

# BARG News

*Ballarat Amateur Radio Group*

*Inc. #6953T*

*August 2022 Monthly Newsletter*

**Next Meeting**

**11:00am, Saturday 27<sup>th</sup> August 2022 AGM**

**At the Airport**

All Welcome



## Contacting us

You can e-mail the secretary

**[vk3bml@barg.org.au](mailto:vk3bml@barg.org.au)**

We're on the web

**[www.barg.org.au](http://www.barg.org.au)**

**[https://twitter.com/vk3\\_barg](https://twitter.com/vk3_barg)**

**<https://www.facebook.com/groups/VK3BML/>**



## President's July Report



Welcome to my final Presidents report for the current term. After five years I've decided that it's time for me to step back and let someone else have a go. As I leave the role I think that club is in good financial shape, thanks to careful management of funds and also the support of members for fund raising activities, including Bunnings BBQ's, support for the George Fowler Auction and sale of equipment.

The club's also been active both on air and off. With participation in the club contest, John Moyle, WIA Field Days and individual members in contests and organised non-contest activity such as Parks, SOTA and more recently Silo's. Not to mention participation in regular nets across a range of bands.

Off air there's the regular Thursday morning coffee and the monthly dining nights.

Of course, we also have the general meetings and construction nights. Since Covid there's been ongoing discussions about the timing of the regular general meeting, with Saturday's proving to be quite popular with many members.

At the AGM we'll be voting on the fees for the next 12 months. After discussion at an earlier general meeting, we'll propose \$55 for the next 12 months. Given last year was \$50 plus a \$10 Covid fee, it's both a \$5 increase and a \$5 decrease, depending on how you look at it.

The club is always going to need a group to run it. If you'd be willing to participate in the committee, please put forward a nomination. The committee meets once a month on a Monday evening via Webex.

We've been working on a venue and a date for the refreshed Hamfest. The Ballarat Polo-cross Club has offered the use of their venue for a reasonable fee. We're going with Sunday the 5<sup>th</sup> of February, with setup on the Saturday prior. Watch out for more details on this in the coming weeks.

Personally, I participated in the Remembrance Day Contest, managing 277 contacts over the 24 hours. 36 on 160m, 99 on 80m, 106 on 40 and the remaining 36 on 20m. All up I've claimed 503 points. (To be confirmed when results come out.) Conditions seemed to be pretty good with plenty of contacts across all states and regions in ZL. Local weather was suited to being inside near the fire. At one point we had a localised hailstorm come through, dumping an inch of hail, which made far more noise on the tin shed roof than I could hear over.

I'm off to Tasmania next week. While radio isn't the primary focus, it will be coming along. We've booked a house that's in a National Park for a few of the days, so all going well I'll be able to add a couple of VK7 parks in the log.

That does mean I'll be an apology for the AGM. The AGM is Saturday 27<sup>th</sup> of August.

Kicking off at 11:30 with a BBQ to follow. There are already nominations for all the executive roles on the committee, so the AGM itself won't be particularly long.

Look out for me on air from some VK7 Parks, otherwise I look forward to seeing you next meeting.

73. Malcolm VK3OAK

**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

**BEACONS:** VK3RMB 432.536MHz & 1296.536MHz

**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.

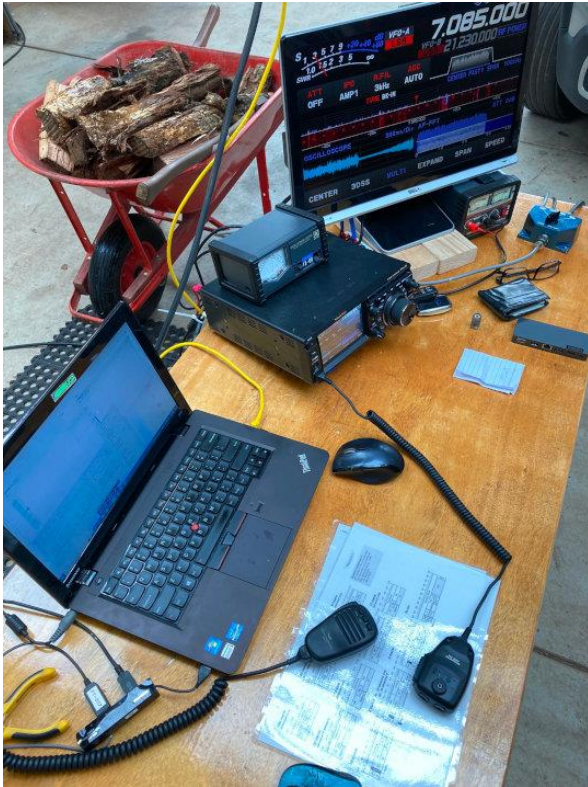
All on 70cm.

