WATTS

10 - 2009

Year 79 +10m

Monthly newsletter of the Pretoria Amateur Radio Club
Maandelikse nuusbrief van die Pretoria Amateur Radio Klub.

PARC, PO Box 73696 Lynnwood Ridge 0040, RSA

web http://www.parc.org.za mail: zs6pta@zs6pta.org.za

Bulletins: 145,725 MHz 08:45Sundays / Sondae
Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz
Activated frequencies are announced prior to bulletins
Swapshop: 2m and 7.066 MHz Live on-air after bulletins
Bulletin repeats Mondays | herhalings : Maandae 2m 19:45

ZR6FD logo

Drukwerk printing ZS6JPL

Papier / Paper ZS6JPL

Assembling a Steppir.

Hein ZS6Q documented the process. **More pictures on pages 4 and 5**

In this issue

In hierdie uitgawe

Next Meeting
14-10-2009

Time: 13:30 for 14:00
Clubhouse
Building 4,
University of Pretoria
SE c/o Lynnwood and
University roads

PARC Management team / Bestuurspan Aug. 2009 - Aug. 2010

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SARL liason, fleamarket					
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Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 9 Sept 2009

Welcome: The acting chairman welcomed all present.
Present: See register, 18 members.
Apologies: 6 as per register.
Minutes: The minutes of the previous meeting were in Watts, and were accepted. Proposed by Alf ZS6ABA and seconded by Vítor ZS6VG
Matters Arising: None.
Finances: The balance in the current account is now R5218.78 and R2550 in cash.
Awards: The club has received a Worked All ZS award as well as three place awards earned over the previous two years in the SARL HF contests.
Membership: There are 101 paid up members of the total of 139.

Activities

Flea Market: The next PARC flea market will be held on 31 October at the PMC premises starting at 08:00.

Social: There will be a bring and braai after the October meeting.

Technical: The repeater is working. The Radcliffe antenna was moved to reduce interference from the navigation lights. The feeder also has to be reinstalled. The Centurion 775 repeater is currently on Keevykop and security is being addressed at Donkerhoek after the recent break-in.

Fox hunts: If there is sufficient interest, the next fox hunt will be on 27 September at 14:00.

General: There was a query on club shirts. It was noted that all orders will be cash with order.

Next meeting: The next meeting will be on Saturday 10 October 2009 at about 14:00.

The meeting closed at 20:55.

Editorial

I purposely do not publish a birthday member's age on page 3 as it will convey some worrisome statistics. This coming month for instance we have 12 members aged over 60 of which 5 are over 70 years of age and only 6 members aged 35-50.
If we let recruitment slip we can expect membership to decrease sharply over the next 10 years. I suggest that management take a serious look at the total club statistic and devise a long term strategy to attract younger blood. We can still enter our 80th year of existence with over a hundred members, but can we maintain this to ninety- and even a hundred years of existence?

Redaksioneel

Ek publiseer doelbewus nie die ouderdomme van verjaarsdag-lede op bladsy 3 omdat dit bekommerende statistiek oordra. Die komende maand byvoorbeeld het ons 12 lede wat ouer as 60 is en waarvan 5 verby 70 jaar oud is en slegs 6 lede is 35-50 jaar oud. As ons werwing verontagsaam gaan ons lidmaatskap sterk sien daal oor die volgende 10 jaar. Ek stel voor dat die bestuur 'n ernstige beskouing doen van die algehele klub statistiek en 'n lang termyn strategie opstel om jonger bloed te trek. Ons kan nog ons 80e bestaansjaar binnegaan met meer as 'n honderd lede, maar kan ons dit volhou tot die negentigste en selfs die honderdste bestaansjaar?

