Radio ZS

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September - October 2007
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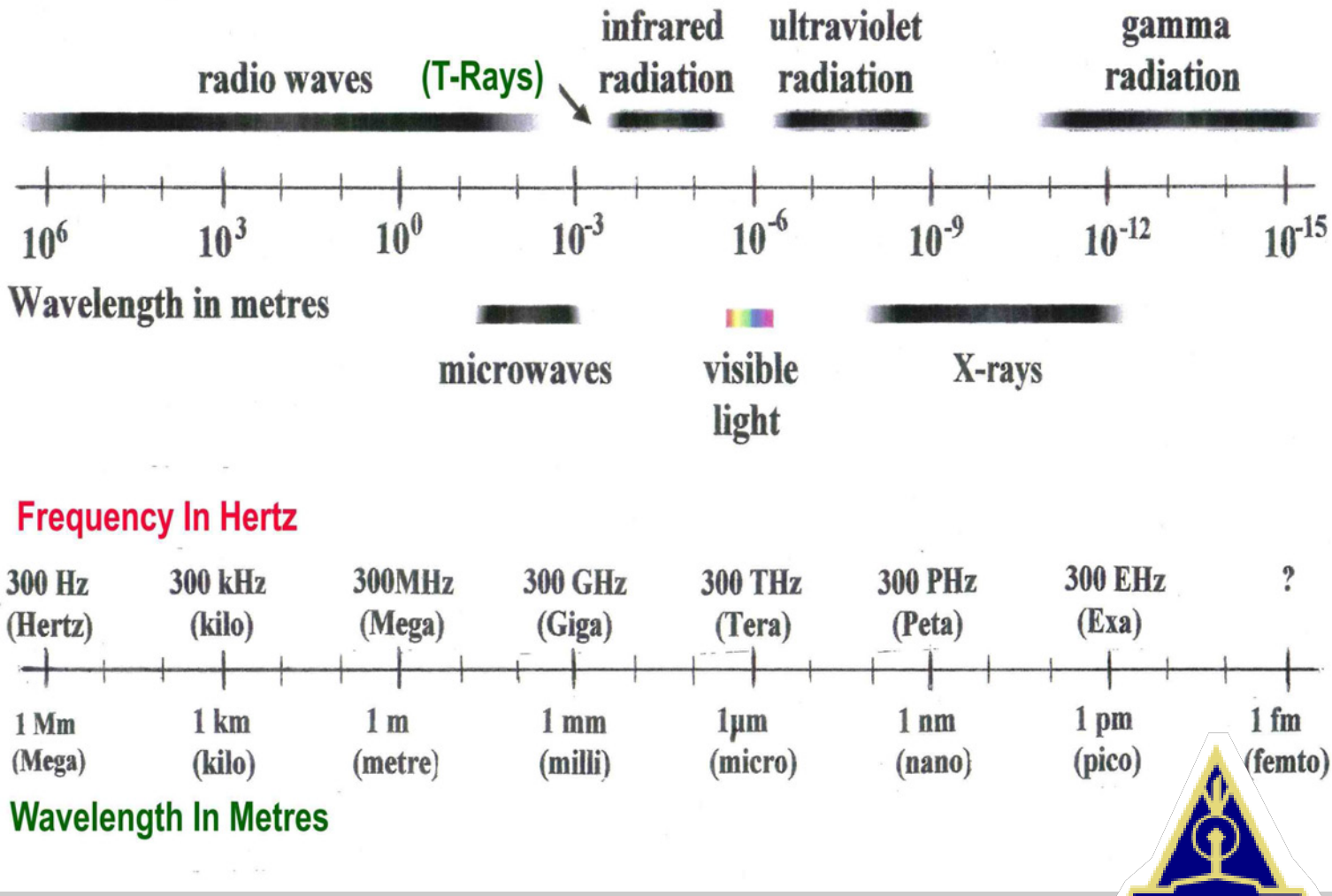
THE ELECTROMAGNETIC SPECTRUM



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RADIO ZS

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FRONT COVER / VOORBLAD

The Electromagnetic Spectrum, graphic provided by Mike Bosch, ZS2FM

Die Elktromagnetiesespektrum, beeld voorsien deur Mike Bosch, ZS2FM

Radio Technology in Action

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Silent Keys Stil Sleutels

They shall grow not old as we that are left grow old
Age shall not weary them nor the years condemn
At the going down of the sun and in the morning
We will remember them."

Hulle word nie oud soos ons wat bly vergrys,
Die jare sal hulle nie raak nog die tyd se eis
En, soos die son sak of die more ontvou,
Eer hul herinnering – ons sal onthou."

Leo Alexander, ZS5WF **Wally Perfect, ZS5WP**
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CQ de ZS6GJH

It is amazing how time flies. Here we are with the September/October edition of Radio ZS and at that time of the year when we start planning the 2008 Annual General Meeting.

The AGM, I would prefer to call it the SARL National Convention, will be held in Bloemfontein on 12 April 2008. I have a vision that the AGM should be far more than just a meeting but a National Convention weekend when we have the opportunity to talk about all aspects of Amateur Radio, share ideas and enjoy it as a social event. The idea is not new, it is practiced by many national amateur radio organisations in the world and historically that is what SARL AGM's were all about.

The Bloemfontein Amateur Radio Club and the SARL Council are working together on a national convention programme with various activities and events that will also include spouses and partners. The Annual Dinner promises to be a grand affair being held on the farm of the late President Steyn, taking you back to the days of the Orange Free State. Our planning will include air/hotel packages and a special programme for the spouses and partners while the AGM is in session.

Talking about the SARL National Convention, it is now also time to think about the SARL Council. Nominations have to be in by 30 November.

What does it mean to be on the SARL Council? For one you are giving something back to your hobby, but you are also in the position to direct the future of Amateur Radio. With modern communication, to be a councillor does not mean that you attend meetings in some far away place from your home. Except for the AGM and a strategic planning session council meetings are held every six weeks by teleconference.

Each councillor has a portfolio and is expected to attend to all matters affecting his or her area of responsibility. Yes, it is extra work, but you also get involved in some interesting aspects of our hobby. As the old saying goes you get more out then what you put in. Ask yourself: "what can I do for amateur radio?" and put that to test by accepting nomination for Council. We have great plans for amateur radio and want more of you to be part of achieving it.

Talk it over with your peers or club committee and get that nomination in.

73

Graham Hartlett, ZS6GJH
President

Ham Pride: Our Legacies and Traditions

By Dave Ingram, K4TWJ

One in a Series

Our encouragements to include globe-spanning HF operations in your amateur radio activities continue this month with a glitz-and-glamour look at radio's all-time favourite accessory: keys. Pardon our over-enthusiasm if we go a bit overboard in highlighting a few exotic rarities in the tour (fancy keys are oh so irresistible!). Next time, we will discuss using a favoured key for operating QRP on HF at low cost.

Throughout the world, telegraph keys proudly stand as one of the most well known symbols of amateur radio — and with good reason. They are forms of art in brass. Keys have been produced in a captivating variety of styles and sizes, older keys represent a piece of radio history you can hold in your hand, and operating CW with a special key is a thrill of the best kind. Finding that key (or paddle) may require some hunting and test using, but that too is a delightful experience!

Generally speaking, keys are produced in four basic categories: manual or "pump" keys, semi-automatic keys or "bugs", paddles for use with electronic keyers and miniature versions of each category for portable or "just for fun" use.

Manual keys are easy to use and do not require external power for operation. Some are quite elaborate in design, workmanship and action. Sending speed with a manual key is usually limited to less than 15 words-per-minute.

Semi Automatic Keys or "bugs" use a horizontally moving lever and a vibrating pendulum with attached speed-adjusting weight and dot contact assembly. You move the lever one direction to manually make one dash at a time or move it the other way for the vibrating pendulum to automatically produce a series of dots. Using a bug requires good wrist action and much practice. It is tremendous fun, but it can prove quite difficult to master (you and the bug must become one).

Paddles are made in two varieties: single lever and dual lever, and they are also produced in some of the most artistic designs imaginable. Single lever paddles are easiest to use because their lever can move in only one direction at a time so sending a dot or a dash is almost error free. Dual lever paddles add iambic action to operation: move one lever to make dots, the other lever to make dashes, or squeeze both levers to produce alternating dots and dashes. The word

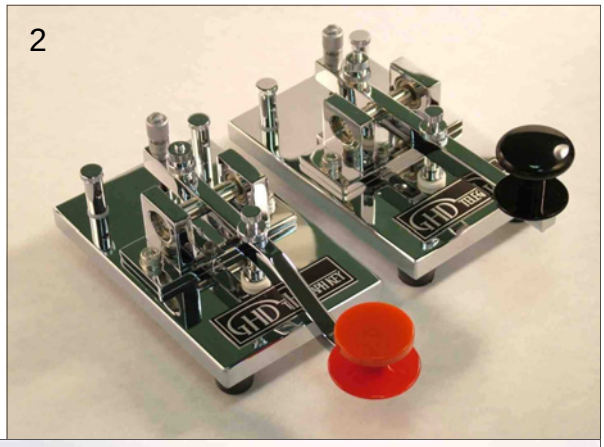
(Continued on page 8)

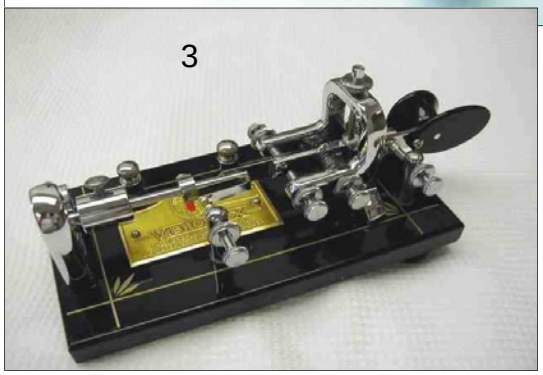
(Ham Pride from page 7)

"France" is sent, for example, with 5 squeezes; the dot lever leading/contacting first on the F, R and A, the dash lever leading/contacting first on the N and C, and the E produces with one tap on the dot lever.

Miniature keys typically range in size from 3 inches to one inch in length. Although tiny, many are very attractive and capable of sending good CW — assuming you know Morse code well enough to send good CW, naturally!

As further introduction into the wonderful world of keys and CW, more views of unique keys from the four main categories are included in this Ham Pride article. Like to learn more about keys, QRP and Getting Started in HF Fun? Visit www.k4twjblogspot.com and watch for more Ham Prides featuring keys and QRP in future Radio ZS magazines.





