



GATEWAY

**The Official Magazine of the Gippsland
Gate Radio & Electronics Club Inc.**

June 2017



**Digital Audio mods
Fallen Trees
Speaker Testing
And More**

**President's report
- page 3**

Contents.

- 3 – Presidents Report
 - 4 – From The Editor – Speaker Recycling
 - 5 – if a tree falls in a forest and nobody is there...
 - 6 – The passing of a legend – Tom Wilson.
 - 7 – Audio Hacking – Digital Audio Output
 - 9 – Shared Memories – How much of it is yours?
 - 12 – Extracts from Getting back into Amateur Radio, Pt 3
 - 13 – General Meeting Minutes
 - 14 – Club Information
-

Event Queue

June:

- | | |
|------------------|---|
| 16 th | General Meeting |
| 17 th | GGREC 40th Anniversary Luncheon at the Guide Hall |
| 18 th | 8:30 club net on VK3RLP |
| 25 th | 8:30 club net on VK3RLP |

July:

- | | |
|------------------|-------------------------|
| 7 th | Prac Night – Club rooms |
| 9 th | 8:30 club net on VK3RLP |
| 16 th | 8:30 club net on VK3RLP |
| 21 st | General Meeting |
| 22 nd | GGREC HamFest |
| 23 rd | 8:30 club net on VK3RLP |
| 30 th | 8:30 club net on VK3RLP |

PRESIDENTS REPORT – JUNE 2017

By Ian Jackson VK3BUF

If you have not recently renewed your Club membership, it is likely that this will be the last Gateway magazine that will be distributed to you. (Renewal can be completed by EFT as per the end of this magazine, or to the Chris the Treasurer at a General Meeting)

There is quite a lot going on at present. This Saturday we are having our commemorative 40th Anniversary Luncheon at the Guide Hall. 46 guests have elected to attend this major event. You will see a few old faces, a few new faces and probably a few contemporary faces that just look like they are getting older. (We are kind of stuck with that part.) It will be a great afternoon and some never before seen footage of Club events will be presented. The plan is for guests to arrive at around about 11:30 and we should begin to serve up at about 12:30. If you have any notable items of historic GGREC memorabilia, then bring it with you.

The Commemorative Hats have arrived. We had ordered 25 of them and they sell for \$14 each. Around half have already paid for theirs by EFT and they will be ready to collect at the General Meeting. The balance will be available for sale this Friday and Saturday. They feature a special version of the Club logo embroidered in gold cotton and look pretty good. Remember to add your callsign if you elect to pay via EFT, otherwise we won't know who gets the hat!

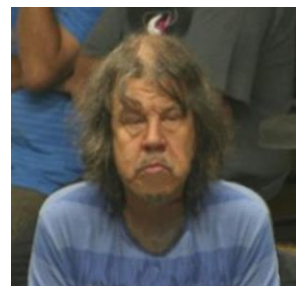


Tom VK3DTW receiving his Life Membership

Late last month one of our Life Members, Tom Wilson VK3DTW passed away. Several GGREC members attended his funeral service. He will be sadly missed by all who knew him. A special tribute article about Tom has been included within this months magazine.

Another article of sad news was to discover that John Wickham VK3ZK (Zippy Kangaroo) passed away late last year. John had

been associated with the Club for a long time, but on a fairly casual basis, only attending some meetings each year. Consequently his absence from radio circles had only recently been observed. John was a quiet person, but took his Amateur Radio seriously and could be seen at every Hamfest Sale for around the past 20 years to ferret out those bargains.

