NEVARC NEWS VK3ANE

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The monthly magazine of the
North East Victoria Amateur Radio Club http://nevarc.org.au/
An Affiliated club of Wireless Institute of Australia
An Affiliated club of Radio Amateur Society of Australia Inc.

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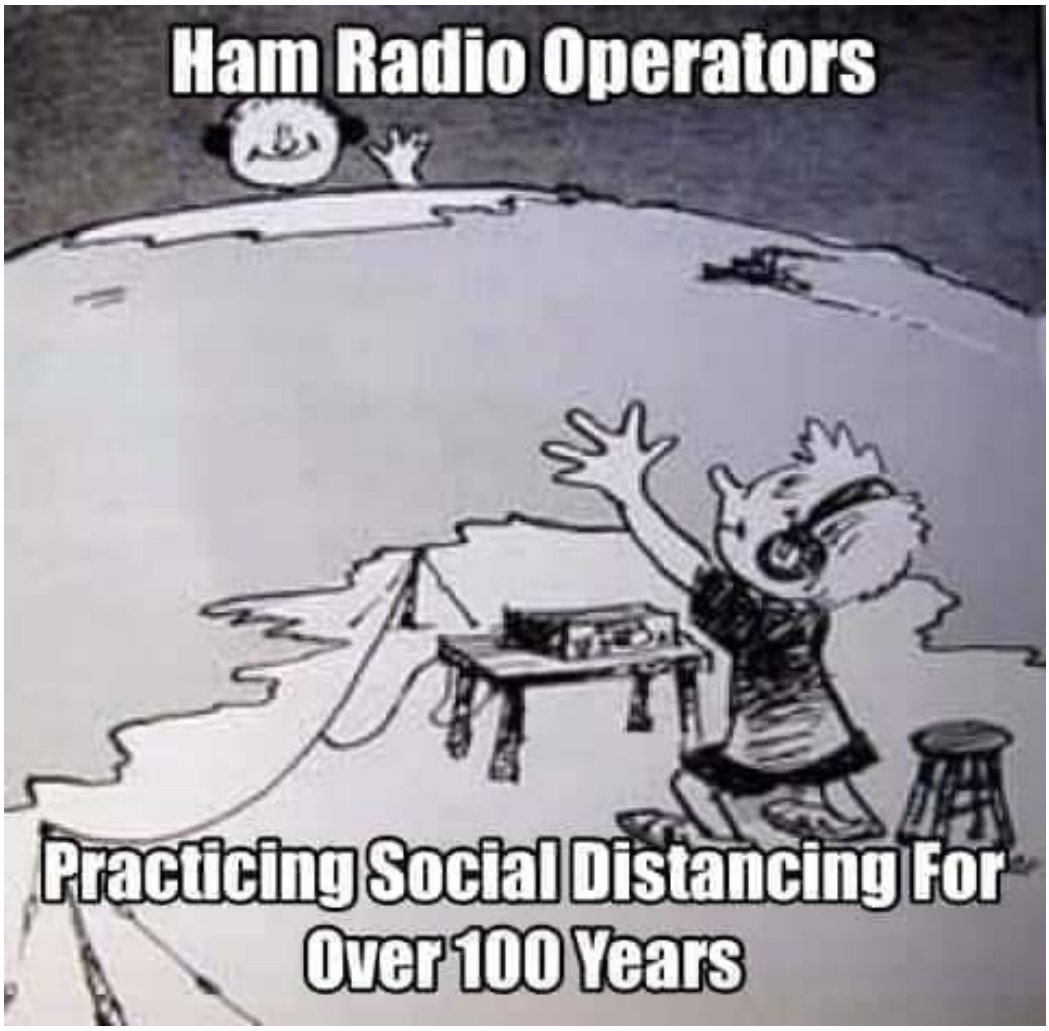
Next Meeting
Sunday 14th February
Belviour Guides Hall, 6 Silva Drive West Wodonga



VK3RTV News January ~ February Update

I have six combo receivers set up with keying circuits, three to install whenever I can get access to Mount View. At the same time, I will take out the DVB-T exciter and replace it with a standby unit.
You should not notice any difference and it will still be DVB-T.

