BARG News

Ballarat Amateur Radio Group

Inc. #6953T

March 2022

Monthly Newsletter

Next Meeting

7:00pm, Friday 25th March 2022

At the Airport

All Welcome

Contacting us

You can e-mail the secretary

vk3bml@barg.org.au

We're on the web

www.barg.org.au

https://twitter.com/vk3_barg

https://www.facebook.com/groups/VK3BML/

Presidents March Report

Hi All,

2022 is well underway now and we're finally seeing a return to activities in a format more like pre-covid. We've had the first George Fowler auction in two years with around 30 members and guests joining for the day. After kicking off with a BBQ sausage the auction itself was led by Craig, VK3KG. A range of pre-loved gear changed hands with more than a few buyers getting a bonus wall wart thrown in to increase the value. Pretty much everything sold with a range of prices. Starting at $1 and up to in excess of $100 for a couple of items.

This weekend is the John Moyle field day. The club assembled a small station out at the airport attended by myself, Peter, PWG, Ben, NRD, Tom DMK and several guests. We managed 56 contacts for a grand total of 112 points. The day was fortunate to have excellent weather though it was a bit windy.

We had planned to head out to Ian, VK3YFD's place however when we had a very small number of members indicate their desire to participate, I move the event back to airport. I understand Ian had already spent time preparing space for the club to use, so I have to extend apologies to Ian. It wasn't my intent to waste his time.

On Saturday April the 9th the club has secured a Bunnings BBQ slot at the Delacombe Bunnings. We really need assistance from at least eight members, ideally 12 members. 12 members would allow us to run three shifts, minimising the time that single member needs to spend. With eight we can run a morning and afternoon shift. Please let me know if you can assist, and what times suit.

Last meeting Victor Jayakody presented to us on the radio service, Voice of America and his time working at their transmitter site in India. It was a good technical talk with some interesting detail on high power broadcast station activity.

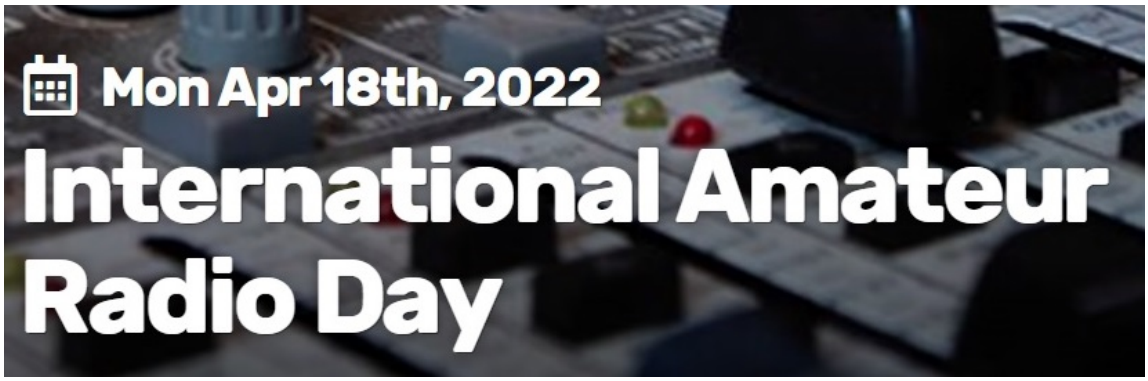
We're always looking for presenters. If you know of someone who'd be willing to give us a talk, do let us know. It doesn't have to be radio related but it's better if they are technical in some way.

That's all for now.

73

Mal.

Club Nets: VHF NET: Every Tuesday Night at 8 pm on 146.750 MHz - VK3RBA
HF NET: Every Thursday Night at 8 pm on 3.608 MHz - VK3BML
6m NET: Every Tuesday Night at 8:30 pm on 53.650Mhz RX / 52.650Mhz TX - FM with a 91.5 tone - VK3RWU
REPEATERS: VK3RWA - 147.100, VK3RBU - 438.475, VK3RPC - 144.750, VK3RBT - 146.650
VK3RBA, Mount Buninyong - 146.750 & 439.275 & 1273.925
VK3RBA and VK3RWU on Mt William, VK3RCU on Mt Moliagul, VK3RBH in Geelong and VK3RAD in Mitcham are linked. All on 70cm.
VK2RWB, Mt Gwynne added to the linked system. The system can be accessed via IRLP node 9503.



