

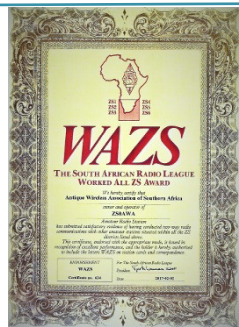


Newsletter

The Antique Wireless Association of Southern Africa

146

September 2018



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AWA Committee:

- * President and Western Cape—John ZS1WJ
- * VicePresident—Renato ZS6REN
- * Technical Advisor—Rad ZS6RAD
- * Secretary/PRO—Andy ZS6ADY
- * KZN—Don ZS5DR
- * Historian—Oliver ZS6OG
- * Member—Jacques ZS6JPS

Reflections:

The pundits say that maybe we have seen the start of our next sunspot cycle, but yet no one is quite sure about it yet because they cant say if this is just an anomaly or is it a real start up. Time will tell of course as we wait patiently to see what will happen over the next few days, weeks and months. Lets keep our fingers crossed that this could well be the beginning of a new cycle and from here things can only improve.

I must say though even for a low cycle, times have not been that lean. I have still managed to put on a good few contacts for 2018 in the logbook so far, including some DX on 40 just using standard equipment, dipole antennas and barefoot operation on all bands.

Well can I Remember the last minimum cycle and how it was impressed upon me that 80 meters was such a good band. Om Rod Rad-

ford always used to say that 80 was maybe not the best band, but it was the most dependable because it was always there.

I have found this to be true on so many occasions and even more so during this last minimum. I may even go so far to say that there are a good few operators that have also discovered how easy it is to work on 80.

People will normally use the antenna length as an excuse to not work on 80 but I am using a simple 40/80 trap dipole and get fantastic results out of it.

I remember how many excuses I made up for not working on 80 until I did a trip from Benoni to the Kzn South Coast and had 80m mobile contact from the time we left at 06:00 in the morning right up to the time we pulled up in Shelley Beach at 14:00 in the

afternoon, with regular check in by a few stations.

It was after that I decided that 80m must be something worth investigating and the first full size 80m inverted V went up at the QTH.

Since then, I have been an 80m convert.

With property size being extremely restricted where we are now, the trap dipole seemed like a good idea, adding less than 3m to the overall length of the 40m antenna. I have not been disappointed.

We even managed to move the AWA CW net on a Saturday afternoon over to 80m, very successfully.

Go on, give it try. I assure you, you will not be disappointed

Best 73

DE Andy ZS6ADY

WIKIPEDIA

Amateur radio: Band plans and frequency allocations:

The International Telecommunication Union (ITU) governs the allocation of communications frequencies worldwide, with participation by each nation's communications regulation authority. National communications regulators have some liberty to restrict access to these bandplan frequencies or to award additional allocations as long as radio services in other countries do not suffer interference. In some countries, specific emission types are restricted to certain parts of the radio spectrum, and in most other countries, International Amateur Radio Union (IARU) member societies adopt voluntary plans to ensure the most effective use of spectrum.

In a few cases, a national telecommunication agency may also allow hams to use frequencies outside of the internationally allocated amateur radio bands. In Trinidad and Tobago, hams are allowed to use a repeater which is located on 148.800 MHz. This repeater is used and maintained by the National Emergency Management Agency (NEMA), but may be used by radio amateurs in times of emergency or during normal times to test their capability and conduct emergency drills. This repeater can also be used by non-ham NEMA staff and REACT members. In Australia and New Zealand ham operators are authorized to use one of the UHF TV channels. In the U.S., amateur radio operators providing essential communication needs in connection with the immediate safety of human life and immediate protection of property when normal communication systems are not available may use any frequency including those of other radio services such as police and fire and in cases of disaster in Alaska may use the statewide emergency frequency of 5167.5 kHz with restrictions upon emissions.^[50] Similarly, amateurs in the United States may apply to be registered with the Military Auxiliary Radio System (MARS). Once approved and trained, these amateurs also operate on US government military frequencies to provide contingency communications and morale message traffic support to the military services.

HF Happenings:

IOTA - proposed additions to the list of valid island groups

On 31 August the following announcement was published on the IOTA website <https://iota-world.org/> "IOTA Programme Structure A.4.2 in the 2018 Directory provides for a review of the list of valid island groups to take place every five years. The last such occasion took place in June 2014 with the announcement made at the 50th anniversary celebration of IOTA's launch the following month. It resulted in 11 new groups being added.

