



# 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](http://www.adarc.co.uk)

### CLUB'S OFFICERS

President	Terry Adams	G4CHD	
Chairman	John Lovell	G3JKL	
Vice Chairman	Steve Smith	G6SQX	
Secretary	Alan Fisher	M6CCH	01237 422833 Email: fisheralan@gmail.com
Treasurer	Mike Wogden	G4KXQ	
Committee	Graham Bailey	G1ZTJ	
	Dave Cottle	G4XWQ	
	Ray Hunter	M0TLO	
	Keith Luxton	G0AYM	
QSL Manager	John Lovell	G3JKL	
Web Master	John Lovell	G3JKL	
Exam Secretary	John Lovell	G3JKL	
Editor	Terry Adams	G4CHD	

December, 2017

### EDITORIAL



This month's Meeting which is a week earlier than normal is our **Club Christmas Party** and is on



**December 11<sup>th</sup>** and will follow the same successful format as previous years with food, festive music, Quiz and Raffle included. Entry will be free but members are asked to bring along a suitable Raffle Prize. I look forward to seeing many of you with family or friends for a most enjoyable evening.



Hope you have all enjoyed the Newsletters over this last year and hopefully members may like to try their hand at writing the odd article to improve the

Newsletter in the New Year. Finally on behalf of all your Committee, I would like to wish everyone a Very Happy Christmas and a Healthy Prosperous New Year.

Terry  
(G4CHD)



### CLUB MEETINGS



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

- Dec 11th** Club Christmas Party
- Jan 15th** Memory Lane Evening - mini talks by members
- Feb 19th** BITX40 - Homebrew Made Easy by Mike (G4KXQ)
- March 19th** Club AGM
- April 16th** Clansman Radio by Chris (G0FJY)

For further information, contact the Secretary, Alan (M6CCH) - details in the top panel.

### 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.g0rq1.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)





## REPORT ON THE NOVEMBER MEETING

### Club Bring & Buy

There was an excellent attendance at our November Bring & Buy Meeting with many goodies changing hands leading to big smiles all round!

It was also a good opportunity to have a natter over a cuppa and biscuit and catch up with everyone's news.

Many thanks to both sellers and buyers for making the evening such a great success.

Terry (G4CHD)

### LOCAL SKEDS

**Zepp Net:** Mon, Tues, Thurs : 145.450 MHz  
4pm  
Wed via GB3DN - 4pm

**2m Net:** Mon/Tues/Wed : 145.450MHz  
10.45 - 12.00 noon

**6m Net:** Wednesday, 8pm, 51.480 MHz FM

**HF Net:** Friday at 3pm 7.134 MHz ± qrm  
If conditions poor - 145.450 MHz

**70cm Net:** Sunday, via GB3ND, 11am - noon  
local time.  
Available on Echolink node 221334

**Top Band Net:** Sunday 1.860 MHz  
(LSB - 32W pep max) 9.30 - 10.15am  
Contact Dave (G4XWQ) for details

### 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

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

Terry (G4CHD)



### CROSSWORD



Many thanks to Stuart (M1FWD) for this month's Crossword. The answers will be in next month's Newsletter. Good luck!

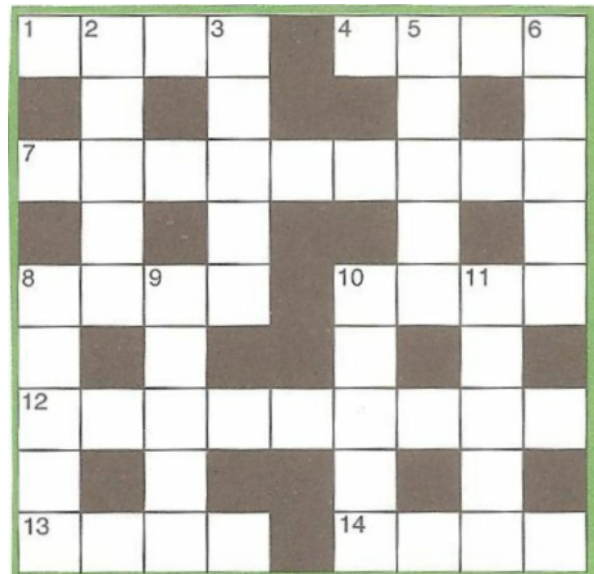


#### CLUES ACROSS

- Any plant with seeds, leaves or flowers used for flavouring, scent, medicine, etc. (4)
- The complete movement of one leg in walking or running (4)
- Victor Kilo Nine X-ray (VK9X) island (9)
- ? of Dogs, an area in the East End of London bounded on three sides by the River Thames (4)
- A set or group of three (4)
- Parasitic plant, *Viscum album*, often associated with Christmas (9)
- The time occupied by the earth in one revolution round the sun (4)
- Indifferent; not very good (2,2)

#### CLUES DOWN

- The characteristic spirit or attitudes of a community, people or system (5)
- Capital city of the U.S. state of Idaho (5)
- Automatic mechanism for activating a device at a pre-set time (5)
- Italian sauce containing basil, pine nuts, garlic, Parmesan cheese and olive oil (5)
- Joseph Bruce ?, chairman of the company which built the Titanic (5)
- ? fever, an acute and possibly fatal viral disease of tropical Africa (5)
- The years of one's age from 13 to 19 (5)
- Symbols on a computer screen of a program, option or window (5)



