



A Member of the SARRL



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Newsletter

112

June 2015

Reflections:

What is it that attracts us to valve radio and inevitably to the restoration and use of these old rigs ?

I have asked myself this question on a few occasions and can never come up with the same answer. The only conclusions I can reach though are the following:

It is something that is inbred in us from a very young age and contact with the older equipment. I believe it is really based more on nostalgia than on common sense, because common sense would tell us to keep up with technology and ignore all this old stuff that will become redundant.

Now I have nothing against keeping up with technology. I have been involved with computers from their very first introduction and been through the mill with updating and upgrading to

make sure that I always have something that is well usable and able to do the job.

Not only computers, but cell phone technology, I was one of the first to stand in line and get my brick, digital camera's etc.

When internet activity first started, I was there to get an email address and start digital communication.

So technology is not a problem. Yet there is always something mystical and beautiful about seeing a valve radio come to life and push out watts into an antenna and hear someone come back to you with a report.

A plain old valve radio without bells and whistles, not even an RIT, that can stand its own with the best of today's technology and

more often than not, keep up without breaking a sweat.

There is something magical in hearing a report that your CW sidetone is perfect, or your phone audio is great without any over modulation or roughness in speech.

The biggest complaint from the real technophobes is that you are .0001 off frequency.

This really makes me feel good, because it means that my analogue display is really working well and the VFO that was designed and built nearly 50 or more years ago is as accurate as it was the day it was made.

Who said they couldn't make good stuff in the old days. Built well to last forever.

Best 73

DE Andy ZS6ADY

WIKIPEDIA

Wireless Telegraphy—History

A number of wireless electrical signaling schemes including electrical currents through water and dirt were investigated for telegraphy before practical radio systems became available.

The original telegraph used two wires between two stations to form a complete electrical circuit or "loop." In 1837, however, Carl August von Steinheil of Munich, Germany found that by connecting one leg of the apparatus at each station to metal plates buried in the ground, he could eliminate one wire and use a single wire for telegraphic communication. This led to speculation that it might be possible to eliminate both wires and therefore transmit telegraph signals through the ground without any wires connecting the stations. Other attempts were made to send the electric current through bodies of water, in order to span rivers, for example. Prominent experimenters along these lines included Samuel F. B. Morse in the United States and James Bowman Lindsay in Great Britain.

Telegraphic communication using earth conductivity was eventually found to be limited to impractically short distances, as was communication conducted through water, or between trenches during World War I.

Optical

The first wireless voice telecommunication device, invented in 1880, was the photophone, which carried voice communications optically on a lightbeam transmitted to a distant receiver.

HF Happenings:

The ZS4 Sprint

This is a fun activity to promote phone and CW contacts between radio ama-teurs in the Free State and radio amateurs in Southern African countries. The Sprint is on the air from 14:00 to 15:00 UTC on Sunday 14 June 2015.

The exchange for ZS4 stations is a RS or RST report and their town name or abbreviation. For non-ZS4 stations, it is a RS or RST report and their provincial or country abbreviation. The following frequencies must be used - Phone 7 130 - 7 190 kHz and CW 7 000 - 7 040 kHz.

For ZS4 station the scoring is 1 point for contacts with stations in ZS4 and 2 points for contacts with stations in other ZS call areas or Southern African countries. For non-ZS4 stations, the scoring is 2 points with a ZS4 station and 1 point for a contact with a station in own or other ZS call areas (excluding ZS4) or Southern African countries.

Contacts with the Bloemfontein ARC, ZS4BFN, Vrystaat Radioklub, ZS4B, Welkom Radio Club, ZS4WRC, or the Sasolburg ARC, ZS4SRK are worth 5 points each, only one contact per station is allowed.

Log sheets must be submitted by 21 June 2015 by e-mail to zs4srk@gmail.com. A certificate will be awarded to the 1st, 2nd and 3rd place in the competition.

2015 IARU HF Championships

The 2015 IARU HF Championships will be held over the weekend of 11 and 12 July 2015.



