



GATEWAY

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

April 2020



Zoom meetings

Upgrading to Wi-Fi 6

Crazy Repairs

And More

Contents.

- 3 – Presidents Report
- 4 – From The Editor – Camera fun
- 5 – From the Secretary – club meeting arrangements, AGM, & dues.
- 7 – Zoom Meetings
- 12 – Crossword puzzle
- 13 – Crazy Repairs – that should not work
- 14 – So You Want to Upgrade to Wi-Fi 6?
- 16 – LED Voltmeter repairs
- 18 – Club Information

Note: - club meeting minutes are on the club website

Event Queue

April:

- | | |
|------------------|---|
| 17 th | General meeting – 8:00, Video link (Coronavirus) see page 5 and club emails |
| 18 th | VK QRP Club QRP HOURS contest on 80m, 10h UTC – courtesy WIA |

May:

- | | |
|---------------------|--|
| 1 st | Prac night via Zoom |
| 15 th | General meeting |
| 30-31 st | CQ World Wide WPX Contest – courtesy WIA |

<p>Club run events are only possible with the involvement of ALL members.</p> <p>Without volunteers to coordinate and participate in club events the club will fail to prosper</p>
--

President`s Report - Tony Doyle VK3QX

Hi Members,

I hope you are all staying well and finding enough distractions and things to do amidst the current Covid19 crisis.

It has meant big changes to the way we live our lives but it must be done to ensure people are kept safe.

There is hope that our early action has saved us from the same fate as Italy, the US and the UK. We can only continue to do our part.

The committee and willing helpers are doing our best to ensure that everyone can stay connected to the club, having moved our meetings to the Zoom online video platform.

This works really well and allows everyone to get involved.

In lieu of Prac Night this month, Craig VK3FHCC put in much work to organise a Quiz Night using Zoom. Myself, Brian VK3FLEX, Nils VK3FLYS, Arthur & Helene joined the meeting and had a great time with Brian taking out the donated prize, a roll of toilet paper (to be collected at a later date of course). We do wonder whether there was a bit of a slight of hand there so there may well be a prize substitution....watch this space! A big thanks to Craig for the hard work he put into the night. Well done Craig.

The Morse training has also transitioned to Zoom this week and the learners are progressing well. Thank you for your efforts Helmut VK3DHI.

WIA have also started looking at how clubs are operating and have flagged Google Meet being made available to the clubs, leveraging off their account. They were supposed to provide logins on April 9, however, we are yet to receive these to enable trials. We will keep you informed on progress.

As you are aware we were due to hold the AGM in April. This has now been deferred until after the Covid19 crisis so that we can meet in person. The current committee has elected to remain in caretaker mode until the AGM can be held.

Albert VK3BQO has kindly volunteered to audit the club's financials and is working with the Robbie VK3XIN to gather the required information.

We hope to see you all at the GM on Friday Night, via Zoom of course.

Stay safe.

73

Tony



<https://zoom.us/download>

It runs on PC's Apple MAC's, phones and tablets.

Gateway is the official journal of the Gippsland Gate radio & Electronics Club.

It is published in good faith for its members and other interested parties. The articles here in do not necessarily represent the views of the committee or the membership.

Any material that may be copyright has been included with permission where available.

If there is an issue with copyright please contact the editor



From The Editor – Camera fun



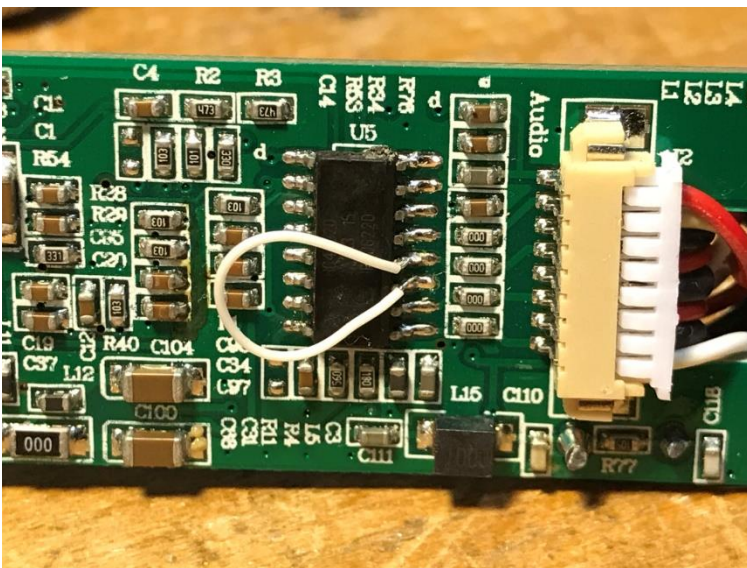
With the club moving to an online presence it was time for me to start implementing things. The first was to get some video flowing into my PC, I had tried doing a Zoom meeting on my phone, and that worked ok, it did limit me somewhat as I could not add extra content normally used for church prayer gatherings. On my PC I can share the screen, where various documents can be opened for all to read. I can also share the computer's audio, so playing recorded messages from our priests etc. is on. As for the GGREC, the talk was getting Zoom audio onto

the airwaves as the first Zoom meeting was awfully quiet. We had only 9 computers connected, although one or two had their partners etc. that would usually attend a meeting.

