



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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Chairman	John Lovell	G3JKL
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July, 2018

EDITORIAL

This month's Meeting is another in the 'Back to Basics' theme by yours truly and is entitled 'Capacitance Loaded Antennas'. Hopefully there will something for both our newer and more experienced members to enjoy. So hopefully see many of you on **July 16th**. Finally, Mike (G4KXQ) has written another brilliant article on 60m which is well worth the read.



Terry (G4CHD)

CLUB MEETINGS

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

For further information, contact the Secretary, Darren (M6LQC) - details in the top panel.

July 16 th	Capacitance Loaded Antennas by Terry (G4CHD)
Aug 20 th	Summer Natter Night
Sept 17 th	Open Meeting - Exmoor Search & Rescue Team by Lionel Murphy
Oct 15 th	3-D Printing by Mike (G4KXQ)
Nov 19 th	Autumn Bring & Buy
Dec 10 th	Christmas Party (note - is 1 week early)
Jan 21 st	TBA
Feb 18 th	EMC in Amateur Radio by Chris (G0FJY)
Mch 18 th	Club AGM
Apl 15 th	TBA

LOCAL SKEDS

Zepp Net: Mon/Tues/Thurs : 145.450MHz - 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
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

SILENT KEY

Sadly I have been informed that **John (G0UNB)** passed away during the weekend of July 7th. Our sympathies go to his family at this time and as and when I hear of the funeral arrangements, I will let members know by email should they wish to attend and pay their respects.

REPORT ON THE JUNE MEETING

Discussion Night - Changes to the Intermediate Exam

This was a new format to a Club Night and judging by the good attendance, it was a reasonable success. Your Committee are always eager to hear members' comments which can then be taken on board when planning Club Meetings.

Steve (G6SQX) led the Discussion supported by John (G3JKL), Ray (M0TLO) and myself. Many members expressed very valid views on what was wrong or right about the present examination system and it was most interesting to hear the diverse opinions of members.

I personally enjoyed the Meeting as I hope those who attended also did and a big thank you to everyone who contributed on the evening.

Terry (G4CHD)

LOCAL REPEATERS

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

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

2m Stibb Cross Repeater (GB3DN)

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

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

70cm Twitchen (nr South Molton) Analogue Repeater (GB3SF)

User: Listen 430.9375 MHz - Transmit 438.5375 MHz
Access 77Hz CTCSS
Repeater keeper is Steve (G6SQX)

APRS Digipeater (MB7VE)

Frequency 144.800 MHz
Repeater keeper is Steve (G6SQX)

BIDEFORD FAIR SPECIAL EVENT STATION

Saturday, June 30th was a glorious Summer's day for the Bideford Fair in Victoria Park. With the help of several Club members, two marquees housing the Club's HF



station and a Clansman radio run by Chris (G0FJY) together with associated antennas were set up and operational by mid morning. Fred (G0EOB) kindly provided a generator which was invaluable in such a location.

Dave (G4XWQ) and Graham (G1ZTJ) also provided a most valuable presence on the vhf bands.



The Club made approx 25 HF contacts, mostly on 40m, and Chris (G0FJY) using a Clansman PRC320 manpack running 30 Watts output on 20m to a random wire antenna worked into Germany, Italy and Austria.



Several visitors showed an interest in our displays and hopefully will come along to our next Club Night for a warm welcome.

Terry (G4CHD)

CORNISH RADIO AMATEUR CLUB RALLY

July 15th at Penair School, Truro, Cornwall, TR1 1TN.
Doors open 10.30am, admission £2. Contact Mike, G1NRF on 01209 211 069, or mike.g1nrf@hotmail.com for more information

CROSSWORD

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

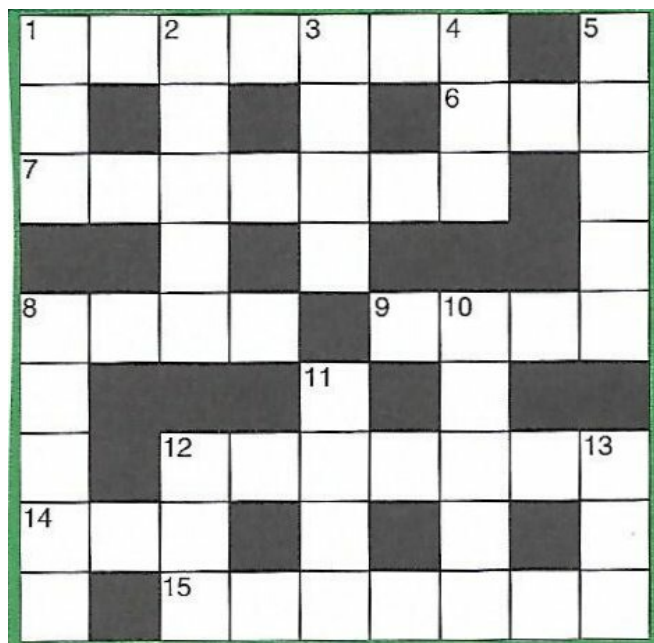


CLUES ACROSS

- 1) A disorder previously known as 'manic depression' (7)
- 6) Chop or cut with an axe, pick or other tool (3)
- 7) ? oxide, 'laughing gas' (7)
- 8) Mountain range following the Foxtrot (F) and Hotel Bravo Nine (HB9) border (4)
- 9) DC voltage applied between two points for the purpose of controlling a circuit (4)
- 12) Removes or obliterates (7)
- 14) Astrological sign covering part of July and August (3)
- 15) Having a clear shape with sharp points (7)