Birthdays Oct. Verjaarsdae

01 Evan ZS6ELI
02 Hans-Peter ZS6AJS
02 Andre ZS6BRC
03 Poppie ZS6BCP lv van Hansie ZS6AIK
06 Danny ZS6AW
09 Ed ZS6UT
10 Harry ZS6AMP
10 Roy ZS6MI
10 Hein ZS6Q
13 Bill ZS6KO
14 Iza ZR6IZA
14 Gary ZR6TB, son of Selma and Joe ZS6TB
15 Caleb, son of Phil and Craig ZS6RH
16 Hennie, seun van Poppie ZS6BCP en Hansie ZS6AIK
20 Corlene, dogter van Poppie ZS6BCP en Hansie ZS6AIK
20 Martinho ZS6BQP
21 Louise, lv van Almero ZS6LDP

Okt. Anniversaries Herdenkings

02 Erna en Whitey ZS6JJJ (38)
06 Poppie ZS6BCP en Hansie ZS6AIK (47)
13 Susan en Freddie ZS6JC (?)
17 Elmarie ZR6AXF en Johan ZS6JPL (17)

22 Marieza, dogter van Marelise en Pierre ZS6PJH
26 Callie ZS6BRY, seun van Susan en Freddie ZS6JC
26 Merilyn, sw of Deryck ZS6KQ
26 Ken ZS6NB
27 Craig ZS6RH
28 Tracy, daughter of Joey and Graham ZS6GJR
29 Pierre, seun van Marelise en Pierre ZS6PJH
30 Viv ZS6BZS
31 Jessica, daughter of Anne and Jac ZS6QA

Joys and Sorrows | Lief en Leed

No news is good news….

Diary | Dagboek (UTC times)

Oct	03	German Telegraphy Contest 07:00-09:59
	04-05	Oceana Phone DX Contest 08:00-08:00
	05	RSGB 21/28 MHz Contest 07:00-09:00
	18-19	UBA ON SSB Contest 06:00-10:00
	18-19	ARRL EME Contest 00:00-23:59
	18-19	Worked All Germany Contest 15:00-14:59

SumbandilaSat successfully launched on 17 Sept.

The amateur part of the payload consists of a ZS0SUM voice beacon, a parrot repeater and a VHF/UHF FM repeater.

Total payload qualification by Stellenbosch University will take up to 3 months after which command will be shifted to the CSIR at Hartbeeshoek.

After commissioning, the repeater will be activated with an uplink at 145.880 MHz and a downlink at 435.350 MHz; and the voice beacon at 435.300 MHz. The transponder mode will be controlled by a CTCSS tone on the uplink frequency. The CTCSS tone frequencies have yet to be announced.

Snippets | Brokkies

The PARC **VHF/UHF Contest** Team set up station and enthusiastically went into action on Saturday 19 September. Despite the weather cooling down they braved the subsequent evening but were unexpectedly exposed to a dangerous situation due to a veld fire threatening to engulf them and had to pack up in a hurry and leave at midnight..

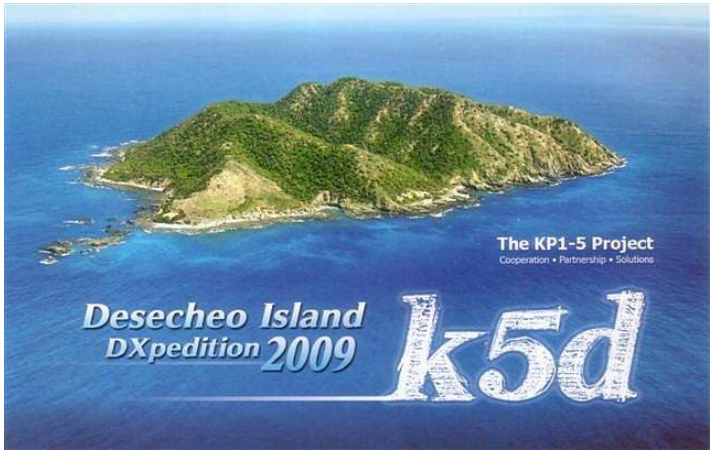
Pierre ZS6PJH rapporteer soos volg:
Pieter Human ZR6AHT, Hans Gurtel ZR6HVG en ekself het Vrydagmiddag ons staanplek op die Magalliesberg ingeneem en tent opgeslaan. Om 06:00 Saterdagoggend het ons begin antennas opsit en teen 11:45 was ons gereed om op die lug te kom. Die enigste ander veldstasies wat ons kon hoor was die van MRK en die van Hoerskool John Vorster. Daar was nie te veel aktiwiteit die Saterdag middag en aand nie. Ons is ongelukkig alweer deur 'n veldbrand gedwing om inderhaas op te pak. Saterdagaand omstreeks 22:00 het ons begin oppak en op middernag het ons die perseel verlaat.
Dankie aan jouself en al die ander wat ons gekontak het om punte te gee.
Vriendelike groete, Pierre Holtzhausen

Desecheo Island

Since 1976 Desecheo has been administered by the US Fish and Wildlife Service and today is part of the Caribbean Islands National Wildlife Refuge Complex. This 2009 DXpedition is only the second after16 years when the first DXpedition was approved by the USFWS in 1993.

