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With sun spot activity now on the increase, 6 meters is rapidly becoming one of the most interesting bands to operate, and the next few years will undoubtedly see tremendous activity on this band. Sporadic E openings are occurring several times each week over all parts of the country, making excellent contacts possible from Coast to Coast and over intermediate paths. With long F2 skip and trans-equatorial propagation to look forward to, plus the consistent ground wave and tropospheric scatter contacts made possible with the power of the Swan 250, there is practically no limit to the operating pleasure you can find in the VHF world above 50 mc.

above 50 mc. The Swan 250 is at its best in the SSB mode, for which it was primarily designed. With 240 watts PEP input and an average beam antenna, its talk power does an outstanding job. To work your AM friends, you simply insert carrier to 75 watts input, and they will read you loud and clear. AM reception is provided for by the receiver function switch. Also, a noise limiting circuit is effective on both AM and SSB. If you are seriously interested in working 6 meters, see the new Swan 250 at your dealer. \$325

> ELECTRONICS Oceanside, California

\$95 \$120

\$130

UNIT \$35 For further information, check number 47, on page 126

November, 1967

MATCHING AC POWER SUPPLY

EXTERNAL VFO

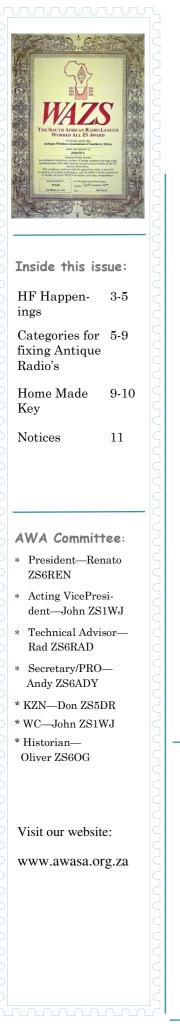
POWER SUPPLY

CQ

64

PLUG-IN VOX UNIT

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Reflections:

Now that we find ourselves in the throws of 2021, we can only hold our breath and hope and pray that this is going to be a better year than 2020.

I think anything would be better then 2020, but then some people may have had a good year. I would love to know who they are though.

But looking forward is where we need to be at this stage and hoping for a few more valves and valve rigs and things to restore and refurbish and keep us busy, without the management finding out.

I suppose in a way I am fortunate in that once I have managed to move any new/old things into my shack, without being discovered, then I know it's safe. My XYL has no idea what I have or don't have there. Fortunately I never get asked questions about what is there, so I don't even have to lie about it.

I also think that due to the fact that I have sold so much of my once treasured possessions, she is also not too concerned about whether I sneak a few small things in or not. Never underestimate the observation skills of a woman I say.

Us men love to feel that we have it all under control though.

If you managed to get away from the hustle and bustle of Gauteng, to find yourself in the hustle and bustle of KZN, or The Cape, I hope you all had a good safe uneventful trip and got home without having a cotton swab shoved up your nostril.

Now at least we can all get back to doing what it is we are supposed to be doing and then on weekends and free time, play some radio.

The bands are still up and down as many can attest to. Just when things are looking like they are improving, they will collapse around you and leave you in absolute dismay. As many can attest to. But the fact is, there is a definite improvement. We are so looking forward for many more of you to discover this phenomenon of bands that are working and get back to learning how to operate your rigs again. Its been too long since we have heard so many of you on the net.

Our net on Saturday is running well and there is a good crowd on most days, taking part in the Topic of Discussion, which is always good and brings out so many varying interesting points. Don't forget to go along to the website and ass your points on the forum which is posted every week. You must be a member to do that, but then it's so easy to join up.

As the Irish would say, "May the road rise up to meet you, may the wind always be at your back. May the sun shine warm upon your face, and valves light up your shack..."

All the best for 2021

Best 73 DE Andy ZS6ADY

Radio Propagation:

Measuring HF propagation:

HF propagation conditions can be simulated using radio propagation models, such as the Voice of America Coverage Analysis Program, and realtime measurements can be done using chirp transmitters. For radio amateurs the WSPR mode provides maps with real time propagation conditions between a network of transmitters and receivers.

Wikipedia

Even without special beacons the realtime propagation conditions can be measured: a worldwide network of receivers decodes morse code signals on amateur radio frequencies in realtime and provides sophisticated search functions and propagation maps for every station received.