I have completed mounting up the HDMI switching and have built a small satellite controller for it.
All control signals will come down from the main controller via an RS232 loop which also goes to control the Media Box which generates the callsign and Beacon Mode etc.

The switching is not as smooth as I would like as the switches are not really designed for this purpose.
Some of the transient flickers you may not see however. I have the switches working on my VK3RTV Emulator but there is a bug in the Auxiliary Controller as it is not working. The circuits are exactly the same so something is not wired correctly. Terry, VK3YX has kindly bought HDMI leads.

I have the HD Encoders and the new DVB-T2 MiniMod here and will replace the SD units and test the system, verifying operation with some local ATV Operators before installing at Mount View.
When installed, only Set Top Boxes that can decode DVB-T2 will work.

If you have SR Systems DVB-S or a DATV Express and you plan to upgrade to HD, the SD system is quite saleable as VK3RTV will accept both DVB-S and DVB-S2 seamlessly.
All signals are now going to be ported via HDMI so that should result in an all round improvement.

The new DVB-S/S2 receivers are operating up at Mount View. The good news is that they decode the Raspberri Pi /Portsdown system quite well. Over time I will have a look at the DATV Express software and the LimeSDR Mini and Adalm Pluto again to see if I can get them going.

I came up on the Repeater using DVB-S, and then DVB-S2 with QPSK, 8 PSK,16 APSK and 32 APSK, all being decoded seamlessly by the new receiver. The Symbol Rate is 4 Ms/sec. The video at the site is still being shunted around by CVBS so a further improvement in quality is to be expected.

I am currently sending Video of the dis-assembly of the Olinda Tower dated Jan 11 2018, fairly close to 3 years ago. Will rely on experts, such as VK3YLH and others, to give commentary on the quality achieved to date. Currently I only have HD monitors not ‘full HD’. The PICS look very good to me anyway.

Phil Gardner is currently working on a new BATC Streamer system, HDMI based. I have had a look at a trial run on the BATC a very big improvement in quality, watch this space for further developments.

The next step will be to bring down the SD Exciter, replace all the boards in it and undertake the adventure to get the multiplexed system working. All the HDMI switching has been completed and is ready for installation.

~Peter VK3BFG

NEVARC News

The club magazine

All it needs is YOU

Send stories of your radio news to the editor

What have you been up to in these strange days of COVID?

magazine@nevarc.org.au

How does a black box work?

If you want to establish why a plane crashed, you need to retrieve the black box. This virtually indestructible orange device records all relevant flight data and conversations in the cockpit.
For specialists at the German Federal Bureau of Aircraft Accident Investigation (BFU) in Braunschweig, evaluating data recorded by a black box is routine.
"I think we receive something like this every other week or so," said Jens Friedemann, spokesman for the BFU. "But such evaluations are also for incidents that aren't so spectacular, so-called serious incidents." And by serious incidents, Friedemann means events where a flight narrowly averted disaster.

Essentially, a black box flight recorder is heavily protected recording device, similar to a hard disk or a memory card. The black box records all relevant flight data, in addition to conversations in the cockpit. Previously, this data had to be recorded on two different devices. But today there are also units that can do both. According to regulations, however, every airplane must have two of these devices on board.

A black box must be able to withstand many accident scenarios without sustaining damage. Before being put into use, they are tested to see if they can withstand an impact with a concrete wall at 750 kilometres per hour (about 466 miles/hour), a static load of 2.25 tons for at least five minutes, a maximum temperature 1,100 degrees Celsius (2,012 Fahrenheit) for one hour and water pressure found in depths of up to 6,000 meters (about 19,700 feet).
In order to be easier to find at sea, the devices send out a signal on contact with salt water that can be picked up within a radius of about two kilometers (1.2 miles). At such a short range, the location of the wreck should already be more or less pinpointed in order to find the device.