This year during February a team of 22 operators logged 115.787 QSO's after 13 days.

Confirmed QSO's were also posted on LOTW and the card shown here was received by ZS6KR for 40m and 80m CW contacts. Other club members to have confirmed QSO's were ZS6P and ZS6UT.



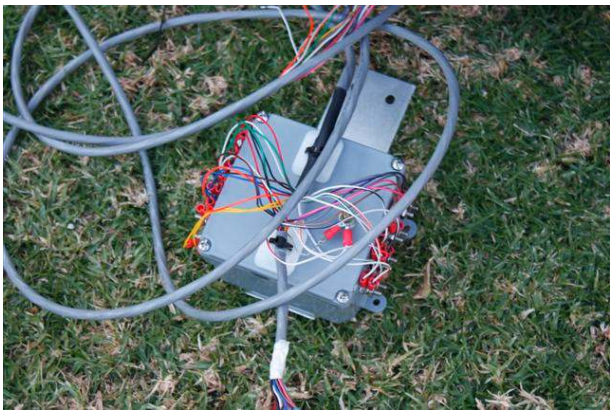
ALLAN ZS6AVC - a profile of an active club member most of us don't know – notes from Frances ZS6AUT

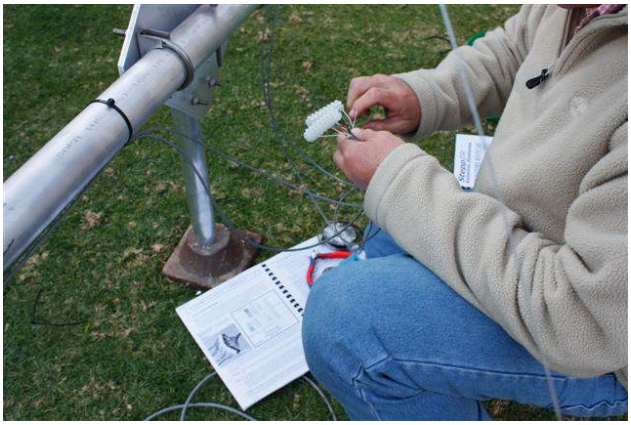
Recently I went to a PARC meeting with my son Allan. Someone came over to him and asked if he was there to join the Club. He replied that he was there to get someone to sign some papers so that he could become an examiner, which quite surprised the person. This prompted me to write this review on him as Hans is always asking for articles for Watts, and as some of the members like Bill ZS6KO have known Allan since birth I thought I would fill you in on his progress over the years.

