

# The Cat's Whisker!

The Wanganui Amateur Radio Society Inc.,  
Branch 48 NZART

[www.zl2ja.org.nz](http://www.zl2ja.org.nz)



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**The Next General Monthly Meeting will be held:**

**Monday 13<sup>th</sup> April, 2015**

**at the Hunters and Stalkers Hall, Peat St.**

**At 7:30pm**

**Business: General.**

**All Very Welcome!**

**Don't Forget to Bring Along Your Outgoing QSL Cards to the Meeting!**

*"Just the Cat's Whiskers"*

## Working The 850 Nano-Metre Band!



### From the Newsletter Editor

Hi, and welcome to my third newsletter.

I hope you guys had a good Easter.

So what have I been up to? The photo above, and to the right were taken with a 850nm (353THz) filter, which blocks all visible light but lets through just the infrared kind, basically a low-pass filter. Blue skies are dark, but clouds are still white, while vegetation is very bright and snow-like at infrared wavelengths.

Colin ZL2WM



## China v Japan *(Roger G3XBM)*

Up to now, the Japanese "big boys" such as Icom, Kenwood and Yaesu have pretty well dominated the amateur radio market, but the Chinese are on the march. Only last month I bought a 30W pep all mode rig for 10m: this was made in China. See also yesterday's post about 40m Pixie kits at ridiculously low prices.

Be in no doubt: within a few years we will see the amateur radio market flooded with quality products made in China with low prices. At this point, the traditional Japanese brands will die out or be made in China. By the next solar minimum in around 4-5 years time the dynamics of the commercial amateur radio market will be very different. The writing is already on the wall.

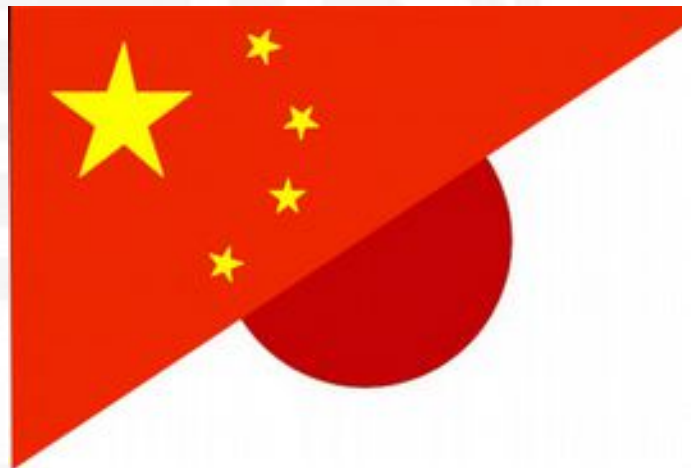
Up to now most Chinese amateur products have lacked the finesse of Japanese products but this is rapidly changing. We are fast approaching the time when Chinese made amateur products will be every bit as good as Japanese products, but at very much lower prices.

In the end competition is healthy but this is likely to result in the death nell for all manufacturers not in China. We could well see the death of Ten Tec and Elecraft unless they design in the USA and make in China. The volumes of loyal customers who would be

willing to pay USA manufacturing prices would be far too low, sadly.

Of course, we have already seen this with most consumer products and white goods. In the end, China will become too expensive and we will look for slave labour rates elsewhere. Sadly we live in a very odd world. This cannot go on for ever, but we are all complicit. At the moment we are exporting most of our manufacture to China.

Life was, in a way, so much easier when things were made to last, they were made in the UK, we saved up to buy things we really needed, when things were altogether less consumption driven.



## Ham Radio Fans Celebrate 'Original Social Network' *(Southgate News)*

The Atlantic City Press reports on the presentation about amateur radio given to young people at the Jersey Shore Children's Museum in the Hamilton Mall

William McCord KC2ONQ and Bob Webb WA2YSA of the Southern Counties Amateur Radio Association are regular presenters at the non-profit museum.

Bob introduced children to Morse code, something he learned as a teenager when he got his first amateur radio license. "Texting has been around for 100 years through Morse

code. Even then we wouldn't spell out whole words. It's a binary code," he said. Common Morse phrases include "BCNU" for "be seeing you."

Read the full article at

[http://www.pressofatlanticcity.com/news/amateur-radio-fans-celebrate-original-social-network/article\\_67bcf12e-db09-11e4-bede-439a30822d90.html](http://www.pressofatlanticcity.com/news/amateur-radio-fans-celebrate-original-social-network/article_67bcf12e-db09-11e4-bede-439a30822d90.html)

Southern Counties Amateur Radio Association

<http://www.k2br.com/>

## Lithium batteries banned *by Bruce Simpson*



4 March 2015

Everyone knows that lithium batteries can be a major fire risk.

Mind you.. so can a 4 litre container of petrol.

It was not surprising therefore to read that another US airline has banned the carriage of lithium batteries on the grounds of safety.

United Airlines has followed in the footsteps of Delta who decided to ban bulk shipments of these batteries last month, citing fears that such consignments could pose an unreasonable risk of in-flight fires.