The Morse Mouse - Educational Fun with Amateur Radio

Chelmsford radio ama-teur Charlie, MOPZT, has re-released the Morse Mouse App he developed to demonstrate Morse code to young people.



By sending a series of letters in Morse code, the program aims to develop skill as well as memory. A laminated A4 crib-sheet is provided to assist with the decoding of each letter but that has not to say that those comfortable with 15 - 20 wpm contact speeds will not get some fun out of this.

Morse Mouse had its debut in March as part of British Science Week at Sandford Mill Museum when the Chelmsford Amateur Radio Society (CARS) operated from the 2MT Marconi Hut. It certainly unleashed visitor's competitive streak - with people trying to better their score. Alongside some Morse keys and a practice keyer, there was some surprise that Morse Code still plays a major part in communications.

Morse Mouse is available as a free Windows download from www.mOpzt.com/?mouse

Australian Foundation Licence due for review

The WIA News says 'with a decline in the number of candidates, more needs to be done to promote the hobby and review the attractiveness of it as the entry point.'

The WIA News for 29 May 2015 re-ports:

The 10th anniversary of the new entry-level licence in Australia has seen a great turnaround with Amateur Radio being made more accessible to a greater number

of people.

When it was proposed as part of the Australian Communications Authority "Big Review", the Foundation Licence was embraced by radio amateurs as the way forward for Amateur Radio.

The Foundation Licence has trans-formed us from a worrying declining interest in Amateur Radio, to one of growth with new people entering the hobby and most upgrading to the Standard or Advance levels.

Designed more than a decade ago, it gave entrants a taste of Amateur Radio, inspiring many to explore the multi-faceted hobby, and encouraged some to go further and upgrade their qualification.

Since 2005 over 5 000 Foundation Licence assessments have held, but with a decline in the number of candidates, more needs to be done to promote the hobby and review the attractiveness of it as the entry point.

While the Foundation Licence is now 10 years old and due for a review to reflect new technology of the last decade, and provide a better taste of a modern Amateur Radio, it remains a popular entry point into the hobby.

Source WIA <http://wia.org.au>

African Islands

IOTA frequencies

CW: 28 040 24 920 21 040 18 098

14 040 10 114 7 030 3 530 kHz

SSB: 28 560 28 460 24 950 21 260

18 128 14 260 7 055 3 760 kHz

Cape Verde, D4. Massimo, IZ4DPV, will be active from Sao Vicente Island (AF-086) Cape Verde from 15 to 22 June 2015 as D4C. He will be active on 80 to 10 metres. QSL via home call, direct or bureau.



African DX

Niger, 5U. Chris, F4WBN/TLOA, is active once again as 5U5U from Niger since 30 May until 16 June. Activity is holiday style on 40 to 6 meters using SSB and some RTTY. QSL via his home call sign direct.

The Gambia, C5 (Update). Luc, F5RAV, will once again be active as C5LT from Kololi between 20 and 27 October. Activity will be on 40 to 10 meters using SSB, RTTY and possibly CW. Operations will also include the CQ WW DX SSB Contest on 24 and 25 October using the shorter call sign C5C. It was re-reported this week that Gerard, F5NVF, will be joining Luc, but will be active as C5C on CW only. Also, Mustapha, C5MF, their guide in the Gambia and a new amateur, will be making his first QSOs with you. QSL via C5LT, C5C and C5MF only direct to F5RAV.

Djibouti, J2. Jean, F5LCI (ex-FO/F5LCI) will be active as J20JM starting sometime in mid-July through mid-September. Activity will be on the HF bands (bands will depend on the antenna possibilities), operating QRP using CW and JT65. No SSB. QSL via his home call sign or eQSL.

FT5ZM DVD :

The DVD of the 2014 FT5ZM DXpedition to Amsterdam Island is now available: "this was a truly international DXpedition with 14 operators from eight different countries, a seven-week adventure culminating in an amazing 140 000 QSOs from the middle of the southern Indian Ocean." Details can be found at

www.k4uee.com/dvd.