The voice recorder logs all sounds in the cockpit. In addition to discussions between the pilots, it also records automatic computer announcements, radio traffic, discussions with the crew and announcements to the passengers. The sounds of switches and engine are also recorded by the device.

Private conversations between the pilots are also stored on the black box - which is why the captured audio files must be handled carefully, from a data protection point of view. Discussions can only be evaluated in order to clarify accidents or malfunctions. For this reason, the recordings are overwritten after a maximum of 120 minutes; older devices only record 30 minutes. Technically, it's even possible for pilots to stop or delete a recording. In practice, however, BFU's Friedemann said pilots don't make use of that feature.

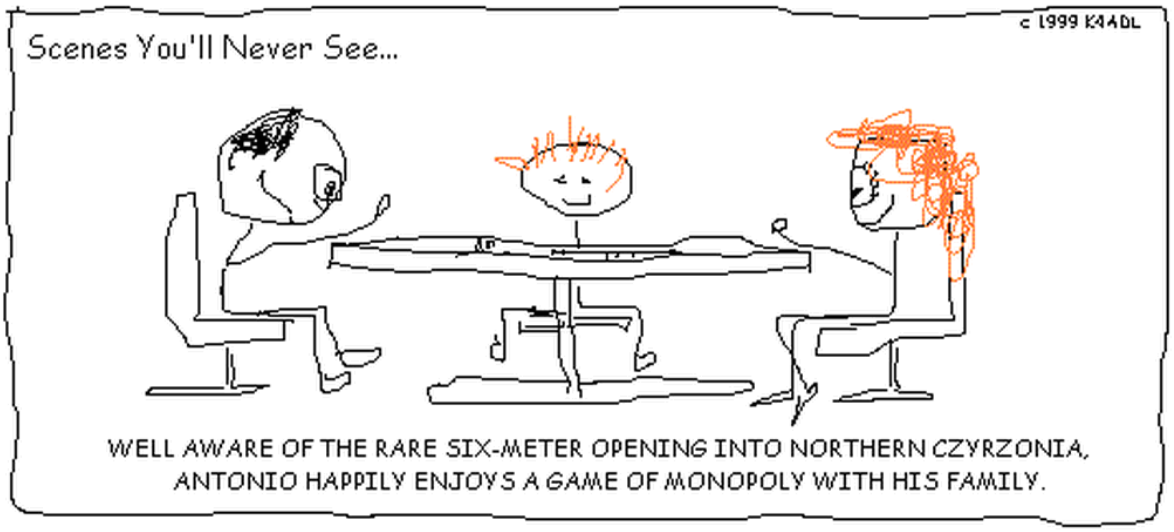
But when it comes to the flight recorder, the second component of the black box, pilots are not able to directly access stored files. In older aircraft, they need to switch on the devices before flight; in modern aircraft, it's automatic. The amount of data collected has increased significantly in recent years. "Today, hundreds, sometimes thousands of parameters are recorded there," says Friedemann. This includes information on things like the flight path, altitude, aircraft location, speed, temperature of the engine and exhaust, as well as flap positions, among many others.