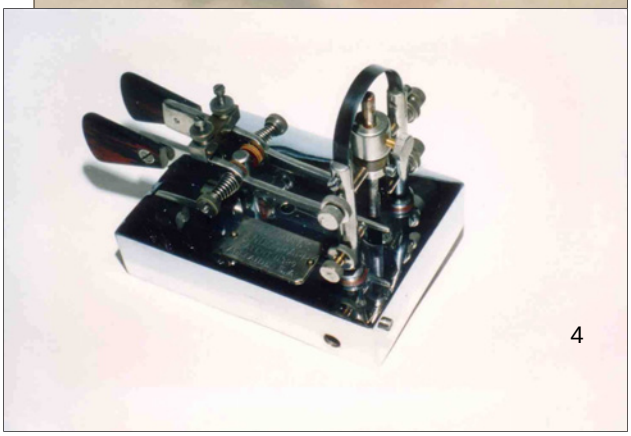


Photo 1 Simple elegance best describes this classic Speed-X Pump key that has been produced in the U.S. since the 1940s. It has adjustments for gap, tension, is reasonably priced and handles good. It is available from www.MorseX.com.

Photo 2 These marvellous looking pump keys are made by the GHD Company of Japan. They have aircraft-grade ball bearing assemblies at their fulcrum, calibrated micrometer-adjusted contact spacing and two knob-mounting holes for effectively changing their arm/lever length. The feel of either key in operation is superb! Keys also available from www.MorseX.com.

Photo 3 Semi automatic keys or "bugs" have been produced in many styles, but the classic beauty of this 100th Anniversary Model Vibroplex is hard to beat. Its sparkling chrome mechanism sits proud on a high gloss black base with gold pin striping, just like its 1904 brother. Bug available from www.vibroplex.com.

Photo 4 This rare and exotic vertical bug is called the "Pendograph". It was made in Australia during the 1930s and has a rear pendulum assembly that is insulated from the base. Contacts on the rear arch mate with contacts on vertically swinging dot pendulum and horizontally pivoting dash arm to send code. It is a Morse marvel!

Digital Voice Comes To Amateur Radio

Hans vd Groenendal, ZS6AKV

One of the attributes that makes Amateur Radio such an exciting hobby is its versatility. It offers so many different technologies that it caters for diverse groups and people of all ages.

One of the technologies making its appearance is digital voice. It is called D-STAR. D-STAR is the acronym for Digital Smart Technology for Amateur Radio. The purpose of D-STAR is to allow radio amateurs to speak further and clearer using digital voice while sending data at 1200 bps at the same time. The D-STAR system covers communications on the HF, VHF and UHF bands while defining interfaces for both radios, repeaters, Internet interconnections, and PC interfaces.

D-STAR is the result of three years of research, funded by the Japanese government and administered by the Japanese Amateur Radio League (JARL), to investigate digital technologies for amateur radio. The research involved Japanese radio manufacturers and other observers. Icom provided the equipment used for the development and testing and are currently the only company supplying D-STAR equipment to the radio amateur market. In South Africa ICOM equipment is available through Multisource Telecommunications.

D-STAR is an open protocol – although it is published by the JARL, it is available to be implemented by anyone. While Icom is the only company to date that manufactures D-STAR-compatible radios, any equipment or software that supports the D-STAR protocol will work

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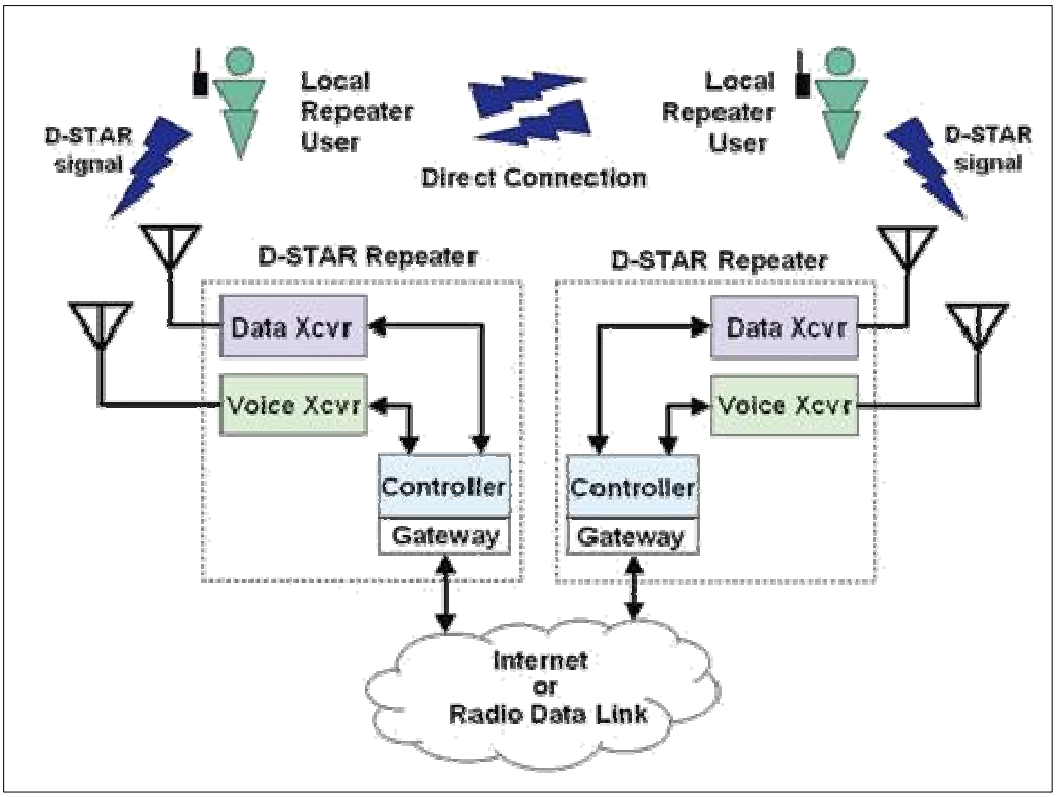


(D-Star from page 9)

with a D-STAR system. In a D-STAR system, the air link portion of the protocol applies to signals travelling between radios or between a radio and a repeater. D-STAR radios can talk directly to each other without any intermediate equipment or through a repeater using D-STAR voice or data transceivers.

The D-STAR system supports two types of digital data streams. The Digital Voice (DV) stream used on 144 and 440 MHz contains both digitized voice (3600 bps including error correction) and digital data (1200 bps). Using a DV radio is like having both a packet link and FM voice operating simultaneously. The Digital Data (DD) stream, used only on 1.2 GHz, is data only with a bit rate of 128k bps. The data connection to a radio that uses DV is via an RS-232 interface or USB port. An Ethernet connection is used for high-speed DD D-STAR data. Ordinary terminal emulation software (DV) or a Web browser (DD) will do just fine for exchanging data

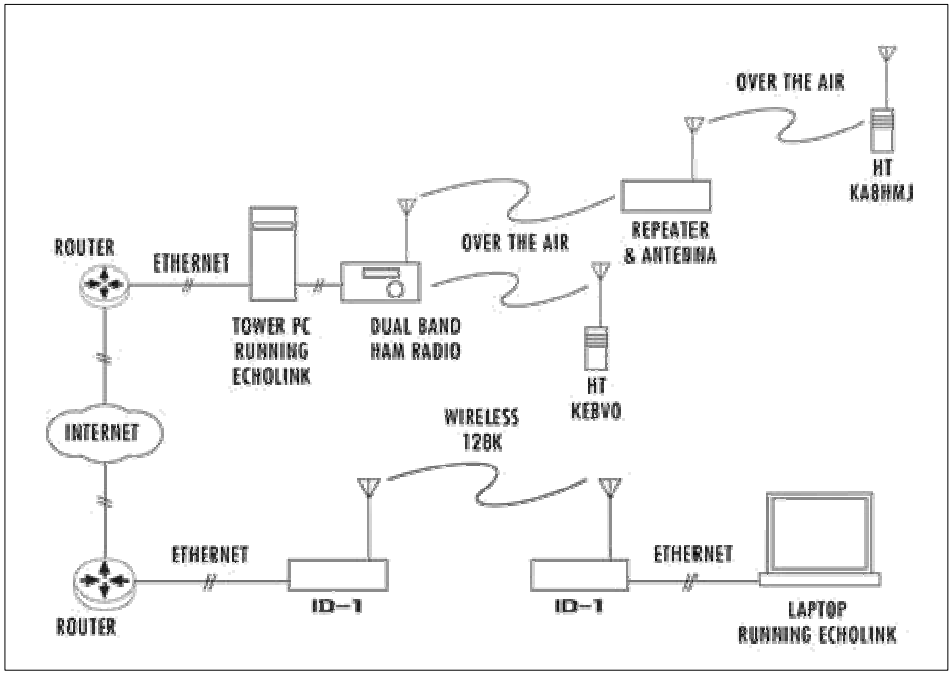
D-STAR transfers both voice and data via digital Voice and is encoded as a 3600 bps data stream using AMBE encoding. AMBE is a speech-coding standard developed by Digital Voice Systems, Inc. It is used by the Inmarsat satellite telephony system, certain channels on XM Satellite Radio and the G4GUO protocol for high frequency amateur radio. It is also proposed as the vocoder for the next phase of the APCO P25 Professional Mobile Radio protocol.

Linking D-Star equipment via Echolink or IRLP systems is a logical outflow as both the systems are already in a digital format. Echolink and IRLP are Voice over IP systems used by radio amateurs to set-up worldwide VHF and UHF networks by linking local and remote repeaters via the Internet. A radio amateur in Johannesburg for example can talk to his friend in New York both using handheld VHF or UHF transceivers. D-Star is making it just that easier.

The open D-STAR protocol provides a rich, exciting set of tools with which radio amateurs can experiment and build. Icom supports developers with the D-STAR forums at www.icomamerica.com/amateur/dstar

Although the first D-STAR transceivers have arrived in South Africa, it is likely to be sometime before they will become popular. The radios currently available offer both D-STAR and ordinary narrow band FM communication. The challenge is for radio amateurs to work with the protocol and develop interfaces using existing equipment and networks.

(Illustrations by courtesy of Icom America)



An 11 Metre Crank-up Tower

Hannes Hanekom, ZS6LW

Scared of climbing a tower? Well Hannes describes his 11 metre crank-up tower which allows him to work on the antennas at ground level and the winch it up for DXing and ragchewing!

The Block

I used a concrete block of 500 x 500 x 500 mm to mount my tower, +/- 6 - 8 bags of Ready Mix concrete). I placed 3 x 16 mm threaded rods in the hole and then filled the hole with the concrete. I gave three rods a bend so that each forms a J, then I welded them together to get the correct triangular shape using round bar. I welded it up +/- 300 mm to support the triangular shape in which I placed the threaded rod. All of this must be covered in concrete. I left the concrete to set for 3 weeks before assembling the tower.

