Western Suburbs Radio Club Inc.

September 2010 Newsletter

ZL1AC, Branch 03 NZART 3000 Great North Road New Lynn,
PO Box 15-122 New Lynn WAITAKERE 0640
President: Ian Sangster ZL1RCA, Vice President Ross Reddell ZL1VRR.
Secretary: Roy Milam ZL1WI. Newsletter Editor – John Neill ZL1NE
VHF Club Net Wednesday 07:30pm 146.525 MHz,
HF Club Net Fridays 07:30pm 3.623 MHz
Website http://www.qsl.net/zl1ac

Club Calendar

Saturday	11th	September	Club Meeting – Ian's D-Star
Wednesday	29th	September	Committee Meeting
Saturday	9th	October	WSRC Used Equipment Sale
Monday	11th	October	Club Evening – Programme to be announced
Saturday	13th	November	Branch 86 Musick Point Used Equipment Sale

September Club Meeting

The September Club Meeting will be held on Saturday 11th September. There will be the usual Club business followed by a talk and demonstration on D-Star by Ian ZL1RCA. This may be the last Saturday morning however the committee is reviewing the meeting time and it could be that we have more Saturday meetings.

August Club Meeting

The August Meeting was a discussion on Satellite Freeview Television. David Morey ZL1DAM gave us a very informative discussion in setting up a satellite television receiving system. Dave touched on Terrestrial Freeview but the main talk was satellite. Briefly you will need the following to receive satellite TV:

Television – Most of us have one or two of these. Your old faithful TV set will do quite well but if you want to splash out with a new LCD or Plasma then that will work better. Better picture that is but otherwise no different.

David Morey ZL1DAM


The Humble TV Set

Satellite Receiver – These are a set top box which will decode the digital signal coming off the satellite and convert to a form that the TV set will understand. The satellite receiver will provide inputs to the TV either via the TV's normal

antenna or via the Audio/Visual inputs. There are many models on the market from a simple single output channel receiver through to multi output channel and some even have hard disks recorders built in. If you want to record one channel on your current VCR while watching another channel on the TV then you will need a dual channel model. Or it is possible to have two single channel receivers working off the same satellite dish and have one of them to the VCR and one to the TV but in this case you will need to have a DC Blocking Splitter installed to block the DC from one of the receivers from going up the coaxial to the LNB. The satellite receivers send either 14 volts or 18 volts to the LNB to set the LNB to receive either vertically or horizontally polarised signals from the satellites and clearly it can't have voltages from two receivers at the same time. Some receivers have a decoder card installed as some overseas channels are coded and must be decoded before they can be viewed.

Satellite Receiver

Satellite Dish with LNB's

Dual LNBs

Satellite Dish - This can be any size from 50cm up to 90cm. 60cm to 75cm will give good results whereas the smaller size may experience problems during difficult atmospheric conditions. The 90cm size is unlikely to suffer at all from difficult atmospheric conditions. If you are going for a double or triple LNB then you will need a minimum of a 70cm dish. Larger dishes are available (2 to 3 metres diameter) and these are necessary for receiving from some of the satellites such as Asia-sat.

LNB – The abbreviation LNB stands for Low Noise Block. It is the device on the front of a satellite dish that receives the very low level microwave signal from the satellite, amplifies it, changes the signals to a lower frequency band and sends them down the cable to the indoor receiver. This is the active part of the satellite dish antenna. It sits at the focal point of the parabolic satellite dish and picks up the reflected signal from the dish. You can choose the type of LNB that suits your needs best. If you are just after the normal TV Stations that we currently receive via analogue TV then a single head LNB is all that you need. If, however you wish to extend the number of TV station that you will receive then you need to go to a double or triple head LNB. Because the two or three LNB's sit side by side it will allow you to receive signals from two or three different satellites. The satellites are in geostationary orbit roughly two degrees apart in the sky and they sit there day in day out and without moving. This allows the one dish to focus the signals from the different satellites to each of the LNBs. This should allow you to receive signals for Optus C1, D1 and D2. This way you should be able to receive something like 90 different channels if you have a triple head LNB however 60 may be in a foreign language. There are many other satellites using other frequencies and these are possible too but you will need bigger dishes and different LNBs.

Coaxial Cable – Use a decent quality coaxial cable such as RG-6 with a solid central conductor. You will need to use F-connectors and these require a solid central conductor. The length of coaxial cable is not much issue and should allow you to place your satellite dish in a good location.

