



FIVE AND NINE PLUS

THE OFFICIAL NEWSLETTER OF THE APPLEDORE AND DISTRICT AMATEUR RADIO CLUB

Club Callsigns: G2FKO and GX2FKO
Web Site : www.adarc.co.uk

CLUB'S OFFICERS

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	Graham Bailey	G1ZTJ
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Editor	Terry Adams	G4CHD

October, 2013

EDITORIAL

Welcome to another Newsletter.

This month's Meeting is our **annual Open Meeting and as such members' friends and family are warmly invited to come along and enjoy this month's talk** by John (M0JKL) on his visit to the Mountains and Canyons of south west USA.

This promises to be most entertaining, so come along and have a great evening.

On September 14th the Club set up a most successful **Special Event Station at the Arlington Court** open day and made approx 120 contacts thanks to the hard work of all those who helped in erecting the antenna, setting up the station, and coming along to operate and explain our activities to the public. A special mention must go to Mike (G3PGA) who once again managed the activity in his usual professional manner. Your Committee with expert help from Laurence, were also able to use this Special Event to produce a **Health and Safety Risk Assessment document** which with some later refinement will be adopted for all future Club activities.

Finally, I feel that this is an appropriate time to thank Laurence and particularly Viv for their great help in running the coffee/tea making on Club Evenings. However, I think that it is only fair that other Club members should also come forward and offer their help so that Viv can also enjoy the evening as other members do. **PLEASE OFFER YOUR HELP.**



Enjoy your Newsletter

Terry (G4CHD)

CLUB MEETINGS

Unless otherwise stated, Meetings are held at the Appledore Football Social Club starting at 7.30pm for 8.00pm. Visitors are always welcome.

October 21st	Mountains & Canyons of SW USA by John (M0JKL) This is our annual Open Meeting
November 18th	Back to Basics : The Superhet by Terry (G4CHD)
December 16th	Club Christmas Party
January 20th	Audio Recording - Practical Demo by Laurence (G4XHK) & John (M0JKL)
February 17th	Radio Quiz by John (M0JKL)
March 17th	Club AGM
April 21st	'Plan B' by Steve (G6SQX)

For further information, contact Alan (M6CCH)

ADVANCE WARNING OF THE HOLSWORTHY ARC RALLY

Need bits for a new rig or just fancy a bargain ?

Then a date for your diary -
**Holsworth Radio Rally,
Sunday Nov 3rd 2013
doors open 10 am.**



All enquiries Don G0RQL.
g0rql@hotmail.com

REPORT ON THE SEPTEMBER MEETING

Antenna Analysers by

Terry (G4CHD), Laurence (G4XHK) & Dave (M0JAP)

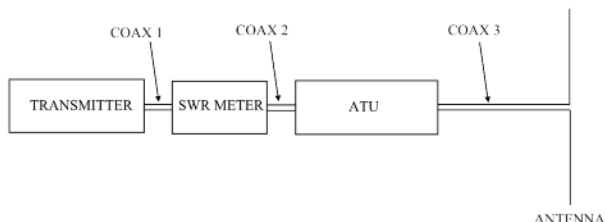
New and improved Antenna Analysers are appearing regularly now in the amateur radio publications.

The aim of this month's talk was for Laurence to introduce the background basic theory needed to appreciate the differences between the various Analysers, for Terry to briefly describe the historical evolution of the Analyser, and finally Terry, Laurence and Dave to compare and discuss in depth particular Analysers which they themselves own.

The need for a self contained Analyser containing its own low power signal generator was described and how it has developed into an instrument able to both plot and measure not only SWR, but also the resistive, reactive and total impedance values of the antenna. Indeed, the some of the later Vector Network Analysers (VNA) also have 2 ports enabling the plotting of eg filter characteristics.

The necessity to measure the antenna electrical characteristics was explained in order to better match the antenna to its feeder to reduce the SWR on the feeder which worsens the losses within the cable.

It was shown how the role of the ATU/SWR instruments at the TX end of the feeder, is not only to match the TX output correctly to ensure the TX operates correctly, but also to reflect back to the antenna any reflected wave on the feeder coming from the antenna. Hence all the TX power is spent as losses in the antenna feeder with the remaining power radiated by the antenna.. Thus reducing feeder losses is important.



Finally, Laurence described his Palstar ZM30, Terry his MiniVNAPro, and Dave his RigExpert AA54 Analyser. The talk ended with Dave describing the significant advantages of the VNA, not least of which was the ability of some to 'calibrate out' the effects of any connecting cable between the Analyser and antenna under test.

Antenna Analyzer types

- See: <http://www.rigexpert.com/indexforarticles.htm#ass> for excellent survey (Denis Natchitallou, GUR10R)

- 44 models

- Based on diode detectors

- sign of reactance cannot be detected

- calib. needed before use to accommodate diodes parameters

- Based on logarithmic amplifier detector

- sign of reactance cannot be detected, but no calib.

- Based on logarithmic amplifier and phase detector

- Based on super-heterodyne receiver principle

- Based on direct conversion receiver principle

SOME FINAL WORDS OF WISDOM

MANY BALUN/UNUN MATCHING SYSTEMS ACT AS PART DUMMY LOADS TO GIVE LOW SWR
POOR GROUND, LONG LOSSY FEEDERS GIVE LOW FLAT SWR MEASUREMENTS

SHORT EFFICIENT ANTENNAS SHOULD ALWAYS HAVE NARROW 2:1 SWR BW (<50KHz TYPICAL)

WITH COAX FEED - IF SWR IS > 5-10:1 (BEFORE THE AMU) AND DOES NOT CHANGE MUCH ACROSS THE BAND, YOU HAVE A 'LOSSY FEEDER SYSTEM' !!

