# GATEWAY

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


## October 2013 From The President

Hello Fellow GGREC members.

The past month has been very busy for some Club members. The VK3RWD 70cm repeater has been installed in Drouin and is working well. It may not be accessible from parts of Melbourne, but provides 70cm operation for much of central Gippsland. It has been a great learning experience for Club members and a credit to Rob, Albert and Geoff and Graeme for all the hours of work to make this project happen.

Meanwhile, the Club's HF beam was damaged in the last wind storm that hit Cranbourne a few weeks ago. One element is in need of urgent attention and a working bee will be organised to fix it ASAP.

The Christmas hamper is now in the Clubroom, so bring along your donation for the raffle. This year Pat Pavey VK3OZ has kindly offered to host the Christmas party at her home in Tooradin. Thanks Pat.

*Bruno Tonizzo*

The 56th JOTA is on the 19th October, it is the next Club activity that all members can participate in to promote our hobby by providing radio communications for the Cranbourne guides. We will need helpers to supervise the fox-hunting and to operate the radios. Hours of operation is expected to be between 2PM and 5PM on Saturday. Hear more info about what's going on in our Club at the October Meeting.

Bruno VK3BFT

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# Event Queue from October 2013

October 18th – Friday Night. General Meeting at the Guide Hall
From 2000hrs Talk to be announced

October 19th – Saturday. JOTA at the Guide Hall
From 1300hrs

October 20th – Sunday. Ballarat Hamfest
barg.org.au

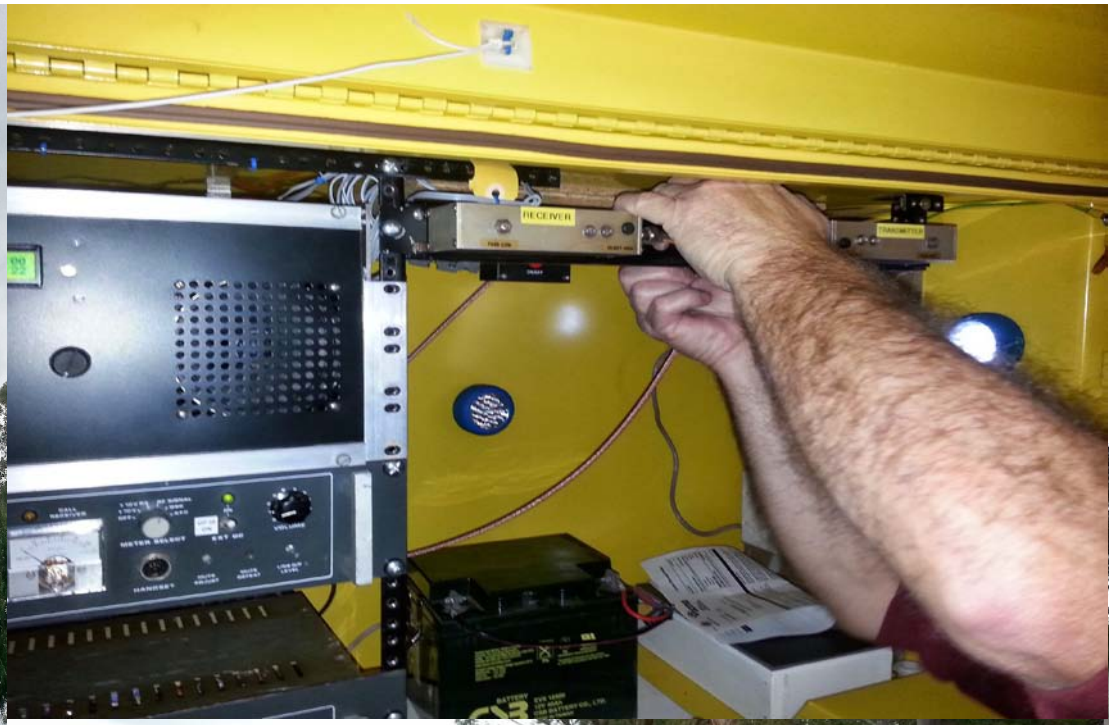
November 1st – Friday Night. Prac Night at the Club Shack
From 1930hrs

November 8th – Friday Night. Committee Meeting

November 10th – Sunday. Yarra Valley Hamfest
yvarg.org.au

November 15th – Friday Night. General Meeting at the Guide Hall
From 2000hrs Talk to be announced

# Around the Traps !!




# Old channel numbers for Amateur 2m Frequencies

These days most repeaters channels are referred to by the last four digits of their output frequency. Thus a 2 meter FM repeater transmitting on 146.700 MHz is 6700 and a 70 centimetre repeater transmitting on 438.525 MHz is 8525. Some of us even remember the call sign.