VK2RWB, Mt Gwynne added to the linked system.

The system can be accessed via IRLP node 9503.



## **MaI VK3OAK WORKING RD CONTEST**



Nice shack conditions with wood fire?

Local hail on the driveway.

### **For Sale (Via the Club)**

These items are available for sale. There's links to photos of them (There may be photos of stuff that's already sold).

I'll need to work out prices. If there's something you're interested in, consider what you think would be a fair price, and let me know. MaI VK3OAK

Index	Description	Manual
6	Osker Block SWR Meter SWR-200	Yes
7	Hansen - SWR-3 SWR Meter	Yes
8	Scanner Saiko SC7000	Yes
11	Kenwood TM-201A 2m FM Transceiver	Yes
12	Kenwood TR-7950 2m FM Transceiver	Yes
13	Kenwood SM-220 Station Monitor	Yes
16	Tokoyo Hy-Power HL160V25A 144m All Mode Power Amp	Yes
17	Kenwood TS-440S HF Transceiver	Yes
18	Yaesu FT-101B HF Transceiver	Yes



[https://photos.google.com/share/AF1QipND\\_cnGNg4h9\\_cfHeQ-yiyRKnaBQPOJ1t7NnxwS41nEnihnTVYrgx01szVRXwBpBg?key=a2VCZEhnQ2hsUEpqUnByRnpYenVoT25ucFVxd1dB](https://photos.google.com/share/AF1QipND_cnGNg4h9_cfHeQ-yiyRKnaBQPOJ1t7NnxwS41nEnihnTVYrgx01szVRXwBpBg?key=a2VCZEhnQ2hsUEpqUnByRnpYenVoT25ucFVxd1dB)

<b>Index</b>	<b>Description</b>
1	ICOM IC-208H (Has Spare Mic) Dual Band
2	Kenwood TR-8400 70cm FM
3	Uniden ubc760xlt scanner
6	Yaesu 1500M 2m FM (2)
7	ICOM IC-271A 2m All Mode
8	Alinco DR-605 Dual Band FM
9	Uniden UBC60XLT Hand Held Scanner
10	Philips FM-620
11	Philips FM-320
13	Ex Vic Pol 2m Set up for repeaters
14	Alinco 110 2m FM
15	Yaesu FT-980 - HF 100W. No Mic. (Receive seemed to work okay)
16	Kenwood Trio TS-120V HF 10w. (I tried this. Pots are sticky but otherwise seemed okay.)
17	ICOM IC-740 HF 100w. (I tried this. Seemed to work okay.)
18	Motorola Telemetry Radio - WBAG-25
19	Yaesu FT-75B HF 50W - Has both a DC and an AC PS unit
21	Yaesu FP-700 Power Supply - Transceiver plug chopped off
22	Kenwood PS-30 - Transceiver plug chopped off
23	Home Brew 12v PS - Probably a kit
24	Yaesu - FP80A Power supply
25	Wecam 12v PS - 1.5Amp
26	Transwest 12v PS - 5 Amp
27	Home Brew 12v PS - 6Amp
28	External Speakers (Will separate)
29	Digitech Worldband Receiver
30	Homebrew 2m Field Strength Meter
31	Fujiden Low Pass Filter
34	Communications Power HF Linear Amp
38	Yaesu Frequency Counter - YC-500S
39	Yaesu Power Supply FP-757GX
40	Alinco ELH-230E 2m Linear Amp
42	MFJ-249 1.8 to 170Mhz SWR Analyzer
43	Yaesu FT-707 Antenna Tuner
45	ICOM IC-AT100 - In box with manual. Very clean
46	ICOM Remote Control Microphone - New in box
47	ICOM Remote Control Microphone - New in box
50	ASAHI Antenna Set - 52 Ohm



<https://photos.google.com/share/AF1QipMbF60upJP2tTfxH-1BgNUT8-Hfx3zIYMc70yZO1gO2Qpic2pLWDeYMdt4M3LMQcA?key=ZFBTc0tVOTY3LTZ0MnFVdDBCT0W0V1dhOVRScG5n>

## Silent Keys

Gordon VK3FGC

This started out to be a small update of BARG's Silent Key Noticeboard, but I found that there was many names missing, so I decided to do a full revision. The first list is those already on the board and the second list is those who should be added.

