Newsletter

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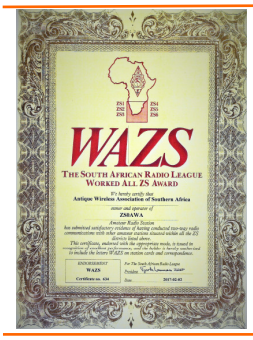
June 2017

A Member of the SARL



Inside this issue:

AWA Committee:

* President—Jacques ZS6JPS
* Vice President and-Western Cape—John ZS1WJ
* Technical Advisor—Rad ZS6RAD
* Secretary/PRO—Andy ZS6ADY
* KZN—Don ZS5DR
* Historian—Richard F4WCD (ZS6TF)
* Member—Ted ZS6TED

Reflections:

I wonder how many of you have noticed how many Amateur Radio Licences have been cancelled during this last renewal period.

I know I am not alone in wondering how it is that we had nearly 7000 listed call signs in SA. Now we find out that over 2000 of those are actually defunct.

There is one thing that worries me though, as I spent some time browsing through the latest update to the SARL Electronic Call Book. That is that I see some call signs of people that I know are still here in sunny SA and not only that, are still active hams. Yet their call sign is listed as being cancelled.

I really think that every one of us need to check through one of the many resources that are available, to see if your call sign is still legal.

I do know that there has been said many times that if your call sign has been cancelled due to a mistake by ICASA, they will reinstate it for you, but the onus is still on each of us to go and check and see if our call signs are still valid.

If it has been cancelled due to a mistake on your side, then you can still go through a process as listed on the SARL website as how to get your call sign reinstated and sorted out.

If you are still serious about your ham radio status, then you need to check this out and make sure you're still ok.

Over 2100 call signs have been declared cancelled due to non payment of licence fees. I have seen some of the main clubs call signs listed as cancelled. How does this happen ?

My next concern is what has happened to all of the people whose call signs have been cancelled ?

Do you want to tell me that people have just decided to no longer be hams ? Have they left the country ? Are licence fees so expensive, that they have decided they are not prepared to pay them ?

I think finally we are seeing that the state of amateur radio in SA is not as strong as we thought it was. Its wonderful to see how many people are writing the RAE exams these days and becoming amateurs, but how long is it going to be before they get bored or cant afford to buy equipment and become totally disillusioned with what they have done.

Do we need to be encouraging people in our hobby to stick it out, especially in these times of poor band conditions. My motto, “never give up”.

Best 73

DE Andy ZS6ADY

WIKIPEDIA

Electrical Telegraph

An early successful teleprinter was invented by Frederick G. Creed. In Glasgow he created his first keyboard perforator, which used compressed air to punch the holes. He also created a reperforator (receiving perforator) and a printer. The reperforator punched incoming Morse signals on to paper tape and the printer decoded this tape to produce alphanumeric characters on plain paper. This was the origin of the Creed High Speed Automatic Printing System, which could run at an unprecedented 200 words per minute. His system was adopted by the *Daily Mail* for daily transmission of the newspaper contents.
By the 1930s teleprinters were being produced by Teletype in the US, Creed in Britain and Siemens in Germany.
With the invention of the teletypewriter, telegraphic encoding became fully automated. Early teletypewriters used the ITA -1 Baudot code, a five-bit code. This yielded only thirty-two codes, so it was over-defined into two "shifts", "letters" and "figures". An explicit, unshared shift code prefaced each set of letters and figures.
By 1935, message routing was the last great barrier to full automation. Large telegraphy providers began to develop systems that used telephone-like rotary dialling to connect teletypewriters. These machines were called "Telex" (TELegraph EXchange). Telex machines first performed rotary-telephone-style pulse dialling for circuit switching, and then sent data by ITA2. This "type A" Telex routing functionally automated message routing.

The first wide-coverage Telex network was implemented in Germany during the 1930s as a network used to communicate within the government.

CQ Amateur Radio Hall of Fame

The CQ Amateur Radio Hall of Fame was established in January 2001 to recognize individuals - radio amateurs or not - who significantly affected the course of Amateur Radio, as well as radio amateurs who have made significant contributions either to amateur radio, to their professional careers or to some other aspect of life on our planet. This year's inductees are:

- King Bhumibol Adulyadej of Thailand, HS1A (SK)
- John Brosnahan, W0UN (SK): President of Alpha Power, NOAA physicist and instrumental in design and construction of the HAARP facility in Alaska.
- Garrett Brown, W3AFF: Inventor of the Steadicam, which earned him both Oscar and Emmy awards for filmmaking technology
- Britton Chance, W2IBK (SK): Pioneer in magnetic imaging; MIT professor, team leader in MIT Radiation Lab developing WWII radar; US Olympic gold medallist (sailing, 1952)
- John Crockett, W3KH: Repeater coordination pioneer; developed Southeastern Repeater Assn (SERA) Universal Coordination System; managed SCHEART system of linked repeaters in hospitals; VP Engineering for SC Educa-tional TV network
- Julius T. Freeman, KB2OFY (SK): Tuskegee Airman and Congressional Gold Medal recipient; frequent speaker at schools and civic organizations
- Limor Fried, AC2SN: Founder of Adafruit Industries, major supplier of open-source electronics to the Maker community; honoured by President Obama in 2016 as a "Champion of Change" and by the Internet of Things Institute as one of the 25 most influential women in the IoT industry
- Robin Haighton, VE3FRH (SK): Founding member of Amateur Radio on the International Space Station (ARISS), former president of AMSAT-NA
- David Honess, M6DNT: Developed AstroPi project, which sent two Raspberry Pi computers to the International Space Station as platforms for students on Earth to write and run their own computer code in space; honoured for this work with the Sir Arthur Clarke Award, presented by the Arthur C. Clarke Foundation and the British Interplanetary Society
- Pete Kemp, KZ1Z (SK): Author and educator, directly responsible for licensing over 700 new hams
- Kristen McIntyre, K6WX: Apple software engineer and inventor (her name is on 22 granted or pending patents), promoter of STEM (science, technology, engineering and math) subjects for girls through various talks and YouTube presentations
- Pat McPherson, WW9E (SK): Founder and long-time coordinator of SATERN (Salvation Army Team Emergency Radio Network)
- Andy Nguyen, VK3YT: Pico-ballooner, pioneered round-the-world micro-balloon flights carrying amateur radio
- Tim Peake, KG5BVI: UK astronaut very active in ARISS program during time on International Space Station; coordinated ISS end of the AstroPi project (see David Honess, above)
- Mike Santana, WB6TEB (SK): Two-way radio engineer, designed Clegg FM-76 220-MHz transceiver and Presi-dent line of CB rigs, favourites for conversion to 10 meters
- Allan Steinfeld, W2TN, ex-KL7HIR (SK): Long-time Race Director of the New York City Marathon, considered one of the fathers of the modern running movement
- Gerald Youngblood, K5SDR: Pioneer of software defined radio (SDR) and founder of FlexRadio