So I started looking through my kit, I had already propped a Beringer mixer desk next to my computer, to act as a microphone pre-amp for Zoom, so it's also become a rig interface. In my study I use a remote console to talk through my rigs out in the shack, yes I have a radio in the house, however a chimney mounted 2m whip does not compare to one atop my Nally tower.

The next question is can we override the RGW repeaters timeout timer, it is been looked into, but I have heard nothing back, so if anything this Friday's session will be on 2.

Anyway, I digress, my challenge was getting video into Windows 10. Most software these days seems to now only support windows 8 and above, and all my cameras are older than that. I tried 2 USB cams, one even being branded as Microsoft. I also had 2 video capture devices that should let me use any old PAL security cameras etc. Nothing worked, windows 10 could find no drivers for any of them. ARRRGGHHH Microsoft. Then I remembered a 4 camera USB security recording device. I eventually kind of found a driver for it. This unit has a close cousin that is intended for importing VHS tapes etc. It uses the same main chip, and the driver was happy.



I plugged a camera into each of the 4 inputs in turn, nothing. It was acting like no video was present. So like all tinkerers I pulled it apart to discover a 4 way CMOS selector switch ahead of the main video capture chip. The PC driver was fine with the main IC, but new nothing about this one. So I put a bodge wire between video in 1 and the output of that IC, *Yippee*, we have a picture! Yes a solder blob would work, but if I wanted to restore it to normal operation, a bodge wire is a lot easier to remove. That's why it's so long.

Paul VK3TGX

From the Secretary

Hello GGREC Membership,

This is just a note to let you all know what is happening within the club during these trying times and what your committee is doing to keep the club moving forward for when things get back to normal.

As part of the club's requirements the "Secretary" (me) must report annually to Consumer Affairs Victoria and supply to them a statement of the club's finances after being ratified by the membership at our Annual General Meeting.

Due to the current restrictions in place regarding "public meetings" etc. the GGREC Annual General Meeting for April will not go ahead and therefore the finances of the club cannot be ratified by the membership at this time. I have successfully applied to C.A.V. for a 3 month extension to submit the ratified finances of the club. I have also stated that we will be able to submit an "unratified" financial statement in the interim if required, obviously subject to the club agreeing with it when we can "get together" to do so.

Albert VK3BQO has generously taken on the task of reviewing the club's books for 2019 / 2020 and will advise his findings accordingly within the next month or so. Possibly if I email a statement of the club's books to you, the membership, after Albert has given his findings, possibly a yes / no vote sent back to me may suffice? I'm not sure; further discussion will be required on this point. I'll keep you advised (on this).

The Health Dept. has put a 6 month time frame on "no public meetings" as I type this message which means that all going well, things will be back to normal for November. Unfortunately what this also means is that the GGREC Hamfest will not go ahead as planned this year in July. The committee is looking at possibly holding the Hamfest in November. This will be advised at a later date. The ramification of this is that the club may lose its main income stream for this financial year. Basically the club has 2 income streams, the Hamfest and the membership fees. In the same breath the club also has continuous outgoings or "costs" for the next financial year, things like electricity bills, Guide hall hire (not at the moment due to no meetings being held) club and repeater licenses, club membership fees, club functions and donations etc.

The committee asks that you be diligent in renewing your membership please. Note that the fees have not changed from last year, they are as follows;

Full Member	\$50.00
Pensioner Member	\$40.00
Junior Member	\$25.00
Extra Family Member	\$20.00

Electronic payments can be made to,

Gippsland Gate Radio & Electronics Club INC.

BSB	633000
Account	146016746

Please identify your EFT payments (as well as any Cheques & Money orders) with your callsign in the reference of the transaction.

Cheques and Money orders can be mailed to,

GGREC
c/o
408 Old Sale Rd,
Drouin West, VIC.
3818

Membership fees are due by the 17th of April, with a grace period until the end of May.

The club can financially withstand losing the Hamfest for one year but a drop in membership fees could limit what we, as a club, can do next year.

One last point, as per the Clubs standing orders all committee positions become vacant at the club's AGM in April. As we are not having an AGM in April this clouds the committee's status and positions. It has been decided by the committee that every committee member will stand down from their positions effective on the 17th of April 2020 but, remain in a "caretaker" role to keep the club functioning and to maintain "business as usual". When the restrictions on "public gatherings" are lifted and the AGM is eventually held, all nominations and positions can be put forward and the positions decided then.

Thank you GGREC members. Please stay safe and your committee looks forward to catching up again soon when things get back to normal,

Cheers and 73,

Rob.

Secretary / Admin Secretary

GGREC.

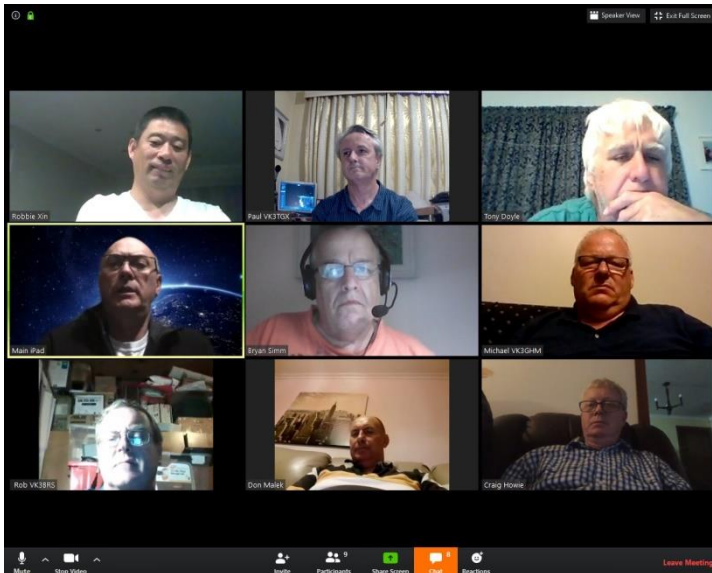
P.S. The April GGREC General Meeting will go ahead next Friday the 17th of April as per usual starting
at **8:00pm sharp** via the Internet conferencing software Zoom



<https://zoom.us/download>

It runs on PC's Apple MAC's, phones and tablets.

