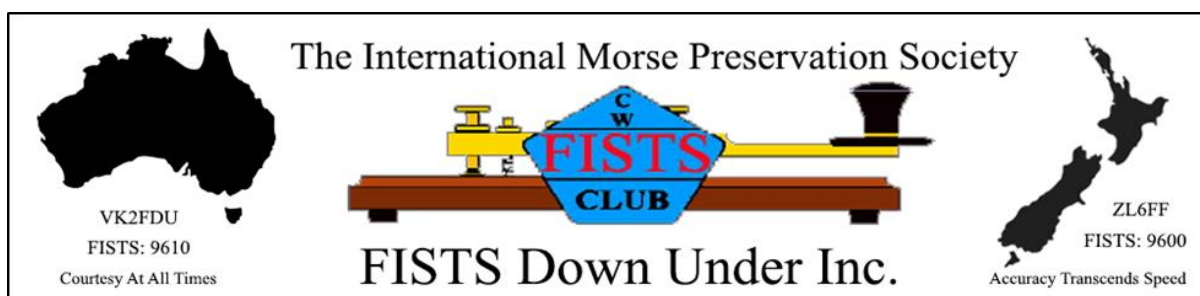


August 2023

# Key - Down Under



**FISTS AGM coming up**

**President and other committee roles will be vacant – please nominate!**

## 2022-2023 Committee

<b>President</b>	<b>Chris VK3QB</b>	Vk3qb(at)Hotmail.com
<b>Secretary</b>	<b>Phil VK3VB</b>	Ppavey(at)bigpond.com
<b>Vice President</b>	<b>Derek VK3KX</b>	
<b>ZL Administration*</b>	<b>Philip ZL1PSH</b>	zululima1psh(at)gmail.com
<b>Treasurer</b>	<b>Chris VK3QB - acting</b>	
<b>Committee</b>	<b>Graeme VK5GG</b>	
<b>Webmaster</b>	<b>Chris VK3QB</b>	
<b>Awards Manager*</b>	<b>Mark VK4MFX</b>	
<b>Newsletter Editor</b>	<b>Ben VK2JA</b>	(hit reply on any newsletter email)



<http://www.fdu.org.au>



<https://www.facebook.com/groups/349974226381281>

## Recommended FDU calling frequencies (MHz)

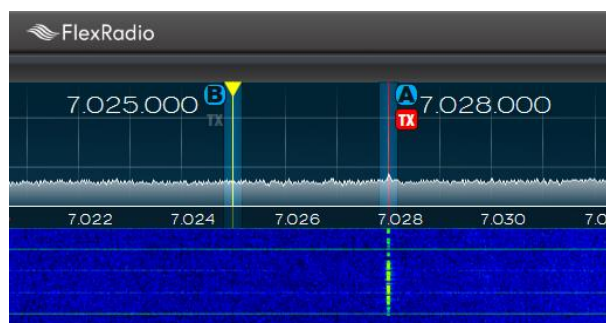
1.818	3.528	7.028	10.118	14.058	18.085
21.058	24.908	28.058			

## FDU Calling frequencies

Many members in VK and ZL hang out on the frequencies listed above which are also on our "About us" page.

<http://www.fdu.org.au/about-us/>

During the day (at least on the East Coast of VK) it seems we have two popular frequencies on 40m. 7.025 and 7.028MHz. Or 7.030....



As many of us are either retired or working from home these days there tends to be a fair bit of day-time activity – so spin the dial, have a listen.... BUT... put out a call also.

Night-time... 3.528Mhz.

**W**elcome to our August newsletter.



While I write this, I've got the radio going on 7032kHz, and <https://parksnpeaks.org/> open on a browser in the background on my computer. These are both for SOTA and WWFF (parks) and other similar activity. I love these activities as it provides a really easy way for me to practice my CW on air with short, low-pressure QSOs. For these, I hardly even need to know CW – it's pretty much just a callsign and RST report, 73 and that's it.

