



GATEWAY

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

October 2017



Infrared imaging
Fun with speakers
AC Induction Motors
And More

President's report
- page 3

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Event Queue

October:

- 7th Prac Night – Club rooms
- 20th GGREC General Meeting
- 20th-22nd JOTA (Get on-air at your QTH & work a few stations)
- 28th FISTS CW Contest 'Key to Success'
- 29th Yarra Valley Amateur Radio Group HAMFEST – see page 10
- 29th-30th CQ WW DX / SSB CONTEST (always Octobers, Last full weekend)

November:

- 3rd Prac Night – Club rooms
- 5th BARG Hamvention greyhound racing track, Ballarat
- 12th Rosebud RadioFest www.rosebudradiofest.com
- 17th GGREC General Meeting
- 26th- 27th CQ WW DX / CW CONTEST (always Novembers, Last full weekend)

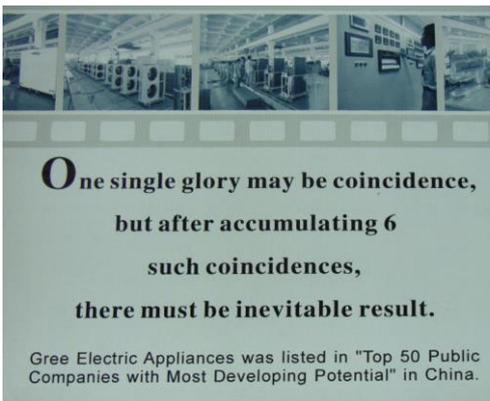
PRESIDENTS REPORT - OCTOBER 2017 by Ian Jackson VK3BUF

When our son Ross was little and beginning to read shop signs for himself, he pointed out a butcher shop sign and figured that they sold furniture, because a sign that said 'butcher' is obviously selling 'chairs' for your 'butt'.

This leads me into signage and how we take it for granted and how sometimes we don't remove it when we should. A pet hate of mine is the stickers that are plastered on every domestic appliance to give their efficiency rating. I get it that it's good to know how efficient a dishwasher or toilet cistern is when one is shopping for such items, but to leave said stickers on the appliance in perpetuity grates horribly on my psyche. Once the appliance has been purchased and is taken home, the decision making process has ended. Its efficiency, good or otherwise is now something that you're stuck with. The label is obsolete and should be removed with haste. So when I visit somebody's home or an office lunch room somewhere and the stickers are still there a couple of years later, like some kind of un-peeled scab that nobody thinks they have the authority to remove, I must consciously restrain myself. Indeed, if nobody is looking, I am tempted to make that label go away. The next person to enter the room will feel that something has changed, but will struggle to identify the cause, while I depart the scene with the knowledge that a small wrong in the world has now been righted.



The blight of the efficiency sticker



When one single glory is not enough...

Signage can be a wonderful thing and can inform an otherwise ignorant public of actions and intent. It also has to make sense, or it will simply serve to highlight an unintentional ignorance by its owner. Sometimes, it just comes down to translation. Some text just does not convert well, like this adjacent baffling mission statement in a Chinese factory, which reads more like an on-line dating service.

Sometimes it only takes the simple addition of a space character to change the meaning and giggle factor of an important corporate statement. In one Chinese conference room I read: "**We will Forge a Head Courageously**".

I was keen to get a look at the assembly line where all these courageous heads were being forged, but alas, they were not part of the tour.

My last example highlights how wrong a company can be by using a foreign dictionary to select a product title. In this image we can see the baffling product name "Soup for Sluts" and wonder who would believe this would make their product desirable. I can only speculate that some young advertising exec had looked up the subtitled "Cheap, Fast & Easy" and found that 'Sluts' appeared to be a universal word that nicely encompassed all of these attributes.



I look forward to collecting a few more corporate images in November when a couple of GGREC members and myself embark on a Chinese Tech-tour for around ten days. We have some factory invitations to get close up to some machinery and circuit board manufacturing plants in Shanghai and Shenzhen. There is a 'Maker Fair' to have a look at, along with the opportunity to forage in one of the worlds largest electronic markets. Look for the report in the October edition of Gateway.

The October General Meeting

This Friday night Shane Clayton from Gippsland Solar will be at the Guide Hall to talk about the Tesla electric car. It is a great opportunity to see one up close and to learn more about how this technology will shape our future.

Be on time, because the talk will commence from 8:00pm sharp!



The Tesla electric car

Last prac night talk on the Yaesu 8900

Earlier this month Albert VK3BQO gave us the run-down on the Yaesu quad-band transceiver, the FT8900R. This rig is the main VHF/UHF radio in use at the Club Shack.

Albert took us through all of its basic functions and produced a document that was added to the 'What you need to know' collection on the Club website.