International Amateur Radio Day.

International Amateur Radio Day is celebrated on April 18 every year to mark the day when all amateur radio operators globally go on air and celebrates

In the early 1920s, the first shortwave spectrum was found by amateur radio experimenters could support worldwide propagation.

In April 1925, the International Amateur Radio Union was established in Paris. These intrepid explorers have discovered that the shortwave spectrum that amateurs use radios to transmit and receive can link people all over the world, something no one had thought of before.

The group of radio researchers proved this theory wrong with an experiment and banded together to advocate and protect bandwidths that would serve the community of radio enthusiasts.

Since, International Amateur Radio Union has worked hardly to expand the range of bandwidth to radio fans and has increased with a lot of members from 25 countries over the world.

Amateur Radio has only developed quickly from those early days with more than 3,000,000 licensed operators spreading their voices globally today. Through this medium, people from different countries and cultures were able to spread ideas at a rapid pace, long before the ability to email or video chat became possible.

How to celebrate International Amateur Radio Day

International Amateur Radio Day organizes events worldwide to celebrate this great invention and bring together those who still see the value in being able to skip a radio station across the ionosphere thousands of miles away and unite the two together through a wave of energy oscillations.

If you've ever watched or worked with an amateur radio station, take some time on International Amateur Radio Day to learn what the station is for and what can be learned about getting familiar with a beginner to begin to explore the world of radio amateurs. International Amateur Radio Day is a wonderful opportunity to explore the Amateur Radio world and find and make new friends and communities that exist all over the world, so what are you waiting for?

http://www.arrl.org/world-amateur-radio-day

George Fowler Annual Auction 2022

Contributors, Tom VK3DMK, Mal VK3OAK

The 2002 auction got of to a great start with good turn out form BARG and surrounding Club members.

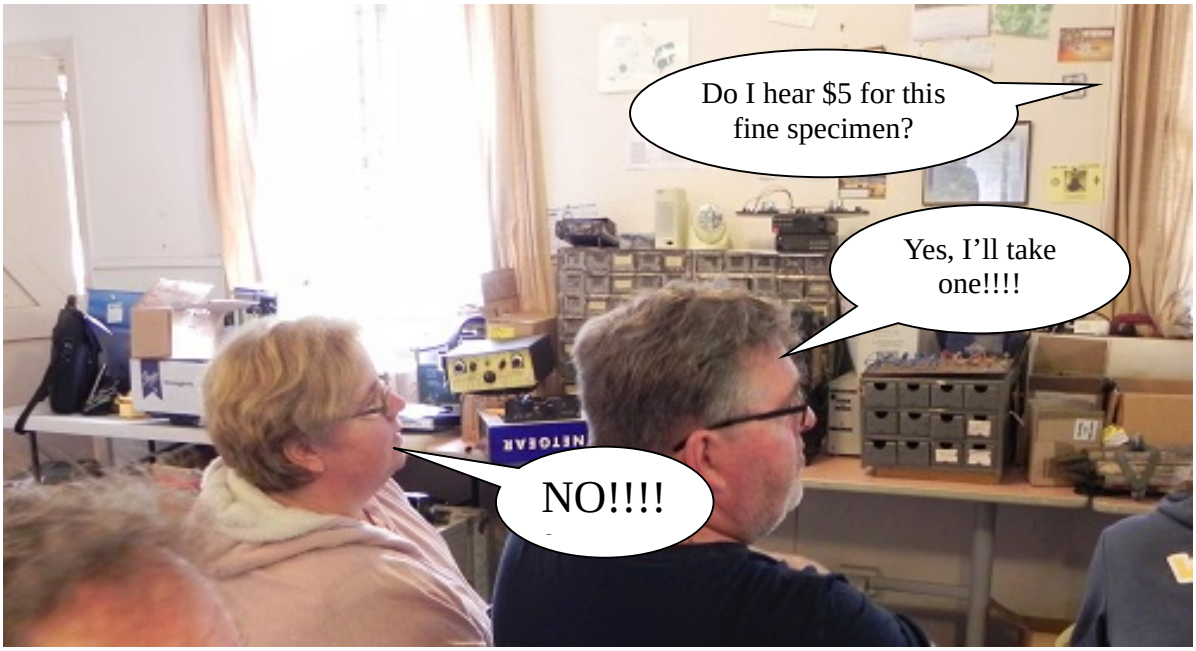
The BBQ started the day, with snags and bread, not a la, Bunnings, you were allowed to put the onion where you liked.