HF Happenings :	Calendar:
 ARRL Kids Day : The ARRL Kids Day is a phone event on 2 January http://www.arrl.org/kids-day. The exchange for this event is name, age, location and favourite colour and participants would surely welcome any contacts. Propagation Summit 2021 Tim, K3LR, Chairman of Contest University, writes, "Contest University is 	January 1 – download the 2021 Blue Book 1 – New Year's Day; start of the CQ DX Marathon and the 2021 Ultra-Marathon "Bands Alive" 2 – ARRL Kids Day; Durban ARC meeting 15 to 17 – the PEARS National VHF/UHF
hosting a Propagation Summit 2021 on 23 January 2021 starting at 11 AM EST (18:00 CAT) http://contestuniversity.com/. An outline of the program is on the website. The registration link for the summit is also on the webpage and as a bonus, Icom America is donating an IC-705 that will be awarded in a drawing from those present on the Zoom conference. The person's name/call sign drawn must be present on Zoom to win. Hope you can join us on 23 January 2021!"	contest 19 – Highway ARC meeting 20 SARL Wednesday 80 m Club Sprint 23 – Summer QRP Sprint; Propagation Summit 2021 27 – Provincial Schools open 31 - Closing date for AGM motions and nominations for SARL Awards and Tro-
Operating Tip RX and TX Operating Tips - These are from Doug, K1DG, as part of his presentation at the 2020 Contest University https:// www.contestuniversity.com/wp-content/uploads/2020/05/K1DG-	phies and Council Nominations

Optimizing-your-Station-for-Contest-Operations.pdf. Basically, learn how to use your transceiver effectively on various bands.

For receiving, do not use the preamplifier, except maybe on 10 meters. In crowded band conditions, make sure you know how to use your radio's built in filters, or filtering (you can hear a comparatively narrow filter setting in EI2KC's video referenced in the Sights and Sounds section).

For transmitting, you can use your radio's compression features to put more energy and punch into your SSB signal, but do not overdo it and cause splatter, pick up background noise, or reduce intelligibility. You can monitor your signal to make sure you are consistently putting out a good one. For CW, make sure the rise time on your CW signal is not too fast, which can increase your transmitted bandwidth. Five milliseconds (5 ms) or more is a suggested rise time. Some radios even shape rise time to further reduce energy in the sidebands.

N1MM Logger

N1MM LOGGER+ has a new feature: Automatic Antenna Switching, and Extended Antennas table. If you have appropriate MicroHam https://www.microham-usa.com/ or OTRSP-compatible https://www.k1xm.org/OTRSP/ hardware, you can configure the predominant logging program to automatically display the choice of antennas based on the given band and azimuth to the station in the entry window https://n1mmwp.hamdocs.com/setup/ the-configurer/. Alt-F9 will toggle through the antenna choices in the Entry window. Larry, K8UT, made a video about the new feature https://n1mmwp.hamdocs.com/automatic-antenna-control-with-segment-switching/. You can make your own OTRSP hardware based on one of the Arduinos and use some software from Mike, K7MDL, to handle the OTRSP protocol https://github.com/K7MDL2/OTRSP_BAND_DECODER.

The Reverse Beacon Network

The Reverse Beacon Network http://reversebeacon.net/ is going to have even more traffic as 15 additional receiving sites are coming on line soon, with the help of equipment from DX Engineering, a grant from the YASME Foundation http://yasme.org/ and in cooperation with Amateur Radio Digital Communication (ARDC) https:// www.ampr.org/. You can read more about the effort to enhance the worldwide coverage of the RBN in the DX Engineering Press Release https://www.onallbands.com/dx-engineering-equipment-supports-the-expansion-ofthe-reverse-beacon-network/.

Contest Management

Contesting is all about information management. With all of the windows on a typical screen related to spots, waterfalls, multiple decoders for digital contests, it can get crowded really quickly. Many home stations have multiple monitors for the display of information, but here's an interesting solution that might help those that use laptops: Turn Your Laptop into a Triple Screen Workstation https://fb.watch/2h5MqbZXOa/ (Xebec Tri-Screen https:// www.thexebec.com/)

WRTC 2022

All of the qualification events for WRTC-2022 have completed, and the standings have been updated on the WRTC-2022 website http://www.wrtc2022.it/, though they are unofficial and subject to "further verification." Any issues with the scores should be sent to qualification@wrtc2022.it.

African DX

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

Tanzania, 5H. Sergey, UT8UU plans a trip to Tanzania for August 2021, where his call sign will be 5H3UU. More information to follow.