A copy of this document may be downloaded in PDF form from this location:

<http://ggrec.org.au/Downloads/What%20You%20Need%20To%20Know%20-%20Radio%20articles/>

Trial Changes to the General Meeting format

As discussed and approved at the last meeting, we will embark on a trial change to the meeting format for the next three General Meetings. The aim is to reduce the formality to its essentials and to give more time to the stuff that makes our meetings worthwhile.

Annual General Meetings will not change, but General Meetings will be confined to relevant 'General Business' only. The Secretary will record the number of members attending the meetings as evidence of a quorum, but not their names. Monthly Financial Statements and minutes of previous General Meetings will be available for viewing at the Downloads area of the GGREC website. Here are the direct links to these folders:

Financial reports: <http://ggrec.org.au/Downloads/Financial%20Reports/>

Meeting Minutes: <http://ggrec.org.au/Downloads/General%20Meeting%20Minutes/>

As always, members are free to raise any issues arising from these reports at meetings, or request further information from the Treasurer via Email outside of the meetings.

After three months of this format we will talk about it, then either continue the new format, make more changes, or go back to the old meeting style.

What's happening to RDD

As we discussed at the last meeting, we had to make a decision about our 6 metre repeater, as our access to the old Cockatoo site was limited and expensive, so we took it all down. We voted to set up the repeater at the Club Shack instead. The site is not as good, but at least it is accessible. At the November meeting we will bring the repeater and cabinet into the Guide Hall for inspection and discussion before hooking it up operationally next to the shack. For those who have not seen what makes a repeater go, this will be a good opportunity to get up close to one with its covers off.

GGREC Christmas Breakup Party

As happens in every December, the GGREC have a Christmas Breakup event. This year we have accepted the kind invitation from Geoff VK3HGG to host this event at his QTH in Pearcedale on Saturday, December 9. Geoff has a superb couple of acres that will make it a memorable occasion. To take advantage of his Christmas lights, it will be an afternoon/evening affair. More details will be placed in the November edition of Gateway.

See you This Friday night...8:00 pm sharp!

From The Editor

Well hello again from my QTH in Frankston. I think I've found the almost perfect setup for writing. (In the magazine) I'm sitting out in the back yard on a lovely 26 degree day, with some compulsory veranda shade, both to avoid sun/UV burn, and also so I can see my screen. I have propped up my iPad on a table and connected a full-size Logitech keyboard to it via Bluetooth. I'm not actually writing the article on the iPad (though I could) but rather I am using the iPad as a remote screen to my desktop PC that lives in my study. The link is being provided by a program called TeamViewer, this lets me remote into almost all of my computers. It supports Windows, Linux & Apple MAC os. That just leaves a few DOS boxes and my trusty old TRS-80 model 1 out in the cold.



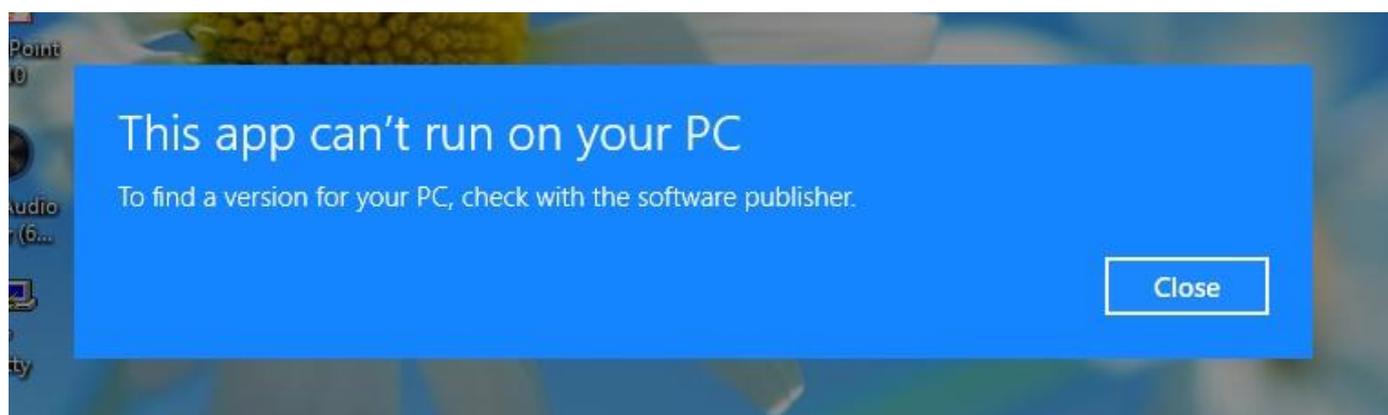
I could use my Ubuntu Linux based HP laptop, it has a proper Ethernet interface, (And a mouse/trackpad) unlike the somewhat stretched WiFi link I'm using to link up my iPad. However the iPad has a brighter screen & the battery lasts for several hours. The iPad is only reporting one bar of signal strength, but it's been propped up here for the last few hours as I write this, and most of the speaker article without missing a beat. This is an almost ancient second generation 'retina' iPad, it's still going strong, albeit out of software support. But it still works a treat, unlike a few Android tablets I've used. The iPad has had several ios updates, whereas the Android tablets have received none. Unlike a PC, where you can pop in a Windows or Linux boot CD and install a new operating system, most tablets come with OS flashed into ROM's, with no easy path beyond that. I mean, when is the last time you saw an Android os install disk, never. Not that Apple is any different, but after receiving several ios updates, I'm completely happy with them on this point.