June

1 to 4 – Wacky Wine Weekend, Rob-ertson
3 – West Rand ARC Flea Market
4 - Pentecost; The Comrades Marathon
11 - Hammies Sprint
16 – Youth Day
16 to 18 – Bushveld Paradise Festival, Rooiberg Limpopo
17 – World QRP Day
18 - Father's Day; National Day for the Blind
21 - Winter Solstice; Laylat al-Qadr
22 to 26 - SARL Top Band QSO Party
26 - Eid Al Fitr; Closing date Radio ZS July
29 June to 9 July – Grahamstown Na-tional Arts Festival
30 – All schools close
30 June to 2 July – Kirkwood Wildfees

The 2017 inductees to the CQ DX Hall of Fame are:

- Bill Moore, NC1L (SK) - the ARRL's DXCC Manager for over 20 years. A public face of the program at hamfests around the world, Bill was also a major contributor behind the scenes, leading the transition from DXCC paper records to a computer database, then years later, guiding a major upgrade to the system that is in use today. Bill was severely injured in an auto accident in 2014 and became a Silent Key last year.
- Jerry Rosalius, WB9Z - an accomplished DXer and DXpeditioner, he has "worked them all" with the exception of North Korea, and participated in multiple major DXpeditions, including seven that were named as "DXpedition of the Year" by the Southwest Ohio DX Association. He is a frequent speaker at club meetings and hamfests and regularly makes his home station available for training new contesters.

The CQ DX Hall of Fame was established in 1967 to recognize those amateurs who have made major contributions to DXing and DXpeditioning. This year's inductions bring the total number of members of the CQ DX Hall of Fame to 71.
The 2017 inductees to the CQ Contest Hall of Fame are:

- Dave Robbins, K1TTT, is the builder and owner of a contest super-station in western Massachusetts. Soon after assembling his first contest station, Dave wrote in the introduction to his book, Building a Superstation, "I realized I was not a 48-hour iron pants operator and decided to start doing multi-ops from here..." Over the past 30+ years, Dave has hosted legions of operators at his multi-multi station, some veterans, some newcom-ers, and willingly shared his knowledge and experiences, both in his building book and his annual Contest Cook-books, distributed to members of the Yankee Clipper Contest Club (YCCC), of which Dave is a past presi-dent. You can see webcams of his current station and much more information at <www.k1ttt.net>.
- Bob Wilson, N6TV, is an accomplished contester and contest DXpeditioner, but his achievements behind the scenes are as significant as those he's made on the air. A regular speaker at Contest University and the Inter- national DX Convention's Contest Academy, Bob has developed new techniques and technologies to enhance logging and score-keeping software and to advance SO2R (Single Operator, 2 Radios) operating, along with the efficiency of software defined radios, CW Skimmer, the Reverse Beacon Network and more.

The CQ Contest Hall of Fame was established in 1986 to recognize those amateurs who have made major con-tributions to the art of radio contesting. This year's inductions bring the total number of members of the CQ Contest Hall of Fame to 69.

Dutch and Austrian Amateur Radio Magazines

The Editor of Radio ZS regularly receives electronic amateur radio magazines from radio clubs in the Netherlands. If you would like to receive these Dutch magazines, send your e-mail address to radiozs@sarl.org.za
The Austrian national amateur radio society **ÖeVSV** is one of many who make their magazine available as a convenient PDF. The magazine is in German and you can download copies of QSP from www.oevsv.at/downloads/.

African DX

Zimbabwe, Z2. Tom, KC0W had to cancel his 8R1/KC0W operation from Guyana owing to problems in getting a licence. His new destination is Zimbabwe, where he will be active as Z25DX from 23 May to 18 June. He will operate CW only on 80 to 6 metres. QSL via KC0W (direct only) and log search on Club Log. He does not use LoTW.
Kenya, 5Z. Thomas, OZ1AA is active as 5Z4/OZ1AA from Kenya until 15 June. He plans to visit Lamu Island (AF-040) between 25 and 29 May. QSL via Club Log's OQRS and LoTW, or via OZ1ACB.
Rwanda, 9X. Alan, KE4TA is moving to Kigali, Rwanda for two years. He departs on 26 May, but it will take a while for him to get his 9X licence and have his station up and running. He will be active on 80 to 6 metres ("primarily on 20 and 17 m") SSB, digital modes and CW “when my skills are better". QSL via N4GNR and LoTW. Updates will be posted to http://www.rwandadx.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
Maderia Island, CT9. Look for Serge, CT9/R7KW and Oleg, CT9/YL3JM to be active from Madeira Island (AF-014) between 25 and 28 May, including a Multi-Single entry in the CQ WW WPX CW Contest as CT9/R7KW. QSL for both callsigns via Club Log's OQRS, or direct to K2PF.

Clandestine Communique

By Ken Wade-Lehman

Most people who have read one of the many stories published relating to various victories and defeats during the second world war will no doubt realise that very few men taken into captivity were fortunate enough to have been incarcerated with their cherished possessions. Most men taken prisoner in the Sahara were lucky if, in fact, they had their water bottles attached to their webbing straps. On 'the 21st of June, 1942 the German Afrika Korps collected some thirty-two thousand men when the Tobruk garrison surrendered to Erwin Rommel. My total assets on that" unhappy day, amounted to the vital water container and chromium plated cigarette case filled with "Abdulla" - the cigarette vaunted to be of "Imperial Preference".