African Islands

Caribbean, South Atlantic and Indian Ocean Tour. Randy, WW6RG informs that on Sunday evening 3 January around 21:00 UTC, he will be arriving in Antigua (V25) and hopes to be set up by 00:00 UTC to operate holiday style as V25RA until 14:00 UTC Monday 4 January.

Then on Tuesday 5 January at 21:00 UTC, he will operate from Ascension Island (ZD8) as ZD8RA. His planned activity will be between 08:00 – 10:00 UTC and then again between 17:00 – 19:00 UTC. His equipment will be a new Icom IC-705 (10 w) into a AlexLoop antenna. His planned operations will be on 20 and 17 metres SSB only. Randy states, "I am open to setup special times and frequencies for both locations within or close to the times noted above. All times and dates in UTC." QSL via WW6RG, n EQSL or LoTW. Randy also mentions, "I am 9 months from retirement, and my access to these remote locations will cease, so if anyone needs ZD8 or any other of the locations I will be traveling to, NOW IS THE TIME!"





Randy also informs, "I hope to operate from Diego Garcia (VQ9) later in the month around 18 January. More information is to follow."

Ascension Island, ZD8. Tevik, TA1HZ is due to arrive on Ascension Island (AF-003) in mid-January for a job assignment. He hopes to get on the air during his spare time throughout 2021 as ZD8HZ on 80 - 10 m (SSB, FT8), for which he brings a Yaesu FT-991 rig and a Windom antenna. Tevik asks everyone to not send direct cards before 2022. He will try to upload QSO data monthly to LoTW, eQSL and ClubLog. QSL via TA1HZ direct.

Madeira, CT9. Georg, DD8ZX and Klaus, DJ9KM will once again be active as CT9/DD8ZX and CT9/DJ9KM from Madeira Island (AF-014) between 27 February and 6 March (depending on the Covid-19 situation). Activity will be holiday style on 40 - 10 metres using mostly the Digital modes (FT8 and RTTY). QSL via their home call signs, by the Bureau, direct or LoTW.



Categories for Fixing Antique Radios—Gary Albach

Foreword by Gerry O'Hara: When I am asked what my hobby is, I usually say "I restore vintage radios...". If some-one asks my wife, she will say "Oh, he fixes old radios...". So which is it? - is there a difference between 'restoring' and 'fixing'. Over the years, I started thinking a little deeper into what I (and my wife) were actually saying and realized that what I actually did with any particular radio varied considerably, depending on a variety of considerations, including: is it a rare radio? Will I be keeping it in my collection? How much do I like/ value the radio? Is it unique in some way? Is it all original?

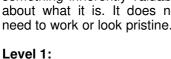
I also noted similar behaviour in others engaged in the hobby, and in the volunteers 'fixing' radios brought in by folks to the SPARC Museum in Coquitlam. As a volunteer at the SPARC Museum, I would have conversations with such folks as to what their expectations were: some just wanted their radio working again, others wanted it working and some preventative maintenance undertaken, and also the cabinet spruced-up a bit, while others wanted the radio to look and operate much as it had done when it left the factory - that range of expectations represents quite a spectrum of time, effort, skill and cost. Therefore knowing what the set's owners expectations were, and them understanding the difference it could make in terms of time and expense, was critical to avoid a very awkward conversation and/or disappointment down the line.

I have had conversations with several folks over the years on this topic, including Gary Albach, who had also given this matter some thought. Gary recently crystallized his thoughts into a post on the CVRS Forum and he and I thought this would make for an interesting short article for the Newsletter which will, hopefully, stimulate responses from others.

Gary identified five categories of work on a vintage radio that captures the basic differences thus:

Level 0: Do nothing (except perhaps some careful/ superficial cleaning).

Where the radio is extremely rare or unusual, and preservation of its integrity is paramount. An example of this is the "Bay Emerson" shown in the photo, right: too rare a radio to attempt restorationdoing this would destroy something inherently valuable about what it is. It does not need to work or look pristine.



All failed electronic components replaced, mechanical damage needed for operation is repaired and damage to the cabinet repaired to preserve integrity, not cosmetic appearance. The intent is to return the radio to working condition with а minimum work and expense.

Photo right—Damaged cabinet corner repaired to make serviceable but not to a standard so as to render it pristine.