As for PC's my pet gripe (since I'm on this gripe track right now) is Windows 10. Microsoft seems to be treating it like a show pony, forever updating and fiddling with it. The other night I was in the shack killing a bit of spare time, I had booted up the shack PC, running a program called AudioMe (Audio Measurements) to generate some test tones for the amplifiers in my speaker article. During that, a tad past midnight, Windows informed me of an update, so I foolishly clicked ok. It seemed to be taking ages, so I had my shower and got ready for bed. I then revisited the shack to discover the updates were at 16%. What to do? The shack's power is based around a central breaker, as per best practice recommendations, i.e. if I get caught up in an electrical incident, one button kills everything. (Well, that's where the setup is heading)

Shutting down the shack (for bedtime) whilst leaving the PC on is all but impossible. So what to do? Well the amplifier I was working on was displaying the symptoms of dry solder joints, so I removed the board (heaps of screws) and proceeded to resolder it. That was until I chanced a look at my clock, it was 4:30 AM! %\$#@^ Microsoft. So I gave in and did a best effort shutdown of killing my 12V supply, soldering iron, & lights – Far from ideal, but I was going to bed.

Pity the poor businessman trying to complete an order/contract/sale, sat in front of a PC (with the relevant files/software on it) stuck in an update cycle, with no guarantee it will work as before when it finally returns from doing its updates.

So this leaves me in a bit of a quandary when it comes to answering people's questions as to what to buy when they want a new computer. Hardware is no problem, however the OS is. I regard myself as an experienced PC user, yet Windows gets to me far too often. Linux usually installs easily, and if all you want is mail and a web browser, no problems – any deeper and issues rack up real quick. Just have a look at Munich City Government; they swapped the whole city systems over to LiMux, <https://www.linuxinsider.com/story/84307.html> but are now looking at spending the odd million dollars going back to Windows because Linux could not be made to support all the software required – even with an IT team, no joy, so what chance have I, so generally I don't recommend it. That just leaves Apple and a MAC PC.



One of my favourite windows 10 messages – what a load of junk.



After being fed up with Microsoft, I watched a movie, and saw this... EEEK
(Hollywood's version of a Police radio! – Where is the ARRL)

Paul VK3TGX

Electric Mowing & AC Induction Motors



For a while I have been somewhat interested in an electric lawn mower, However the ones on sale seem to all suffer from the same limitation, and that is a very narrow cut. The usual reason is they are not prepared to fit a large enough motor to spin a 'normal' set of blades. Downside of all this is the job takes twice as long to complete. So I've been keeping an eye out for an old mower base (As in 'full sized') and a suitable motor. Several years ago I was helping Ian with repairs to his golf bag caddy electronics modules – I wondered if one of those motors would 'cut it' however none became available, so that idea died. Recently my brother obtained a second hand Chinese 240V induction motor from a trash & treasure market, it was rated at 2HP, so I thought I may be in business. So I stripped the old mower and lined up the electric motor – looking good. Then I switched it on, first thing the bearings were shot, and secondly it was spinning in the wrong direction! AC induction motors work by generating a spinning magnetic field

that gets induced into the rotor. (The bit that spins, and drives your load) This spinning magnetic field interacts with the field that gets induced into the rotor, and by magnetic attraction and repulsion, the rotor follows the spinning magnetic field. To make it spin the other way, you have to make the rotating field run the opposite direction. A 'normal' motor, one that plugs into a regular power point can have only one magnetic field, as there is only one AC waveform, so they fudge a second field, usually with a capacitor and a second winding, to create that rotating field. To reverse the motor you need to swap the wiring about so the phase relationship between the two is reversed, and there you have it. Unfortunately the individual windings were not easily accessible in my case, however the main motor body was identical both ends, so all I have to do is swap the end plates and have the main shaft come out the other end. The rest of the build involves making an adapter from the (rather short) motor shaft so the cutting disk. Unfortunately I'm not that well set up to handle that one, so I'm hoping my brother (who has a lathe) can make me a suitable adapter.

Paul VK3TGX

USING INFRARED IMAGING FOR TEMPERATURE MEASUREMENT

By Ian Jackson, VK3BUF



A typical 'IR' thermometer that often 'lies'

Infrared imaging has become increasingly popular as a method of finding out what is going right or wrong on a circuit board. A lot of laser-pointer style thermometers are also in abundance. One aspect that is often taken for granted with this technology is the nature of the surface being measured.