I mention these paltry possessions in an - attempt to justify the fact that at some stage, most prisoners of war start purloining odd bits and pieces from their captors. This, of course, was plain common theft Consciences however were salved by the thought that any damage done to the enemy assisted the general Allied war effort. And it was total war!

In Sagan, during the month of December, 1943, the daytime temperature wobbled around the minus thirty three degrees Celsius mark, nights invariably were a little cooler. Fortunately we, that is, British prisoners of war in Stalag 8c had been issued, through the Red Cross, English winter battle dress, boots and great coats. Eighteen months had passed in captivity and gradually we were settling down to the new way of life accepting morning and evening parades for the German accounting system as part of the deal. One afternoon in this December, our captors decided to show a propaganda film so that we could see, first hand; the devastation that the German war machine was wreaking on the eastern front.

A portable 16mm cine projector was brought in to one of the unused bungalows and the soldier in charge of the proposed screening started to assemble the outfit.' Portable projectors during that era were unwieldy affairs, they were, in fact, only portable in so much as that they were not firmly bolted to the floor. The audio amplifier, film, transport mechanism and loudspeaker were all carried separately and assembled at the point of intended operation: Prior to the outbreak of hostilities I was employed in the radio industry, occasionally servicing and cleaning projection equipment and it was, no doubt, this fact which drove me to muscle my way in to watch this assembly operation. The reason for my being there, I assure you, was sheer curiosity and the want of something better to do.

This projector used its audio amplifier's heavy cast iron casing as a base, the film transport mechanism and optical system once bolted on was electrically coupled by jumper cables. The loud speaker, abandoned on the floor beneath the screen, was connected with a length of cabtyre cable. Having completed the initial assembly, the operator laced a strip of film into the sprockets to test the system for the evening performance. Unhappily there was no sound. With a few "Verfluchts" he unscrewed the film transport unit and leaving it on its side, still connected to the mains, he felt each valve in turn to find out whether any had remained cold. After a minute or so, he removed two, discarding them on the floor before replacing them. Picking these two dud valves up and pocketing them was possibly a natural reaction for any well trained scrounger, however no devious plan at that stage had crossed my mind. Being completely innocent, I returned that evening and watched the show standing next to the operator.

I would like to make it clear at this point that at no time in my life have I systematically preplanned any operation and this moment was no exception. In fact, most of my life has been conducted in a kind of haphazard way and generally speaking, most important decisions appear to have been made impulsively: The idea of making up a clandestine radio receiver did not, at this time, enter my mind.

Owning two valves, albeit dud ones, possibly gave me the same satisfaction that a philatelist gets from collecting stamps, the sheer pleasure of possession. Possibly the fact that objects such as these were part and parcel of my precaptive life made them all the more special. However two valves with blown filaments could hardly give even the most optimistic person thoughts of ever receiving wireless signals. The next piece of opportunism took place a few months later when the second film was to be shown, this time a different operator arrived, fortunately with identical equipment. Once again I managed pole position in the scramble to watch the assembly and, again, only for the want of something better to do. The operator having positioned the audio amplifier on the table ready for fitting the optics, turned around and bent over the rest of the equipment to gather the tangled jumpers and lift them with the film transport mechanism.

During this period, convinced of being unobserved by any German, I decided to swap the two dud valves in my pockets for identical and possibly good components from his amplifier. This thieving action took only seconds. Now, however, feeling positively guilty and not quite certain that he had not seen my action, I quickly high tailed off with my loot, hoping to get lost in the crowd that was always present in the grounds. Grateful for no undue uproar from the guards, I sneaked off not even daring to return and show my face during the screening of the film. I now realised that with a bit of luck and effort, construction of a simple radio was a distinct possibility. No immediate plan, however, came to mind-so as usual, I left things to develop in their own way.

Stalag 8c in Sagan appeared to be quite a 1arge complex, it looked as though it was a large compound housing mainly Russians and French prisoners. On reflection, I feel certain that the barracks we occupied was the home of some German regiment now engaged in battle on the Russian front.

The British prisoners (in our camp roughly 70% were South Africans) were confined to three bungalows. We literally were in a prison compound within another camp and prohibited from fraternising with the other nationalities. The barriers separating us

were two four metre high barbed wire fences spaced roughly three metres apart, with the space in between filled with a further barbed wire entanglement. There were two pairs of gates, one set opened outwards, the others inwards, the space between occupied by a pair of removable entanglements - crossed beams of wood entwined with barbed wire.

In our three bungalow compound two housed prisoners. Half of the other housed a "Lazerette", a kind of infirmary for the sick, lame and lazy. The other portion was unused until the German Camp Commander allowed us to erect a stage and use it as a theatre. Bulk Red Cross food parcels arrived in plywood packing cases, these provided wood and nails for various building projects such as the proscenium and stage. A visit by members of the Swiss Red Cross gave us an opportunity of requesting materials for the completion of our project and in due course musical instruments, electrical wire, light bulbs and a Pailliard amplifier complete with a condenser microphone arrived.

A fellow prisoner, who by trade was a mine electrician, and I were appointed to wire up the stage. Footlights, front and rear battens were soon connected to homemade salt water variable resistors which acted as dimmers. Carpentry rapidly got under way with scores of willing hands and within a very short period plays were being produced and performed.

The authorities, apparently dubious of our electrical expertise, appointed a uniformed German military electrician to oversee our work and generally keep an eye on proceedings. As Jack Dalmaine, my co-worker, was a private, he was eventually sent off to work at a sugar mill in Brieg leaving the German chap and me on our own to look after the electrical side. This constant contact eventually led to a certain friendship and with my limited knowledge of the language managed to glean that he had been badly injured on the Eastern front and wished the war would end as quickly as possible so that he could live peacefully with his wife and two small daughters, all of whom he obviously adored.

The distress of this electrician moved me so much that on one occasion I went to my bunk, picked up the slab of chocolate which had arrived in my Red Cross parcel and gave it to him, saying it was a gift from me to his daughters. Well! The poor fellow almost wept. His little girls, said he, had never tasted chocolate. Leaving immediately, no doubt to deliver the present, he did not return for a" fortnight. During this period my thoughts revolved around whether or not I could safely approach him for assistance. Our next meeting benefited him with a small tin of cocoa for his wife and a few weeks later a two ounce tin of Players tobacco for his empty pipe. He walked around, usually sucking oil, a pipe that had a wedge of paper screwed up in the bowl in place of the usual tobacco (I would think the paper offered some atmospheric resistance to his sucking effort) . Losing no time, my new friend opened the tin, rubbed up a pinch of tobacco and after filling the bowl he struck a match and lit the tobacco.

