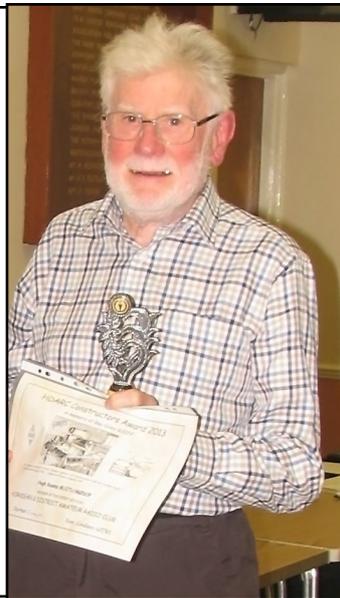


# Horndean & District Amateur Radio Club Journal

Volume 3

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*April & May 2018*



**Hugh M1ETU RIP Jan 2018**

Horndean & District Amateur Radio Club  
Founded in 1975

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Articles, letters of interest, photographs are always needed and should be sent to the Editor :- Sean Grant 51 Winchfield Crescent Havant PO9 3SR Tel : 07429639890 & Email : M3SGO@Hotmail.co.uk

It would be appreciated if submitting typed script that it is of good quality bold lettering. This allows me to scan it in direct. Saving me time retyping. Copper plate handwriting most acceptable. I use Microsoft Publisher 2013 to produce the journal so am happy to accept articles/photographs on a CD providing it is compatible and can be read in Word. If you require the material to be returned please enclose a SAE. Opinions expressed in the journal are not necessarily those of the HDARC. The editor has the right to reproduce the articles for our affiliated club journals/newsletters. The Editor decision is always final.

**Closing date for next journal is : 3rd of May 2018**

**Editorial**

Hiya Folks

I have some sad news. I'm sure most club members will be aware, but for them who pass the journal on to other clubs, Hugh Rooms M1ETU passed away on the 14th January and he will be sadly missed.



Also I can report that Ken our chairman has had his long-awaited operation and now is in recovery so I would like to wish him the best. Also Ralph 2E0HES is recovering from a hospital stay, so wish you all the best too.

I would like to congratulate Neil our membership Secretary on his new call sign 2E0LNX and wish him good luck with his full licence training. Congratulations also to Phill, now 2E0PGJ.

Well folks, Easter is nearly here and although we have had bad weather hopefully there will be some sunshine so we can get out and play radio. Also I'm sure you all know there is plenty of work up at the fort that needs completing, so please can you let the committee know if you're available to help.

Also I'm desperate for articles; although many of you have supported the journal over the years it has been going and as you're aware I'm leaving as the journal editor on my 50th issue, the club still needs articles to keep the journal going. Currently Mike M0ZDZ is training to take over and I hope with the club support the journal will stay for many years to come.

Anyway that's me until next time

73, Sean M0XAN

Journal Editor HDARC

## The Mike Matthews CW Award



At the club meeting on February 16th, John MØHTE (on the right in the photo above) was presented with the Mike Matthews Award by awards manager Stuart GØFYX. Many of you might be unfamiliar with this HDARC award, so **reproduced on the next page are the rules for the award**. Please send your entries to Stuart GØFYX, the club's awards manager, contact details on club committee page.

## **Rules for the Mike Matthews Award**

1. Only fully paid-up members of the Horndean & District ARC (HDARC) are eligible to submit an application for this award.
2. The award is available to be won twice-yearly; the qualifying periods in which contacts are to be made, are August 1st to January 31st or February 1st to July 31st.
3. Applications should be sent by February 10th or August 10th, to the club award manager. There is no charge for the award.
4. A log extract showing the date, time, station contacted, reports sent and received, is all that is required. All contacts must have been made using hand-generated CW. No QSL cards needed.
5. Fifty (50) different stations must have been contacted, of which at least 5 must be HDARC members at the time of the contact.
6. In the event of more than one application being received that meets the above criteria, a tie situation will be resolved by the award manager or an officer of the club. This will take into consideration firstly, the greatest number of club members contacted, secondly the greatest number of different bands used, and thirdly by any other means at the discretion of the award manager or an officer of the club.
7. The winner will be able to keep the award, until such time as it is awarded to another person. No person can submit an application for the award in two consecutive time periods. The award remains ultimately the property of HDARC.
8. Contacting the club station G4FBS or its variants (e.g. GX4FBS/P), or any special event station organised and run by HDARC, will count for two member contacts.

## **2018 SOCIALS**

The 2018 calendar of social activities is well under way with the annual skittles evening booked for Friday 27<sup>th</sup> April from 18.30hrs.

The evening will be fun packed and includes a main meal served at approximately 20.30hrs. If however, you're attending soon after leaving work etc you can complement the main meal by pre-ordering a pudding. Prices for pudding are optional and shown on the menu but must be booked at the same time you place your order.

Booking forms are now available, so to guarantee your place/s please book and make payments ASAP. Numbers attending are limited to 45 under the terms of the New Management and the non refundable deposit has already been paid to confirm our booking based on this number. The HDARC do not restrict this venue to members only, we welcome family and/or friends and from past years all have had a great time.

These social events are also a good way for mixing the hobby of Amateur Radio with those guests or XYL's to share time together. Apart from the fun of the evening the food is good, staff are attentive, best of all there are an assortment of prizes and a raffle after. The main aim for the club's annual Skittles Night is to have a club Champion so whichever club member scores the highest at the end is deemed the winner and gets a trophy to hold for a year together with a certificate of merit which he or she keeps.

Other prizes consist of highest male and female, lowest male and female and a lucky ticket number. A raffle is also a big part of the fun evening so please, please support this and any other social venue and contact me for more details via e-mail [juliatrube@ntlworld.com](mailto:juliatrube@ntlworld.com) or at a club meeting.

Thank You,  
Julia G0IU Y

## Choosing and Using LCDs By Russell Tribe, G4SAQ



Several of our club members will have experimented with microcontrollers of various types. My favourite for many years has been the PIC range from Microchip.