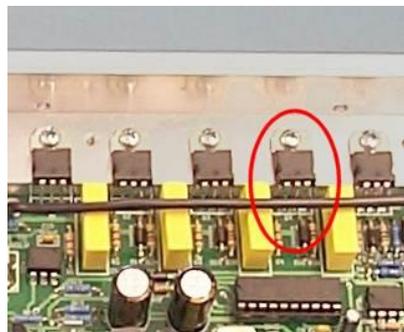
Shiny metals and gloss paints often lie when trying to reveal a surface temperature. Non-gloss is better. Measuring a black anodised aluminium heatsink will return a more accurate value than measuring a mill-finish aluminium one.

It all comes down to the 'emissivity' of the surface. A theoretically perfect black, matt finish emitter will have an emissivity factor of '1'.

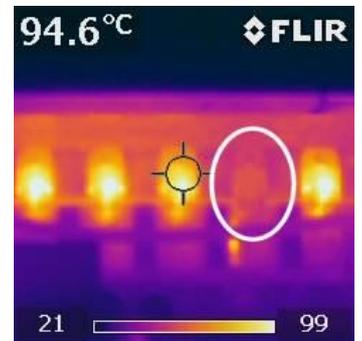
Every other surface will have a factor of less than one, which will proportionally de-rate the accuracy of a thermal image reading.

Here is an example where I used an Infrared camera to check a row of five power MOSFET's in a 24V golf buggy motor controller.

A circuit board may look like it is working fine, but this IR image shows that one of the five parallel MOSFETs (circled) is lazy and not sharing the load. Infrared imaging can be used to locate faults that are otherwise very difficult to find.



Normal motor controller view



IR view with lazy FET

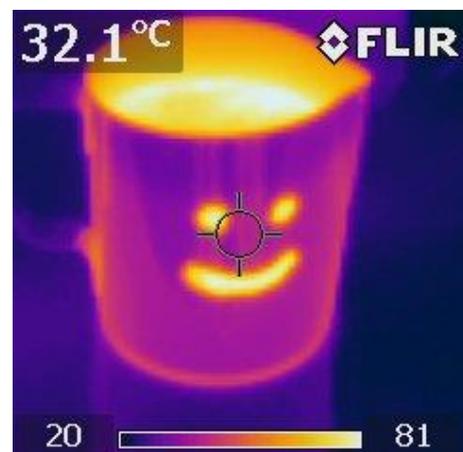
Of interest here is that the shiny aluminium heatsink appears quite cool because of its poor emissivity. The heatsink was almost too hot to touch on the test load, but in reality it was $>60^{\circ}$.

The colour of any surface is less important than its texture. White liquid paper painted onto a shiny surface will give a surprisingly good 0.96 emissivity factor.

For the exercise, I took a small metal jug from my coffee machine, painted a smiley face on it with liquid paper, then filled it with boiling water. The change to the heat emission profile was huge for the liquid paper applied areas.



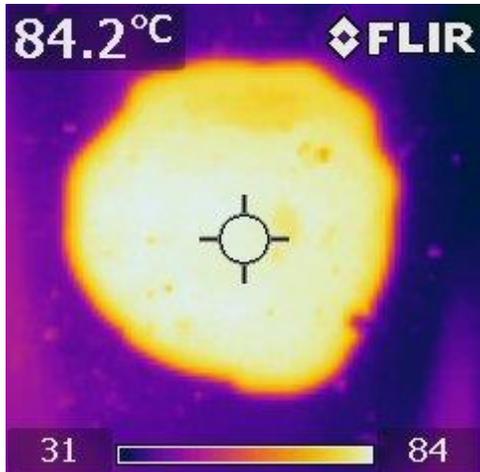
Liquid paper changes the heat emissions of the jug



The highly reflective jug returned a value of less than half of the actual surface temperature

When I centred the temperature reading circle of the camera over the liquid paper smiley face 'eye' on the jug, the temperature reads a more realistic 84.2°, which is even higher than scanning at the hot water surface.

(Normal glass blocks infrared readings, so a couple of years ago I purchased a special Zinc-Selenium lens attachment that is transparent to IR. This allows me to get close-ups with the handheld infrared camera without the inherent poor focal-length blurring on closups.)



The painted-on surface reads a true 84.2°



The result of this experiment proves that if you want to take an accurate non-contact thermal measurement of a surface, then first you need to apply a film, paint or label with a low-emissive matt finish. Only then will your non-contact thermometer tell you what is really going on.





Yarra Valley Amateur Radio Group

VK3YVG

PO Box 346 Healesville Vic 3777

Its on again!!