Blowing a cloud of smoke and beaming, I imagined he saw me as the benefactor of all mankind. However after a brief pause he gave me a knowing look and said “You do not give me gifts for nothing, what do you actually want?” Absolutely thunderstruck at his directness, I immediately realised it was now or never. I replied that my hopes were to get his assistance in procuring a set of headphones. Well that really shook the walls of Jericho. The poor fellow almost choked. He slowly and deliberately closed the tobacco tin, gravely handed it back. "Did I not know that it was “streng verboden” for even a German citizen to own “Kopfhorer ?"

For that matter, said he, nobody was allowed to have any radio equipment other than the approved volksempfanger radio which was only capable of receiving local broadcast transmissions. Returning the tobacco to him I tried to make it clear that my intentions were not to bribe him, but as I was English I wished to listen to the BBC. This I reasoned could do no damage to the German war effort. Inwardly I was more than slightly relieved that he hadn't bellowed out -and had me arrested for a spell in the straflager (punishment cells) so I sat there quietly hoping, that I looked a bit like the Sphinx.

After a deathly hush lasting a few minutes he indicated that he personally had no objection to my listening to foreign broadcast stations but I had to realise that I would inevitably be caught and punished by the Gestapo. They would most certainly encourage me to reveal the source of the component supplier and if he was named, he and his entire family would end up in a concentration camp - a most unpleasant end for them all. Once again trying my best to appear as a benign gentleman, I said that I was aware of his predicament and tried to negate his worry by promising him that if he managed to procure headphones for me, and should I be caught, I would make certain the interrogator was informed that I was supplied by Feldwebel Henke.

Now Henke was the German WO 1 of the camp and a very strict disciplinarian. Nobody liked him. He gave both prisoners and the German guards a remarkably hard time. I also stressed that the Gestapo were more likely to believe me than their Feldwebel. Dismally he agreed and added that one could only expect to get such forbidden items on the black market and for a great number of cigarettes. At this point in the war the Reichmark would not buy a thing - a cigarette was the basic currency. One English fag (Players) was worth three and a half marks (a German soldier's pay was ninety pfennig a day).

I realised right then that I had won the first round and that the radio receiver had become a distinct possibility.

A few days later my friend arrived ostensibly to check the electrical wiring and quietly told me that he could get a set of. headphones for four hundred cigarettes. As we received -fifty each week in Red Cross parcels, and I had stopped smoking, there were two hundred and fifty ready as a down payment.

He accepted the deposit and a promise from me that he would have the balance within a month. Two days later the goods arrived wrapped in an old rag. I confirmed my promise about bearing false witness against poor old Henke and 'sadly thought of the Ten Commandments.

A fellow prisoner had put a request in to the Red Cross asking them to send him a watch repairers outfit, this eventually arrived and he happily wiled away his time by mending various damaged timepieces. Chatting to him one day I asked if he thought it

possible to manufacture a tuning condenser for a proposed radio. A few simple sketches and answers to various questions made it clear that he was more than capable of producing what I envisaged. After a few day he produced the most perfect small variable condenser. The stator was made up of five razor blade halves, the rotor was geared down and made of two .copper watch dials which had had their face enamel removed. These discs had been bisected neatly and the four semicircles fixed in an offset fashion to a shaft, making a reasonably good straight-line frequency variable condenser. This tuning condenser made up by Aubrey Bradfield was a work of art, it would have been a credit to any man who had produced it in a fully equipped workshop. This superb component, made up from watch parts certainly was the turning point for positive planning.

A coil wound on an empty bakelite shaving stick container formed the resonant circuit with Aubrey's condenser. The calculations, were not difficult as there was more than enough time to estimate the maximum and minimum capacities and, as all schoolboy radio constructors of the 1936 era calculated and wound their own inductances, I had done this exercise many times previously. My first attempt in fact-completely covered the 31 metre band.

Meanwhile my electrical friend had not been idle, despite the fact that he knew little of the radio world, the bits and pieces which he traded for cigarettes, promised to be useful. The prize offering was a pair of 32 mfd. wet electrolytic condensers on a bracket, their positive legs joined with a 1000 ohm 10 watt wire wound resistor.

The next inspiration was possibly the best that I have ever had. At the first opportunity where I was able to get into the theatre alone I stripped the cover from the condenser microphone to inspect what was obviously a pre-amplifier. These microphones have incredibly high quality but as their output is very low, require a close coupled amplifier. My general thought was to see if it was possible to disconnect the microphone capsule and replace it with the resonant circuit which was now ready for use.

The format of this microphone took on the appearance a small ball screwed on top of a coffee tin, and a couple of machine screws removed from the side allowed the cover to slide down showing two KF3 valves used in the preamplifier stage. Having worked before the war for the franchise holder of Philips radios, I knew that the "K" indicated 2 volt DC filaments, with the "F" meaning a RF pentode. Philips battery radios, which I had serviced, used this valve in the IF stage, so I was familiar with the side contact base which was connected to 'each internal element. The microphone, assembled once' more, was screwed back on its stand and put back on the stage.

Although we were isolated from the main camp there were constant escorted fatigue parties moving in and out, the soup on which we were fed, for example, was cooked in the main area and carried in by men allocated to this job, it was during one of these fatigues that one of the stage coterie purloined a long length of 7/22 stranded copper earthing wire. This was looped around the proscenium as an aerial, with the balance taken and connected to a solid earth point on the fuse box panel. The two wires were then tailed off and twisted innocently around the cables feeding the footlights in front of the microphone.

The parallel resonant circuit, now a complete tuning module, was ready to be connected to any detector device. A high value gridleak and a small capacitor bypassing it were donated by the unused second input on the Pailliard amplifier, a wire pigtail ready for earthing was attached to the other side. The tuning circuit now only had to be connected to aerial, earth and the control grid of the KF3.