This time IOTA Management has decided to bring forward the review to give a chance for any new groups announced to be activated in 2019, the target year. The review process is scheduled to start with an announcement of some additions at this year's RSGB Convention and may possibly finish with a top-up at next year's Friedrichshafen Ham Radio event.

Any new groups will be very few in number, probably between 5 and 10. It should be noted that only proposals that meet the programme criteria at Sections B and C of the IOTA Programme Structure chapter (2018 Directory) will be considered and, as guidance, it is unlikely that any additions will be made to the Europe list because it is already generously covered.

Proposals for consideration should be sent to G3KMA (g3kma@dsl.pipex.com) by 1 October with a short justification (one paragraph please) in terms of the programme criteria".

African DX

Contacts with stations on the African continent count towards the SARL's All Africa Award (www.sarl.org.za/pub-lic/awards/awards.asp)

Malawi, 7Q. Alex, IW5ELA will operate mainly CW as 7Q7ELA between 17 and 26 September. It will be a "suitcase operation" while touring Malawi. All QSOs will be confirmed automatically via the bureau. Log search on Club Log.

Chad, TT8. Kenneth, LA7GIA, has announced his next DXpedition to take place from a hotel in N'Djamena between 9 and 21 October. His callsign will be TT8KO. Activity will be on 160 to 10 metres using mainly CW and possibly SSB. There are no Digital modes planned. Look for more details to be forthcoming. Also, watch his Web page at <http://la7gia.com/Chad/in-dex.html>

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

Reunion Island, FR5. Patrick, FR5FC, is now active from Saint Leu, Reunion Island (AF-016). The length of his stay is unknown. Activity is mainly on 40 to 15 metres using SSB and FT8. QSL via EA7FTR or LoTW.

Mauritius, 3B8. Hans, PA3HGT will be active again as 3B8/PA3HGT from Mauritius (AF-049) between 4 and 24 September. He will operate SSB and possibly some digital mode on 40, 20 and 10 metres. QSL via home call, direct or bureau.

Pantelleria Island, IH9. Vaclav, OK6RA and Milan, OK1VWK will be active as IH9/OK6RA and IH9/OL9R, respectively, from Pantelleria Island (AF-018) during the CQ WW DX CW Contest on 24 and 25 November. Vaclav will be a Single-Op/Single-Band (40 m)/Low-Power entry and Milan will be a Single-Op/Single-Band (20 m)/Low-Power entry. QSL via their home call signs. Also, look for them before the contest on other bands.

Combating HF Noise: what works? (Richard G3CWI)

Last year I bought a motorhome. It's been a great way to get about and has provided welcome accommodation at rallies. One thing that struck me when we started using it was just how much rubbish we generate in our day to day life. Everything we buy seems to have multiple layers of packaging and it's all the more obvious in a motorhome. Clearly this has an environmental impact and, the mantra of **reduce, reuse, recycle** neatly summarises a hierarchy for environmental impact reduction. As we will see, a similar hierarchy applies for noise reduction.

Calendar:

September

1 – Waterblommetjie Festival, Paarl; West Rand ARC Flea Market

1 and 2 – Region 1 SSB Field Day and RSGB SSB Field Day; FaBULLous Bot River Spring Festival

3 – closing date for HF CW logs

8 – International Literacy Day

8 and 9 – SARL National Field Day

9 to 11 – Rosh Hashanah

14 to 16 – the Darling Flower Show

15 – East Rand Branch AGM

15 and 16 – All Africa contest; SARL VHF/UHF Digital contest

16 – October RAE registration closes

17 – closing date for NFD logs

18 and 19 – Yom Kippur

18 Sept 1918 – The Battle of Square Hill

21 to 22 Karoo to Coast cycle race, Langkloof

22 – Cape Town ARC meeting

22 to 24 – Vetplantfees, Calitzdorp

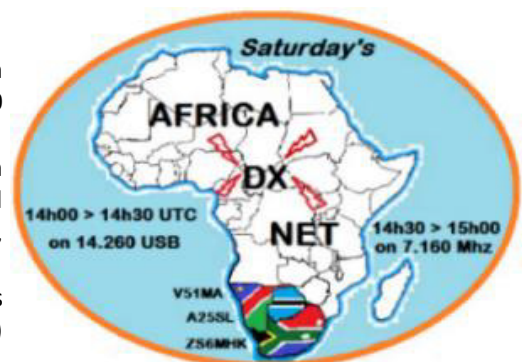
22 to 30 – the Magoebaskloof Spring Festival, Haenertsburg