In the early days of channelised two meter FM operation, Australian Amateurs used several different channel numbering conventions. You still hear old timers refer to frequencies by their old channel number. Possibly the most common is 'Channel 50' - 146.500 MHz - the national simplex calling frequency. Some also referred to it as Channel "B" because it was marked on their channel switches as B with A being 146.000MHz.

As to repeater frequencies, 146.650 MHz was known as Channel 1, progressing upwards until Channel 15 on 147.350 MHz. See the list below. Channel spacing was a modest 50KHz back then. I think the Mt Dandenong and Geelong repeaters were the only ones around at that time and were known as Channel 2 and Channel 8 respectively.

It all changed during the late 70's I think when 25KHz spacing became the norm and was achievable without interference. Anyway this is just a small bit of history to read about.

| Repeaters | | | Simplex | | |
|---|---|---|---|---|---|
| 1 | 146.650 | | 40 | 146.000 | (A) |
| | 146.675 | | | 146.025 | |
| 2 | 146.700 | Mt Dandenong | 41 | 146.050 | |
| | 146.725 | | | 146.075 | |
| 3 | 146.750 | | 42 | 146.100 | |
| | 146.775 | | | 146.125 | |
| 4 | 146.800 | | 43 | 146.150 | |
| | 146.825 | | | 146.175 | |
| 5 | 146.850 | | 44 | 146.200 | |
| | 146.875 | | | 146.225 | our old club freq. |
| 6 | 146.900 | | 45 | 146.250 | |
| | 146.925 | | | 146.275 | |
| 7 | 146.950 | | 46 | 146.300 | |
| | 146.975 | | | 146.325 | |
| 8 | 147.000 | Geelong | 47 | 146.350 | |
| | 147.025 | | | 146.375 | |
| 9 | 147.050 | | 48 | 146.400 | |
| | 147.075 | | | 146.425 | |
| 10 | 147.100 | | 49 | 146.450 | |
| | 147.125 | | | 146.475 | |
| 11 | 147.150 | | 50 | 146.500 | (B) |
| | 147.175 | | | | |
| 12 | 147.200 | | | | |
| | 147.225 | | | | |
| 13 | 147.250 | | | | |
| | 147.275 | | | | |
| 14 | 147.300 | | | | |
| | 147.325 | | | | |
| 15 | 147.350 | | | | |
| | 147.375 | | | | |