Zoom Meetings



If you haven't noticed, the GGREC is now using Zoom during the current Coronavirus 'season', we have paid for its use, so swapping to an alternative would be a bit wasteful money wise. I've been told quite a few organizations, like schools, are using it.

I was originally a little worried by their fine print which mentions advertising material and all the carry-on that ensues with it; however that seems to be a bit of a false alarm. A lot of companies are now using ad's to pay for 'free' services. TV being a prime example, probably followed by Google, and who does not use them – So worry not.

I have now used both the paid (GGREC), and the free version and have seen no ad's

So how do you do it?

At the very bottom end, a normal telephone will do, Zoom supports calling in with any phone, landline, cordless, ancient mobile, etc. Yes you will not see anyone, but at least you will know what's going on and will be able to participate.

We are currently looking into also running it via a radio link, basically like a club net.

So if you want to get a little closer, you'll need a screen of some sorts or another, a smart phone is a good start, as it has everything you need, all in one box, although a stand of some sorts would be handy, as holding a phone for an hour strait is a tad hard. Ideally you want your camera (phone) at a reasonable height, at a distance that gives a good shoulders and head shot, as an example, think of the news presenters on TV. Commercial stands are readily available, however a pile of books, etc. will do to get a phone up to your level, then just lash your phone to a jar etc. with a rubber band, or bluetac and prop it atop that pile of things.



With a laptop, they generally have a camera at the top of the screen, so you would do well to get a stand of some sorts from the local computer shop, or Officeworks etc. This one, from Officeworks is listed as their best seller and goes for \$59, although they do list a cheaper unit. I would not recommend a pile of books etc. as I did for a temporary phone stand, as laptops are heavier, and you generally need access to the keyboard and trackpad, so some form of sloping surface with a stop to keep the laptop from sliding off the bottom seems best to me.

For a desktop computer, you will probably need to find/buy yourself a camera, although this is not entirely necessary, it is nice to be able to show your face, however if you don't have one, don't let that stop you. Our first GGREC zoom meeting did not have that many participants unfortunately, so don't hold back – join in.

Windows 10 is a bit fussy and does not like 'old' webcams, however Linux is usually a lot more forgiving, and lots of older cameras (and capture cards) can be coaxed into life.

Also other cameras that you would not normally call a webcam can also be used. In my radio shack I installed a Sony colour security style camera years ago, it hangs off the side of a 19 inch rack and was originally intended for use with my ATV transmitter, hence my callsign being in the picture – courtesy of the camera itself.



Yes, the picture is not high-def, but it works and gives a good view of the shack. I'm hoping to give it a run on the next prac night, I missed the first – I never saw the email.



This is my latest 'trick', using my Canon DSLR as a webcam, quite a few video bloggers etc. are now trying this, if you already have one why leave it in its case?

One problem is that a lot of them don't come with the required software, so a third party solution, like SparkoCam is needed, unfortunately this costs \$50+ USD, luckily I found a solution via church, as they would like me to live-stream them.

You may be more lucky with your camera, get it out and check it out, either on the manufacturers

website, or just try googling "xxxxx as webcam" (with xxx being your camera model)

Another camera I tried on my first GGREC zoom session is just hiding behind the Canon, it's an ip/ethernet based security camera, much higher deff than the old composite PAL camera in the shack, and while it gave quite a good high-res photo, the lag in the video was horrendous.

I think most of the blame was on the software I was trialling, and part was the camera doing all the internet packet assembly etc. A much faster PC than my old i5 would help, but I'm not about to race out and buy the latest 16 core AMD Ryzen rig just to do a Zoom teleconference.

One of the great aspects of the old Sony cam in the shack is it's all but zero lag video.
Pity Zoom crops it to 640x480



Here is the setup I used for a church zoom prayer meeting. The plastic base is from a dead computer monitor, topped with a Manfrotto ball mount, and a smartphone clip from the local camera shop, the clip was about \$20 from memory, the ball mount I scored for free, they are premium, so an eBay knockoff would be heaps cheaper.

However the main point of this picture is the positioning, on the kitchen table in front of a window. It's a bit hard to make

out me and Marianna, however the main point is that we are well illuminated. Sitting crouched over a laptop in a darkish room will leave you with a ghastly noisy blue tinted pic as the only illumination will probably be from the laptops LCD display, the room light probably behind you,



i.e. useless. Worse still if you wear glasses as they will reflect the laptop's screen straight back into the camera – laptop/square eyes anyone? (No I'm not saying don't wear glasses)

Here is my video light, atop a tripod. Is this what you need – **NO**, maybe if I could bounce it off the wall behind my screen, without it getting reflected in the screen, then maybe, but generally it's too bright and all but blinding. A room with lightly coloured paintwork and a decent light without a lightshade that steels most of the light (think of most table lamps) is what you need. Or an open window with diffused light from outside, not direct sunlight.