23 – Spring Equinox; Gabrielskloof Fire Food, Overberg

24 – National Heritage Day and National Braai day; Closing date VHF/UHF Digital logs; Closing date for October Radio ZS

28 – Provincial schools close

29 and 30 – CQ WW RTTY contest; the Strawberry Festival, George



For effective combating of noise, your first action should be to eliminate the noise source or sources wherever possible. It's often surprising how much noise can come from your own property. When our children moved out earlier this year, the noise floor on the HF bands dropped significantly which I suspect was due to the removal of various low quality electronics devices that were left permanently plugged in and switched on. When you face noise problems, a good test is to rig up a battery powered radio receiver and then cut off all power to your own house at the main breaker to see if the noise level is reduced. If the noise level drops you can unplug everything, switch on the mains supply at the breaker and start plugging things in to see what is causing the noise. It is worth mentioning that home solar power systems have often been associated with high levels of HF noise. This leads us to the first of our "three Rs"; attempting to **RE-MOVE** the noise source should always be your first course of action.



If removing the noise source is not practical there are various techniques that can be used to improve matters. The use of balanced antenna systems (with baluns and common-mode chokes where required) can often be helpful to stop noise getting into your radio system. Common-mode chokes such as ferrite rings can also be used on the power leads of electrically noisy devices to reduce their tendency to radiate noise.

A coax fed dipole with a balun should have a deep null off the ends which can be oriented to reduce noise pick-up. Use of a directional antenna can be helpful if the noise source comes from one direction. In this respect, properly made, "Moxon rectangle" antennas are particularly effective. Although they have modest gain they can have an excellent deep null off the back - which in a noisy environment makes them sound much "gainier" than they actually are. It can also be helpful to move your antenna as far from a local noise source as possible.

A less-used, but potentially very effective technique for noise reduction, is "noise cancelling". There are various commercial products that do this. They rely on having two antennas; one designed to pick up as much local noise as possible and the other being your normal HF antenna. The noise canceller allows adjustment of the phase and amplitude of the noise and adds it to the main antenna. If done carefully, the noise cancels out leaving a nice clear band! Noise cancellers can work really well but there are a few things to be aware of:

- * they only work over a small band of frequencies and will need adjusting frequently;
- * actually, getting the adjustment correct can be very challenging - expect to spend some hours getting it working correctly;
- * they work best for single sources of noise - they can give poor results with distributed noise sources.

These techniques give rise to our second "R"; if we cannot remove the noise we should aim to **REDUCE** it.

If all these techniques have failed there are other methods that can be tried but they are seldom as effective. The use of digital signal processing in modern radios usually means that some sort of noise reduction algorithm is available. These have improved over the decades and can make a modest improvement to the signal to noise ratio. If used on SSB they can lead to a rather metallic sounding received audio at high levels of processing. For narrow-band modes such as CW, reducing the bandwidth of the radio can help but be aware that this is not required for modes such as FT8 where the computer does all the audio processing. These techniques fall into a category that I have called reprocessing - giving us our final "R"

REPROCESS.

So, our noise hierarchy is complete. We should aim to: **REMOVE, REDUCE, REPROCESS (in that order)**.

Useful resources:

Moxon antenna designer (note - always model in EZNEC to confirm before construction) http://w4.vp9kf.com/moxon_design.htm

MFJ Noise Meter www.mfjenterprises.com/Product.php?productid=MFJ-852&utm

G8JNJ's page on noise cancellers www.g8jnj.net/rfnoisecancellation.htm

MFJ Noise Cancellers from DX Engineering and DX Engineering Receive Antenna Phasing System www.dxengineering.com/search/product-line/mfj-noise-canceling-signal-enhancers?autoview=SKU&sortby=Default&sortorder=Default

DSP Noise Cancellers from BHI and DSP filters from SOTABEAMS www.sotabeams.co.uk/audio-filters-and-more/?utm

...note that a listing here is not a product endorsement - just for info!

(Items used with acknowledgement to the ARRL Letter, the ARRL DX News, the ARRL Contest Update, OPDX Bulletin, 425 DX Bulletin, DXNL Newsletter, WIA-News, the RSGB News, DxCoffee, Southgate ARC News, DX World and the Amateur Radio Newsletter)

AWA AGM

Notice is given for the 2018 AGM of the Antique Wireless Association of Southern Africa to be held on Saturday 19th November 2018 at the premises of the SAIEE in Observatory Johannesburg.