According to this BBC story, the FAA turned a cargo container into something of an incendiary bomb by filling it with 5,000 lithium batteries and then heating one to bursting point.

Was anyone really surprised at the ensuing fireball?

The problem is that lithium batteries have taken electrical energy storage densities to a new level and whenever you have a lot of energy stored in a small space with the ability to be released in a short time-frame, you effectively have a bomb.

To get these high energy densities, the chemical reactions used must obviously be potentially more volatile so this isn't a problem that is going to disappear any time soon.

If we double the energy density of our batteries, we double the risk of the rapid and unplanned release of that energy in the event that something goes wrong. Fact of life.

It would not be surprising if, in the not too distant future, all lithium battery consignments will be limited to surface-shipping options. This will almost certainly throw a spanner in the evolution of our portable electronic devices.

One question often asked when looking at the lithium battery problem is "why not just ship them flat... without any charge?"

Sadly, one of the weaknesses of lithium batteries is that discharging them to zero-volts will effectively damage them to the extent that they will no longer accept a full charge and attempts at recharging such a fully-flattened battery may even

result in the very type of fiery failure one was trying to avoid in the first place.

For best shelf-life, lithium batteries should be stored or shipped with what is called a "storage charge" -- usually 3.7V to 3.8V per cell. At that voltage, they are around 40% charged so have more than enough energy in them to create a problem if there is an issue with insulation or temperature.

Sadly for those who like to buy stuff online from distant countries, the shipping of lithium batteries has gotten a whole lot more expensive and in some cases, almost impossible.

The days when RC model fliers could have half a dozen or more "lipo" batteries sent to them from China via the postal service for a few bucks in shipping fees are long-gone. Virtually all post offices around the world now have a total-ban on the carriage of lipo batteries so you have to resort to one of the specialist couriers such as FedEx if you want to import such things. Even then, there is a specific watt/hours limit on each individual package.

It was with some mirth that I listened to a friend describe his experiences when attempting to import some lithium batteries. He paid the vendor for airmail shipping but the post office at the point of shipping detected there were lithium batteries in the box so they sent them sea-mail. To make it worse, when the package arrived in New Zealand, NZ Post opened it, removed the batteries (because they are "prohibited" items in our postal service) and forwarded the (now empty) box to him. Imagine his surprised when all he got for his money was an (ultimately) empty box that took over three months to arrive.

All of this seems somewhat ironic when you realise that there are Tesla EVs racing around the roads of the USA, each one carrying as many as 7,000 individual lithium cells inside and each being just seconds away from the type of impact that could severely compromise the mechanical and electrical integrity of those cells.

Mind you -- we're all driving around in incendiary bombs as well and petrol stores a whole lot more energy than those batteries!

Perhaps it's best not to think about that :-)

Source: <http://aardvark.co.nz/daily/2015/0304.shtml>



ZL1BNB, ZL2AHR, ZL2VAL, ZL2JEL, ZL2WM, ZL2AXN, & ZL2NH

[Photo; ZL2WM]



ZL2JA at Dusk (Is that the Moon? More points for EME on Field Day?)

[Credit; ZL2FT 2015\_DSC00917]



The Top!

[ZL2WM 2015\_IMG\_5179]



The Bottom!

[ZL2WM 2015\_IMG\_5155]



Paul ZL2GRE at the Mike.

[ZL2AXN dscf5160]



Mike ZL1BNB and Harry Hawtree

*[Image Credit Russ ZL2AXN dscf5140]*



Russ ZL2AXN (a selfie, Russ?)

*[Image Credit Russ ZL2AXN dscf5145]*



Paul ZL2GRE & Jason ZL2FT

[Image Credit Russ ZL2AXN dscf5158]



Image Credits; Russ ZL2AXN  
Left, dscf5138 Top Left, dscf5171 Above dscf5172



## BBC to Give Away a Million Micro-Computers to the Coders of Tomorrow

By today's standards, early 1980s home computing was a very BASIC affair (excuse the pun). But for those who lived through it, it was an enlightening period of simple wonder and creative experimentation. In the UK, the odds are pretty good that students of code performed their programming magic using a big beige box connected to a chunky monitor known as the BBC Microcomputer. Many of those early digital tinkerers went on to careers in computing and it's this pioneering spirit that the BBC is hoping to recapture with the launch of a new education initiative named Make it Digital. At its center is a new micro computing platform called, for the moment, the Micro Bit.

Image Source;  
[http://commons.wikimedia.org/wiki/File:BBC\\_Micro\\_Front\\_Restored.jpg](http://commons.wikimedia.org/wiki/File:BBC_Micro_Front_Restored.jpg)



*The BBC Microcomputer, which the Corporation says helped Britain get to grips with the first wave of personal computers in the 1980s*

"Just as we did with the BBC Micro in the 1980s, we want to inspire the digital visionaries of the future," said BBC Director-General Tony Hall.

