



WATTS

06-2016
Year 86 + 6m

Monthly Newsletter of the Pretoria Amateur Radio Club
Maandelikse Nuusbrieff van die Pretoria Amateur Radio Klub

✉ PARC, PO Box 73696, Lynnwood Ridge 0040, RSA
<http://www.parc.org.za> @ zs6pta@zs6pta.org.za



Bulletins : 145.725 MHz on Sundays / Sondag at 08:45
 Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz
 Activated frequencies are announced prior to bulletins
Swopshop : 2m and 7.066 MHz live on-air after bulletins
 Bulletin repeats on Mondays / herhalings op Maandae : 2m 19:45



PARC pays tribute to our Veterans

1st Row: Pierre Holzhausen ZS6PJH, Johann de Beer ZS6YV, and Joseph Katzman ZS6TB
2nd Row: Karin Stapelberg, Lyn and Andre van Tonder ZS6BRC, Ian Williams ZS6JW, Fritz ZS6SF and Elsa Sutherland, Johan de Bruyn ZS6JHB and Doreen de Bruyn ZR6DDB, Etienne Naude ZS6EFN, Annatjie and Pieter Fourie ZS6CN, and Kenny Martin ZS6KMM
3rd Row: Elma Basson, Marita and Roy Alexander ZS6MI, Hans Kappetijn ZS6KR, Pat and Frank Schneider ZS6GE, Hansie ZS6AIK and Poppie Meyer, Erika and Pine Pienaar ZS6OB, Jean de Villiers ZS6ARA and Mother, Jeantjie, Richard Peer ZS6UK, Gawie Basson ZS6GJJ, and Sarel Stapelberg ZS6EK

In This Issue / In Hierdie Uitgawe

PARC Committee Members 2016.....	P 2
Birthdays and Anniversaries.....	P 2
Diary and General Information & News.....	P 2
PARC Veterans gathering.....	P 3-4
My stokperdjie in diens van die gemeenskap.....	P 5-6
Park Klubhuis.....	P 7
RF Direct Conversion Receivers.....	P 8-9
The Secunda Rally.....	P 11
SARL AGM and Parc Fleamarket.....	P 12-13
Technical Items.....	P 14

Club Meetings / Klub Vergaderings

Club Social Meeting :
 Saturday 4th of June 2016 from
 14h00 **at SAM**

Committee Meeting :
 Tuesday 9th of June 2016
 from 19h00 **at SAM**

Remaining PARC Fleamarkets for 2016 are scheduled for the following dates:

27 August ; 5 November

Please do contact Almero du Pisani ZS6LDP (almero.dupisani@up.ac.za 083-938-8955) for more information or to book a table, or if you wish to donate any old equipment to PARC

PARC Committee Members / Komiteelede : 2015 - 2016

Elected Members

Chairman, Social & Rallies	Johan de Bruyn	ZS6JHB	zs6jhb@gmail.com	012-803-7385	079-333-4107
Vice Chairman, Contests	Pierre Holtzhausen	ZS6PJH	zs6pjh@telkomsa.net	012-655-0726	082-575-5799
Treasurer	Andre van Tonder	ZS6BRC	andre.vtonder@absamail.co.za	012-361-3292	082-467-0287
Secretary, Bulletin Coordinator	Jean de Villiers	ZS6ARA	zs6ara@webmail.co.za		083-627-2506
Public Relations, RAE, Bulletins	Etienne Naude	ZS6EFN	etienne@afriqrid.com		082-553-0542
Web co-ordination	Graham Reid	ZR6GJR	greid@wol.co.za		083-701-0511
Competitions	Jaco Cronje	ZR6CMG	jacocronje@yahoo.com		081-474-2220
Clubhouse & Contests	Whitey Joubert	ZS6JJJ	zs6jjj@gmail.com		072-120-4516
Technical, Web & Repeaters	Gawie Marais	ZS6GJM	zs6gjm@gmail.com		083-663-2222
WATTS, RAE & Clubhouse	Louis de Wet	ZS6SK	louis.zs6sk@gmail.com	012-349-1044	072-140-9893
Co-Opted Members					
Fleamarkets	Alméro Dupisani	ZS6LDP	almero.dupisani@up.ac.za		083-938-8955
Auditor	Tony Crowder	ZS6CRO	tcrowder@telkomsa.net	011-672-3311	
Historian, Archives, Awards	Tjerk Lammers	ZS6P	zs6p@iafrica.com	012-809-0006	083-976-4387