There will be a fleamarket and open display as well as free access to the SAIEE museum.

The SAIEE shack will be available for use.

Times will be from 09:00 until 15:00 with the AGM held at approximately 10:00, thereafter fleamarket and braai facilities and eyeball QSO. Bring along all your valuable junk that you wish to dispose of at the fleamarket.

The Shack will be on air from 08:30 running the AWA SSB net.

Should you wish to bring your own meat and refreshments, please feel free to do so, otherwise meat packs and cold drinks will be on sale. Please let Andy ZS6ADY know if you would be interested in a meat pack, for planning purposes.

Tickets for the Valve Amplifier book will be available before the AGM, the draw will take place at the end of the AGM.

We look forward to seeing many of you there.



A CLOSER LOOK AT THE
EDDYSTONE BUG

by COLIN WATERS, G3TSS.

Introduction:

The Eddystone S689 Bug Key holds a unique position. It is, with one small but notable exception (the Autoplex of 1932), the only Morse key of semi-automatic design manufactured in Great Britain and sold in significant numbers.

Sadly, the key was never to attain a high degree of popularity, but its construction and appearance are enough to give it a great deal of character.

History:

By the late 1940's, the Birmingham based Stratton and Company Ltd, later to become known as Eddystone Radio, had built up a fine reputation for the manufacture of high class communication receivers and accessories.

But it was not until late 1947 that initial work was begun on the development of a semiautomatic Morse key.

**YOUR EDDYSTONE DEALER WILL
 DEMONSTRATE THIS OUTSTANDING
 SEMI-AUTOMATIC MORSE KEY**

This is a first-class production, totally enclosed in a streamlined die-cast housing finished in fine ripple black with chrome relief. This key has a really beautiful movement (try it at your Dealers) and is fully adjustable to enable the operator to make full use of the wide range of speeds provided. The handle has been designed to give equal facility to right- or left-handed operators. A short-circuiting switch is fitted to the base which is a heavy diecasting, provided with rubber feet and holes for screwing down.

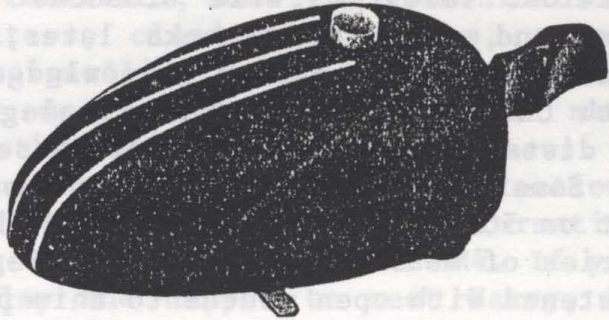
No. 689, £3/17/6

ALSO IN PRODUCTION :

No. 669, "S" Meter, 5 Gns.	No. 678, Modulation Indicator, £8/15/-.
No. 690, Crystal Calibrator, £12.	No. 687, Vibrator Power Unit, £7/17/6.

Order from your Eddystone Dealer

STRATTON & Co., Ltd., EDDYSTONE WORKS, ALVECHURCH Rd., BIRMINGHAM, 31



Mechanically, it was to follow the by then well-proven principle of Martin's 1904 Vibroplex Original design, but in a style in keeping with the traditional Eddystone use of die-castings. After careful testing of shapes and materials for the various components, a number of preproduction models were assembled and evaluated by the radio amateurs working for the company, one of these pre-production models being displayed at the Amateur Radio Exhibition in November 1947.

The first production run was made in early 1948, when a batch of 250 keys was assembled. Unfortunately, sales proved poor although a second production run, again of 250, was planned for late 1948. It is almost certain, however, that only 100 or so of this batch were actually assembled.

Although the 5689 was undoubtedly liked by many users, sales of the key continued to be poor. Eventually the company, foreseeing no future improvement in its popularity, decided to offer the remaining assembled keys, and some unassembled components, as a job lot to Birmingham's Chas H. Young Amateur Radio Company, who placed the 5689 on special offer and continued selling them until stocks were exhausted.