The Tower

I made three tower sections. The first is only 3,6 metres tall. The lower section is 6 meters tall and the top section 5 meters tall.

When the concrete is set, mount the first tower. Now walk the second tower up to the first and install 10 mm bolts at the hinge points. Hook the cable from your winch up to the 25 x 25 mm square tubing at the bottom of the second tower. Lower the second tower so that tower one and two form a 'T'. Now mount third tower section to second tower section using 16 mm threaded rod through the provided 20 mm round tube (make the round tubes from thick wall

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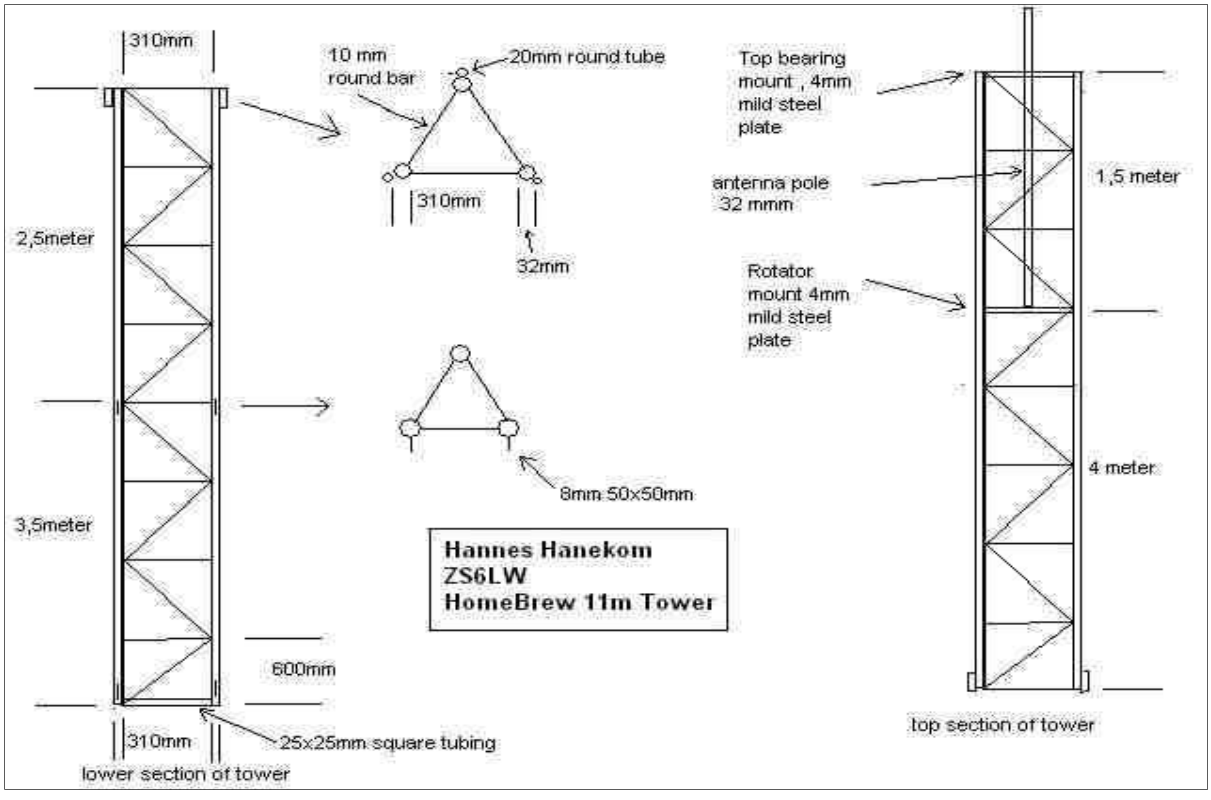


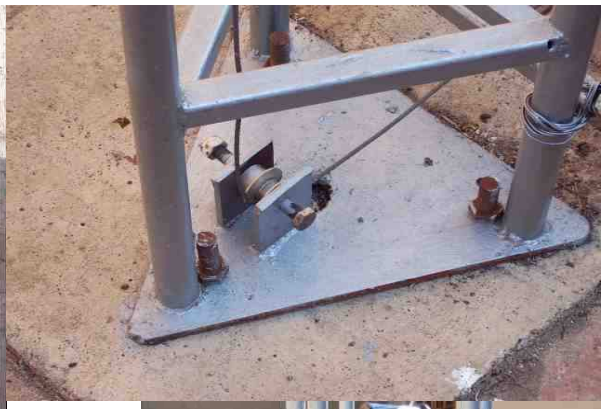
(11 Metre Crank-up from page 11)

tubing.)

Mount your antennas and operate that boat winch. The tower at first is a bit heavy, but when it reaches 25 degrees, it goes up easy.

Once up in the air, secure the tower with 2 x 10 mm bolts at the bottom of the first and second tower. I support my tower with stay cables for extra security.

Good luck and work safe!!!



Radio Direction Finding

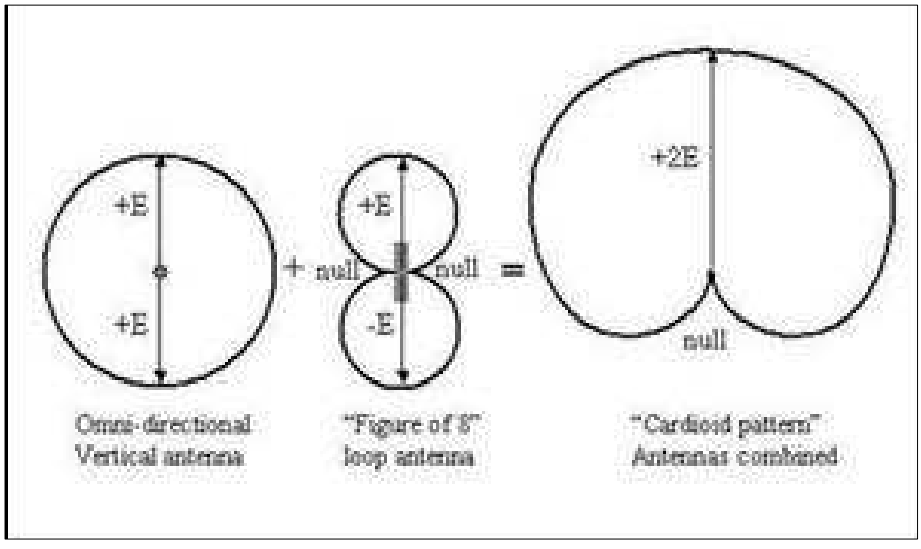
Mike Hanslow, ZS1RMS

With the upsurge in interest in Fox Hunting, I thought I could shed some light on the aspect of radio direction finding, from a background in the aviation field.

A simple form of directional antenna is the loop antenna. Such an antenna will exhibitive two nulls that are broadsided to the loop antenna. Simply by rotating the antenna to obtain minimum signal will establish two possible directions that the signal could be emanating from. The null is used for determining direction as a small change in azimuth produces larger changes in signal strength than that near the loops max positions. To resolve the two possible directions, a sense antenna is used. The sense aerial has no directional properties but has the same sensitivity as the loop aerial. By adding the steady signal from the sense antenna to the loop antenna will result in a single null. This pattern is referred to as a Cardioid. Such systems are employed in long wave navigational beacons for maritime and aviation use (NDB-Non Directional Beacons).

Similar to the loop antenna, the Interferometer antenna, also know as an Adcock Antenna Array system exhibits a similar “figure of 8” pattern of reception but overcomes the limitations of the loop antenna by receiving a signal in the vertical plain only and eliminating false readings due to reflections in the horizontal plain . The Interferometer antenna pair is a pair of monopole or dipole antennas that takes the vector difference of the received signal at each antenna so that there is only one output from the pair of antennas. When the two dipoles see exactly the same signal strength and in the same RF phase, no signal is delivered to the receiver. This condition happens only when the signal source is equal distance from the two dipoles.

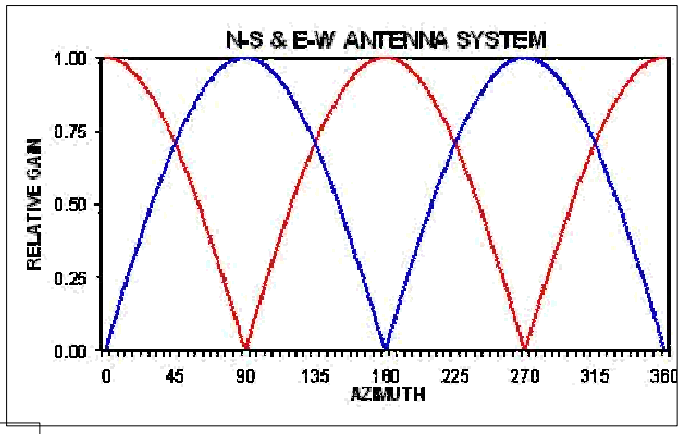
Now thing start getting interesting ,by using two perpendicularly oriented loop antennas, it is possible to locate the direction of a radio signal without physically rotating the antenna, but by perform an amplitude comparison on the incoming signal on both antennas. This is called the Watson-Watt Adcock Antenna Array.

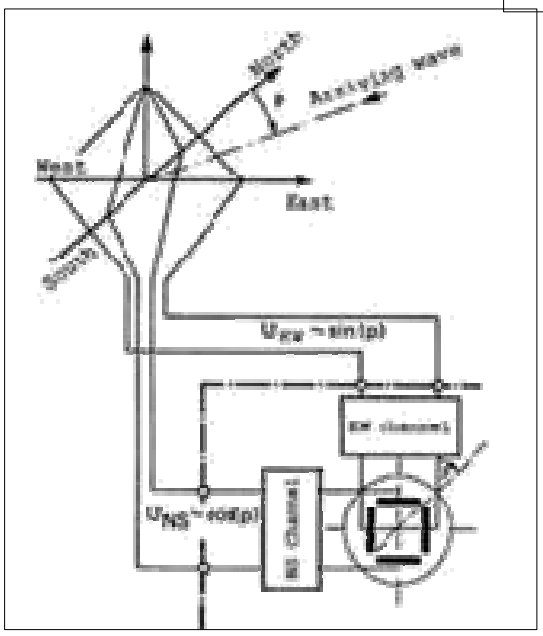


(Continued on page 14)

(Radio Direction Finding from page 13)

But as with the loop antenna system, there is still the ambiguity of the source single. By employing two matched receivers, the output is feed to the XY inputs of a CRT (cathode ray tube) display much the same way you would display Lissajous figure. The trace on the display would indicate the ambiguous direction of the signal. The ambiguity can be overcome by employing a third ∑ (Sigma) omni directional antenna and using



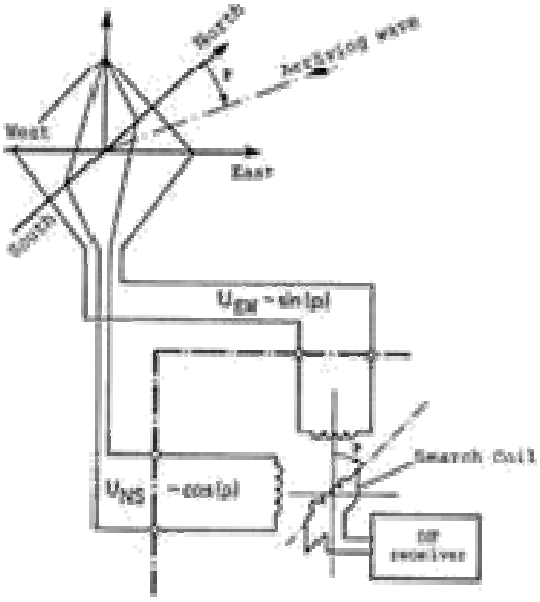


three phase-matched receivers. The ∑ signal will control the brightness of the CRT. The Watson-Watt Adcock Antenna Array can utilize loop antennas as well as conventional dipoles, similar to that used in the Interferometer.