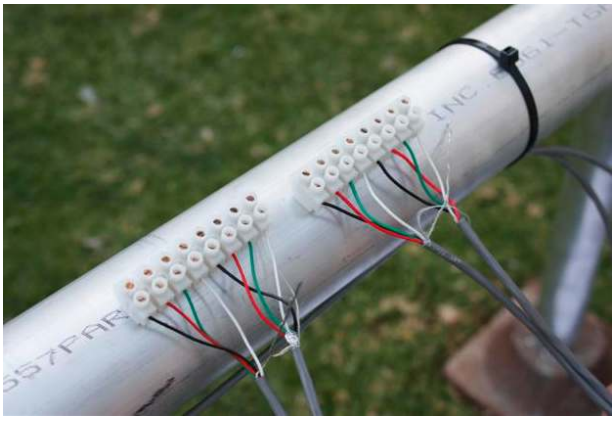
My husband Chris de Souza ZS6AVC was known to quite a few of you members. He had been a radio amateur since the age of 18, and when I met him in 1962 he had recently helped with radio communications to assist with moving rhinos from one Park to another.
Shortly after that, but before we were married, DF hunting became the in thing and I remember Tubby Gilson ZS6AJO and us joined in with the East Rand Branch to have most enjoyable afternoons hunting followed by evening braais there, to learn the ropes. Pretoria Branch then decided to try it themselves and our DF hunting was followed with braais at Fountains, and then later at various members' homes.
During all this time Chris helped with communications at Kyalami races as well as on various rallies Total, BNU, Castrol, etc. The children Allan and Anne would accompany us when circumstances allowed, and as they got older could run errands, etc. This was not good enough for them and they wanted to be allowed to talk on the radio too!!
In the meantime Allan got a listener's licence and joined the SARL and Pretoria Branch in 1985 - so he has been a member of PARC for 24 years. When he was in Standard 8 at Pretoria Boys' High School and nearly16, he wrote the Radio League exams. He passed them in 1986 writing the last of the long question papers and was awarded the call sign ZR6AHL.
Allan always seemed to be involved in the last of anything!! He obtained his Springbok Scout Badge and The Chief Scout Award in 1986/1987, both on the old system.
When Anne decided to write the Radio Exams in 1989 I said I would keep her company and write them too. She was in Matric when she was given the call sign ZR6AUL and I was given ZR6AUT, then when we went on rallies I would team up with Allan and she would help her father. They both enjoyed those times bonding with him.
At school Allan was a member of the St John's First Aid Brigade which triggered his interest in becoming a paramedic. Then straight after school he joined the South African Medical Corps doing the last of the two year's compulsory army duty. After three month's basic training he requested the communications section thinking his radio licence would stand him in good stead, but found himself using a teleprinter instead!!
He then went to Johannesburg to study for three years to obtain a Diploma to become a paramedic. He had six months attending lectures and then six months practical every year. After he was married he also took a Higher Diploma course in Adult Education to enable him to lecture, in case he could not do practical work anymore. Then later he attended evening classes and studied further to convert his Diploma to a Degree in Emergency Medical Care. He started work at Sandton Emergency Services and then moved to Netcare 911. He is now a partner in the firm Outdoor Medical based at Monte Casino.
He lives in Randburg with his wife Leanne who is a schoolteacher, his son Rhys aged 5 and daughter Rhylee who is five months old. He also decided to start his own Medical Assistance company called Rallymed for events such as launches, rallies, etc. So although his name is not mentioned in Watts in connection with the rallies, he is there with his medical team and the radio amateurs acknowledge his assistance.
With all this experience he was able to change to a ZS call sign. Then when he discovered his father's call sign had not been given to anyone else since his death in 1995, Allan requested that one, so today he is the proud owner of ZS6AVC.
To help his cause he has been lecturing to his staff and encouraging them to become radio amateurs. This makes life easier for them on their events - being able to hear what is happening and to lend assistance when necessary. This led to his being at the meeting because he wanted to give back to his hobby, and apply to become an examiner too.
I hope the longer-serving members of PARC who know him will enjoy reading this.
Regards
Frances ZR6AUT

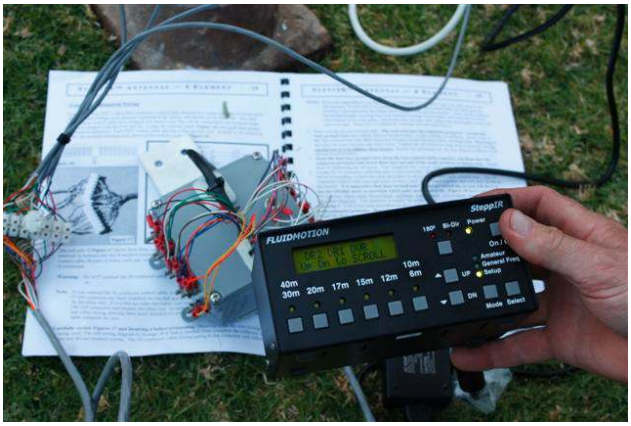
More Steppir pictures: **boom assy** **elements**

Telescoping element drive motor (one per element)









The pictures show some of the process involved to assemble and test electrical connections.

This particular one has now been up and running at least a month.

There are currently only two club members owning Steppirs. The first member to own one was Nico ZS6AQ.