Construction:

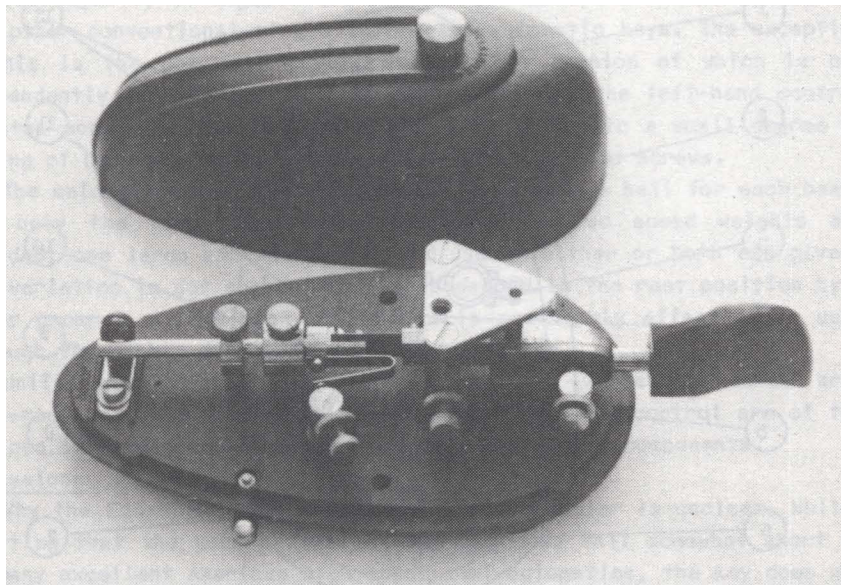
The key is almost entirely constructed of untreated brass and die-cast aluminium, the base and cover being finished in the then almost obligatory black crackle or wrinkle paint. Despite the base and cover being aluminium, the weight of 2lb 14 ozs (1.304

kg) Is adequate for most operators, although fixing holes are provided In the base.

The majority of adjustments lire carried out In a similar manner to most other conventional single lever semi-automatic keys. The exception to this is the dot return coil spring, the tension of which is not independently adjustable. This spring Is held by the left-hand control arm stop screw and the tension can only be varied to a small degree by setting of both the left-hand and the right-hand stop screws.

The main pivot pin bearings consist of a single ball for each bearing, only the lower of which Is adjustable. Two speed weights are provided, one large and one small, and use of either or both can give a wide variation in dot speed. The arm Is damped In the rest position by a rubber grommet on the back stop. This Is remarkably effective In use, although the rubber does become brittle with age.

Unlike the majority of American designs, where the lever arm, lever-rod, and main spring are riveted together, the control arm of the S689 can be completely dismantled down to individual components.



Conclusions:

Why the Eddystone S689 proved to be so unpopular is unclear. Whilst admitting that the general feel of the key does fall somewhat short of the many excellent American high speed semi-automatics, the key does not suffer from any major defect In design. The combination of a number of its shortcomings may, however, have been a contributory factor to Its unpopularity.

The exact number of S689s produced is unknown, but It seems clear that the figure did not exceed 500. No serial plates were fitted to the keys. A number Is stamped on a connecting strip on the underside of the base, the keys In the author's possession being numbered AG1995 and EZ0829.

Unfortunately, records do not exist concerning the sequence of these numbers, and the author has been unable to contact anyone who knows their significance.

Acknowledgements:

The Author Is grateful for the help given by the following In the preparation of this article:

Chris Pettit, Managing Director of Eddystone Radio Ltd.

Chas H. Young.

Bill Cooke, former Chief Engineer and Managing director of Eddystone Radio Ltd, now retired lifter 50 years with the company, who provided all the dates and figures of production.

*Address: 1 Chantry Estate, Corbridge, Northumberland, NE45 5JH

(*Morsum Magnificat Vol 13*)

"Does Anybody Really Know What Time it Is?" WWV in the Crosshairs

By Rich Moseson, W2VU, Editor

"Does anybody really know what time it is?" the rock group Chicago famously asked back in the '70s, adding, "Does anybody really care ... about time?" The answer to both questions is yes, especially today, when so much of what we do, where we go and how we get there are dependent on (our devices, at least) knowing the accurate time. It is perhaps appropriate that I'm writing this while on a (delayed) train, since it was the rise of rail travel that was responsible for standard time zones and the need for accurate timekeeping.

The question arises because the nation's timekeeper, the National Institute of Standards and Technology, has proposed eliminating its time and frequency standard radio stations, WWV, WWVB and WWVH, in an effort to reduce its budget for the 2019 federal fiscal year. Obviously, this would have significant impact on us hams, but we would be only a fraction of those affected, *unless the funding is restored by Congress*. And it looks to us like that is exactly what the folks at NIST are hoping will happen.