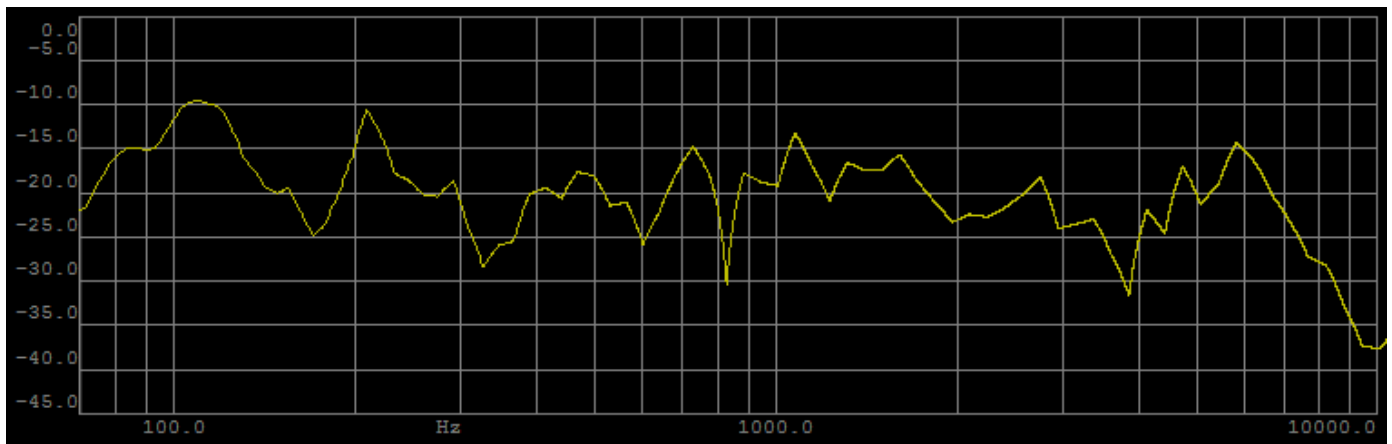


John VK3ZK

WHAT YOU NEED TO KNOW This is a new series of sessions intended for Prac Nights whereby we will examine different Amateur transceivers over time and focus entirely on how to control just 8 things about it. There are plenty of rigs out there and many of them have tricks and traps to surmount before you can make them go. So we will have a play with different rigs and ensure that everyone knows how to manage the eight core aspects of that radio. Not all eight will apply to all rigs, as HF radios rarely need repeater offsets and VHF radios typically rely more upon memory channels than VFO dials, but you get the idea. Loosely the 8 universal features to know are: 1. Power switch 2. Band selection 3. TX Modes 4. Set VFO 5. Set Memories 6. Set Power 7. Repeater offsets 8. Set Sub-audible tones. A pdf version of each review will be progressively placed on the Club web site for prosperity.

This Friday Night we have our regular general meeting and later a vintage film will idle away in the background on the big screen showing footage of a Chevrolet manufacturing plant in the 1930's. It has some extremely well shot imagery that is fascinating to watch. See you there!

From The Editor – Speaker Recycling



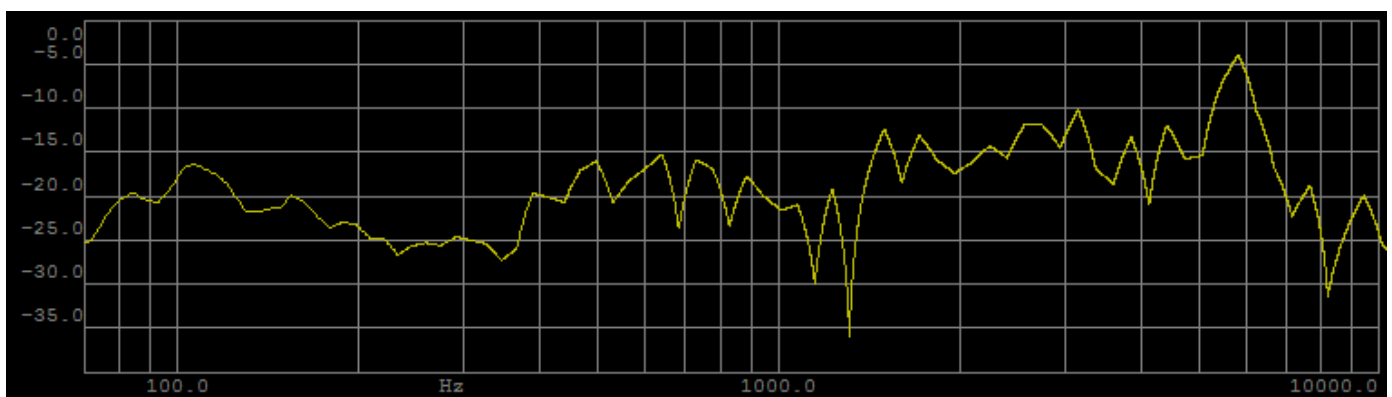
Last month I mentioned rebuilding an old horn loaded speaker, so I thought I'd better follow it up with a frequency response plot. This was achieved using a program I found on the web called AudioMeS, it is a very simple 'beta stage' program, that offers a signal generator, oscilloscope, spectrum analyser & frequency response plotter, I looked on the web just before

to see if there were any updates, but I couldn't find any reference to it at all. Pity as the version I have has basically no adjustments in the frequency response section, the only output is via screen capture, then it needs some healthy image editing, the second picture is an un-edited version, as you can see, most of the screen is wasted, However it works!, there are a few alternatives, but they are severely restricted until you send them some money,

an amount that I don't think is good value considering how much use I would get out of it.

Yes, there are others out there, but I have not found a good one yet, I have just started fiddling with REW – Room Eq Wizard, sounds promising, but boy is there a lot of jargon to dig through, maybe you will have better luck than me. If you find a good one, let us know.

In the meantime, I'd better find a better place to test speakers than in my workshop.



An Aiwa 'surround sound' speaker, after some hacking.

Paul VK3TGX

IF A TREE FALLS IN A FOREST AND NOBODY IS THERE... DOES IT STILL AFFECT THE SWR? – Ian VK3BUF

Last week, on a quiet, cloudy morning there was a loud thump, followed by the sounds of lots of squawking, annoyed birds. A branch had fallen out of the old Monterey Cypress tree in the next paddock. It wasn't just any branch, it was a MOAB. (Mother of all branches) Best estimates put the tree to be around 120 years old and it is getting a bit flaky.

The branch that hit the ground was about one metre in diameter, hence the big thump when it hit the ground, but little damage was done. The cows and alpacas were wondering about elsewhere at the time.

However this particular branch was the one holding up the distant end of my 100 metre long HF wire antenna. The other end is on top of the Nally tower and terminates on an SGC automatic antenna tuner. A couple of years ago I placed a pulley high up this branch with the boom lift and a stainless steel cable went over the pulley to a tensioning weight at ground level. So now the ATU has more work to do because it is trying to tune up dirt, grass and cow poo.