Web Site of the Week :

Checking out the "competition?" The Northern California Contest Club has a large online collection of past club newsletters that are simply wonderful to read. NCCC members contest with great gusto, travel, build things, solve problems, get other people excited about contesting, and then write about it! <http://www.nccc.cc/newsletter.html>

Word to the Wise :

Grid Square - An alphanumeric geo-graphical coordinate system (usually four or six characters), based on the Maidenhead Locator System developed by VHF enthusiasts in 1980, in which the entire globe is divided into equal-sized rectangles denoted by alphanumeric codes. Grid squares are increasingly popular as contest exchanges, as they offer a challenge for successfully completing contest QSOs with accuracy, providing universal location information for all countries/states, and underpinning distance based scoring criteria. Some contests in which Grid Squares are used: SARL VHF/UHF Contest; PEARS National VHF/UHF Contest; RaDAR Challenge.

June Diary

10 to 13 – Namibia Tourism Expo, Windhoek
 13 to 30 – Winter in Calitzdorp
 13 to 16 – Napier Patatfees
 14 – ZS4 Sprint
 15 – School holiday
 16 - Youth Day
 17 – World QRP Day
 18 – Start of Ramadan
 20 – SA AMSAT Symposium
 21 – Father's Day; Winter Solstice
 24 to 28 – De Rust Eco Festival
 25 to 29 – SARL Top Band QSO Party
 26 – All schools close
 26 to 28 - Ham Radio, Friedrichshafen, Germany
 27 and 28 – Christmas in die winter, Tulbagh
 30 – Your SARL membership expires

July

1 – Your SARL membership starts (if you have paid)
 2 to 12 – Grahamstown National Arts Festival
 3 to 12 – Knysna Oyster Festival
 4 – Durban July Classic
 5 – ZS5 Sprint
 11 and 12 – IARU HF Championships
 13 to 18 – Free State Arts Festival, Bloemfontein
 18 – SARL Winter QRP Contest
 18 to 25 – Youth on the Air Camp, Italy
 20 – All schools open
 25 – Amateur Radio in Action, Durban
 25 and 26 – RSGB Islands on the Air Contest

Operating Tip :

Do not let mobile amateur gear be-come projectiles - make sure your equipment is secure. If you need a removable but robust solution, you might try a hook and loop fastener. According to Rich, W6RS, who ex-

tensively tested a number of brands for a large municipality, Gator Grip was recommended: "Once the two materials were mated you literally had to use a flat blade screw drive to separate them. Needless to say hard mounting is the first choice, but if that's impossible then this is a viable alternative."

History this week :

Starting Monday 1 June 2015

1896 - Guglielmo Marconi receives the patent for his radio
 1917 - The first Pulitzer Prize awarded
 1919 - Women in the USA get the right to vote
 1932 - My Dad is born (passed away in 2005)
 1953 - HRH Queen Elizabeth is crowned in Westminster Abby
 1956 - ZS4BS is born (and all the people rejoiced!)
 1956 - Egypt says it will not renew the Suez Canal company concession in 1959, this leads to the Suez crisis
 1998 - The space shuttle Discovery is launched from Cape Canaveral for NASA's last mission to the damaged Russian space station MIR

Flea Markets :

The Winter Market for Fleas of the East Rand Radio Club will be held from 12:00 on Saturday 27 June 2015. Bring lots of money (but do not tell your wife) be-cause you may find something you need or want for a bargain. Also, bring all your un-wanted stuff, which you want to get rid of because, there may be someone that need it.

Raffle tickets will be available for R30-00 a ticket to win a brand new Daiwa CN-801 cross needle SWR/Power meter valued at R2 250. With thanks to Sam's Radio Accessories. The draw will only take place on our October 2015 flea market.

Boerewors rolls and cold beverages will be available. Bring the family and come enjoy the day with us. If you want to book a table at R30 per table, contact Judy on 079 730 2030 or e-mail to zs6erb@gmail.com



(Articles printed with permission from ZS4BF)

Get the full version of HF Happenings here:

<https://xa.yimg.com/kq/groups/20889973/454994766/name/hfhappenings657.pdf>

Or you can sign up to receive it every week with zs4bs.

