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Newsletter

#135

Reflections:

Many of us have seen or received these posts that say "If you can remember this, then you come out of the 60's".

I love to remember things like 45's, zippo lighters, Texan plain and many of those things that when you mention them, people either look at you in a funny way, or with understanding.

If you came out of a colonial country, then you knew things like Willards chips, OK cigarettes, Wrigleys chewing gum and Wicks bubble gum.

Throughout my life, I have been exposed to many things that have changed. Blaupunkt push button car radios, with valves. 45 record players, pin ball machines, 8 track tape players, 4 track tape players, commodore computers, XT computers.

Vauxhall Victors, Ford Anglias, Zephyrs, Zodiacs (not the rubber type) Studebakers and Chevrolet Biscayne.

By this time I have got your mind working on many of the things that have been through your life, that is if you are of the older generation.

When I think of the technological changes that have taken place over the short 65 years of my life, well 61 that I can remember, I am absolutely amazed at all that has changed during this time.

T sometimes wonder if these things were maybe not the beginning of my infatuation with things of a past era and that kindled my love for valve radio.

So with all the changes that have taken place and the wonderful technology that has been given to us over the years, what exactly are we doing ?

Now we have the micro-

chip, Fuel injected turbo charged systems, all wheel drive motor cars and radios the size of a match box that can do 100w transmissions.

Yet for some reason or another, there are so many who still believe in the power of the valve.

What is the attraction to this little glass bottle that glows in the dark and produces such fine audio quality. You need many of them to keep a radio alive, but yet few to produce something amazing.

They have a character of their own, and last forever when fed on the right voltages and do the work they were designed to do.

I guess that is why I love them.

Best 73

DE Andy ZS6ADY

WIKIPEDIA

Amateur radio The origins of amateur radio can be traced to the late 19th century, but amateur radio as practiced today began in the early 20th century.

The First Annual Official Wireless Blue Book of the Wireless Association of America, produced in 1909, contains a list of amateur radio stations.

This radio callbook lists wireless telegraph stations in Canada and the United States, including 89 amateur radio stations. As with radio in general, amateur radio was associated with various amateur experimenters and hobbyists. Amateur radio enthusiasts have significantly contributed to science, engineering, industry, and social services.

Research by amateur operators has founded new industries, built economies, empowered nations, and saved lives in times of emergency. Ham radio can also be used in the classroom to teach English, map skills, geography, math, science, and computer skills.

The term "ham" was first a pejorative term used in professional wired telegraphy during the 19th century, to mock operators with poor Morse code sending skills ("ham-fisted"). This term continued to be used after the invention of radio and the proliferation of amateur experimentation with wireless telegraphy; among land- and sea-based professional radio operators, "ham" amateurs were considered a nuisance. The use of "ham" meaning "amateurish or unskilled" survives today in other disciplines ("ham actor").

The amateur radio community subsequently began to reclaim the word as a label of pride, and by the mid-20th century it had lost its pejorative meaning. Although not an acronym, it is often mistakenly written as "HAM" in capital letters.

October 2017

HF Happenings

ICOM IC-9700

ICOM showed off the new IC–9700 at the Tokyo Ham Fare. All-band, all-mode with fullduplex capabil-ity. 100 watts on HF thru 6 metres, 50 watts on 144/432 and 10 watts with the optional 1,2 GHz module. No official price was announced but much speculation about this being a sub-\$3 000 transceiver. Probably not avail-able for 6 – 9 months. http://mail01.tinyletterapp.com/ke9v/calling-cq-issue-104/9393297-www.icomuk.co.uk/news_article/3508/19388/?c=525cc316-4c9f-4513-8bcb-ec9a8d443069

60 Metres News

Both Kenya and Estonia now have access to the 60 metre band as of September 1st. For more details on their privileges, see www.arrl.org/news/view/estonia-kenya-join-60meter-club

3YOZ Bouvet DXpedition (More on the 160 m Vertical)

Tim Duffy, K3LR, reports: The DX Engineering and Bouvet Island teams have worked together to design an efficient 90 foot top loaded 160 meter vertical antenna that can be installed quickly and safely on Bouvet Island by the 3YOZ team this January. With a good radial system, the difference in gain between a 120 ft (full quarter wavelength) vertical and this custom 90 foot top loaded vertical is less than 0.5 dB. This vertical uses a custom designed heavy duty hinged pivot base with base insulators to accommodate a 40 foot falling derrick 3 inch heavy duty pipe for installation. The vertical is base fed using two inductors to match to 50 ohms. The first 70 feet of the vertical is Universal Aluminium tower (12 inch face) and the top 20 feet is 1.875 inch diameter aluminium tubing.