Some of us have had lots of fun with QRP this month. CW is amazing how much you can do with so little. I worked Poland on 20m with five watts, and got a 579 report. Chris VK3QB and Graeme VK5GG had a QSO with only 700mW.

The AGM is coming up on August 28, via Zoom. We're asking for new volunteers to steer the club. You don't need to commit lots of time. You don't need to be on air at every event. You just need to be interested in CW and keen to help fellow Amateurs enjoy it. See further down this newsletter for details. I really hope to see lots of members there.

Please keep the content coming and the feedback, even just a quick email with a photo of you and your gear to share.

*Ben VK2JA – Editor*

## Upcoming Events

### **Annual General Meeting – Monday 28 August 2023 0900Z**

Join the 2023 AGM on Zoom.

<https://us02web.zoom.us/j/89418940451?pwd=VWoxSjFnYUk0YlJpMnNlbDVPcFMydz09>

Meeting ID 894 1894 0451 Passcode 494177

To nominate for a committee position, please send an email to [ppavey\(at\)bigpond.com](mailto:ppavey(at)bigpond.com)

**Every Friday night** – FDU QSO Party on or around 3528kHz and 7028kHz. 2100 EST (1100z). Call or answer CQs and make QSOs, long or short, fast or slow.

<https://www.fdu.org.au/fdu-qso-party/>

### **CW Academy Beginners Class – September/October 2023**

See further into this newsletter for details

## From the President

Welcome to the August newsletter and my last log entry as President for FISTS Down Under.

Over the past 12 months the committee has worked to transform FDU into an 'administration-lite' club. It has become clear that filling committee positions is a challenge, not just for FDU but for many clubs across the country.



The reasons for these shortcomings are many, and it probably doesn't warrant labouring the point in this newsletter. What's important is that FDU is able to maintain a presence as a club of like-minded people who are interested in Morse Code.

I've provided a more detailed account in the Annual Report which I hope you've had time to read and digest prior to the AGM. I've also included a reminder notice of the AGM in this newsletter.

FDU will continue with little to no change for most of our members:

- Newsletter edited and distributed by Ben VK2JA
- Website for general information by Chris VK3QB
- Discord app for notices and announcements
- Facebook
- FDU Awards by Mark VK4MFX
- Friday night QSO Party by Chris VK3QB & Phil VK3VB
- New memberships by Graham G3ZOD

If you'd like to be part of a new management team or have questions, please drop me an email and we can arrange a Zoom session or phone call to discuss.

We have a lot of members who have indicated a desire to learn or improve their CW. To that end, you'll start to see more promotion of CW Academy from me, and I hope those of you wanting to learn the code or improve your skills will consider enrolling in these Advisor lead eight-week classes. Have a look here:

<https://cwops.org/cw-academy/>

Later in this newsletter you can read about the upcoming Beginners Class, scheduled for September and October.

If you'd like to know more about CW Academy and how it works, drop me an email.

Otherwise, as I indicated in the Annual Report, if you know the code but don't use it much, now is the time to polish up. There are many methods and tools to get your CW where you want it to be. And nothing is better than getting on air, building your confidence and having some QSOs.

FDU will continue to be what you, the members, make of it. Join the QSO Party on Fridays, work towards obtaining an award, exchange numbers with other members, or write an article for the newsletter.

In closing my column this month, I'd like to thank the many members who have become friends and with whom I regularly have QSOs. I'd like to thank those of you who have contributed articles and ideas for FDU activities. And I'd like to thank my fellow committee members for what has been a team effort these past seven or eight years.

I look forward to exchanging FISTS numbers and having QSOs with you in the months and years ahead. And I hope that we can all work to encourage more on-air participation and skills development.

So, 73 frm me and c u on the bands,

Chris VK3QB #9085

Dididitdadidah

Dit Dit.





