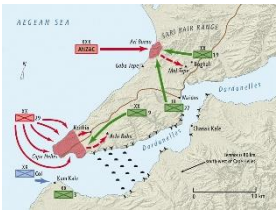
Lest We Forget

BARG News



Ballarat Amateur Radio Group

Inc. #6953T

April 2022

Monthly Newsletter

Next Meeting

11:00am, Saturday 30th April 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/

President's April Report

Hi All,

Easters here and along with ANZAC day we have three short weeks in a row. Perfect for getting out and playing some radio. It looks like we're going to get nice weather too, at least for Easter.

Last weekend we ran a fund-raising BBQ at Bunnings in Delacombe. Business was varied with the lunch period experiencing queues of hungry customers. Early morning and late afternoon saw some short periods with gaps between sales. Overall, it was a successful day, generating around $900 for the club. We effectively ran three shifts which limited the time most people worked. The exception was Bob, NBV, who spent the full day cooking onions. Big thankyou to Doug, VK3DRE, for arranging the day with Bunnings, and purchasing all the food.

We did get a bit too much sauce. Let me know if you'd like a couple of litres!

The last meeting saw a bunch of projects get started around the club. There's still lots to get done so the next meeting will be following on to hopefully complete each of the projects. That meeting will be Saturday the 30th of April.

The meeting will include a BBQ. The BBQ is funded by the raffle sales, so remember to bring along a couple of gold coins.

73.

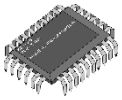
Mal

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.

WHAT OBJECT IS THIS??????

Contributed by Craig VK3KG.

BAREC SIG



Bendigo Amateur Radio and Electronics Club Inc.

Contributors, Phil VK3BHR, Tom VK3DMK.

Lach VK3ALM and Tom VK3DMK joined this group from Bendigo on Zoom about once a fortnight.

The Bendigo Amateur Radio and Electronics Club, Special Interests Group

This group is aimed at members & friends who want to use microprocessors to control amateur radio equipment. Typical uses of microprocessors could be to control frequency synthesisers, to perform sequenced switching, specialised calculations, frequency measurements etc.

Microprocessors could include "single chip" micros, Arduinos & Raspberry Pics, FPGAs and anything else you can think of - just so long as it is programmable.

You don't have to know anything about "micros", just have a desire to use one (or more). There is sufficient expertise lurking in the Club to help with circuit design, construction and programming and there are a number of "ready to go" designs available.

Group activities could include "lectures" on programming and program design, hardware interfacing and construction activities, either group or individual.

The group may also investigate "Software Defined Radio", but that is a big enough field to justify its own group, as is the use of modes like FT8, JS8call, M17, WSPR etc."

For more information; https://vk3bhr.com/web/index.html

BAREC Castlemaine Morning Coffee

As BARG have their coffee mornings, BAREC have theirs, here are the details.

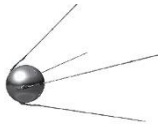
The BAREC Castlemaine Coffee Morning now has a home! The next Castlemaine coffee morning will be on April 24th from 10 am at the **Castlemaine Community House, 30 Templeton Street, Castlemaine.**

The coffee mornings are on the last Sunday of the Month.

You will be able to look at the Castlemaine Repair Cafe and there is a cafe next door. Thanks to Tony VK3KKP for organising the venue.

Cheers, Graeme, VK3GRK

AMSAT & OSCAR AO-7



What/Who is AMSAT?

AMSAT is a worldwide group of Amateur Radio Operators (Hams) who share an active interest in building, launching and then communicating with each other through non-commercial Amateur Radio satellites

Since its founding…now over 40 years ago… AMSAT has used predominantly volunteer labour and donated resources to design, construct, and, with the added assistance of international government and commercial agencies, successfully launch, over 60 Amateur Radio satellites into Earth orbit.

Barely four months after the successful launch of Russia's Sputnik I, the United States launched Explorer I on 31 January 1958. At about that same time, a West Coast group of Hams began toying with the idea of launching an Amateur Radio satellite into orbit. Far from being simply a "pipe" dream, this group later organized a group called Project OSCAR, with the expressed aim of building and launching amateur satellites.

Today, over 20 of these satellites are operational.

What/Who is OSCAR AO-7?

AMSAT-OSCAR 7, or **AO-7**, is the second Phase 2 amateur radio satellite constructed by the Radio Amateur Satellite Corporation or AMSAT. It was launched into low earth orbit on November 15, 1974 and remained operational until a battery failure in 1981. Then after 21 years of apparent silence, the satellite was heard again on June 21, 2002 – 27 years after launch

AO-7 is the oldest amateur satellite still in use and is one of the oldest operational communication satellites. It carries two amateur radio transponders.