Birthdays – June / Verjaarsdae – Junie

07 Chantel, dogter van Martie en Johann de Beer "JB" ZR6YV	22 Richard Peer ZS6UK
11 Nadia, daughter of Pat ZR6AVC and Frank Schneider ZS6GE	26 Pieter Stronkhorst ZR6PSR
14 Hillary, daughter of Richard Peer ZS6UK	27 Emil Bohme ZS6EGB
21 Marc Vanoverbeke ZS6ON	

Spouse's Birthdays – June / Junie

01 Fiona, sw of Etienne Naude ZS6EFN
12 Louisa, sw of Jaco Cronje ZR6CMG
12 Erna, sw of Whitey Joubert, ZS6JJJ
21 Sandy, sw of Menno Havelaar ZS6AGC
21 Engela, sw of Jan (Vollie) Volschenk ZR6JJV

Anniversaries / Herdenkings – June / Junie

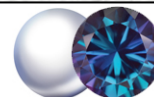
24 Roy ZS6MI and Marita Alexander

Lief en Leed / Joys and Sorrows

Andre Coetzee, ZS6GCA was in hospital for treatment, but has been discharged since.

June Birthstones: Pearl and Alexandrite

Pearls are seen as symbols of wealth, but also symbolize modesty, chastity and purity. Alexandrite is said to aid creativity and inspire the imagination



Contests and Diary of Events – June 2016 / Kompetisies en Dagboek van Gebeure – Junie 2016 (UTC Times)

04 -05	10 – 10 International Open Season PSK Contest : 00h00 – 24h00
04 - 05	IARU Region1 Field Day, CW : 15h00 – 14h59
04 - 05	RSGB National Field Day : 15h00 – 15h00
12	Hammies ZS6 Sprint
17	World QRP Day
18 - 19	All Asian DX Contest, CW : 00h00 – 24h00
18 - 19	Ukranian DX Classic RTTY Contest : 12h00 – 11h59
11	Secunda Regional Motor Rally : Contact Johan ZS6JHB for more details
18	Highway ARC 20 th Birthday
25 - 26	His Majesty, King of Spain Contest : 12h00 – 12h00
25 - 26	ARRL Field Day : 18h00 – 21h00

PARC SUBS / LEDEGELD FROM / VAN 31-10-2015

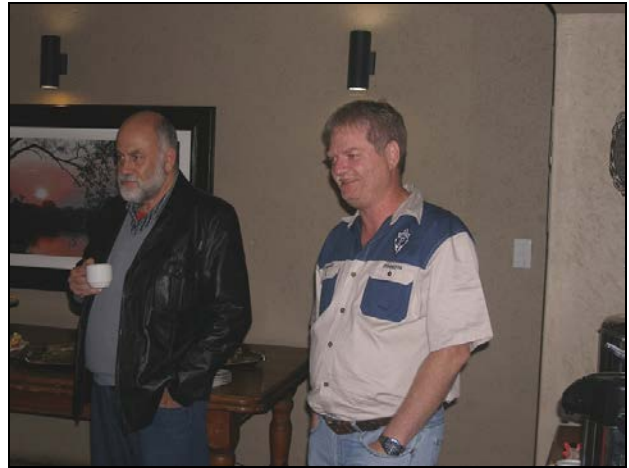
Bank	First National Bank	Ordinary Members / Gewone Lede : R150 Spouses / Pensioners : R50	Your call sign must appear as statement text!
Branch Code	25 20 45		
Account No	546 000 426 73		

**Please remit your subs in time to our Treasurer, or pay per transfer into the PARC account
Betaal asb. u ledegelde betyds aan ons Tesourier, of betaal per oorplasing in die PARC rekening**

Please Note : If your Club fees are not paid up to date, birthday details cannot be displayed in Watts

PARC Veterans Gathering : 14 May 2016

The PARC veteran's gathering was held on a rainy Saturday morning at the Botanical gardens. Despite the cold weather, the attendance was good and a lot of good friends who haven't seen each other for years had the opportunity to reminisce over tea and snacks over the good times gone by. Johan de Bruyn ZS6JHB welcomed everybody present, while Hansie Meyer ZS6AIK thanked Etienne Naude ZS6EFN who organized the event. PARC also thanks Etienne sincerely for promoting his idea and making such a great success of it. We sincerely believe that this event that took place will be the start of a great tradition in PARC.



