



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

President	John Jeffers	G0UNB		
Chairman	Terry Adams	G4CHD		
Vice Chairman	Dave Lawrence	G0PGK		
Secretary	Brian Jewell	M0BRB	01237 473251	Email: brian.jewell@ic24.net
Treasurer	Laurence Soutter	G4XHK		
Committee	Dave Brierley	G3YGJ		
	Mike Hammond	G3PGA		
	John Lovell	M0JKL		
Co opted	Graham Bailey	G1ZTJ		
QSL Manager	John Lovell	M0JKL		
Web Master	John Lovell	M0JKL		
Editor	Terry Adams	G4CHD		

February, 2013

EDITORIAL

Welcome to another 5&9 Newsletter.

This month's Meeting promises to be another cracker with Laurence (G4XHK) and Dave (M0JAP) extolling the virtues of Software Defined Radios (SDRs).

On Wednesday evening, February 6th, a **Committee Meeting** was held at the QTH of our Secretary Brian, M0BRB. Several topics were discussed and a brief summary is included at the end of this Newsletter.

However, with the next Club Meeting in March being our **AGM** there are a couple of topics which I must bring to your attention.

The first is of course the **election of Club Officers and Committee members**. Any members wishing to stand for any of these positions should notify the Committee in advance of the AGM. Those members of the present Committee who are willing to stand for re election are as follows :-

Chairman	Terry (G4CHD)	willing to stand
Vice Chairman	Dave (G0PGK)	willing to stand
Secretary	Brian (M0BRB)	standing down completely
Treasurer	Laurence (G4XHK)	willing to stand
Committee :	Dave (Dave)	standing down
	Mike (G3PGA)	willing to stand
	John (M0JKL)	willing to stand

In the event of there being several members willing to stand for any position, a vote will be taken.



John (M0JKL) has indicated that he is willing to continue to take on the roles of both QSL Manager and Web Master unless any other member fancies having a go. Equally I am willing to continue as Editor but would be more than happy to let anyone else to take it over. These Club Roles are of course non voted positions.

The second item to come out of the Committee Meeting is the need to modify our Club Constitution which can only be done at an EGM. Therefore, please consider this Newsletter as the official notification that such an EGM will be held immediately after our AGM this March 2013. Details of the considered changes are given in the Committee Meeting Notes at the end of this Newsletter.

So, hopefully will see many of you there in March.

Enjoy the read

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.

For further information, contact Brian (M0BRB)

Feb 18th	Introduction to Software Defined Radio (SDR) by Laurence (G4XHK) & Dave (M0JAP)
Mch 18th	AGM
Apl 10/11	G100RSGB Special Event Station at Laurence (G4XHK) qth
Apl 15th	101 things to do with a tin can and a Raspberry pi by Steve (G6SQX)

REPORT ON THE JANUARY MEETING

ERECTING & INSTALLING A HEX BEAM

by John (M0JKL)

The was a good attendance for the January talk in which John (M0JKL) provided those present with a most entertaining and informative evening.

John described the various factors which had to be considered in the choice of location for the beam together with details of the final installation of the base for the tower. The initial problems encountered with the first mast and how these were satisfactorily rectified by the mast supplier were also described.

The talk was very well illustrated by a slide show which was all the better thanks to Dave (M0JAP) for the use of the digital projector and screen.

The results which John has achieved since erecting the beam have been more than adequate justification for the choice of such a beam.

Many many thanks John for providing everyone with a most enjoyable and informative evening.

The photos were obtained form John's web site :-

<http://www.m0jkl.co.uk/2012/02/hexbeam-up.html>

As has been said many times before, a slick presentation on the night only disguises the tremendous amount of preparation required before hand.

Many many thanks John

Terry (G4CHD)



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.

Terry (G4CHD)