Its "Mode A" transponder has an uplink on the 2-meter band and a downlink on the 10-meter band.

The "Mode B" transponder has an uplink on the 70-cm band and a downlink on the 2-m band. The satellite also carries four beacons which are designed to operate on the 10-m, 2-m, 70-cm and 13cm bands. The 13-cm beacon was never activated due to a change in international treaties.

The command system was manufactured in Australia and the second repeater in Germany.

AMSAT-OSCAR 7 contained two experimental telemetry systems designed for use with simple ground terminal equipment.

The first system, developed by the **WIA-Project Australis group in Australia**, telemeters 60 parameters in 850-Hz shift, 60 WPM five-level Baudot teletype code to permit printout on standard teletype equipment in a format readily convertible for direct processing by small digital computer.

AMSAT reported AO-7 still operational on June 25, 2015, with reliable power only from its solar panels; the report stated the cause of the 21-year outage was a short circuit in the battery and the restoration of service was due to it becoming an open circuit.

The satellite eclipses on every orbit during the northern summer and autumn; the rest of the year it is in continuous sunlight and alternates between transmission modes A and B. All transponders and beacons are operational.

This bulletin was released by ARRL in 2020;

09/22/2020

AMSAT-OSCAR 7 (**AO-7**), the oldest amateur radio satellite still in operation, is nearing a return to full illumination by the sun, which should take place around September 25 and continue until around December 26.

AMSAT's vice president of operations Drew Glasbrenner, KO4MA, says that during this period, AO-7 likely will switch between modes A (2 meters up/10 meters down) and B (70 centimetres up/2 meters down) every 24 hours.

He reminded users to use only the minimum necessary power and to avoid "ditting" to find their signals in the passband, which can bounce the entire passband up and down and sometimes even cause the transponder to reset to mode A.

This link will take you to the AMSAT status page and showing AO-7 is still being heard in 2022.

https://www.amsat.org/status/?

So, 48 years and still making a noise…

BARG MEMBERS INTERESTED IN ARDUINO TYPE PROJECTS

As there is an emerging number of members using or interested in microcontrollers, it has been suggested some club activity towards combining knowledge and helping debug/build any projects that may arise.

Possible meets are at the construction Nights at the BARG room, on the second Monday evening after the club's monthly meetings, or online as a Webcast.

Beginners wanting to dip their toes in the world of microcontrollers and programming would possibly find this invaluable.

The Arduino is probably the biggest open-sourced platform for hobbyist to delve into this growing aspect of Amateur Radio.

Whether it be a simple battery monitor, homebrew SWR bridge, CW decoder, remote aerial switching unit, remote matching unit control, the possibilities are vast.

The club has members able to help with coding, or just plain getting started.

Any members with completed or ongoing projects they would like to share would also be welcome, Arduino or not. This is a Construction night for all aspects of Amateur radio.