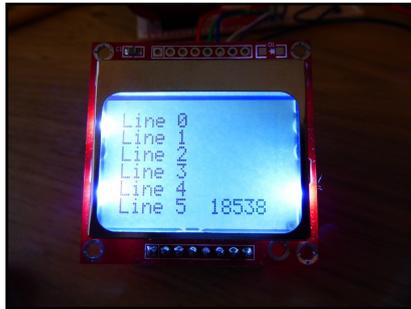
However, the Arduino boards, with their ATmega microcontrollers, have a huge following as there is a vast collection of ready-written software available for them.

For some projects it is really nice, if not essential, to have an alpha-numeric display of the type seen in the above photo. With a display like this, projects come to life. Devices like RTTY decoders, voltmeters and SWR meters become possible.

LCDs (Liquid Crystal Displays) can be divided into two main classes: the alpha-numeric display and the graphical display. As the name implies, the alpha-numeric displays are purpose built to display letters, numbers, punctuation and a range of symbols. Graphical displays are intended to display pictures, which may be static or moving. They can also display alpha-numeric data but the parent microcontroller has to do the work of 'drawing' the characters in software.

The vast majority of alpha-numeric displays are based on the industry standard Hitachi HD44780 controller chip. This is a happy situation for hobbyists as every rally has surplus examples on offer at low prices (circa £5) and mostly, you can use standard code to get them working. I should point out that there are a few odd types on offer which can be impossible to use as their protocols do not match those of the Hitachi controller. Sadly, it is not easy to identify these odd types but normally there is not much money at risk!

There are a great many types of graphic display but the one I favour and which I shall cover in this article was intended for the Nokia 5110 phone. These are available, mounted on a PCB, with backlighting, for as little as £1.48, incl. postage, on Ebay.



The Nokia 5110 display

So, how does one choose a display? Well, personal preference plays a big part but setting that aside, there are issues of how many lines you require and how many characters on each line. The Hitachi-based displays come in varieties of 1 to 4 lines and usually have either 16 or 20 characters per line (2x16 is very popular).

The Nokia 5110 display has (when used in alpha-numeric mode) 6 lines of 14 characters. Its screen is square and it is easy to accommodate in small project enclosures.

The technical choice is likely to be based on:

- a) the number of connections required between the display and its parent microcontroller
- b) the speed at which it can accept data – will it slow down the main code execution on the microcontroller to an unacceptable extent?
- c) The operating voltage. Most Hitachi-based displays are 5 volt whereas the Nokia is 3.3 volt.

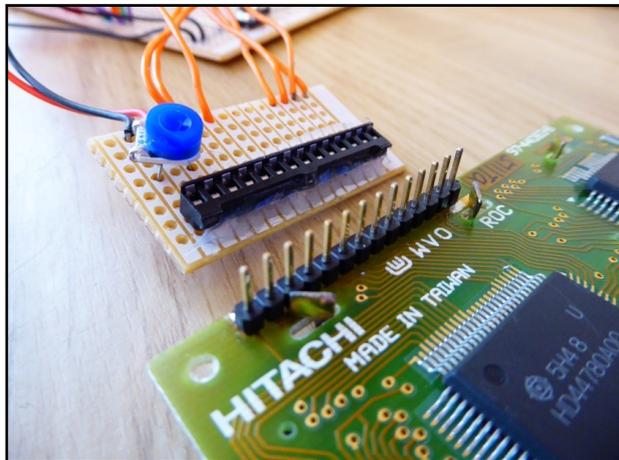
The Hitachi-based displays have a parallel data interface. They can be operated with either 4 or 8 data lines. They also require up to 3 control lines from the microcontroller. The absolute minimum requirement for connection to the microcontroller is for 4 data lines and 2 control lines, making a total of 6.

These Hitachi-based displays can be operated by allowing a delay between each data byte that is sent or by reading a 'busy' flag. As might be presumed, reading the 'busy' flag makes for faster operation but at the cost of an extra data line and increased code complexity.

In contrast, the Nokia 5110 display has a Serial Peripheral Interface (SPI). It requires 4 data lines to the microcontroller. The maximum quoted speed for the Nokia SPI is 4MHz. I have run them at twice this speed but I do not know how long they would survive!

As mentioned earlier, the code required to drive the Nokia display in alpha-numeric mode is lengthier than that for the Hitachi-based displays and the operating speed is slower. Nevertheless, I have had success with a mixture of simple moving graphics and text.

A word of advice: when experimenting with any of these displays I have found it unwise to solder wires directly to them. The inevitable shuffling around on a workbench tends to dislodge the PCB tracks. A much better solution is to solder header pins onto your display and to make a simple connector using sawn-up IC sockets. The picture explains.



One rainy day I decided to conduct a set of objective tests to compare the different displays. I used a PIC16F1459 microcontroller with its instruction clock running at 4MHz (ie a 16Mhz oscillator). This executes 4 million instructions/second (4MIPS).

It also facilitates an SPI speed of 4MHz (maximum for the Nokia). I set up a timer on the PIC to accurately measure a range of actions on the different displays and configurations. Below is a table of my test results.