We have received quite a number of emails from our Members who have attended this event. Unfortunately not all of the emails can be placed, but on the next page some of the words of thanks are presented.



Ope brief aan Johan en ander komiteelede

Dankie vir die geselligheid wat julle vir die PARK veterane gereël het op Saterdag 14 Mei. Ek en my gunsteling ZR het dit baie geniet – dit was aangenaam om weer 'n mens se tydgenote te sien en 'n bietjie te gesels.

Wat vir ons baie lekker was is die informaliteit van die geleentheid. Daar is baie gesels om in te haal met ou vriende en dit was 'n goeie besluit om nie 'n vergadering of 'n gasspreker te hê nie. Dit was 'n aangename en ontspannende bymeekaarkom en die versnaperinge was uitstekend.

'n Amateurradioklub se bestaansreg kom daaruit dat die bedryf van die stokperdjie aangenamer is as 'n mens lid van 'n klub is. Hierdie geleentheid het baie daartoe bygedra.

73 en doen so voort.

**73 de Fritz ZS6SF (KV4SL)
Member SARL, PARC, ARRL**

Hi Johan,

I would like to personally thank you and the whole committee on your fine gesture in hosting a morning tea for our senior members.

It was a great affair and wonderful to see so many of the members I have not seen for years.

Thank you once again and PLEASE convey my message to the committee.

Kindest regards,

Joe Katzman

ZS6TB

Hi Joe,

The thanks must go to Etienne Naude ZS6EFN our Project Manager who organized the event. It was heartwarming to see so many of the Golden Oldies and everybody enjoyed the morning tea.

Thank you for attending and I will forward your message to the committee.

Regards and best wishes to Selma please.

Kind regards

Johan de Bruyn

ZS6JHB



Sharmaine and Louis ZS6SK ; Etienne ZS6EFN and Fiona



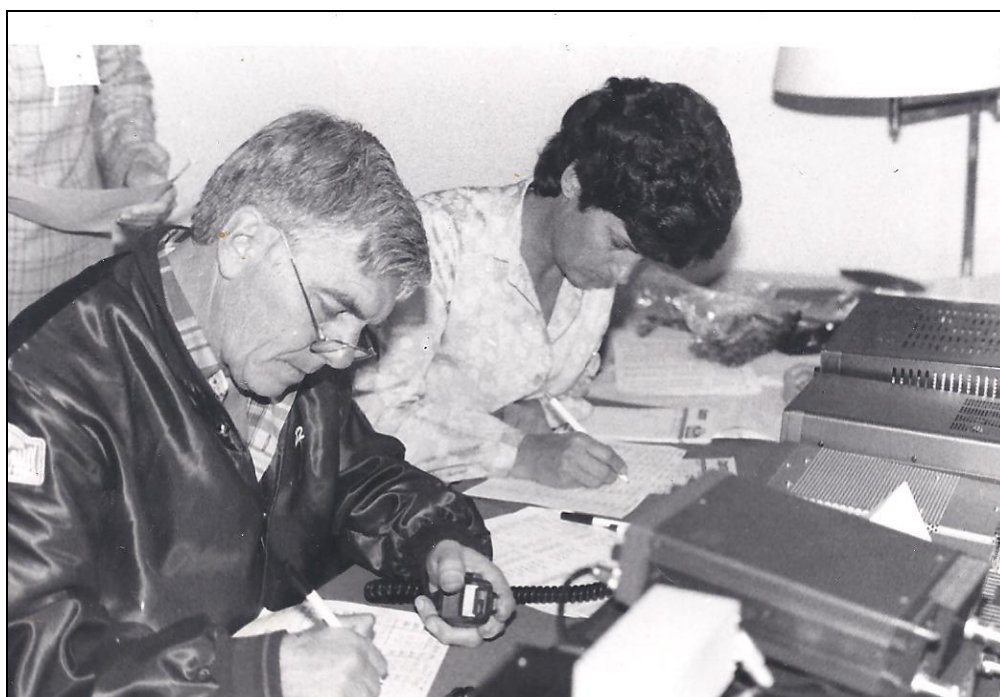
My stokperdjie in diens van die Gemeenskap: Hansie Meyer ZS6AIK