The Watson-Watt Adcock Antenna system is fully omni directional with equal gain due to the vectorial sum of the sensitivity of two perpendicularly oriented loop antennas. Aligning the perpendicular loops in a North-South and East-West meridian, referred to as the N-S and E-W antenna. The amplitude of each antenna will vary with the angle of the signal source, following the Sin and Cosine function for the E-W and N-S antennas. The bearing angle can then be calculated by calculating the arctangent ratio of the N-S to E-W amplitudes. In the drawing below, you can see the relative absolute gain for the N-S and E-W antenna system following the Sin and Cosine function.

θ= ARCTAN Ux / Uy =ARCTAN (SIN p /COS p)

A Goniometer could be used to simulate the rotation of the Watson-Watt Adcock antenna system, noting



signal variation to a scaled dial of the Goniometer as one would observe if

(Continued on page 15)

(Radio Direction Finding from page 14)

rotating a loop antenna. The radio operator would use the Goniometer to tune the antenna system until a null was heard in the signal. The dial on the Goniometer would then indicate a bearing to the aircraft. A Goniometer couples differentially, the two antennas to a single receiver.

The Doppler Shift is a phase-based method for determining a bearing on the received signal by measuring the Pseudo Doppler shift induced on the signal. Doppler DF's were developed in Germany during WW2 and were called Wullenweber's (wide aperture circular array direction finder). A number of omni directional antennas are arranged in a circular array and are connected to an RF commutator circuit. The commutator combines the antenna signals in a way, which simulates the continuous rotation of a single antenna element about the axis of the antenna array. As the element approaches the incoming RF wave front, a positive Doppler frequency shift occurs, and when the element travels in the same direction as the wave front, there is a negative Doppler frequency shift. The amount of shift is a function of the velocity of the "moving" antenna and the wavelength of the transmitted signal. The Doppler shift can be calculated using the following formula.

$$Fr=Fs\ (1 \pm (2\pi.Fc.r)\ c)\ Hz$$

Where

Fr = Observed Frequency

Fs = Source Frequency

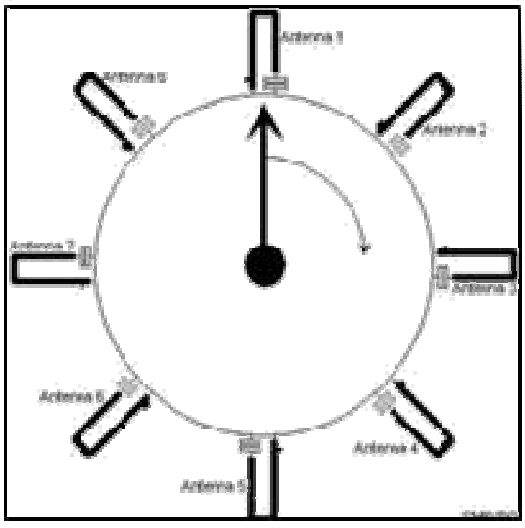
Fc = Comutator Frequency (i.e. rotation frequency)

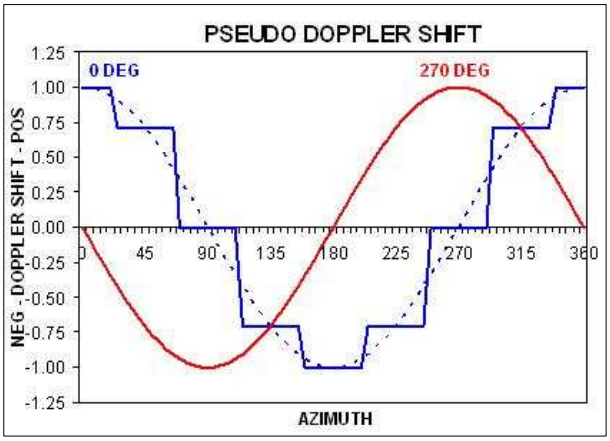
R = Radius of array

C = Velocity of free space

The graph above shows the Doppler induced frequency modulation of an incoming signal due to the rotation of the antenna. The stepped wave shows the actual Doppler shift induced by the antenna commutation if the target was located in the direction of antenna 1 (North). This wave can be resolve to a Pseudo Doppler shift by using a LPF (low pass filter). Note the phase variation with the other graph shows a target located off antenna 3 (270˚ West) variation.

Applying the Doppler induced modulated RF signal to the input of a narrow band FM receiver produces a component in the audio output, that of





the commutation frequency. This tone is superimposed on the normal audio output and the phase of the tone, relative to reference used to commutate the antenna is the bearing angle. The direction finder processes this audio

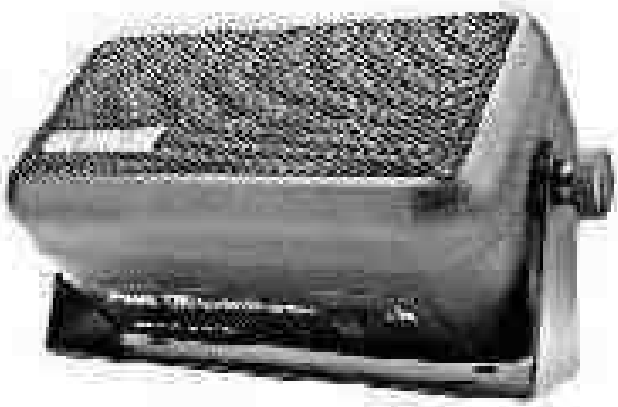
(Continued on page 18)

DIAMOND ANTENNA

Radio Accessorie

Incorporating SAM'S RADIO AC

bhi

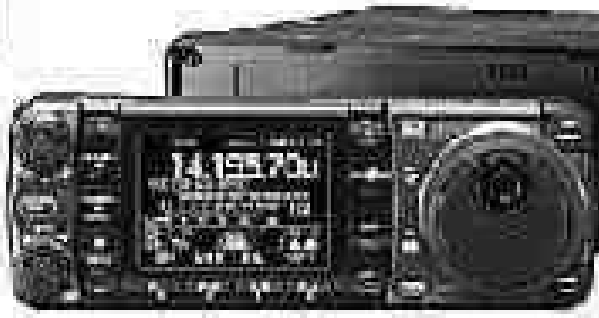


bhi NES10-2 Noise Eliminating Speaker
Incorporates Digital Signal Processing to remove unwanted noise and interference
Fully adaptive noise cancelling
Noise cancellation 9-35dB
4-65dB tone reduction
8 user selectable noise cancelling levels

MFJ259B SWR/RF Analyzer
Read SWR and impedance 1.8-170MHz
Determine Velocity Factor, coax cable loss in dB, length of coax and distance to short
Built-in frequency counter
Ni-CD charger circuit

MFJ

ICOM



Icom IC-7000 HF/VHF/UHF Mobile Tra

03-199 MHz Receive	503 Alp
RIT	Preamp
VFO A/B	1 Hz Di
Digital IF	Twin P
S/RF/SWR Meter	100 Wa
50 Watts 2M, 35 Watts 440.	Manual
All band Multimode	Remov
CW Receive Reverse	Mini Sp
Memory Keyer	2.5" Co

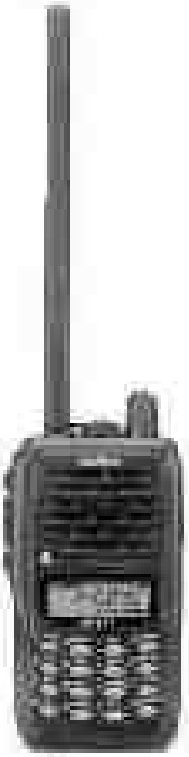
9 Carnation Street,
Gallo Manor
Tel: +27 (11)802-2976 o
Fax: +27 (11)804-4847 f
Mobile: +27 (82)974-8248
Email:radioacc@telkomsa.net
Website: www.radioacc.co.za

s & Data Modems

CESSORIES CK88/18657/23

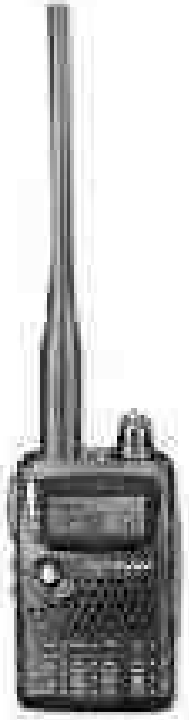
ALINCO

Alinco DJ-V17 VHF Handheld Transceiver
New, two-touch repeater access
High grade waterproof materials (submersible 1m/3ft. for 30 min.)
Rugged polycarbonate body resists dirt, dust and moisture
Highly visible backlit alphanumeric display
Direct frequency input through illuminated keypad
200 Memories and one call channel
VFO, Memory and Scan modes



KENWOOD

Kenwood TH-F7E Dual Band Handheld Transceiver
Simultaneous 2 frequency RX, even on the same band
0.1~1300MHz high-frequency range RX (Sub B band)
FM/FM-W/FM-N/AM plus SSB/CW receive
7.4V 1550mAh lithium-ion battery for 5W output and extended operation
1200/9600bps packet function (ext. TNC)



YAESU

Amateur Radio Division of Vertex Standard

nsceiver
ha memories
/Attenuator
splay
T
tts HF+6M
Notch
ible head
ectrum Scope
our TFT

HUSTLER

AOR

PO Box 691,
Gallo Manor
2052 Rep. of South Africa

(Radio Direction Finding from page 15)
signal to calculate and display the bearing angle. The commutation frequency should be within the audio pass band of the receiver normally between 300 and 3 KHz.