The NIST [budget request document](#)¹ is confusing and self-contradictory, at one point saying the services it provides are unique and then saying some are duplicated by others. And the services it is proposing to cut go beyond WWV and its sisters to include technology for safety of first responders, protocols for the electric grid and more.

Here's the illogical logic of the proposal as it relates to WWV and related services, quoted directly from the NIST budget request:

A clear example of the fundamental and infrastructural nature of NIST's mission work is NIST's work in the dissemination of the time and frequency standards. The dissemination of the time standard, traceable to NIST's atomic clock in Boulder, CO, underpins a tremendous amount of activity in our modern commercial system. For example, NIST official time is used to time-stamp hundreds of billions of dollars in U.S. financial transactions each working day. NIST time is also disseminated to industry and the public through the Internet Time Service which receives about 40 billion automated requests per day to synchronize clocks in computers and network devices. Additionally, other technological breakthroughs that we now take for granted are dependent upon the accuracy and precision of NIST's atomic clocks. This includes cellular telephones, Global Positioning System (GPS) satellite receivers, and the electric power grid. Furthermore ... for every tax dollar invested in NIST, almost \$50 of value is created in the economy year over year. There is no other private sector, or government entity having the capability, capacity of mission to provide the types of services as those provided by NIST.

There you have it ... NIST's time and frequency standards and their dissemination are essential to the efficient functioning of our financial system, computer networks, cellphones, GPS location devices and the electric power grid. There is no other private or private or governmental entity that can provide similar services, and every tax dollar invested in NIST pays a 50-fold return to the economy.

So ... let's cut the budget for all of these essential and non-duplicatable services by one fifth. That's exactly what NIST proposes just ten pages later in the same document:

The FY 2019 request will reduce NIST's spending in areas of core metrology and measurement dissemination (by) 20.5 percent...

Specifically ... NIST will discontinue the dissemination of U.S. time and frequency via the NIST radio stations in Hawaii and Ft. Collins, CO. These radio stations transmit signals that are used to synchronize consumer electronic products like wall clocks, clock radios and wristwatches, and may be used in other applications like appliances, cameras and irrigation controllers.

Oh, and in case eliminating time synchronization for consumer electronics, appliances and irrigation controllers isn't enough...

NIST will (also) reduce funding focusing on assessment of technologies for indoor location tracking of first responders, support for smart grid communications protocols, as well as the development of standards for the smart grid and other cyber physical systems, including the elimination of work on the development of standards and guidelines for wireless communications and process control for the manufacturing industry.

Eliminating these services, says the NIST budget request, will permit it to "consolidate and focus work on NIST efforts in quantum science," which is certainly important. On the other hand, the budget also calls for a reduction of \$4.1 million "in R&D targeting application of NIST quantum breakthroughs to applied measurement needs, including temperature and atmospheric gas metrology."

The proposed budget also calls for reducing or eliminating funding for a program to accelerate technology transfer from federal laboratories to industry, and for several environmental research programs.

Impact on Ham Radio and Beyond

The loss of time signals from WWV would affect hams and other HF spectrum users in many ways, well beyond setting our station clocks. Several newer digital modes, including FT8 and other "JT" modes, are highly dependent on the computer clocks at each end of a contact being accurate and in sync. The accuracy of internet time is dependent on the speed of your internet connection, which is subject to change, and which assumes that you *have* an internet connection.

In addition, frequency calibration of receivers and transmitters is dependent on a known accurate signal source on a known frequency. You can't calibrate your receiver to 10 MHz over the internet. Plus, WWV's propagation data is very important to atmospheric and space scientists in addition to hams looking for DX.

Tom Loughney, AJ4XM, adds another dimension to the impact of a possible loss of WWV signals, that on the visually-impaired community. (Tom's note was written before it became clear that NIST planned to shut down WWVB as well as WWV and WWVH.)

While most of the "atomic clocks" use WWVB, there are a lot of blind and low vision people in the US (millions) who use "talking watches" to tell them the time. I fix many of these watches when they fail. They are cheap, less than \$75, so this is just a free public service for those on very limited incomes. I do not charge for my assistance. About 2/3 can be repaired and 1/3 are not fixable due to lack of parts and info. Most use WWVB but a lot use WWV and WWVH. Circuit components are pennies less for those. All come from China or Asia. Getting rid of the 2 big stations will have a significant impact on the blind community.