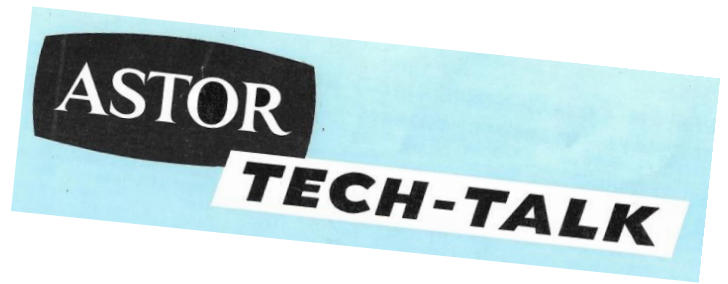
### **Present list.**

Tim Palmer	VK3DIR	Bill Cannane	VK3NVZ
Fred Quick	VK3KQF	George Fowler	VK3DOK
Henry Moritz	VK3DXC	Stan Widgery	VK3SE
Eric Thomas	VK3ZL	Jim Humphreys	VK3ANH
Maurice Batt	VK3XEX	Ron Janson	VK3PRJ
Frank Meynderts	VK3CFF	George Small	VK3DKJ
Leo McPherson	VK3ADT	Ivor Cox	VK3KY
Max Wroe	VK3YMW	Reg Barker	VK3NGY
Lloyd McPherson	VK3ALM	David Cohen	VK3CWC
Charlie Hamilton	VK3VEJ	Keith Ridgway	VK3IV
John Smethurst	VK3ARL	Jamie Ferrier	VK3MC
Keith Grady	VK3NWN	Jim Wright	VK3CFB
Geoffrey Smith	VK3ADB	Gordon Yorke	VK3ABI
Bill Hewitt	VK3PH	John Woodburn	VK3AGD
John Brown	VK3CJB	Brian Stares	VK3KQB
Doug Raper	VK3VBA		

The second list can be added to or name removed, club member Yes/no, not yet deceased Yes/No, so don't hold back,

Bud Foley	VK3AAP	Clem Allan	VK3BVI
Ian Stanley	VK3CIS	Charlie Stewart	VK3DCS
Bill Wells	VK3PAL	Laurie Moss	VK3DLO
George Lance	VK3DS	Dick Curnow	VK3LDC
Arthur Solomon	VK3LJ/ENT	John Kennedy	VK3AIG
Bill Sadler	VK3AMH	John Lewis	VK3HW
Charles McGarry	VK3ZFR	Ted Morley	VK3HHK?
Ted Revitt	VK3NCV?	Ian Boyd	VK3PUI
Roger Rose	VK3VYI	Bill Griener	VK3CWG ?
Magie Iaquino	VK3CFI	John Hogan	VK3CJH
Ray Magilton	VK3DRC	Cedrick Appleby	VK3KCA ?
Michael Van DeWalle	VK3KVV	Barry Mc Gee	VK3NBM
Rex Denny	VK3VRL?	Charlie Hamilton	VK3VEJ
Des Terril	????	Alan Costello	VK3YT ?
David M cConnell	VK3YNB	Alan Gilcrist	VK3HGA
Ted Bayley	VK3NIZ	Ray Drayton	





### **Contributor Craig VK3KG**

Craig VK3KG was given access to the estate of a TV repairman who had acquired many manuals and books associated with such a profession.

The items I have are to do with Astor and their products.

In the collection are a "Newspaper" called the "ASTOR NEWS" that was distributed as a monthly to all Astor sales agents and stores.

Along with these newspapers a a number of monthly bulletins from the technical area of Astor giving repair, modification and stock changes to the Astor range of products called "Astor Tech-Talk".

Astor was a brand of the Radio Corporation Pty., Ltd.;

Radio Corporation Pty, Ltd. (Astor) was formed on the 10/12/1929 by Louis Henry Abrahams & Arthur George Warner of Louis Coen Wireless.

