ZR6FD logo

WATTS 07-2014

Year 84 + 7m

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 08:45 Sundays/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

PARC 84th AGM coming up on Saturday 25 July 2014.

Come and attend the AGM after the fleamarket.

Are you a paid-up member? Please make sure you are part of the quorum and thus permitted to vote.

Proxy and nomination forms can be downloaded now from our home page under Club News.

Forward these if you cannot attend – we need every one's support.

Nominate who you wish to see on your committee – so your club can go forward another year to the 85th AGM.

Please no repetition of this 1948 plea below:

Can anyone tell us where all the Pretoria gang are. The vast majority seems to have hidden themselves. What about some news and ideas. Let's hear from you and see you occasionally. Don't forget, Pretoria is the Premier Branch and your help is needed to keep it so.

Let's have a great AGM like in 1947:

PRETORIA BRANCH NOTES

The Annual General Meeting which was held on the 9th of January was very well attended. The chairman, in his report, spoke of the rapid growth of this branch. Membership was nearly doubled during 1947, the tally now being 51 ordinary and 7 junior members. Quite a few licensed hams in the Pretoria area are not members yet, but every effort will be made to contact them and induce them to join our ranks. Before commencing with the election of the new committee for 1948, it was decided that the committee should consist of 7 members instead of 6 as heretofore. It was also decided that the chairman should be elected by popular vote.

Don't forget to get a R50 ticket asap from Johan ZS6JHB for the spitbraai lunch to follow.

In this issue

In hierdie uitgawe

Next club events

Fleamarket at PMC
26 July 08:00
AGM at 11:00

Club social at U.P.
Thursday 3 July 7:00PM
Club committee meeting
17 July 7:00PM

PARC Management team / Bestuurspan Aug. 2013 – Aug. 2014

Committee members

Chairman, Contests, Liason	Pierre Holtzhausen	ZS6PJH	zs6pjh@telkomsa.net	012-655-0726	082-575-5799
Vice Chairman, SARL liason	Fritz Sutherland	ZS6SF	fritzs@icon.co.za	012-811-3875	083-304-0028
Secretary	Jean de Villiers	ZS6ARA	zs6ara@webmail.co.za	012-663-6554	083-627-2506
Treasurer, SARS	Andre van Tonder	ZS6BRC	andreh.vtonder@absamail.co.za	361-3292	082-467-0287
Motorsport, Social	Johan de Bruyn	ZS6JHB	zs6jhb@gmail.com	012-803-7385	079-333-4107
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RAE, Bulletin co-ordinator	Vincent Harrison	ZS6BTY	zs6bty@telkomsa.net	012-998-8165	083-754-0115
Repeaters	Craig Symington	ZS6RH	zs6rh@hotmail.co.za		081-334-6817
Fleamarket	Alméro Dupisani	ZS6LDP	almero.dupisani@up.ac.za		083-938-8955
Clubhouse	Pieter Fourie	ZS6CN	pieter2@vodamail.co.za	012-804-7417	083-573-7048

Co-opted/Geko-opteer:

Auditor	Tony Crowder	ZS6CRO	tcrowder@telkomsa.net	011-672-3311	
WATTS newsletter/Kits	Hans Kappetijn	ZS6KR	zs6kr@wbs.co.za	012-333-2612	072-204-3991
Historian, Archives, Awards	Tjerk Lammers	ZS6P	zs6p@iafrica.com	012-809-0006	
Digital, photographer,sound	Theo Bresler	ZS6TVB	theo@bresler.co.za		082-698-1742

Editorial

With this issue of WATTS it is exactly 10 years that I have spent many evenings putting this newsletter together with content that has brought much praise to this editor and the club.

The time has however come to hand this portfolio over to someone else - after our AGM at the latest and this is thus my last issue.

Personal circumstances are becoming a pressing factor and your editor now needs to unload himself from as many responsibilities as possible. This decision is final.

WATTS has been a joy many times to compile from various sources, personal technical work and member contributions.

Being old school, much of the content has been just that – not that anything was irrelevant – but movement into current technologies needs impetus from an editor more knowledgeable in these fields who can convey this to members even from personal experiences.

For the amateur radio service to survive we must move with the times and use technologies that can be on par with national, local and worldwide hobby requirements else the fraternity will soon be extinct to the powers that are - and be considered as a playgroup wasting useful spectrum.

Our monthly newletter should reflect this continuously to show PARC and its members as a progressive club.

I appeal that some one (or more) come forward to continue the tradition.