There are a number of strings to the Make it Digital bow. The BBC is partnering with around 50 major organizations, including ARM, the British Computing Society, Freescale, Google, Microsoft and Samsung, to bring about the next digital revolution. It's brought together the expertise of some of those organizations to help create a small programmable hardware device currently named the Micro Bit, developed to help youngsters learn coding and programming basics.

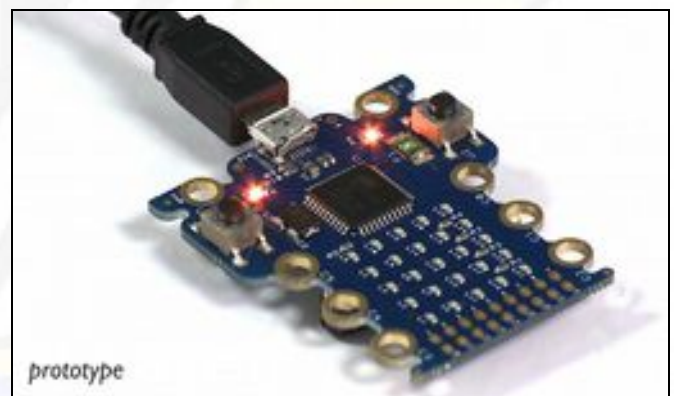
Details of the device are sketchy at the moment, but the BBC has revealed that the Pi-like standalone, entry-level computer board will be small and wearable, will have a simple LED matrix

display and be capable of connecting with other devices, including Arduino, Galileo, Kano and Raspberry Pi (as well as other Micro Bits). When it's launched in September, the mini-computer will be compatible with the Touch Develop, Python and C++ coding languages.

The Corporation is aiming to ensure that every child in year 7 classrooms (11 year-olds) across the UK gets one of these mini development boards for free, to help address what's reported to be a serious shortage of digital professionals in the coming years.

The BBC and partners are also looking to offer at least 5,000 unemployed youngsters the chance to become the creative coders, programmers and digital developers of the future as part of a special nine week Make it Digital Traineeship course, which will be run from the Corporation's Birmingham office but made available countrywide.

The Make it Digital initiative will be supported by a season of dedicated coding-based TV and radio programming and online content that begins today. Contributions are expected from such favorites as Doctor Who, Radio One, The One Show and EastEnders, and new shows lined up include a documentary on Bletchley Park (which is now home to a BBC Micro in its National Museum of Computing), a drama based on the popular video game series Grand Theft Auto and a talent show called Girls Can Code. The programming and activities are expected to build to a "big audience moment" in September.



*The BBC aims to ensure that every 11 year-old in the UK gets one of the "Micro Bit" mini development boards for free (Photo: BBC)*

Source; <http://www.gizmag.com/bbc-make-it-digital-micro-bit/36524/>

## Do I Need to Buy a New Internet Radio to Listen to BBC Radio?



Several readers found their internet radios stopped playing BBC stations last month. Jack Schofield explains the problem.

...Where we live we have very poor medium wave and FM radio reception, and the DAB signal is hopeless, so we bought a DTech internet radio to listen via online streaming. Sadly, the BBC has dropped support for the formats our device uses (WMA and AAC), and other internet radios seem to be in a similar situation. Help! Which internet radios still receive BBC radio under the new arrangements? Steve .....

...I live in the Philippines and rely on BBC Radio to keep in touch, but my favourite stations are no longer available as they have changed some stuff. I still get Radio Scotland on my Samsung GT-S5360 phone. What do I need to do to receive the new BBC Radio? John .....

Last month, the BBC introduced Audio Factory, a new system for streaming its radio stations over the internet. The change silenced a lot of internet radios and hi-fi streamers. Worse, a lot of internet radio manufacturers were caught out as well. These included big names such as Sonos, Linn, Naim, Cambridge, Roberts and Logitech, including Squeezebox.

The debacle prompted angry complaints and a grovelling apology from Jim Simmons, the BBC senior product manager who had posted the Audio Factory update. This didn't solve anybody's problems, however.

The gist of the story is that the BBC junked

its patchwork WMA/AAC infrastructure and moved to a new system based on "HLS and HDS using the AAC codec". Further, Simmonds said that "by the summer we hope to have these streams available in the non-proprietary DASH format".

The BBC also provided MP3 streams via Shoutcast as a fallback for devices that can't handle the new formats. This is a temporary measure.

Many Radio 3 listeners complained when their 320kbps AAC audio stream was replaced by a lower-quality 128kbps MP3 stream. In response, the BBC seems to have backtracked and restored its high quality Radio 3 streaming in AAC. The rest have gone.

The BBC chose MP3 because almost every device supports it. It should work with most of the internet radios that used the discontinued WMA and AAC streams. But if you can't get them from your usual source, you will have to figure out how to change the settings to get them from Shoutcast, if possible. That includes Steve's DMTech Starry7 internet radio – which does support MP3 – and whatever John is using in the Philippines. For Android users, the XiiaLive internet radio app may help.