The auction quickly got under way with at times spirited bidding on some items of historical or utilisation value.

Depending on the usefulness or lack thereof, freebie extras were added to some if not most purchases.

We know have a group of amateurs with more than enough black or white plug packs to power their projects, and/or DVDs to entertain during those long periods of no DX.

A big thankyou to all involved in catering and running the event, especially to Craig VK3KG our Auctioneer, who ended up removing his sweater as the day progressed. You could tell Craig had been watching quite a few seasons of “Bargain Hunt”.



Craig beginning the hard sell…

Little were we to know how many free “complementary” plug packs and DVDs were to be added to so many purchases.

BARG COFFEE MORNING

THURSDAY MORNINGS FROM 10:00PM

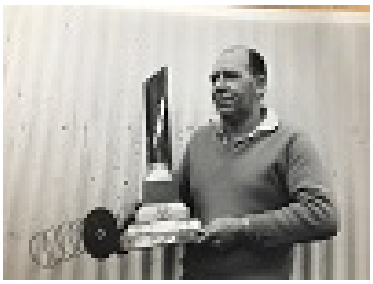
FOOD SEDUCTION ON DOVETON RESTAURANT AND CAFÉ

524 Doveton St Nth, Ballarat

Craig, VK3KG has surprised us with two coffee mornings in a row with his “punctuality”.

RON WILKINSON VK3ZER / VK3AKC

Contributors Bob VK3BNC, AR Magazine, EA Magazine, Tom VK3DMK



Ron Wilkinson VK3AKC was a well-known VHF-UHF operator and homebrewer over the 1950s-1970s. He distinguished himself by making the first moon-bounce contact from Australia on 1296 MHz, with a 20ft homebrew dish and hand-built transverter and kilowatt power amplifier.

Ron was born in March 1919 and served in WW2. He served in Syria and Palestine but ended up in Java. He was captured and sent to work on the Thailand-Burma railway. He was then transported to Japan on a "Hell ship" to work in a copper mine.

In 1956 he gained a limited license - VK3ZER.

Ron VK3ZER and later VK3AKC who lived in both Ballarat and a member of the BARG in its early years, and Geelong.

He became a pioneer of 1296EME from VK.

He held several VHF/UHF distance records. In 1968 he gained his full license – VK3AKC. He won the Ross Hull contest 1964/65, 1967/68 and 1969/70.

Ron was a well-known VHF-UHF operator and homebrewer over the 1950s-1980s.

He distinguished himself by making the first moon-bounce contact from Australia on 1296 MHz, with a 20ft homebrew dish and hand-built transverter and kilowatt power amplifier.

From A.R. magazine February 1970.

MEET THE OTHER MAN

Meet Ron Wilkinson. VK3AKC, ex VK3ZER. who lives at Newtown near Geelong, at an elevation of about 150 feet, right near the water in a DXer's "paradise".

First licensed in 1957, Ron now operates on 52, 144, 432 and 1296 MHz. bands. On 52 he runs 18 watts to a QQE03/12 coupled to a 5-element wide spaced Yagi. 30 feet high.

Receiving is done with a 6AG5 in the front end of the converter. Due to Channel 0. activity is restricted to Sunday mornings or after t.v. closes.

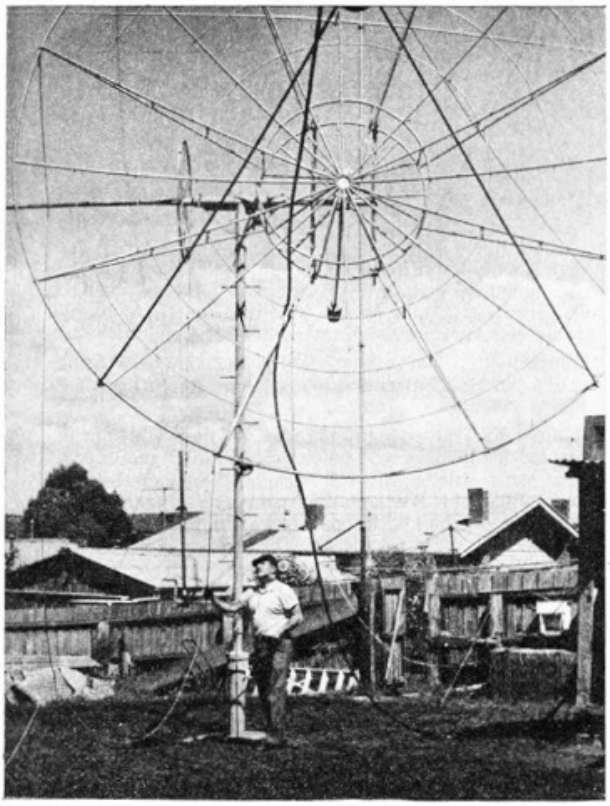
On 144, Ron runs two transmitters, both using QQE06/40s. one on SSB 250 watts PEP., the other 60 watts of a.m., with a 16 foot long 10-element wide spaced Yagi, 50 feet high, 6CW4 cascode converter.