Waar het dit begin? Op 4 Januarie 1954 was ek opgeroep vir Burgermag opleiding by die Pantserkool te Tempe Bloemfontein. Met ons aankoms daar kon ons kies waarin ons opgelei wil word. Vir 'n Kannonier, by die radio seksie of 'n bestuurder. Ons almal wou Bestuurders word, want dan kan ons mos 'n voertuig bestuur. Omdat ons te veel was wat bestuurders wou word het die weermag ons ingedeel soos hulle goeddink. Omdat ek toe 'n Elektriese vakleerling op die myne was word ek toe ingedeel by die Radio seksie.

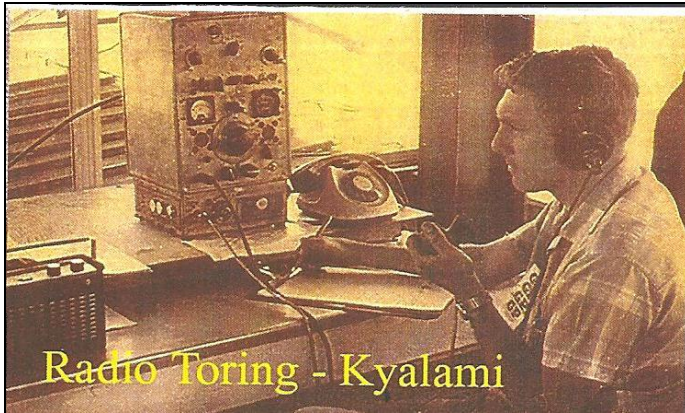


My eerste 3 maande was dit net marsjeer, dissipline en Radio prosedure. In die nag as ek moes wag staan het ek in n Pantserkar gaan skuil teen die koue, toe begin ek op die radio (dit was No 19 stelle, net 80 & 40 Meter AM) na LM Radio (Lourenco Marques Radio) luister. Na my opleiding het ek die radio-luister gemis, en besluit ek wil n Radio Amateur word. Ek het begin soek na n persoon wat my sou leer. Ek het toe Welkom plat geloop op die uitkyk vir lugrade. Ek ontmoet toe twee amateurs OK Harry ZS4HH en OK Wes Dyason ZS4CA.

Ek verwerf my lisensie ZS6AIK op 30 November 1959, nadat ek verhuis het na Pretoria, maar ek het toe nog nie n stasie gehad nie. Toe ontmoet ek n man wat my hele lewe verander het. OK Sunny Greef ZS6IO. Hy het my toegelaat om sy stasie te gebruik, en nie net dit nie, hy leer toe ook my verloofde (later my vrou) om 'n Radio Amateur te word. Sy verwerf haar radio lisensie ZS6BCP September 1961. Sunny het ons ook gehelp om ons eie stasie op te bou. Hy het ons ook op motor tydwedrenne saam geneem en touwys gemaak hoe om beheerde radio nette te beheer. Toe is die gort gaar, ek het besef Amateur Radio kan ook aangewend word vir hulp aan die gemeenskap. 'n Trofee was deur my aan die Pretoria Radio Klub geskenk om dank te betoon aan twee Oks wat my geleer het om my radio vir die gemeenskap in diens te stel. Die trofee word genoem "Die Sunny Don Trofee". Hulle was Sunny Greeff ZS6IO en Don Steward ZS6IA



Ek en my vrou Poppie het so baie tydwedrenne gedoen dat dit my lank sal neem om almal te tel. Van die tydrenne was die Castrol, LM Rally, Total rally, Roof of Africa, Radio 5, Sasol Rally. BNU (Banco Nacional Ultramarino) 'n tydren gereël deur die Portegeuse, ens. Ek en Poppie het telkemale die beheerstasies van die grootste tydwedrenne behartig ,ook buite ons land grense, bv Swaziland, Lesotho en Mozambique.