Although MP3 isn't very good for online streaming, the UK's antique DAB digital radio is still using MP2, with which it started in the mid-90s. Indeed, some users are particularly angry because they bought internet radios and hi-fi streamers to get higher quality sound than they could get from DAB.

## US Ham Radio Numbers Reach All-Time High (Southgate News)

The ARRL report Amateur Radio growth in the US continues to soar.

At the end of 2014, the total number of radio amateurs in the FCC's Universal Licensing System (ULS) database reached an all-time high of 726,725

The trend has continued in the first 2 months of 2015, which saw the ham population rise to slightly more than 727,000.

Outside of a little dithering last fall, (northern autumn) growth in the Amateur Radio Service in 2014 was steady, according to figures compiled by Joe Speroni, AH0A, on his FCC Amateur Radio Statistics web pages.

Source: [http://www.southgatearc.org/news/2015/march/us\\_ham\\_radio\\_numbers\\_reach\\_all\\_time\\_high.htm](http://www.southgatearc.org/news/2015/march/us_ham_radio_numbers_reach_all_time_high.htm)

<http://www.ah0a.org/FCC/index.html>

Read the ARRL story at;

<http://www.arrl.org/news/us-amateur-radio-numbers-reach-an-all-time-high>

Just under half of all US licensees hold the Technician class licence which can be considered equivalent to the UK Foundation license.

The Technician class was originally introduced in 1951 and today permits holders to operate 200 watts output on four HF bands and up to 1500 watts output on all VHF, UHF and Microwave bands.

At breakfast this morning, my wife said she's leaving me because of my obsession with Twitter. I nearly choked on my #Brown



© John McNelly 2014

Source: <http://www.daweeklycomic.com/>



*"We found the main switch had come apart and had shut the system down. We have bypassed the switch for now until we go up again. A beautiful day up there."* [Image Credit; ZL2JEL 20150305\_103030]



*The Antenna Farm at 690's QTH*

[Credit ZL2JEL 2015 ZL2JA 011]

## **RADIO READING : ON AIR - A HISTORY OF BBC TRANSMISSION**

A book titled *On Air - A History of BBC Transmission* is now available for free download from the BBC Engineering website.

*On Air* celebrates a lifetime of achievement in the world of broadcast transmission engineering and includes many anecdotes from the lives of people involved. The idea for *On Air* came about back in 1997 when BBC Transmission was privatized. Prior to that happening BBC Transmission delivered programs to listeners and viewers for 75 years using a vast network of engineering systems.

*On Air - A History of BBC Transmission* is both the human and technical story of how these shows reached the BBC audience. It was also the end of an era and a natural point for reflection on past achievements. As such it resulted in a book of some 80,000 words, edited by Norman Shacklady and Martin Ellen that is available in pdf format at [tinyurl.com/the-bbc-book](http://tinyurl.com/the-bbc-book).

Seen on a QSL card;

Ram as many watts as you can into a wide spaced monobander,

Life is to short for QRP.

(Ivan ZL<sub>2</sub>ATU)