If the picture you see is bright & sharp, and not noisy with a horrible colour tint then you've probably nailed it. If not, try temporarily putting in the biggest bulb you can get into your room's light fitting (remove it afterwards) to see if that helps, or just move to a brighter room.

Did my first effort pass, no, but hopefully it'll be better next time.

Next, if you are using a desktop PC, do you have a microphone & speakers? Quite a lot of webcams come with an inbuilt microphone; otherwise, it's off to the computer shop. One possible option is a cheap set of headphones with a microphone.



This set from Officeworks is only \$5, unbelievably cheap, probably not any good for music, but perfect for zoom use.

These have 3.5 mm plugs, so check to see if your PC has these sockets, it probably has.

At this price point, getting it wrong probably doesn't matter; they can always be repurposed as a radio headset.

CentreCom lists a Logitech USB set for \$55, so if audio sockets are an issue on your PC, then USB may be the solution.

One catch with headphones, quite a lot of stores are into extremely expensive sets for music, fine if you don't mind the price, but absolute overkill for this use.

Next comes the software, luckily the viewer/client is free and versions are available for practically anything you can name.

The windows version is amazing in this day and age as it still supports Windows XP!. With windows the only limit is it does not support Windows 10 in 'S' mode – as that will only run software from the windows store – I highly doubt you will run into this one, so ignore it.

For a laptop or desktop, head on over to <https://zoom.us/download>

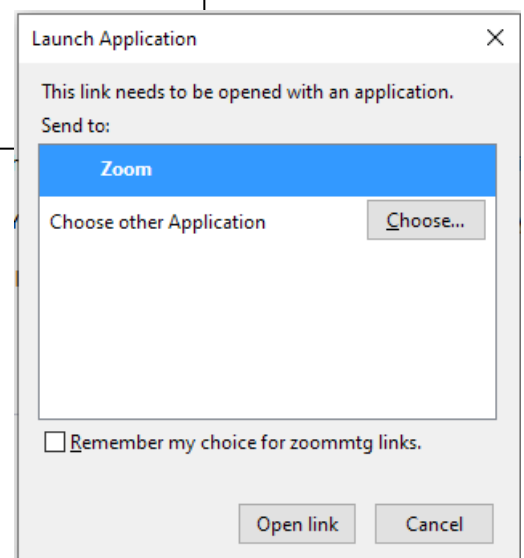
If you are using an Apple phone, or tablet, go to the Apple app store, the same goes for Android. Otherwise a Google search should lead you in the right direction.

Hopefully nearer to the meeting the committee will send out a Zoom invite, clicking on that link should ask you if you want Zoom to look after it

The link will be something exactly like this

Join Zoom Meeting	
https://us04web.zoom.us/j/5044411002?pwd=SIJ4QTBqWXBKSERTRjkwVVlvb2hDdz09	
Meeting ID:	504 441 1002
Password:	ggrecgm

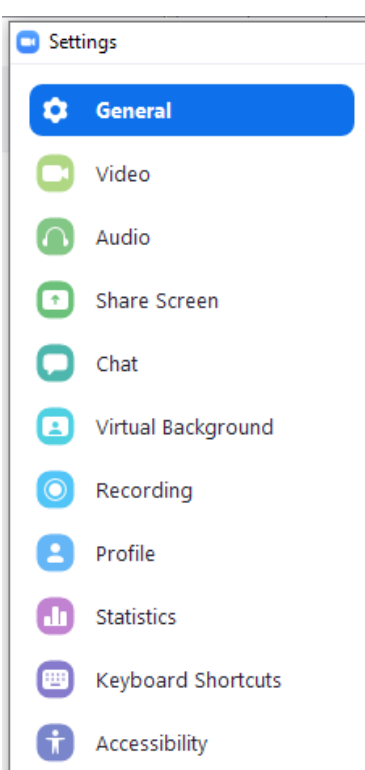
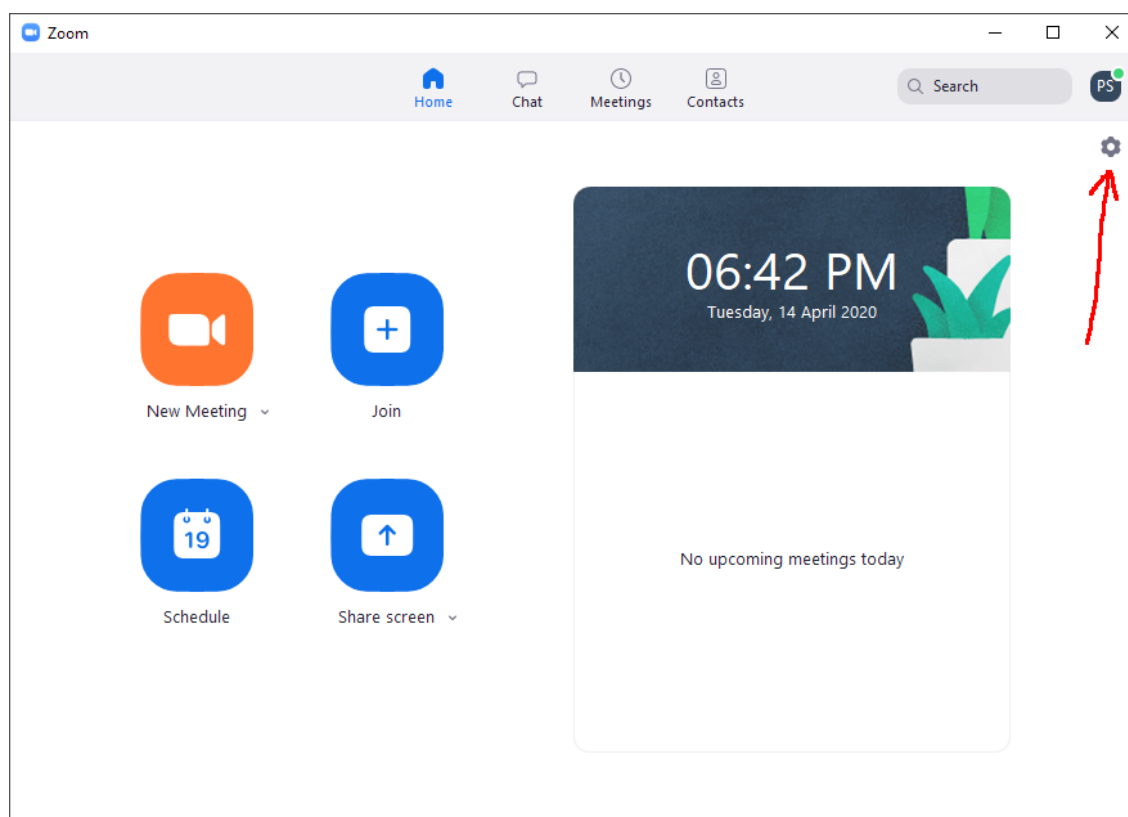
Clicking on it should give you this ->>>>>
(Windows 10)