The first plan in an attempt to pick up a radio signal was to get into the theatre after the evening body count and remain there for the night. During the day I had taken the blanket from my bunk and secreted it in a corner under the stage, intending to sneak in after the guards had dismissed us from the nightly body count - Appell as the Germans referred to the rollcall. All went well. Instead of going to my bunk, I turned off to the theatre and went to ground under the stage as planned. Electrical power presented no problem as lights were left burning throughout the night and as we were confined indoors alter dark, the Germans left a few Alsatian dogs roaming around to discourage inmates from breaking the rules.

As soon as the guards had vacated our area and I deemed it safe enough, the microphone cover was removed , the grid clip of the condenser microphone capsule removed from the input KF3 and replaced by the tuning circuit. Headphones, aerial and earth connected, gain control of the amplifier turned down to zero and all systems were set to go.

Finnegan's law which states 'If anything can go wrong, it will go wrong' did not work that evening. Everything that I had hoped for in fact happened, the tuned circuit was slap bang in the middle of the 31 metre band! The BBC roared in as clear as any broadcast station, Moscow was on the same band. News in English and various musical programmes kept me elated for hours on end. It was interesting to note that all English language news services from Russia were prefixed by the announcer (always a woman with a cold, deadly voice) proclaiming: 'Death to the German invader '. The sad part of this whole episode was that there was nobody to share my excitement - I was entirely alone. Eventually, frozen with cold (our bungalows were heated by briquette burners, the theatre was not) I crawled under the stage in an attempt to sleep. Difficult I assure you as the recent extraordinary event barred me from the land of nod, the other world, almost forgotten, was once again a vivid reality.

Naively I thought that this operation could be kept a closely guarded secret by- passing the news out via a second party who although privy to the real truth, would give information out as rumours from _ an impeccable source. Bernie Figg was the most suitable man to take into confidence as he had all the attributes for this. A number of men spoke German reasonably well, a few of them were suspected of passing camp information on to our captors as too many secrets appeared to rapidly filter through to the guards, possibly in exchange for unseen favours. However as Bernie was Jewish he was hardly likely to collaborate and as he had, in fact, become the official dolmetscher or camp interpreter he would often return after having been summonsed to the camp commandant's office with snippets of news, sometimes even bringing back a copy of the Volkisher beobachier, the official Nazi newspaper. He would read translations out to everyone immediately after the evening counting session.

That night he announced that he had some factual news from a recently captured man. This man, he said, was called Jimmy Higgins.

Attempting to hide the existence of a radio led to the oddest rumours being circulated, men were even ragging the German guards, goading them that they were being fed lies by their government. Bernie and I eventually made a decision to announce the fact that clandestine reception was in progress and outlined the penalties involved should we be caught. We were told that the Camp Commandant had decreed that the operators, and the ten men nearest to them, would be executed. The story was never verified as it was hardly possible to ask. The monumental worry that niggled me was the fact that the detector valve was boldly marked ‘Wehrmacht' which made it obvious German army property. This little disclosure had the desired effect as each and every person now seemed be part of the conspiracy.

The radio and griff that it produced was now always referred to as' 'Jimmy Higgins'

Obviously this theatre lark couldn't continue for long as it was far too dangerous. German soldiers occasionally made spot - inspections' at night and should they by chance find an empty bunk the entire camp would be turned out to identify the escapee. Not only that, I was cold, lonely and unhappy about sleeping under the stage. The solution was to press on with the original idea now that there were sufficient components.

A proven 31 metre tuning circuit, two apparently good valves and headphones left only a transformer and power supply to complete the list. Earlier on, before becoming besotted with the idea of a radio, I had made a few compasses for the ever hopefuls who made incessant and elaborate escape plans. The compass was made up of a magnetized razor blade pivoting on a gramophone needle, a press stud (used for fixing NCO's chevrons to their sleeves) clipped in the middle hole of the blade acted as a bearing, with the pieces mounted in an empty circular bakelite toothpowder container. Now the scheme was to wind a multi-turn loop of wire around the outside of the tooth-powder container, a discarded battery connected in series with the loop provided sufficient energy for a very simple but effective continuity tester. All tests done with the compass blade in a North-South orientation, the coil set at ninety degrees from it. I now had a meter! A transformer with an isolated' filament winding was essential so once again I prevailed upon one of the arch scroungers to procure some 'suitable wire. This episode alone, is worthy of a comic opera plot.

Ralph Aranges was the man. He volunteered his labour declaring his willingness to work in a sugar mill, at the same ,time pointing out that he suffered with spinal problems so work in a Silesian coal mine was out of the question.

Off he went to a refinery in Briegonly to return within a fortnight suffering with a bogus back problem and two coils of copper wire which at some stage had supplied a magnetic field to an electric motor.

Often I would inwardly giggle imagining a scenario where a worker in this sugar mill makes a complaint to the factory maintenance electrician stating that his machine had ceased to work. The fitter, after examining the machine in question proclaiming that it wasn't possible for the drive motor to run without field coils. The source of these coils was never disclosed but sadly my final opinion was that they were rejects from a faulty motor as the cotton wrapping which was used for insulating the wire had started to crack and signs of bare copper were visible.

One factor, constantly borne in mind was that German industry was not staffed by morons so any thieving had to be done with great care and of such a nature that it was unlikely to be immediately noticed.

Fortunately, at that stage of my life, I imagined the calculation of a transformer to be a simple straight forward ratio where, as in youngsters constructors books, one IS informed that a square inch centre limb of core material required nine turns for every volt applied .. This simple and basic formula held good, as after this unit had been laboriously made, it worked.

Whilst Ralph Aranges was in Brieg organising the winding wire I had been busy collecting empty 'Healthy Life' biscuit tins. These containers, with their biscuits were in Canadian Red Cross food parcels, the tins had sufficient material to allow me to cut out transformer laminations in the approximate proportion I required.

A pair of scissors stolen from the medical bay made excellent tin snips so after a few days I had sufficient piece parts to make up a one inch stack of core material for a one inch square centre limb. Although at that time I was unaware of the strict physical proportion in transformer laminations, the fact that they looked right turned out to be correct in every sense. I was certainly unaware of other snags such as eddy currents, magnetic leakage, and various other losses such as excitation current. These were terms I had yet to discover I did however, burn each lamination in the briquette heater as I knew most transformers appeared to have a rusty scale on the surface of the iron. Probably, I rationalised, this rust had something to do with isolating one piece of metal from its neighbour.