## Distant Supernova Split Four Ways by Gravitational Lens (NASA)

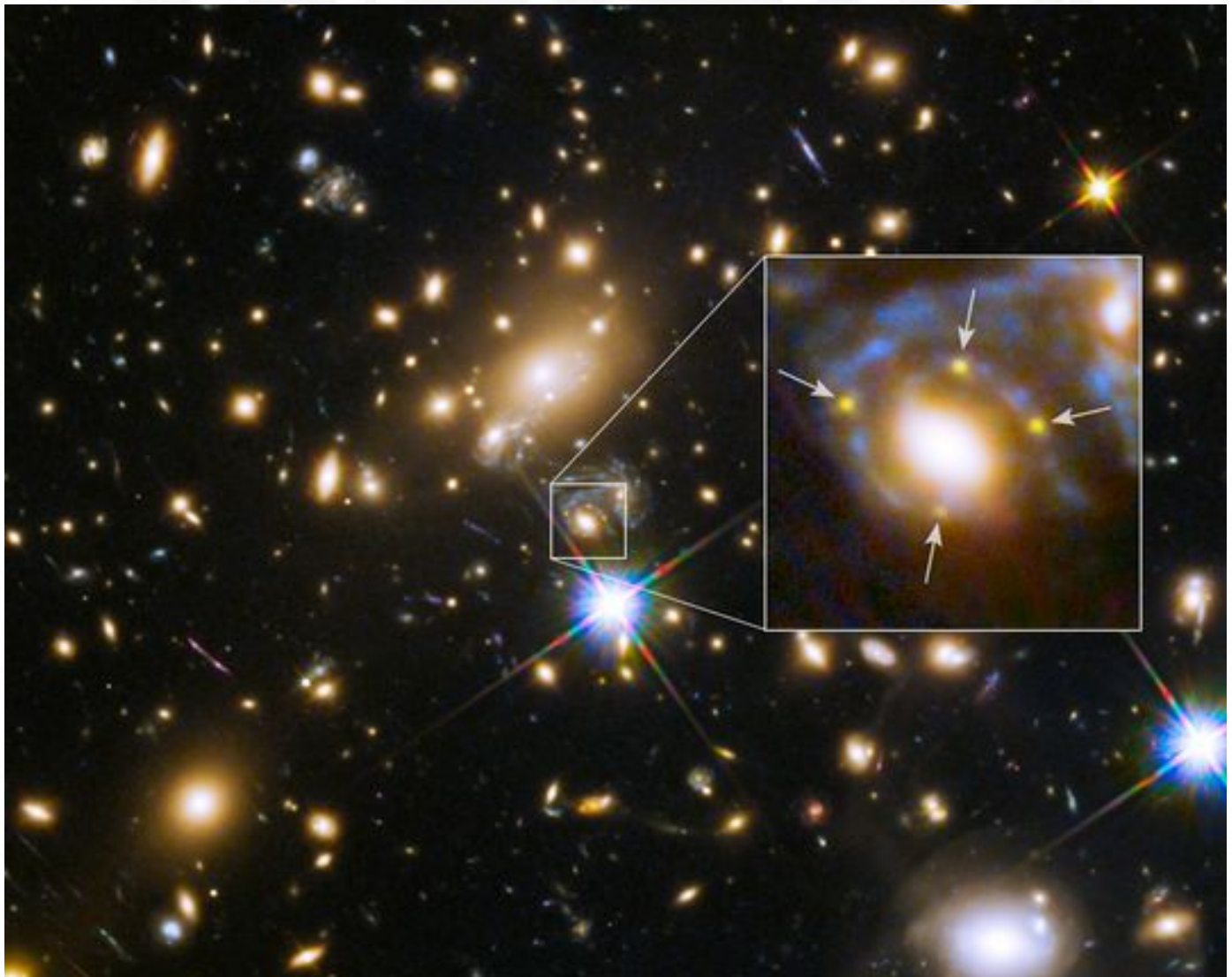
Astronomers using NASA's Hubble Space Telescope have spotted for the first time a distant supernova split into four images. The multiple images of the exploding star are caused by the powerful gravity of a foreground elliptical galaxy embedded in a massive cluster of galaxies. This unique observation will help astronomers refine their estimates of the mass of dark matter in the lensing galaxy and cluster. Dark matter is an invisible form of matter that makes up most of the mass of the universe.

The gravity from both the elliptical galaxy and its galaxy cluster distorts and magnifies the light from the supernova behind it in an effect called gravitational lensing. First

predicted by Albert Einstein, this effect is similar to a glass lens bending light to magnify and distort the image of an object behind it. The multiple images are arranged around the elliptical galaxy in a cross-shaped pattern, also known as an Einstein Cross.

The elliptical galaxy and its galaxy cluster, MACS J1149.6+2223, are 5 billion light-years away from Earth. The supernova behind it is 9.3 billion light-years away.

The image shows the galaxy's location within a hefty cluster of galaxies called MACS J1149.6+2223. Arrows (inset) point to the multiple copies of Supernova Refsdal. The four images were spotted on Nov. 11, 2014.



*Image Credit: NASA/ESA/STScI/UCLA*

## Strap A Computer With Flashing Lights On Your Wrist

The world's first no-moving-parts watch

By Arthur Fisher / Popular Science, July 1970



Breakthrough. It's a much-abused word—a pity at a time like this. Because here is a genuine, 24-karat breakthrough in timekeeping.

The name of same is Pulsar, a solid-state computer device that has a single fixed program to flash the time on demand. Sound formidable? It all nests neatly in the wristwatch you see here. Incredibly, not only does Pulsar have no hands, it has no moving parts whatsoever, unless you count the oscillations of its quartz crystal. Here's how it works:

Built into the works is a miniature silver-zinc battery, rechargeable up to 50 times. It stimulates a quartz crystal to vibrate at 32,768 Hz, four times the frequency of electromechanical quartz timekeepers. This yields Pulsar's high accuracy—within three seconds a month. The crystal's output is divided by a binary counter into other, lower frequencies; these pulses feed the computer circuits. They signal the time to the electronic display on the face of the watch. Press a button, the battery supplies power to the

display, which lights up with the hours and minutes. Hold the button down, and seconds will flash a count.

This display, flashing a brilliant ruby-red, is the first use of solid-state, light-emitting diodes in a consumer product. Each digit, except the first, is formed from a matrix of 27 tiny dots, each dot a diode. The LED's here are gallium arsenide phosphides. They light up only on demand to conserve battery power. (Maximum power draw is at 10:08; can you figure out why?) The intensity of the whole display is automatically regulated by photosensors that measure the light you're in—thus the numbers are much brighter in sunlight than in the dark.

Pulsar (named after puzzling astronomical bodies that emit extraordinarily precise radio pulses) was developed jointly by the Hamilton Watch Co. and Electro/Data, Inc. It will be made available by Hamilton in 1971, for \$1,500.