If you already have zoom running and go to open a meeting, it will ask for a meeting number, and password (if set by the meeting originator) – see the club email for these

If you don't want to use Zoom, look out for a phone number in that hopefully will arrive

Before the meeting, if you want to check your setup, run the client, and create an account. You don't actually need an account to join a meeting, however one is very handy to check your system setup etc. When you have created an account, you should see this page.



Click the little gear wheel arrowed above, then you can then go and adjust all your settings, but more importantly, use the video and audio sections to test that all is working as it should.

There is lots to play with (if that's your thing) so consider setting up a meeting with a fellow club member so you can familiarise yourself with it all.

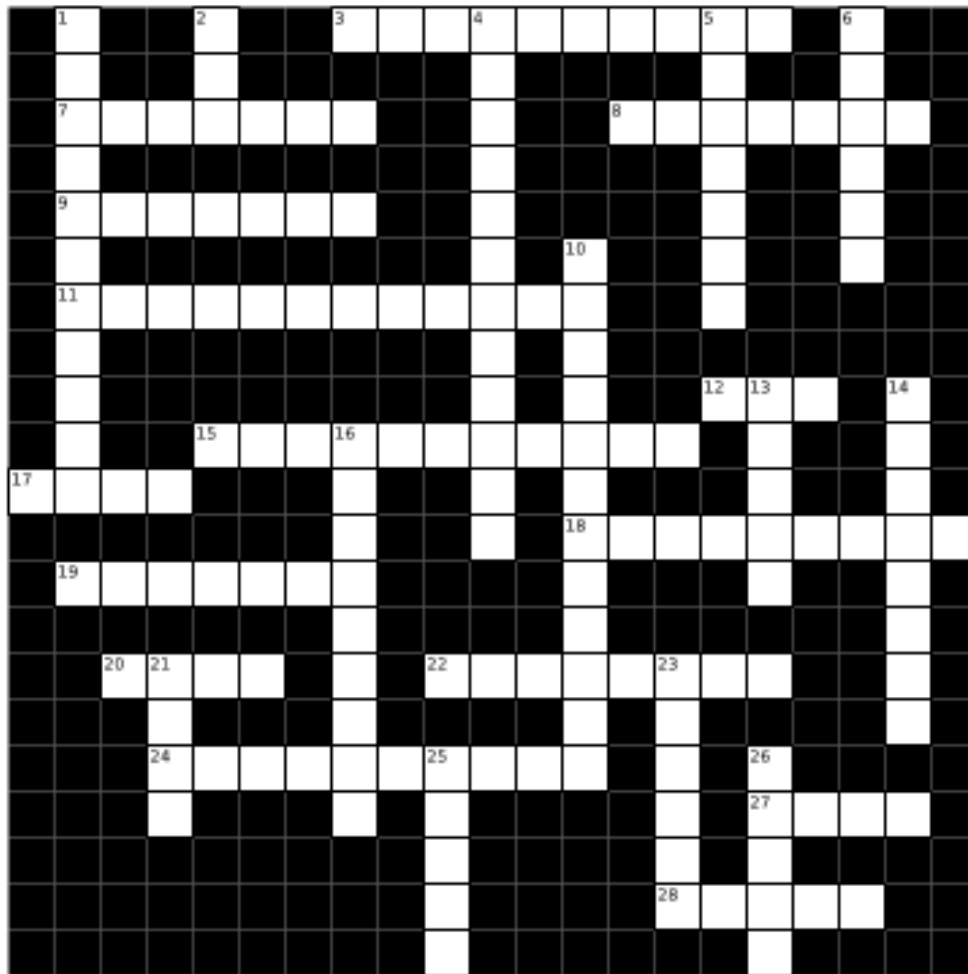
Even when? we get past this coronavirus, I think zoom would be an excellent tool to keep using.