THE BAD OLD DAYS

By LG Latsky

In the 1950's the only activity on the VHF bands in the City Bowl of Cape Town was the Fire Brigade who operated two-way radios on about 7 meters. The 2 to 4 m bands were a pristine field and lured youngsters to build and operate illegal transceivers working around 2.5 to 4 meters. The circuit for such transceivers was available in the 1946 edition of the ARRL Handbook on p.365 : "144m/c mobile transceiver". Associated Job Buyers in Salt River sold War Surplus radio valves and equipment and schoolboys used their paltry pocket money to buy radio parts such as valves , i.a. the fascinating horned triode VR135.

My late Brother, Chris, ZS1EV and his late friend and radio buddy, George du Toit, both built this transceiver and had daily contact on these small ,highly illegal, transceivers. As the crow flies the two friends were about 3 km apart : we lived in Carstens Street, Tamboers Kloof and George in Molteno Road, Oranjezicht, both on rising ground, in line of sight. The transceivers used small horned triodes such as HY615/E1148/CV6/VR135/7193/DET20 and even a slightly higher powered CV63.They also experimented with the 955 acorn triode, but settled using identical transceivers with VR135 valves as the basis.

In 1954 the writer, George Latsky, was 15 (Std 7) and considered a kid brother who was NOT included in the illegal activity ! So one day when my Brother, who was 6 years my senior, was out, I sneaked into his work room, studied the coil of the transceiver and counted the turns. Then promptly I wound a similar coil, built a crystal set for VHF using a germanium diode(GEX35) and voila, I could eavesdrop on their daily technical conversations whilst hidden under the fig trees around the corner of the old parsonage ! Incredible, but the monitor receiver (built in a small tin box) actually received VHF signals from the close by transceiver. The tuning was accomplished by means of a wafer compression trimmer of the paxolin postage stamp type ! The antenna was a rod of stiff galvanized wire half the length of the transmitting antenna used by my Brother....The headphones were old SG Brown type.

Needless to say, the author gained a great deal of technical knowledge from his illegal eavesdropping of pirate signals, all unbeknown to the elder sibling and his radio friend, George .

And that was a nostalgic peek at the good old days of yore when boys used own initiative and constructed things themselves.....We still lived in an unregulated society with much more freedom of action granted to boys with go and verve and I think of adults who pretended not to see or hear !



The metal base projects 3 1/2 inches behind the

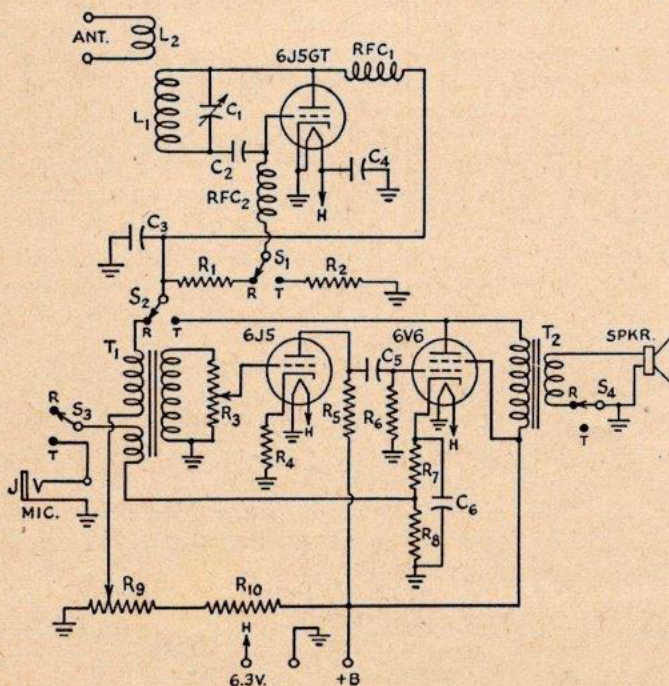


Fig. 1637 — Circuit diagram of the 144-Mc. transceiver.