This article appeared in the July 1970 issue of Popular Science.

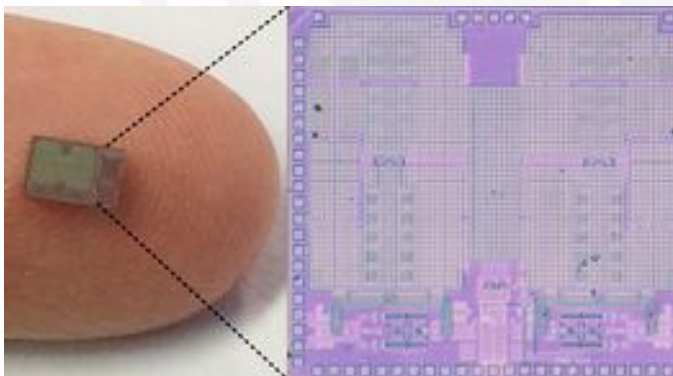
Source: <http://www.popsoci.com/when-digital-watches-were-only-smart-watches>

## New Technology May Double Radio Frequency Data Capacity

Source: <http://engineering.columbia.edu/new-technology-may-double-radio-frequency-data-capacity-0>

A team of Columbia Engineering researchers has invented a technology—full-duplex radio integrated circuits (ICs)—that can be implemented in nanoscale CMOS to enable simultaneous transmission and reception at the same frequency in a wireless radio. Up to now, this has been thought to be impossible: transmitters and receivers either work at different times or at the same time but at different frequencies. The Columbia team, led by Electrical Engineering Associate Professor Harish Krishnaswamy, is the first to demonstrate an IC that can accomplish this. The researchers presented their work at the International Solid-State Circuits Conference (ISSCC) in San Francisco on February 25.

CoSMIC (Columbia high-Speed and Mm-wave IC) Lab full-duplex transceiver IC that can be implemented in nanoscale CMOS to enable simultaneous transmission and reception at the same frequency in a wireless radio



“This is a game-changer,” says Krishnaswamy, director of the Columbia high-Speed and Mm-wave IC (CoSMIC) Lab. “By leveraging our new technology, networks can effectively double the frequency spectrum resources available for devices like smartphones and tablets.”

In the era of Big Data, the current frequency spectrum crisis is one of the biggest challenges researchers are grappling with and it is clear that today's wireless networks will not be able to support tomorrow's data deluge. Today's standards, such as 4G/LTE, already support 40 different frequency bands, and there is no space left at radio frequencies for future expansion. At the same time, the grand challenge of the next-generation 5G network is to increase the data capacity by 1,000 times.

So the ability to have a transmitter and receiver re-use the same frequency has the potential to immediately double the data capacity of today's networks. Krishnaswamy notes that other research groups and startup companies have demonstrated the theoretical feasibility of simultaneous transmission and reception at the same frequency, but no one has yet been able to build tiny nanoscale ICs with this capability.

“Our work is the first to demonstrate an IC that can receive and transmit simultaneously,” he says. “Doing this in an IC is critical if we are to have widespread impact and bring this functionality to handheld devices such as cellular handsets, mobile devices such as tablets for WiFi, and in cellular and WiFi base stations to support full duplex communications.”

The biggest challenge the team faced with full duplex was canceling the transmitter's echo. Imagine that you are trying to listen to someone whisper from far away while at the same time someone else is yelling while standing next to you. If you can cancel the echo of the person yelling, you can hear the other person whispering.

“If everyone could do this, everyone could talk and listen at the same time, and conversations would take half the amount of time and resources as they take right now,” explains Jin Zhou, Krishnaswamy's PhD student and the paper's lead author. “Transmitter echo or ‘self-interference’ cancellation has been a fundamental challenge, especially when performed in a tiny nanoscale IC, and we have found a way to solve that challenge.”

Krishnaswamy and Zhou plan next to test a number of full-duplex nodes to understand what the gains are at the network level. “We are working closely with Electrical Engineering Associate Professor Gil Zussman and his PhD student Jelena Marasevic, who are network theory experts here at Columbia Engineering,” Krishnaswamy adds. “It will be very exciting if we are indeed able to deliver the promised performance gains.”

This work was funded by the DARPA RF-FPGA program.

—by Holly Evarts

## World's First Fully Digital Radio Transmitter Built Purely from Microprocessor Technology

For the first time in history, a prototype radio has been created that is claimed to be completely digital, generating high-frequency radio waves purely through the use of integrated circuits and a set of patented algorithms without using conventional analog radio circuits in any way whatsoever. This breakthrough technology promises to vastly improve the wireless communications capabilities of everything from 5G mobile technology to the multitude of devices aimed at supporting the Internet of Things (IoT).

The significance of this new technology cannot be overstated: Every aspect of radio frequency generation is said to be created using a string of digital bits, and nothing else. There are no analog circuits,



no filters, no chokes, none of the traditional circuitry and components expected in a radio transmitter. Consisting of a mere handful of components, including a couple of integrated circuits, an antenna, and not much else, the transmitter – dubbed Pizzicato – promises to change the face of wireless transmission.