CLUES DOWN

- 1) Small cake, typically containing dried fruit (3)
- 2) Three Yankee (3Y) island (5)
- 3) Aquatic bird also known as 'diver' (4)
- 4) Initials of famous British horticultural organisation founded in 1804 (1.1.1)
- 5) Native of Hotel Bravo Nine (HB9) land (5)
- 8) Unit of energy (5)
- 10) Semiconductor-manufacturing company (5)
- 11) Device for making an electrical connection between an appliance and the mains (4)
- 12) Abbreviation used for a victim who does not make it to hospital alive (1.1.1)
- 13) Used as a title before the forename of a knight or baronet (3)



Last month's answers :-

ANSWERS ACROSS: 1) Luke 5) Asdic 7) Otranto
8) battery 11) eclipse 13) nacre 14) undo

ANSWERS DOWN: 1) Laos 2) Kermadec 3) est 4) Scot
5) Anatole 6) door open 9) menu 10) Nero 12) cry

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

Terry (G4CHD)

INTERMEDIATE EXAM SUCCESS

Congratulations to (from left to right) Dave (2E0ITX), Darren (2E0LVC) our Club Secretary, Dave (2E0???) and Alan (2E0EUZ) our ex Club Secretary for passing their Intermediate Exams on June 17th. Thanks to Mike (G4XWQ) for tutoring the candidates, and Mike (G3PGA) and John (G3JKL) for invigilating on the day.



FROM THE WORKBENCH

by Mike (G4KXQ)

Another excellent technical article follows in this series which I'm sure members will find most interesting.

Enjoy this month's 5&9 Newsletter Terry (G4CHD)

FROM THE WORKBENCH - THE 60m BAND

by Mike (G4KXQ)

60m is an interesting band. It's partly channelised into small segments and the propagation is a cross breed of 40m and 80m. The band was first introduced in 2002. Over the years, various countries have allowed their amateurs radio operators to use the band. All this is negotiated and approved in conjunction with the ITU World Radiocommunication Conference(s). Many countries are now "on air" and can be heard, some on quite modest low power levels too. Be careful though, their frequencies may be different to ours. In the UK, our power limit is 100 Watts maximum and 200 Watts effective radiated power (* see note).

Only Advanced licence holders are allowed on 60M band. You used to obtain a NOV however I believe that's finished now. One quirk is that you select USB not LSB for SSB transmissions. Some new "slots" were added recently on this band but to get around remembering everything, it's probably best just to set up some memories in your HF set. I don't know about you, but all these fancy rigs come with memories and we never use them. 60m is ideal for getting up to speed with these Memories (and you can scan the channels too which is something else few of us know how to work!). Go on, find the user manual! You can use the following table to set up most of the channels into memory for your HF set. Remember, it's Upper Side Band (USB)

Over the last few years, we had great skip for local NVIS contacts around the UK on the 40m band however we seem to have lost that with the change in Sun Spot activity. 60m on the other hand is ideal for local (50-300 mile) contacts around the UK during the day.

Lower Limit Khz	Lower Limit Khz	Guideline on current usage and suggested USB Frequencies
5258.5	5264.0	CW Activity, 5260.0 CW COA, 5262kHz QRP
5276.0	5284.0	USB 5278.5kHz
5288.5	5292.0	Beacons, WSPR 5288.6- 5288.8, (No other TX allowed)
5298.0	5307.0	All modes, USB 5298kHz, 5301kHz, 5304kHz
5313.0	5323.0	All modes , AM 5317kHz, USB 5320kHz
5333.0	5338.0	USB 5333.0-5335.0kHz
5351.5	5366.5	WRC-15 Worldwide Allocation (not available in UK)
5354.0	5358.0	All modes , USB 5354kHz, 5357.0 - 5368.0 JT65(FT8) This slot is smaller than the worldwide allocation and care is to be taken.
5362.0	5374.5	All modes, PSK 5362.0-5364.0, Data Modes (Olivia/MFSK/RTTY etc) USB 5371.5kHz DX SSB
5378.0	5382.0	USB 5378.0-5379.0kHz
5395.0	5401.5	USB 5395.0-5395.5kHz, 5398.5kHz
5403.0	5406.5	USB 5403.5kHz, DX CW 5405.0

SSB contacts are the norm, however I've also had a number of interesting AM contacts on 5.317 and you can also hear CW ops rag chew around 5.260. Setting up my set for AM took a while and I still have some more work to achieve "perfection" however, even setting it up badly has given me tremendous satisfaction. I've had a few QSOs with operators who restore the old 19 and 52 sets from the bygone era and they do make their mark here. These old sets sound great on AM. If you can't get on 60m, you can still use HackGreenSDR (Google it) to listen to the chaps on the frequency but if you do hold an Advance/Full license, here's some basic antenna ideas for you:

Antenna Ideas: 60m / 40m Compact fan -dipole

If you already have a 40m dipole, say an inverted V, you can easily add the legs for a 60m dipole directly on to the feedpoint. Some fiddling will be required for the antenna lengths, but adding a compact 60m antenna should be pretty simple. Essentially, each leg should be approximately 14m long in length, just a little bit longer than a 40m dipole frankly.