Yes, we can have our nets, but being able to show people what you are on about, and hopefully getting some help is well worth it.

A small camera can get your remote helpers into some obscure places, for say help on that 'thing' in the back of a new toy etc.

Paul VK3TGX

Crossword



- Across
- 3 Determined by Voltage and Current
 - 7 Make signals larger
 - 8 Used by racing cars and electricity
 - 9 The modern way of mounting components on Circuit Board
 - 11 Unwanted artefacts
 - 12 The measurement of current
 - 15 Electricians work with this every day
 - 17 What animal did Galvani use for his electrical experiments
 - 18 Region South of Melbourne
 - 19 Used to receive and send radio signals
 - 20 At least one found on every farm and a pin on a FET
 - 22 A wire coil wound around a ferrite rod
 - 24 Used to convert sound into electrical waves
 - 27 An historic battery
 - 28 Another name for Ground

- Down
- 1 A module of a Ham radio not found in consumer radios
 - 2 I'm an animal that if you touch me you will get a shock
 - 4 Result of a light/s switched on
 - 5 Used to transmit information wirelessly
 - 6 Used to allow and block the flow of electricity
 - 10 My Generators were the first to be installed at Niagara Falls
 - 13 Dit's and Dah's
 - 14 A form of the alphabet used in noisy environments
 - 16 The Leyden jar was the worlds first (now known by a different name)
 - 21 Communications Authority
 - 23 Volta initially used this as 'Volt Meter' to test if there was electricity in his attempts to make a battery
 - 25 Cycles per second
 - 26 A fleeting indication of the presence of Electricity

Cheers, Craig

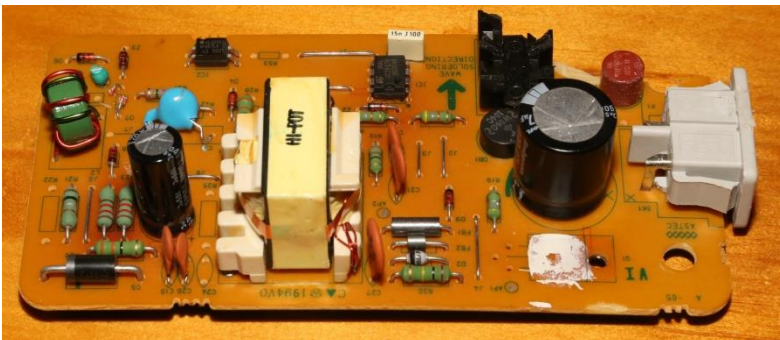
Crazy Repairs



Many moons ago I received this stage / party light from Graeme VK3XTA, it was in bits, back hanging off with no power supply.

In another box of castoffs was a small power supply board that looked like it may well have come from this light. However it was missing its switching transistor. I had no idea what part was originally in there.

Moving on, I was having a clean out the other day, and in there was a busted power pack from a laptop? It had been violently disassembled; the switching transformer and part of the PCB had been torn away. It still had useful parts on it, so it had remained in the shack awaiting being stripped.



I was about to toss it into a box to get it off my workbench when I remembered that other supply – suspected as being from this light. It was only about 2am, and I was looking for some satisfaction, so I warmed up my desolderer and pulled the FET? off that board. The only thing I really took notice of was the fact that the

assembly plant that built this supply had seen fit to apply some silicon grease to the transistor. Normally this is done to aid thermal transfer into a heatsink. Trouble was, there was no heatsink, they were trying to thermally bond it to the phenolic PCB it was bolted to – bizarre.

So I pulled out this unknown and untested device and inserted it into the other power supply, the only issue being finding a suitable screw and insulating pad to attach it to the heatsink in the 'new' supply.

I then popped it into the lamp and hard applied 240V, bingo it worked!

It should have gone bang in my face (I had no PPE) and taught me a lesson, but it didn't.

Now in this time of social isolation, what am I going to do with a multi-colour party light?

Paul VK3TGX

So You Want to Upgrade to Wi-Fi 6?

February 27, 2020 / General

In the first of this two-part post, we'll discuss the new and upcoming Wi-Fi 6 standards and the performance benefits.



In September 2019, the Wi-Fi Alliance launched its Wi-Fi CERTIFIED 6 certification program for Wi-Fi devices based on the upcoming IEEE 802.11ax Enhancements for High Efficiency Wireless (HEW) LAN standard, scheduled to be ratified by the middle of this year. Like we've seen with past generations of Wi-Fi, devices are starting to show up in the marketplace well ahead of the standard and are rapidly becoming the norm.

Netgear, Arris and Asus recently introduced Wi-Fi 6 access points, and even Comcast has announced a Wi-Fi 6 version of its Gateway for residential use. The latest iPhone 11 and Galaxy S10 smartphones include support for Wi-Fi 6, and Lenovo, HP and Dell have all announced laptops with Wi-Fi 6 on board. And there's more to come with the introduction of Wi-Fi 6E that is expected to unlock the full Wi-Fi 6 feature set to dramatically improve the wireless experience.

Now that it's officially here, many enterprise businesses are looking to upgrade. Let's take a closer look at what you get with Wi-Fi 6 and what upgrading entails.