Hamfest 2017

Sunday 29th October 2017
10am to 2pm at the
Gary Cooper Pavilion
16 Anzac Av. Yarra Glen
Melway 274 K 1
Entry \$7.00



Open to traders from 8.30am. Call in on VK3RYV the Yarra Valley Repeater 146.725MHz
Ample parking available. BBQ, light refreshments available. Free tea and coffee.

Table Hire \$15.00

For table bookings and further information contact :
Colin VK3CNW on (0423) 535 988 or
email vk3cnw@wingersoftware.com

Fun with speakers & an old TV

In my junk pile I've had a few candidates for some audio projects for quite a while. Recently the church I attend decided to have an out-door rosary session, needing a portable PA system. So this looked like a good excuse to kick start some of these oddball audio projects. Now as the rosary was to be outdoors, a battery powered (as in 12V) setup was seen as the ideal solution – perfectly lining up with what I had in the back of my mind for some of these projects. To start off, I had scored a 75W stereo car amplifier from Graeme VK3XTA, during a recent clean out. It could be wired in mono 'bridge mode' to give me 150W into an 8 ohm speaker – perfect.

I also had 3 candidate speakers, a high power Response branded 8 inch, a no-name 10 inch from a recent-ish hamfest, and lastly a 15inch Dayton Audio driver, scored after fixing some party speakers. Usually large pro drivers are much more efficient (i.e. louder) than smaller drivers. (Have a look in the Altronics catalogue, at their various speaker drivers, at the rated SPL per watt) So I drew up plans for a cabinet (I had a largish sheet of 16mm Melamine craft wood). The front board ended up 510mm square, driver in the middle, and 65mm gap for the amp. Trouble was by the time I added side panels (330mm) the whole thing was getting too big for the portable use model. However I also had an idea involving a large cabinet speaker and a 6V6GT based valve amp, so all is not lost. The only cost so far was a packet of wood screws & a tube of liquid nails. – Not that I was scrapping anything yet, just finding more appropriate uses.



Also in my junk pile was an old GE analogue TV case, in which I had propped up a 10inch driver, it looked kind of 'cool' so I decided to advance that concept (In hindsight, a BAD IDEA!). I cut a piece of 10mm MDF board to fit where the picture tube once was, then I cut the hole for the 10inch driver. However a bare speaker cone with no grill is an invite for disaster, so after recycling a chunky grill from an old car sub, it didn't quite look as cool, now more industrial. The amplifier 'just' fitted in where the TV electronics use to reside – all done – almost. Trouble was the amp was not behaving itself, if I pumped out more than a watt or two, the amp would shut down. I surmised that the problem resided in a low voltage battery

protection shutdown feature. After much probing end prodding, I found the offending stage, and by pulling out one resistor, it was disabled, no more premature shut downs. However I think I've also accidentally disabled it's over temp feature as well, an unfortunate side effect of working without a circuit diagram.

Then one channel became intermittent – I thought it smelled of dry solder joints, as a prod here or there seemed to fix it. So I flipped the board over and started resoldering the majority of the solder joints. The bulk resolder did it, however plastic for speaker boxes really sucks. If you are a 'big boy' with custom plastic injection moulding machines at your disposal, and sound labs full of techs to check for cabinet resonances, plastic is a good option, but if you are not, stick to wood. (This includes 90% of Chinese audio manufacturers.) With the back off its ok, but assembled it becomes coloured. I was of the belief that with all the vent holes in your typical TV box, this effect would not be so pronounced – I was wrong. Maybe if I glue some scrap MDF to the inside of the cabinet I can kill off some of the resonances, or maybe I should just cut my losses. (Not that I have incurred any so far, it's still a \$0 project) - At least it's very light.

The last one, kind of my take on the old Ghetto Blaster, (though the picture of mine is far from where I intend it to end up), is being built in an old wooden speaker box I found. (Last hard rubbish?) The new insides consist of a set of Sony 'Xplode' car speakers driven by a Jaycar 110W car audio amp. I have my doubts about the 110W rating, maybe that's music power or something similar, but for my use, more than enough. When I found this speaker box, it had no driver, or front panel, just a scruffy surrounding woodgrain box & back, in need of some tlc. I cut a new front out of 10mm MDF (Bunnings scrap box), I cut the two holes for the Sony car speakers then painted it black. These speakers with their metalized cones and red anodized



co-axial tweeters, look really nice. The only downside is the speaker grills are a little wide for the wooden box. I may end up adding some side cheeks with chrome rack handles to give it a bit of bling. As for audio sources, the old ghetto blasters usually had a cassette tape player and a radio. Tape is all but dead, and radio – I'll think about that one, for now I think I will buy one of those music player modules from Banggood. One of these should hopefully fit in just above the speakers, giving me SD card & USB stored audio

playback. Some of these modules also support FM radio & Bluetooth audio, so I can use it wirelessly from my iPad or phone. Ghetto blasters seem to have been generally replaced by Bluetooth speakers, however larger decent units can easily command over \$250, much more than I am prepared to spend. Unfortunately Bluetooth audio does not support uncompressed audio, so it can never be termed HiFi in my book, so hence why spend >\$250 on Lo-Fi audio.