There are guys at 30, 50 and 70 feet. There are also three 30 foot top loading wires attached to the top of the tubing that are tied to anchors 60 feet out from the base. DXE is actually donating two of these vertical packages to the 3Y0Z team in case one gets damaged (there are 300 storms per year on Bouvet).

More details on the construction and the final test raising plus VSWR measurements are shown in the video filmed and produced (in 4K Ultra) by Greg, W8WWV. www.youtube.com/watch?v=bSw-0TjaUiU

P5/3Z9DX Pirate

The P5/3Z9DX pirate continues to be active this past week. Reports from a few DX sources state that Dom, 3Z9DX, reports he has not talked to any DX source about his return trip to P5. He adds, "All DX spots are fake and are made by local Polish guy who is not mentally well. If you worked P5/3Z9DX recently you worked a simple clown / pirate. There is still no more information for now from North Korean officials about my return visit. In addition, at the moment, I'm concentrating on other projects for later this year and 2018."

K1 and KX1 transceiver kits discontinued

Elecraft announced that the K1 and KX1 transceiver kits have been discontinued due to parts availability problems. Both kits have enjoyed a long life (17 years) but now there are questions about how much longer the K2 transceiver kit will be available since it is of the same vintage and shared many similar parts.

African DX

Burkina Faso, XT. Harald, DF2WO will be active again as XT2AW from Burkina Faso between 29 September and 30 October. He will be active on the HF bands, 60 metres included, "and with conditions what they are may be on JT65 and FT8 more than CW or SSB". QSL via MOOXO's OQRS and LoTW.

South Africa, ZS. This year, the Jamboree on the Air (JOTA) celebrates its 60th year of running. To commemorate this milestone, the Sandringham Scout Group (ZS6SSG) will be running special event station ZS60JOTA over the JOTA weekend of 20 to 22 October. Activity will be on 80, 40 and 20 metres. QSL via ZS6RKE, direct or bureau.

Rwanda, 9X. Peter, HB9DVG, is now active as 9X9PJ (and possibly later as 9X9PJ/P) from Kigali during the next two years. Activity will be on 20 to 10 metres using SSB. His equipment is an Elecraft KX3 transceiver with a HLA 300 amp into a Buddipole Vertical. QSL via his home callsign direct or eQSL.

Mozambique, C9. Members of the Lion DX Team (OT8T) will be active from Mozambique between 2 and 15 May 2018. Their

October

2 to 8 – Aardklop National Arts Festi -val, Potchefstroom 5 - SARL 80 m QSO Party 5 to 8 – Rocking the Dasies, Darling 6 and 7 - Fish River Canoe Marathon, Cradock 7 - Spring QRP Contest; AWA AM Valve QSO Party 8 - AWA SSB Valve QSO Party 9 - All schools open 20 to 22 – Jamboree on the Air; Talana Live, Dundee 21 – CQ Hou Koers; Radio Amateur Exam 24 - Closing date for November Radio ZS 28 and 29 - CQ WW DX SSB Contest November 4 – RaDAR Challenge 5 – PEARS HF Contest 11 – Armistice Day 12 – Remembrance Sunday 17 – AGM and Year-End function of the Bo Karoo ARC, Vanderkloof 17 to 19 Cherry Festival, Ficksburg 18—AWA AGM SAIEE

callsign is pending. Operators mentioned are Kurt, ON8KW (Team Leader), Roger, ON7TQ, Bruno, CS7ABG, Paulo, CU2CO, Ron, ON1DX, Philippe, ON4ACP, Marc, ON4AMX, Erik, ON4CCV, Olivier, ON4EI, Hermann, ON4QX, Ivo, ON5CD, Cis, ON6LY and 1 more CW op. Activity will be on 160 to 6 metres using CW, SSB and RTTY and possibly other Digital modes (PSK, FT8). QSL Manager has not been named, but it looks like they will be using ClubLog. Look for more details to be forthcoming. Visit their Web page at https://mozam-bique2018.wordpress.com

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

Liberia, EL. EL2GM, EL2BB and EL2EL are the callsigns issued to EI5GM, EI9FBB and MMONDX respectively. They plan to use them after the 5L3BI DXpedition to Baiyah Island from the Liberia Radio Amateur Association in Monrovia, probably on 3 November. If bad weather/sea conditions prevent them from landing on the island, they will use their personal callsigns from mainland Liberia during late October-early November.

