



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

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May, 2015

EDITORIAL

Welcome to another Club 5&9 Newsletter. This month's Meeting is a good old fashioned 'Natter Night' whereby members can have a ragchew over a cuppa and a biscuit. If there are newer members attending, please make them welcome.



A reminder to those members who have not yet paid their subs for this year - the dead line is the end of this month (May) and hopefully everyone will rejoin.

Not much to report on this month so will keep this Editorial brief.

So enjoy the Newsletter and as always - please let me have any articles, news snippets etc which you feel would be of interest to other members - at least it gives relief from reading my drivel all the time !!!

Terry (G4CHD)



CLUB MEETINGS

Meetings are held at the Appledore Football Social Club starting at 7.30pm for 8.00pm. Visitors always welcome. For further information, contact Alan (M6CCH) - details in the top panel.

- May 18th "Natter Night"
- June 15th "Baluns & Ununs" by Mike (G3PGA)
- July 20th "Practical Applications for the new Raspberry Pi 2" by Steve (G6SQX)
- August 17th "Coax Losses - Measurement & Effects" by Terry (G4CHD)
- September 21st "Bring & Buy"
- October 19th Open Meeting - details to be confirmed
- November 16th "MX0LDG Operations from Lundy" by John (G3JKL)
- December 14th "Club Christmas Party" (open meeting)
- January 18th "Radio Quiz" by John (G3JKL)
- February 15th "Whistles to Radios - Police Communications" by Alan (M6CCH)
- March 21st "Club AGM"
- April 18th "QSLing - Traditional to the latest methods of confirming a QSO" by John (G3JKL)

HUMOUR

At a recent church service, the following amusing story was included in the sermon:-

A single man was asked why he had never married. He replied that he was waiting until he found the ideal perfect woman. However, unfortunately she was also looking for an ideal perfect man!!

REPORT ON THE APRIL MEETING

PODCASTS AND WEBCASTS by Mike (G4KXQ)

There was an excellent attendance for another of Mike's intriguing talk topics - with many there including myself anxious to know what Podcasts and Webcasts actually were.



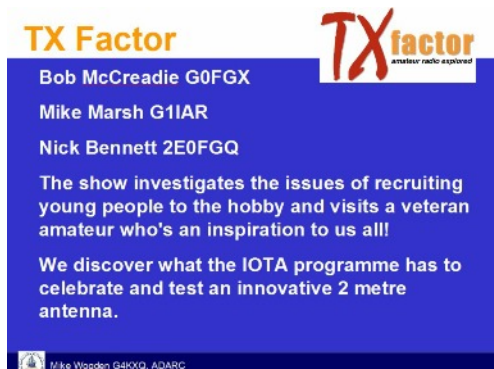
The talk was very professionally illustrated using a Powerpoint presentation from which some of the images below have been taken.

Mike started by defining Podcasts and Webcasts thus :-

A podcast is a program (as of music or talk) made available in digital format for automatic download over the Internet. The word is derived from "broadcast" and "pod" from the success of the iPod, as audio podcasts are often listened to on portable media players.

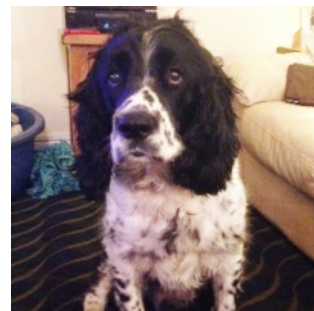
A webcast is a media presentation distributed over the Internet using streaming media technology to distribute a single content source to many simultaneous listeners/viewers. It may either be distributed live or on demand. Essentially, webcasting is "broadcasting" over the Internet.

Many examples currently available were then described together with recorded excerpts from recent broadcasts. The following slide from Mike's presentation describes one such example - TX Factor.



The Table at the foot of the page was distributed at the end of the talk and gives details of where many of these broadcasts can be found :-

Mike ended his talk with the appealing image opposite of the family dog which Mike takes for a good walk each morning before work. The walks provide an ideal opportunity to listen to a range of previously recorded Podcasts.



This was yet another very professional and informative talk by Mike which I am sure has whetted the appetite of many of the members present to 'have a go'.