Maybe I should buy a few of these audio modules, they are cheap, and let you get a quick audio fix, assuming heading off to turn on a real HiFi is overkill.

One almost gets a blank stare of disbelief these days if you say you have no Bluetooth support. The younger generation live by their mobile phones, and the trend is to move away from having physical audio sockets (No headphone sockets on the last two iPhones, and Android is not far behind)

M01BT69 12V Wireless Bluetooth MP3 WMA Decoder Board **Audio Module** USB
AUS6.62

The one big shame of it all is that true HiFi is being pushed aside. If you want to up the quality, then some form of WiFi audio is your (wireless) best bet, have a look at my Pi Music Box article I wrote a few months back. As an update, a Raspberry Pi zero now has integrated WiFi and originally sold for \$5 in Europe, unfortunately we have to pay a bit more over here. One of those will give you Apple air play, DLNA audio, as well as a web based audio player etc. cheap.

As an alternative, you could fit a Google 'Chromecast audio' module inside.

I had a laugh the other day; Audio-Technica has brought out a Bluetooth audio turntable. Isn't the reason for vinyl playback to escape from the harshness of digital sound. Trouble is all that analogue goodness is being totally spoiled by compressing the audio so it can be send via Bluetooth wirelessly to your favourite speakers. HA!



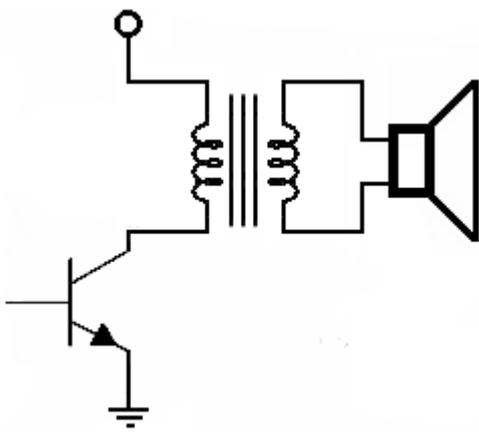
A wireless turntable? Has the world gone mad? Or is this actually a darned smart thought?

<http://www.avhub.com.au/product-reviews/sound-image/audio-technica-at-lp60bt-bluetooth-turntable-review-457064>



In the end I didn't quite get to try my creation at the church event, I was let down by a Shure professional radio mic receiver, that had a switch on it that supposedly would give me line level audio out, but all I received was a signal marginally higher than normal mic level, meaning I could not get full output from the amp. So I ended up using an alternative approach (as has been done in the past) of running a very long speaker lead out from one of the church's PA amp's. and relying on the radio mic receiver's and mixer desk in the church – the one big problem here is that the level controls (mixer desk) is too far from the action making quick changes to the volume level as things progressed far too hard. We had a 200W Peavey amp pushed way into the red when the priest broke out into song, I was amazed he didn't pop

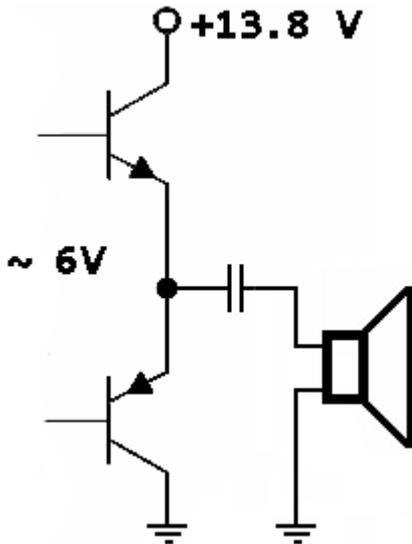
my speaker which was rated substantially lower than what this amp could provide. The biggest bug on the day was limited to a flat battery in the mic. Everyone was happy in the end.



Early radios used a single output device, with transformer coupling to a speaker of 16 or more ohms.

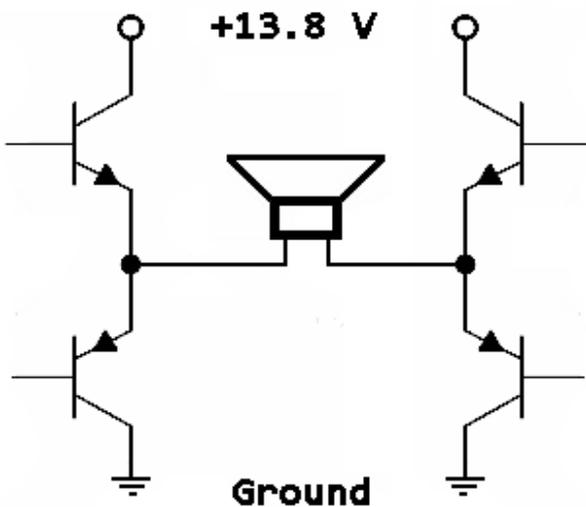
This configuration is called Class A, and is quite inefficient as the output device (Valve or transistor) is always passing a current through the transformer.