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

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/>

LOCAL SKEDS

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

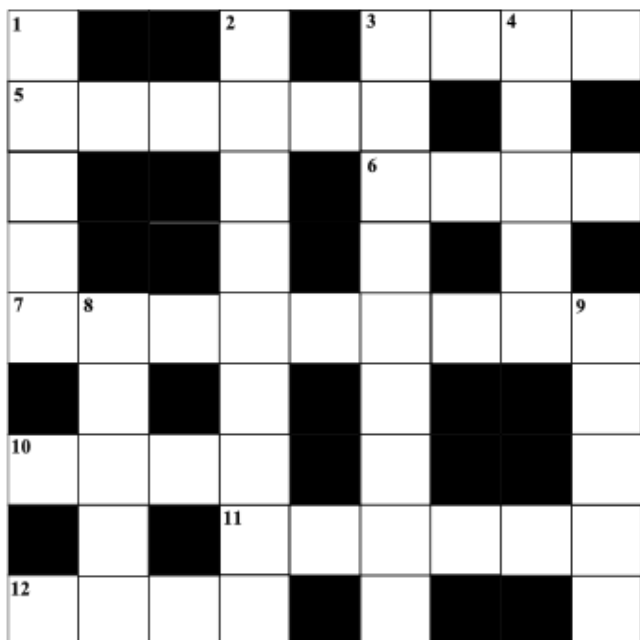
6m Net: Wednesday, 8pm, 51.5MHz FM

HF Net: Friday at 1600 local time
 on **7.185 MHz ± qrm**

Slow Morse: This net run by Dave (G3YGJ) on **Tuesdays (suitable Beginners) and Thursdays (suitable more Advanced), 1900 local time on 145.25 MHz (FM) - has been suspended until there is a demand from members. Please contact Dave if you require Morse practice.**

CROSSWORD

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



Clues Across

- 3) Directional aerial (4)
- 5) Large spotted feline of Central and South America (6)
- 6) Rod or spindle to which a wheel or group pf wheels is fixed (4)
- 7) Natives of YO land (9)
- 10) TZ land (4)
- 11) KL7 land (6)
- 12) Average (4)

Clues Down

- 1) Delete the first letter of 7) Across to leave a door slightly open(5)
- 2) Native of HA land (9)
- 3) Native of PY land (9)
- 4) Screw with hexagonal socket in the head (5)
- 8) Egg-shaped (5)
- 9) Underwater detection system (5)

Last month's answers :-

Across 1) CB 2) Gamma 7) meter 8) NNE 9) Oman
 10) utbe 12) IOM 13) Hurst 14) inter 15) ER

Down 1) Cambodia 3) Agra 4) Monstera 5) Etna amen
 6) repeater 11) shoe

MY FIRST SHIP (Part 15) - by Brian (M0BRB)

Orient City now proceeding Light Ship to the West Coast of Australia . I spent some time on the Bridge in the afternoon with the 2nd Officer (the Navigator) learning all about navigating a ship at sea , and the old guy was delighted that I was interested in the Black Art . I learnt that we were heading towards Indonesia down the east coast of the Philippines to get into the Celebes Sea and passing Borneo through the Makassar Straits , the sea very calm and on board conditions very hot.



One had to see the sun set in this area to believe the colour of the sky. Onwards to the Java Sea to break out into the Indian Ocean via the passage between Bali and Lombok I felt very pleased with myself being involved in charting the course with the 2nd Officer, tho' had some hard looks from the 1st Officer and some of the Engineers , About this time, I thought that the Chief was beginning to mutter to him self and kept asking if every thing was ok, at the time not to sure if he meant me or the Engine plant, the 3rd Engineer thought that the Chief was worried about the main engine but had not said what. Well, the engine sounded ok to me. One morning on my watch the Chief came down and prowled around the middle platforms before coming on down to the control deck, still muttering to himself, I started a conversation by wishing a "good morning", then said "ok my Chief"? and he said "What the bloody hell did the 2nd do when he took the Indicator Cards"? - and all I could say that " apart from getting the cords over the little Pulley Wheels tangled up until he cleared them, he took the cards the normal way". I couldn't help think that this Chief had not given any instruction to adjust the valve linkage. As the old Chief had done. We had changed the junior engineers duties around again Dan the 6th now on day work the 7th on watch with the 2nd and the 5th on watch with the 3rd the 12 to 4

watch.(Dead Watch).

At about 10.00 in my morning watch steaming along at nearly eleven knots (according to 3rd Officer) must have some current behind the ship sailing around the top of OZ. My Arab fireman came through to the engine room to tell me looking worried, that steam and water was venting down a small drain pipe into the stoke hold , not being to sure where this was from I dashed up to the top of the engine room heading for the top of the boiler room as I went up the ladders I saw the Chief at the top platform shouting “ what are you doing 4th? She is “blowing off” a cardinal sin in the marine manual, wasting water and steam.