On the bright side, we have a bit more firewood for next year. While the cypress wood is only a softwood, we like to mix about 30% softwoods with hardwood in our fireplace. Sometime over the next month or so, we will be disturbing the serenity with the long bar chainsaw and the sounds of converting petrol to sawdust.



Dianne VK3JDI inspects the damage

THE PASSING OF A LEGEND – a tribute to Tom Wilson by Ian VK3BUF

On May 24, Tom Wilson, VK3DTW passed away after a long battle with cancer. Tom was a GGREC Life Member and will be remembered by many for his great intelligence and friendly nature. Back in the late 70's Tom joined the Club while he was still a resident of Springvale. It was through his association and studies with the GGREC that he gained his Full license and was an active member of the Club through the 1980's.

Later Tom moved to Glen Iris and travel to Cranbourne for meetings was a long haul, so he rarely managed to attend, but still he remained a member through to the present day.

Tom grew up in Dandenong and over 20 years, worked his way to a high position within the Australian Tax Office. He then joined Coopers & Lybrand (later Price Waterhouse Coopers) as a senior partner. Although he achieved a high rank in management within his career, Tom was a keen student of technology and was usually among the first to adopt electronic gadgetry in the workplace, much to the surprise of his largely administrative co-workers.



Tom at a GGRC party in 1979



*VK3BUF wedding in 1983 - Left to right:
Peter VK3KCW, Kerry VK3KFC, Albert VK3BQO, Tom's wife
Corrie and of course Tom VK3DTW*

I used to meet Tom on the train on Monday mornings from Springvale on our way to the city, but whereas I would get off at Flinders street, Tom would continue to the airport for a weeks work in Canberra. Often we would meet again on Friday afternoon trains on his weekly journey back from the ACT.

Back in 1983 when Dianne VK3JDI and myself were married, Tom and Corrie were there, along with many other Club members, to celebrate the day and decorate our car with streamers and shaving foam.

For over thirty years Tom availed himself to the GGREC as the annual auditor of the Club books and in 2011 he became a Life Member for his services to our Club.

Tom was also a volunteer radio presenter for the community radio station Golden Days Radio, where he maintained a Monday night music program for some 15 years. They too granted Tom Life Membership for his services to their organisation.

Tom passed away at age 75 and is survived by his wife Corrie and his extended family network, many of whom now live and work overseas. This network had given Tom the opportunity to indulge in his favourite pastimes of family visits and travel to distant lands.

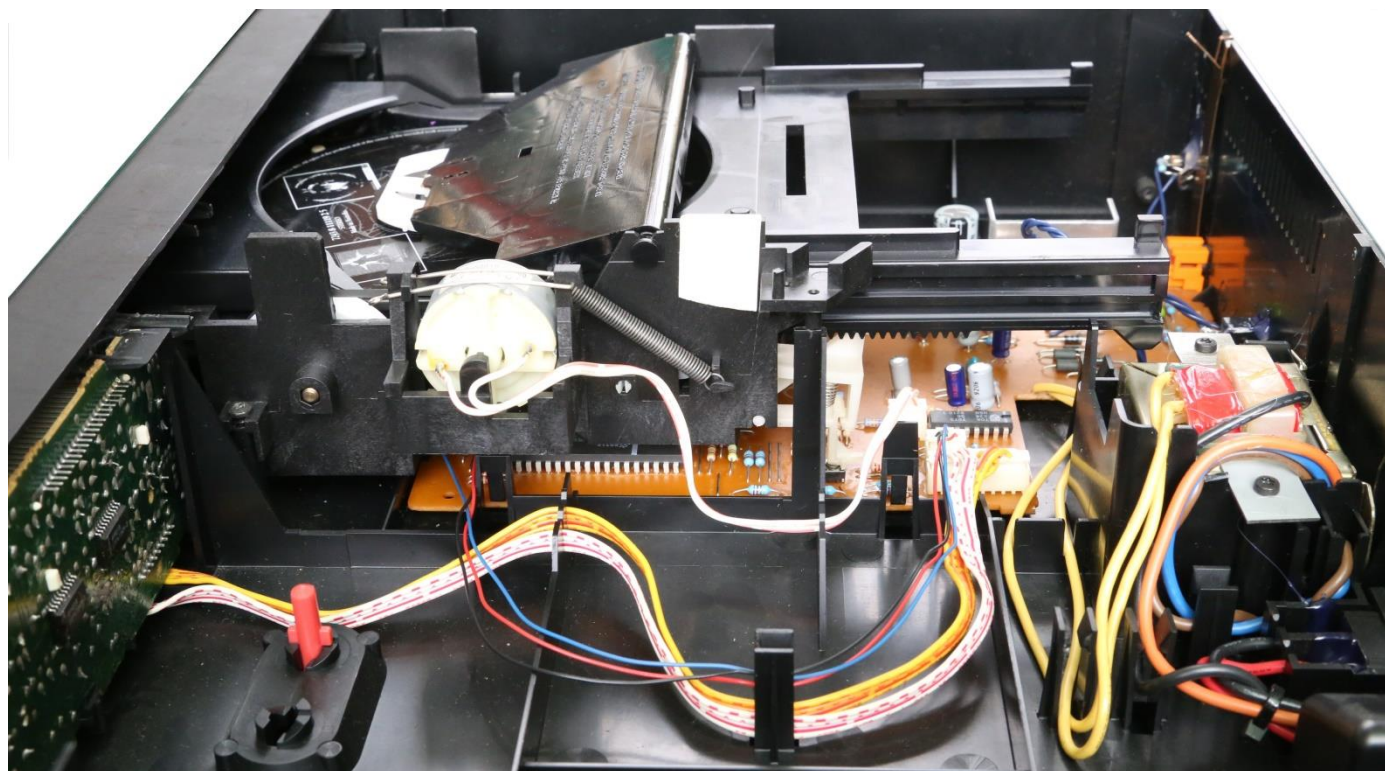
Tom's funeral service on June 6 was attended by around 150 people, which included six GGREC members.