As might have been expected, the Hitachi-based display with 8 bit

REVIEW OF LCDs					
	Alphanumeric 16 char x 2 lines etc (Hitachi HD44780 controller)				Nokia 5110 module
Interface	4 bit parallel		8 bit parallel		SPI
Sub cat	De- lays	Busy Flag	De- lays	Busy Flag	@ 4Mhz
Number of PIC pins needed	6	7	10	11	4
	Number of cycles (0.25µs each)				
putbLCD ('x')	210	110-240	177	64-169	498
LCDcursor (1,0)	245	146-224	212	100-188	71
putsLCD("This is my \n test ")	3699	3504- 3608	3171	2350- 2483	7383
clearLCD ()	8220	120-198	8187	74-196	22513
(4 line display only) Line 0 Line 1 Line 2 Line 3	6280	6287- 6547	5470	4500- 4568	11811
Number of program words	747	816	714	761	1156

Measurements made on PIC16F1459 with 16Mhz  
clock

Therefore, 4Mhz instruction clock. (4MIPS. Tcy =  
0.25µs)

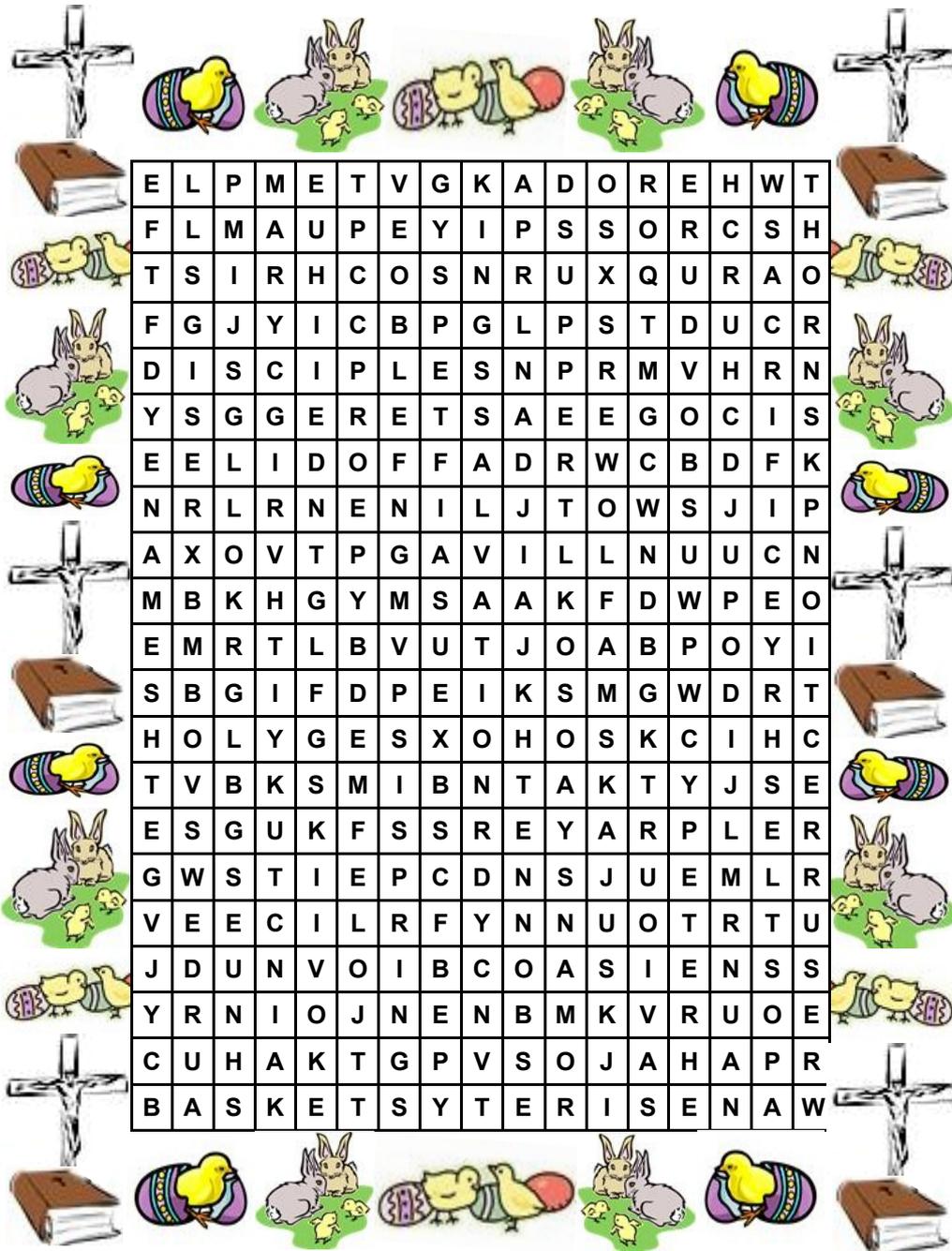
interface and reading of the 'busy' flag was fastest but at the cost of 11 microcontroller pins to drive it. The Nokia display with its SPI connection was slowest but with only 4 microcontroller pins needed. The choice, dear reader, is yours! If anyone would like my 'C' code (XC8 compiler) for any or all of the configurations, I am happy to make it freely available.

**Easter Word Search**  
by Julia GOIUY

List of words to be found

Word	Col	Row	Word Direction	Word	Col	Row	Word Direction
CRUCIFIX			1	RESURRECTION			23
GETHSEMANE			2	RISEN			24
HEROD			3	ROMANS			25
JUDAS			4	SACRIFICE			26
SUPPER			5	SALVATION			27
LINEN			6	SAVIOUR			28
MARY			7	THORNS			29
PETER			8	KINGS			30
ROBE			9	CHURCH			31
STONE			10	BASKETS			32
TEMPLE			11	CHICKS			33
VEIL			12	CHOCOLATES			34
LILY			13	SPRING			35
PRAYERS			14	DAFFODIL			36
APOSTLES			15	BONNET			37
CHRIST			16	EASTEREGG			38
CROSS			17	BUNNIES			39
FLOWERS			18	TOMB			40
CROWN			19	DISCIPLES			41
HOLY			20				
JESUS			21				
LAMB			22				

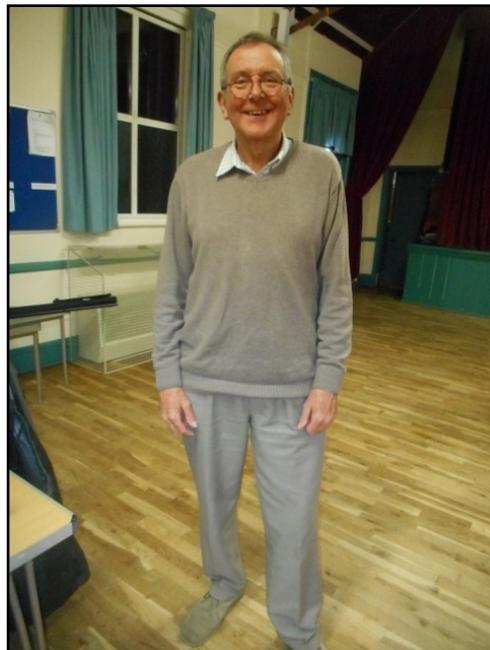
The answers will be in the next edition of the Journal