# McElroy's Speed Record

Philip Sharp ZL1PSH [zululima1psh@gmail.com](mailto:zululima1psh@gmail.com)

I recall as a teenager reading in the Guinness Book Records that the world record for receiving morse code was over 70 wpm. I had once tried receiving morse sent by a buzzer. Based on this experience, I marvelled at how someone could receive at over 70 wpm.

Fast forward five decades to last year. I acquired a copy of Tom French W1IMQ's (SK, 2016) 1993 book entitled "McElroy: world's champion radio telegrapher" [1]. The book has seven appendixes. The last appendix is entitled "McElroy's Speed Records: A correction".

In this appendix, French discusses the speed of McElroy's receiving records set in 1935 at Cape Code and Brockton, both are in Massachusetts, and at Asheville, North Carolina, in 1939. The official speed for the records were 77 wpm, 69 wpm and 75.2 wpm respectively.

This sequence of three world records is unusual in that records do not increase from one record to the next. French gives an explanation for the lack of increase. The explanation is based on the assumption that the speed for the first record was calculated using a different definition of speed than used for the second and third records.

The Cape Cod record was set at the Cape Cod Radio Club. The club first calculated the speed using the 18-dot word TESTS. This gave a speed of 90 wpm. The club then calculated the speed assuming a 21-dot word which gave a speed of 77 ( $= 18/21 \times 90$ ) wpm. This was taken as the official speed.

French states he found the use of the 21-dot word odd as the 24-dot word was considered the standard in the mid-1930s. The 24-dot standard gives a speed of 67.5 wpm. The modern 25-dot word PARIS gives a speed of 64.8 wpm.

The next record set was that in Brockton six month later. French believes the speed of 69 wpm was for a 24-point word. The speed becomes 66.2 wpm when the 25-dot word standard is used.

This brings us to the 75.2 wpm four years later in Asheville, NC. It is known conclusively that the speed for this record was calculated using the 24-dot word standard. The 25-dot word standard then gives a speed of 72.2 wpm.

Table 1. lists the official speed and the speed calculated using the 25-dot word standard. The table is taken from [1].

Location	Official speed	25-dot speed
Cape Cod, 1935	77 wpm	64.8 wpm
Brockton, 1935	69 wpm	66.2 wpm
Asheville, 1939	75.2 wpm	72.2 wpm

## French remarks

*Now the numbers make some sense. That peculiar Cape Cod accomplishment falls into line with McElroy's other records. In a way, this is more impressive: The Cape Code wasn't a fluke, it was typical McElroy. Not only was he fast, he was consistent. And we can see him continually improving, right to the time of his phenomenal Asheville record.*

[1] Tom French, *McElroy World's Champion Radio Telegrapher*, 1ed, Artifax Books, Maynard, Massachusetts, 1993. This book is difficult to find.

## Found at the museum on Lord Howe Island

Darrin VK3VDP



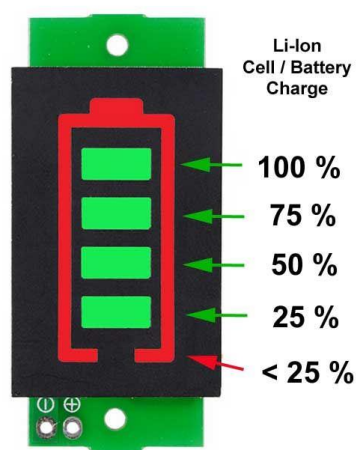


## A simple rechargeable battery pack for portable ops

Some upgrades and improvements by ZL3TK

The simple battery pack by Chris VK1CT in last month's newsletter comes with a solid list of advantages, the best perhaps being its size which results in a huge energy density per unit volume (or mass) compared to any other contemporary energy source.

The simplicity from using bare 18650 Lithium Ion cells makes for a great portable project, but gives a wide variance in voltage between a 3-cell pack's fully charged state of 12.6 V, and its fully discharged state of 8.1 V. (i.e. 4.2 ~ 2.7 V per cell, though taking Li-Ion cells down so low is not recommended in the interest of longevity). Regardless, we shall use those figures to support the following discussion.