Tom will be missed by all those who knew him.



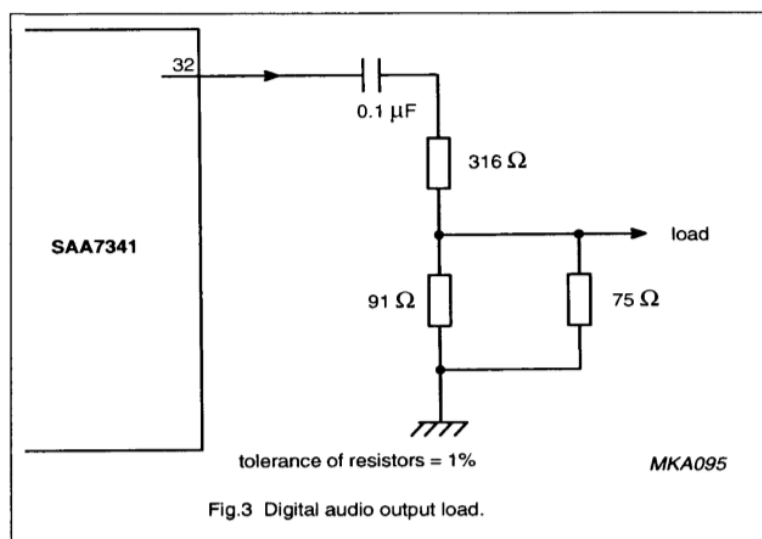
Tom Wilson VK3DTW

Audio Hacking – Digital Audio Output



You may have read my article about 'fixing' a Marantz home theatre amp, well as part of that I thought it would be good to connect a CD player up to the amp using its digital inputs, reasoning that a \$4000+ amp must have a better digital to analogue converter than an economy CD player.

The player I had been using for quite a while is a Philips AK630, a slightly unusually beast in that it doesn't have the regular RCA type audio out sockets, by rather a lead with RCA plugs on the end. I am assuming Philips figured they could save some money doing it this way. This was doubly strange in that the power cord was by a regular 2 pin back panel socket, you'd think that if they had forgone the RCA sockets to save a cent, they'd have done the same with the power cord. The only other connection was a single RCA socket, that I assumed must be for digital audio out. So I ran a lead from here to the Marantz, no joy, all the amp would say was 'No Data'. So what was wrong, I knew the amps optical inputs worked, but I was now trying to use the electrical RCA inputs, were they faulty? So I looked into my junk pile and there was a DVD player with an RCA digital out socket fitted. I had used this player earlier to test the optical input on the amp, so now I'll do the same for the 'electrical' digital in's – all ok was the result, so was the CD player faulty? In an 'Audio Kit' I use for doing presentations at church, I have an almost identical CD player, so I dug it out and connected it up, same result, nothing, no audio at all. Out to the workshop I went and I hooked up a 'scope to the output, nothing at all, no wonder the amp said "No Data". Now both of these players were second hand, as in no manuals, so onto the web I went looking for an owner's manual. Success, or kind of success, I quickly found the error of my ways, that socket was Not a digital output, but rather a remote control INPUT. These players were obviously originally intended to be used as a part of a 'system' in which everything was controlled by one remote, that was received by the 'main unit' and then passed on via this connector. By this stage I had already pulled the lid off the player, and noted some parts has not been fitted. Was this for a deluxe model with a few extras like digital? I already had my PC cranked up to find the owner's manual, how about a service manual? Yes, one was found, but it didn't enlighten me as to what was 'missing'. So why stop now, how about a data sheet to the main IC, no problems, and Yes it does do digital out, but there was not much info on how to implement it. I did a bit more searching and found an alternative data sheet that had a 'sample load circuit' for the digital out. So I added these parts, drilled a hole for the extra socket, and success – Digital Audio! Looking at the diagram, as it was intended as a test load for the IC, I assumed the 75 ohm resistor was supposed to represent the load presented by an attached amplifier etc., so as my load was to be a real one, not a test bed, I deleted the 75ohm resistor. The next problem was the 316 ohm resistor, not a value present in my E24 series resistor trays, so I substituted a 330 Ohm, and



then upped the 91ohm to the next available in my box, to hopefully allow for the extra loss presented by the 330 Ohm resistor. So how flexible is this digital audio system faced with my fiddling's, obviously flexible enough as my substitutions left me with a working system.