## Portsmouth: Harlots, Dung and Glory Part 3

At the club meeting on February 16th, local historian Andrew Negus, once again visited the club to give a continuation presentation on the history of Portsmouth, this time from about 1850 to 1930, and titled 'Into the modern world'. This is a very brief account of his talk, and I am very grateful to Andrew for allowing me to use his slides to refresh my memory of the talk details. Thanks to Mick G3LIK for this photo; text by Stuart G0FYX

Andrew started off by showing a world map, with the British Empire possessions coloured red. At this time Portsmouth Dockyard was the largest factory complex in the world, employing 4000 people. Portsmouth consisted of four towns, Landport, Portsea, (Old) Portsmouth, and Southsea, with a total population of 71000. For many, this meant poverty, squalor and cholera, and appalling living conditions. But in 30 years from now, people will be healthier and wealthier, and the dockyard will be huge. How?



The first major event was the building of HMS Warrior in 1860, which brought into use a new way of building ships. Anchors and anchor chains were manufactured in the dockyard to fit out the new ships.

The second occurrence was the building of the Eastney pumping station sewage works, built in 1870. This event meant that there was now a way of improving the health of the residents of Portsmouth.

The third industrial development between 1870 and 1890 was the large number of corset-making factories that became established in Portsmouth. At one time there were about twenty premises carrying out the trade. The skilled machinists probably learnt their trade in the dockyard, and the wives of sailors and dockyard workers were a source of cheap labour.

The Navy was also getting involved in new areas of work such as underwater weapons such as mines and torpedoes. HMS Vernon, the underwater warfare school, was opened in 1876, named after Admiral Vernon a renowned 18th

century naval figure. The origin of the name "grog" for rum diluted with water is attributed to Vernon.

He was known for wearing coats made of grogram cloth, earning him the nickname of Old Grog, which in turn came to mean diluted rum. He was also, at one time, an MP, voicing strongly on naval matters. Horsea Islands, at the top of Portsmouth Harbour, were used as a torpedo run test facility. Whale Island, also in Portsmouth Harbour, was transformed from a small piece of land into a much larger mass between 1860 and 1870, and was home to HMS Excellent, the RN gunnery school.

Andrew then mentioned several prominent Pompey residents of this era. First was Aggie Weston, who in 1876, established the famous Aggie Weston Royal Sailors' Rest, two in Plymouth and the one in Edinburgh Road, Portsmouth. Aggie was a philanthropist, and a caring and Christian woman, who offered sailors a place to go, rather than roam the streets and frequent pubs. She was made a Dame for her work with the Royal Navy, and died in 1918. She was given a full ceremonial Royal Navy funeral at Devonport.



Next, Andrew told us about Sarah Robinson. Born in 1834, in Surrey, and was an advocate of the Temperance movement (as Aggie Weston had been). Travelling all over the country, visiting barracks to spread the Temperance movement message, in 1864 she settled on Portsmouth as her base. She opened the Soldier's Institute in High Street, Portsmouth on September 10th 1874. She died in 1921 at her (then) home at Burley in the New Forest. It was reported that "Her success was due not only to her loyalty to and concern for the reputation of the British army as a creditable institution, but to her ability to handle the subject of temperance with discretion and sensitivity. Through the influence of the philanthropic endeavours of temperance workers such as Sarah Robinson, army authorities began to assume a greater level of responsibility for the moral welfare of their troops and to undertake the general reform of the recreational habits of servicemen".

In 1880 the railways had well and truly arrived in Portsmouth, with stations at Fratton, Town and Harbour. It was now possible for the railway to cross the previous defence fortifications barrier around Old Portsmouth, and position a station at the 'Harbour'. Around this time, a short-lived branch to Southsea was also built from Fratton. It followed the curve in Francis Avenue, with a station at East Southsea, near the top of Festing Road. Very little of the project remains.

Andrew then discussed more of Portsmouth's famous residents. First, Sir Arthur Conan Doyle, the author of the Sherlock Holmes stories, and also HG Wells. Next was William Wyllie, the renowned maritime artist. His 'Battle of Trafalgar' painting hangs in the Royal Naval Museum in the Dockyard. From 1906, when he moved to Portsmouth, he became closely associated with the Royal Navy. So much so, that he was buried with full naval honours in 1931. In a moving ceremony, reminiscent of Nelson's state funeral in 1806, his body was rowed up Portsmouth Harbour in a naval cutter past battleships with dipped colours and bugles calling and quaysides lined with dockyard workers. He is buried in the grounds of Portchester Castle.

Kingston prison was built in 1874, and is now closed, with the building awaiting a new purpose. Schools were built, and the refounded Portsmouth Grammar School, built in 1875, was mentioned. Hospitals were also being built, and 'St James Lunatic Asylum' was opened in 1879. With the emergence of Southsea as a resort, hotels, such as the Queens Hotel were built. To cater for entertainment needs, the Kings Theatre and the Theatre Royal, among others were opened. Andrew talked about St Mary's church, and the dramatic reconstruction that took place in 1889, transforming the much smaller building into the magnificent building we see today. St Agatha's church was shown. It was built in 1894 for the Anglo-Catholic priest, Fr Robert Dolling. The nave apse contains a magnificent plaster mural, and worth seeing. In 1873, the Portsea Island Mutual Co-operative Society (PIMCO) was formed. Remember divi books? Some can still remember their Co-op number. The Guildhall was built in 1890, designed by the same architect, William Hill, who had designed Bolton Town Hall. The Power Station at the Camber, with its once iconic landmark chimneys, supplied electricity to Portsmouth. This area has changed considerably over the years. Another social introduction was the formation of Portsmouth Football Club (PFC) in 1898.