Hans ZS6KR

Birthdays July
Verjaarsdae

01 Avida ZS6AVB
01 Craig, son of Gordon ZS6AGV
06 Helen ZR6HN
06 Elsa, lv van Fritz ZS6SF
13 Pieter ZS6PA
17 Pine ZS6OB
17 Lynn, lv van Andre ZS6BRC
19 Sarina, lv van Willie ZR6WGR
20 Roy ZS6XN
21 Kevin, son of Gordon ZS6AGV
26 Frank ZS6GE
27 Julie, lv van Paul ZS6BMF
29 Iain ZS5IE

Julie Anniversaries
Herdenkings

06 Julie and Paul ZS6BMF
15 Ellen and Joe ZS6AIC
21 Pat ZR6AVC and Frank ZS6GE
22 Rozanne, dogter van Sylvia en Tjerk ZS6P
22 Ria, sw of Peter ZS6PJ
25 Justin, ZS6-262, son of Rika and Errol ZR6VDR
26 Frank ZS6GE

Lief en Leed | Joys and Sorrows

Pine ZS6GST was in die hospitaal vanaf 13 Junie
Jean ZS6ARA se moeder was in die hospitaal en sterk goed aan
Andre ZS6GCA was in hospital for a short while
Fritz ZS6SF het nog 'n kleindogter ryker geword

† **Joe ZS6AIC** **passed away on 5 June.**
Our sincere condolences to his wife Ellen and family.

Diary | Dagboek (UTC times)

July
01 **SARL subscriptions due**
01 RAC Canada Contest 00:00-23:59
05-06 Venezuelan Ind. Day Contest 00:00-23:59
05-06 Marconi Memorial HF contest 14:00-14:00
06 DARC 10m Digital Contest 11:00-17:00
12-13 IARU HF World Championship 12:00-12:00
19 **SARL Winter QRP contest**
19-20 CQWW VHF Contest 18:00-21:00
26-27 RSGB IOTA Contest 12:00-12:00
26 **PARC AGM 11:00 AFTER FLEAMARKET**
(Details, Proxy, and Nomination form downloadable from our home page Club news)

Welkom aan nuwe lede:

Jan ZS6JJV

Reminder:
Club Logo competition

The closing date for a new logo (without the SARL diamond) is the end of June 2014.
Maybe the committee wil pardon late entries.
Let us see how creative you are.
All suggestions must be sent to the Secretary (address on p2)

Newsless space

PARC SUBS / LEDEGELD 30-06-2014

Please remit your subs in time to our treasurer or by transfer to:

Betaal asb. u ledegeld betyds aan ons tesourier of per oorplasing aan:

Bank : FNB
Branch : 25 20 45
Account : 546 000 426 73

Ordinary members/ gewone lede R150
Spouses, pensioners R50

Your call sign must appear as statement text!

Dave Larsen shack equipment

Club donation from proceeds. Report by ZS6KR

ZS6GE and myself were invited to empty the shack of Dave Larsen ZS6DN who, as some of you may have known, passed on in March this year.
Dave was a well known radio experimenter and besides ham radio had a well equipped laboratory on his premises employing several staff for radio development work during the previous government.
Since then he had other interests that took him off the air and his shack in an outbuilding was closed all these years till now.
What was found very much antiquated equipment from as far back as the early 1980's.
The salvage operation took considerable time and effort from both of us as no vehicle could be parked close by.
It would all have gone to the scrapyard if not removed.
You may have seen some offers on our swap page recently and most of them were sold that in way as well as out of hand.
Some could still to follow.
Our club will financially benefit greatly from this effort and I will do the final reckoning on that score at our AGM on 26 July.
In the meantime I have sent a letter of thanks to Ursula Larsen in name of the Pretoria Amateur Radio Club.

Interesting feedline

Description	**English:** Picture of antenna feeder line from longwave radio transmitter in Solec Kujawski, Poland. The aerial mast of the station, which broadcasts at 225 kHz with a radiated power of 1200 kilowatts, is visible in the background. This type of transmission line is called a *cage line*, and is used for high power low frequency transmission lines. It functions similarly to a large coaxial cable. The inner bundle of wires and the outer ring of wires carry equal magnitude and opposite phase RF currents to the antenna. The outer ring of wires is connected to ground and serves as a shield.

The U.S. Navy has built an exotic radar system to track earth orbiting satellites, called **NAVSPASUR**. The giant array built near Lake Kickapoo, Texas, is a two mile long antenna that transmits continuously on 216.98 MHz with an unmodulated carrier, and has an ERP of 6.3 Billion Watts! So powerful is the transmitted signal that when the moon passes through the beam, the return echo is said to be detectable on earth with only a dipole antenna attached to a receiver.