Direction resolving using a direct phase comparisons is not always practical due to the small Doppler deviations in relation to the RF signal. Phase modulation due to transmitter frequency instability and the Doppler effect due to target movement also have an effect in the accuracy of a DF system. Non FM mode receivers also have to process the Doppler induce frequency modulation on a signal. Precision DF systems would employ an additional central "sense" antenna called an Auxiliary Antenna in the centre of the circularly antenna array. The signal from the commutator and auxiliary are subjected to a small fixed change of frequency to give a total frequency separation that is within the pass band of the receiver. These two signals combined form a double side band reduced carrier and is fed to a conventional AM receiver. The two sidebands would beat together producing a single side band modulated carrier signal with a stable tone, free from any unwanted phase modulation that would be used to extract the phase measurement, relative to North reference. One method to determine bearings in a Doppler Direction Finder is to extract the SIN and COSIN component and calculate the bearing as you would for a Watson-Watt Adcock Antenna system. Bearings with this system can be resolved down to 1˚. Systems that are more modern currently employed for maritime and aviation would process the signal digitally with a resolution down to 1/10˚. Sophisticated Doppler HF direction finders (HUFF-DUFF) not only can determine the azimuth but also the elevation of a signal from the ionosphere. With all of this information, one can calculate the location (Rho-theta) of a HF signal.

Wat presies is ALC, en wat maak mens daarmee?

Ean Retief, ZS1PR/TR8
Gamba - Gaboen

Ean discusses what is Automatic Level Control and how to use it effectively. He also discusses the use of ALC with a Linear Amplifier and the use of false or dummy ALC.

Baie van ons is bewus van ALC en weet dat wanneer die stel goed moduleer dan moet die ALC "lekker skop" (so in die groen deel van die paneelmeter) en hopelik loop alles dan mooi en is die hele wêreld reg. Kom ons kyk egter 'n klein bietjie meer in diepte daarna sonder om te tegnies te raak.

ALC staan vir "Automatic Level Control" en word hoofsaaklik op enkelsybandsenders gebruik.

Met modusse soos FM, Gelykgolf en Teledrukker word die sender gewoonlik "vol oop" bedryf, met ander woorde die kraguitset is

(Na bladsy 19)

(Wat presies is ALC vanaf bladsy 18)
maksimum.

Enkelsyband is egter ‘n vorm van amplitude modulasie en die sender loop nie heeltyd vol krag nie. Om die waarheid te sê, meeste van die tyd loop die sender maar baie min van sy maksimum vermoë.

Operateurs se stemme verskil baie, party praat sag, ander weer hard en party bulder so hard dat die sender oorlaai word.

Nou, die ideaal is om die sender so na aan 100% te dryf sonder om die finale stadium te oordryf.

Dit is waar ALC in die prentjie kom. ‘n Spanning word van die finale stadium afgetap en teruggevoer na vroeëre stadiums van die sender. As die finale se stroom na maksimum neig, dan sny hierdie “negatiewe terugvoering” die vorige stadiums se wins bietjie terug en word die finales nie te hard gedryf nie.

‘n Belangrike punt om op te let: so ‘n “terugsny” van wins word “negatiewe terugvoering” genoem, maar die werklike spanning wat ontwikkel word om dit mee te doen kan ‘n spanning van negatiewe of positiewe polariteit, gemeet teenoor die stel se aarde, wees. Meeste stelle se ALC-spanning is egter negatief t.o.v. van die stel se aarde (bakwerk).

Ons kry nou drie groot voordele met ALC:

Die stel se vermoë word nie oorskry nie, selfs as ons vir daardie rare DX skree nie!

Soos ons nader aan maksimum kraguitset beweeg hoe meer sal die ALC die uitset “terugsny” en liniariteit van die sein word gehandhaaf soos spesifiek vereis word in die radioregulasies.

Die aksie van die ALC veroorsaak dat die sagter dele van ons spraak ‘n relatiewe hoër uitset lewer terwyl die pieke op maksimum uitset gehou word. Dit veroorsaak dat hoewel die piekomhullings-vermoë (“PEP”) dieselfde bly, die gemiddelde waarde styg. Dit is dus ‘n vorm van spraakprossesering.

As u in die Heathkitstelle se handleiding kyk mag u oplet dat hulle na TALC verwys. Dit staan vir “Triple ALC” en verwys na baie van die Heathkitstelle wat die ALC na drie vroeër stadiums teruggevoer het vir baie dinamiese beheer. Dit het die Heathkits baie mooi audio gegee.

ALC met ‘n Liniêre versterker.

Wanneer ‘n eksterne versterker gebruik word, word daar gewoonlik voorsiening gemaak om die ALC-spanning na die sender terug te voer, sodat die versterker nie “oordryf” word nie.

Gewoonlik as die versterker en die sender of sendontvanger van dieselfde vervaardiger kom, en van min of meer dieselfde ouderdom is, kan mens maar net die ALC-lyn verbind en aangaan. As dit egter nie “pasmaat”-toerusting is nie, dan sal dit betaal om die betrokke handleiding versigtig te bestudeer en seker te maak dat die twee stukke toerusting versoenbaar is wat ALC betref.

Terloops, hoewel die ALC ‘n gelykspanning is, gebruik maar ‘n afgeskermde kabel (ko-aksiaal), want as daar RF-terugvoering op die ALC-lyn inkom kan dit allerhande probleme veroorsaak.

(Na bladsy 20)

(Continued from page 19)

Vals of fop-ALC.

Die ALC-inset op ons senders of sendontvangers bied ons ‘n ideale metode om kraguitset te beheer om aan die plaaslike regulasies te voldoen of as mens om een of ander rede laer krag wil gebruik, bv. in ‘n hoëdigtheid behuisingsarea of wanneer mens in ‘n woonwapark is.

Ek self is ‘n groot voorstander daarvan om ‘n sender of versterker onder sy maksimum vermoë te dryf want dan blydie uitset werklik “skoon”.

Die probleem is egter nou dat as mens die mikrofoonwins terugdraai dan word mens se stem “dun” en veral by die ouer ooms raak dit ‘n problem. Hulle klink dan sommer baie ouer as wat hulle is, en wie van ons wil nou ouer klink as wat ons is?

Die geheim is dus om die sender “vol” te moduleer maar die krag in die finale te sny. Dit doen mens deur die mikrofoonwins normaal te hou (selfs met prossesering) maar die sender “vals” ALC te voer sodat die kraguitset “terugsak”.

Haal die kabel tussen die liniêre versterker en die sender of sendontvanger af en voer die sender met ‘n gelykspanning in plek van die ALC. Ek het gevind met meeste buissenders kan mens die kraguitset baie laag kry deur so 25 tot 40 V spanning te gee.

Met moderne 100 W transistorsendontvangers het mens baie min spanning nodig. Koppel ‘n 9 V battery (bv. ‘n PM3) deur ‘n 100 kilo-Ohm verstelbare weerstand. Hoe meer negatiewe spanning vanaf die battery op die ALC inset, hoe minder die uitset.

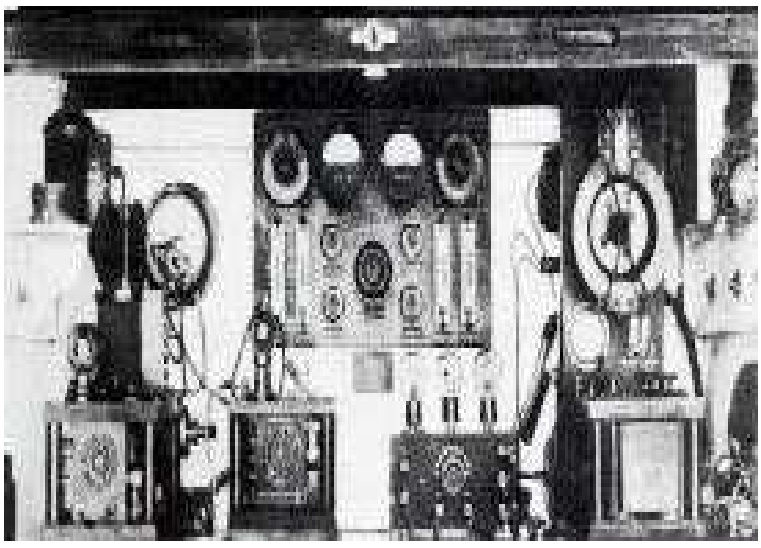
Mens kan meeste van die moderne stelle “terugsny” tot 5 W uitset sonder om modulasie in te boet.

Selfs al gebruik u nie ‘n eksterne versterker (linieêr) nie, kan u bv. eerlik enkelsyband-QRP werk met volle modulasie. Speel ‘n bietjie hiermee en kyk wat u met 1 W kan regkry!

ZU-operateurs het die probleem dat hulle nie graag ‘n laekragsender wil koop nie want hulle beplan om gou op te gradeer, of hulle koop ‘n tweedehandse stel wat meesal 100 W uitset het.

Met net die 9 V batterytjie en ‘n weerstand kan hulle dan die uitset “afdraai” tot 20 W en nie modulasie inboet nie. Hulle is dan wettig en as die ZR-roepsein die dag kom dan prop hulle net die battery uit en siedaar, weer ‘n hele 100 W!

Die battery gee basies ‘n voorspanning en baie min stroom word getrek, dus sal die battery ‘n baie lang lewe hê.



The Digital Modes

Starting your own I-Gate

A service to your ham community

By Eddie Leighton, ZS6BNE

What I've been trying to do with this column in the past few issues of Radio ZS, is to bring to our attention , the need for all hams to work together towards a common goal. Already a lot has been done to provide an APRS infrastructure to busy areas. What about the rest of South Africa? It is not difficult, it just requires the efforts of individual hams and clubs. APRS opens up so many horizons from simple position reports, weather stations and even satellites! Mention is being made of the GO-32 satellite, previously dormant, now APRS ready at 9600 baud! It is heart warming to note, with the latest poll on the SARL website, that there is a large percentage of hams interested in getting involved with APRS. Make your presence known, make APRS a way of life.

I want to show how easy it is to set up your own I-Gate. What is an I-Gate you may ask? An I-Gate is an abbreviation for Internet Gateway. This is exactly what it is, a gateway between normal RF links and the Internet. The Internet provides the connection to all areas, locally, nationally, internationally and to space itself. Once your I-Gate is in place, it is relatively easy to do other things for amateur radio at the same time, like Echolink and eQSO, using the same infrastructure. The Internet is here to stay. It is the right hand to ham radio, it's power to support amateur radio cannot be ignored. A step up from an I-Gate is a Sat-Gate, passing APRS information to a satellite as it passes overhead. Very similar.