St Helena Island, ZD7.

A regular air service from Johannesburg to St Helena Island (AF-022) is due to start on 14 October, and Bill, GOVDE hopes to be on the first commercial flight. He plans to be active as ZD7VDE for one week, and to operate SSB and some data modes ("maybe even FT8"). See www.sthelenadx.com/ for more infor-mation and updates.

Algeria, 7X. A team from the Djelfa Amateur Radio Club (7X2VFK) and the Algerian

Radio-Amateur Union will be active as 7Y7AI from Grand Cavallo Island (AF-104) between 3 and 10 October. QSL via 7X2DD. Reunion Island, FR. Gust, ON6KE will be active holiday style as FR/ON6KE from Reunion Island (AF-016) from 29 September to 10 October. He will run 5 – 10 watts and operate FT8, JT65 and CW on 80-10 metres. QSL via LoTW, Club Log or eQSL. Sao Tome, S9. Jorge, CT1BOL will be active as S9CT from Ilheu das Rolas (AF-023), Sao Tome from 30 September to 6 October. QSL via Club Log's OQRS, LoTW or home call.

S9 - Rocco DG5AA, Rich DK8YY, Hans DL1AOB, Dieter DL1AWD and Lu DL8ALU will be active again as S9YY from Sao Tome (AF-023) between 1 and 12 October. They will operate CW, SSB and digital modes on the HF bands, also on 60 m. QSL via DH7WW, direct or bureau; OQRS on Club Log.

Sao Tome, S9. Jose, EA5IDQ will be active as S9CQ from Sao Tome (AF-023) between 12 and 21 October. He will operate SSB and RTTY on 80-6 metres. QSL via home call (direct or bureau) and LoTW.

Pantelleria Island, IH9. Emilio, IZ1GAR, will once again be active as IH9/IZ1GAR from Pantelleria Island (AF-019) between 24 and 28 November. In the CQ WW DX CW Contest (25 and 26 November), Emilio will be active as IH9R and as a Single-Op/Single Band (either 80, 40 or 20 m)/High-Power entry. Pantelleria counts as Multiplier Zone 33 Africa Italy for the CQ WW DX rule (islands are located over the African continent platform). QSL via IZ1GAR, direct or by the Bureau.

Listen

Before using a frequency, remember to listen, listen, listen. Please be sensitive to health and welfare frequencies during the ongoing "Harvey" relief, potential "Irma" impacts, and other emergency operations.

Beacon Challenge

If you operate your own skimmer hardware feeding into the Reverse Beacon Network (RBN), here is a challenge for you www.ncdxf.org/beacon/RBN.html - can you hear all eighteen of the beacons in the Northern California DX Foundation's International Beacon Project in one-day? www.ncdxf.org/beacon/index.html This can be a good test of your location, setup, and band conditions and a chance to get on the leader board.

The SM-8 Shackmaster

Array Solutions has a new product from Hamation which is said to be a "Swiss army knife for complex set-ups." The SM-8 Shackmaster www.arraysolutions.com/shackmaster is targeted to help solve some of the issues with interfacing radios, PCs, SDR radios like Flex and ANAN to station accessories such as SteppIR control-lers, band decoders, and antenna switches. It takes CAT information from one type of radio, and can translate it to other radio types simultaneously, for example from Icom to Yaesu. Being from Hamation, it also works with the ShackLan network.

Word to The Wise

Oblast - The term for a government-defined region in the former Soviet Union, Belarus, Kazakhstan, Bulgaria, Russia, and Ukraine, like a state or province. It is part of the contest exchange used in the Russian DX Contest.

Rebuilding Old Capacitors By Viv Stuart-Williams. (ZS1SW)

The False Bay Amateur Radio Club was recently given a 1928 Cossor Melody Maker Tuned Radio Frequency (TRF) radio by a good friend Paul Mathews. The radio had a somewhat checkered history having originally resided in Rhodesia (name intended). This is without doubt the oldest radio that I have worked on. I will describe the rebuilding and restoration in another article for the future.

This article concentrates on the restoration/ rebuilding of the capacitors within the set. The photo below is of the partially restored set. It contains three capacitors nominally rated at 2 μ Fd; 0.1 μ Fd and 100 pFd.