Albert VK3BQO

# The curious beginning of the end-fed Zepp

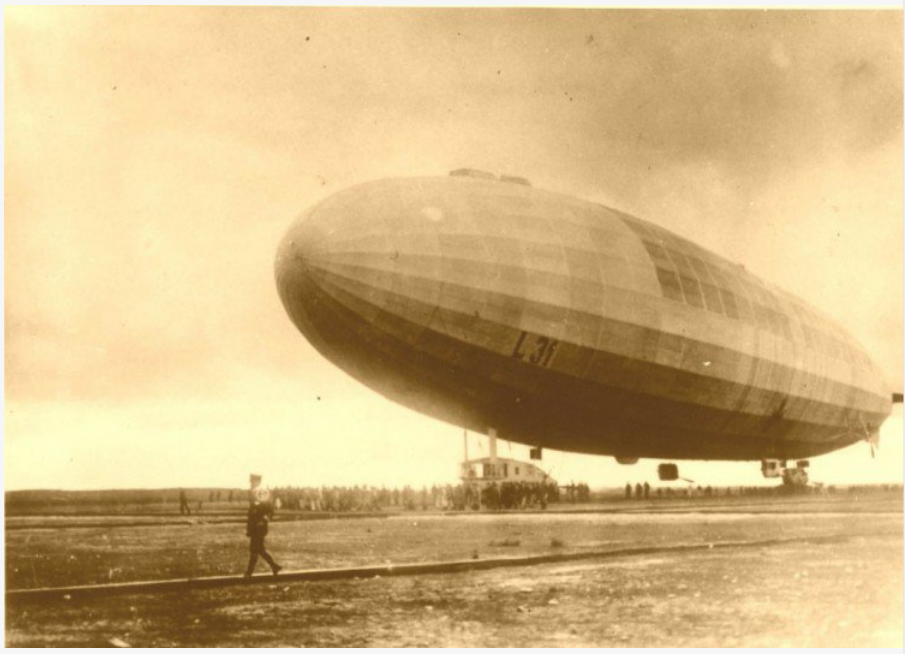
By John AE5X

American Civil War observation balloon

Amid the smell of black powder during the American Civil War, an idea took root in the mind of a German Army officer. As an observer of Union troops under General George McClellan, Ferdinand von Zeppelin was tasked with monitoring the tactics and outcomes of various manuevers in order to take back with him whatever knowledge might be of use to the German army.

At his disposal, McClellan had a number of "balloon camps" that provided aerial reconnaissance of battles in progress. Leading one of these camps was American scientist Thaddeus Lowe who had sold the idea of aerial recon in a personal demonstration to Abraham Lincoln in June 1861 when he ascended 500 feet above the White House and telegraphed back down to Lincoln: "I have the pleasure of sending you this first dispatch ever telegraphed from an aerial station."

In 1863, Zeppelin made his first ascent in a tethered observation balloon. He was 25 years old at the time and this singular event determined his life's ambition from that point forward. Military campaigns and other duties in Germany would occupy Zeppelin's time and career until 1891, during which time he repeatedly designed non-tethered balloon concepts on paper as he sought official support for his ideas.




L31 – Prominent role in repelling a British Navy attack on German coast on 25 December 1914; 36 reconnaissance missions around North Sea, including marking of mine fields; one successful raid on England, dropping 700 kg of bombs. Took fire during refilling of gas in its hall at Fuhlsbüttel and burnt down together with L 9/LZ36 on 16 September 1916.

Zeppelin made his first flight in a non-tethered airship – soon to be called a Zeppelin – in 1900. The flight lasted 20 minutes. In 1906, two more flights were made in an improved airship and, in 1908, another. The German military finally took notice and 6.5 million German marks were now available to move forward with this new technology which proceeded on both military and civilian fronts.

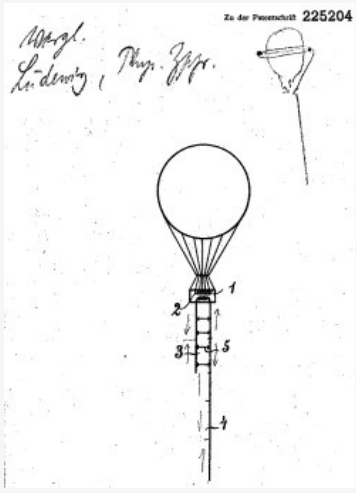
From 1908 to 1914, Zeppelins transported 37,250 people in 1600 flights without incident. Then World War 1 began.

Airplanes were in their infancy in 1914, as were internal combustion engines. They lacked both the carrying capacity and the range to lift heavy bombs and transport them to the enemy across the English Channel. Zeppelins to the rescue!

Flights from Germany to England could not make use of visual landmarks such as the roads and villages that allowed for domestic civilian flights. Furthermore, the altitudes at which the Zeppelins would be flying to evade enemy fire would have rendered such landmarks useless. Radio technology was new and poorly understood in 1914 but a system of radionavigation was developed that would allow consistently reliable trips across the English Channel and back again.

A system known as Telefunken Kompass Sender was in place from 1907 to 1918 and enabled Zeppelin navigation by a process known as “reverse RDF”.