The Federal Communications Commission has announced a record-breaking fine against Chinese electronics manufacturer and online retailer C.T.S. Technology Co. Ltd. The **$34.9 million penalty**, which the FCC revealed publicly on Thursday, stems from allegations that C.T.S Technology marketed and sold signal jammers to U.S. customers.

In the FCC's eyes, that's a big no-no. So much so that the FCC will be issuing the maximum fine it possibly can against each jammer model that C.T.S is alleged to have marketed in the United States. That's 285 in total, alleged to have been offered to U.S. consumers for more than two years via the company's websites (some of which it continues to sell today). Worse, the company is alleged to have said that said signal jammers were actually approved by the FCC for use. Spoiler: They were not.

"All companies, whether domestic or foreign, are banned from marketing illegal jammers in the U.S. Signal jammers present a direct danger to public safety, potentially blocking the communications of first responders. Operating a jammer is also illegal, and consumers who do so face significant civil and criminal penalties," said Travis LeBlanc, acting chief of the FCC's Enforcement Bureau, in a statement.

Additionally, the FCC reports that C.T.S. sold 10 signal jammers to undercover personnel — not a great way to endear the company to the agency. We should note, however, that it's not just the fault of C.T.S. if a signal jammer happens to end up in the hands of a U.S. citizen. Federal law prohibits marketing, selling, importing, or — most importantly — using a signal jammer anywhere within the United States, save for rare exceptions that only members of law enforcement get to enjoy.

Roger ZS6RJ deploys his QTH antenna

Quote; “It was time to get an HF antenna other than 30 and 40 metres on the monster ladder, which I stuck on at the time of testing the new tower idea a couple of months ago (it was the easiest one to assemble and install and I was running out of daylight on that day.)

The plan was to build the Tennadyne T8 LogP, but I took one look at all the parts, and bearing in mind I only lowered the tower after lunch and it gets dark around 17:30, plan B kicked in and I built a KIO hex beam instead. Done that so many times on Dxpeditions, it's down to a fine art now. One and a half hours from lowering to back up at 70 feet, taking it easy with just me and the gardener. I'm not convinced the T8 will be a whole lot better than a Hex anyway, aside from front to side ratio which isn't that important in ham-free southern Africa. The hex is so super-quiet on RX (element end-coupling), which is the important part.

The tower bit is such a pleasure with the electric winch for tilt and hand winch for driving the ladder extensions up and down. From raising off the ground to full height deployment with the new non-conductive Dacron guy ropes winched snug takes about 10 minutes. So QRV from 6 through 40 again with reasonable antennas at the home shack (which always seems to end up last in line for improvements with all the DXpedition stuff we do, hi.) Will be a pleasure not having to chase things on the R7 vertical”.

73, Roger

Historical picture

Picture submitted by Dave, ZS6JW (recently turned 90) of the first post-war meeting of the SARL where you can spot his much younger face in the 4th row. Dave has been a Pretoria club member since 1946. Some 68 years!

The Minooka Special

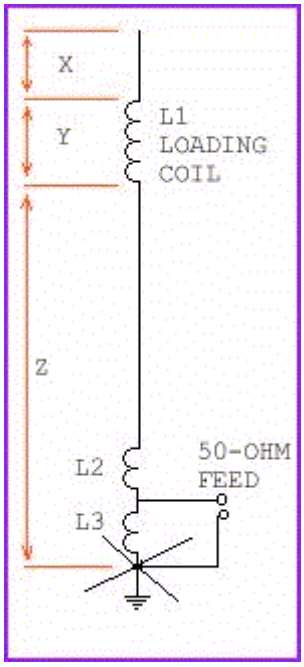
QST December 1974.

The following is a description of an effective vertical antenna for 160 meters, designed with these objectives in mind.

1) Highly effective for 160-meter DX and local work. 2) Easy to build and adjust. 3) Very economical. 4) Fits neatly into back yard. 5) Reasonable bandwidth. 6) Good for portable and DXpedition work. 7) Can be scaled down for mobile operation.

The resultant antenna (Fig. 1) is top loaded inductively and can be built by anyone from readily available material. Only a dip meter and SWR indicator are needed for tune-up Man versions were built and tested, ranging from 7- foot mobile types to 60-foot backyard or DXpedition models. They have been used with good results from 20 foot- wide backyards in cluttered Chicago, to vast beaches on Carribean islands, and in South America. The fixed-tuned bandwidths vary from 10 kHz for mobile versions, to 50 kHz for the larger fixed-station models (SWR 2:1 or better).

Electrical details of the Minooka special.
Table 2 gives specific information concerning dimetions X, Y and Z L2 may vary in size from 1 to 20 turns, and L3 will contain between 5 and 10 turns, typically. L2 and L3 are made from No.18 wire spaced 1/8 inch between turns. The coil diameter is 1-1/2 inches. Refer to text for tuning instructions.