Ek het ook die beheertoring by Kyalami vir heelwat baanrenne behartig soos internasionale wedrenne soos die 9uur uithou wedren, die SA Grand Prix ens. Die radio wat in die toring gebruik was, was 'n HF stel (BHF was toe nog nie die inding nie) 'n M17 en hy was gedoop "Golden Glory" omdat dit die kleur was wat hy geverf was. Ook het ek 'n Radio beheerde Model Vliegtuie wedvlug vanaf Pretoria na Bronkorstspruit beheer.

Ek het toe besluit my radio kan meer doen vir die gemeenskap, toe sluit ek aan by die SA Polisie as n lid van die Wagthuis Radio Reserwe (WRR). Hier het ek heelwat werk verrig, soos met die oorstroming van Pretoria op 28 Januarie 1977 (hierdie was n baie gevaarlike opdrag om te gaan kyk of die damwal van die Bon Accord dam gaan hou). Mense was op hul huise se dakke vasgekeer en 'n Helikopter moes ingeroep word. Ons moes ook help soek na Waterwese se ingenieur Mnr Van Wyk, wat vermis was en later veilig gevind is. Vir die tyd wat ek in die WRR was het ek n medalje en 'n Toekenningsertifikaat van die SAP ontvang vir 10 jaar getroue diens. Ook het ek heelwat "Jamboree on the Air" (vir die Boy Scouts), en " CQ Hou Koers" (vir die Voortrekkers) behartig.

Lesings en Radio demonstrasies was ook deur my gedoen by gesinskampe. Van al my Amateur aktiwiteite was die Raport Fiets Toere vir my en my vrou die aangenaamste. Ons het aan drie toere deelgeneem. Een vanaf Bloemfontein deur die Karoo, Montagu, Wes Kaap en eindig in Kaapstad. Die tweede was van Pretoria, Vrystaat, Natal, en Oos Transvaal en eindig in Nelspruit. Die derde toer was vanaf Port Elizabeth, Knysna, Montagu, Wes Kaap, Oos Kaap en eindig in Pêrel.



Elke toer het twee weke geduur en was uit die boonste rakke. Die Radio Amateurs was soos BBP behandel. Hier het ek ook die voorreg gehad om drie voormalige Mej. Suid Afrika's te ontmoet. Ek wil hier net hulde bring aan Radio Amateurs wat in die span was, dit was Tinus Lange ZS6TL, (Hoof van die span) Hilda Lange ZS6HL, Poppie Meyer ZS6BCP, en myself ZS6AIK.

Ek wil dit vir die lesers noem dat om jou Radio te gebruik om die gemeenskap te dien n ander lewe van ons stokperdjie open, en glo my dit word opreg gewaardeer deur hulle.

Park TUKS Klubhuis skoonmaak

PARK beplan om in die nabye toekoms 'n radio amateur museum in die Tukkies klubhuis te vestig. Aangesien die SAM klubhuis oor meer spasie beskik vir klubvergaderings en ander aktiwiteite, is besluit om sekere items soos yskaste en breekware na die SAM klubhuis te verskuif. Saterdag die 7 Mei het 'n dapper groep oumanne bestaande uit Johan ZS6JHB, Fritz ZS6SF, Richard ZS6UK, Pieter ZS6CN, Whitey ZS6JJJ en Louis ZS6SK die taak aangepak. Gewapen met 'n paar bakkie en 'n trollie is die twee ou yskaste wat glad nie lig is nie, met groot moeite teen twee stappe af en agterop Whitey se bakkie geworstel. Die klubhuis wat nog onder 'n dik laag stof lê, sal mettertyd skoongemaak word en ingerig word om as 'n museum te funksioneer. Kotak Johan ZS6JHB of Louis ZS6SK gerus indien u enige ou toerusting wil skenk vir die PARK Museum.



Johan: "wat op aarde is daaronder?"



Menigte RAE kandidate het hier klasgeloop



Richard: "Look what I found!"