The original plan was to use the EL 11 as a half wave rectifier as it had a cathode, which could deliver the DC. The EFll was to be used as an anode bend detector. Designs however changed as the electrical fellow arrived one afternoon with an AZI full wave rectifier and a prehistoric variable condenser, one with thin paxolin separators isolating the plates: Now, instead of only one filament winding I needed two, the primary would also require doubling so as to feed both plates of the AZ 1.

The transformer coils were slowly wound, each turn, where necessary separated from the previous one. As mentioned earlier, the insulation was suspect and each and every inch had to be examined prior to layering, the layers interleaved With biscuit paper wrapping. Three thousand nine hundred and eighty turns centre tapped for the primary, fifty seven turns for the EFll filament and thirty six turns for the rectifier! This seemed to take ages.

Three strands of wire were used in a trifilar configuration for the secondaries as I felt the filaments would draw more current than one strand could supply. The rectifier anodes were to be connected across the entire primary winding, with the mains fed in between the centre tap and one end. Care would be needed when connecting to the mains supply as if the earth side was not connected to the centre tap, the chassis of the set would be live to ground.

In retrospect, my first transformer, hardly ISO 9000, most likely would have taken the barley bun for the poorest unit ever built. Air gaps must have been enormous, the iron core with an unacceptable amount of carbon, I hesitate to contemplate the excitation current. Probably the EF11 filament winding delivered only five volts, the AZ1 possibly had to make do with three volts. Nevertheless, when finally completed it worked and very well!

A major problem had now to be solved. These two valves from the projector had bases with a pin - out configurations foreign to me. Each valve had a central spigot similar but larger than that on a standard octal base, at the bottom of the keyway there were three pins, the other side had five. The EF11 was a metal valve which looked like a fat 6H6, the EL11 envelope, although glass, was, except for the top, completely opaque.' Which of the pins terminated the various internal elements was the burning question. The glass EL 11 was chosen for initial investigation as it was now redundant in the new plan and of course, if something went wrong, arcing might possibly be seen through the transparent top. I also thought that the filament glow would be seen when connected.

Using the compass ohm meter, filament pins were easily found and when connected to the six volt winding, one could see the glow on top looking about the right colour. The next task was locating the cathode. Most valves have this common element terminated on one side or the other of the filament pins so these two were tried first and by a process of elimination and quite a simple test rig this vital element was located. The method used was as follows: After heating the filament, a voltage from the mains, fed through a current limiting forty watt globe was applied sequentially to each pin, the electrolytic condensor bank was then used as a detector in an attempt to find the rectified DC This simple test rig not only showed where the cathode was but also pinpointed the anode, screen and control grid pins.

The next step was by far the most complex. Each of the remaining pins, when connected to a voltage, produced a different sized DC charge as was indicated by the size of the spark when the condenser was discharged, the vital question was whether the anode, being the biggest, or the control grid being the closest element, would produce the fattest spark? Happily, after a few days of pondering, I decided that the closest element, the control grid would produce most energy.

The circuit of the receiver had to be the one I had used as a schoolboy, the Reinartzregenerative detector, Strapping the screen grid to the anode, the EF 11 was used as a triode. Obviously construction was difficult. Bits of solder painstakingly collected from various food tins, resin donated by one of the violinists, an English penny fashioned into a crude soldering iron, the scissors and various nails were the tools available. One blessing was that I had plenty of time on my side. No one rushed me. This radio receiver became a delightful, all absorbing project.

Two days after D day, the 8th of June 1944, marked the beginning of near nightly reception when Jimmy Higgins announced its presence with regenerative howling across the 31 metre band.

The Germans didn't like it and soon showed their disapproval by subjecting us to spot surprise searches.

Fortunately for me, four men, Freddie Dowse, Tommy Preston, Stan Hollis and Eric Peart, decided on their own accord to form an early warning watch so as to allow a little time for the concealment of identifiable items. This voluntary guard duty probably accounted for most of the success we had in hiding the set, but it entailed a huge sacrifice by these chaps as they stood in all weather, out of the warmth of the main bungalow, wrapped up as best as possible in the unheated ends of the bungalow where the night latrines were situated.

As Chauvelin hunted the Scarlet Pimpernel so the German ferrets sought this receiver. They came sporadically during the day and might, often arriving during the early hours of the morning. These night searches were always foiled, the main reason hinged around the meticulous nature of the Teuton and the vigilant gentlemen who formed the early warning system.

The unvaried method used by Germans to enter our area required the gate sentry to move aside and allow one of the search party to unlock the outside gates, once these had been unchained and swung outwards, the transportable barbed wire entanglements were dragged out. The group then marched into the vacant space and these outside gates were once again firmly dosed, chained and locked. This done, the inner gates were subjected to the same treatment. The squad, once through the barbed wire lock, would march out into our compound and wait in formation until the inner gate was once again secured by the chatelaine. From there onwards the search began. This grand entry took some three and a half minutes to which one could add another thirty seconds for the period taken from the initial sighting of the search party. Usually one could allow about four minutes to bury the set, replace and seal the bricks before getting back into bed for feigned slumber.

The safe house for Jimmy Higgins was directly under my bunk. The floors of the bungalows were made of standard size clay bricks, four of these bricks had' been carefully lifted and cleaned so that no bits of cement adhered to the edges. A hole, approximately nine inches by twelve was dug as deep down into the earth as was possible and fitted with a box as a liner, a well fitting lid stopped most of the loose soil from sifting in. Each night after finishing listening to various broadcasts the radio was wrapped in a piece of blanket, put into the box and after the lid had been securely fitted, it was sealed off by packing the soil, originally removed back into place. Four bricks neatly fitted and re-cemented with a mixture of sand and plaster of paris (kindly donated by the staff of the lazarette) finished the nightly, concealment.

Our sleeping arrangements as dictated by our captors had two men sleeping side by side with another two at each of their heads; The bunks provided were triple tiered affairs so one free-standing bunk housed twelve bodies. My abode was in a middle position, the bunk immediately below was vacant by design and filled with a good amount of apparent topsy turvy junk. The bunk immediately behind me, was occupied by George Adams, a regular soldier and a sergeant in the Royal Artillery. George was a pleasure to know as he had a highly developed sense of survival and retained a very cool head when pushed into a tight spot, this self-discipline helped out on more than one occasion. When regular news monitoring was possible, George had one of the headphones bandaged to an ear, I had the other (we had dispensed with the headset band).