This variance of 4.5 V, or 1.5 V per cell, represents a 35.7 % voltage drop from fully charged, which for most transmitters, QRP or otherwise, is very large. In some cases, depending upon the transmitter's design, this could be an unacceptable range because the transmitter's output power will reduce in quasi-square-law ratio relative to the supply voltage.

Settling for a lower energy density per unit volume whilst still retaining reasonable portability would be one way to achieve more voltage stability. I have always gravitated towards regulated power supplies. This led a long time ago to a lead-acid-powered design for a 24 V to 13.8 V fully-protected supply for running 100W transceivers portable on field days, SAR call outs and exercises, etc. When a regulated supply is used one must also introduce a method for monitoring the state of charge in the battery since one can no longer rely on any metering native to the transceiver.

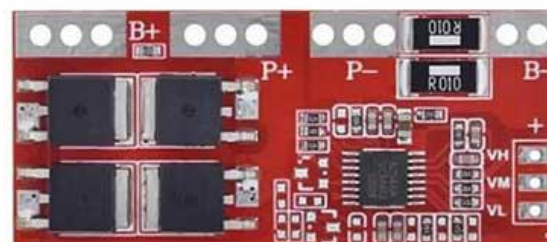
Here, then, is my upgraded solution which provides voltage stability. It is built mainly from workshop-recycled parts except for two modestly-priced but critical modules sourced through Aliexpress. It is housed in an old hard drive case, all parts being of sufficiently low profile that the bottom cover still clips into place.



The XY-SJVA-4 buck-boost converter is a proven module, and I have used them widely in the construction of six-channel battery chargers for Kontiki-syle fishing rigs. It is protected in every way apart from reverse input polarity. The constant current feature provides fold-back in the event of a short circuit. A fourth 18650 cell has been added which more than compensates for the relatively minor losses incurred from using the buck-boost converter at ~ 92 % efficiency.

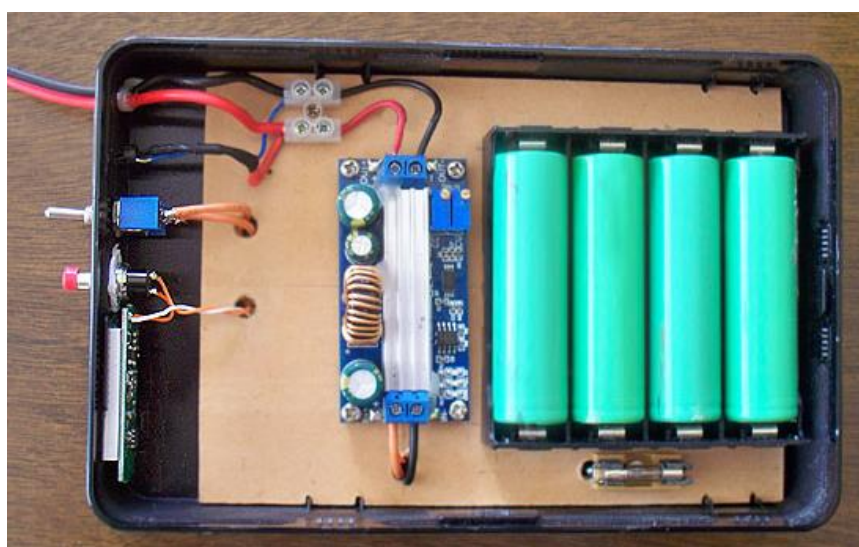
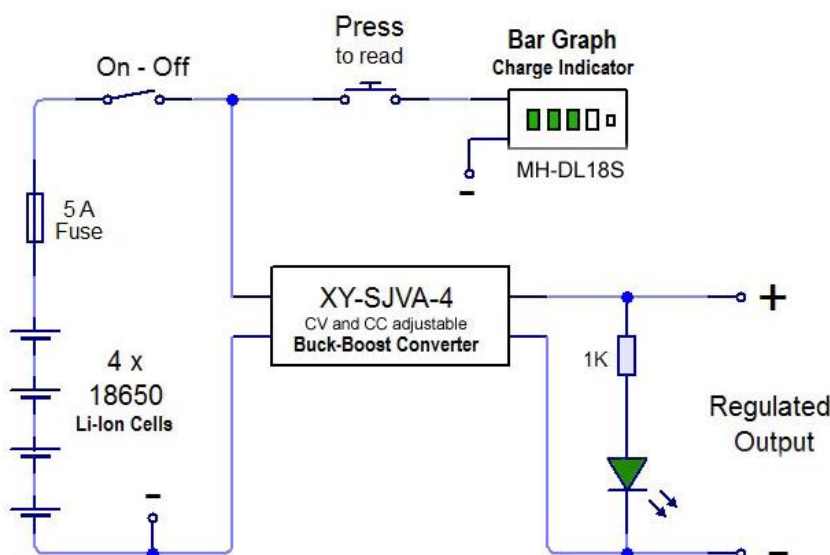