Typically, regular RDF (radio direction finding) would make use of rotatable loop antennas on the moving vehicle, ie a ship. The navigator would turn the receiving loop and note its orientation as a null or peak in reception level occurred. Since the transmitting station’s location was known, a bearing to it could then be determined. The process was repeated with a bearing determined to another transmitting station – the intersection of these two bearing lines would be the ship’s location.




Patent for end-fed Zepp antenna. Click to see patent text.

But for efficiency and accurate resolution at the low frequencies used, the receiving loops were too large to be practical on an airborne Zeppelin. Telefunken Kompass Sender’s reverse RDF process put the large loop antennas on the transmitting end. Now, instead of turning an antenna while listening for a null, the antennas transmitted the nulls as they rotated at a predetermined rate. All the navigator on the Zeppelin had to do was listen for the null. By knowing the landbased QTH (transmitted in Morse) of the station he was receiving, the rotational rate of a its loop antenna (printed on his chart) and the time delay between peaks and

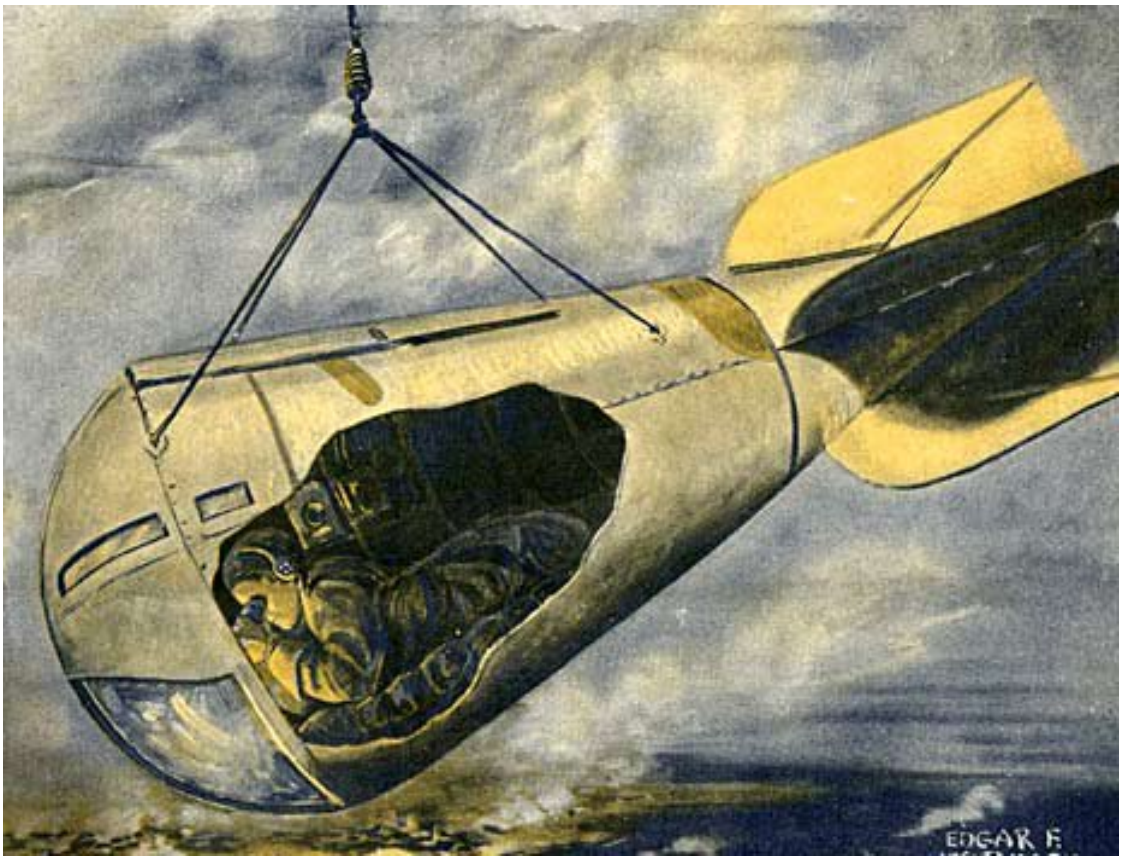
nulls received, a bearing line to that station could be derived.