Just Keeps Getting Better and Better

Wi-Fi 5 (802.11ac) finally gave us wireless speeds beyond 1 Gb/s, which was the main driver for IEEE to introduce 2.5GBASE-T and 5GBASE-T that allows the installed base of Category 5e and Category 6 to potentially provide support. But apparently with virtually everyone using the wireless network, those speeds just weren't enough. Enter Wi-Fi 6 with the ability to now deliver 10 Gig transmission through the use of eight spatial streams that each transmit at 1.2 Gb/s compared to Wi-Fi 5 at just 866 Mb/s per stream.

Wi-Fi 6 also can operate in both the 2.4 GHz and 5 GHz bands versus the 5 GHz band only for Wi-Fi 5. While the 5 GHz band continues to be used primarily for less interference and faster rates (the higher the frequency, the more radio waves), 2.4 GHz is still better at penetrating solid objects and covers longer distances (about three times farther than 5 GHz). There's also less interference today in the 2.4 GHz band since many of the devices such as cordless telephones that use this band are going by the wayside. Wi-Fi 6 has the capability to use both frequencies simultaneously to increase the amount of data that can be transmitted.

Apparently, as more and more devices take advantage of Wi-Fi, even Wi-Fi 6 is expected to be impacted by congestion. That's where Wi-Fi 6E comes in with its ability to also operate on the 6 GHz band. Wi-Fi 6E will extend the capacity of Wi-Fi 6 by using up to 14 additional 80 MHz and 7 additional 160 MHz non-overlapping channels in the 6 GHz band. Primarily intended for applications like high-definition video streaming and virtual reality, Wi-Fi 6E will support even more users to reduce congestion—and it won't be plagued by older Wi-Fi 5 devices using the 5 GHz band. In other words, only those devices with support for Wi-Fi 6E get to use the 6 GHz spectrum.

When Wi-Fi 6E comes to fruition is anyone's guess since the use of the 6 GHz spectrum requires regulatory approval by the US Federal Communications Commission, and while they say it's coming, we all know just how quickly federal government approvals DON'T happen. But once regulatory approval does come through, Wi-Fi 6E devices are expected to hit the market immediately.

This article was copied by Rob, VK3BRS

This article and all information contained within is credited to Fluke Networks, article taken from

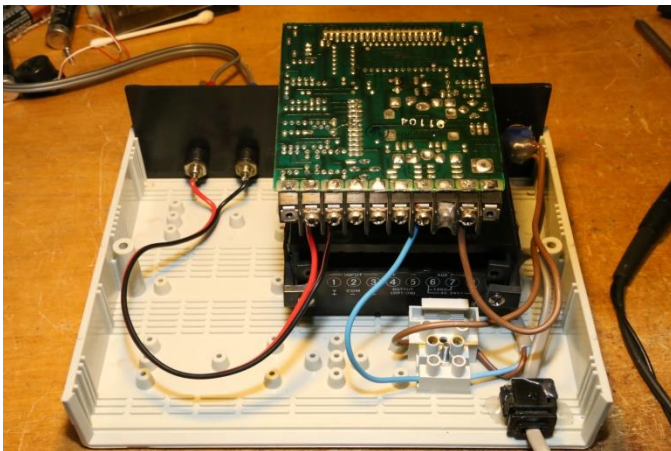
<https://www.flukenetworks.com/blog/cabling-chronicles/so-you-want-upgrade-wi-fi-6?>

The logo for Fluke Networks, featuring the word "FLUKE" in a bold, sans-serif font above the word "networks" in a lowercase, sans-serif font. Below "networks" are three small dots.

LED Voltmeter



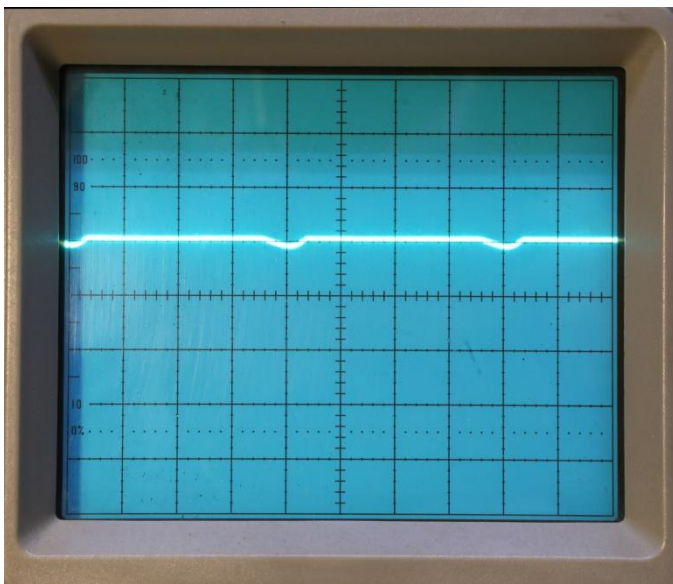
Another repair candidate. I was given this voltmeter, it's basically an industrial panel meter bunged into a standard plastic box. About the only thing the box is doing is to keep ones fingers away from the exposed terminal strip on the back of the meter module, exposed 240V terminals are a bit of an issue.