For the curious, the Steppir site below gives more detail and the many configurations available.
They also offer a tunable vertical antenna.

http://www.steppir.com/files/Yagi%20brochure.pdf

QRV Tech cc offers the following services:

- General equipment repairs and calibration
- Small-scale design and manufacturing
- Technical writing
- 3rd Party scrutiny of projects and documents
- Expert TV repairs and second-hand TV sales
- MFJ 259/69 Analyzer repairs and calibration

and products:

- Morse Reader PCB, PIC and LCD kit
- Legal limit 40m dipole traps
- Radio power supply OV protection kits
- Nissei SWR/Power meters HF and VHF/UHF
- Connectors RF and DC
- Plug-in triple sequential industrial timer

Contact Hans at 012-333-2612 or 072-204-3991

Corner reflector antenna design

(by VE3RGW found on QSL.net)

Do you need a high gain antenna? Have you suffered on picking up interference from unwanted direction? You need a directional antenna but a 12 element Yagi will be too attractive! Well, following might be the answer - a corner antenna. It can provide a forward gain of about 12dbi with a front to back ratio of well over 20dbi.

This design is a periodic plane spaced behind a radiating dipole. The critical factors are the corner angle and the spacing between dipole/vertex (fold point of reflector). The curves in fig.A show that as angle is reduced, the gain becomes progressively greater.

At the same time the feed impedance of the antenna falls towards a lower value and starts creating difficulty in matching. In practice this angle is usually at 90 degree or 60 degree while 90 degree is easier to be matched although gain is lower.

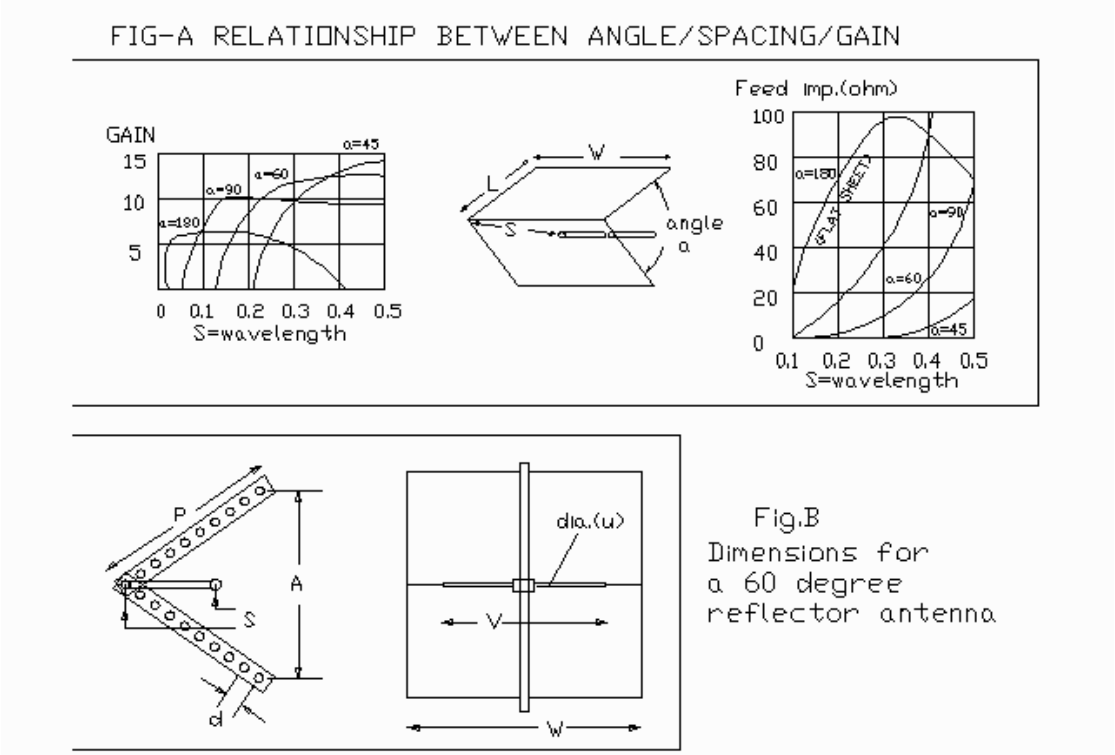


Fig.B
Dimensions for a 60 degree reflector antenna

Following are some key points when designing such antenna :