The receiving antenna on the airship could be simple with this method – no need for a moveable loop. It came to be called an End-Fed Zepp and would eventually be used at ham stations around the world.

A bit more Zeppelin trivia:

It didn't take long for Zeppelin navigators to notice that a wind-blown End-Fed Zepp made accurate fixes difficult. Newer designs used a peilgondel (a lead weight) to stabilize the dangling antenna. German engineering being what it is, the peilgondel soon morphed into a spahgondel - a gondola that could carry an observer while simultaneously serving to stabilize the antenna.

The observer could be lowered on a cable (the antenna) up to 1000 meters enabling him to see the ground while the Zeppelin remained hidden in a cloud bank. An intercom allowed him to communicate with the Mother ship as to when to drop the bombs. This was considered choice duty as it allowed the observer to light up a cigarette safely away from the Zeppelin's hydrogen.



# General Meeting 20th September 2013

| | |
|---|---|
| **Location:** | Guide Hall Cranbourne |
| **Start Time:** | Meeting commenced at 2000 hrs |
| **Chairperson:** | Bruno VK3BFT |
| **Minutes taken:** | Graeme VK3BXG |
| **Present and Guests:** | As per attendance sheet. |
| **Apologies:** | As per attendance sheet |

Correspondence in:- EMDRC news letter, NERG news e-mail link FAMPARC news letter, Rotarua email news letter , Karen Ashton Cranbourne Guides re JOTA, WIA email regarding an Amateur Radio Expo next April, Australia Post regarding our PO Box complaint. Email from Steve regarding our web-site domain renewal. Email from Ryan Unsworth, VK3FAAR requesting our help with JOTA at Karingal Park, Email from WIA regarding callbook orders now being taken.

Correspondence out:- Australia Post regarding their unsatisfactory reply. Water bill. Power Bill. Karen Ashton regarding JOTA Treasurers Report, Ian VK3BUF reports an income of $600 for the Hall Hire bond returned. The Bendigo Investment account is at $9,420.11; Bendigo savings account $4545.90, and the Quickbooks balance also at $4545.90.

Previous committee meeting minutes as per our September magazine distributed. I, moved accepted, seconded Leigh VK3FACB, all in favour, carried.

Business from the Previous Minutes.
The working-bee Bruno VK3BFT reports, was a very productive day considering only four members participated, that is Wayne VK3XF, Max VK3TMK, Bryan VK3FAOB and Bruno VK3BFT. The Nally was tilted and the straps and insulators on the log-periodic were replaced and parrot-proofed.
VK3RWD Repeater, Albert VK3BQO reports that the repeater VK3RWD is at present at his place and testing started on the Friday with a three antennas to be tested which was the prime purpose for the weekend. The set cabinet was also fixed in place.
One antenna was the best but one other needs modification with

further testing
JOTA weekend Bruno VK3BFT reported that Karen Ashton, Cranbourne Guides has been contacted and they are ready for JOTA for 1pm to 5 pm with a 12 noon set-up.
Steve VK3EGD was asked to switch on the IRLP access for the occasion.
I, VK3BXG reported that we had been approached by Ryan Unsworth, also present as a visitor this evening for help at Karingal Scouts. I reported that I would help from 6pm Saturday 19th October but we needed a volunteer for the Saturday afternoon 1pm to 6pm. Wayne VK3ZWC agreed.
Camping weekend for the cup weekend in November interested parties will now need to approach Pat VK3OZ

New Business.
Christmas Hamper. Bruno VK3BFT reports that a basket has now been obtained and donations are now needed with a reminder of no perishables as donations.
Christmas Party. Bruno VK3BFT requests that a venue is now needed. Pat VK3OZ volunteered her property.
Club magazine Bruno VK3BFT opened discussion that that it be put on the web-site and the members given a link. Mark, VK3FWSP spoke in favour in that it allows a higher resolution for download.
Antenna maintenance, Bruno VK3BFT reports, will need to be carried out on a regular basis and suggested twice a year and a log of work done to be kept.
Beacons at Frankston, Bruno VK3BFT began the discussion as to if the club's microwave beacons there be maintained. From there we provide a service to amateurs. For us the question is how many members have an interest in building and maintaining microwave equipment?
From the floor, Rob VK3BRS reiterated that we as a club should support beacons and we have had reports from Preston and it is a good public relations exercise for the club.
Phil VK3YB suggested that there is a lot of misunderstanding – beacons are not expensive as they have only to transmit. The great benefit of being located Frankston was that of coastal ducting but the issue at the moment seems to be the antennas as they are now over ten years old and the priority is the omni-directional 1.2 GHz.
Bruno requested that anyone who has an interest send an e-mail to repeaters@ggrec.org.au