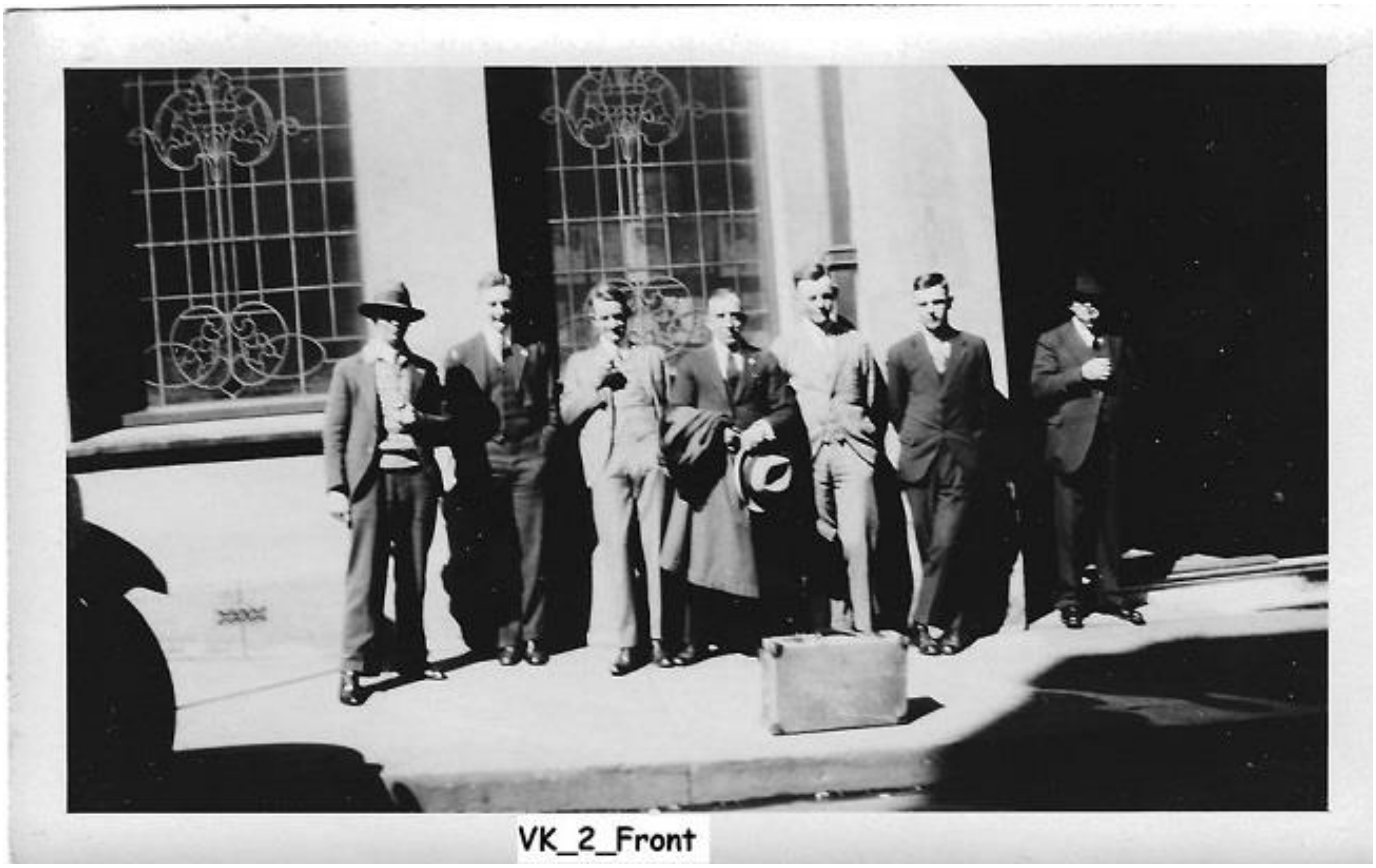
Anyone interested can let Lach VK3ALM or myself Tom VK3DMK (tomvk3dmk@gmail.com) know.

Some More VK3NQ Archive Pictures.

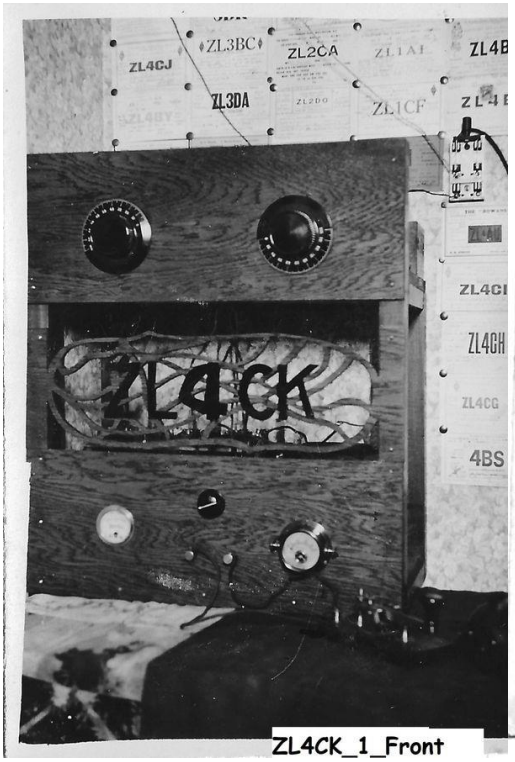
Contributor Tom VK3DMK

Some more pictures from VK3NQ collection.

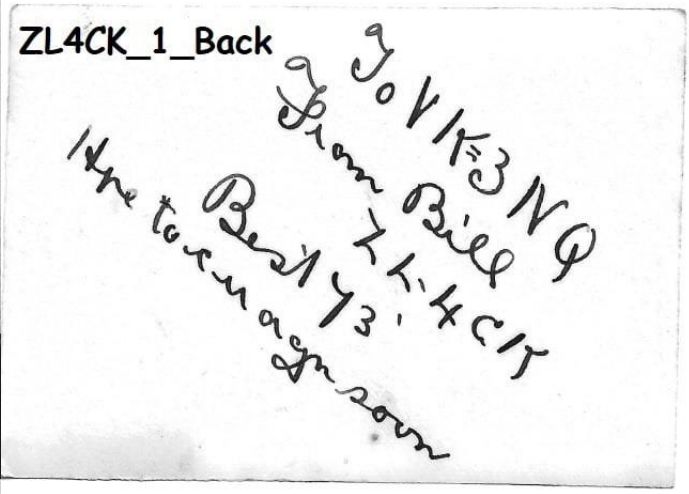
The first is of a group of guys in the street, possibly Melbourne, possibly a convention picture. The others are ZL pictures with an image of the back of them possibly 1930, 1932 with callsigns.