An optional refinement would be to add a 4S battery management system inside the pack through which to charge the cells and protect them from over-discharge, however in this simpler design a cover is unclipped and the cells must be removed for recharging separately. One is unlikely to be able to recharge the pack in the field anyway, but the idea is there and a suitable module is shown. Simple math tells us that the battery has ~ 32 Wh capacity, so will be capable of running a 5 W RF output transceiver with 50 % final amplifier efficiency and utilizing an 80:20 RX:TX ratio for (conservatively) 12 hours.



4S Li-Ion battery management module

## Power Pack for Portable QRP Operation



As an aside, the battery pack works well running a home brew, extremely bright LED, 50 W flashing, fading, amber beacon on an ebike and lasts around 2 hours 45 minutes when driven with pseudo-linear devices. It seems reasonable to expect quite a bit longer per charge with an ATtiny PWM driver and power MOSFET, but that remains to be seen.

ZL3TK

## Annual General Meeting 28 August 2023 0900Z

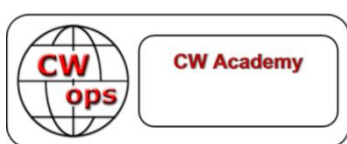
Join the 2023 AGM on Zoom.

<https://us02web.zoom.us/j/89418940451?pwd=VWoxSjFnYUk0YlJpMnNlbDVPcFMydz09>

Meeting ID 894 1894 0451 Passcode 494177

To nominate for a committee position, please send an email to [ppavey\(at\)bigpond.com](mailto:ppavey(at)bigpond.com)

## CW Academy Beginners Class – September/October 2023



NOW! Is the ideal time to commit to learning Morse Code.

CW Academy will be running a Beginners Class starting the week of the 4<sup>th</sup> September. It runs for eight weeks, and we meet twice a week via Zoom. If I get sufficient interest, I'll run the Zoom sessions early evening for VK/ZL attendees. (say around 0900Z)

If you'd like to know more visit the link below or send me an email – and we can arrange to have a chat on the phone.

<https://cwops.org/cw-academy/>

You'll be CW QSO ready for the Summer season!

This is what you'll need:

- A passion to want to learn Morse code and have some fun
- A commitment to practice 45mins per day
- Attend Zoom sessions twice a week (each 45-60 mins)
- A Morse Paddle and Electronic Keyer (or radio with inbuilt keyer)
- Good quality internet connection

If you'd like to know more or wish to enroll, please drop me an email.