On 432, another 6/40 is used to give 60 watts to a 52 element (4 yogis > array at 39 feet, with an AFY16 cavity front end in the converter. The tuneable IF is 9 MHz.

Of comparatively recent times Ron has launched out on 1296 MHz. and made his presence felt. Running 3 watts to a 2C39BA in a radial cavity to a 6 ft. 9 in. dish, he has worked VK3ZKB more than 70 times over a 51-mile non-line-of-sight path, with signals S6 to S9 plus. The station modulator used with the a.m. equipment is zero bias 807s, running about 75 watts.

The Ron Wilkinson Award is one of the oldest and most important of the awards made by the WIA and was made possible through the generosity of Mrs Mary Wilkinson, widow of the late Ron Wilkinson VK3AKC.

Ron's EME success was reported in Electronics Australia 1973.



Record Australia-US contact: via the moon on 1296MHz

A few weeks ago Australian radio amateur Ron Wilkinson, VK3AKC became the first to contact America on 1296MHz using moonbounce. It was his first attempt to achieve this historic contact, which was made possible by data supplied by the US Naval Research Laboratory.

Twenty-eight years ago a doctor told Ron Wilkinson, just back from a Japanese p.o.w. camp, to take up a hobby. He took up amateur radio — and how!

Not long ago Ron, now a Telecom Assistant in the Australian Post Office, became the first man in Australia to send a radio signal to America via the moon on the frequency of 1296 megahertz. And he did it at the first attempt. For the layman this might seem a small step for a man in this space age but to the world of radio amateurs this is a giant leap in the development of radio communication.

He has been showered with congratulations from both here and the US. The United States Naval Research Laboratory which supplied him with computer information on the exact location of the moon from minute to minute has written expressing pleasure at this success.

Ron's remarkable earth-moon-earth shot was achieved from the back garden of his private home in the Geelong suburb of Newtown, Victoria.

Here, just beyond the garage and an apple tree, stands a 20 ft diameter parabolic dish which Ron built with the assistance of his wife Mary. It took 5 months building that dish and another month setting up all the equipment and preparing for the big moment.

He had tied up with the Crawford Hills UHF (ultra high frequency) group in America to receive his signals and signal back.

D-Day — February 19 — turned out unexpectedly misty and the moon was blotted out but he had the US Naval Research Lab's computer bearings and the message went out at 11.32 am (12.32 am GMT).

In Morse code it said: "Thanks to the Naval Research Laboratory for all their help to make this possible. Good wishes to everybody."

At the Crawford Hills centre in the US Dick Turrin and Bob Buus received the signal from station VK3AKC in Geelong, Vic, Australia and signalled back their congratulations.

Ron was so excited he couldn't even take down the reply. Fortunately it was all

PICTURES AT TOP OF PAGE show Ron Wilkinson adjusting his 1296MHz aerial and checking moon position data at his station in Newtown, Victoria.

1296MHz moonbounce

recorded on tape. Contact was maintained for a full 45 minutes till the moon moved out of position.

Ron reports that there had been a lot waiting on this development and now radio amateurs in South Australia, Canberra and Birchip are preparing to try bouncing their signals off the moon to the US on the 1296 frequency.

For the present, communication would be only by Morse signals. Voice would come later on SSB (single sideband).

Ron earlier created a record when, using a 7ft diameter parabolic dish perched about 50ft high in his back garden he sent a signal to Launceston, Tasmania where it was received by another APO technician, Kevin Hendrick.