VK_2_Front

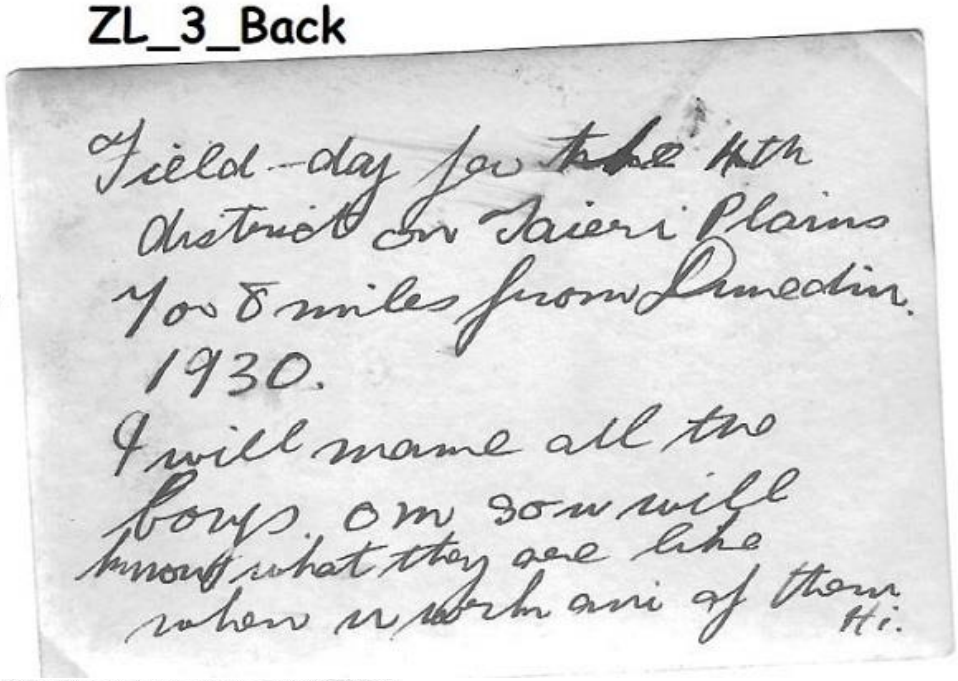


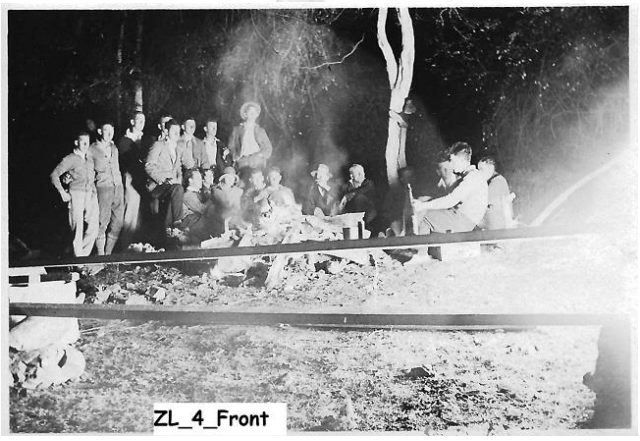
ZL4CK_1_Front



ZL_3_Front

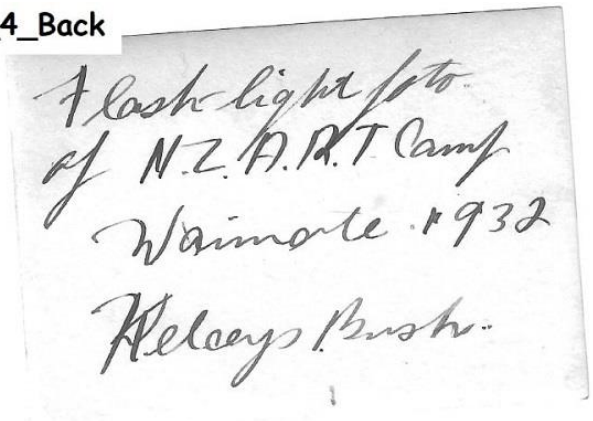
ZL_3_Back





ZL_4_Front

ZL_4_Back



Early EME with a Rhombic on 144 MHz

Contributors Chris VK5MC,Ian VK3AXH, Tom VK3DMK

EME on 2m might not sound as difficult these days with the equipment and technology, but in the 1970's moonbounce with 2m was usually done with antenna arrays and maximum allowable levels of power.

Ian VK3AXH linked me to an article produced by Chris VK5MC and his adventure in EME with a 2m Rhombic Antenna.

