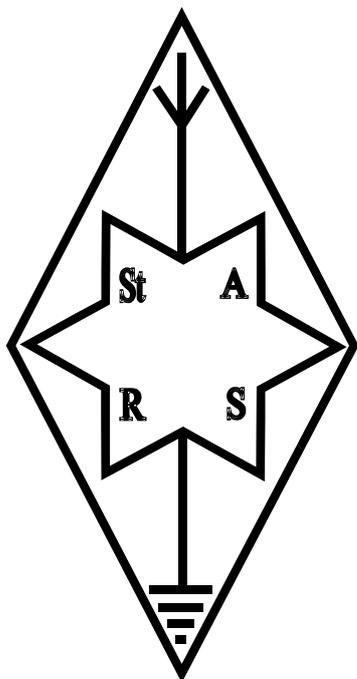


STARLITE

G6OI
1938

The Award Winning Newsletter for Members and Friends of
**Stourbridge and District
Amateur Radio Society**
incorporating
Old Swinford Hospital School Radio Club

G6SRS
1938



G4CVK

1969

**ISSUE
04/2014**



Table of Contents

AGM.....	3
SEEN ON THE INTERNET.....	3
THIS MONTH'S ISSUE.....	3
ROVING REPORTER.....	6
YOUR COMMITTEE.....	7
CALENDAR OF EVENTS.....	7

MEETINGS

Visitors always welcome
The Society holds its full meetings on the



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1st and 3rd Monday of each month at

**Old Swinford Hospital School
Heath Lane
Stourbridge
(8.00pm – 10.00pm)**

Additionally the shack is open during the same times on the intermediate Mondays

Telephone Enquiries to :-
Hon Secretary
John Clarke M1EJG
(01562) 700513

Or by e-mail to :-
honsec@g6oi.org.uk

All correspondence/enquiries should be
addressed to the Hon. Secretary :-
STARS
c/o The Mill House
21 Mill Lane
Blakedown
Kidderminster
DY10 3ND

STARS Web Site URL :-
www.g6oi.org.uk



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AGM

It was pleasing to see old and new members at the AGM. The highlights are set out below.

The main Officers of the committee remain unchanged.

The new committee (and I do mean NEW committee) consists of :-

Sean M3XMJ*, Peter*, Mark and Keith Dixon M0HPY*

Where an * indicates new members.

Along with Adrian continuing as Newsletter Editor.

The constructors competition award was presented to Sean and the G8GF Rose Bowl to Dr Alan.

The first committee meeting of the year will be on 31st March

James G7HEZ (President)

SEEN ON THE INTERNET

Thanks for the following entry which was sent in by newly re-elected club president James..

Have a look at this video, and there are some other by the same guy of a drone flight at Kidderminster - or if you don't want to click on the link, search SVR Drone on you tube

<http://www.youtube.com/watch?v=UcQd340fZUc>

If you did like I did you may end up clicking the URL and pondering how they managed to get a picture of a steam train from a helicopter without the smoke being blown away.

And then the penny dropped

THIS MONTH'S ISSUE

This month's issue of Starlite discusses "The Internet of Things" and briefly covers Radio Frequency ID tags.



Illustration 1: An example of a passive RFID tag familiar to travellers on the London Underground. Picture courtesy of tomhannen. Notice the chip and aerial around the edge of the card on this partially destroyed Oyster Card

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The Internet of Things – What's it all about?

Background

I noticed that David Cameron on his recent visit to the CeBIT trade fair in Germany has announced an extra funding of £45m to help develop the “Internet of Things”. I have come across this phrase recently and wondered what it was all about.

So what are these Things?

Every so often new ideas cause unexpected ripples. The Personal Computer, The Internet, the advent of Windowing Software and the mouse, Mobile phones, Smart phones. If the pundits are right, The Internet of Things promises to be “the next big thing”.