- C₁ — Midget variable, 10–15 μ fd. maximum capacity.
- C₂ — 50- μ fd. mica.
- C₃ — 0.005- μ fd. mica.
- C₄ — 250- μ fd. mica.
- C₅ — 0.1- μ fd. paper, 400 volts.
- C₆ — 25 to 50 μ fd. electrolytic, 50 volts.
- R₁ — 5 megohms, 1/2-watt.
- R₂ — 5000 ohms, 1-watt (for 6J5, 6C5); 10,000 ohms, 1-watt (for 6V6, etc.).
- R₃ — 0.5-megohm volume control.
- R₄ — 1000 ohms, 1/2-watt.
- R₅ — 0.1 megohm, 1-watt.
- R₆ — 0.5 megohm, 1/2-watt.
- R₇ — 250 ohms, 1-watt.
- R₈ — 200 ohms, 1-watt.
- R₉ — 50,000-ohm volume control.
- R₁₀ — 50,000 ohms, 1-watt.
- L₁ — 3 turns No. 12, 9/16-inch inside diameter, 1/2-inch long.
- L₂ — 1 turn No. 12 or No. 14.
- RFC₁, RFC₂ — 55 turns No. 30 d.c.c., close-wound, 1/4-inch diameter.
- T₁ — Transceiver transformer (see text).
- T₂ — Output transformer, pentode to voice coil.
- S₁₋₄ — 4-pole double-throw switch.
- J — Open-circuit jack.
- Spkr — 3-inch permanent-magnet dynamic speaker.

G2DAF: A MAJOR INFLUENCE ON AMATEUR RADIO

by Richard ZS6TF AWA Historian

Better known by his callsign, and by popular debate which still continues in association with QRO, Richard (Dick) Thornley was one of Amateur radio's foremost opinion leaders in the 1960's and 70's. His designs stimulated 1000's of amateurs to construct them despite never appearing in kit form. It was the recent acquisition of a transmitter and receiver pair built faithfully to his instructions that caused the author to enquire into his background in the interests of objectivity and the significant historical milestones of his designs.



Left G2DAF Mk 2 Transmitter & Right Mk2 Receiver for restoration

At the turn of the 60's the AM/SSB war was still at its height, and the Americans were ahead of the pack. Publication in late 1958 of 2 excellent books on SSB theory and practise by W6TYH, Harry Hooton, and W6TNS Don Stoner set the tone which was upstaged by Collins in 1959 who published "Fundamentals of Single Sideband" heavily indexed to the KWM2 and S1 "S" line equipment introduced in November 1958. These radios were designed with diplomatic as well as amateur service in mind, and coming from a military contract engineering background, meant the price was beyond most amateur's pockets.

Thornley provided the answer for British and Anglophone amateurs by designing a home constructible transmitter and receiver in the British idiom, with the best features of commercially available equipment plus some others well ahead of their time. These were first published in the RSGB Bulletin (Now Radcom) which became the mouthpiece for his monthly column on SSB of which he was a champion.

Harking back to the days when pre-WW2 Eddystone produced kits and designs using their components specified down to the last nut, Thornley's attention to mechanical precision supported by detail dimensioned drawings confirm the anecdotal evidence that he was a craftsman both mechanically and electronically, who had the rare ability to "think" his designs onto paper for others to reproduce them with accuracy. The receiver employed a 5 to 5.5 Mhz tunable IF followed by a 455khz mechanical filter and the transmitter provided 2 options for the method of generating SSB either at MF with a mechanical filter or at HF with a crystal lattice filter constructible with surplus FT243 crystals etched to frequency. The centrepiece of both units was the Eddystone 998 tuning drive which gave a professional appearance, and many suppliers supported the designs by manufacturing coils, IFT's, sets of crystals, and even panel metalwork. Other features which appealed to the user were front panel symmetry, matching appearance of the receiver and transmitter, reasonably compact footprint allowing side by side desktop use with room to spare, and low mass due to all aluminium construction and a separate transmitter power supply.

The RSGB produced 2 booklets authored by Thornley expanding on the theory and operation of his designs. They were "Communication Receivers" and "The G2DAF SSB Transmitter, Mark 2 and the G2DAF Linear" both published in 1964, essential reading for boat anchor lovers.