**Replacement Computer for IRLP**, Bruno **VK3BFT** reports that our IRLP computer node needs attention. The first option was to purchase an "off the shelf" unit from Canada for a bit over $1,000 but already to go. Mark's proposal was to construct a one off unit as a project at a cost of $500 to $700.
Discussion arose and it was deemed more expedient to keep the knowledge and experience within the club. The IRLP is at Steve's **VK3EGD** and maintained by him but he does not have the time currently to build one.
Proposed by Bruno **VK3BFT** to agree for funds of up to $700 be made available for Mark **VK3FWSP**'s proposal for our IRLP computer.
Seconded Ian **VK3BUF**, all in favour, carried.
**Antenna weekend** Ian **VK3BUF** reports, is still on progress with proposed activities now drawn up. It is to be primarily a two day event of show and tell on antenna theory.
The marquee will be on site the Friday before the event.
**EMR** Bruno **VK3BFT**advised that it is up to the owner to be able to demonstrate that their antenna system conforms to the requirements.
**WIA Callbooks**. I, **VK3BXG** informed that orders can now be taken for the 2014 call books and requested those wishing to have a copy to please advise. Copies to members will be $24.50
Meeting concluded at 8:45pm
**Tonight's speaker** Peter Freeman VK3PF speaking on "summits on the air" SOTA

# Club Information

Meetings 2000hrs on third Friday of the month at the
Cranbourne Guide Grant Street Cranbourne
Prac nights first Friday in the Peter Pavey Clubrooms Cranbourne 1930hrs
Visitors are always welcome to attend

### Office bearers

| | | | | | |
|---|---|---|---|---|---|
| President | Bruno Tonizzo | VK3BFT | Repeater Officer | Albert Hubbard | VK3BQO |
| Admin Sec | Graeme Brown | VK3BXG | Web Master | Stephen Harding | VK3EGD |
| Treasurer | Ian Jackson | VK3BUF | Magazine Editor | Mark Clohesy | VK3PKT |
| General 1 | Mark Clohesy | VK3PKT | Property Officer | Bruno Tonizzo | VK3BFT |
| General 2 | Wayne Cooke | VK3XF | Secretary | Ian Jackson | VK3BUF |

# Call in Frequencies, Beacons and Repeaters

• The Club Station VK3BJA operates from the Cranbourne Clubrooms.
• 6m Repeater Cockatoo VK3RDD In 52.575, Out 53.575 CTCSS 91.5
• 70cm Repeater Cranbourne VK3RLP In 434.475 Out 439.475 CTCSS 123Hz
• 70cm Repeater Drouin VK3RWD In 433.575 Out 438.575 CTCSS 91.5Hz
The 70cm Repeater supports Remote Internet access (IRLP) Node 6794.
• Simplex VHF - 145.450 MHz FM • Simplex UHF - 438.850 MHz FM
• VK3RLP Beacons 1296.532 MHz & 2043.532 MHz

# Membership Fee Schedule

Standard Member rate $40.00 Junior Member rate$25.00
Pension Member rate $25.00 Extra Family Member $20.00
• Fees can be paid by EFT to BSB 633000 - Account 146016746.
• Always identify your EFT payments.
• Membership Fee's Are Due at each April Annual General Meeting.

Magazine Articles to editor@ggrec.org.au or
pockets@twistedsouls.com
All other Club correspondence to: secretary@ggrec.org.au
or via Snail Mail : PO Box 1098, Cranbourne 3977
GGREC Web Site & Archive may be viewed at: www.ggrec.org.au
Facebook Page www.facebook.com/GippslandGate

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