In 1939 Abrahams & Warner formed Electronic Industries Limited as a holding company with Radio Corporation Pty, Ltd functioning as a active subsidiary.

In 1970 Philips Australia took over Electronic Industries Limited including its subsidiaries. The Astor brand, with the exception of the record division (1981) continued until 1974.

Astor produced many electrical and electronic products from TV, Radio to refrigerators and vinyl records.

Astor's greatest claim to fame may have been the fact they conflicted with the huge Walt Disney Company for naming one of their radios the Mickey Mouse. Legal action soon bought the use of Mickey Mouse logo to a screaming halt!

The radio was noticeable for its many different colours that you could purchase the Bakelite radio.



The "Tech Talk" newsletters were not dated, but a bit of sleuthing worked out that the first, Vol 1, was about 1968. Most of the tech fixes were about TV repairs and the any changes in stock part numbers that had to be made when they "computerized" their stock system.

August 2022

## Current status of ISS ham radio stations

as of August 11, 2022

### Columbus Module radios:

- IORS (Kenwood D710GA) – **STATUS - Configured**. Default mode is for cross band repeater (145.990 MHz up {PL 67} & 437.800 MHz down).
  - Powered OFF for Russian EVA on Aug 17. OFF - Aug 16 about 18:45 UTC. ON - Aug 18 about 17:00 UTC.
  - Capable of supporting USOS scheduled voice contacts, packet and voice repeater ops.

### Service Module radios:

- IORS (Kenwood D710GA) – **STATUS - Configured**. Default mode is for packet operations (145.825 MHz up & down)
  - Powered OFF for Russian EVA on Aug 17. OFF - Aug 16 about 18:45 UTC. ON - Aug 18 about 17:00 UTC.
  - Capable of supporting ROS scheduled voice contacts, packet, SSTV and voice repeater ops.



Astronaut Peggy Whitson, Expedition 5 Flight Engineer, holds one of the Amateur Radio antennas prior to installation on the ISS. The antenna is one of a series of four which were clamped on handrails around the Russian Service Module (Svesda). This was done during two different EVA's conducted by Russian cosmonauts in January and in August 2002.





# TEN COMMANDMENTS OF ELECTRONICS

1. Beware of the lightning that lurketh in an undischarged capacitor, lest it cause thee to be bounced upon thy buttocks in a most ungentlemanly manner.

2. Cause thou the switch that supplies large quantities of juice to be opened and thusly tagged, so thy days may be long on this earthly veil of tears.

3. Prove to thyself that all circuits that radiateth and upon which thou worketh are grounded, lest they lift thee to high-frequency potential and cause thee to radiate also.

4. Take care that thou useth the proper method when thou taketh the measure of high-voltage circuits so that thou doth not incinerate both thee and the meter; for verily, though thou has no account number and can be easily replaced, the meter doth have one, and as a consequence, bringeth much woe upon the Supply Department.

5. Tarry not thou amongst those who engage in intentional shocks, for they are surely nonbelievers who are not long for this world.

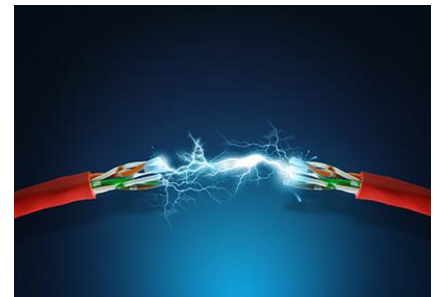
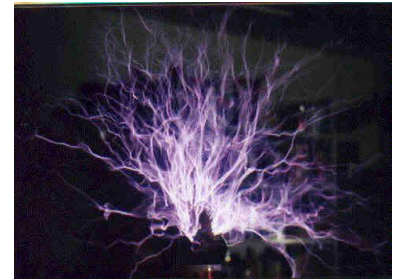
6. Take care thou tampereth not with interlocks and safety devices, for this will incur the wrath of thy seniors and bringeth the fury of the safety officer down about thy head and shoulders.

7. Work thou not on energized equipment, for if thou doeth, thy buddies will surely be buying beers for thy widow and consoling her in other ways not generally acceptable to thee.

8. Verily, verily I say unto thee, never service high-voltage equipment alone, for electric cooking is a slothful process and thou might sizzle in thine own fat for hours on end before thy maker sees fit to end thy misery and drag thee into His fold.