X	5 ft	8 ft	4 ft	4 ft	19 ft	3 ft 3 in
Y	2 ft	15 in	3 ft 6 in	4 ft	11 ft	3 ft
Z	*	*	*	*	*	*
Wire size	No 20	No 19	No 18	No 16	No 19	No 22

* = as long as possible

Construction

The physical layout of the antenna is centered around the use of 3/4-inch-diameter rigid PVC water pipe. This sturdy tubing has an outside diameter of 1.038 inches. The inner diameter provides an "interference fit" for 1/2-inch EMT conduit (thinwall). A 3/8-24 nut is driven into a 5-inch length of conduit, then aligned and braized into position. Next, the conduit is taper-ground and polished on the opposite end, then driven into the PVC tubing (see table of dimensions).

A standard 8-foot stainlesssteel whip between 3 and 8 feet in length can be screwed into the top section. For home-installed versions of the antenna a three- or four-foot piece of thin-wall tubing can be used in place of the whip. This will save on the cost of materials, and will eliminate the need to have brazing done. The coil wire should be soldered to the conduit to assure a good electrical connection.

Adjustment

Pick a set of dimensions from the table which suits your application, but add a few inches more of coil turns (all close wound) than recommended This will allow leeway for pruning the system to resonance.

To simplify adjustment it is suggested that the system be assembled first with only the coil and top section (no base section). Place the antenna where it is in the clear (on the car or fixed-station site), and where it can be tuned against the proposed ground system - car body or ground radials.
A three-turn link should be connected temporarily between the lower end of the coil and the ground system. This will permit rough tuning of the system to resonance by inserting a dipper coil into the link and adjusting the coil turns on the antenna until a dip is noted in the desired part of the band. The antenna should be tuned for roughly 2000 kHz if the entire band is to be used. Adjust the resonance for 1850 kHz if only the low segment will be utilized.

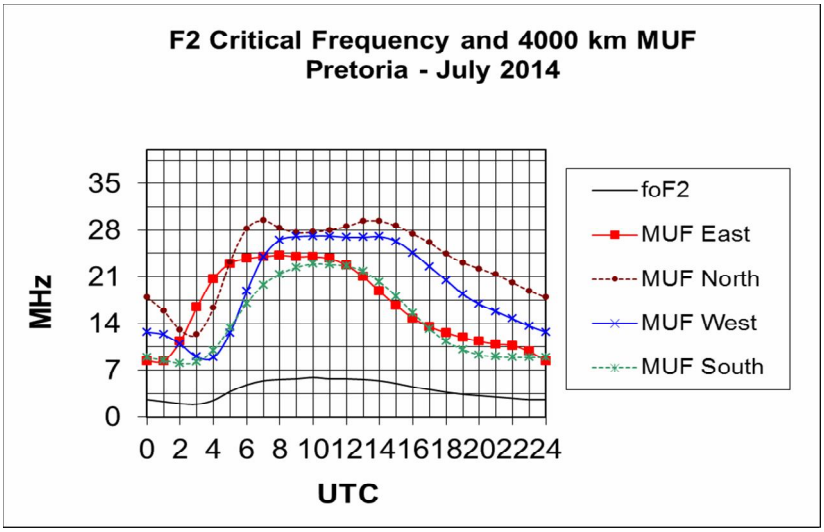
Erect the antenna with all of its parts - coil, top and bottom sections - and insert inductors L2 and L3 as shown. With L3 temporarily out of the system, adjust L2 for the lowest value of SWR obtainable at the desired operating frequency. Then, place L3 back in the circuit and adjust it for an SWR reading of 1. Addition of the base section later on will not affect the resonant frequency of the overall system materially, provided the base section does not exceed, say, 60 feet.

For fixed-station operation it is recommended that a good ground system be employed. One should use at least 10 radials oft say, No. 18 or larger wire, 10 to 50 feet in length. If you can manage 40 radials, 60 feet in length, all the better.

Concluding Comments

Three fixed-station versions of the Minooka Special were compared against the regular antenna, which is a one-quarter wavelength vertical (130 feet high), and operates against a radial system that contains 12,000 feet of wire. The short verticals were always inferior to the big antenna by approximately 5 dB.

Because the loading coil acts as an rf choke at 3.5 MHz and above, several versions of the antenna have been used successfully from 160 through 20 meters with an appropriate L-network matching section installed at the base of the system.



Long Term HF Propagation for July 2014

Courtesy ZS6BTY

(see also our website prop 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.

Astronaut John Glenn had the following sobering thought while hurtling through space……."every part of this rocket was supplied by the lowest bidder….