What is needed to start your own I-Gate? Being Internet based, a permanent connection to the Internet is a prerequisite. The are many options available. The one I will discuss here is the ADSL line. An ADSL line is a normal telephone subscriber's line which is used for both voice and a permanent connection to the Internet. When ADSL is activated, the telephones connected to the line must be passed through a Telkom supplied filter. The last piece of hardware connected to the telephone line is an ADSL router. A popular one nowadays is the Mega 100 WR (Wireless router) which acts as a DHCP server to provide IP addresses to PC's on the network, a Wireless hub, a Ethernet hub and router to the Telkom network. The APRS data that flows over the network in comparison to the "1 Gig Caps" available is negligible and "Filters" can be implemented to minimise traffic too. An ADSL subscriber needs to be relatively close to the nearest exchange.

What is further needed, is a suitable radio and TNC plus an external antenna, as high as possible for best coverage. The APRS baud rate normally used is 1200 although many modern equipment can run at speeds of 9600 baud. Satellites use this high speed but on the ground 1200 baud is supported. You could go as far as using a Kantronics KAM-XL TNC with all the bells and whistles together with a suitable two meter radio or you could

(Continued on page 22)

(I-Gate from page 21)

go for a compact cost effective solution like the Alinco DR135 with built in TNC. This TNC has nowhere near the capabilities of the KAM-XL but is quite sufficient, sensitive and cost effective way of acting as a gateway from RF to the Internet and visa versa. Communications between the radio and the PC take place via the COM port of the PC. It does not have to be the latest, fastest piece of hardware but a faster more powerful computer will be better when things like Echolink can be included in your solution.

Well known software for use with an I-Gate and personal APRS system, is UI-View, free to radio amateurs worldwide. The program can be downloaded from the Internet. When registering the software a validation code is given to you to be able to sign onto APRS servers on the Internet. When setting up UI-View for the first time, ensure your TNC or TNC/Radio combination is connected to a COM port on the PC via a null modem cable. Go to Setup, Comms setup and select the necessary COM port. The baud rate in most cases is 9600. Note, this is the rate at which the PC communicates with the TNC and has nothing to do with the APRS AX25 baud rate used on the air. The TNC should be reset to default settings. See your TNC's user manual on how to do this. Using well known TNC's or TNC/Radio combinations makes it easy, just select your TNC type and press OK to save. UI-View may attempt to talk to the TNC and send setup parameters to the TNC at this stage.

The next stage is to select Setup, Station setup. Put in your call sign-1 (there is no formal designation here), your present Latitude and longitude, for example, in the format 26.09.05S and 026.09.50E and grid locator information like KG33bu (Mine). Make your unproto address RELAY,TRACE3-3, this can be different under different circumstances. Put in your own beacon comment and select your home station APRS symbol you wish to be displayed worldwide on a map of your position. Press OK to save.

The third stage is selecting the APRS server address you wish to access on the Internet. Select Setup, APRS Server setup. Click on the text box with all the web addresses on the top left hand corner and then press the "Insert" key. Type in third.aprs.net:10159 and press "Enter". Check this address by clicking on the address line. Uncheck any others by doing same. Enter the validation code you got when you registered UI-View on the Internet. Check "Open the gateway" and "Gate local messages" by clicking on the respective check boxes. Press OK to save.

Finally. Select, File, Edit IGATE.INI. This is a user defined area where the sysop determines what traffic will flow from the Internet to RF and visa versa. Note keep in line with the regulations and gate only traffic applicable to amateur radio and what you find valuable to the users of your I-Gate without creating congestion on the RF link. Initially on the Setub tab, check "Gate RF to INET". On the Inet to RF tab , use wildcards , like ZS* for all ZS beacons for example. Use your own initiative to serve your users and gate only what is necessary. On the Inet to RF Limits tab , tuning can be done here to expand or limit the traffic coming from the Internet to the RF networks.

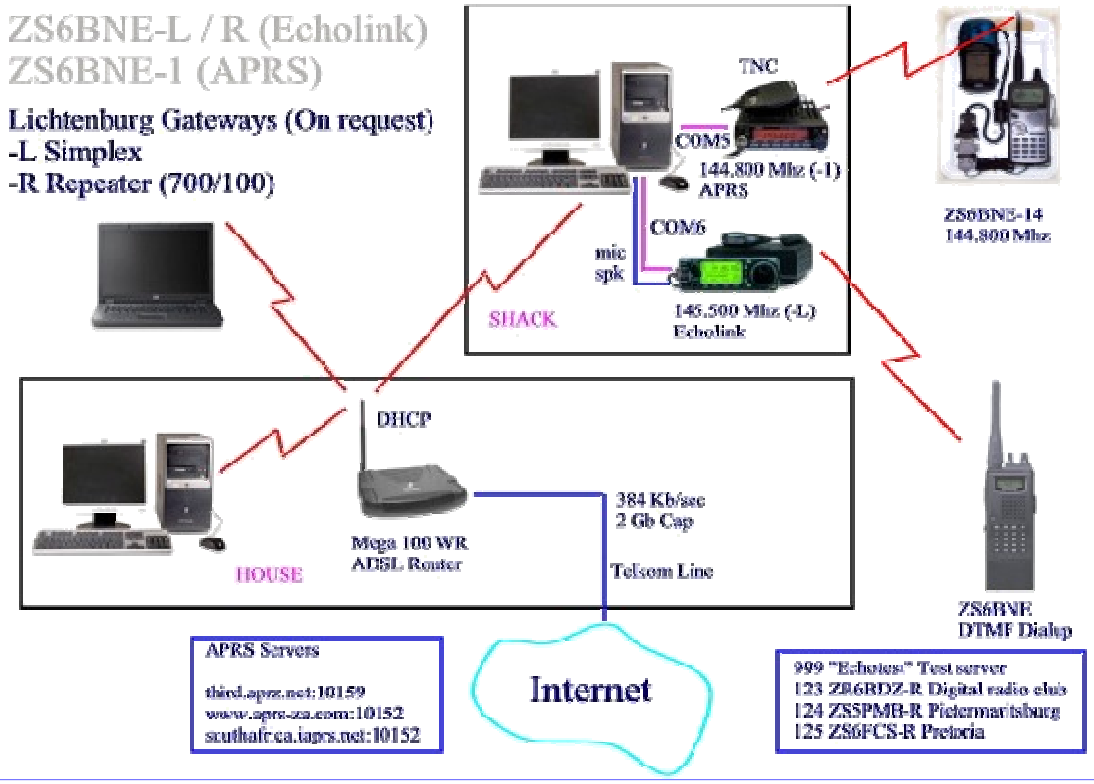
In previous editions of Radio ZS, I mentioned a way of making your own UI-View maps of any particular area using GPS mapping software. Please

(Continued on page 23)

(I-Gate from page 22)

refer to the appropriate Radio ZS. Glenn ZS2GK mentioned to me that APRS units are available that use the cell network as a gateway to the ZS6CEY APRS website. That may be a good option where no infrastructures are available in a particular area. It may be a good idea to make each I-Gate a club project negotiating with other clubs, making them available in a sensible way for the benefit of all radio amateurs. Enjoy! Hope to drive by your I-Gate soon! Best 73's

Please see the diagram below for your reference.



SARL VHF/UHF/Microwaves
DX Record Table - 30 June 2007

compiled by Mike Bosch, ZS2FM

Propagation	Station A	Locator A	Station B	Locator B	Mode	Date	DX km
50 MHz Digital							
Tropo							
	ZS6NK	KG46rc	ZR1ADI	JF95ku	JT44	01 May 2002	1 540
	ZR1AEE	JF96ia	ZS6WB	KG44ee	JT44	06 June 2002	1 298
Meteor Scatter							
	ZS2BWB	KF26td	TO4E	LG07eq	FSK441	06 Dec 2006	1 929
	ZS4TX	KG30bw	9J2JD	KH37xj	FSK441	17 July 2005	1 838
	ZS1NAZ	JF96gc	V51E	JG89bw	FSK441	24 Jan 2004	1 556

(Continued on page 24)

(DX Record Table from page 23)

Ionospheric Scatter						
ZR1AEE	JF96ia	ZS6NK	KG46rc	JT44	16 Apr 2002	1 530
Trans Equatorial Propagation						
ZS6WB	KG44ee	W5DHH		JT44	05 May 2002	7 872
ZS6WB	KG44ee	ZD8DB	II22- -	JT44	11 Apr 2002	5 016
F2						
ZS6WB	KG44ee	MM5DWW		JT44	30 Aug 2002	9 884
ZS6WB	KG44ee	OH7RJ		JT44	24 Aug 2002	9 833
ZS6WB	KG44ee	OH6KTL		JT44	24 Aug 2002	9 812
ZS6WB	KG44ee	GM3WOJ		JT44	24 Aug 2002	9 744
ZS6WB	KG44ee	OZ6ABA		JT44	24 Aug 2002	9 372
EME						
ZS5LEE	KG50jf	K6MYC	DM07bd	JT65a	25 Apr 2005	17 178
ZS6NK	KG46rc	KR7O	DM07ba	JT65b	26 June 2004	16 758
ZS6NK	KG46rc	N6RMJ	DM14cp	JT65b	08 Marc 2004	16 646
ZS6NK	KG46rc	K7AD	DN06ih	JT44	21 Dec 2002	16 287
ZS6WB	KG44ee	W7GJ		JT44	21 Apr 2002	15 982

50 MHz Analogue

Tropo						
ZS6AGF	JF96fg	ZS6Y	KG33vw	SSB	24 Oct 1999	1 238
ZS2FM	KF26ta	ZS6PJS	KG46rc	SSB	27 Mar 1995	1 178
ZS2FM	KF26ta	ZS6OB/6		SSB	28 Apr 1985	1 033
ZS2DD	KF26sa	ZS2FM/1		CW	16 Oct 1966	314
ZS2Y	KF26sb	ZS2CI	KF37xa	CW	?? Jan 1952	257
Sporadic-E						
ZS6PJS	KG46rc	9U5D	KI46qo	CW	05 Mar 2000	2 269
ZS5DJ	KF59ia	ZR1BCE/8		SSB	14 Nov 1995	1 883
ZS2CY	KF26ta	ZS3G	JH80ur	AM	17 Nov 1957	1 812
ZS1AX	ZS6HS			CW	15 Nov 1947	1 315
ZS1AX	ZS6BT			CW	15 Nov 1947	1 265
Meteor Scatter						
ZR2DX	KF26ta	TO4E	LG07eq	SSB	06 Dec 2003	1 9
ZS5DJ	KF59ia	7Q7JL		SSB	28 Mar 1993	1 737
ZS6AYE		ZS9A		SSB	20 Sep 1992	1 454
ZS3Z		ZS6WB	KG44ee	SSB	28 Dec 1986	1 398
ZS1EK		ZS6OB	KG44de	SSB	11 May 1986	1 325
ZS2FM	KF26ta	ZS6OB	KG44de	SSB	21 Oct 1984	1 045
Ionospheric Scatter						
ZS2FM	KF26ta	ZSBZT		CW	29 Apr 1984	917
Trans Equatorial Propagation						
ZS4NS		OH1FA		SSB	26 Feb 1989	9 822
ZS6XJ		PA0XMA		SSB	12 Apr 1982	8 975
ZS6AXO		I5TDJ		SSB	?? Apr 1982	
ZS6PW		SV1DH		CW	?? Apr 1979	7 098
F2						
ZS6PJS	KG46rc	K6MIO /KH6	BK29ks	SSB	10 Apr 2000	19 357