Satellite Dish Location – This needs to be directed roughly to the north and directed upwards at about 44^{o}. Almost any location will do so long as there is a clear line of sight to the north. Wall mounted is a lot easier as you don't need to get on the roof and also there are no roof leakage problems following installation. Set the dish bracket to a true vertical and then set the dish angle to 44^{o} elevation. You will also need a magnetic compass to set the bearing. The result will be that you are receiving something. You then need to adjust for maximum signal preferably using a satellite finder. The actual bearing and elevation is shown in the table below:

Satellite Name		Compass	Elevation	VPT CW	VPT CCW	HPT CW	HPT CCW
NSS5	177W	354.2	46.7	78.66	-101.34	-11.34	168.66
IntelSat 701	180E	349.3	47.2	82.57	-97.43	-7.43	172.57
GE23 or AMC23	174E	339.2	47.6	90.62	-89.38	0.62	-179.38
Intelsat 5 (was PAS2)	169E	330.9	47.2	97.32	-82.68	7.32	-172.68
Intelsat 8 (was PAS 8)	166E	326.0	46.7	101.24	-78.76	11.24	-168.76
Optus D1	160E	316.6	45.0	108.64	-71.36	18.64	-161.36
Optus C1	156E	310.7	43.4	113.16	-66.84	23.16	-156.84
JCSat 2	154E	307.9	42.4	115.28	-64.72	25.28	-154.72
Optus D2	152E	305.2	41.5	117.30	-62.70	27.30	-152.70
Measat 2	148E	300.1	39.3	121.05	-58.95	31.05	-148.95
Telstar 18 or Apstar 5	138E	288.8	33.0	128.76	-51.24	38.76	-141.24
Apstar 6	134E	284.9	30.2	131.24	-48.76	41.24	-138.76
AsiaSat 4	122E	274.6	21.2	136.97	-43.03	46.97	-133.03
Palapa C2	113E	267.9	14.1	139.88	-40.12	49.88	-130.12
AsiaSat 3S	105.5E	262.9	8.2	141.58	-38.42	51.58	-128.42
AsiaSat 2	100.5E	259.7	4.2	142.40	-37.60	52.40	-127.60
NSS6	95.0E	Below the horizon					

Calculated from Auckland 36.51S Lat 174.46E Long

Table Key:

Compass	Use compass to point dish in this direction
Elevation	The up and down angle to set the dish. Use an inclinometer or markings on dish.
VPT CW	Degrees of **V**ertical **P**olarisation **T**ilt in **C**lock **W**ise direction
VPT CCW	Degrees of **V**ertical **P**olarisation **T**ilt in **C**ounter **C**lock **W**ise direction
HPT CW	Degrees of **H**orizontal **P**olarisation **T**ilt in **C**lock **W**ise direction – see DIY Guide
HPT CCW	Degrees of **H**orizontal **P**olarisation **T**ilt in **C**ounter **C**lock **W**ise direction

If Polarity degree is shown as negative, turn anti clockwise

Information Courtesy of www.hooktech.co.nz

Satellite Finder – This small gadget makes aligning your antenna to receive the optimum signal a lot easier. It can be done without one but it is a lot harder. These are available for around $30. More expensive models which do considerably more can also be purchased.

Satellite Finder

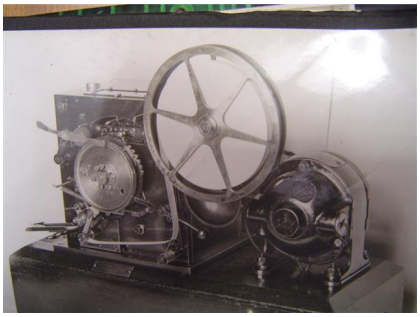
Further Information – There are a few good web sites where information on Satellite TV can be found. A few of these are listed below:

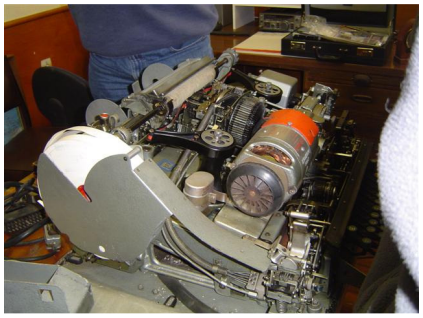
www.hooktech.co.nz
www.lyngsat.com
www.apsattv.com

Thanks Dave for a very informative talk.

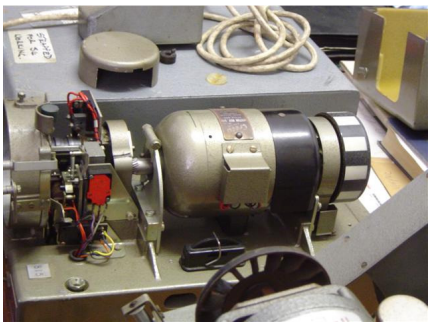
July Club Meeting

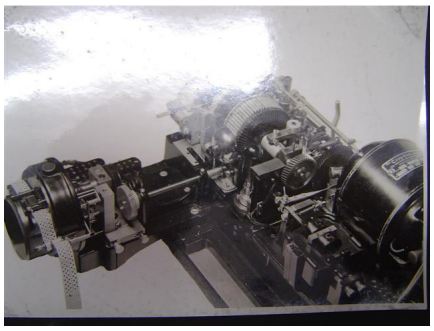
At our Saturday club Meeting on the 10th July we had David Crosier and David Robinson ZL1ADR talking on Teleprinters. Unfortunately I didn't have the photos of the equipment for last month's newsletter but I do now so here they are.