Analysis

Clearly, the impact of the NIST's proposed changes is broad and wide-ranging, from self-setting clocks and watches to tracking systems for first responders inside hazardous structures, and of course, the on-air time and frequency services provided by WWV and WWVH. Overall, the proposal calls for a nearly 28% cut in NIST's "Fundamental Measurement, Quantum Science and Measurement Dissemination" activities, which are its core missions.

The logic behind the proposed cuts is mystifying, as is the structure of the report, which on one hand explains how these services are essential to the country and cannot be duplicated by anyone else, and on the other hand proposes significant cuts to these very programs.

All we can speculate by reading these tea leaves is that the Commerce Department – NIST's parent agency – demanded across-the-board budget cuts for the coming fiscal year. Management responded by proposing draconian cuts to its primary missions in the hopes that public outrage would prompt Congress to restore the cuts in the final federal budget. It is the only possibility that makes any sense.

Your Turn

Members of Congress – and particularly of those committees responsible for NIST's budget – need to know how their constituents and the nation at large would be affected by these proposals and need to be urged to restore funding for these essential programs. According to the amateur radio club at Case Western Reserve University, these committees are the Committee on Science, Space and Technology in the House; and the Senate's Subcommittee on Commerce, Justice, Science and Related Agencies. The Case ARC lists the members of each of these committees, along with their office phone numbers, on its website at <<https://w8edu.wordpress.com/save-wwv/>>, which also includes a sample script to read when calling to register your views. You should customize it to your personal uses, and be prepared to answer questions from Congressional staff members about how you use these services and how you would be impacted by their elimination. We urge you to contact your Congressional representatives whether or not they sit on the above committees.

Two petitions have been started on the White House's "We the People" petition site calling for restoration of funding for these two essential radio stations. Each needs at least 100,000 electronic signatures by mid-September to generate a response from the White House.

The petitions can be found at:

<<https://petitions.whitehouse.gov/petition/maintain-funding-nist-stations-wwv-wwvh>>

<<https://petitions.whitehouse.gov/petition/proposed-shutdown-nists-wwv-and-wwvh-radio-stations>>

Note:

1. The NIST budget request summary for its Fundamental Measurement, Quantum Science and Measurement Dissemination division is online at <<https://www.nist.gov/director/fy-2019-presidential-budget-request-summary/fundamental-measurement-quantum-science-and>>.

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Valve Amplifiers Explained

We have a copy of Valve Amplifiers Explained, by John Fielding ZS5JF up for grabs.

This book will be raffled at R20 per entry and is to be drawn at the 2018 AGM.

To enter, you can deposit R20 into the following account and send us proof of payment and your name will be put into the draw. Please use your call sign as reference when making the deposit.

Account Name: A G Cairns
Standard Bank
Benoni
Acc No: 225334119

The following is the preface from the book:

This new book by John Fielding ZS5JF, is for everyone who uses - or is considering using - an HF or VHF linear amplifier. While some amateurs may be of the opinion that valves are an obsolete technology and semiconductors are a better way, John Fielding very definitely thinks otherwise! After reading this book you will be under no illusions that, in his opinion, valves are far superior to semiconductor devices for most linear amplifier applications. As he says, "When you need real power and very good linearity, a valve is very hard to beat."

Essential reading for anyone building a valve linear amplifier, the author guides the reader through the choice of valves for various purposes. Valve Amplifiers Explained starts with a chapter on basic valve theory and explains how to inter-