Notes of daily events were recorded as best we could on scraps of biscuit wrapping paper and the following morning we briefed Bernie Figg on what we had gleaned from London and Moscow.

One particularly bad patch was when a troop of German officers with an incredible number of guards arrived about three o'clock one morning. They announced that all British prisoners in Stalag 8c were being transferred to another area. The burning problem was to guess whether this was, in fact, a genuine transfer or just a ploy to drag us out of our perimeter and search us on the way in. I had little option in deciding what to do with Jimmy Higgins as it was impossible to loosen the bricks and dig it out in the presence of all the roaming ferrets, in any event I was forced to take along the second radio unit which was nearing completion and was craftily being assembled into a one litre Italian aluminium water bottle.

This second receiver owed its existence to the fact that regular component deliveries were being made by the electrician in exchange for 'Players'. The water bottle effort, although incomplete, required very little to be done in order to complete it. The field grey baize jacket covered the trapdoor which was cut into the back. It looked for all intents and purpose to be nothing more than an innocent water canteen. This would accompany me as I felt certain that if we were subjected to the usual search, it would not be scrutinised.

But it WAS a search - and it turned out to be methodical and diabolical!

We were marched to a vacant parade ground and assembled on one side where some 30 German soldiers were deployed across the centre. Prisoners were lined up into 30 rows for the obvious search.

The drill now was that the man in front of each row was beckoned by the relevant soldier, the prisoner then walked about forty paces forward where the guard body searched him prior to tipping his cargo on the ground. As each article was examined it was put onto the prisoner's opened greatcoat or blanket and finally after the inspection, the man was told to grab the four corners in one hand and hump the contents to the other side of the field where he could repack. Well now! I cannot think of any time when I wanted this radio less. Had the opportunity presented itself, the Italian water canteen, would certainly have been thrown over the fence, What prevented me from doing so was the fact that the outside perimeter of this field was lined with German officers who were taking a keen interest in proceedings.

The next step was to inspect the chaps who were actively engaged-searching, desperately hoping to find one who looked a little disinterested or dozy. Having selected a likely candidate, I moved from where I was, to the second position in his row. There was no difficulty in queue jumping as it was generally accepted that when one needed assistance, all concerned would co-operate. The fellow in front of me moved off for inspection and to my dismay, this apparently dozy searcher removed the cork from the water bottle and probed it with a stick. Other than instantly collapsing on the spot, my immediate thought was to bumble and stumble and attempt to confuse the issue of my search.

This was done by borrowing the kit from the fellow behind me in order to enlarge the amount to be examined. On my walk from the queue to the search position, I helpfully loosened the string holding my cardboard box lid down and when about two paces from the guard, managed to stumble and spew the contents of the box in a random fashion over the ground. The searcher bent over to examine the odd articles, I in a bit of a flurry sat on the Italian water bottle, spread my greatcoat out and scooped the articles which had been checked on to it. When the valise belonging to my compatriot. was under investigation I pushed the radio under the items already checked and piled the next lot on. As this now became a rickety pile the gentlemanly German soldier assisted me in carting it over to the safe side.

Apparently whilst we had spent a day on the open field amusing the German officers, another team had combed our three bungalows. Not even their metal detectors. had been of any assistance as we had taken the precaution 'of hammering hundreds of nails rescued from the Red Cross bulk boxes, into the brick floors of all three abodes. Other than a few knives and odd prohibited small items, absolutely nothing had been discovered, so after a very tense and worrying day there was the exhilaration which is normally experienced by the victor of any vigorous sport.

At the end of December 1944 we could hear the Russian artillery pounding the banks of the Oder and once again heard the German instructing 'Laufen morgen! This time I felt it was not another search but just in case it was, we carefully hid the water bottle model and I took the biscuit tin job in my greatcoat pockets.
Leaving Sagan in Poland we were on the road for roughly two and a half months before we were halted in a village called Bad Orb. In more ways than one, I was now pretty well sick of the entire war and carrying this radio in place of a blanket right across Germany during sub-zero weather had destroyed any ambition to get it working once again. In fact it never did receive signals again.

April the 2nd, 1945 was an unforgettable Easter Monday, the American Rangers overran Bad Orb so although the war had not yet ended we were once again on the side of the Allies. George Adams asked what I intended doing with the radio, my reply, if I remember correctly, was that I would like to dump it in the nearest river. George said if I had no plan for it, he would like to

have it for his regiment's museum. Bearing in mind the effort he had made, in assisting me, I happily handed it over to his care.

If he did give it to the Royal Artillery Museum, I expect that is where "Jimmy Higgins" is today.

Ken Wade-Lehman, No. 7657 S.A. Corps. Signals

By the KING'S Order the name of

Corporal K. Wade-Lehman

Union Defence Force,

was published in the London Gazette on

5 November 46

as mentioned in a Despatch for distinguished service.
I am charged to record
His Majesty's high appreciation.

Secretary of State for War

This article was kindly provided by Dave Oxborrow, General Manager of Lehman Transformers in Durban. Dave personally knew Ken Lehman (SK) and gave permission for this article to be fully published in the Newsletter.

SCHOOLBOY WIRELESS 1930-1960

HL2 Valve

Most boys who were radio fans started off by building a crystal set—in those days it involved using a cats whisker crystal detector and hand wound MW coil, usually wound on a toilet roll center. The next step was making an ovo (one valve) set using the ubiquitous type 30 or HL2 valve or tube. All these sets used batteries and headphones. They were mostly built in the open "breadboard" style on a piece of plank salvaged from the end of a tomato box. Money was scarce and parts were expensive until after WW2 when military surplus parts became plentiful and cheap…
Note: before 1933, valves were pear shaped and after that they became bell shaped.

What could schoolboys read on radio theory ?

Magazines: Practical Wireless by Newnes, Radio Constructor, Wireless World, Radio Craft etc
Books: Gernsbachs educational library; Bk1 How to build 4 Doerle sets; Audels Radioman Guide; Practical Wireless Cir
cuits;Wireless for Beginners by CL Boltz etc
Publications for boys: Boys own paper; Hobbies Magazine with articles by FG Rayer; Die Jongspan with How to Build articles by MB Coetzee and Brandwag also contained practical articles by Coetzee.

