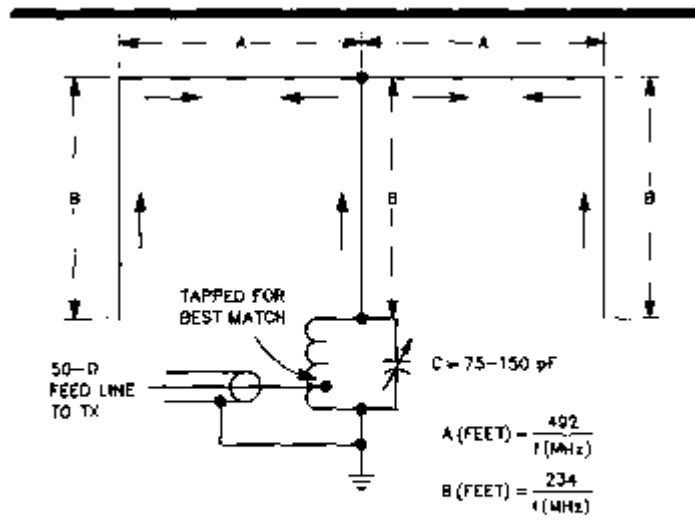
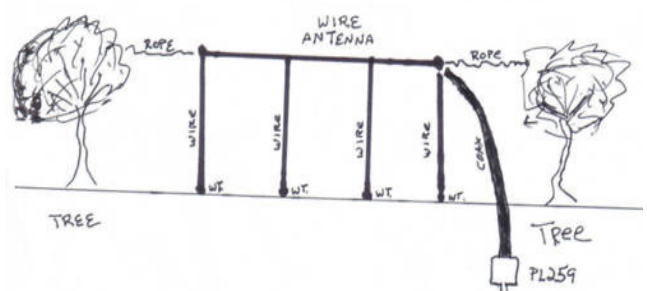


Fig 62—The bobtail curtain is an excellent low-angle radiator having broadside bidirectional characteristics. Current distribution is represented by the arrows. Dimensions A and B (in feet, for wire antennas) can be determined from the equations.

BOBTAIL CURTAIN ARRAY
4 ELEMENT BEAM
ALL WIRE ANTENNA



ROPE, COAX, PL259, + TREES, WEIGHTS
NOT PROVIDED - ☺

I turned the Volume up. Tuned around and the signals almost knocked me off the chair

Switching across to the vertical, was a noisy 3 to 6 s points most of the time

And the signals weren't as strong. But some times I could hear stations that I couldn't hear on the bobtail. I think because they were out of the beam width of the bobtail

The only disadvantage I found with the antenna, is. it has gain like a yagi. But you can't rotate it

But for the outlay. You could make 3 or 4 and switch them to cover the area you wanted

Then there is the possibility to phase them ??

Below are some pic's of my experiments. Don't laugh too much

All I can say is, if it worked in the test setup, then if mounted correctly. It can only improve the

performance. Even more.....

Basically this is all it is

It's the Centre of your coax going to the horizontal wire , a half wave length of wire. The first vertical quarter wave length near the feed line goes to the braid of the coax

The next vertical quarter wave section goes on the end of the horizontal half wave section.

Then you join another half wavelength horizontal section and another vertical to the end of that half wave length. And so on. Until you run out of room or wire..

Coaxial current balun

Horizontal 1/2 wave section

1/4 wave vertical section