Many thanks to Mike for all the hard work in producing such an entertaining talk which was greatly enjoyed by all there.

Terry (G4CHD)

PRESENTATION OF THE JIM McFEE CUP

Before the talk, the Jim McFee Cup was presented by the new President, Terry to Dave (MOJAP) for all his hard work at Club Meetings in bringing his own projector and screen and setting it all up prior to the talk. This is usually done whilst members are enjoying their cuppa etc which Dave invariably misses out on. Dave expressed his thanks to the Club for bestowing the honour of being presented with the cup but stressed that others within the Club are just as deserving. Congratulations Dave.



TX factor - http://www.txfilms.co.uk/txfactor/	AmateurLogic.TV - http://www.amateurlogic.tv/
Ham Nation - http://twit.tv/show/ham-nation	Linux in the Ham Shack - http://lhspodcast.info/
ICQ Amateur Radio Podcast - http://icqpodcast.com/	Fo Time *the Other Ham Radio Podcast* - http://amateurradio15.com/
Soldersmoke Podcast - http://www.soldersmoke.com/	Tom Medlin,W5KUB - http://w5kub.com/
QSO Today Podcast - http://www.qsotoday.com/	Chat With The Designers - http://www.cwtd.org/
FrequencyCast Uk TV - www.frequencycast.co.uk/	

LOCAL SKEDS

- Zepp Net:** Mon, Tues, Thurs : 145.450 MHz 4pm
Wed via **GB3DN** - 4pm
- 6m Net:** Wednesday, 8pm, **51.480 MHz FM**
- HF Net:** Friday at 3pm **7.145 MHz ± qrm**
- Slow Morse:** Run by **Dave (G3YGJ)** every
Tuesday and Thursday, 7pm clock time
on **145.250 mode FM.**
- 70cm Net:** **Sunday, via GB3ND, 11am - noon**
local time.
Available on Echolink node 221334

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/>

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.**

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

Terry (G4CHD)

CROSSWORD



This month's Crossword is by Stuart (M1FWD).

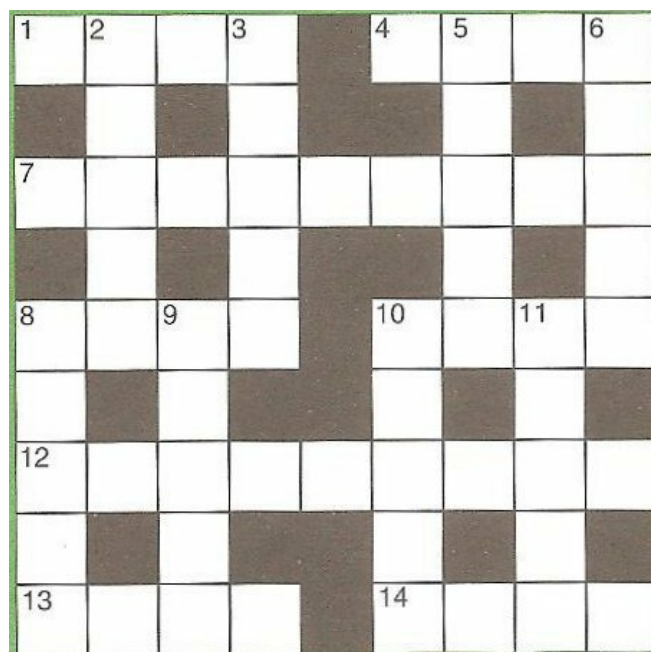
The answers will be published in the next month's Newsletter. Good luck !

Clues Across

- 1) Sir ? Douglas-Home, UK Prime Minister, October 1963 - October 1964 (4)
- 4) The Great Barrier ? , The world's biggest structure made of living organisms (4)
- 7) ? Pi, credit card-sized single-board computer (9)
- 8) Abominable Snowman (4)
- 10) Famous soft cheese originally from Foxtrot land (4)
- 12) A measure of frequency for radio transmissions (9)
- 13) A term fro someone overly intellectual, obsessive or socially impaired (4)
- 14) Brown seaweed of the genus *Laminaria* (4)