Pieter en Johan besig om uit te sorteer



Fritz: "Nee manne links!" Johan: "Ek het nou genoeg gehad". Uiteindelik bo op die bakkie



RAE Kandidate slaag

PARK wil graag hiermee die volgende RAE kandidate wat die klasse in Pretoria bygewoon het, graag gelukwens met hul nuwe status as Radio Amateurs: Uys Classen ZS6UYS, Francois Duminy ZS6FPS en Nicolaas Louw ZS6NWL. Ons wens u hiermee van harte geluk, en mag die wêreld van Amateur Radio bevredigend wees om te ontdek. Hiermee veral groot dank aan Etienne Naude ZS6EFN, Pierre Holtzhausen ZS6PJH en Louis de Wet ZS6SK vir die aanbied van die RAE klasse. Weens die nuwe sillabus wat onlangs verskyn het, sal daar nie klasse aangebied word vir die Oktober 2016 eksamen nie, maar wel vir die Mei 2017 eksamen vanaf Januarie 2017.

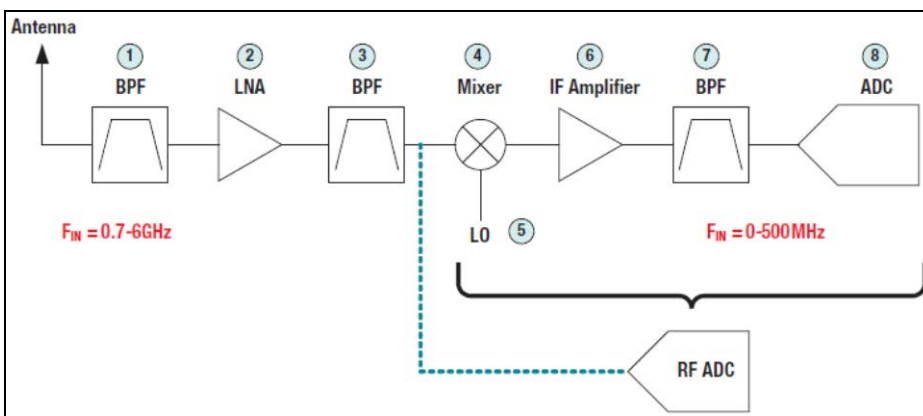
The Direct RF Conversion Receiver

In the previous edition of Watts (2016-05) a short introduction was made to the Icom IC-7300 HF/50 MHz transceiver, which is considered as a leader in Software Defined Radio (SDR) with its high-performance RF-sampling data converter. In this edition, an overview is presented of a paper by Tommy Neu, Systems Engineer from Texas Instruments, entitled “*Direct RF conversion: From vision to reality*”, which will address the differences between the conventional heterodyne and the direct RF-sampling receivers.



The figure below shows a classic heterodyne configuration, consisting of bandpass filters (BPF's), low-noise amplifier (LNA), mixer and local oscillator (LO), an IF amplifier, and an ADC anti-aliasing filter (AAF).

In the direct-conversion receiver, the RF-sampling ADC replaces the signal chain from the mixer, thereby greatly simplifying the overall receiver design.

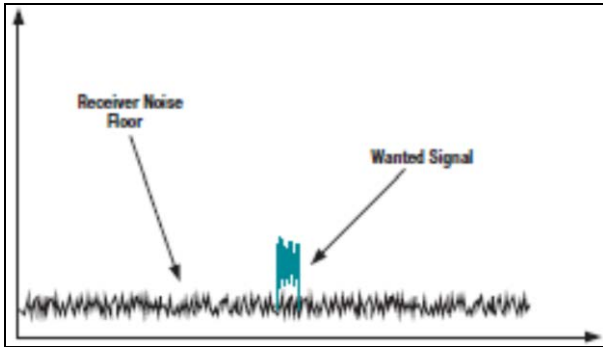


The traditional heterodyne architecture versus an RF-sampling ADC, which replaces the signal chain from the mixer.