9. Trifle thou not with radioactive tubes and substances, lest thou commence to glow in the dark like a lightning bug, and thy wife be frustrated nightly and have no further use for thee except thy wage.

10. Commit thou to memory the works of the prophets, which are written in the instruction books, which giveth the straight dope and which consoleth thee, and thou cannot make mistakes, sometimes, maybe.



DON'T FORGET

**11:00AM 27<sup>th</sup> AUGUST 2022**

**BARG ANNUAL GENERAL MEETING**

ALSO

**10:00AM VERY THURSDAY MORNING**

**BARG COFFEE CLUB**

**Food Seduction on Doveton**

524 Doveton Street North

ALSO

**FREQUENT FRIDAY NIGHT**

**PUB DINNERS**

**KEEP A WATCH ON BARG CHATTER  
EMAIL FOR THE NEXT OUTING.**





## **VK3PWG IN THE HILLS OF GIPPSLAND**

Contributor Peter VK3PWG.

It's been a fun afternoon, albeit very cold, on 40m here in Gippsland.

Made 10 Lighthouse contacts and 2 parks and a couple of other general contacts from my QRP portable station.

Rained very heavy this morning, went to Sale for a couple of hours then back here for 40m operation. I went up to 20m for a while and was very busy DX, I didn't bother to much as I felt low power would not have done much good when the others are all running 400w.

Good reports from VK2, VK3, Vx5, VK1 and VK4.

Unfortunately, I got jumped on with the ZL maritime station with "kite antenna" came up and missed him (bugger).



Believe it or not . . . there is a wire up over that squid pole, it's 20m of hook-up wire, cost about \$4.50 and connected to a 49:1 unun.

Pretty happy with the reports I received, a little bit low but not ideal band conditions either although the worst I got was 4/5.

When I set up the day before it was cold wet and windy, I left it up overnight and Sat arvo weather wasn't as bad but still windy and very cold.

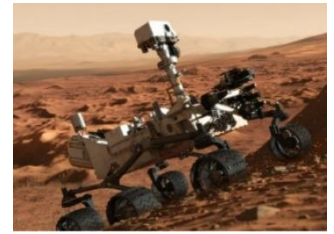
I heard a lot of people using IC-705, some with power amps and transmitting 100w . . . maybe IC-7300 would be a better choice.