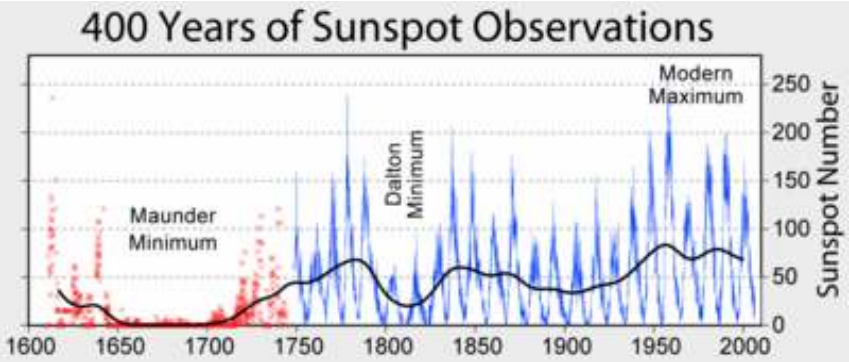
- Length (L) of the sides of reflector should exceed 2x wave-length to secure the characteristics. Reflector width W should be greater then 1x wave-length for a half-wave radiator.
- The reflector can be made of wire netting, sheet metal or even fabricated metal spines arranged in a V-formation. Such spines must be parallel to the radiator with a spine spacing of less then 0.1 wave-length of the operating frequency.
- Spacing between radiator and vertex should be adjustable. This might be the final key to tune-up such an antenna after radiator length is settled for a specific operating frequency.

Impedance of these antennas will change upon operating frequency. Typical value will be around 50 ohm to 75 ohm. A slightly higher S.W.R (1.7:1) has to be expected on lower end of the band. Fig.A also shows relationship between resultant impedance and a change in wavelength (frequency). Following is a table that shows the general dimension of such antenna at UHF and VHF band (Fig.B). All values below are in inches (except Band in MHz). Final dimensions might vary due to difference in materials employed. Trial by error is the key for success.

Band	p	s	d	v	w	A	u
144	100	40.0	6	38	50	100	0.375
440	34	13.0	1.4	13	20	34	0.25
435	35	13.5	1.5	13	20	35	0.25

The Maunder Minimum

From Wikipedia, the free encyclopedia



The **Maunder Minimum** is the name used for the period roughly spanning 1645 to 1715 by John A. Eddy in a landmark 1976 paper published in Science titled **"The Maunder Minimum"**,[1] when sunspots became exceedingly rare, as noted by solar observers of the time.

Astronomers before Eddy had also named the period after the solar astronomer Edward W. Maunder (1851–1928) who studied how sunspot latitudes changed with time.[2] The periods he examined included the second half of the 17th century.
Edward Maunder published two papers in 1890 and 1894, and he cited earlier papers written by Gustav Spörer. The Maunder Minimum's duration was derived from Spörer's work. Like the Dalton Minimum and Spörer Minimum, the Maunder Minimum coincided with a period of lower-than-average global temperatures.

During one 30-year period within the Maunder Minimum, astronomers observed only about 50 sunspots, as opposed to a more typical 40,000–50,000 spots in modern times.
Other historical sunspot minima have been detected either directly or by the analysis of carbon-14 in tree rings; these include the Spörer Minimum (1450–1540), and less markedly the Dalton Minimum (1790–1820). In total there seem to have been 18 periods of sunspot minima in the last 8,000 years, and studies indicate that the sun currently spends up to a quarter of its time in these minima.

During the Maunder Minimum auroras had been observed normally. Detailed analysis has been published by Wilfried Schröder[5] and J. P. Legrand *et al.*[6]

The Maunder Minimum coincided with the middle — and coldest part — of the Little Ice Age, during which Europe and North America, and perhaps much of the rest of the world, were subjected to bitterly cold winters. Whether there is a causal connection between low sunspot activity and cold winters is the subject of ongoing debate.

MFJ buys Cushcraft Antennas

MFJ Enterprises have announced they have purchased the Cushcraft Amateur Radio antennas product line.

According to MFJ, Cushcraft - makers of HF/VHF/UHF vertical, beam and Yagi antennas for the Amateur Radio community, will continue to be manufactured in New Hampshire.

"We are excited to have the Cushcraft Amateur Radio Antennas product line alongside our other five companies,"
said Martin F. Jue, President and founder of MFJ Enterprises, Inc.