Which meant that the safety valve had lifted , and I thought this, very odd because the steam pressure had been kept low of the blood mark all the morning , when the Chief and I got into the boiler tops, we both saw that some one had hung block of Cast Iron and Steel to try and keep them shut. I shouted at the Chief, “that bloody 2nd Engineer again.” . The Chief said ,”he must have lifted them in the morning 4 to 8 watch.” So telling me to keep the steam well back to give the Valves to settle down onto the valve seats, he went off to find the 2nd .

When the 3rd Engineer came down at Noon, I told him what was going on, he said that he had heard a row going on in the ships office between the Chief and the 2nd. So it seemed to me that when I take over the watch in future I will have to be careful to ensure that thing are as they should be, so now back to normal , and I wish that Danny the 6th had remained on watch with the 2nd.

Now still in full speed ahead mode , but keeping the rpm back by five ref's to let the safety valves reseal tight.

Fine weather steaming down the west coast of OZ , just another two days steaming before Fremantle, not to far out from the 2nd Officers ETA. Alongside the town quay in the Swan River at 1500 hours ,went down below to help the 3rd shut down, to let the two Arab Donkey Men take over running one Boiler and Generator and steam on deck for cargo Derricks .

That night the 3rd and myself went to town to sample the coldest beer in the world , Swan Lager, if one kept hands to tight around the glass the would freeze to the sides.

Open hours for the Pubs on the west coast in 1955 were from 0900 to 9.00 pm at night and I was quite surprised to see that females of all ages wondering in some times in a group or a single female. The way beer was taken in three different size of glass “ Schooner” a “ Midi” or a pint glass, and the way it was done, was to buy the first glass with a full two pint jug, to save running up to the bar, and one could drink a lot of beer that way, you didn't notice until you fell down.

We were to have the complete week end , before loading on the Monday morning. So worked on general maintaining on the Saturday morning, then we were free for the week end. Another run ashore after tea, just the 3rd Engineer and Myself, had a good drinking session until 9 pm (closing time) then ended up in a Keg Party in some ones house. (Keg Party meaning that on leaving the pub, one bought a Keg about gallon of beer to take home). If I remember it right, we got back to the ship about 0400 on Sunday morning .

Day off from duty on Sunday, so with Danny the 6th Engineer got on a Bus to Perth and went to the Zoo. I can remember seeing a poor Polar Bear in some distress

because of the heat at 30C, and finding the only licensed brothel in Oz at that time, I didn't go in (Honest!) back on the ship, it was my duty stand by watch, so that ended my first visit to Australia .

Brian (M0BRB)

NOTES FROM THE COMMITTEE MEETING HELD ON FEBRUARY 6TH AT THE QTH OF BRIAN (M0BRB)

1. Brian M0BRB will retire from role as Secretary and from the Committee. He will remain RSGB contact for training - suggestion to make a Club Role for Brian as a Training Coordinator.

Also - altho' Dave G3YGG not at Meeting as ill - thought that he will wish to step down from his position on the Committee.

Therefore need a Secretary - Brian thinks Alan Fisher M6CCW - teacher - MAY be willing.

Also - Graham G1ZTJ is willing to stand for Committee if no other takers. - Equally willing to be co opted.

Will need to perhaps hold Committee Meetings in various members houses as will not be possible to use Brian's qth in the future.

2. Jim McFee Cup was discussed and several very deserving cases were considered of members who have contributed a great deal to the advantage of the Club.

3. Amendments to our Constitution:- the proposed amendments were accepted - namely to remove reference to the Publicity Member (Section 6g) and change to “The Committee shall have the right to appoint Members to various Club Roles as and when the need arises. Such appointments shall automatically offer being co opted in a non voting capacity onto the Committee”.

Section 6f to now simply read “Not more than two co opted members who have full voting rights”.

Further to the Club's responsibilities to minors etc - it was proposed that an additional sentence be added to Section 3 - namely “The Club is committed to the protection of minors and vulnerable adults and fully adopts the recommendation from the RSGB entitled “Safeguarding Children and Vulnerable Adults” which is appended as an Appendix to this Constitution.

Section 10 demands an EGM to change the Constitution with 28 days notice to the Secretary and 14 days notice with proposals for members. I will notify Brian officially and post details in the Feb 5&9 for members.

4. GB100RSGB - Laurence reported that all was well in the preparations and by the week commencing Feb 25th it should be possible to start installing the Club equipment in Laurence's converted secure garage area . This area also contains a side room which could be used for training purposes. It was agreed that Laurence will be responsible for providing a working station(s) and Mike (G3PGA) will be responsible for organising the operators and their training. Ham Radio Logbook will be adopted.