The input signal to a heterodyne receiver, which resides at an RF frequency, is down-converted to a lower intermediate frequency (IF), which is then digitized prior to digital filtering and demodulation. Depending on the application, the input signal can range from about 700 MHz to several GHz, while the IF can range between zero to 500 MHz. In the conventional heterodyne receiver the first RF Band Pass Filter (BPF)① is typically a wideband, low loss, pre-select filter which provides most of the out-of-band rejection, preventing signals that are far from the passband from saturating the analog front end (AFE). This is followed by the low-noise or RF amplifier② which increases the amplitude of weak signals. The second RF or bandpass filter③ is a narrow-band filter prior to the mixer, which suppresses nearby out-of-band interfering signals at the mixer image locations ($m \cdot LO \pm n \cdot RF$) that would fall into the IF passband.


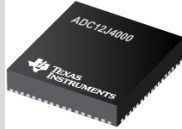
The mixer④ translates the RF signal to IF frequencies. The RF and LO signals are mixed to produce a difference frequency known as the IF ($f_{IF} = |f_{RF} - f_{LO}|$). Undesired spur and images are filtered out either before or after the mixer stage. The LO⑤, which is tuned to the desired frequency spacing above or below the RF signal, and is injected into the mixer, essentially turns into the ADC's sampling clock. The IF amplifier⑥ adds gain to the input signal by reducing the ADC's impact to the receiver's noise figure. In addition, it compensates for the bandpass filter's gain loss (attenuation), while it also acts as a buffer to drive the ADC's capacitive load. The Anti-aliasing (AAF) Band Pass Filter⑦ limits any possible noise and distortion contributions from the IF amplifier. The most important function of this stage is that it filters the ADC's alias bands. Finally, the ADC⑧ digitizes the input signal. It needs a fast sampling rate to allow room for filter rolloffs, which is typically 3 – 5 times the signal bandwidth. Its Signal to Noise Ratio (SNR) needs to be good to ensure minimal impact on the receiver noise figure.

With the evaluation of a transition from an IF-sampling based to a direct RF-sampling design, the impact to the receiver sensitivity and performance in a blocking condition need to be examined. As the RF-sampling ADC replaces the signal chain from the mixer onward, comparisons between the two configurations need to focus on the mixer input, assuming the same analog front end for both designs.

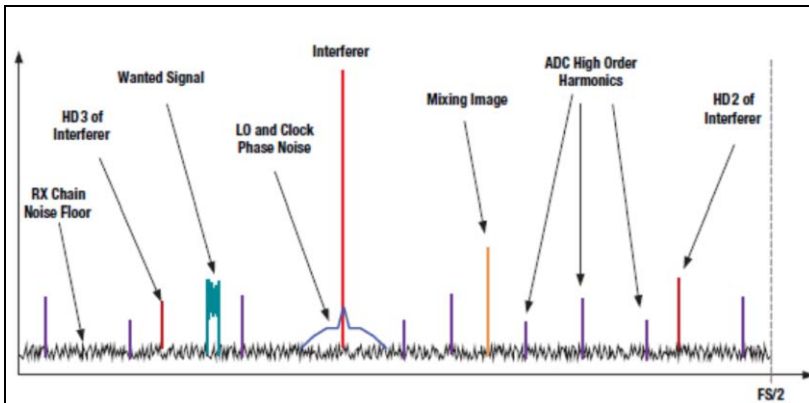


Receiver sensitivity is a measure of how well it can recover and process very small input signals. Weak input signals cannot be demodulated if the receiver noise within the demodulated bandwidth is large than the received signal itself. To raise the desired signal amplitude above the noise floor is not always possible, leaving the only option to improve receiver sensitivity by reducing its noise floor, or in other words, improve its noise figure.

The equivalent noise ratios of two different ADC's are illustrated below, with one being an IF-sampling ADC (ADS4149) and the other a RF sampling ADC (ADC12J4000) respectively. Although their calculated noise figures are nearly identical, the IF-sampling based approach has additional gain from the mixer and the IF amplifier (minus the loss of the BPF), which substantially reduces the impact of the ADC noise figure to the receiver sensitivity. Subsequently, the RF-sampling ADC requires additional front-end gain (additional LNA) that is approximately equivalent to $G_{MIX} + G_{AMP} + G_{BPF}$. This results in a total noise figure that is similar to the IF ADC-based option.