By 1890, the population of Portsmouth had grown to 140,000 with 7,000 dockyard workers. Outside of the main housing areas mentioned previously, other areas such as Milton, Copnor and Hilsea were still just villages.

A world map of 1890 was shown with the 'red' areas occupying a larger number of far-flung locations. The era of the British Empire.

Andrew spoke about Queen Victoria, and her involvement with Portsmouth.

This would have been primarily her visits to Portsmouth en-route to her home at Osborne House on the IOW. In 1897 Victoria celebrated her diamond jubilee. She was then Empress of India, and Britain ruled the waves. The Fleet review that year was Portsmouth's glory. The field gun carriage that carried Queen Victoria's coffin to her funeral in Windsor via London is preserved at the HMS Excellent museum on Whale Island (only open by special request). Incidentally this same carriage was used at the funerals of King Edward VII, King George V, King George VI, Sir Winston Churchill, and Admiral of the Fleet Lord Louis Mountbatten.

With First World War clouds on the horizon, HMS Dreadnought was launched in Portsmouth 1906. She was of a revolutionary design, and copied by many nations afterwards. During the war, there were 15,000 dockyard workers, looking after 1000 ships. In the Battle of Jutland 500 lost their lives, mostly Pompey sailors. Hertha Ayrton was mentioned. She was born in Portsmouth in 1854, and became a brilliant mathematician and electrical engineer. Andrew also spoke briefly about the Schneider trophy air races (the Supermarine S6B forming the basis for the Spitfire), Portsmouth Racecourse, Peter Sellers, Haslar Naval Hospital, HMS Vernon (now Gunwharf Quays), Wymering estate, and the Mudlarkers. Now at 1930, part 4 will continue the story. See you in 2019!



## **The Radio Amateur.**

Ask most people of our vintage "What is a radio amateur" and it's a fair bet that the answer will contain a reference to Tony Hancock, and what a delightful programme "The Radio Amateur" was.

Amateur radio as a hobby is as old as radio itself, and since there were no radio professionals in the beginning it is arguable that Henry Jackson was the first Radio Amateur. You will note that I did not say Marconi. Who was Henry Jackson? Would you believe that he became an Admiral of the Fleet?

Henry Jackson joined the Royal Navy as a cadet in 1868. He became a torpedo specialist which gave him a good introduction in to electrical engineering which qualified him as an associate of Telegraph Engineers (IEE). In 1895, as a Captain, he was appointed in command of the Torpedo Training Ship, HMS Defiance, an old wooden hulk moored at Devonport. Jackson had been fascinated with the discovery of electro magnetic waves by the German scientist Hertz and thought they might have potential as a system of signalling over long distances. Whilst in command of Defiance he seized the opportunity to extend his research into the generation and detection of electro magnetic waves and succeeded in sending Morse code over a distance of 50 yards from one end of the ship to the other in August 1895. He was totally unaware that at roughly the same time Marconi was engaged in similar research in Italy. Marconi had sought the financial assistance of his Government to support his experiments, but was refused. He then decided to come to England in 1896 to try his luck here. On arrival, to safeguard his work, he took out a patent in June 1896.

Had their Lordships been quicker on the uptake a similar patent could have been taken out on the basis of Jackson's achievements in HMS Defiance nearly a year earlier. Had that been so then it would have gone down in history as Jackson being the inventor of radio and not Marconi. Jackson in would appear bore no malice or ill feeling about the way things had happened and he and Marconi became great friends and collaborators.

In June 1897 Jackson, by his own experiments had demonstrated to the higher echelons of the Navy that operations by wireless telegraphy between units of the Fleet was not only feasible but would bring about huge benefits in tactical and strategic use. However, the Navy being what it was, and it has never changed, sent him off for two years as Naval Attaché to Paris. This separated him from his wireless interests whilst Marconi forged ahead with his, but still with Jackson supporting him from Paris.

Returning home on completion of his tour of duty, he was given command of HMS JUNO, which, with two other ships was fitted with wireless apparatus. They were sent on exercises against the rest of the Fleet to test the value of wireless communications.

They won hands down. Wireless telegraphy had arrived and ordering as well as fitting of equipment and training of operators now began. In 1901 Jackson was elected a Fellow of the Royal Society (FRS) the highest scientific honour. He went on to become First Sea Lord and retired to Hayling Island in 1920. He continued to operate as an amateur radio licensee until his death. During his retirement he took up the post as President of the Radio Society of Great Britain (RSGB), which is the National Society that represents all UK radio amateurs. Today the patron of the RSGB is the Duke of Edinburgh. KG.KT.

In recent times other famous amateur radio operators have included King Hussain, Said Al-Said, Sultan of Oman, Juan Carlos, King of Spain, the Presidents of Argentina, Italy and Nicaragua, actor's Lord Rix and Stewart Granger and for good measure Helen Sharman the first British astronaut. There are more than 60,000 radio amateurs in the UK and two million world wide.

Amateur radio should never be confused with Citizens Band radio which allows any unqualified member of the public to chat to friends over short distances using low power equipment on very limited frequencies. It should also not be confused with eavesdropping into the commercial uses of radio. The most famous case of this was the "Diana tapes". Unfortunately the Press always refer to anything concerning radio activities, such as the tapes mention, that is not commercial, as being carried out by "radio hams". The term "ham" originated in the States. The American habit of sticking a very aspirant 'H' on what they call 'swanky talk', together with the shortening of words, resulted in members of the amateur theatre, with their propensity to overact, truncate words, and adopt a posh accent, became known as Hamateurs and with the usual shortening of words it became HAM, for actors who went 'over the top' with their performances. Thus Ham is now an accepted term used in lieu of anything amateur, and not only in the theatre

Radio amateurs are the only users of the radio spectrum who are permitted to build their own transmitters. This is because they are exam-qualified. I am not sure how long this will continue as in the past the examination was a City & Guilds qualification when the concession was given. Whether under the new system of issuing licences this will be allowed to continue, only time will tell. Most amateur radio stations have a mix of home-built gear and commercial equipment. (This is slowly changing due to "black box" syndrome.)