Looking at the players PCB, it appears their optional digital out was optical, Toslink optical transmitters (Originated by Toshiba, hence the name) are fairly easy to acquire from old equipment, so no problems there, however there appeared to be some form of pulse transformer/filter in the signal path as the PCB pattern looked kind of like that

found under IF transformers in small transistor radios. That was a hornets nest I had no interest in entering, plus toslink cables cost more than standard RCA leads. (Especially as RCA leads can often be scored for nothing) so I stuck with an electrical interconnect.

The big advantage of optical is the two devices are totally isolated electrically, something that was an advantage when I connected up my computer to the amplifier, but a CD player is designed from the ground up as an audio device, so integral noise is far less of an issue. There however have been many stories about noise problems with DVD players, that typically use switch-mode power supplies. There is a real problem here, clean audio kind of dictates an ungrounded device (no hum loops) however switchmode supplies require a fair amount of filtering to keep switching noise from going back down the power cord etc., and the best place to reference the filters to is – ground. The often implemented solution is a pair of capacitors, as a divider between mains active and mains neutral as a substitute for the missing ground connection. There are several issues here, the one I'll mention now, is that the mains is NOT a clean thing, so coupling up to it for filtering can easily result in a noisy output. both from the less than ideal 'ground', and also from mains borne noise coupled into the output by those capacitors. In this case, an optical connection is the easy fix. Earlier generation audio gear, in particular CD players tended to always use a power transformer, that and the earth provided back down the output leads by the amplifier are for most people a complete solution. Audio fanatics on the other hand can easily spend a few thousand dollars on mains power 'regenerators' that put out a 50Hz 240V signal with crazy low distortion and noise figures, better than most consumer audio gear is capable of generating! – also not forgetting the shielded power cords that are built using directional cable that go with them. (No feedback on that one please)

I recently installed a Sony BlueRay player at church, lots of mains buzz and noise was being coupled into the PA system, even when the player was 'off'. My solution in this case was to make an earth lead for the player. I could have easily hooked an earth wire under a handy screw, but instead I used an RCA plug to connect my earth wire to a disused RCA socket on the player.

You may be wondering why I am using an 'old school' (I hate that term) CD player rather than the DVD player I mentioned. One of the main uses it gets is testing audio CD's I've just burned on my PC to make sure they work, and that I haven't accidentally created a data disk with an mp3 file on it etc. etc., The DVD player is far too smart and would just play the disk and not let me know of my error, whereas the old CD player will just spit it out and say 'Err' (Error)

We (church) had a wedding a whiles ago, where the groom fronted up with an untested home burned CD of the music to be used, it didn't work. (Who knows what he'd done) He ended up leaving his bride waiting as he raced home in a mates car to grab his iPod, it went downhill from there as when he arrived home, he realised the keys he had were his mates (for his car) and the door was of course locked.....

Paul VK3TGX

Shared Memories – How much of it is yours? Ian Jackson VK3BUF

It seems that the average person sees about 2000 movies in their lifetime. This is in addition to an appalling amount of television and 8-10 consecutive years' worth of music. Printed media will vary, with some reading 40-50 books per year and some none at all. It all adds up to a simply vast amount of data, and yet, we remember nearly all of it, which is a pretty neat trick for an organic storage system. By 'remember' I don't mean a 1080P video stream or CD audio bandwidth, as the brain doesn't work that way. It appears to use some form of lossy conversion technique that lays down memories from experiences similar to what vector based graphics do for colour photographs. So our memories of a songs, books and movies are a sausage tiny events bolted together that came from changes to sounds, words and image segments .



If course we may believe that we don't remember it all, but that can be a function of indexing or how well we retrieve the items, not necessarily that the information isn't stored somewhere. If a person is played a song from their teens, even one they don't know well, or even like, but there was a 10 second portion removed from the middle, chances are that they would notice the gap and possibly figure out what bit is missing. If you have ever heard a song in your life, part of you knows roughly what is coming up next when you hear it a second time, even years later.

As I am sure Eddie McGuire would attest, if you are given a face picture of an obscure actor but you feel sure you don't know their name, then when presented with a list of four possible names, your brain may say "yep, it's that one" with some certainty. This means that the information was always there, but you just had a retrieval problem when working from a cold start.

So this is happening all around us and doesn't seem unusual, but unless you are a moviemaker, songwriter or author, they are not *your* experiences. These hundreds of terabytes of data are mental recordings of somebody else's stories that we have collected for ourselves.

But here is the spooky part... Throughout human history of maybe 100,000 years, This high intensity of data collection has only been going on for a bit over a century. There are exceptions because of verbal storytelling, early book readings, live music and live plays, it's only the last couple of generations that people have been shovelling wholesale amounts of this extra data into their brains. A man from the 1600's would live not with 2000 movie experiences rattling around in his head, but just one movie experience – his own life. Today you could visit a hundred countries, speak with a thousand people and its likely they will all be able to cite the same experience of Harry Potter and his battle with Voldemort, or looking over Forrest Gump's shoulder as he catches shrimp.