## 10 Years Since Landing, NASA's Curiosity Mars Rover Still Has Drive



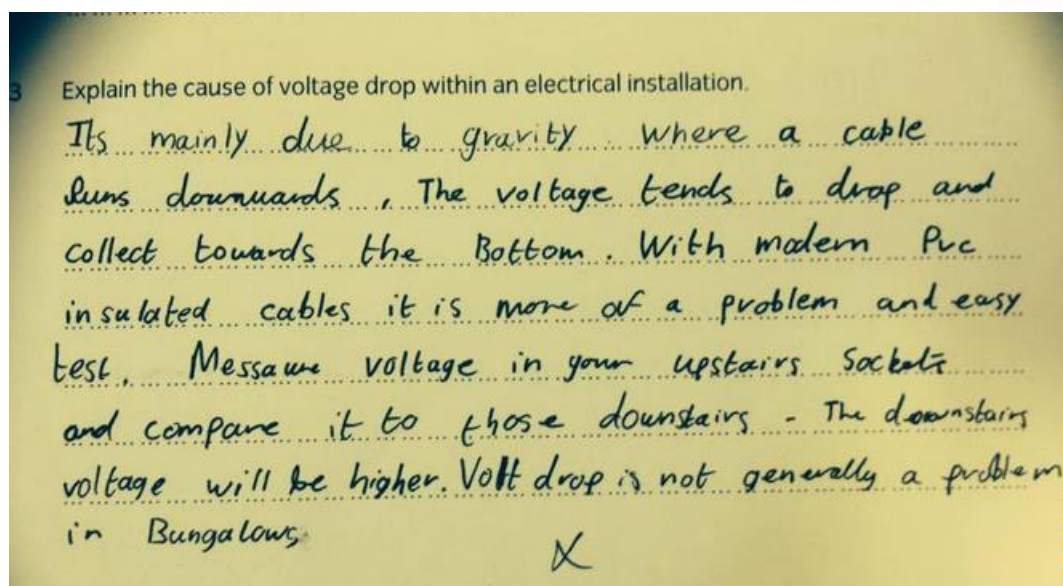
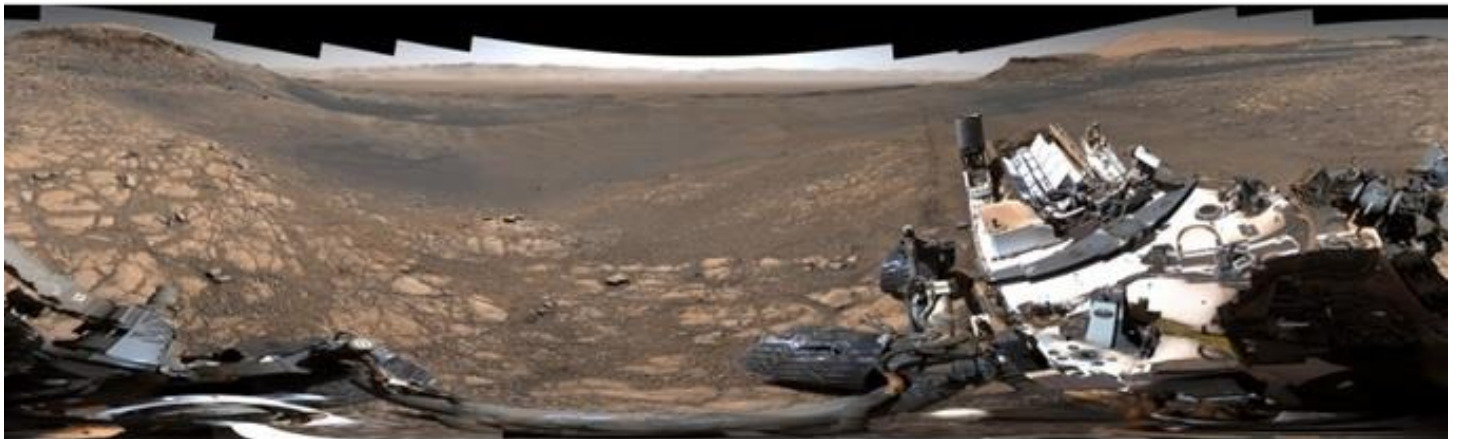
NASA's Curiosity rover has hit a major milestone: the robot is celebrating the 10th anniversary of its landing on Mars on Aug. 5, 2012.

Curiosity has studied the Red Planet's skies, capturing images of shining clouds and drifting moons. The rover's radiation sensor lets scientists measure the amount of high-energy radiation future astronauts would be exposed to on the Martian surface, helping NASA figure out how to keep them safe.

But most important, Curiosity has determined that liquid water as well as the chemical building blocks and nutrients needed for supporting life were present for at least tens of millions of years in Gale Crater. The crater once held a lake, the size of which waxed and waned over time. Each layer higher up on Mount Sharp serves as a record of a more recent era of Mars' environment.

Over the past ten years the rover has been reprogrammed many times to change the performance of some of its test equipment as the engineers learn more and more about the Mars environment.

Curiosity has had some wear and tear occur to it in the dusty atmosphere and its wheels are one of the major items, Curiosity's handlers are keeping track of the many cracks occurring in the wheel tyres.



## HAPPY 100<sup>th</sup> BIRTHDAY RTTY

On August 9, 1922, a text was written on a typewriter in an airplane and it appeared in another on the ground at the same time.

This experiment, the US Navy Department had given the telex procedure wings - 100 years ago almost to the day.

This showed it was possible to transmit texts wirelessly at a speed of up to 100 words per minute. The Navy immediately pushed for messages to be made available in the opposite direction, namely from the ground to the plane.

This was the birth of radio telex - "RTTY".