This configuration continued into early Colour TV's and car radios. I read of the very first car radios where you had to stop the car in order to hear the radio, the output was so low, even then you could not listen too long as the power used by the early valve set would soon flatten the battery



This is a typical push-pull output stage, as found in later 12V audio systems. With only 12V available, the maximum signal can only be 12V peak to peak, or 6V peak, which translates into 4.2V RMS, not much. As power is a function of voltage times current, and the voltage is fixed, then the only thing left to play with is current. To increase the output current you have to lower the load resistance, so the early 16 ohm speakers were quickly replaced with 4ohm speakers.

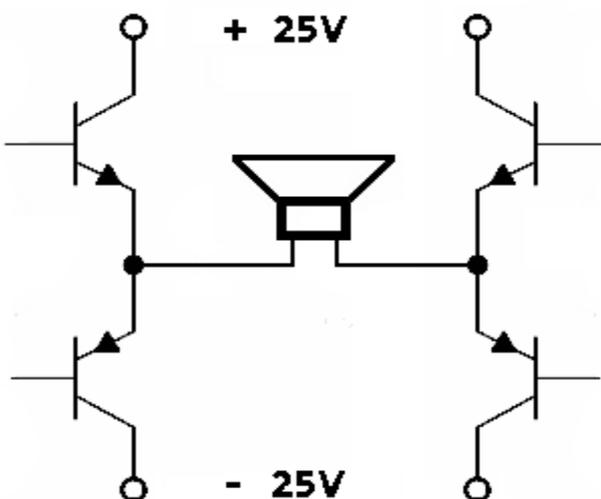
This gives us an output power of 4.4W, fine for an AM radio, but not exactly equivalent to the home HiFi of the day. (Imagine the young ones being limited to 4.5W!)



This is a bridge mode, or BTL (Bridge Tied Mode) circuit, now both sides of the speaker are driven, meaning 12V peak, or 8.4 V RMS, giving up 18W into 4 Ohms.

For quite a while car booster amplifiers were very popular, as they took the 4 odd watt radio and bumped it up to 18W, this is exactly what the Jaycar 110W amplifier is.

So how do they get 110W, if it only can do 18W + 18W (stereo), well that is probably a PMPO power rating, Widely regarded as a very dubious way of 'bullshitting' the specs, popular with the marketing department as the numbers are better! (no standards exist for PMPO specs)



So how does the big amplifier overcome these limitations, well they take the 12V and step it up to plus & minus 25V.

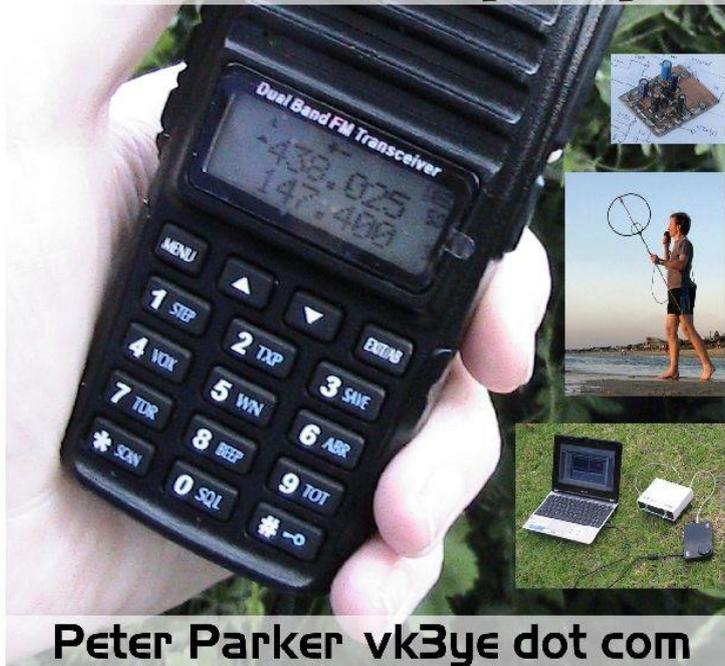
Meaning each channel can drive a 25V peak, or 17.6V RMS, into a 4 ohm load that is about 75W, without using a BTL setup. However you can tie both channels together, kind of BTL style, meaning 50V peak, 35V RMS, or 150 odd Watts into an 8 ohm speaker. Note usually you are limited to an 8 ohm speaker, as a 4 ohm one would effectively be placing a 2ohm load on each output – ouch!