This is a bit weird. A person from an earlier age would have no need for a 2000 movie capacity and yet when the moving picture was developed, all this extra mental real estate was ready and waiting for us to fill. We are all walking around with all the life experiences of Gilligan's Island, Bill & Ted and Marty McFly rattling around in our minds. (Yes, we all could have done without those Gilligan's Island memories)

What effect has this had on how our brains are wired? How does this affect how we relate to those without these extra experiences? How would they relate to us?

Some studies have shown that indigenous populations without formal written language for thousands of years apply their memory capacity differently. They can retain very high resolution

detail of the geography around themselves, mapping nuances of every tree, rock and animal within their domain. An excellent survival trait, whereas 'westerners' struggle to remember where they parked their car and use phone 'apps' to do it for them.

Arguably, our multimedia memories should be making us better persons. We should be far better equipped to survive with life experiences from thousands of stories to draw upon as working examples of what's good and what's going-to-kill-you-early are filed away. Unfortunately it doesn't seem to work that way. Roughly just as many people emphatically voted *for* Donald Trump as they did emphatically against him. As a (thankfully) outside observer, this says that millions of people with shared virtual experiences are not drawing the same conclusions from the same data. There are other influences at work. It seems like people instead cherry-pick through their collected world experience to find examples that will reinforce what they already want to hear.

Story memories are not often given the same weight as live experiences and it looks like the average person will normally compartmentalise these fake experiences away from their real ones.



Are these all the same person in your mind?

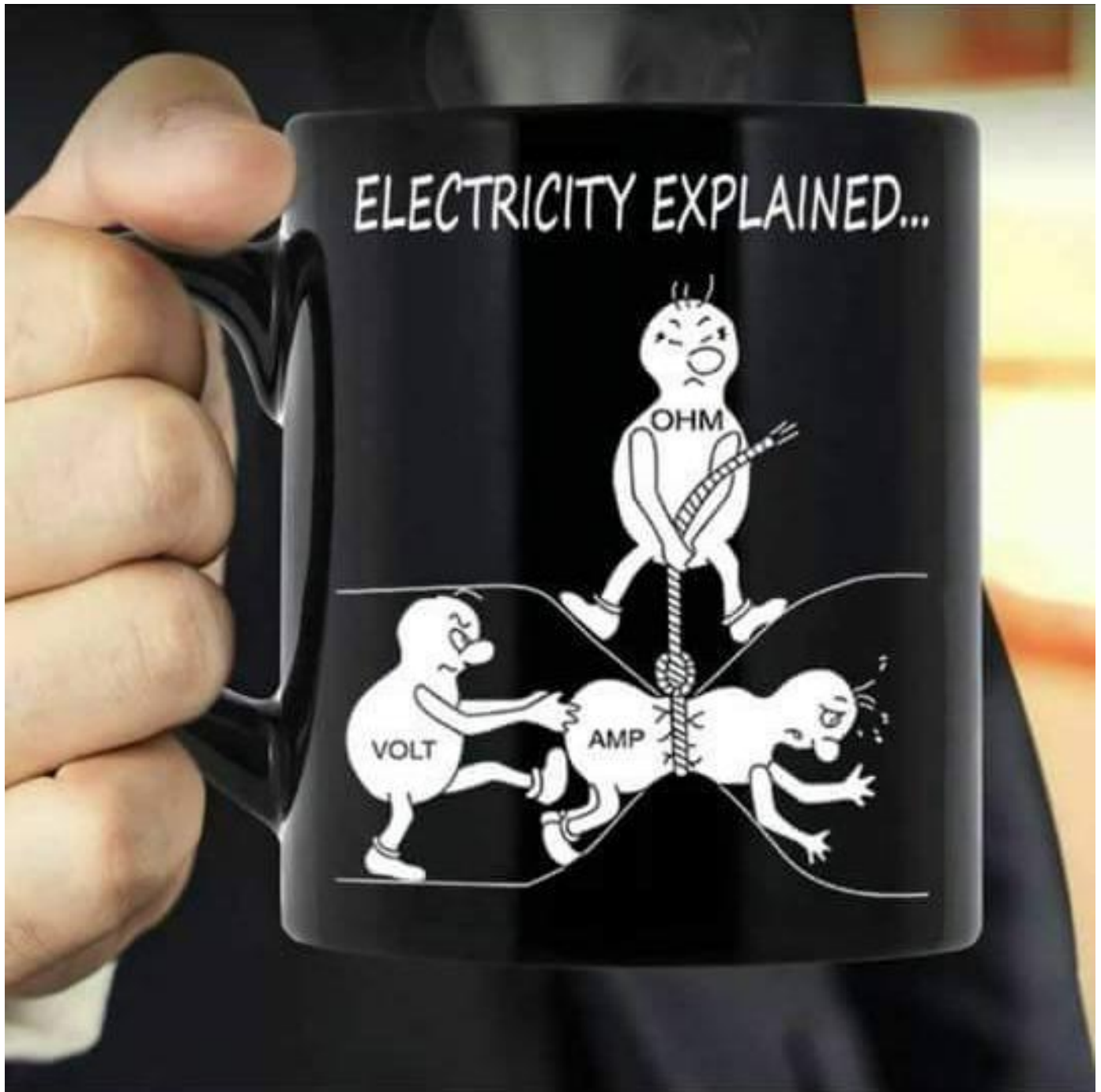
Maybe it helps that the same actors show up in different roles. Walter White and Malcolm's father are not the same person. Nor is Indiana Jones the same person as Han Solo or Rick Deckard. We seem to be able to figure this duplicity and not let it bother us. Our exposure to increasingly high-resolution 3D imagery and virtual reality headsets may ultimately blur this distinction.