The article refers to Ray VK3ATN (SK) who at the time was using such a system.

"During July 1972, 122 pounds of hard drawn copper wire was purchased at a cost of $81.19 and some six-inch long strain insulators were obtained from America."

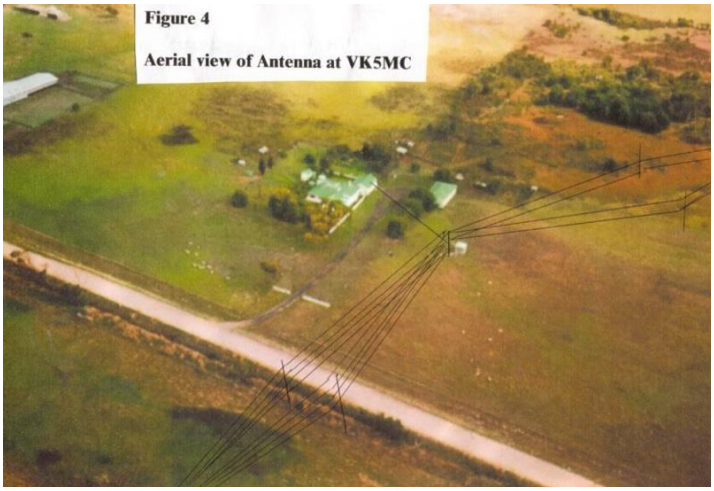
The total length of the antenna was "342 feet per leg, making it 680 feet long with a feed angle of ten degrees. It was a four-layer antenna, each layer stacked six feet apart and used about a mile of copper wire."

What we must remember is this antenna is not steerable, so EME had to be calculated for the specific days and hour that the moon would be in front of the array.

A list of the initial contacts over the years were:

1973- W6PO, VE7BQH, KH6NS, VE2DFO.
1974- W8KPY, WA2BIT, W8KPY ssb.
1975- K1WHS, W4DFK, JA6DR, W7CNK.
1976- W4WNH, K8III, WA7BJU, K9HMB, WA4MVI.
1977- K7NII, W7FN, WA9DOT.
1978- JA9BOH, K5CM, WB0QMN, W0SD.
1978- K5BMG, K4PKV, GW4CQT, I2MBC, DK5LA, WB4EXW, SM7BAE, W0SD, W7FU, WB5LUA, WA1JXN.
1979- W5LUU, ZS5ZY, WB6ESQ, K1MNS, W1JR, W5UGM, WA3VSJ, WB5LBT.
1980- G3POI, DK4XI, KA0Y, WB6NMT, WA9KRT, OK1MBS.
1981- KR5F, UA1ZCL, Y22ME, K9XY, WA8ONQ, N4GJV, KI7D, WA4LYS, W7HAH, WB9PAT, W2CNS, N7WS, F6BSJ, OH7PI, KB8RQ, W4WD, WA8ZHE. 1982- WA2GSX, KG6DX, YU3USB, N6AMG, SM4IVE, KY4Z, WA6MGZ, VE3EQQ, JA0JCJ, K1GVM, WA4NJP, DJ5DT.
1983- DL8DAT, OZ1ASL, HB9QQ, VE1UT, K9TI, K2OS, KB7Q, SM4GVF.
1984- WA1JXN, W0VB, OZ5VHF, PA2VST, SM2ILF, PE1AGJ, WB8ART, KD8SI, WB0DRL.
1985 – WA0TKJ, W7ID, WB7WW, K9MRI, N5BLZ, K6HXW, VE1ALQ, W5SUS, KF0M, DJ7UD, HB9CRQ.
1986- SM5DGX, AF1T, WD9ACA, W7IUV, W0RT, HB9SV, W4ZD, DK2PH, KI3W.
1987- Y23RD, I2FAK, JH0YSI, VK3AUU, W0HP, HG0HO, K5YY.
1988- WA1FSK, W8WVM, AA4FQ, K0IFL, KA5AIH, AF9Y, N1BUG.
1989- N7BNJ, SM2CEW, I1KTC, KB0HH, K2GAL, LA8YB, OK1MS, W7VXW, KJ7F, WA6PEV, WA7TDU, YU1IQ.
1991- SP5EFO, W0RWH, OK2PZW, DL5MAE, JA9EYI, DK4TG.

This is a picture of the location and the link to the article.
http://serg.org.au/wp-content/uploads/2020/04/Rhombic-on-144-MHz-EME-by-VK5MC.pdf



Note the Rhombic crossed a nearby road.

Thanks to Chris VK5MC for permission to use the article and photograph.
Chris has also produced other articles and antennas, among others a 10meter diameter dish.
http://www.eme2016.org/wp-content/uploads/2016/08/EME-2016-VK5MC-Presentation.pdf

THANKS TO VK3BML MEMBERS FOR ACTIVITES THAT MAY BE SMALL BUT IMPORTANT

Contributor Doug VK3VBA, Tom VK3DMK

This is just a quick recognition of members that perform regular service with little acknowledgement.