Extracts from *Getting back into Amateur Radio*

By the author of *Minimum QRP*

Getting back into Amateur Radio

What's new and what you forgot

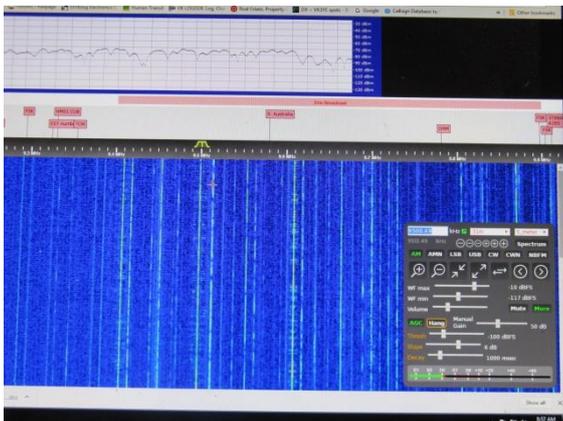


Peter Parker vk3ye dot com

Item 6: Getting a taste of amateur radio (you don't even need a receiver!)

For nearly 40 years from about the mid-1960s most amateur activity was like a 'secret society' that needed ownership of a special receiver to hear. The switch to single sideband and the disappearance of shortwave bands from regular radios reduced the chance people heard us.

We have now come full circle. It is once again possible for the general public to tune in with equipment found in the average home (or even pocket). This is via free online receivers set up by listeners around the world. Typically covering segments of HF, VHF and/or UHF, the spectrum is laid out on a screen (below). Each signal causes a peak that you click on to hear. After setting mode and bandwidth, you fine-tune with your mouse to resolve it. This way you can hear what the bands sound like without buying a receiver.



Hundreds of receivers spread all around the world can be found via websites such as

sdr.hu, globaltuners.com, or websdr.org.

Search your city or country for one near you. Alternatively, try a distant receiver for an idea of conditions and activity on the other side of the world. Even better is that when you get on air you'll be able to use one to check the strength and quality of your transmission compared with others.

Is reception as good as your own receiver? Possibly not, especially if you're in the country. Many online receivers have limited frequency coverage or use small antennas from locations with high RF noise. What is heard is not necessarily what you would hear on your own receiver. But this in itself is educational, as it teaches how propagation and reception varies from place to place. Online receivers are one of the biggest recent advances in amateur radio and experience with them is highly recommended.

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 : 15th September 2017

Start time : 8:27

Location : Club rooms.

Chairperson : Ian Jackson 3buf

Minute Taker : Michael 3ghm

Present : As per attendance sheet

Visitors: Nigel

Apologies : As per attendance sheet.

Correspondence received : listed and tabled

Correspondence sent : listed and tabled

Treasurer's report : As in the dropbox

Read & Moved : **Seconded :** **Carried :**

New Callsigns :

Previous Minutes : As per Gateway magazine

Moved : Leigh **Seconded :** Bruno **Carried :** Yes

Business arising from the previous minutes :

- "Open mic" session from August meeting was produced as a single sheet and forwarded to the President and Secretary of the WIA and therefore the board. A reply was received from the President Justin thanking us for our input and has sent it to the board and the Strategy committee.
- GGREC card produced at the last meeting are available for distribution.
- Grahaem and Ian went to the repeater site at Mt Worth and replaced the battery.
- Jamboree on the air (JOTA) currently we have insufficient numbers with WWCC credentials to be able to proceed. Ian will notify the Guides that we can't attend.
- So far we have had 3 sessions of WYNTK (what you need to know) with a few more sessions planned. Any ideas would be appreciated. The info sheets are on the GGREC website.
- 6m repeater we have had for 30 years that was at Cockatoo. It is currently in storage. We need thoughts on what we would like to do with it. Do we let it lapse? If we maintain it where do we put it? GGREC club rooms? Graham's place? Frankston water tower? After some discussion the members decided to set it up at the club rooms for the time being.

New business:

- Future planning for a weekend away so that we could use the field kit etc.
- Maryborough weekend around the 21st November. Human powered vehicles etc. will be placed in the October Gateway magazine
- Presentation at next month's meeting of a Tesla electric car
- Meeting format. Suggestion that the meeting format changes. Either keep going as we have been or change to a shortened format with important info available to view online. This is to minimise the official type input except as required. So long as it conforms to the club constitution and is legal from an incorporated view point. After some discussion it was unanimously decided to try a new format for the next 3 meetings. i.e. until the end of 2017.
- New members/visitor info pack. Bruno to go through the current info that's available and bring back to the members/committee
- Please make an effort and keep the club rooms clean.

Meeting closed : 9:12 pm

Next Committee Meeting : 1st/2nd Tuesday of the month

Next Prac Night : 1st Friday of the month

Next General Meeting : 3rd Friday of the month





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	Ron Lacey	VK3FRDL			

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 vk3tgx@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