Both an ssb and a psk/cw station will be provided. The emphasis should be on inter G working eg on 40m.

Article asking for volunteer operators to go in the Feb/Mch 5&9s.

5. AOB - Xmas Party feedback - we made about £70+ profit and was thought to be a success. The suggestion to

hold a parallel daytime meal at some pub/restaurant will be put to members at the AGM - volunteer needed to run it. Graham raised the issue of Use or Lose it re the bands - particularly 70cms.

Was therefore thought that an approach be made by me to Jeff G3NOF to see if we could run a Zepp Net on the GB3ND 70cm repeater at 11 - 12 am on a Sunday Morning with Echolink activated. May give a World wide access to Club Net - need a net controller?

Terry (G4CHD)

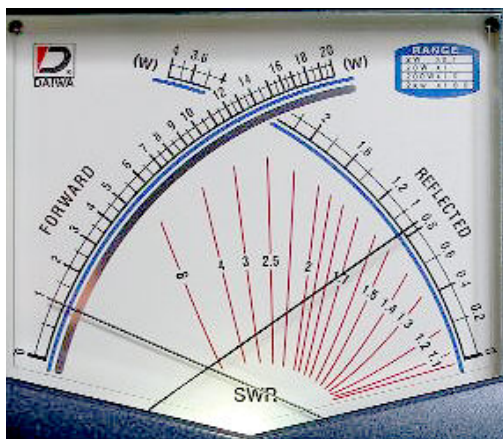
SWR and TRANSMITTERS

Friends or Foes! Making Sense of it!

An interesting article I found on the web -

You just finished hooking your station up to that new whiz bang antenna or made some changes to your antenna system to squeeze out a bit more signal and hooked the feed line into your swr meter.

Now it's time to decipher those swr readings.



Just exactly what do they mean to you and your signal on the other end at that DX station you are looking to get into your log?

Hopefully this simple chart, a comparison or two and some great information links will help you understand better, the relationship between swr readings and your total station's efficiency in sending that rf out where it belongs. This article is in no way meant to be a short course in swr, antennas or antenna systems.

The links below will help do that.

Study them, and save to your favourites, they are worth your time.

POWER LOSS AT VARIOUS SWR READINGS

An example using the chart opposite :-

Assume your transmitter is producing exactly 100 watts to the antenna and your SWR Meter is reading 1.6 to 1.

(See Green section in chart below)

This chart "assumes" that there are no losses in the feedline in a "perfect world" !

*Percentage of OUTPUT Power with perfect antenna load and no other losses in the antenna system!

**SWR 2.0:1* Most transceivers start to reduce power at this SWR level

SWR READING	% OF POWER LOSS	OUTPUT TO ANTENNA*
1.0 : 1	0%	100%
1.1 : 1	0.3%	99.7%
1.2 : 1	0.8%	99.2%
1.3 : 1	1.7%	98.3%
1.4 : 1	2.7%	97.3%
1.5 : 1	3%	97%
1.6 : 1	5%	95%
1.7 : 1	6%	94%
1.8 : 1	8%	92%
2.0 ; 1 **	11%	89%
2.2 : 1	14%	86%
2.4 : 1	17%	83%
2.6 : 1	20%	80%
3.0 : 1	25%	75%
4.0 : 1	38%	62%
5.0 : 1	48%	52%
6.0 : 1	55%	45%
10.0 : 1	70%	30%

Using an swr reading of 1.6 :1 in the example above, our percentage of reflected power would be 5 % with 95 % of transmitter power usable or 95 watts to the antenna assuming no other losses in your feed line or antenna. Since no feed line is perfectly lossless and no antenna is perfect in every sense of the word, these numbers should give you an idea of how your transmitter and antenna system would be performing into a perfect load with no loss anywhere in your antenna system.

You have to assume that your antenna system is not and never will be that 100% perfect system we all strive for. An "antenna system" is everything between the transmitter up to and including the antenna.

In the example above we assume that, in fact, we have a perfectly matched and 100% efficient antenna and the feed line has NO loss. We also assume that our transmitter's output stage protection circuit is working properly.

Use the numbers in the chart as a guide. Just because you have a low swr reading, does not mean that your antenna system is perfect!

Here is something to think about. Consider a dummy load with a perfect 50 ohm load inside it attached to your transmitter with an swr meter in between. You take a reading and get that perfect match or a 1:1 swr reading. Now I ask you, does that dummy load make a good antenna? NO.