#### Last month's answers :-

**ANSWERS ACROSS:** 4) Fez 6) radios  
7) Ballymena 10) Amsterdam 12) mirror 13) yen

**ANSWERS DOWN:** 1) Arabia 2) adults  
3) Polynesia 5) Eden 8) Enders 9) Almera  
11) mate





## SEASON'S GREETINGS FROM OUR ITALIAN READER

We are at the end of year 2017 and Christmas will come in next few weeks. As associate foreign member of the Appledore & DARC (G2FKO), I wish you all the best for the Christmas party on 11th December 2017, hoping most of the members will be present. And so

**Very Merry Christmas and very Happy, Healthy and Prosperous New Year 2018**

to you and all the participating members, together their families.

All the best from Italy.

Greetings. "73/88".

Cordially Yours

Giorgio (George)  
SWL IV3 - 57306  
Italy 2017

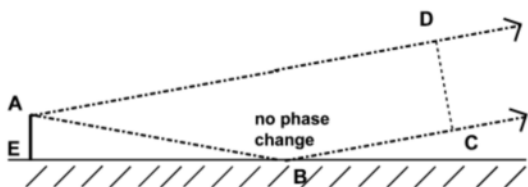
### Horizontal versus Vertical Aerials by Terry (G4CHD)

Apologies to those knowledgeable members for whom the following is 'old hat', but I thought perhaps the newer members may find it interesting.

There is a general acceptance that vertical aerials are better for DX than horizontal ones. The basis for this assumption will be explained and finally, a few practical considerations to be considered.

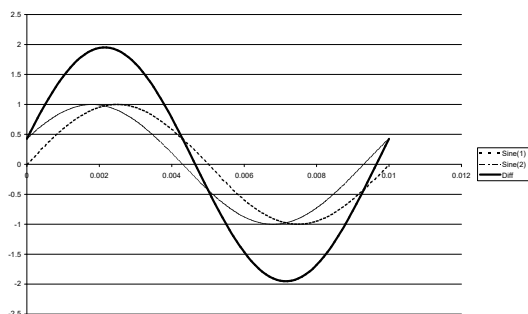
The main difference results from the fact that a **horizontally** polarised wave (from a horizontal aerial) suffers a **180 degrees phase change** when it reflects off perfect ground, whereas a **vertically** polarised wave (from a vertical aerial) **does not**.

Consider a quarter wave vertical over perfect ground :

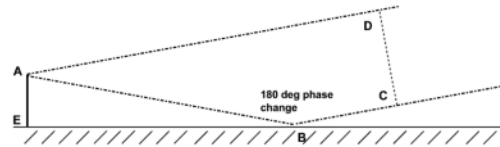


If AE is a quarter of a wavelength, then by measuring the difference in lengths (AB+BC) and AD and comparing it with the length AE, it can be seen that there is a phase difference of 0.07 wavelength, equivalent to 25 degrees. Hence the two waves are only just out of phase and therefore will be **additive**.

This can be seen in the following plot of both sine waves and their total effect:

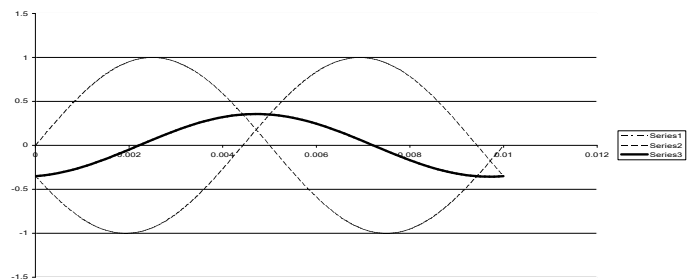


Now consider a dipole aerial placed quarter of a wavelength above perfect ground :



If AE is again a quarter of a wavelength, then again, by comparing AE with the measured difference between (AB+BC) and AD, the phase difference plus 180 degs between the two waves results in the two waves being significantly out of phase to the extent of (0.07 + 0.5) wavelength, equivalent to 205 degrees and will therefore tend to **cancel out**.

This again can be seen on the following plot of both sine waves and their total effect:



It can be readily seen that for almost horizontal waves as required for DX working, the cancellation is virtually complete.

The situation for the horizontal aerial can only be improved by either raising the height of the aerial or siting it near the top of a downward slope.

However nothing is ever simple, as the effectiveness of the two waves adding for the vertical aerial case depends upon the ground being a perfect reflector i.e. wet, salty and hence a good conductor which is rarely the case!

**So to summarise, it just might be possible for that short vertical mobile aerial sited near to the sea, to outperform a large horizontal array when working a given DX station!! Food for thought!!**

73s Terry (G4CHD)

### A BRAIN TEASER TO TRY OVER CHRISTMAS

An amateur bought a box of metal oxide, wirewound, and carbon resistors at a Rally for £3.

a) If there are three times as many metal oxide types as there are carbon types, and there are twice as many carbon types as there are wirewound types, how many of each type are there in the box if the total number of resistors is 135.

b) Finally, if the wirewound type costs five times that of the carbon type, and the carbon type costs twice that of the metal oxide type, what is the cost of each type of resistor.

So that's it folks - enjoy the read and have a Very Merry Christmas

Terry (G4CHD)