I only restore/ rebuild these caps after testing them pretty thoroughly. The 100 pFd cap is probably a silver mica (in a Bakelite case) and is mounted in parallel with a $3M\Omega$ grid leak resistor (middle red oval). On testing the capacitance I found it to be 104 pFd (well within my 20% tolerance). I then used a valve voltmeter to measure the internal resistance. In this case it was very high (several 100 M\Omegas) which is correct. I always check the internal resistance on these old capacitors (particularly battery units) because HT "bleed" is a battery killer.

The other two caps were both paper/ foil/ wax and these are generally u/s (unserviceable). I will concentrate on the 2 μ Fd capacitor (right hand red oval). I found the capacitance to be over 9 μ Fd and the resistance around 800 k Ω . This capacitor (as expected) was u/s.

In a set that is basically 90 years old I do not wish to replace the lovely old Bakelite capacitor with a hideous new red or brown (or whatever - and very small) <u>new</u> capacitor. It would look grim and completely detract from the look of the old set. The solution is to rebuild the old cap, putting new electrics inside the old Bakelite case. The procedure to remove the old guts is a bit variable. I will therefore describe this particular case.

- 1. Remove all of the washers, nuts, thumb screws, etc, from the top of the capacitor;
- 2. Turn the capacitor over. Use a screw driver or similar blunt object to dig out the pitch/ wax that seals the underneath of the capacitor. Do not damage the capacitor casing. This can be quite fiddly.
- 3. There will be a Bakelite plug under the wax/ pitch avoid damaging this. Remove it.
- 4. You will now be able to see the capacitor internals. It is paper and aluminium foil rolled as a sausage. In this case the two wires are visible. Wax or pitch is used to hold the "capacitor" in the casing.
- 5. Put the unit into a glass bowl and pour very hot water into the bowl covering the capacitor completely. Leave it until the case and outside of the "capacitor" are well heated. You should see melted wax coming out of the unit.





- 6. Lift it carefully out of the water using pliers. Turn it terminals downward and gently push the casing downward. With some poking, prodding and pulling the inside should come out in one piece. In this case there was a small amount of pitch holding the terminals in place.
- 7) Assemble the new capacitor (or capacitors) into a form that will fit the old case (in this instance $2 \ge 1 \ \mu$ Fd 630v polyester caps in parallel. Attach the terminal bolts. Place inside the casing and put the first layer of washers and nuts on the top outside of the capacitor and tighten them down to hold the new capacitors in place. Test that the capacitance is correct. Add wadding to stop any rattling of the capacitors in the case. Then using glue replace the bottom bakelite plate. Glue allows removal at a later date should it be required. Sealing of this plate is not required as the capacitors are sealed.

When completed this rebuild capacitor was 2.005 μ Fd and had an internal resistance approaching 500 M Ω . We now have a working capacitor that is externally 100% original!

I have found that the older capacitors are easier to repair than some more modern ones. Many WW2 capacitors are machine assembled with soft aluminium casings and they are difficult to strip easily. So good luck.

It is always very satisfying to get an old radio working that looks like an original.







AWA ANNUAL GENERAL MEETING

Notice is given of the AWA AGM to be held at the South African Institute of Electrical Engineers (SAIEE) in Observatory on Saturday 18 November 2017.

08h00—10h00 running the shack & museum visits 10h00—11h00 AGM 11h00—14h00 Braai and fleamarket (Braai packs and Cold Drinks will be on sale)

Tables will be available for anyone wishing to display goods for sale or for display purposes.

The following was sent to us by Max Clarke from the SAIEE

We welcome this ongoing relationship with the AWA, and thank you and your members for the assistance which you have given, and continue to give, for the work of the Institute, and in particular, the operation and general maintenance of the amateur wireless station and the Innes House Museum as a whole.

In this regard we would appreciate any further assistance you might be able to give to expand our collection and display of underground / mining radio communications items. We currently have on original base station, designed and built in the Chamber of Mines Research Establishment, as well as two early model "walkie-talkie" handsets. If any of your members know of the whereabouts of other early – or newer – models of this equipment, or related items, we would appreciate you assistance in acquiring them.

We look forward to seeing as many as possible at this gathering.

Jacques Scholtz ZS6JPS

A Simple AM Transmitter John ZS5JF

A number of AWA members have asked for more detail of the low power AM transmitter I built for MF on 80m using a novel type of modulation. So here are the full details.