(Continued on page 25)

(DX Record Table from page 24)

ZS6LN	KG46rc	KH6IAA	BK29ia	SSB	15 Apr 1979	19 305
ZS1B		JA1AXE		CW	05 May 1958	14 730
ZS1P		PA0UN		CW	1 Oct 1947	10 400
ZS1T		PA0UN		CW	11 Oct 1947	10 400
ZS6HS		MMD5KW		CW	05 Oct 1947	6 204

70 MHz Analogue

Tropo						
ZS1PC		ZS2OC	KF26ra	FM	08 Jan 2007	317
ZS6MRK	KG34xh	ZS6WAB	KG46rc	FM	18 Mar 2006	249
ZS1SKR	KF16nb	ZS2OC	KF26ra	FM	21 Jan 2006	217
ZS6NK	KG46rc	ZS6WAB	KG47tg	FM	18 Mar 2006	130
ZS6NK	KG46rc	ZS6TWB	KG47tw	FM	18 Sep 2004	110

144 MHz Digital

Tropo						
ZS5Y	KF39jr	ZS6WB	KG44ee	JT44	06 Mar 2003	548
ZS5LEE	KG50jf	ZS6WB	KG44ee	JT44	30 Aug 2002	498
ZS4PV		ZS6WB	KG44ee	JT44	03 Jun 2002	426
ZS4NK	KG46rc	ZS6WB	KG44ee	JT44	03 Jun 2002	238
Meteor Scatter						
ZS6OB	KG44de	RW1ZC	JH52rp	FSK441	11 Dec 2005	1 975
ZS6WB	KG44ee	RW1ZC	JH52rp	FSK441	11 Dec 2005	1 952
ZS5LEE	KG50jf	V52E	JG89bw	FSK441	27 Jul 2003	1 829
EME						
ZS5LEE	KG50jf	K7XQ	CM97qi	JT65b	20 Jun 2004	17 253
ZS6WAB	KG46rc	K7XQ	CM97qi	JT65b	17 Apr 2005	16 809
ZS5LEE	KG50jf	K7MAC	DN30tu	JT65b	20 Jun 2004	16 750
ZS6WB	KG44ee	AA7A		JT44	18 Feb 2003	16 117
ZS6WB	KG44ee	W7FG		JT44	17 Nov 2002	14 656

144 MHz Analogue

Tropo						
ZS1BW		EA1CRO/mm		FM	02 Jan 1985	1 080
ZS6LW		ZE1DX		SSB	?? ?? 1978	980
ZS1DQ		ZS3B JG73- -		FM	?? ?? 1977	887
ZS2AB	KF26rb	ZS5WU		SSB	19 Jan 1976	576
ZS2DD	KF26sa	ZS2FM/1		CW	13 Mar 1966	531
ZS4H		ZS6GX		CW	?? Apr 1952	434
Meteor Scatter						
ZR1EV	JF96ic	ZS6PJS	KG46rc	SSB	17 Nov 1998	1 524
ZS2FM	KF26ta	ZS6PJS	KG46rc	SSB	17 Nov 1998	1 178
TEP						
ZS3B	JG73- -	I4EAT	JN54vg	CW	31 Mar 1979	7 843
ZS6LW		SV1AB	KM18vc	CW	28 Mar 1979	7 155
ZS6DN		SV1DH		CW	13 Feb 1979	7 100
EME						
ZS6ALE	KG46rc	K6MYC	DM07bd	CW	18 Feb 1984	19 287

(Continued on page 26)

(DX Record Table from page 25)

ZS6ASO		K1WHS		CW	28 Nov 1979	?

432 MHz Digital

Tropo						
ZS4PV		ZS6WB	KG44ee	JT44	03 Jun 2003	426
ZS6NK	KG46rc	ZS6WB	KG44ee	JT44	17 Nov 2002	238
EME						
ZS6WAB	KG46rc	W7AMI	DN13vo	JT65b	31 Dec 2006	16 204
ZS5LEE	KG50jf	N9AB	EN52xg	JT65b	30 Dec 2004	14 459
ZS6WAB	KG46rc	N9AB	EN52xg	JT65b	06 Jan 2006	13 988
ZS6NK	KG46rc	K2UYH	FN20mm	JT44	28 Sep 2004	12 859
ZS6NK	KG43rc	HB9Q	JN47cg	JT44	21 Dec 2002	8 165

432 MHz Analogue

Tropo						
ZS1HS		ZS3B	JG73- -	SSB	05 Nov 1977	845
ZS2AB	KF26rb	ZS2BD	KF37wa	SSB	09 Oct 1977	249
ZS6AM		ZS6BOL		SSB	18 Jun 1977	240
ZS1B		ZS1SW		AM	?? Jan 1956	130
ZS1B		ZS1SW		AM	?? Jan 1956	42
EME						
ZS6AXT	KG33vv	NU7Z		CW	08 Oct 1990	16 482
ZS6JT		ZL3AAD	RE66gr	CW	01 Nov 1986	11 483

1,3 GHz Digital

Tropo						
ZS5LEE	KG50jf	ZS5Y	KF39jr	JT65b	18 Sep 2005	64
EME						
ZS5LEE	KG50jf	K2UYH	FN20mm	JT65c	07 May 2005	13 349
ZS6NK	KG46rc	DJ9YW	JO42qa	JT65b	18 Feb 2005	9 298

1,3 GHz Analogue

Tropo						
ZS6ASO/6		ZS6BNT/6		CW	29 Jul 1979	422
ZS6ASO/6		ZS6BNT/6		FM	28 Jul 1979	350
ZS6ANL/6		ZS6BNT/6		SSB	19 May 1979	157
ZS6ASO/6		ZS6BNT/6		FM	11 Mar 1979	90
ZS6ML		ZS6BNT/6		FM	17 Jul 1977	78
EME						
ZS6AXT	KG33vv	WB0QMN		CW	12 Mar 1989	15 407

2,3 GHz Analogue

Tropo						
ZS6ASO/6		ZS6BNT/6		FM	03 Sep 1979	198
ZS6ANL/6		ZS6BNT/6		FM	19 May 1979	157
ZS6ANL		ZS6BNT/6		FM	26 Dec 1978	80
EME						
ZS6AXT	KG33vv	NU7Z		CW	13 Jun 1999	16 482

(Continued on page 27)

(DX Record Table from page 26)

ZS6AXT	KG33vv	W7GBI	CW	14 Mar 1998	16 080
ZS6AXT	KG33vv	VE4MA	CW	17 Jan 1997	14 658

5,7 GHz Analogue

Tropo

ZS6AXT	KG33vv	ZS6JON/6	SSB	27 Feb 2003	151
ZS6AXT	KG33vv	ZS6JON/6	CW	23 Jan 2003	92

Line of Sight

ZS6AXT	KG33vv	ZS6JON/6	SSB	07 Dec 2002	50
ZS6BQC/6		ZS6BNT/6	FM	10 Oct 1978	26
ZS6ASO/6		ZS6BNT/6	FM	04 Oct 1978	14

EME

ZS6AXT	KG33vv	W7CNK	CW	22 Nov 1999	14 745

10 GHz Analogue

Tropo

ZS6AXT	KG33vv	ZS6JON/6	CW	01 Dec 2003	299
ZS6KX/6		ZS6BTY/6	FM	19 Sep 1993	268
ZS6AVC/6		ZS6AOU/6	FM	13 Aug 1988	211
ZS6BMS/6		ZS6KO/6	FM	25 Jun 1988	204
ZS6ASO/6		ZS6BNT/6	FM	03 Sep 1979	198

24 GHz Analogue

Line of Sight

ZS6AXT	KG33vv	ZS6JON/6	SSB	28 Jul 2005	56,2
ZS6AXT	KG33vv	ZS6JON/6	SSB	26 May 2005	50,4
ZS6KX/6		ZS6AIE/ ZR6SIX	FM	20 Nov 1994	45
ZS6KX/6		ZS6BTY/6	FM	14 Apr 1991	44
ZS6KX/6		ZS6BTY/6	FM	24 Mar 1991	20

47 GHz Analogue

Line of Sight

ZS6AOU/6		ZS6BMS/6	FM	08 Jul 1990	21,2
ZS6AOU/6		ZS6BMS/6	FM	01 Jul 1990	4,5

EME NOTES:

First EME from Africa and first on 432 MHz: Peter Carey, ZE5JJ (now ZS5JT).
First Africa EME on 144 MHz: Bill Hosie, ZE1DX worked WA6LET on 22 Feb 1975. (Bill Hosie was ex-ZE1DX in Salisbury, ex-VK6ACY in Perth and now ZS6CCY)
First ZS EME on 144 MHz: Gary Howarth, ZS6ASO worked W1KWS on 28 Nov 1979.
First ZS EME on 432 MHz: Giel van Niekerk, ZS6NG and also first WAC 432 MHz.
First ZS EME on 1,3 GHz: Ivo Chladek, ZS6AXT worked WB0QMN on 12 Mar 1989.
First ZS EME on 2,3 GHz: Ivo Chladek, ZS6AXT worked VE4MA on 17 Jan 1997.
First ZS EME on 5,7 GHz: Ivo Chladek, ZS6AXT worked W7CNK on 22 Nov 1999.

(Continued on page 28)

(Continued from page 27)

NEWS FLASH!

Peter, ZS2ABF reported from East London that on 19 August 2007 he operated from Hood Point with Chris, ZS2CH at Gonubie Point, and successfully transmitted Fast Scan TV on 2,4 GHz over a distance of 16,8 km.

Radio Scouting

by Dave Gemmell, ZS6AAW and the Broomstick Warriors

Silent Key

I was very sad to hear of the passing of Yvonne Vercueil, ZS6WV, on 1 September 2007. On behalf of the readers of this column, I extend our sincerest condolences to her family and friends.