Long Term HF Propagation Prediction for Sept 2009

courtesy ZS6BTY

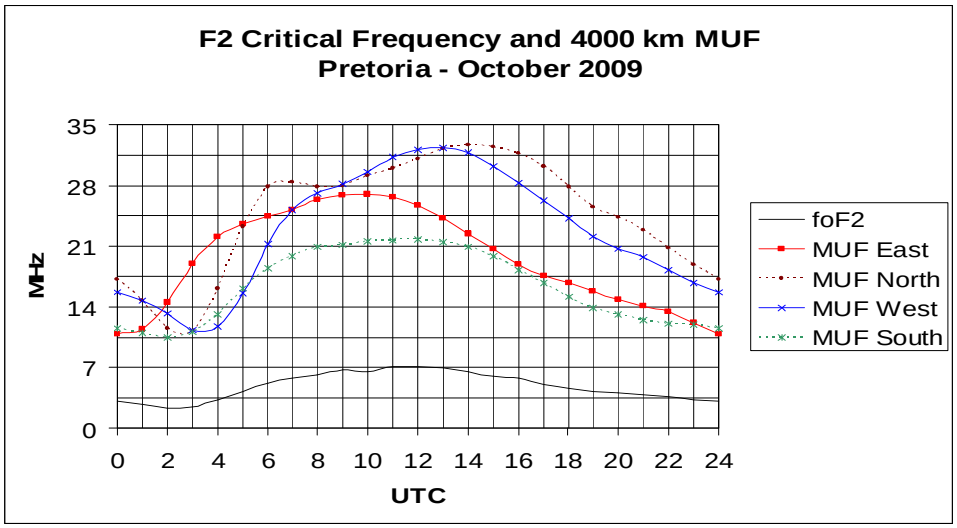
(see also our website propagation tab)

DX Operating

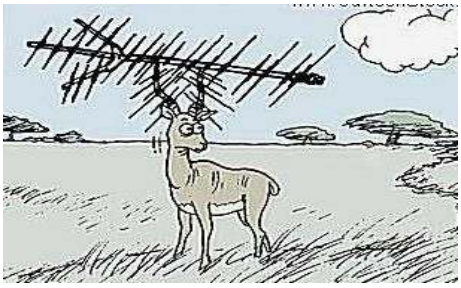
The graph shows the 4000 km maximum useable frequency (MUF) to the East, North, West and South from Pretoria for the first hop using the F2 layer.

Local Operating

The F2 critical frequency (foF2) is the maximum frequency that will reflect when you transmit straight up. E-layer reflection is not shown.



1940 advert



A rare glimpse of the African antennalope

Here rests
PANCRAZIO
JUVENALES
1968-1993
He was a good
husband, a wonderful
father, but a bad
electrician

Did he read this handbook?

AMERICAN ELECTRICIANS' HANDBOOK
7th Edition 1953 McGraw-Hill

MEASURING, TESTING, AND INSTRUMENTS

154. Electricians often test circuits for the presence of voltage by touching the conductors with the fingers. This method is safe where the voltage does not exceed 250 and is often very convenient for locating a blown-out fuse or for ascertaining whether or not a circuit is alive. Some men can endure the electric shock that results without discomfort whereas others cannot. Therefore, the method is not feasible in some cases. Which are the outside wires and which is the neutral wire of a 115/230-volt, three-wire system can be determined in this way by noting the intensity of the shock that results by touching different pairs of wires with fingers. Use the method with caution and be certain that the voltage of the circuit does not exceed 250 before touching the conductors. (This and several paragraphs that follow are taken from *Electrical Engineering*.)

155. The presence of low voltages can be determined by tasting. The method is feasible only where the pressure is but a few volts and hence is used only in bell and signal work. Where the voltage is very low, the bared ends of the conductors constituting the two sides of the circuit are held a short distance apart on the tongue. If voltage is present a peculiar mildly burning sensation results, which will never be forgotten after one has experienced it. The taste is due to the electrolytic decomposition of the liquids on the tongue which produces a salt having a taste. With voltages of 4 or 5 volts, due to as many cells of a battery, it is best to test for the presence of voltage by holding one of the bared conductors in the hand and touching the other to the tongue. Where a terminal of the battery is grounded, often a taste can be detected by standing on moist ground and touching a conductor from the other battery terminal to the tongue. Care should be exercised to prevent the two conductor ends from touching each other at the tongue, for if they do a spark can result that may burn.