73, Chris VK3QB  
CW Ops #2949  
FISTS #9085  
[vk3qb\(at\)hotmail.com](mailto:vk3qb(at)hotmail.com)

73, Chris VK3QB (#9085)  
FISTS Down Under President

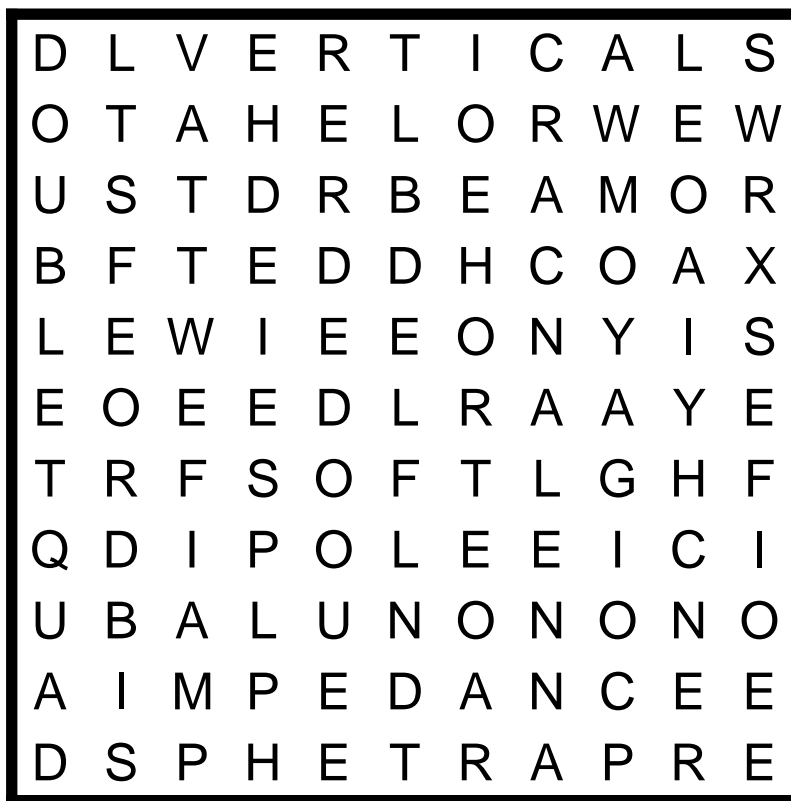
## Solution to last month's Word Scramble

An extra challenge was thrown in – how did you go?

### INVENTORS (electronics / radio)

MOH	O	H	M						
AELST	T	E	S	L	A				
REFTSO	F	O	R	E	S	T			
HLKSCYEO	S	H	O	C	K	L	E	Y	
OLAVT	V	O	L	T	A				
ARNLKFNI	F	R	A	N	K	L	I	N	
IDNEOS	E	D	I	S	O	N			

## August Word Search - Thanks to Chris VK1CT



## BALUN

BEAM

COAX

## DIPOLE

DOUBLET

FEEDER

## IMPEDANCE

## LADDERLINE

OCF

QUAD

SWR

TOWER

TRAP

VERTICAL

YAGI

After finding all of the words, the remaining letters in the grid provide a definition of the D layer.

## NZ news and NZ CW net

The NZ net is on 3535.0 kHz at 9pm NZT Mon-Fri

[Read the latest edition of the NZ Net Newsletter](#) - Sangster Shield QRP contest wrap, NZ Net TV, Straight Key Mondays, Morse challenge and more!

NZ Net News is the fortnightly newsletter of the New Zealand Net.

If you would like to subscribe, please [contact ZL1NZ](#).  
<https://zl1.nz/about-amateur-radio/new-zealand-nets/nz-net/>



**Suffering QRM/RFI?** Check out [www.qrm.guru](http://www.qrm.guru) for hints n tips, case studies, education, and on-line support.



That's a wrap for this edition. Please **hit reply to the Newsletter email** to send us your feedback, questions, ideas and articles for the next edition, or even just a photo.

73, es c u on air from the FISTS Down Under Committee.

Chris VK3QB, Derek VK3KX, Phil VK3VB, Graeme VK5GG  
es Philip ZL1PSH

See you on Zoom for the AGM - **Monday 28 August 2023 0900Z**

FISTS Down Under - August 2023