In the 1920's amateurs were allowed to use frequencies that were thought to be unusable or of little value commercially. We all have a lot to be grateful for as it was these pioneering amateurs who, through their efforts and experimentation, opened up the air waves to what we know them today. Nowadays the BBC's overseas service is the envy of the world of broadcasting.

However, the origin of short wave broadcasts belongs to Gerald Marcuse, a licenced amateur, who started his wireless experiments before World War 1.

He first came to the notice of his contemporaries when he maintained contact with the Royal Geographical Expedition in Brazil from his home in Sussex. A remarkable achievement in the 1920's. His early work was carried out using CW.(Morse), but he soon became interested in the value of broadcasting speech and music overseas. He obtained a special licence from the then GPO to experiment on these lines. He was soon to be heard all over the world on 32.5 metres. He called his transmissions the "Empire broadcasting service". Having proved to all that it was possible to transmit across the world, it had never been done commercially, the Government stepped in and closed him down removing that part of the radio spectrum from amateur use. The right to this frequency was handed over to the BBC, and hence the Overseas Service. Amateurs were also banned from transmitting music and other regulations were introduced.

Anyone who passes along the South Coast in the future should go into the church yard at Bosham. There is a plaque there in his memory. (Inside the Church is also the tomb of Canute's daughter. He never did get the tide to stay out!) There is also a lot of the equipment, which Marcuse used, preserved at the Amberley Museum, in Sussex. Each year the Chichester Amateur Radio Club used to obtain a special broadcasting license to work the world over a weekend, usually in July to remind people of his great contribution to radio broadcasting.

In 1932 the RSGB contacted the armed services and suggested that it might be prudent for them to develop volunteer reserves of radio amateurs as they would benefit enormously from this body of trained operators. The Royal Navy responded immediately and formed the Royal Naval Wireless Auxiliary Reserves. The Royal Air Force finally responded in 1938 and formed the Civilian Wireless Reserve: the Army never did get round to it. Hence when war broke out the Navy and RAF was well placed to immediately expand their communication ranks with these trained operators who had already been indoctrinated into service requirements.

The BBC recently produced a series on Bletchley Park and in it they showed how the enigma codes were broken. What was not shown was that all radio transmissions originated by the Germans were constantly monitored. This was a huge task and here again the radio amateur was used. At the start of WW2 there were some 4000 amateur licences issued in this country. Many, as previously explained, had offered their services to the Reserves and were obviously some of the first to be called up. Many were retired or in reserved occupations. Lord Sandhurst, who was in fact a radio amateur, was given the task by Churchill to set up the radio monitoring service to listen to all enemy broadcasts. He immediately recruited all available amateurs not in the services, as Voluntary Interceptors. (V.I's). Like the Bletchley Park personnel they were required to sign the Secrets Act and were committed to secrecy for life.

The advantage of this system was that they were spread the length and breadth of the UK. Radio propagation being fickle meant quite often signals could be

read in London but possibly not in Cardiff or Glasgow etc.

With the V.I's being so wide spread it meant that a signal would always be read regardless of the conditions.

Those V.I's in reserved occupations would, on returning home from the days toil, retire to their radio room and spend several hours of day/night listening and logging all signals heard. These would then be sent to Box 25 Barnet, a collecting point for Bletchley Park. There was a security problem for the V.I, everybody was doing their extra bit in some way or other, neighbours wanted to know why they were not in the Home Guard or doing something like Wardens or fire watching at night. In some cases their employers' were suspicious. In one known case a V.I. was marched off at revolver point to the local army camp as Morse signals had been heard coming from his house. In such cases Box 25 in Barnet had to be contacted to smooth the waters.

Radio amateurs are frequently called upon to assist in times of disaster. Their compact and simple equipment is frequently more flexible in an emergency than today's complex commercial gear. Help has been provided at earthquake sites, train disasters, plane crashes, the list is endless. During the Falklands war amateurs on the Island were in constant touch with their friends in England and passed on much vital information. Amateurs in this country at that time had direct phone contact with the War Office so that information could be passed both ways. Later in Bosnia, and Yugoslavia, amateurs quite often provide the only communications to and from some of the besieged towns as well as passing information to the outside world.

Amateurs were the first to bounce signals off the moon and have designed and built 25 communication satellites. Astronauts and cosmonauts, including our own Helen Sharman, frequently operate amateur radio stations from space. Many schools, aided by radio amateurs, have been able to talk directly to space using amateur gear.

On a personal note I first became licenced as a "ham" in 1969. I had dabbled in that area several years before but had never taken my City & Guilds although I had held a licence in the Far East and the West Indies, What made me take the plunge was my enforced 2-year "commission" confined to a bed at Haslar hospital. Near the end of my first year there I was informed that the very best I could hope for was a permanent seat in a wheelchair. On receiving this news I began to consider what my options were now that it appeared all active leisure pursuits would be out of my reach. It was then I thought of amateur radio. An ideal hobby. I could sit in my wheel chair and work the world, meeting all sorts of interesting people, letting my mind wander across the airwaves and forgetting my disability. I wrote off to the RSGB and asked them to supply me with all the information on how I could obtain my licence. They sent me a wealth of information and also supplied me with the books I would need for my studies.

When I had prepared myself to the standard required to sit the City & Guilds they arranged special dispensation for me to take the exam from my hospital bed. Being a resilient sea going officer of course I beat the system and finally, after two years, was able to walk out and get back to normal fitness. However, I was now a fully qualified radio amateur with an A licence. My only regret was that I had not done it years before. For the remainder of my time at sea I never went anywhere in the world without an amateur waiting for me on the jetty. I would always work the next port of call and make this arrangement. On arrival I would be taken home, entertained, and given full use of that person's radio equipment. Two things would now happen. Firstly I would call up a near neighbour of mine, a fellow amateur, and tell him where I was etc. He would give my wife a call so that we could update each other on the latest news: much better than letters and far more personal. Then I would put out a call to the next port the ship was calling at to fix up similar arrangements there. It never failed. In the same way of course I extended the same facilities to fellow amateurs from all over the world .... and still do.