Created by Cambridge Consultants, the initial trials of the Pizzicato have been claimed to show that it has fully met all the expectations of its myriad performance

requirements. But more than this, the Pizzicato has brought bulky radio circuits down to microprocessor levels, with the promise of even smaller, more efficient uses of the technology in future.

"Our first trial of the technology has created 14 simultaneous cellular base station signals," said Monty Barlow, director of wireless technology at Cambridge Consultants. "But it is the potential which is so exciting. Like mainstream microprocessing, a Pizzicato-based radio would directly benefit from Moore's Law – shrinking in cost, size and power consumption with each new generation of silicon fabrication."

In recent years, as ever more users move on to mobile broadband and devices bound for the IoT come on line, electronics designers have sought ever greater improvements in the data rates that can be jammed into channels on the wireless spectrum. However, the limits of what can be achieved using analog circuits or even the more advanced analog-digital amalgams used in software-defined radio (SDR) are rapidly approaching their useful limits.

In addition, the limited availability of radio spectrum bands, particularly in the more popular lower frequency ranges (less than 1 GHz), is being exacerbated due to their popularity. That is, with the lower frequencies ability to travel further distances or pass more easily through walls and other solid objects being far greater than that of higher frequencies, they provide more reliable and consistent connections for users, therefore making them much more desirable for wireless equipment manufacturers.



One way to improve efficiencies at these frequencies is the employment of dynamic switching capabilities to sense the radio environment and switch various settings as required, in real time. In other words, by using a type of "cognitive wireless" technique to intelligently control the way that signals are sent and received and, therefore make maximum use of the available spectrum.



According to Cambridge Consultants, this could potentially open up access to a larger proportion of the estimated 90 percent of the lower-frequency spectrum that is largely unused at any one time.

This may be achievable at low frequencies, however higher frequencies of 10 GHz and above increasingly require

a range of beam-forming and meshing techniques (such as those used in aircraft data links) along with other methods of signal improvement to help improve their intrinsic lack of range. This is where the Pizzicato may prove its mettle, especially over the traditional analog parts of conventional radio technology.

"If we're going to get high-speed broadband to every mobile phone in the world, we'll need lots of tiny, high-performance radios in those phones," said Barlow. "The radios will be squashed together in a way that analog just doesn't tolerate. Whereas a Pizzicato-like digital radio can follow Moore's Law to smaller size and lower power consumption. It could also be programmed to generate almost any combination of signals at any carrier frequencies, nimbly adapting its behavior in a way that is impossible in conventional radios. It is early days for this technology, but we believe radio design has reached a turning point."

No announcement has been made regarding the commercial release of this technology.

The Pizzicato digital radio was recently demonstrated at the Mobile World Congress in Barcelona.

Source: <http://www.gizmag.com/digital-radio-transmitter-microprocessor-technology/36380/>

## Why Apple stopped naming its operating systems after animals...



Source: <http://www.daweeklycomic.com/>

John McNelly

# WANGANUI AMATEUR RADIO JUNK SALE

**Returning by popular demand !!!!**  
**Branch 48 is pleased to announce their annual  
JUNK SALE**

Saturday May 2nd, 2015. Auction starts at 10am.

Wanganui intermediate School Hall. Dublin St, Wanganui.

(Same [venue](#) as last time.)

Lots accepted from 4pm till 8.00pm on Friday 1st & 7.30am to 9.30am Morning of the sale.

### **SALE CONDITIONS:**

Sellers pay 15% commission with a minimum of \$1 and max of \$20 on any one item.

**Accounts will be run.** (to be settled on sale day before goods uplifted)

**Bids will be possible only by registered bidder number.**

Bidders must register with a \$5 fee. This will also provide them with a sale catalogue. Cash, Cheque or EFTPOS accepted.

Time to Clean out your shack and make way for more goodies!

Come and enjoy the social side of this old fashioned junk sale auction and help us make this a great day for all.

For further information contact Graham Hawtree ZL2AHR  
PH: 06 3447501 or [grahamandval1@xtra.co.nz](mailto:grahamandval1@xtra.co.nz)

Licensed Auctioneer



## The Branch 48 Wanganui Award

Wanganui has just celebrated the 100<sup>th</sup> birthday of the Dublin Street Bridge so, it seems fitting to have a promotion of the Wanganui Award which depicts the Old Town Bridge which was replaced in 1970 and is situated only a few kilometres downstream from the Dublin Street Bridge.

The sketch on the Award is by the late Gerald Weeks, a well admired artist and sculptor from Wanganui.

The award measures 220mm x 190mm and is printed in full gloss.

Qualification is very easy, only 8 points required and the Club Call Sign of ZL2JA counts as two points, as does contact with

any Wanganui YL. Contact with ZL2JA is not compulsory. Any mode or any band including repeaters and the National System, with contacts dating from 1st January 1982 from permanent residents of Wanganui. (May be portable)

Branch 48 will be monitoring the Awards net on 3.677MHz for two weeks commencing Tuesday 3rd March 2015.