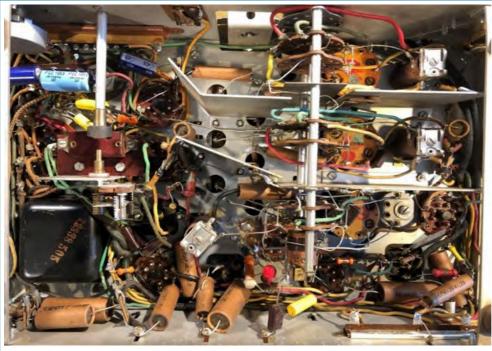


Photo left—chassis that has had electronic repairs, ie failed capacitors replaced with modern components, yellow and blue coloured parts

Level 2: Refurbish:

All failed , weak or out of tolerance electronic components are replaced. And mechanical assemblies may be rebuilt or replaced with minimal regard to the original factory appearance. Cabinet repairs comprise both structural and cosmetic upgrades. The intent is to return the radio to a long-term working condition with a cabinet that can be displayed.

Photo right—Chassis that has been refurbished , ie all paper and electrolytic capacitors (yellow and black coloured parts) plus out of tolerance resistors replaced with modern components.

Photo's below—damaged and worn cabinet finish refurbished by partial disassembly, minor repairs and thorough cleaning of all parts prior to reassembly.



Level 3: Restore with sympathetic intent.

All failed, weak or out of tolerance electronic components are replaced while generally maintaining the original fac-



tory appearance and/or contemporary look. Mechanical assemblies may be disassembled cleaned, rebuilt or replaced with modern equivalents. Modern safety standards are a consideration, and this may include installing a fuse(s).

Cabinet repairs/finishes must resemble the original factory colours and textures, but do not need to be exact duplicates. The intent is to return the radio to the style and performance of radios of the period.

Level 4: Restore to factory look and performance.

All failed, weak or out of tolerance electronic components are replaced while maintaining the original factory appearance. Mechanical assemblies may be disassembled, cleaned, rebuilt or replaced with modern equivalents, while maintaining the original factory appearance. All construction techniques and external cabinet work conform to factory norms.





Level5: Return to factory construction.

All failing or weak electronic components, mechanical assemblies are replaced while maintaining original factory appearance, Replaced components are exact duplicates of factory specifications using original materials and con-



Modern components and cabinet finishes may be used, provided the final presentation is not visibly different from the original upon close inspection.

Modern safety standards are a consideration, however, if changes are required to do this, that would retract from the original appearance, a risk-based decision must be made whether this should be undertaken or not. The intent is to return the radio to a close approximation of it's original performance and appearance.

Photo above: Chassis that has been "sympathetically restored, ie all paper and electrolytic capacitors, plus out of tolerance resistors replaced with modern components that have been incorporated within the original component shells or reproduced to look original. There are, however, some parts that are, on close inspection, visibly non-original (three trimmer capacitors) **Photo left**: A cabinet that has a white water stain restored, **Photo below**: A cabinet finished to factory specification.



struction techniques. In 2020 this is a hypothetical category meant to hold a place for future advances in restoration techniques.

Closure:

So what do you do ? Are you a fixer, a re-furbisher or a restorer—or all of the above ?Or maybe you have a collection of 'shelf queens" - Radios that you have in your personal collection that you have not touched, apart from maybe dusting down, because you can accept them for what they are in their old age, ie, bearing the scars of existence through many decades, and that their inner flame of working has merely extinguished as part of the natural ageing process and has been accepted as such ?

Does fixing/re-furbishing/restoring a radio add or detract from it's value, to you, or to others, either monetarily, historically or aesthetically ?

Does a radio need to wok to actually be a radio ?- after all, there is precious little worth listening to on the airwaves these days and so much interference that it can be a real chore and painful on the ears. Or do you feel that there is something lacking about a radio that does not work—after all, that's what it was supposed to do and was designed for.- unlike a piece of furniture or an ornamental object, it's meant to do something, isn't it ? - more like a vintage car.

We would love to hear your thoughts on this somewhat philosophical, though rather fundamental, topic on which the entire hobby is based. So please contact us and add to the discussion.

(This article reproduced with kind permission from the Canadian Vintage Radio Society Newsletter)

HOME-MADE KEY

Barrie E. Brokensha, ZS6AJY.

(*I came across this article in the Autumn 1989 issue of Morsum Magnificat—Ed*)

The home-made keys described in MM are usually well engineered, requiring workshop facilities and an above average skill with tools. The one described here is of the "Kitchen Konstruction" type, the original idea being as old as the hills, and although very simple it has a good solid feel.