A lot of computer data is the result of human interaction with computers. However a large number of devices (things) are collecting data or acting as proxies. At the dumb end of the scale we have barcodes which contain data about an item. Moving up the scale we have tags containing micro chips which can be used to identify for example pets and other small items



Illustration 2: Passive RF ID tag compared to a grain of rice. Picture courtesy of Wikipedia

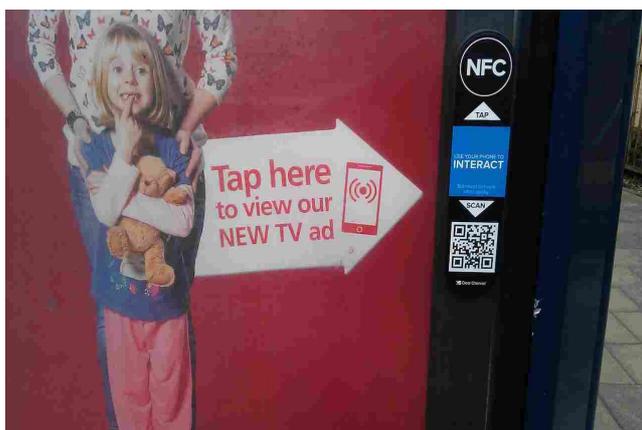


Illustration 3: Banco Santander Ad on Bus Shelter at the bottom of Mucklow Hill. Notice the NFC and Q code

Credit and bank cards with Near Field Communication (NFC) are used for low value transactions and act as substitutes for small change. NFC works at a range of 1-4 cm. and has a transfer rate of between 100-400 kbits per second.

On a more complex level Radio Frequency Identification (RFID) devices can accompany higher value products. Microchip or RFID devices divide into passive devices which have no power source and active devices which are battery powered. A common example of a passive device is a biometric passport. This holds a digitally encrypted copy of the information printed on the passport and a digital copy of the photograph that appears on the E-Passport.

Most of the above “things” can be interrogated and they do not use the internet. Instead they operate via NFC, Bluetooth and in the case of some RFID tags by modulated radio signals. The range at which these “things” can be interrogated or interacted with varies from a few centimetres in the case of NFC, to a greater range with bluetooth, to tens of metres in the case of RFID tags. Active RFID devices operate over a varied range of frequencies and with ranges from a few centimetres to up to 100 metres. As radio amateurs we share the 70 cms band with RFID transmissions. RFID devices

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also have frequency allocations in the LF, HF, VHF, UHF and SHF bands.

The Next Level of intelligence

In the days when electrical devices were made from discrete transistors implementing complex logic was relatively expensive and displays were often limited to indicator lights or seven segment displays. Later microprocessors were developed for use with more complex consumer electrical devices such as white goods (fridges etc.). Today it is common to find Unix and Windows devices under the covers in devices around (but not limited to) the house . Examples are TV, Video and home entertainment systems.

Most operating systems have a stripped down equivalent version which is intended to be used as a building block for creating solutions. This is true for most versions of Microsoft Windows and these are known as embedded systems. The version of the operating system is deliberately locked down to stop it being hacked. There are considerable advantages using embedded systems as there is already plenty of expertise and programming languages for developing windows applications. I have seen two examples of embedded systems, one was used to play a video when a passive infrared device was triggered and the other was to play a video when a button was pressed. Another common use for embedded systems would be in so-called kiosk applications. A more complicated example of a Kiosk application would be a photo booth found in most town centres for taking passport photographs. I do not know this for certain, but it would not be unreasonable for such a system to contain an embedded operating system. There are also embedded versions of Unix and more recently Android.

So back to the Internet of Things

As you may conclude from the above, “The Internet of Things” description does not currently seem a particularly helpful description. The addition of internet connectivity to allow the above devices or “things” to interact has the capability to take this to another level of sophistication. If this greater level of connectivity takes place it will have a major impact on the volume of Internet traffic. An important point to consider is that just because devices are interconnected, does not mean that they can interact with one another. As well as the interoperability issue security will be a major consideration. Current experience shows us in no uncertain terms that if devices attached to the Internet can be hacked or exploited they will be, even if it is utterly pointless to do so.

So how might it evolve? One example of the possibilities that is often given is the Smart Fridge/Freezer. If you are a bit sceptical, bear with me. Visualise, if you will a fridge that knows what its contents are. It knows what has been taken out and if any of its contents are about to go past their sell by date. It can order replacement items and be interrogated from a smart phone app. If it was a warehouse we were talking about then it would be more impressive. The Smart Fridge, I believe, is often used as a way of providing an analogy of what could be possible using everyday items that are easy for the layman (or woman more likely) to understand.