And why not just float the remainder of the lower part of the legs across a fence or something. Ample for getting out across the UK during the day.

I've noted that most modern tuners with an inbuilt ATU should tune any low band 40m or 80m antenna including the shortened 51 foot G5RV. Alternatively, build a doublet of perhaps big loop of around 55m in length with a 4:1 balun. That's what I do.

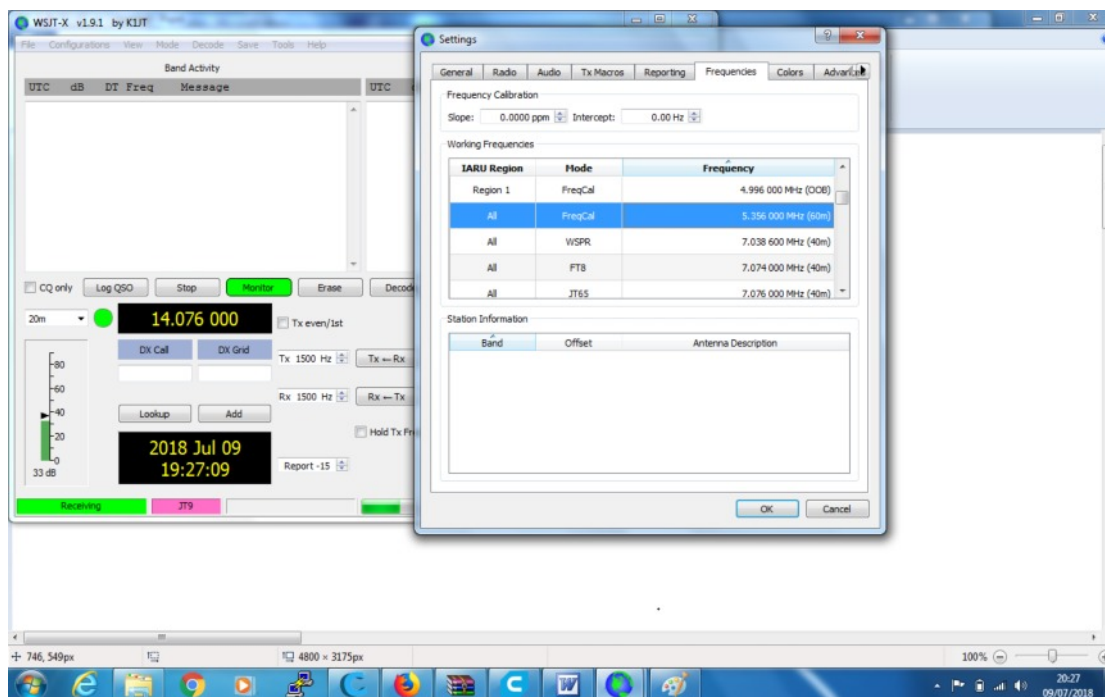
WSPR & JT65/FT8

JT65/FT8 has taken the bands by storm over the last couple of years. It's not everyone's cup of tea but handy when you just need to sit quietly and play radio. You may hear those crazy tones between the digital segments and voice segments of most bands. On 60m though, JT65 allows you to accidentally and very easily transmit out of band. The segment you need to be transmitting in falls between 5.354 and 5.358. However "out the box", JT65 will give you a dial frequency of 5.357. This means that all your transmissions can easily be out of band.

This has taken me a little while to get to grips with this because although the band police are complaining and the RSGB has also rightly warned users, nobody is giving a clear instruction on how to achieve staying completely within the band allocated to us in "English".

In my opinion, the easiest method is to change the default frequency, down shifting by 1 kHz to 5.356. If using the latest version of JT65-X, go to File > Settings and click the Frequency tab at the top and edit the frequency for the 5 MHz band so it reads 5.356. File > Settings > Frequencies

Double-click the frequency to edit. Click OK. Now change bands on JT65 and click on 60m. You will immediately see the frequency change appropriately.



To stay within the band, just don't reply or call to any station above the 2000 marker on your waterfall display, as graphic.

If you don't have JT65 already, get it here: <https://physics.princeton.edu/pulsar/k1jt/wshtx.html>

Run the installer and interface your rig as you would any other piece of software that connects to your radio & computer.

* EIRP notes: The current regulations say that although we're allowed 100 Watts, the effective radiated power should be no more than 200 Watts. This means that if your antenna has a gain of more than 3dB in any direction, you're technically breaking the rules. However, assume all other things being equal, as long as you are not using a Yagi at 100 feet, you're probably good to go. Have fun!