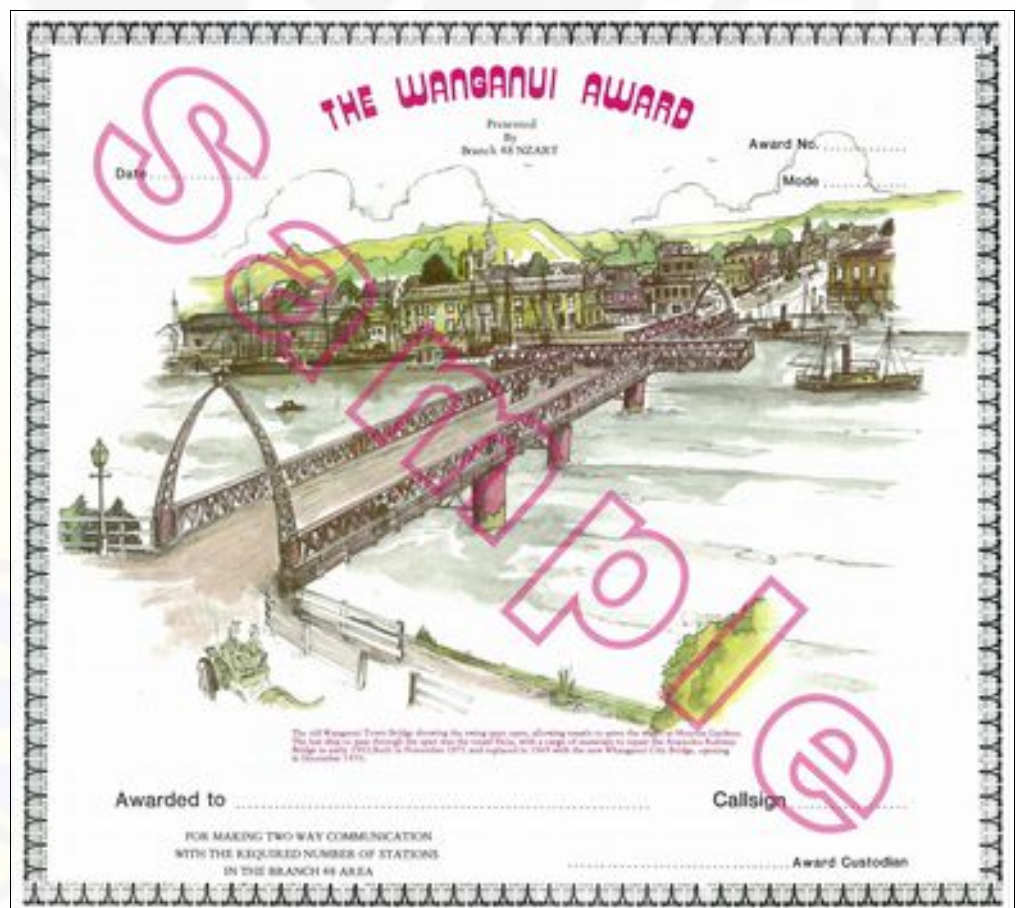
Several Wanganui stations are active on the Old Timers Club net on 3.870MHz on Monday evenings at 8.30pm.

Anyone is welcome to announce themselves and join in and make contacts with Wanganui stations after the net.

Applications for the Wanganui Award can be made by submitting Log evidence to Ivan Horn, Award Custodian, P.O.Box 7250, Wanganui. A fee of \$5.00 is applicable.

**Ivan Horn**  
Award Custodian

*"The old Wanganui Town Bridge showing the swing span open, allowing vessels to serve the wharf at Moutoa Gardens. The last ship to pass through the span was the vessel Huia, with a cargo of material to repair the Aramoho Railway Bridge in early 1902. Built in November 1871 and replaced in 1969 with the new Wanganui City Bridge, opening in December 1970."*



## The Back Info Page

(Links are “clickable” in the PDF version)

### The Internet:

The ZL2JA Webpage:

<http://zl2ja.org.nz/>

The ZL2JA Photo Gallery:

<http://zl2ja.org.nz/photos/>

Listen to the New Zealand National System (Live-ish):

<http://zl2ja.org.nz/listen/>

The Wanganui Award:

<http://zl2ja.org.nz/award/>

ZL2JA on Youtube:

<http://www.youtube.com/user/ZL2JA>

NZART (NZ's National AR Organising Body):

<http://nzart.org.nz>

### Newsletter Editor Contact:

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Wanganui 4541

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John Love, ZL2JEL,

[zl2jel@xtra.co.nz](mailto:zl2jel@xtra.co.nz)

Phone +64 6343-6769

### Branch Repeaters:

“Wanganui 690”

Output 146.900MHz, In -600kHz

“Wanganui National System 9875”

Output 439.875MHz, In -5Mhz