The items in the smart fridge analogy could equally apply to people in an office block, workers in a factory, guests in a hotel, inmates in a prison, books in a library, students on a campus, cars on a production line, cars on a toll road

Watch this space.

As usual any errors are mine

Adrian Bryan (G0NLA)



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ROVING REPORTER

April 2014

I was unable to attend the Wythall Radio Rally due to transport problems. I tried unsuccessfully to contact Ian G4IKP, but he was not available. My Son Andrew was working on the same Sunday otherwise I may have been at the rally, which I understand was well attended. However there is always Telford or even Norbreck Castle, which is at Blackpool 6th April. For those new to the hobby the following link gives details of upcoming events – <http://www.m0mvy.co.uk/uk-radio-rallies.html>. Even though I have additional interests in Blackpool, it is too far for a day as far as I am concerned. It is not too bad getting there, but it is coming back.

I was grateful for Mark G7EDZ for bringing me to the committee meeting on Monday 10th March. I was unable to attend the AGM due to transport problems and as a result, I am not on the committee unless I am Co-opted on. This was due to the events over the weekend which started on the Friday night at the Bonded Warehouse. I was placing the chairs out for the Jazz concert and then stacking them away at the end. On the Saturday a fellow GFS member came round for me at 07:45 and by 10:30 I was in Blackpool for the weekend meeting of the George Formby Society where I had the complete day, which included a carvery in the Tram Stop Cleveleys, which is similar to our White Horse at Xmas meal. I left Blackpool at 23:45 with another GFS member, destination Wem in Shropshire arriving there 02:15 where I stopped the night because on Sunday morning I had arranged transport with one of our committee members of the STOT. It was our organ concert at the Buttermarket Shrewsbury, not leaving there until 17:45 with transport to get me back home thanks to two of our regulars who attend the concerts who live in Stourbridge. I was busy on the Monday with house work etc, then after tea I sat down and started reading the paper and wondering how to get to the meeting. I dropped off to sleep and did not wake up until after 19:30 when it was too late to think about attending the AGM. This is what happens burning the candle at both ends at my age - approaching 80. I enjoyed the weekend.

I am delighted that the AGM went well and that a committee has been elected. Six new members have joined the society and three new members are on the committee which is great considering that other clubs or societies are struggling or even closing. In four years time it will be STARS 80th anniversary. There is a free trade exhibition at the NEC on 8th to 11th April and it is National Electronics week if any one is interested, also The Space Guard Station at Knighton which perhaps some time in the future would be worth a visit. Well that is all for now.

Best 73s from Your Roving Reporter Malcolm Palmer G8BOP and I could well be back on the committee in April.



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YOUR COMMITTEE

Hon. President	JAMES	G7HEZ	
Vice President	NICK	G6DQN	
Hon. Secretary	JOHN	M1EJG	(01562) 700513
Hon. Treasurer	JOHN	G8UAE	
Committee Members	MARK	G7EDZ	
	MALCOLM	G8BOP	
	KELVIN	M6KTR	
	ANDREW	M6APJ	
	ADRIAN Sims	2E0HBA	
	ADRIAN Bryan	G0NLA	

CALENDAR OF EVENTS

It should be noted that the Shack will be open every Monday evening unless shown otherwise in the Calendar

April	Mon 7th	Open Shack Night - Or on air natter
	Mon 14th	Open Shack Night - Or on air natter
	Mon 21st	No Meeting - Easter Monday
	Mon 28th	G4SPZ - Phil - Valve Testers
May	Mon 5th	No Meeting _ Early Spring Bank Holiday
	Mon 12th	Open Shack Night - Or on air natter
	Mon 19th	Early Computing - John Tracey
	Mon 26th	No Meeting - Spring Bank Holiday
June	Mon 2nd	Open Shack Night - Or on air natter
	Mon 9th	Open Shack Night - Or on air natter
	Mon 16th	BBQ at Sheepwalks
	Mon 23rd	Open Shack Night - Or on air natter
	Mon 30th	Open Shack Night - Or on air natter
July	Mon 7th	Open Shack Night - Or on air natter
	Mon 14th	Open Shack Night - Or on air natter
	Mon 21st	High Voltage Sub Stations (Sean M3XMJ)
	Mon 28th	Open Shack Night - Or on air natter