Clues Down

- 2) Depart (5)
- 3) Island in the region of Campania, Province of Naples (5)
- 5) ? Message, information displayed, e.g. on a computer, when an unexpected condition occurs (5)
- 6) Regional airline group based in Exeter (5)
- 8) Seven Oscar land (5)
- 9) Large Asian flesh-eating feline (5)
- 10) (Usually repeated), term for the interruption of a QSO with 'emergency traffic' (5)
- 11) American semiconductor manufacturing company



Last month's answers :-

Across 4) Sty 6) reheat 7) capacitor 10) resistors
12) Mexico 13) eta

Down 1) tracer 2) shapes 3) Lancaster 5) trio 8) tropic
9) Ruston 11) exit

Stuart (M1FWD)

TECHNICAL RAMBLINGS FROM THE PAST

Big is Best!

You often hear on the air debates as to the merits or otherwise of large aerials over minibeams or folded dipoles etc. The assumption is that the bigger it is and the more wire you can get up, the better. This can be true but I decided to let my mind 'doodle' as to why this should be.

When an aerial is fed with power, then apart from losses in the feeder/aerial wire etc., all the remaining power is radiated as a radio wave.

It therefore follows that feeding 100W to either a $\lambda/2$ dipole or 5λ long wire, will result in almost 100W being radiated from **either** aerial (assume losses small).

So if they both radiate equal amounts of power, where is the difference that supports 'big is best'?!

The answer lies in the fact that the dipole radiates with broad lobes whereas the long wire **concentrates** the power into narrow lobes. The result is that **in the direction of the main lobe** the long wire shows a 4.2dB gain relative to the dipole.

But surely, minibeams also do this so maybe there is another facet to consider.

This turns out to be aerial/feeder/ATU losses. In general, small aerials have smaller radiation and feed resistances. At a current max point, the dipole has a 70Ω feed resistance whereas it is 140Ω for the long wire. Since power fed to the

aerial is given by $I^2 R_a$ and since R_a for the long wire is

twice that of the dipole, then I^2 in the long wire will be half of that in the dipole.

The result is that $I^2 R_L$ losses in the long wire will be half of that in the dipole. Losses in both these aerials and feeder systems will not be substantial and so the difference is rather academic. However some small aerials such as loops have **very small** resistances leading to extremely high aerial currents causing losses to be significant.

Finally, there will be many who will point out that you can often put a mini beam up higher than a full sized beam and thus obtain good low angle radiation for dx work which can offset the problem of losses.

Is there an overall conclusion - I think not except for the old adage - 'if it works for you then why worry'!!

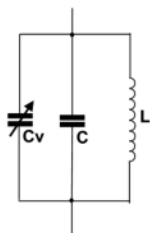
This ends my ramblings -

Terry (G4CHD)

TECHNICAL TEASER

A parallel tuned circuit consists of a variable capacitor C_v which varies from 5pF to 50pF, a fixed capacitor C , and an inductor L (see diagram opposite).

Find the required value for C (and L) for the circuit to tune from 3.5MHz to 4.0MHz.



The answer is given opposite at the bottom of the page.

So that's it for this month - I hope everyone enjoys the read

Best 73s de Terry (G4CHD)

There are various ways to solve this problem, but they all rely on using the following formula for a tuned circuit:-

$$Freq = 1/(2\pi\sqrt{L(C+C_v)})$$
 i.e. To achieve a frequency range of 3.5 to 4MHz (1.143:1) a capacitance range of the square of this is required i.e. 1.306:1 and must be provided by the parallel combination of C_v and C in the diagram. To combine parallel capacitances, their values must be added.
 Since C_v varies from 5 to 50pF, and assuming C is also in pF, then it follows:

$$(C + 50)/(C + 5) = 1.306$$
 i.e. $C + 50 = 1.306C + 1.306 * 5$

$$C + 50 = 1.306C + 6.53$$
 Rearranging

$$50 - 6.53 = 1.306C - C$$

$$43.47 = 0.306C$$
 Hence $C = 43.47/0.306 = 142.1pF = 142pF$ approx.
 Using this to find L :
 With C_v equal to 5pF, the circuit should tune to 4MHz. With $Freq = 4MHz$ and $C = 142pF$ and $C_v = 5pF$, then substituting into the top formula gives $L = 10.7\mu H$.