These are our net co-ordinators for HF and VHF weekly nets, these nets help keep the group communication going between meetings.

Here is a list of present net controllers plus Lach VK3ALM who runs the 2m and 6m nets.

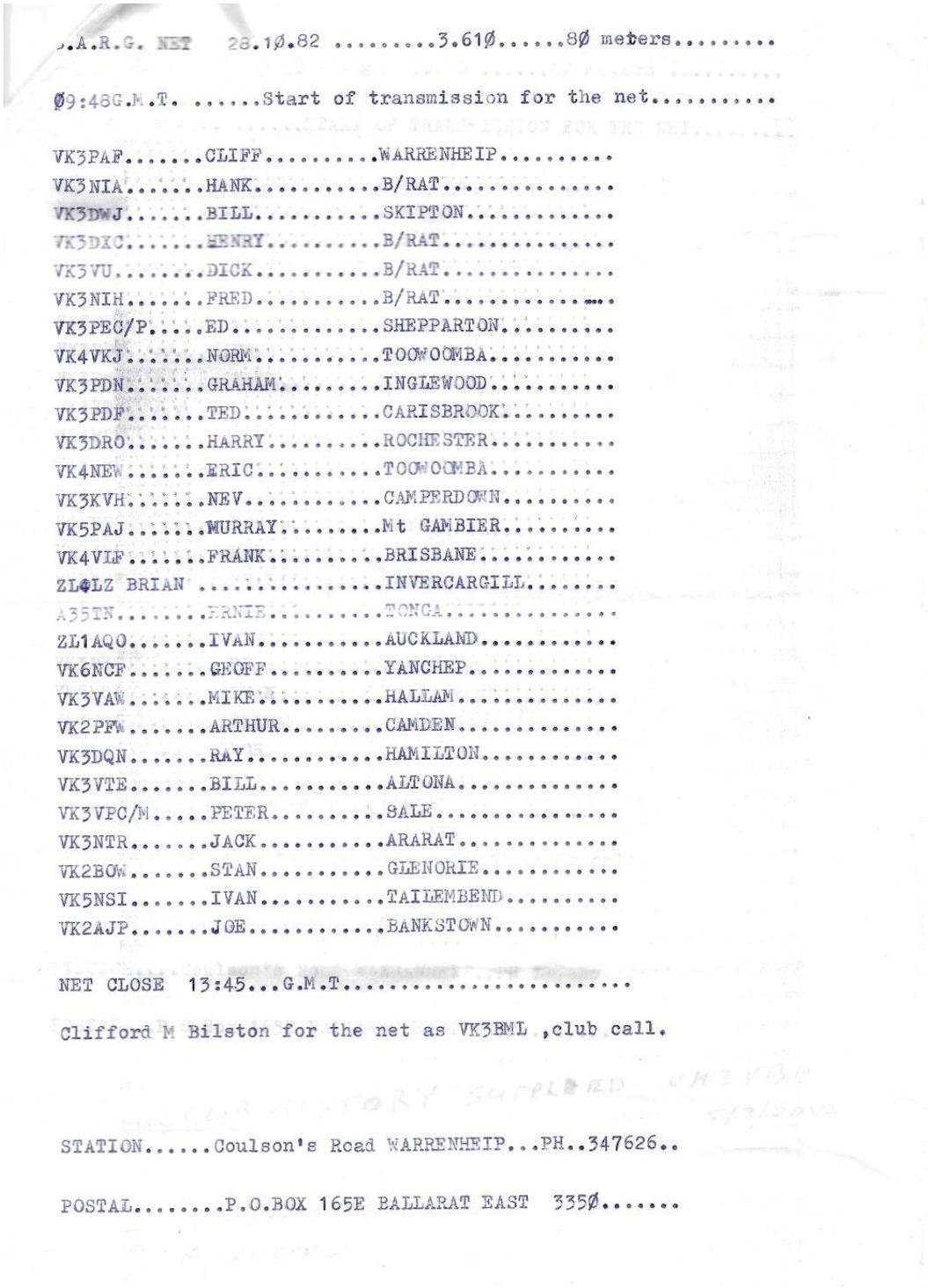
BARG THURSDAY NIGHT NET CONTROLLERS LIST. 3608.00MHz at 2000Hrs

For VK3BML Club Station of Ballarat Amateur Radio Group.