One of the great joys of amateur radio when in touch with another is the use of Christian names only throughout the contact. You never know who you are talking to, it could be a King or a road sweeper. The only way you can establish who the owner of the call is to look the details up in the International Call book. ( Not now unfortunately as many withhold their information, not in my opinion the true amateur spirit.) Two incidents stand out in my mind as an example of this: I was travelling through London by car and got hopelessly lost. Putting a call out on my radio( A.M using a Codar AT5 ....them were the days!) I was answered by a man who told me his name was Brian. He patiently talked me through London, intermixed with general chat of interest to us both.. It was not until sometime later that I decided to look his call sign up in the book. It turned out to be Lord Rix, the actor. At no time did we ever discuss our professions as it was of little interest at the time. On another occasion I had regularly worked a fellow amateur who lived just south of Banbury. Our contacts were always made using CW. (Morse). I happened to mention on one occasion that I was motoring up to see my parents in Rugby which meant passing through Banbury.

He invited me to call in on him on the way and told me he was in one of the Lord Cheshire Homes. On arrival at the reception I was taken into his room and was amazed to see him in an iron lung. He worked his Morse key with one of his toes. Local amateurs had rigged up all his equipment so that he could still go on air despite his obvious restrictions. At no time in my many contacts with him had he mentioned his disabilities. He told me whilst I was there that amateur radio had kept him sane as he could "talk" to the world and quite often imagine he was there when others described their surroundings.

That really was a moving occasion. Amateur radio is a wonderful world and its members are some of the most friendly that it's been my fortune to meet. I have often thought that if the world was run by Radio Amateurs it would be a very peaceful place.

An example of this friendship extended by amateurs to each other took place some years back. It was my routine on leaving RNB Portsmouth to operate "mobile" from the car on the journey home to Horndean. It quickly began a routine to talk to a German amateur who was travelling to his home at the same time in Hamburg. Our journeys coincided in time and distance. On one occasion he mentioned that the audio of my transmitter was becoming intermittent. I knew that would be caused by the output valve becoming soft and mentioned the type that I was using, saying I would have to purchase a new one as I did not have a spare. On arriving home my wife handed me a package and said " one of your ham friends has just left this for you". On opening the package it was the valve I needed with a quick note telling me he had been listening to my conversation and knew I needed it. Needless to say I rang him up as he lived about a mile from me and thanked him. There was no question of payment as it is quite normal to help each other that way when only small items are concerned. On that point, if you are thinking of taking up this superb hobby, join your local radio club and get to know your local amateurs, they will be more than keen to help you in your quest to get a licence. Some clubs even run the necessary classes for you to become licenced. Quite a lot of clubs even have radio equipment they lend you until you decide what you need for yourself. No. You're never too old to take up the hobby but you must be prepared to put your head in the books again. Locally here I recently met a gentleman who was 84 and he told me he was waiting for his exam results. I have since heard he passed with distinction with flying colours.

So, whilst you now go and bore yourself in the garden counting weeds I am off to have a chat with a friend of mine in South Africa , CW of course, and no phone bills to pay .....makes you sick, doesn't it!!!

**Doug G4BEQ.**

*I wrote this article some time ago so some comments may now be out of date.*

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### Club Clothing

**Sweatshirts    Polo-Shirts    T-Shirts    Fleeces**  
**Sizes:** Small = 36 - 38" - Medium = 38 - 40" - Large = 40 - 42" - XL = 42 - 44"

Available with club logo only or logo, name & callsign

**Cap - One Size only:** with adjustable strap - Stitching in Yellow

Available with callsign only or callsign and/or name

Some items available in various colours, see **Stuart G0FYX** for details

## Signal Generator.

By Doug G4BEQ.

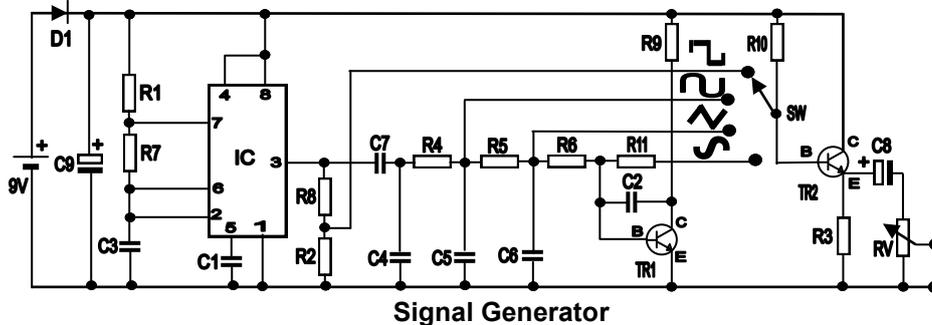
*My simple sig gen that I had made up some while ago when I needed to do some tests that I was carrying out. I make no claim to its originality as I built it to circuit supplied to me by Doug G3GVC. I think he had it from some publication or book.*

*Doug was my friend and mentor and it would be true to say he taught me all I know about construction of amateur radio equipment. The long serving members will remember Doug well for his lectures on antennas and other technical subjects, apart from all his good advice and repairs of equipment he did for many members. He was a mine of information and I never saw him ever stuck for a solution no matter how complex the problem was. I think it would be true to say that all of us at that time were very sad at his passing over the bar. That is a nautical expression for a silent key for any one who might be puzzled at the expression.*

*I am not sure where the original circuit was published so am unable to make the appropriate acknowledgements.*

*The signal output can be one of the following: Sine Wave, Triangle, Square Wave or Integrator depending upon the position of the switch. It has a fixed frequency of around 1 KHz and the output level can be varied from near zero to approximately 200mV. rms. This is done by the pot RV.*

*The method of construction I used was to make up a printed circuit board but you could just as easily build it "ugly style" or on Vero board.*



### Component Values.

Resistors  
R1, R2, R3, 1K.  
R4, R5, R6, 10K.  
R7 15K.  
R8 4K7.  
R9, R10, 100K.  
R11, 1M.  
RV 47K

Capacitors  
C1, C2, 10n.  
C3, C4, C5, C6, 47n.  
C7, 100n.  
C8, C9, Elec. 1 micro farad.  
Diode 1N4007.  
IC timer 555.  
Transistors BC 547B or equivalent.