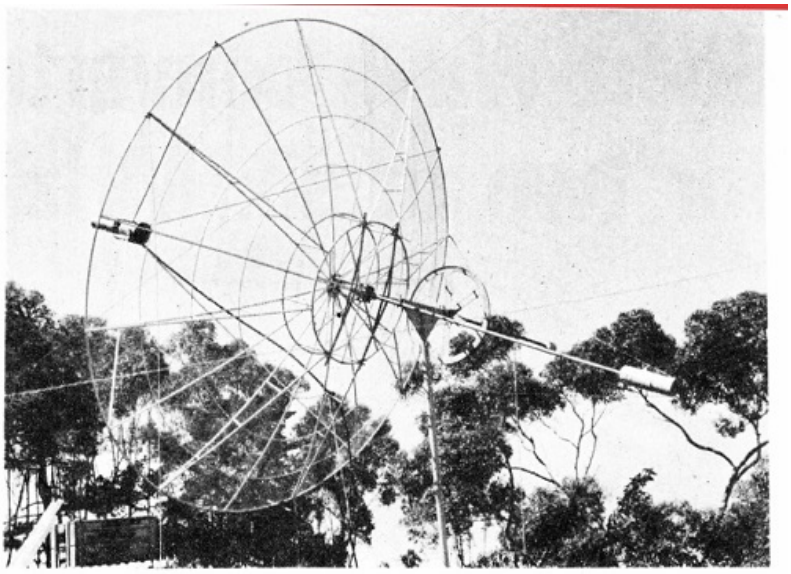
Ron Wilkinson at 53 has won the Australia wide contest held by the Wireless Institute of Australia four times. In it contestants are judged on the number of people they contact over four weeks. Ron — at his first attempt — contacted nearly 1000 people.

A bren gun operator with the AIF (Second 2nd Pioneer Battalion) during the war, Ron was taken prisoner in Java. He worked on the Thailand-Burma railway and later on copper mines in Japan till the war ended three and a half years later. He and his sergeant were the only ones to return from the batch of 22 Aussie prisoners. The others died while working on the Thailand-Burma railway.

Ron now plans to transmit messages to Denmark via the moon and then to go on to the 2200 megahertz band. He now has the run of every band from 160 metres (1.8MHz) to 1296MHz — the only amateur in Australia to have it.

He is very grateful to a fellow amateur in Mt. Gambier (SA) (VK5ZTN) who made the final transmitting cavity for him, to the US Naval Research Laboratory for valuable transistors and computer information, to the Crawford Hills UHF group in America, to Varian Associates, USA for transmitting tubes, and also for the donation of wire mesh — by another amateur (VK3ACL) who also helps Ron during weekends.

("Reprinted from "APO News".)



Another view of the 1296MHz parabolic aerial, which is 20ft in diameter.

Ron and XYL Mary.

Ron with the Ross Hull Trophy which he won 1965, 1968 and 1970 as VK3ZER.

Ron sadly passed away on 23rd March 1977 and his passing was recorded in many club newsletters.

(Illawarra A. R. Society, Propagator)

Ron Wilkinson VK3AKC

A letter was received a few days ago from 2 meter Moonbounce man VK5MC. It included the sad news of the death of Ron Wilkinson, VK3AKC on 23/3/77. Ron will be sorely missed by those of us in VK and other areas who are interested in Moonbounce. He had made moonbounce contacts on 1296MHz and was preparing to come on to 432MHz EME of recent months. He was also very active in VK3 on VHF and UHF generally. He was always ready to help others in these fields.

ANZAC DAY CONTEST 2022

Australian and New Zealand Army Corps

On the 25th of April 1915, Australian and New Zealand soldiers formed part of the allied expedition that set out to capture the Gallipoli Peninsula.

These became known as Anzacs and the pride they took in that name continues to this day.

This contest honour's the tradition of the ANZAC alliance.

Contest Rules: http://www.vkcc.com/2022/03/10/anzac-day-contest-2022/

Phone Section:	12:00 UTC 24th April 2022 to 11:59 UTC 25th April 2022
CW Section:	12:00 UTC 24th April 2022 to 11:59 UTC 25th April 2022
Mixed Section:	12:00 UTC 24th April 2022 to 11:59 UTC 25th April 2022 (Phone+CW+Digital)
Digital Section:	12:00 UTC 24th April 2022 to 11:59 UTC 25th April 2022 (FT8 Only)

The 3 Words That Could Save Your Life Anywhere In The World

Quite a few months ago,

Robert VK3ARM while on a club Webex, introduced us to this great app for your phone.