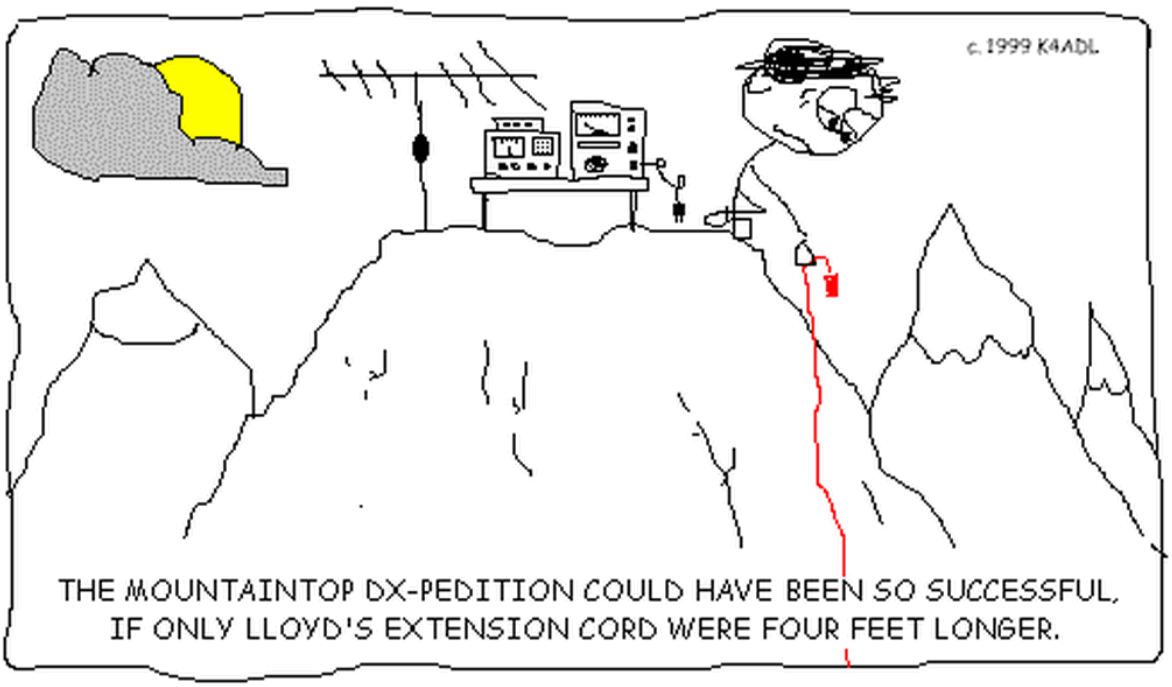
The data helps experts investigate the cause of an accident or serious incident and reduce the potential sources for error. However, investigators do not fully reconstruct a flight. "We don't use a flight simulator or animation - we're able to get information from the parameters themselves," said Friedemann.

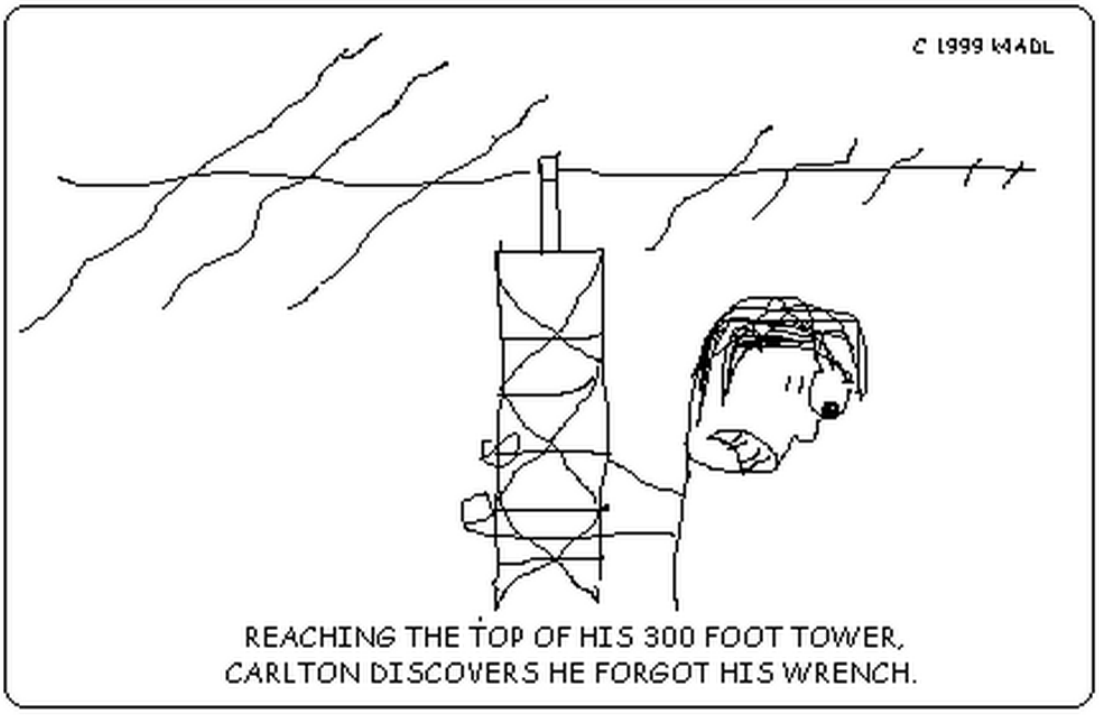
There are only a few specialized agencies worldwide capable of evaluating a black box, and not every agency is able to examine the various models. The BFU can evaluate both Western and Russian devices. But with some models, the experts in Braunschweig must turn to foreign labs for help with the data.