DATE	OPERATOR	NAME	BACK UP	NAME	COMMENTS
2-Dec-21	VK3QY	CHRIS	VK3HMV	ANDY	
9-Dec-21	VK3HMV	ANDY	VK3DRE	DOUG	
16-Dec-21	VK3DRE	DOUG	VK3MCL	SCOTT	
23-Dec-21	VK3MCL	SCOTT	VK3AXH	NAME	Optional to run net.
30-Dec-21	VK3AXH	IAN	VK3KG	CRAIG	Optional if net to run.
A Merry Christmas to all members and a Happy New Year to follow.					
6-Jan-22	VK3KG	CRAIG	VK3TXR	PAUL	First for the new year.
13-Jan-22	VK3TXR	PAUL	VK3QY	CHRIS	
20-Jan-22	VK3QY	CHRIS	VK3HMV	ANDY	
27-Jan-22	VK3HMV	ANDY	VK3DRE	DOUG	
3-Feb-22	VK3DRE	DOUG	VK3MCL	SCOTT	
10-Feb-22	VK3MCL	SCOTT	VK3AXH	IAN	
17-Feb-22	VK3AXH	IAN	VK3KG	Craig	
24-Feb-22	VK3KG	Craig	VK3TXR	Paul	
3-Mar-22	VK3TXR	PAUL	VK3QY	CHRIS	
10-Mar-22	VK3QY	CHRIS	VK3HMV	ANDY	
17-Mar-22	VK3HMV	ANDY	VK3DRE	DOUG	
24-Mar-22	VK3DRE	DOUG	VK3MCL	SCOTT	
31-Mar-22	VK3MCL	SCOTT	VK3AXH	IAN	
7-Apr-22	VK3AXH	IAN	VK3KG	CRAIG	
14-Apr-22	VK3KG	CRAIG	VK3TXR	PAUL	
21-Apr-22	VK3TXR	PAUL	VK3QY	CHRIS	
28-Apr-22	VK3QY	CHRIS	VK3HMV	ANDY	
5-May-22	VK3HMV	ANDY	VK3HMV	ANDY	
12-May-22	VK3DRE	DOUG	VK3MCL	SCOTT	
19-May-22	VK3MCL	SCOTT	VK3AXH	IAN	
26-May-22	VK3AXH	IAN	VK3KG	CRAIG	
2-Jun-22	VK3KG	CRAIG	VK3TXR	PAUL	
9-Jun-22	VK3TXR	PAUL	VK3QY	CHRIS	
16-Jun-22	VK3QY	CHRIS	VK3HMV	ANDY	
23-Jun-22	VK3HMV	ANDY	VK3DRE	DOUG	
30-Jun-22	VK3DRE	DOUG	VK3MCL	SCOTT	

Some of the older nets were run by operators like Cliff VK3CB, who used to run the 80m net from Warrenheip as VK3PAF.
The club at that time was to supply a log of contacts for the net.
Below is one of the logs with some very interesting entries.

Ernie A35TN, I believe as VK3DET, a local operator on a DXpedition to Tonga.



.A.R.G. NET 28.1Ø.82 .....3.61Ø.....8Ø meters.....

Ø9:48G.M.T. .....Start of transmission for the net.....

VK3PAF.....CLIFF.....WARRENHEIP.....
VK3NIA.....HANK.....B/RAT.....
VK3DWJ.....BILL.....SKIPTON.....
VK3DIC.....HENRY.....B/RAT.....
VK3VU.....DICK.....B/RAT.....
VK3NIH.....FRED.....B/RAT.....
VK3PEC/P.....ED.....SHEPPARTON.....
VK4VKJ.....NORM.....TOOWOOMBA.....
VK3PDN.....GRAHAM.....INGLEWOOD.....
VK3PDF.....TED.....CARISBROOK.....
VK3DRO.....HARRY.....ROCHESTER.....
VK4NEW.....ERIC.....TOOWOOMBA.....
VK3KVH.....NEV.....CAMPERDOWN.....
VK5PAJ.....MURRAY.....Mt GAMBIER.....
VK4VLF.....FRANK.....BRISBANE.....
ZL4LZ BRIAN .....INVERCARGILL.....
A35TN.....ERNIE.....TONGA.....
ZL1AQO.....IVAN.....AUCKLAND.....
VK6NCF.....GEOFF.....YANCHEP.....
VK3VAW.....MIKE.....HALLAM.....
VK2PFW.....ARTHUR.....CAMDEN.....
VK3DQN.....RAY.....HAMILTON.....
VK3VTE.....BILL.....ALTONA.....
VK3VPC/M.....PETER.....SALE.....
VK3NTR.....JACK.....ARARAT.....
VK2BOW.....STAN.....GLENORIE.....
VK5NSI.....IVAN.....TAILEMBEND.....
VK2AJP.....JOE.....BANKSTOWN.....

NET CLOSE 13:45...G.M.T.....