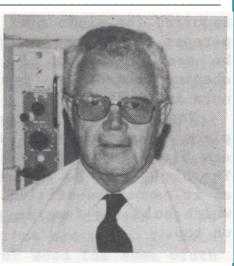
It has proved effective over a long period and has recently been constructed by myself in quite large

numbers, enabling pupils sitting the Radio Amateurs' Examination to learn Morse at minimum outlay. The key is adequate for practice purposes and once the pupils have achieved some degree of speed they usually obtain something more to their liking.

As can be seen from the diagram and photograph, the key is based on the hacksaw blade. It is bearing less and requires the min-

imum of tools to build. I used 5mm thick perspex for all non-conducting parts but wood could also be used. The knob is a drawer knob; a selection is obtainable from any hardware store, as are the necessary nuts and bolts.

The most satisfactory metal bar so far found is a piece of curtain rail, also easily obtainable. The hacksaw blade fits nicely into it and cannot slip sideways. The blade must be an end piece with a hole already in it as it cannot be drilled. The terminals are the same bolts which hold the feet in place, small wing nuts being used on top. Spring tension is adjusted either by moving the arm so as to shorten or lengthen the spring, or by inserting the connecting wire under the front edge of the block holding the

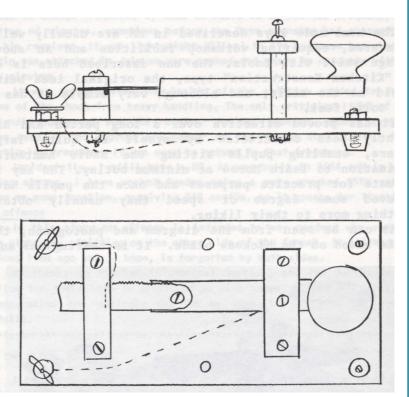


blade as shown in the diagram.

The bottom contact is screwed up tight so as to hold the connecting wire, and the top selftapping screw is adjusted to set the gap. Self -tapping screws must be used as they have a sharp point which forms the contact. This has worked well for long periods and is a satisfactory substitute for proper silver contacts.

There are no crucial dimensions, no bearings, and all the material is easily obtained. If you want more spring tension, use two hacksaw blades in parallel. If you are like me you will have an adequate supply of broken blades available!

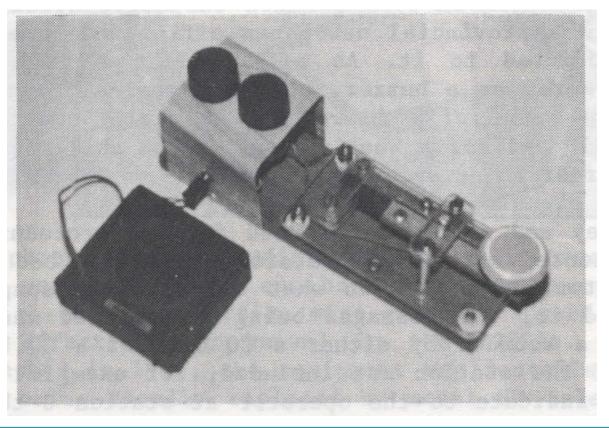
For practical purposes when teaching classes it is best to have the whole Morse outfit as one unit. To this end the key is mounted on a piece of wood the same width as the key base. Behind the key, in a simple U shaped piece of tin, is the oscillator. The two knobs on top are the volume and tone controls,



while the oscillator (the usual 555 IC) and PP3 battery are inside. A phone jack is on the side, into which a small speaker or earphone can be plugged.

Thus can the students sit around a table and make contact with each other using their sets, with all spoken words prohibited. Each has a distinctive tone and they soon become aware of the QRM problem and get used to CW procedures.

I have promised that when they are proud holders of tickets and call-signs, I will substitute the audio oscillator with a QRP RF oscillator, plug in a simple dipole antenna and let them loose on the bands.



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Visit our Website: www.awasa.org.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.

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— 3640 Saturday 08:30 (06:30 UTC) — National SSB Net— 7140; Sandton repeater 145.700 Echolink—ZS0AWA-L; ZS6STN-R Relay on 14.135 beaming to WC Saturday 14:00 (12:00 UTC) — CW Net—7020 Wednesday 19:00 (17:00 UTC) — AM Net—3615, band conditions permitting.

AWASA WhatsApp group:

Should you want to get on the AWA WA group where a lot of technical discussion takes place, send a message to Andy ZS6ADY asking to be placed on the group. This is a no-Nonsense group, only for AWA business. +27824484368