The design shown is a simple way of getting on 80m using readily available valves and components. The modulator is a low power stage which produces good linearity and has sufficient drive to supply a pair of 6146 valves operating as a ssb linear amplifier.

Many of the classic AM transmitter designs utilise high level modulation which requires a lot of audio power. This design needs as little as 1/2W of audio to fully modulate the transmitter. The audio amplifier is a car radio audio amplifier, the TDA-2003 IC which can supply 10W to drive a 4W loudspeaker. The TDA-2003 IC is 5-pin TO-220 package with the tab as the ground connection. Bolting it to a suitable metal chassis provides ample heat-sinking and the dc supply is a nominal 12V, which does not need to be very stable. Hence, a simple dc rectifier with a smoothing capacitor is adequate.

The modulation transformer is a low voltage mains transformer. The writer used a 9V secondary winding with a 230V primary winding rated at 5VA. The TDA-2003 drives the 9V winding to provide ample voltage at the 230V primary. This is connected in series with the 250 to 300V high voltage supply to modulate the anode and screen of the modulator valve. Despite the fact that the transformer was designed for 50/60Hz duty the frequency response was surprisingly wide. At 5kHz the response was only down by 3dB and below 1.5kHz it was essentially flat within 1dB.

The valve can be several types, either the popular 12BY7A or 12GN7A, 5763/6062, 6BW6, 6CH6 etc. The input to the modulator needs to swing the grid with about 10V pk-pk into a high impedance. (The modulated stage is operated in Class C to allow good linearity. It is not possible to anode and screen modulate a linear amplifier, it doesn't have sufficient non-linearity. Anode and screen grid modulation to produce amplitude modulation is a form of "*mixing*", that is why Class C has to be used for this type of application). The input drive level can be provided by a vfo or a xtal oscillator running on about 100 to 150V and preferably stabilised. The writer's driver stage is a vfo using a 6U8/ECF82 triode-pentode, copied from the KW-2000A ssb transceiver and set to cover the 80m band by choosing suitable component values. The triode section was used as the vfo and the pentode stage used as a buffer amplifier.

The schematic of the audio amplifier is shown in Figure 1. The TDA-2003 only needs about 20mV rms to fully drive it and a simple volume control allows the setting of the audio level.



Figure 1 Audio amplifier stage

The component values shown are the recommended values for optimum low distortion and widest bandwidth. The gain is determined by the resistors R2/R3, increasing R3 reduces the gain. C4 and R1 set the upper frequency roll-off and C5 sets the lower frequency roll-off. R4 and C6 are a Zobell stability network and must not be omitted.

The dc supply needs to supply about 1A maximum at the 3 to 5W output level, so a 7812 regulator fed from an unstabilised rail will serve as a suitable supply.

Modulated Stage

The modulator uses any of the popular rf tetrode/pentode and has an additional dc supply regulator. This can be a 6AQ5 or an EL84 or similar valve. The supply voltage is set by VR1 and this determines the carrier level when unmodulated. Adjusting this pot and the audio level allows setting the modulation percentage and the distortion. If the carrier level is advanced too far the audio level before flat topping will be less and vice versa. The value of R2 may require some experimenting to suit the valve type chosen. C6 should be a low reactance to the rf signals but a high reactance to the audio signals, so it cannot be too high a value. A value of 1n to 4n7 should suit most valves when used on 80m.



Figure 2 Modulator stage

The parallel tuned circuit in the anode of the modulator stage needs to be resonant at the output frequency. Hence, L1 and C4 need to be broadly resonant at 80m. The output of the modulator drives the PA valves. The writer's transmitter was a scrap KW-2000CA, which was the 4-channel xtal controlled version of the KW-2000 ssb transceiver designed for marine service. All the components were stripped out except the PA stage. The new stages were built into the existing chassis and the vfo covers just the 80m band.

In setting up the transmitter a few points need to be highlighted.

Peak envelope power limitation

In an AM transmitter the peak envelope power is determined by the PA stage used. For a PA using 2 x 6146 valves the accepted maximum pep is about 80W to 100W. So the unmodulated carrier must be less than 25% of this level, hence it cannot be greater than about 20 to 25W if 100% modulation is used. The carrier level is set by VR1.