Clifford M Bilston for the net as VK3BML ,club call.

STATION.....Coulson's Road WARRENHEIP...PH..347626..

POSTAL.....P.O.BOX 165E BALLARAT EAST 335Ø.....

Another couple of entries is from ZL.

QST September 2021 Review.

P24 Letters from members. Always provides some interesting topics and questions.
P30 Node RED for Amateur radio. Is a no code
P34 Eliminating Radio Frequency Interference from power lines. A very nifty three elements Yagi 0n 150Mhz using tape measure elements and small HTT radio. Some interesting ideas if you need to follow around for noise sources.
P39 Product review of Alinco DJ-VX50T handheld dual bander radio. Gets a good rating.
P42 Review two auto tuners for Icom IC-705. The Icom AH-705 and the MAT-TUNER mAT-705Plus. Again, both get good review.
P46 MFJ-261 Dry Dummy load review. A small 50-Ohm tubular loads rated 100W peak for 30sec max, is air circulated cooled with a 5 min off time. Average rating is 15W continuous duty and with a PL 259 connector. Rated flat DC to 500Mhz with less than 1.15:1 across the range. Its small enough to carry in your pocket when in the field.
P47 Interested in Logging App for the iOS then read about the HAMRS. Designed for portable/mobile operation
P49 Now a pcb kit for controlling all these wall wart supplies one has in the house these days. This kit accepts any voltage range 5 to 25V either AC or DC input [non polarized] and get an adjustable output from 1.25V to about 3V below the input voltage. Ie the old WART gives 15Volt then this kit gives up to 12V out with cleaner and regulated output. Better filter caps.
P51 Ask Dave: Q&A time covers anything readers want to ask. RF Amps, Converting Av to Pk power. Winter and summer radio contacts variations. VHF RFI problems.
P53 Hints and Hacks. Looks at noise from unlikely source, Sorting cables a wooden stand and others.
P55 Eclectic Tech: Band hopping with WSPR. Good examples here from VK6PK to the east coast of USA for those interested in this mode.
P56 SKYWARN is a storm spotter program. See www.weather.gov/SKYWARN and www.wx4nhc.org
P60 New FCC rules to the changes affecting the RF Exposure levels in amateur stations. We should be aware of these matters as they may be applicable to VK stations one day. See these references. www.arrl.org/rf-exposure-calculator for self assessment using the ARRL site and also see http://arrl.org/files/file/Technology/RFsafetyCommittee/RF+Exposure+and+You.pdf See also www.fcc.gov which provided table data for this report.
P65 Interesting fine $US3 by the FCC for unauthorized DRONE transmitters. The Tx is in the 23cm band and they tested for up to 2Watts RF power level when the spec calls for 1Watt max.
P68 Public Service: Although local to the USA here is an idea for field day users to consider how they may mount and carry their radios for portable operation.
P76 How's DX.? Battle Creek Special antenna. A 30-year-old concept suitable for 160m, 80m and 40m. Maybe a bit bulky for single day deployment the concept was developed for expedition type activities, but the keen homebrewer could adapt the design for their own backyard providing the space was available. Need at least 42metre ground space and a pole of about 15m height.
P89 A look back QST for Nov 1971. Looks at Radiated power patterns for Multiband dipoles.
P94 Classic Radio the Signal One CX-7 a complete station. Was selling for US$1595 in 1969.Note there was a warning about Beryllium Oxide as used in valve 8072 and its health hazard risk.
P96 100, 75, and 25 years ago index for September issues.

And the numerous advertisers' pages and index of suppliers.

73 Craig VK3KG

VK QRP CLUB
CW Operators' QRP Club Inc
"we do more with less"

Lo-Key Journal of VK QRP Club March 2022 Review

Front Cover Pic Peter VK3YE reflex transceiver.
Back Cover Pic QRP ATU Chris GM4YLN
P4 Presidents Notes. Trevor Quick VK5ATO, one of the mysteries of how some types of pliers are made, propagation, and some news on other projects.
P6 Club News. Don Callow VK5AIL, information on past issues and update of website for parts purchasing.
P7 The Eddystone Bug and Me. "Doc" Wescombe-Down VK5BUG mastering a Bug Morse key with images.
P12 Make your Transmitter into a Transceiver. Peter VK3YE,interesting article accomplishing the feat with just one transistor.
P16 The QRP club has obtained a callsign VK5WAT.
P17 The QRP HOURS CONTEST-80m. Andrew Davis VK1DA/VK2UH, contest details.
P20 QRP NVIS and DX operation. "Doc" Wescombe-Down VK5BUG writes about a 7MHz "Big Bore" 0.64lambda helical aerial and discusses the construction details, and images.
P28 Member Classified.
P29 Chris Crossword Chris Thompson VK1CT