Memory capacities are not likely to expand enough to shovel in a second century of recorded media as well, but our existing capacity does seem extraordinarily large when compared with what our ancestors had to store.

We have added another variable into the mix and the psychological impact on our collective minds is still yet to be felt. Hundreds of millions of people are now walking around with internet connected phones in their hands. The effect is that you no longer need to carry around extra stuff in your brain 'just in case it could be handy'. You don't need to learn how to make soap or tie shoelaces. You can just do a Google search when the need for this skill-memory arises. This also has the effect of blurring the lines between personal experience and someone else's on-line knowledge, because internet knowledge is not treated as storytelling. We treat it as reality. News stories and fictional accounts are all coming out of the same tap and it can be *very* hard to pick the difference. If you are unsure what your opinion should be on a subject, you are presented with pre-packaged poll result of everyone else's opinion for you to use instead. (Information that originates from just a few sources can be very influential upon people's decision making.)

So our skill set is shifting further. Instead of studying 'everything' in schools and universities, there is a new focus on skills to sift through the vast cloud of information around us and make sense of it all. This is the new survival trait for our minds, but leave a little bit of space for that new movie coming out next week and perhaps the week after that...

Funnies

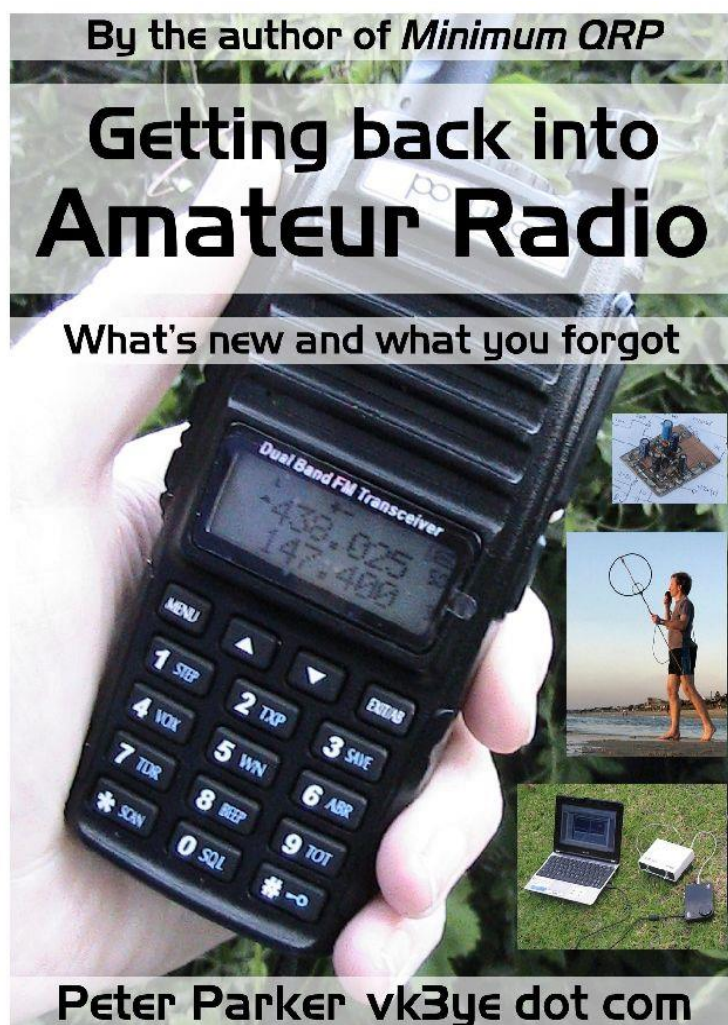


Courtesy of David Rolfe

Do you have any funnies etc. – send them in.

I'm also looking out for suitable cover photo's.

Extracts from *Getting back into Amateur Radio*



Item 3: Why do people restore old radio gear?

The collection, restoration and use of historical equipment is another movement in amateur radio. The musty smell of warming dust, the heavy clunk of rotary switches and the velvet smoothness of precision tuning drives are joys of every use.

Such sensuality is absent from modern plastic-fronted, wobbly-knobbed transceivers. Old rig cabinets felt they had something in them. A kick would hurt you more than them. And etched panel markings confirmed they were built to last.

Unlike today's dainty push buttons with stunted travel and disembodied beep, toggle switches showed you where they stood. Weight, life and play made adjusting controls for nulls and peaks (as often required) both a pleasure and occasional frustration. Even if only as mechanical backlash on a bad tuning dial, it was as if the equipment was telling you something, like a ridden horse does through its reins. Not like newer gear's lack of tactility which is like a 'dead fish' handshake, all take and no give.

There are psychic as well as physical joys. The thrill of bringing neglected or dead equipment to life drives many. It's an underestimated skill. You start with nothing and almost anything done

represents progress when building from scratch. Whereas with a repair it is very easy to render something that's 80% good completely useless with a careless drop or slip.