This from Yahoo News.

Inkwell. Breezy. Swats.

They're three random words, but for one NSW resident trapped 20 metres down a vertical cave entrance, these words saved their life.

The experienced caver was exploring in a remote part of the Yass Valley, but with the help of an app and those three keywords, his exact location was made known to emergency responders.

The technology is called what3words, and while it's used by millions worldwide, many Australians are still unaware of its existence.

The app has divided the entire Earth's surface into 3x3 metre squares, and each square has its own identifier; a combination of three unique words.

It can be used for simple day-to-day activities, like meeting friends along the beach, or if you have a breakdown, or fall ill.

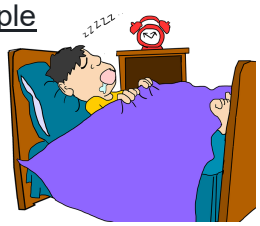
Last month, a beachgoer found a possible explosive device in Newcastle and used what3words to help emergency services pinpoint her location.

On January 30, Fire and Rescue NSW used what3words to find the exact location of a woman who slipped and fell in Middle Brother National Park.

The app is available for free in the regular app download sites at Google or Apple

Your editor's location when writing this;

promotions.snore.binding (I get the snore bit, I'm in my bedroom!!!)



VHF and Above for March 2022

Unfortunately, I don't have too much information for this month's report due to other non-radio commitments. The only real activity I'm aware of has been on the 6mx band where there's been a lot of digital contacts made to many parts of the world including into Asia, North America and the Pacific Regions.

Perhaps one of the most satisfying things heard is that there has been some SSB activity around 50.110 from at least Japan which is really great to hear.

It's nice to have a qso using digital modes when SSB is not detectable but great to see that at least some amateurs are still willing to try SSB when the signal levels are at a level that can be read. Thanks to David VK3KQT for passing that info on.

Progress without 70cm and 23cm beacons is still a bit slow however Peter VK3PWG has kindly offered to assist in getting them back on the air. Hopefully this will happen over the next few weeks. Advice will be put in this report when they are up and running.

Hopefully I will have some more news next month.

73 VK3AXH

SCENES FROM A FIELD DAY…

BARG. JOHN MOYLE FIELD DAY 2022..

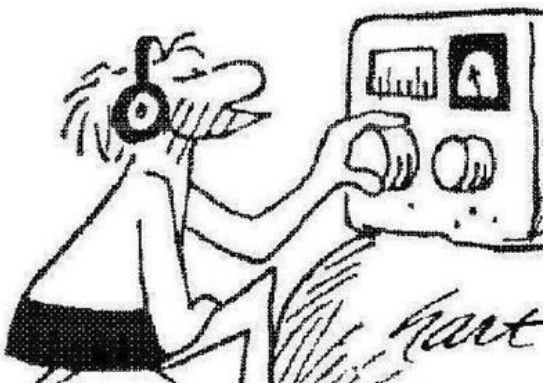
Station assembled and ready for contacts.

Ben VK3NRD, Jess, Mal VK3OAK, Peter VK3PWG.

Peter VK3PWG, Ben VK3NRD, Mal VK3OAK, Shaun.

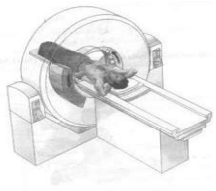
Jess and Mal VK3OAK.

Peter VK3PWG and Shaun Log Keeper.



SILICON CHIP August 2021

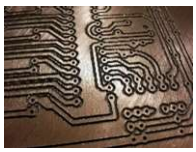
FEATURES & REVIEWS.



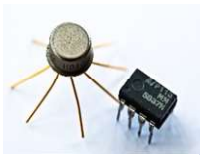
P12 Advanced Medical & Biometric Imaging - Part 1. Looks at the start of X ray photography out of accidental discoveries in 1785 by William Morgan and a gas discharge tube, and 1888 by Phillip Leonard finding his photographic plates were exposed from a Crookes display tube. Rontgen is acknowledged as having made scanning and Magnetic Resonance Imaging [MRI]

Other named processes are SPECT {Single Photo Emission Tomography} and Positron Emission Tomography or for deep tissue penetration or move up to 7-18MHz for shallow less tissue but better resolutions.