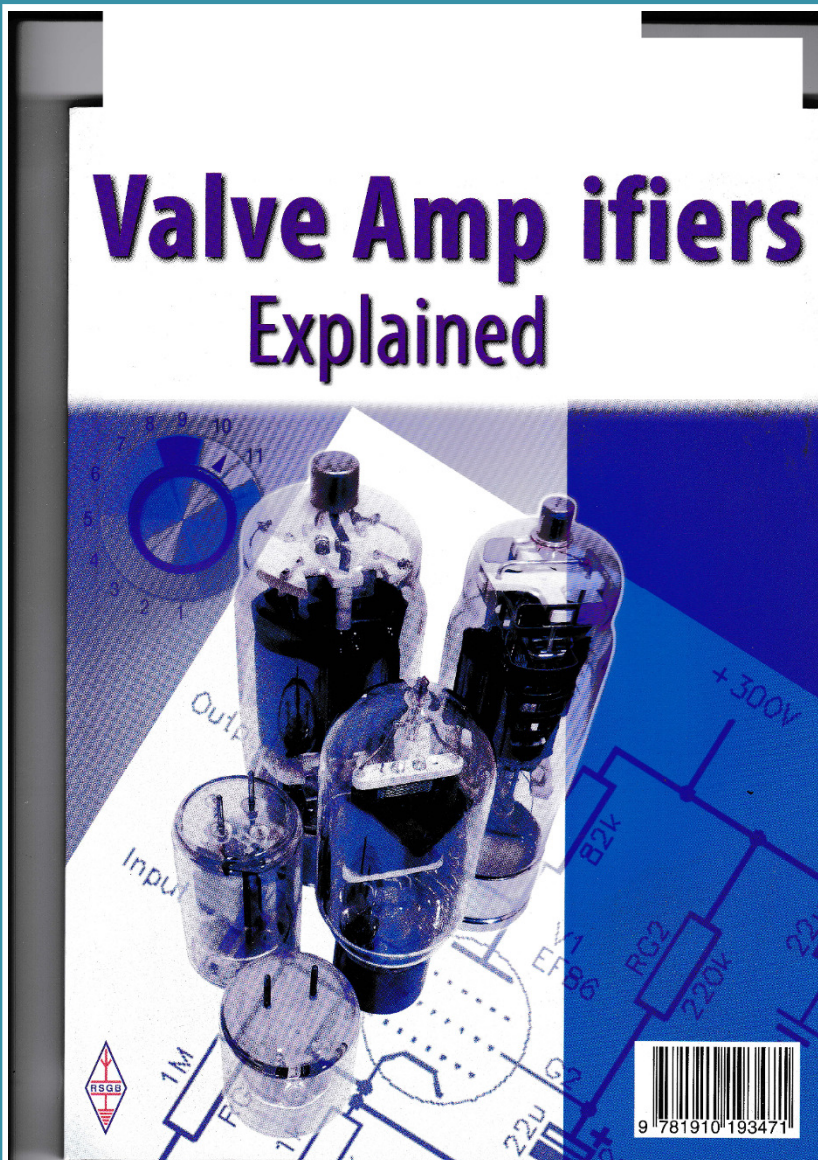
pret valve characteristic curves. The various classes of operation of amplifiers - Class A, Class B, Class AB1, Class AB2 and Class C - are all covered in detail. The relative merits of grounded cathode and grounded grid amplifiers are discussed and a chapter is devoted to the causes of distortion in valve amplifiers - and how to avoid such distortion. The author explains that linearity is primarily a function of the power dissipation of the device and the supply voltage and he devotes a whole chapter to good power supply design. The various protection circuits that an amplifier should have are also covered. While the

book is equally relevant to HF and VHF enthusiasts, a chapter is devoted specifically to the design of VHF RF power amplifiers. Another chapter even discusses liquid cooling of valve amplifiers.

There is advice too for those who, instead of building an amplifier, are considering purchasing a commercially-made linear. Those who use commercial linear amplifiers and want to understand more about how they work will not be disappointed.

As John says, "There is a certain aura about valve equipment. The glowing filaments and the gentle buzz of a high voltage power supply are a sort of magic few have had the pleasure of knowing." After reading Valve Amplifiers Explained you will want to join that elite few!

(You can also give your donation to any of the Committee at any gatherings where you may meet up with them and they can pass on the money to the account. Be sure to give your name and call sign.)



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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 yesterday's 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.

Notices:**Net Times and Frequencies (SAST):**

Saturday 06:00 (04:00 UTC) —AM Net—3615
Saturday 07:00 (05:00 UTC) —Western Cape SSB Net— 3630
Saturday 08:30 (06:30 UTC)— National SSB Net— 7140; Sandton repeater 145.700
Echolink—ZS6STN-R; ZS0AWA-L
Relay on 3615 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—3615, band conditions permitting.

For Sale:

Yaesu FT101B with original Yaesu desk microphone and handbook for sale at asking price of R2200

Wanted: AM transmitter (Viking Ranger or such like) in working order.

Please contact James Fairlie ZS5ABW 033-386 7862 072-179 9906

AWA @ Sandton Club.

On Saturday 29th September, we have been invited to give a presentation about the AWA for the Sandton ARC at the SARL Head office in Radiokop (NARC). If there are any AWA members who would like to attend this, you can simply come along. The presentation is scheduled to start at 10:00 until 12:00. Refreshments as well as boerie rolls will be on sale.