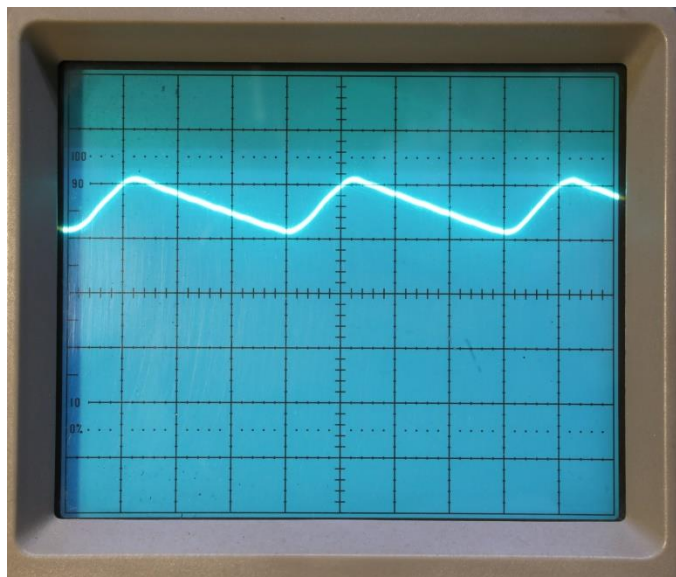
It kind of worked except every now and then it would go a tad crazy with the displayed voltage jumping all over the place.

I had found a use for it, so this fault needed to be sorting out.

Usually the first thing to check is the power supply, however in this case it had a great pile of dip switches just under the actual display digits, on the front PCB, so I gave these a blast of contact cleaner and gave them a few toggles to make sure corrosion was not the fault. This had no effect, so out with the scope to check out the power supply rails.



This is the main +6V rail, supplied by a 7806 three terminal regulator, no wonder it was losing the plot, if the timing of one of these blips coincides with the meter doing a measurement, it will surely upset the apple cart.



So what was the regulators input like?

Absolutely horrible. 5V peak to peak ripple.

The mains comes in via a transformer, and after being rectified, is filtered by a 680uf electro. So I went into my parts box and out came a 680uf 63V cap, there was plenty of room so my physically larger device (because of its higher voltage rating) could easily fit, with room to spare. And whilst the meter was now behaving itself, I could barely see any difference in the regulators input – So No, this sucks big time.

So back into my parts box and out came a 1000uf 16V cap, this almost halved the ripple, now the regulator has a much better margin before it falls out of regulation. So how did it ever reliably work? Had someone else worked on it and put in whatever cap they had handy at the time? Or is this just symptomatic of how stuff gets built 'over there'?

On the other hand, if it had been done properly, then it would not have been pulled out of service prematurely and being made available to be popped into that plastic case – so maybe I have to be thankful for the extremely poor component selection, otherwise it would not now be in my hands.....

After repairs, I gave it an adjustment, then left it to run for a few hours monitoring my shack's main DC supply. After then it had drifted 0.02V low, actually it was the zero point that moved.

I reset it and left it again, now it was stable, trouble is when cold it now reads 0.02V high, until it again warms up. Not great, but good enough to monitor my old ET1132 power supply that relies on a fairly crappy mechanical panel meter. I was getting sick of reaching for my multimeter every time I made an adjustment, as the inbuilt meter is 'just so good'



Just one extra, I added some "Danger 240V" stickers. I read of a hobbyist who ended up in court because someone got a shock from one of his creations, the only thing that saved him was the warning sticker.

The fool had been warned, so it was his fault when he proceeded to open it up.

Paul VK3TGX



Club Information



Meetings 20:00hrs on third Friday of the month ~~at the~~
~~Cranbourne Guide hall, Grant Street Cranbourne~~
 Prac nights first Friday ~~in the Peter Pavey Clubrooms Cranbourne 19:30hrs~~
~~Visitors are always welcome.~~

Office bearers

All physical meetings suspended due to the coronavirus restrictions

President	Tony Doyle	VK3QX	Web Master	-	-
Admin Sec	Rob Streater	VK3BRS	Magazine Editor	Paul Stubbs	VK3TGX
Treasurer	Robbie Xin	VK3FAMT	Property Officer	'committee'	
General 1	Helmut Inhoven	VK3DHI	Assoc. Secretary	Rob Streater	VK3BRS
General 2	Leigh Findlay	VK3FACB			

Call in Frequencies, Beacons and Repeaters

The Club Station VK3BJA operates from the Cranbourne Clubrooms.
 6m Repeater Cranbourne VK3RDD, In 52.575 Out 53.575 CTCSS none
 70cm Repeater Cranbourne VK3RGW, In 434.475MHz Out 439.475MHz CTCSS 91.5Hz
 VK3RGW Repeater supports Remote Internet access (IRLP), Node 6794.
 70cm Repeater Seaview 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 (currently inactive)

Membership Fee Schedule

- Pensioner member rate \$40.00 Extra family member \$20.00
 Standard member rate \$50.00 Junior member rate \$25.00
 Fees can be paid by EFT to BSB 633000 - Account 146016746
 • Always identify your EFT payments
 • Membership fees are due by each April Annual General Meeting (AGM)

Magazine Articles to editor@ggrec.org.au Cut off, 10th of the month
 All other Club correspondence to: secretary@ggrec.org.au
 or via post : GGREC, 408 Old Sale Rd, Drouin West 3818
 GGREC Web Site & Archive may be viewed at: www.ggrec.org.au
 Website errors, contact web master: webmaster@ggrec.org.au
 Facebook Page www.facebook.com/GippslandGate