In the future, Friedemann believes that video devices will record certain displays in the cockpit, and that the transmission power of the locator signal through water will be improved.
Incidentally, the so-called black box has never actually been black. The colour is predetermined: bright orange.

~Internet


Scenes You'll Never See...
c 1999 K4ADL
WELL AWARE OF THE RARE SIX-METER OPENING INTO NORTHERN CZYRZONIA,
ANTONIO HAPPILY ENJOYS A GAME OF MONOPOLY WITH HIS FAMILY.


c. 1999 K4ADL
THE MOUNTAINTOP DX-PEDITION COULD HAVE BEEN SO SUCCESSFUL,
IF ONLY LLOYD'S EXTENSION CORD WERE FOUR FEET LONGER.


C 1999 K4ADL
REACHING THE TOP OF HIS 300 FOOT TOWER,
CARLTON DISCOVERS HE FORGOT HIS WRENCH.

NEVARC Net

40 Meter Net

7 Days a Week
10am Local time
(East coast)

7.097 MHz LSB

Approximately + or – QRM

Hosted by Ron VK3AHR

"Australia Ham Radio 40 Meter Net"

President, VK2VU, Gary
Vice President, Tom VK3NXT
Secretary, VK2FKLR, Kathleen
Treasurer, Amy

WIA Affiliated Club

The Radio Amateur Society of Australia

NEVARC
North East Victoria Amateur Radio Club

NEVARC CLUB PROFILE

History

The North East Victoria Amateur Radio Club (NEVARC) formed in 2014.
As of the 7th August 2014, Incorporated, Registered Incorporation number A0061589C.
NEVARC is an affiliated club of the Wireless Institute of Australia and The Radio Amateur Society of Australia Inc.

Meetings

Meetings details are on the club website, the Second Sunday of every month, check for latest scheduled details.
Meetings held at the Belviour Guides Hall, 6 Silva Drive West Wodonga.
Meetings commence with a BBQ (with a donation tin for meat) at 12pm with meeting afterwards.
Members are encouraged to turn up a little earlier for clubroom maintenance.
Call in Via VK3RWO, 146.975, 123 Hz tone.

VK3ANE NETS

HF

7.097 MHz	7 Days a Week - 10am Local time
3.622 MHz	Wednesday - 8.30pm Local time

VHF

VK3RWO Repeater 146.975 MHz–Monday - 8pm Local time
All nets are hosted by Ron Hanel VK3AHR using the club callsign VK3ANE

Benefits

To provide the opportunity for Amateur Radio Operators and Short Wave Listeners to enhance their hobby through interaction with other Amateur Radio Operators and Short Wave Listeners. Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of likeminded radio and electronics enthusiasts. Excellent club facilities and environment, ample car parking.

Website: www.nevarc.org.au
Facebook: www.facebook.com/nevicARC/

Postal: **NEVARC Secretary**
PO Box 69
Wahgunyah Vic 3683

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Any dates, times and locations given for upcoming events please check with a reliable source closer to the event.
This is particularly true for pre-planned outdoor activities affected by adverse weather etc.
The club website http://nevarc.org.au/has current information on planned events and scheduled meeting dates.
You can get the WIA News sent to your inbox each week by simply clicking a link and entering your email address found at www.wia.org.au The links for either text email or MP3 voice files are there as well as Podcasts and Twitter. This WIA service is FREE.