The drive to recreate a beginner station you previously owned (or wished you owned) is another reason to favour old equipment. At one time this was invariably tube gear. However 1970s analogue dial transceivers are also now starting to be referred to as 'vintage' in used-equipment ads. There are many available since a large number of people were entering amateur radio at the time and old-timers were changing from tube to solid state. Similarly, long-time 27 MHz operators cannot fail to notice often high asking prices for certain older models of CB transceiver.

My theory is that work and family responsibilities ease when people enter their 50s and 60s. Personal wealth also often peaks around then. Combined with nostalgic sentiment, made more intense as the world changes, this creates a market for products that will help relive actual or regretfully missed youth experiences. As the cohort of 60-year-olds changes, so does the era of 'peak nostalgia', which may now be entering the 1970s. If you've missed that boat, stock up on 1980s computer games and 'ghetto blasters' now!

Repairers and restorers must often draw on multiple sources for information and parts. Electronic disposals stores have all but died out and some hamfests, swap meets and radio rallies are struggling. However, the internet has transformed buying and selling by enabling a global marketplace. Those in cities may pine for the old 'Radio Row' or 'Silicon Alley' but those never near them will prefer how things are today.

Enjoyed the read? There's more in '*Getting back into Amateur Radio*' by Peter Parker VK3YE. It's available as an ebook through Amazon for \$6.99. Search the title on Amazon, like 'VK3YE Radio Books' on Facebook or visit vk3ye.com for more details.

General Meeting Minutes

Date : 26/5/2017

Start time : . 8:12 pm

Chairperson : VK3BUF

Minute Taker :

Minutes recorded by Ian VK3BUF (Our Admin Secretary, Michael is presently in Amsterdam)

Visitors:

Guest Speaker tonight: None

Treasurer's report: Chris VK3QB

- Transfer interest portion from term deposit to working account – completed.
- Income \$468.62 Exp \$601.40 (-\$132.88)
- Treasurer report tabled, Moved Chris QB 2nded Leigh VK3FACB

Read: VK3QB **Moved:** **Seconded:** **Approved:**

Previous Minutes: As previously distributed in March magazine

Business arising from the previous minutes:

VK3RWD Repeater move to Seaview

- Still hasn't happened.
- Waiting on feedback from Bill when antenna bracket is ready
- Then we move the equipment in one day

Hamfest Sale

- Bookings going well 8 tables left
- Helpers needed for the kitchen and BBQ

Anniversary Luncheon. June 17,

\$12 payment needed tonight

Commemorative hats ordered

New business :

Tom Wilson VK3DTW Life Member – past away on Wednesday the 24th.

Rob BRS indicated he is not in a position to continue as a general committee member for personal reasons and we are now looking to members to fill this position soon. Any nominations?

Brief report on WIA AGM – Chris to elaborate on details after Gen Meeting closes

- Road trip to VK5 via Pyrenees State Park and Little Desert
- Graeme BXG received an award for ten years as an assessor

Meeting closed : 8:31pm

Next Prac Night : 02/6/2017



Club Information



Meetings 2000hrs on third Friday of the month at the
Cranbourne Guide Grant Street Cranbourne
Prac nights first Friday in the Peter Pavey Clubrooms Cranbourne 1930hrs
Visitors are always welcome to attend

Office bearers

President	Ian Jackson	VK3BUF	Web Master	Mark Clohesy	VK3PKT
Admin Sec	Michael Van DenAcker	VK3GHM	Magazine Editor	Paul Stubbs	VK3TGX
Treasurer	Chris Chapman	VK3QB	Property Officer	Bruno Tonizzo	VK3BFT
General 1	Mark Clohesy	VK3PKT	Secretary	Ian Jackson	VK3BUF
General 2	Robert Streater	VK3BRS			

Call in Frequencies, Beacons and Repeaters

The Club Station VK3BJA operates from the Cranbourne Clubrooms.
6m Repeater VK3RDD – Currently de-commissioned until further notice - *sorry*
70cm Repeater Cranbourne VK3RLP In 434.475MHz Out 439.475MHz CTCSS 91.5Hz
VK3RLP Repeater supports Remote Internet access (IRLP), Node 6794.
70cm Repeater Drouin VK3RWD In 433.575MHz Out 438.575MHz CTCSS 91.5Hz
Simplex VHF - 145.450MHz FM • Simplex UHF - 438.850MHz FM
VK3RLP Beacons 1296.532MHz & 2403.532MHz

Membership Fee Schedule

Pension Member rate \$25.00 Extra Family Member \$20.00
Standard Member rate \$40.00 Junior Member rate \$25.00
Fees can be paid by EFT to BSB 633000 - Account 146016746.
• Always identify your EFT payments.
• Membership Fee's Are Due at each April Annual General Meeting.

Magazine Articles to editor@ggrec.org.au or yk3tgx@gmail.com Cut off, 10th
All other Club correspondence to: secretary@ggrec.org.au
or via Snail Mail : GGREC, C/O Ian Jackson, 408 Old Sale Rd, Drouin West 3818
GGREC Web Site & Archive may be viewed at: www.ggrec.org.au
Website errors, contact web master via email webmaster@ggrec.org.au
Facebook Page www.facebook.com/GippslandGate