I remember Yvonne for her stalwart support of JOTA, Scouts and Guides. The story I heard that once she even climbed onto the roof of a Scout hall to set up and antenna. Yvonne, we are going to miss you.

Beacons and BACAR. As mentioned in the Museum Column these beacons are going to be interesting. The power is low but will the type of modulation used enable these beacons to be received by guides, scouts and students using simple equipment? This would make JOTA quite an event especially if BACAR could be launched as well. I see no reason why not, except, of course, for some hard cash! Yet it would be nice to have as many listeners as possible.

BACAR. (The Recovery!!!!???). Yes the recovery! This is probably one of the biggest headaches for the BACAR Boys! First, spending all that time, effort and money building and testing then still having to travel many kilometers to recover the valuable equipment package.. Perhaps a design competition could be organized to find a design of a "housing" for the BACAR equipment in the form of, say, a styrofoam glider large enough to support the weight of the pay load. This "housing" would form protection during the ascent and then have wings deployed when the balloon is released from the payload at the designated height.

Using my very limited knowledge of aerodynamics, I should think the rudder would be the most important part of this aircraft's guidance system! Perhaps one of our bright young hams could come up with a design where only a rudder controlled by a simple receiver would be necessary. Hopefully the returning pay-load could be "controlled" by the ground crew to within a reasonable distance to shorten recovery time.

JOTA Reports! This column was written on 14 October 2007 with JOTA just a week away! Hence no actual report but many thanks to Evan Davies ZS6EVD, Eddie

(Continued on page 29)

(DX Record Table from page 28)

Leighton ZS6BNE and LARC who are running the ZS50MAF station at Mafikeng. I hope you chaps had a good time!

Even if you only read this column during the first week in December there is still time to send me a short report of the happenings at your JOTA-JOTI station. The deadline was actually 30 November but a few days won't delay my report.

This National report for SA must reach the World JOTA HQ before 31 December 2007 but I still have to put it together!

73 Dave ZS6AAW.

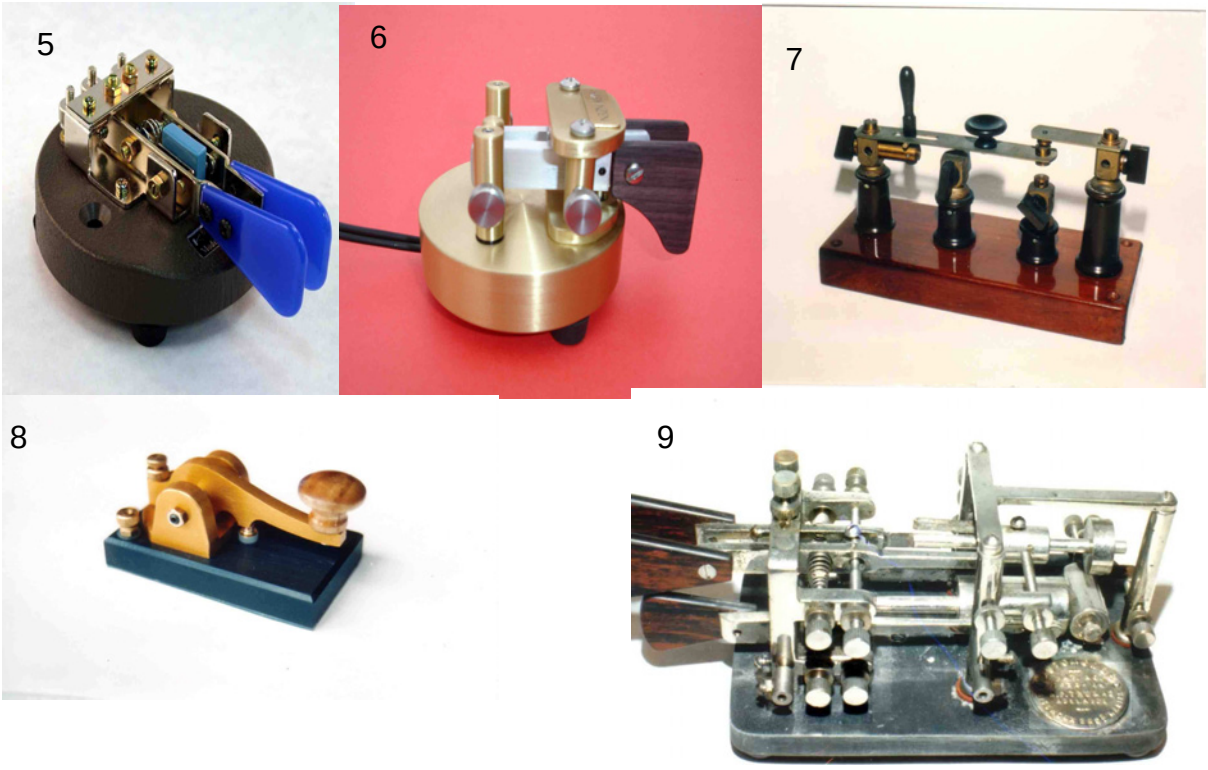


Photo 5 This round-based paddle is made by Japan's long-time producer of high quality keys, Katsumi. It has dual levers, needle bearings that wear in rather than out at pivot points and great looking blue finger pieces. It is a joy to use, economically priced and it too is available from www.MorseX.com.

Photo 6 Small, glamorous and smooth and silk accurately describes this round and solid brass paddle presently available from Tony Baleno at www.n3znkeys.com. It is fully magnetic tensioned (no springs), has Indian Rosewood finger pieces, and its fine polished and lacquered base has a lustre like pure honey. Paddles like this make CW operations a sheer delight!

Photo 7 Yes friends, this is a honest-to-goodness pump key. It is the Frankfurt Cable key made by the Hartmann & Braun Company of Germany during the 1930s, and it is a prized collectible today.

Photo 8 One of the most historically significant style hand keys of yesteryear was the famous Chubbock Camelback. This miniature replica Chubbock measures 2.5 x 1.5 inches, works very good and is available direct from DK1WE in Germany. Nice!

Photo 9 Roaring back from yesteryear is this three-lever "Automorse" semi automatic and fully automatic bug made in Adelaide, Australia during the 1920s. The upper two finger pieces and arms function like a dual lever bug, generating a series of dots with the left pendulum and making dashes manually with the right pendulum. Move a finger down to operate the bottom lever while continuing to use the upper left lever and the key produces both dots and dashes automatically. How? Notice the very large weight positioned at a right angle in the key's lower area: it slows the bottom pendulum to 1/3 the top pendulum's speed to produce a series of dashes. Wow!

LETTER TO THE EDITOR.

The Editor
RADIO ZS

THAT MOTION ABOUT OLD-TIMERS WITH 50 / 60 YEARS UNBROKEN SERVICE

I submitted a motion to the 2007 SARL AGM regards old-timers with more than 60 years of unbroken membership of the SARL.

A councillor had informed me that Council was looking into including those from 50 years; hence, my motion was to include those lower down the list, as per the SARL website.

I listened, like many others to the very good relay of the deliberations at the AGM, over the 20-metre band.

It was with dismay that we had to hear members (?) present in the auditorium, speak against this motion, which was a SARL matter and it certainly did not send out good vibes to non-members who also listened in on the various bands. The motion drew a fair amount of positive discussion for the motion and it was gratifying to know that we have members who still remember what the old-timers mean to our hobby and how they have supported the SARL through thick and thin and continued to pay their subs for very many years. I made a request to consider some form of relief to those few with 50 / 60 and over years, of which there were only six with over 60 years. One speaker said it would be impossible to handle this work. ? Each year from now on, only a few would reach 60 years of unbroken membership. It is sad to say that in the time that this motion was being processed some went Silent Key.

What was heartening to hear was the kind comments by a few young members, about our old-timers, with several being in favour of the motion. To those more senior members who spoke so negatively against the motion may I say how disappointed I was to hear such a lack of HAM SPIRIT?

Here was a chance for the President and members of the SARL to say thank you to these old-timers who are true radio amateurs and instead they were just taken for granted. It would have been fitting to have proposed a vote of thanks to them or suggested a token, even in the form of a special certificate they could proudly display on their shack wall, if nothing else.

For someone to say that the honorary life membership would be affected by passing this motion was a gross insult. How can any member speak on behalf of the life member? If the SARL had let us know in advance that a substantial amount of money was available to give back to members, then here was the excellent opportunity to have given the six old-timers at the top of the list, a golden handshake.

The fact that we are so divided in our support and loyalty towards each other in this hobby (now called a service) is something we should think about very seriously. As one speaker at the AGM said, “If it were not for the old-timers, we might not be here today”

I would like to single out a special old-timer, Bert Howes, ZS6HS, and congratulate him on a record 75 years of unbroken membership, having joined the SARL on 12 July 1932, when Bert was a ZS1. My friend Artie Perholdt ZS1HL and I will be the first ZS1s to claim 60 years of un-broken membership, having joined the Cape Town Branch of the SARL in July 1947.

Dennis Wells ZS1AU
Life Member SARL and CTARC

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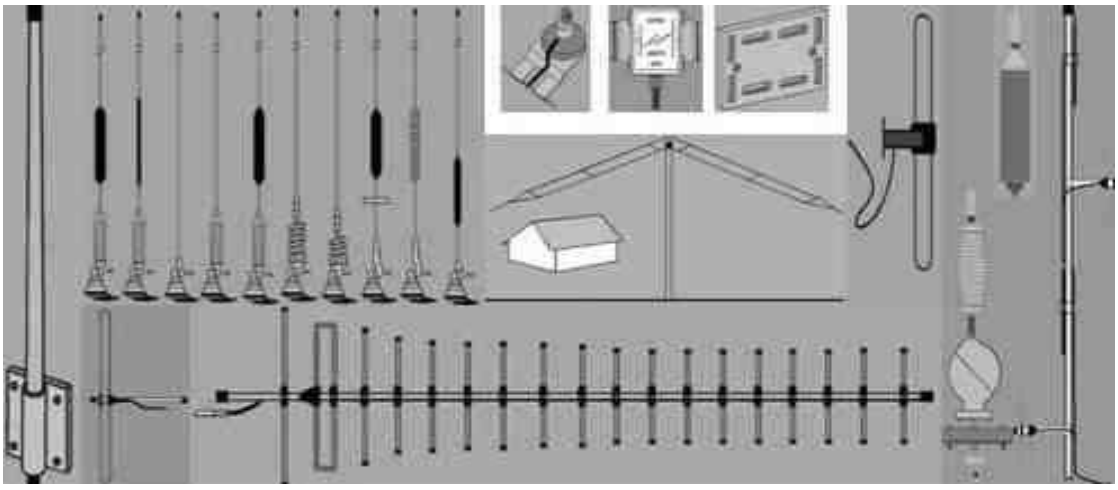

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