The maximum peak output power of a PA using tetrode valves is very dependant on the screen voltage used. If the screen voltage is too high not only will the anode dissipation be excessive but also the range over which the anode voltage can swing will be reduced. For optimal linearity when using the 6146 valve the screen supply must be well stabilised and the voltage must not exceed 175V. RCA recommend that the screen voltage should be 180V absolute maximum when best linearity is required. A shunt screen stabiliser is highly recommended for optimum service under SSB or AM.

Setting Up

Apply drive from the oscillator stage and peak the anode tank circuit of the modulated stage for maximum drive into the PA grids with the PA ht disabled. Disable the drive and re-apply the PA ht supply. Set the grid bias on the PA for 60mA idle current so the valves are in their linear operating condition.

Tune and load the PA into a dummy load and observe the envelope on a 'scope. Set the carrier level to 20W and apply 1kHz audio signal to the microphone input. Advance the audio mic gain until a modulated waveform is observed on the 'scope. As the mic gain is increased the envelope should rise in amplitude and show clean transitions at the peak and the trough of the signal. If the mic gain is advanced too far the carrier will begin to break up at the troughs and flat top on the peaks. This is an indication of too much audio level. The envelope when correctly adjusted should look like Figure 3 below. It will not be possible to obtain more than about 90% modulation before some flat topping is observed. Figure 3 shows about 85% modulation and the audio distortion was measured to be less than 2% at maximum audio input.



Figure 3 AM waveform on 'scope when fully modulated

Metering

The anode current meter for the PA should not show any significant movement between no audio and full speech audio, if it does it means the audio level is set too high. It should barely wobble about the nominal anode current point when fully modulated. Similarly the rf output meter should show hardly any change between no modulation and full modulation.

Modifying an existing ssb transmitter

A method of modifying an existing ssb transmitter is to switch the driver dc supply through an external modulation transformer and to increase the cathode biasing to move the stage into Class C. Switching to CW sets the drive and using the normal drive level to set the correct RF input level. The external modulator unit can pick off the necessary ht supply and by arranging the switching can be permanently connected for when AM operation is required. This can be accommodated by a relay and an external modulator unit with a plug/socket fitted to pipe the necessary wiring into and out of the transmitter without too much effort. As many second hand ssb transceivers are freely available for little cost this method can get you going on any band for AM and it is vastly superior to the normal single side band type of AM fitted normally. These are not true AM transmitters as one side band is eliminated and only partial AM is really being generated. That is why they sound odd compared to a proper AM transmitter.

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AWA Valve QSO Party

- 1. The aim of the AWA QSO party is to create activity on the 40 and 80 meter bands. It is a phone only contest.
- 2. Dates : Saturday 07 October and Sunday 08 October 2017. The Saturday will be an AM QSO Party and the Sunday an SSB QSO Party
- 3. Time. From 15:00 19:00 SAST (both dates)
- 4. Preferably, Valve radio's, or radio's with valves in them may be used.
- 5. Frequencies 80m 3,600 to 3650 Mhz 40m 7,050 to 7,100 Mhz
- 6. Exchange call sign, RS and consecutive serial numbers starting at 001, plus type of radio used. eg HT37 Tx.
- Scoring All valve radio 3 points per contact Hybrid (valve & solid state) 2 points per contact Solid State Radio 1 point per contact
- 8. Multiplier: All valve Radio: x3 Hybrid : x2 Solid State: x1
- 9. Certificates will be awarded to the first three places in each category. (AM/SSB)
- 10. Sponsor : The Antique Wireless Association of Southern Africa (AWA).

All contact logs to be sent to the:

Antique Wireless Association P.O. Box 12320 Benoryn 1504

email: andyzs6ady@vodamail.co.za



CONTACT US:

P.O. Box 12320 Benoryn 1504

Mobile: 082 448 4368 Email: andyzs6ady@vodamail.co.za



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 yesterdays 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: <u>www.awasa.org.za</u>

Notices:

Net Times and Frequencies (SAST): Saturday 06:00 (04:00 UTC) —AM Net—3620 Saturday 07:00 (05:00 UTC) —Western Cape SSB Net— 3630 Saturday 07:30 (05:00 UTC) —KZN SSB Net—3615 Saturday 08:30 (06:30 UTC) — National SSB Net— 7140; (Echolink, connect to Sandton repeater ZS6STN-R) Experimental relay on 3620 for those having difficulty with local skip conditions. Saturday 14:00 (12:00 UTC) — CW Net—7020; (3550 after 15 min if band conditions not good on 40) Wednesday 19:00 (17:00 UTC) — AM Net—3620, band conditions permitting.