Schoolboys of Yesteryear

Where did boys obtain parts to construct radio sets ? From Grand dads,dads, elder brothers, uncles cousins and friends. Boys often used to swop postage stamps for radio components. Boys who were more affluent went to flea markets and second hand shops and "rich" boys to radio shops. Some surprisingly good and well made sets were produced by schoolboys of yester- year. Most boys used wood from tomato boxes, pieces of broomstick for coils, empty "Vim" cans (cardboard) for coils or toilet roll centers and Masonite or plywood for front panels. Sometimes aluminium. Coils were mostly hand wound using enamel or cotton covered magnet wire. In the 40's early 50's the germanium diode detector became plentiful and cheap. One could buy a GEX34 for a few shillings.

Almost all "radioboys" owned a pair of earphones/headphones and the SG Brown was considered the best.
In home made crystal sets, pieces of galena or PbS, lead sulphide, were often employed as a detector in a homemade cats whisker arrangement. Some crystal sets used a carborundum crystal, but it needed a battery for bias.
Some boys built sets that worked from the 230v mains, but they were in the minority.

What could schoolboy wireless sets receive ?

On MW, all the cities in SA had transmitters and up to about 100 miles reception was usual at night. Then again on SW, many overseas stations could dbe tuned in on these regenerative/reactive OVO sets, such as BBC,VOA, Radio Nederland, LM Radio etc. Believe it or not, some crystal sets could even receive the stronger SW stations. It was usual to have a long and high outside aerial or antenna strung between porcelain egg insulators and a good earth connection. These sets often served for clandestine nightly listening to LM radio "Special occasions" presented by Danna Niehaus and Evelyn Martin and other pop music secret nightly listening at home or in school hostels. This was a universal boys thing in the bad ol days…
The 60's 70's 80's and 90's saw the use of miniature transistor sets, but all the fun of home constructed sets was gone. Reception on FM was just too perfect to be fun !

End of the Golden age 1930-1960

Someone once wrote, "there is something very comforting in the benign glow of a valve". All this changed with the coming of the transistor, which, soon after 1960, pushed the trusty old valve aside. Most of the fun of radio disappeared with the passing of the valve of mellow memory. Another quotation, "Transistors are so cold and calculating", and thus passed the golden age of wireless.

Capt LG Latski
Latski Radio Museum
Vanrhynsdorp

Results of the AWA Valve QSO Party
May 13 and 14 2017

AM:
First place: Helge ZS6HB
Second: Patrick ZS1PDY

SSB:
First Place: Helge ZS6HB
Second; Theunis ZS2EC
Third: Patrick ZS1PDY

There was a total of 2 logs submitted for the AM session and 5 logs submitted for the SSB.
Conditions were really not great and even with these poor conditions there were still a fair number of stations taking part, most just giving away points.

Also noted is there are really not that many valve rigs being used, but nice to see the FT101's making an impact as the most used valve rig. It is a hybrid and only scores 2 points, but that's one more than minimum. If you are using an FT101 and contact an FT101, that's 4 points.

I need to remind people to read the Contest rules carefully before submitting logs.
One of the areas which could be losing many points is not filling in the rig the calling station is using and secondly not filling in the rig contacted.

Valve rigs give additional points and where this field is left blank, you only score minimum points.

Thanks to all who took part and succeeded in breaking through the poor conditions.

Your certificates will be emailed in the next few weeks.

Ham Radio Aviator Departs for Round The World Flight

Brian Lloyd WB6RQN Flight Commemorates 80 Years Since Earhart
Miami, Florida, USA, June 1, 2017 - As pilot Brian Lloyd propels his single-engine plane named "Spirit" into the sky on a solo round-the-world adventure, he commemorates Amelia Earhart's famous flight eighty years ago on this date in 1937. He is communicating live via radio with Ham operators while flying. The two month flight will follow Earhart's historic route to circumnavigate the world at the equator, which starts in Miami, skirts the chain of Caribbean islands, then along the coast of South America, crosses the Atlantic eastward, and then onward around the world.

Prior to departure from his home airstrip in Texas, USA, Brian Lloyd said, "I am driven by the spirit of historic flights. It is important to remember the aviation pioneers like Amelia Earhart, and their contributions to aviation. Their bold actions made today's air travel possible for all of us."

While he is in the air, using the call sign WB6RQN, Brian encourages Ham radio operators to contact him on the following frequencies: 14210.0 kHz USB, 14346.0 kHz USB, 18117.5 kHz USB, or 7130.0 kHz LSB. His HF (High Frequency) radio is a Mobat Micom-3 transceiver, with a maximum power of 125 Watts, and an antenna under the fuselage. He also utilizes ALE (Automatic Link Establishment) on the Amateur Radio HFLINK frequencies http://hflink.com
Brian Lloyd's radio schedule is posted on the project's website http://projectameliaearhart.org/ham-radio
"I've been a ham radio operator since 1976 and enjoy radio communications very much. The plane is set up with HF radio for aeronautical purposes with the normal pilot headset controls. The flight route has some very long legs, so I will have plenty of opportunities during June and July to talk with ham operators while flying over the world's oceans," Brian said.
Commercial airliners fly long distances every day, but non-stop ocean flights are quite difficult for small propeller planes, which have limited range. To make it possible, Brian Lloyd modified his 1979 Mooney airplane to carry 150 gallons more fuel, then equipped it with modern navigation equipment, long range radio, and satellite communications. Still, the flight is not without risk, and special safety gear must be taken along. The public can track his flight on the web, social media, as well as Ham radio.

About: Brian Lloyd, 62, is a pilot, flight instructor, engineer, educator, and radio operator. He lives near San Antonio, Texas, USA. The commemorative flights are co-sponsored by The Classic Aircraft Aviation Museum, a non-profit in Texas, and many other individuals who contribute to supporting the flights through donations.

Amelia Earhart website: http://projectameliaearhart.org

Press Kit: http://projectameliaearhart.org/press

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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 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: www.awasa.org.za

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
Wednesday 19:00 (17:00 UTC) — AM Net—3620, band conditions permitting.