Power Supply 9Volts

## **Christmas 2018**

As many of you are aware, the Southwick Park Golf Club is under new management. Over a year ago, were told that sharing any of our Christmas events was always a possibility so we were lucky in 2017 that no other bookings for our date had been asked for. The overall numbers required (members & guests) have to be over a certain criteria to have its functions booked as a sole user. But as regular users, this has not been a problem in the past. I know the management are trying very hard to promote their services with regard private hire for any functions in-house etc:

Sadly for the HDARC I received a phone call from the Golf Club re our Christmas booking of Friday 14<sup>th</sup> December 19.30hrs for a 20.00hr meal to say they had received enquiries and were considering another booking for a larger party in the main area which would consist of a Disco Dance, which from the timings were exactly as our booking, so did I mind!!! This was not acceptable to me to be placed in the small skittle area and have a non noise screen across, and my group some who are disabled with wheelchairs would need to come and go through the other party's noisy area. I booked our venue a while ago to have the annual function as a quiet meal.

Like myself I could not see my guests objecting to another group sharing if it were of the same criteria. Following discussions with committee and e-mails from the regular members I am pleased to announce that due to recent circumstances beyond my control the venue has had to change.

The venue will now be held at "The Crofton" in Crofton Lane, Stubbington, PO14 3QF which is not far away from Titchfield Haven. It has its own function room and bar which we have been allocated for the evening as their criteria for numbers is far smaller as a start point. Many of our members have eaten there at different times and I can honestly say the food and vegetables is fresh. The other positive for this venue is that it has its own Skittle Alley in the Function Room which could be a good reserve should we need it.

The menu with costs won't be available till around late August or September so please put this date in your calendar now and let me know if you would like spaces reserved in advance. I understand from last year's function that costs will not be much different per head to what we would normally pay.

Thank you

Julia GOIUY

**CLUB NEWS/DIARY**    Compiled by Stuart GØFYX

**News of club members**

Further to the mention in the last issue, we are sorry to report that Hugh M1ETU/M0SOP passed away. The funeral was a private one.

Congratulations to John MØHTE who won the latest session of the Mike Matthews Award. See item in this issue.

Congratulations to our membership secretary Neil M6LPI, who has passed his Intermediate licence exam. His new callsign is 2EØLNK. Thank you to Neil also, for taking the club's Alinco DX70 HF radio for repair in East Cornwall whilst he was visiting relatives in Devon. Neil also collected the radio after repair. We will be using this radio in our special event stations this year. Congratulations also to Phill (was M6PGJ) who is now 2EØPGJ.

**Diary**

Friday April 6th Natter night/social evening

Friday April 20th Natter night/social evening.

Friday April 27th Annual Club Skittles evening. At the Southwick Park Golf Club.

Friday May 4th Natter night/social evening

Sunday May 6th SERF Rally at Eastbourne. The club has a pitch booked.

Friday May 18th Film night. We will be showing an episode of the Amateur Radio TV programme, TX Factor

**This 'n' that**

The RSGB Club Championship series of 80m contests continues. Dates are: April 2nd for CW, 11th for SSB and 26th for Data. May dates are SSB on the 7th, Data on the 16th and CW on the 24th. Would be nice to see more members taking part, and also for the Data sessions. Full rules can be found at:

<http://www.rsgbcc.org/hf/rules/2018/r80mcc.shtml>

The Club Project for 2017-8 is 'Build an antenna for any band you like'. You'll need to demonstrate that it works. Entries should be notified to the committee well before September 30th 2018, and the winner will be announced at the club AGM in October 2018. They will receive the Sid Jenkins Memorial Trophy to be retained for a year, and also receive a winners certificate.

I have copies of RadCom (the monthly journal of the RSGB) for sale. Suggest £2 per year, and proceeds go to club funds. Years available are 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, and all copies are in good clean condition. Please contact me (Stuart GØFYX [g0fyx@msn.com](mailto:g0fyx@msn.com)) if interested.

## **Horndean & District A.R.C Information.**



**Club Call signs**    *G4FBS (Held by MØKTT); G6RST (Held by G4WQZ)*

**Club Website**     <http://www.hdarc.co.uk>  
*(Maintained by Neil 2EØLNx)*

**Club Yahoo Group** *Administrator is Stuart GØFYX*

**Club Meetings**    *Held at Deverell Hall, 84 London Rd, Purbrook, Waterlooville, Hants. PO7 5JU, on the 1st and 3rd Friday of each month. Commencing at 1930.*

**Club Nets**         *All times are local and frequencies plus/minus QRM.*

**Sunday**             *0900 CW until about 0930 then SSB on 1950 kHz.  
Net controller:- Stuart GØFYX*

*2000 FM 433.450 MHz  
Net controller:- John G4WQZ*

**Monday**            *1930 SSB 1950kHz  
Net controller:- Stuart GØFYX*

**Wednesday**      *1930 FM 145.375 MHz  
Net controller:- John G4WQZ*

### **Club Membership**

*Joining fee £2 . Annual fee £26. Those aged 10-18 pay half this rate, and under 10's have free junior membership. For Europe and rest of the World fees please contact the Membership Secretary. All annual fees payable on November 1st. If fees not paid by the following January 31st, membership is ended.*

### **Club Awards**

Full details from Stuart GØFYX (details on committee page).

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K3S/10-K.....10W (Kit).....	£2299.95
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KX2.....80-10m 10W (Assembled).....	£899.95

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