The Meeting closed with much discussion by members as to the relative merits of the various Analysers available and am sure these discussions will continue well after the Meeting !!

A huge thank you to all those involved in this month's talk, and for the huge amount of research and preparation required to enable such a professional presentation.

Terry (G4CHD)

LOCAL SKEDS

Zepp Net: Mon, Tues, Thurs : 145.450 MHz
Wed : via GB3DN 1600 local time

6m Net: Wednesday, 8pm, 51.5MHz FM

HF Net: Friday at 1500 local time
7.145 MHz ± qrm
THIS NET IS NOW CLOSED UNTIL THE AUTUMN.

Slow Morse: This net run by Dave (G3YGJ) **has been suspended. Please contact Dave if you require Morse practice.**

70cm Net: Sunday, via GB3ND, 1100 - noon local time.
Available on Echolink node 221334

CROSSWORD

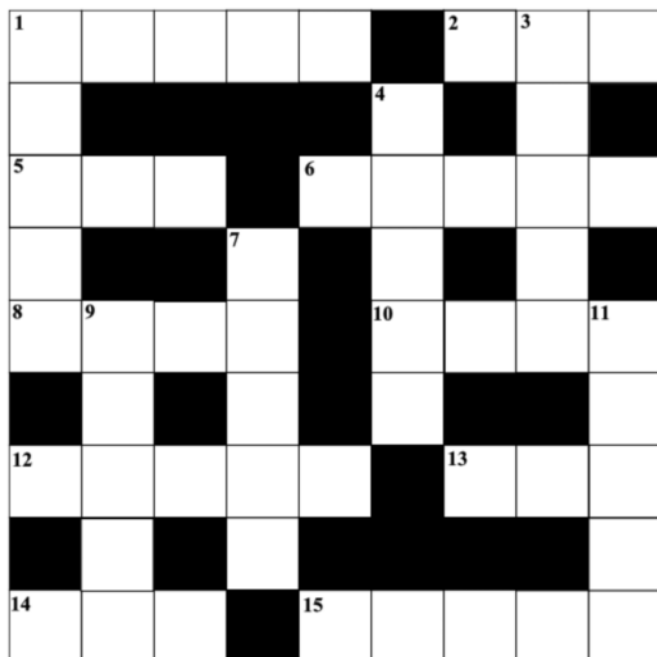
This month's Crossword by Stuart (M1FWD).
The answers will be published in the next month's Newsletter. Good luck !

Clues Across

- 1) An Instrument for recording a quantity, eg gas, electricity, signal strength - often with a **3) DOWN** attached to it (5)
- 2) Someone who keeps a furtive watch on others (3)
- 5) One of seven in a week (3)
- 6) A thing that imparts motion (5)
- 8) Impulsive action is sometimes said to take place 'on the ? of the moment' (4)
- 10) Adam and Eve's garden (4)
- 12) Juliet Alpha land (5)
- 13) In physics, a unit of work or energy (3)
- 14) The fifth sign of the zodiac (3)
- 15) The sideband mode normally used above 7 MHz (5)

Clues Down

- 1) Term applied to different types of transmission and reception (plural) (5)
- 3) Any small device, especially an electrode, for measuring, testing, etc. (5)
- 4) The sideband mode normally used at 7 MHz and below (5)
- 7) In computing, an ordered set of related elements (5)
- 9) In the USA, the name given to the anode of a thermionic valve (5)
- 11) Five Uniform land (5)



Last month's answers :-

Across 1) four 3) stub 7) Gibraltar 8) Med 10) add
12) Croatians 13) over 14) Kure

Down 2) oxide 4) tetra 5) bared 6) radiate 8) micro
9) Doone 11) dinar

Stuart (M1FWD)

SUDOKU PUZZLE

The aim is to enter a number into each cell so that **any column, or any row, or any block of cells contains all numbers from 1 to 9**. This month's puzzle is categorised as **Advanced** difficulty.

		3	5					9
	9					5		
	2			7	9	6		
		2		4	8			3
	7	4				9		2
		6		9	7			4
	4			2	3	1		
	1					2		
		7	1					8

Terry (G4CHD)

LOCAL REPEATERS

70cm Handy Cross Repeater/Echolink (#221334) Gateway (GB3ND)

User: Listen 433.35MHz– Transmit 434.95MHz
Access 1750Hz Tone (Timeout 4.25 mins)/ 77Hz CTCSS
Repeater keeper is Jeff (G4SOF)

2m Stibb Cross Repeater (GB3DN)

<http://www.g0rql.co.uk/gb3dn.htm>

User: Listen 145.6375MHz - Transmit 145.0375 MHz.
Access 1750 Hz Tone or 77 Hz CTCSS Repeater keeper is
Tony (G1BHM).

Yahoo users group for general chat and banter at :-
<http://groups.yahoo.com/group/GB3DN/>

ARLINGTON COURT OPEN DAY SPECIAL EVENT STATION GB2AC

As stated earlier, approx 120 contacts were made on a bright but blustery day.

Arlington Court provided a marquee and access to mains power and by 10am the antenna and station were operational and doing well on 40m.

Various members were able to 'have a go' operating or .log keeping and it was rewarding to see members of the public take an interest in our endeavours.

Many thanks as always to Mike (G3PGA) for masterminding the whole operation so expertly and to all

those members who helped with carrying gear to/from the event, help set up the antenna and station. Finally, thank you to Jim (M3VJM) for being our Club Photographer and capturing the spirit of the day in the following pics :-



So that's it for this month.
Enjoy the read

If any member has an article that they feel would be of interest to Club members, please send it in to me and it will make your Club Newsletter all the more interesting.

Terry (G4CHD)