Television has been used in the process of body investigations and a flexible tube with fibre optics connected to a camera used is used to explore internal organs within the body and called Endoscopy. Final process is a special “pill” designed camera that can be swallowed, and its pictures transmit as it passes around and out of the body. Next month will continue on with Imaging and applications not with medical use such as archeology, biometrics, engineering defects and contraband detection.



P35 Automated PCB Assembly for Home Constructors.
Smaller delicate components not your cup of tea in assembling projects then pay a bit more and have someone else put it together for you at a small charge. There is one requirement though that you need to supply the computer-generated Gerber file and that means you have done the board design and layout plans with component listings.



P38 The History of Operation Amplifiers [OpAmp] Was first designed in 1927 by Harold Black on a scrap newspaper on his way to work at Western Electric later Bell Telephone. He thought about using negative feedback to lower distortion in telephone repeater amplifiers which were vacuum valves then.

The name OpAmp came about in 1940s and with development of the transistor in Dec 1947 leading to miniature amplifiers replacing bulky and hot valves. Burr Brown co made the first was about $2 and still the LM741 available today. From here the IC OpAmp is in regular use. Read on about how it works, and the application of Negative feedback is used to make it work.

P88 El Cheapo Modules: USB-PD Triggers. Jim Rowe again explains how this USB-PD system also has USB-Triggers and they appear to do the same job as the straight USB-PD chargers and there are some that are just used as a decoy?? whatever

Follow these links further.
USB-C: https;//w.wiki.nto
USB-PD: https://w.wiki/34dT
Siliconchip.com.au/link/ab7I
Siliconchip.com.au/link/ab7m
Quick Charge: https://w.wiki/34dU

CONSTRUCTIONAL PROJECTS.

P26 Second Generation Colour Maximite 2. – Part 1.
Backwards compatible with four times RAM. 24-bit color and 1920x1080 video and more.

P46 Nano Pong using an 8 -pin PIC.
Very cheap arcade unit on a mini-PCB and connects to TV via a RCA cable.

P68 Multi-Purpose Battery Manager.
An update to earlier Battery logger and interface the High current Battery Balancer Up to four chargers and switch over 20A at 10-60Volts.

P92 Simple Linear MIDI Keyboard. Alternative to the 64 key MIDI Matrix by use of 8 button modules.

YOUR FAVOURITE COLUMNS.

P61 The Serviceman's Log. Dave presents several varied service jobs and discusses the current practices that involve industrial theft of designs by others and makes it difficult for the legit serve person gaining data about the equipment in use.

P80 Circuit Notebook.

1. Easy build portable amp using modules from the web and giving USB, MP3 Bluetooth, TF/SD, AUX with stereo out and battery monitor tester display.
2. Frequency meter with non-contact main reading. Based on an ATMEGA 8A-PU and a 16x2 LCD Module all running from a 9V battery running thru a 7805 Regulator. A selector switch allows sampling the mains freq by an RF input via IC1 an 4024B IC and switched to coax input that allows sensing via a short wire antenna of the mains radiated voltage.

P98 Vintage Radio. Ian Baty Looks at the 1961-65 BUSH VTR103 AM/FM Radio manufactured in the UK. The BUSH company started in 1932 and later became part of the RANK organization and also manufactured TV of which the TV22 was one.

This radio has three bands and coming from the northern hemisphere starts with the long wave 158-280kHz LW band, 526-1605 kHz MW and the 87.5-100MHz FM allocation. .

With a well laid out open design on metal chassis and point to point soldered components and using transistors similarly mounted. Just a bit early for the usage of a printed circuit board here the FM tuner sits in its separate metal box and own antenna input lead. The VHF radio has its own RF coils mounted on a centrally mounted tube in the enclosed box while the HF coils are on a long ferrite stick running down the center of the radio.

These styled radios running off a 9Volt battery were very popular with young people down the beach or on picnics in the bush because they were very well designed and had better sensitivity than many sets about today. AM sensitivity was 3.4µVolts for standard 50mW out at 600kHz and 2.4µVolts at 1400kHz for 10dB S/N ratio.

EVERYTHING ELSE.

Notes and Errata

JUL/AUG 2015 Ultra-LD Mk4.4 Amplifier Incorrect values for couple of circuit voltages. Please read and amend your copies in case you decide to build this unit at later stage.