By reputation Thornley was an acerbic character who didn't suffer fools gladly, but who had a kindly supporting side to him if a genuine amateur had problems with his designs and participated almost daily in the 60's, on a UK SSB net on 80 metres in furtherance of SSB technology.

In October 1979 through January 1980, Wireless World published a



when amateurs were still in the SSB learning curve. It was not fully sorted when published, the article being more of a stimulus for experimentation.

You would not restore a 1960 Ford Anglia to do battle in the Joburg traffic with the taxis, so accept that the amplifier has its place in history but there are many superior designs available, after all technology has advanced a lot in 50 years. In the words of Ian White, GM3SEK, a regular technical contributor to Radcom, "I still think that G2DAF's own amplifier was probably OK, but I would not recommend the G2DAF design for constructors today, least of all for inexperienced constructors looking for a 'quick-and-easy' amplifier.

Erratum: Last month's article on Streeter mentioned the "Van Rhynsdorp radio Museum", which should have read "The Latsky Radio Museum" Your historian apologises to anyone who may have been confused.

Results of the AWA Valve QSO Party

On Saturday and Sunday 09 and 10 May the AWA Valve QSO party was held with AM on Saturday and SSB on Sunday. The following are the results of the QSO party and the highest scores achieved.

There was only one log submitted for the AM section which obviously achieved the highest score:

Top score AM—Jan ZS4JAN

On the SSB section there were 6 logs received:

Top Score SSB - Jan ZS4JAN

Second— Mario ZS6MAR

Third— Stephen ZS6SVJ

Congratulations to those who scored the highest points and well done to all those who took part in the QSO Party.



AWA/KARTS OPEN DAY



They came from far and wide. We won't exactly call them the wise men from the East, but they were certainly there from the East, the West the North and the South.

Either selling or buying or just renewing relationships with old friends. It did not really matter which way it went, because it was all worth the while.



Chilly it was, especially for those from the coast, but the sun was warm as was the friendship





As usual, the AWA displays were top notch with some excellent examples of radio from the yesteryears.

The models weren't as lush as those used to advertise cars, but still quite useful as far as information was concerned.



The Lancaster Bomber Brew certainly attracted a lot of interest, which opened up an area of conversation around the rig it was advertising.



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**Antique Wireless Association
of Southern Africa**

Mission Statement

Our aim is to facilitate, generate and maintain an interest in the location, acquisition, repair and use of yester-days radio's and associated equipment. To encourage all like minded amateurs to do the same thus ensuring the maintenance and preservation of our amateur heritage.

Membership of this group is free and by association. Join by logging in to our website: www.awasa.org.za

Notices:**Net Times and Frequencies:**

Saturday 06:00—AM Net—3615
Saturday 07:15—Western Cape SSB Net— 7140 (Alternate 3630)
Saturday 07:00—KZN SSB Net—7145
Saturday 08:30— National SSB Net— 7140; relayed on 14140
Saturday 14:00— CW Net—7020
Wednesday 19:00— AM Net—3615, band conditions permitting.



Ted ZS6TED has this set of Swan 350 and 350C with power supplies and a transverter up for grabs. Asking price R1000 for the lot. If anyone is interested they can give him a call on 0829299280.

AWA KZN:

On Sunday 28th June 2015, there will be a KZN AWA Gathering at Baynesfield Museum hosted by Bert ZS5MQ at his Wireless Shack. Gates open at 09:00 to the public and Bert has suggested they could also have a bring and braai as well as bringing any rigs for display. Directions will be posted on the AWA website.

AWA WESTERN CAPE

We are arranging a Bring and Braai at the farm QTH of John ZS1DI on the 20th June 2015, it has been a while since we had a good braai and flea market and this will be an ideal time. This will coincide with the Overberg Club meeting who are also invited. There will be a flea market (boot sale). To make this event an interesting meet it would be great if those attending bring along a piece of Antique equipment - either restored Or being restored- so that members can see what we are all about. The event will be the whole day starting at about 10:00 or earlier until you are tired and want to go home.