Baudot Printer

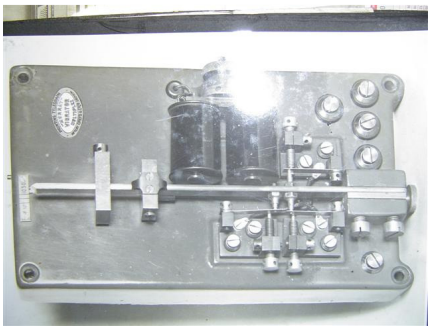

Creed 54 RAB Teleprinter


Creed 54 Teleprinter Typical Installation

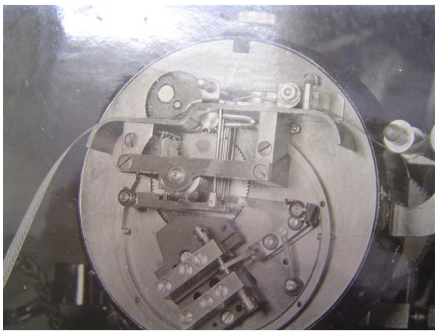

Creed 6S6 Transmitter With The Cover Off


Creed Pre-war Multiplex Teleprinter

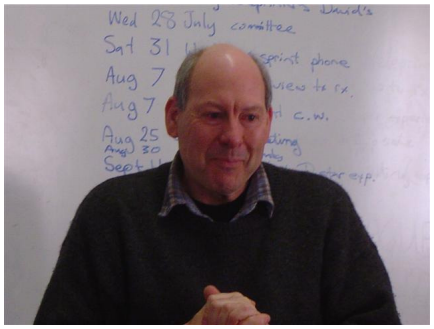

Front View of Teleprinter


Murray Multiplex Vibrator


On 2 Dial Unit of 656 Tape Transmitter


Tape Head of 656 Transmitter

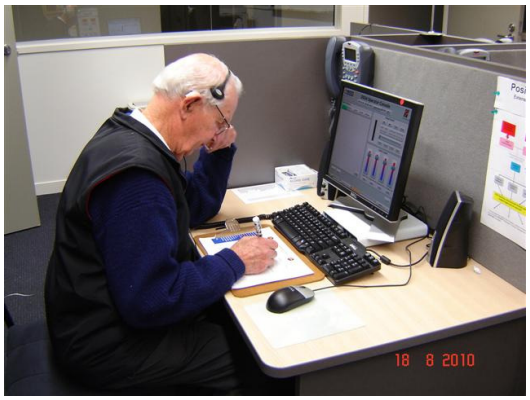

Transmitters as Used by NAC



David Croiser

Civil Defence

Every week members of the WSRC attend the Waitakere Civil Defence Headquarters to carry out test transmissions on the Civil Defence equipment. This task is done to ensure that the equipment is in good operating condition at all times. This preparedness has been made even more evident as a result of the Christchurch earthquake on Saturday 4 September. Without this necessary work being quietly carried out on a regular basis we may be in a less prepared condition should something occur in our area. Pictured below is Brian ZL1MW testing transmitters at the Waitakere CD HQ.



WSRC Used Equipment Sale

The Western Suburbs Used Equipment Sale will be held on the 9th October at the Rosebank Road School Hall 217 Rosebank Road, Avondale. This is the same venue as last year. Sellers from 8am and buyers from 9am. $2.00 entry for buyers. The sale will conclude at 12 noon. Floor Spaces are $10 if pre-paid or $15 if you pay on the day. To pre-book call IAN (ZL1RCA) 09 814 9597, ROY (ZL1WI) 09 814 9550, ROSS (ZL1VRR) 09 629 0504 or email Ian on sangsfam@clear.co.nz . Make out cheque to WSRC (Inc) send to P.O. Box 15-122 New Lynn 0640 Waitakere. (Some space may be available at 0800hrs on the day.) There are some Commercial Dealers coming. The cafeteria will have, hot sausages, tea, coffee & biscuits to buy from $2-50. Even if you are not buying or selling come along for the fun and meet fellow electronic enthusiasts all N.Z.A.R.T. Branches and private vendors are more than welcome to bring as much equipment for sale as they wish all things electrical, electronic, antenna, computer, tool, radio and TV related produce is the basic idea for sale items.

Note to Sellers: As there are limited power outlets available, please bring own power board and leads if required. All un-sold equipment must be removed, at close of sale. The Western Suburbs Radio Club Inc, is a non-profit Amateur Radio club, this sale is the way we raise some funds for our technology projects and upkeep of our facilities. Donations gratefully accepted, receipts available.

John ZL1JT

Club Nets

VHF Net 146.525 MHz 7:30pm every Wednesday, HF Net 3623 KHz +/- QRM/QRN 7:30pm every Friday. All are welcome to check in on the nets. The full HF Net Roster can be found on http://www.qsl.net/zl1ac/wsrc-hf-roster.html

3-Sep-10	ZL1MW	Brian
10-Sep-10	ZL1NE	John
17-Sep-10	ZL1ACZ	Barry
24-Sep-10	ZL1WI	Roy
1-Oct-10	ZL1VRR	Ross
8-Oct-10	ZL1RCA	Ian
15-Oct-10	ZL1MW	Brian
22-Oct-10	ZL1NE	John
29-Oct-10	ZL1ACZ	Barry