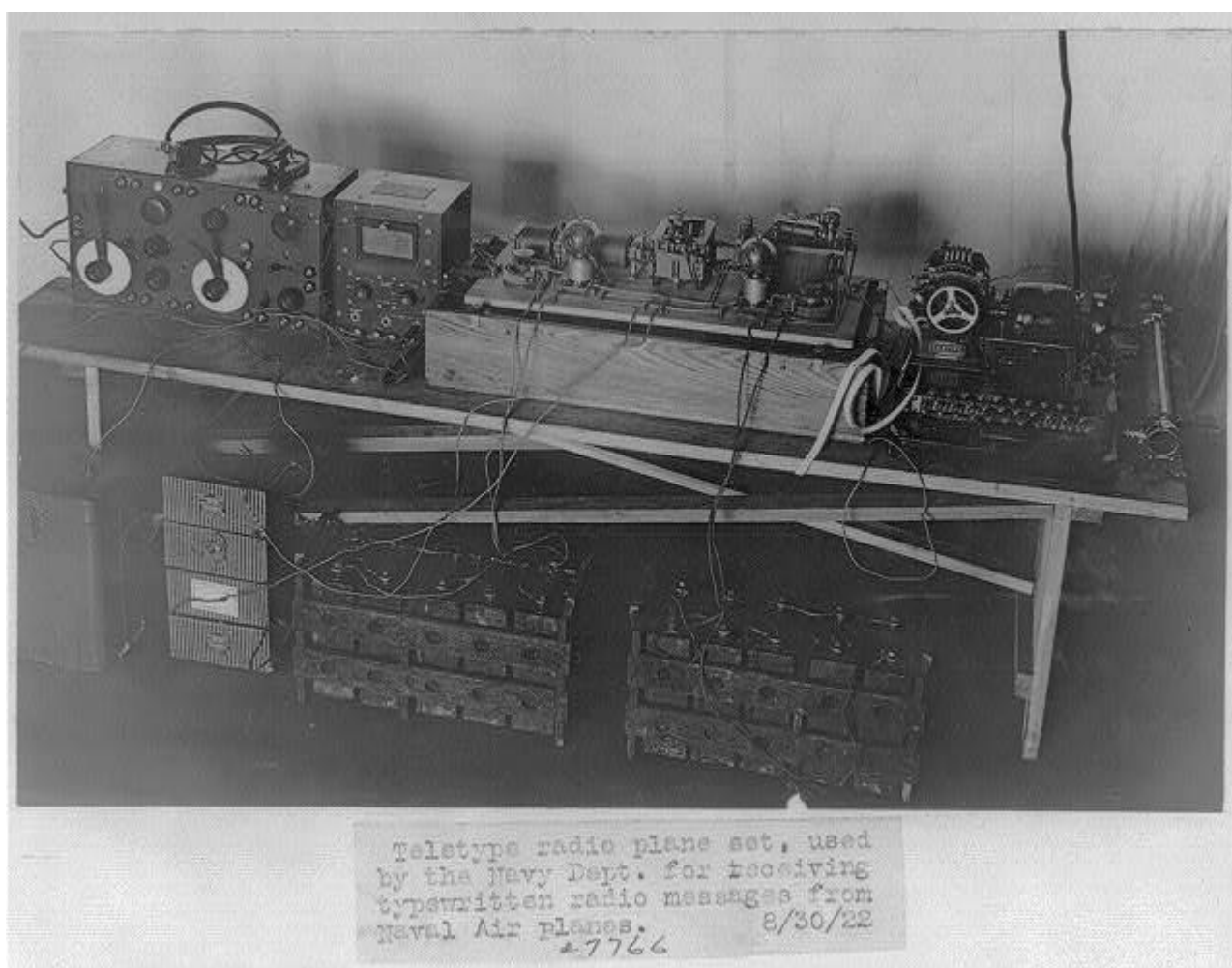
After the Second World War, surplus telexes came into the hands of radio amateurs in the USA, who then modified their transmitters for frequency shift keying (FSK).

RTTY had now also arrived in the amateur radio service. With the advent of computers in the private sector at the beginning of the 80s, they replaced the previously widespread electromechanically generated RTTY with very simple RTTY programs. With the introduction of digital technology and the development of new types of transmission such as PSK31 and later FT8.

RTTY is still practiced in Amateur Radio and still by the maritime services on a number of HF frequencies.

The photo below shows the radio teleprinter, used by the US Navy Department in August 1922 to receive typewritten radio messages from a naval aircraft.