You can have much the same situation with antenna systems that show a really great swr but your not "getting out".

Here is a hint for your station SWR record keeping!

When taking the final swr measurement on your new antenna system or after making changes to it, record them in a permanent record for safekeeping. Check your swr

from time to time on the same frequency and of course using the same antenna system to see if the swr has changed or is changing gradually. Then try to find out why before the reading gets too high and your transmitter starts shutting down power. Recording swr in a permanent record rather than your memory helps with troubleshooting antennas, feedlines, etc later.

Keeping good records of your swr from the time changes were made to your antenna system until a later date can help you see trends in swr changes which can tell you that "something" is changing over a period of time. If you do not keep a record of your swr between two points in time, then you may be in for a surprise some day months later when your transmitter starts telling you that you should have - there goes that DX contact you needed!

Running a station with high SWR!

Does it really matter? It all depends on how you look at it and understand what is going on in the entire station system including the antenna and all that is connected to it.

Now, assuming you have had a bit of time to look at the chart above, let us consider what difference it would make on the receive end, (the DX station), if we compared two identical stations at your QTH that could be switched back and forth, the first station with a 1:1 swr and the second station having a 5:1 swr. These readings are at the station end of the feedline.

Looking at the chart you will notice under the 5:1 swr section that the station loses almost HALF of it's output power due to the transceiver "cutting back" power for protection, or from 100 watts to about 52 watts out to the antenna system....reducing from 100 watts to about 52 watts is about a 3db loss in signal strength - only barely enough to notice on the S meter with the DX station! The DX station can not hear the difference, he can only see it on the S meter. In voice communications, it's what you HEAR that tells the story.

Now don't misunderstand, we are not telling you it is OK to run your station like that with a high swr at the station end of the antenna system. This is just to show you that having a high swr is not all that terrible when it comes to actual signal comparisons!

The proof is in the db loss if we are assuming that most S meters increase 1 S unit for a 6db change in signal strength which is the same as a multiplying by 4 times the power output at the transmitter. In this high SWR example above, we are cutting the output from the transmitter to the antenna by about half, from 100 watts to about 52.

Another example would be to consider two identical stations sitting side by side. One is running 100 watts with a 6:1 swr and the other station is running 200 watts with a 10:1 swr. By looking at the chart, there is only 15 watts difference between their output power even though one station is running 100 watts more than the other. The DX station could not tell the 15 watts difference between the two! The higher power station is actually only getting about 60 watts from his transmitter while the lower power station is getting about 45 watts from his transmitter. So that's only about 15 watts difference between the two stations! That's not enough difference to make a difference! The higher power station would have to run at about 600 watts out of his transmitter assuming the same 10:1 swr to get about 1 S unit higher reading over the lower power station.

So the bottom line here is that the higher the swr ratio is to (1), the less output to the antenna system due to transmitter power reduction.

When you add to this fact what is actually going on AT THE ANTENNA after the signal goes thru that feedline, you may be horrified!

That perfect 1:1 reading at the transmitter may translate to a horrible reading where it really counts... at the antenna!

ITEMS FOR SALE

The following information is perhaps a bit old now so I don't know what is still unsold

FT 897D @ £550
FC30 ATU @ £150
30 amp PSU @ £50
2m/70cms Colinear Aerial @ £25
42 foot telescopic mast @ £150
Antron 99 @ "£20
Handheld Frequency Meter @ £20
Duplexor @ £15
Various switch box's @ offers
VC300M ATU @£50
Dummy Load @ £15
SX-20 SWR/Power Meter @ £40
Books @ offers
Various plugs et errata @ offers.

Any interest please call Sandy on 07526 674979

SOME FINAL HUMOUR !!

Many thanks to Dave MOJAP for the following :-

For those of you who watch what you eat, here's the final word on nutrition and health.

1. The Japanese eat very little fat and suffer fewer heart attacks than the English.
2. The Mexicans eat a lot of fat and suffer fewer heart attacks than the English.
3. The Chinese drink very little red wine and suffer fewer heart attacks than the English.
4. The Italians drink a lot of red wine and suffer fewer heart attacks than the English.
- 5.. The Germans drink a lot of beers and eat lots of sausages and fats and suffer fewer heart attacks than the English.

CONCLUSION - Eat and drink what you like.
Speaking English is apparently what kills you !!!

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.

Enjoy the read

Terry (G4CHD)