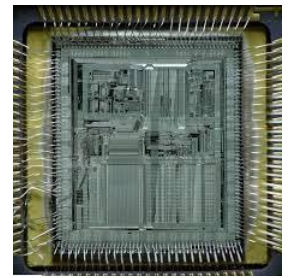
Source: Library of Congress (public domain) - <https://www.loc.gov/pictures/item/2002697173/>





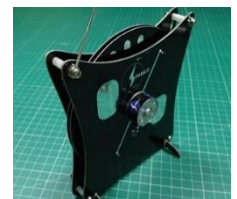
## **SILICON CHIP AUGUST 2022**

- P14 IC Fabrication, Part 3. Multi-chip modules, FinFET and GAAFETs with diagrams and pictures you illustrate the processes. A very interesting series showing the many and varied processes and components that have been developed as technology has advanced.
- P26 Wide-Range Ohmmeter, Part 1. Reading from  $1\text{m}\Omega$  to  $20\text{M}\Omega$  and the theory behind accurate resistance measurement. Then the development of the hardware, using 2 and 4 wire measurements.
- P34 History of Silicon Chip, Part 1. Leo Simpson tells the story of the beginnings of SC, with some insight into Electronics Australia and ETI. Many of the projects presented and milestones in electronics development are highlighted.
- P48 isoundBar with Built-in Woofer. Build your own sound bar for under half the cost of the \$1000+ units. It includes a couple of frequency response graphs and all cabinet construction data.
- P60 Review: DH30 MAX Li-ion battery spot welder. The good, the bad and the ugly of a bought spot welder and how it performed and didn't perform.
- P64 SPY-DER: A 3D-printed DIY Robot. A speech and web-controlled surveillance robot. Has a camera to monitor your location and all 3D printed comprising of 12 servos and a Li-Ion S2 battery.
- P72 Serviceman's Log. Spy Games and Super Villains gadgets. Overloaded ONKYO receiver. Intermittent lights on a trailer. Fixing Washing machine PCBs. The usual well written stories of repair and restoration from the serviceman or some contributors.
- P80 Secure Remote Mains Switch, Part 2. Finishing off the switch and showing its assembly and how to register its transmitters. Also, a description on how "Rolling Code" system works.
- P88 Vintage Equipment. AVO Valve testers and characteristics meters. Circuits and diagrams on how they work, and the different models made. A description of how some had an expanded scale facility to read small changes in voltage with ease.
- P90 Circuit Notebook. Simple mains timer/ LED lamp dimmer. Hearing Loop (telecoil) phone headset. Smoke, alcohol, or LPG alarm using the MQx series of sensors.



## **DIYODE AUGUST 2022**

- P8 DIY Film Scanner. High Resolution digitization of your film negatives with Raspberry Pi and a DSLR camera. Great if you have a lot of film negatives that need archiving in a digital form. Well-illustrated with prototype to proven product discussion as well as assembly.
- P32 Capacitor Capers. Part 2 of the Wimshurst Machine project, building the high energy capacitors and the science behind them. Then some suggestions as to the experiments you could conduct.
- P48 Sudoku Solver. Raspberry Pi based Sudoku Solving robot with image processing and voice control.
- P61 Making for Beginners. 3D Printing safely and model preparation. What you need to know before using a 3D printer and how to slice a model ready for printing. Also some of the many methods of 3D printing, their advantages and disadvantages.
- P74 LoRaWAN Battery Monitor. Raspberry Pi and RAK3162 Lora module based remote wireless battery monitoring system to keep watch on your 12V battery system.
- P81 The Classroom. Understanding Memory Devices. Looking at how these devices work. Beginning with latches and flip-flops.





P87 Kids' Basics: Audio Level Meter. A visual display for exploring the world of sound using a LM3915 Bar LED Driver and a LM358 amplifier IC.

### **WHAT WAS THAT ITEM No 1?**

This device is known as a Meteorological balloon filling scale.



This one is used to fill the smallest met balloon used [known as a 20gm] and using Hydrogen gas is filled to a diameter of approx 500-600mm.

Balloons came in a colour selection of red, black or white (most common) and carried no payload when released. Colour selection is based upon the type of and colour density of the prevailing clouds at the time of release so that it can be easily seen by an observer through the tracking optical theodolite.

We used these in the army to test the initial launch direction and then the height levels where the layered wind bands would cause the rising balloon to change direction or maybe jump up or down due to the wind force on it at that point.

Once the direction of the flight is basically known a much larger balloon called a 350gm would be prepped and filled and a large radar reflector along with a meteorological Radio Sonde would be the payload. We used to track all balloons with a special right angle tracking telescope because the special Plessey WF3 [Wind Finder radar] mounted on a light trailer body was rarely available.

### **WHAT IS THIS ITEM No 2?**