Parameter	IF-sampling ADC ADS4149 	RF-sampling ADC ADC12J4000 
Sampling Rate (FS)	250 MSPS	4 GSPS
Input Fullscale (Vpp)	2 Vpp	0.8Vpp
Signal-to-Noise Ratio	71.9 dB	55 dB
Input Impedance (Z_{IN})	200 Ω (external)	100 Ω (internal)
Calculated Noise Figure	25.1 dB	25 dB

When in sensitivity condition, the receiver operates at maximum gain. In the presence of a strong blocker/interferer, the gain needs to be reduced in order to avoid saturation of the input (desensitization). Therefore, the receiver noise figure will be much larger, which impacts the minimum signal that can be recovered in a blocking condition.



In addition to the impact on the noise figure, the interferer itself can generate several different noise impairments that can overlap with the wanted signal. The interferer needs to be considered when doing the noise budget analysis and designing the overall filter profile.

Different noise impairments due to an interferer (shown with a single-tone interferer)

In the next edition of Watts we will conclude with more on the mixer, amplifier and ADC stages of the RF-conversion receivers. We will also investigate more on filter design and comparisons.

Advice to the Young Ladies : Fritz Sutherland ZS6SF

Verily I say unto ye,
Marry not a radio amateur;
For an amateur is a strange being
And possessed of many evils.

Yea, he speaketh always in parables
Which he calleth Q-codes.
He wieldeth a big stick
Which he calleth a microwave antenna.
And he hath only one bible,
The Radio Amateur's Handbook.

He thinketh only of modems and baluns
And without end of wavelength and frequency.
He showeth always a serious aspect
And seemeth not to know how to smile.
He picketh his seat in a car
By the radios installed therein,
Not the damsels within.

Neither does he know a full moon
Except as a radio reflector;
Nor a sunset
Except that he must move to another band;
Nor a damsel
Except by her call sign.

Always he carries his books with him
And entertaineth his sweetheart with frequency tables and Smith charts.
Verily, though his VL expecteth chocolates when he calleth,
She openeth the packet to find electronic components.

Yea, he holdeth her hand
Only to establish an electrical earth contact;
And he kisseth her,
Only to write it in his log book.
In his eyes there shineth a far away look
That is neither a loving nor a longing look,
Rather a vain attempt to recall formulae.

Even his own heart flutterings
He counteth as a measure of frequency instability.
And his marriage is but a
Simultaneous equation involving two unknowns
And yielding diverse results.
Verily I say unto ye,
Do not marry a radio amateur.

The Secunda Rally : 20 – 21 May 2016

The Secunda Rally took place over the weekend of 20 – 21 May 2016 against the backdrop of Lake Umuzi, the Graceland Casino and the imposing SASOL plant on the horizon. The rally was completed over 14 stages, which included the van der Merwe Super 1 and 2 special stages where two vehicles raced against each other simultaneously.



Despite the cold weather throughout the weekend, the dapper team of Radio Hams were on place at their stages, and contributed towards a most successful and flawless event.

The usual rally “family” team from Pretoria and Magalies Clubs did duty at the various stages, and consisted of Johan ZS6JHB and Graham ZS6GJR (Lake Umuzi, Tjorrie Farm and Graceland Casino), Pieter ZS6CN and Chris ZS3B (Tjorrie Farm, TW Stene and Graceland Casino), Pieter ZS6PAM, Brian ZS6YZ and Anette ZR6D (Tjorrie Farm, Janneman & van der Merwe Special) and Pierre ZS6PJH & son Pierre and Louis ZS6SK (Graceland Casino and van der Merwe special). JB de Beer ZR6YV handled control, while Menno ZS6AGC manned Car 0 and Chris Barnard ZS6CMB was Marshal 1. A special thanks to Dawid ZS6VS and sw Ronel from Middelburg and Annatjie, sw of Pieter ZS6CN and Irene, sw of Pieter ZS6PAM for their values assistance. PARC hereby sincerely thanks everyone involved for their hard work and dedication with the Secunda Rally.

The South African Radio League AGM : PARC Members Feature

The SARL AGM was held at the Be My Guest Lodge in Sasolburg. Fritz Sutherland, ZS6SF, welcomed all to the AGM, and with other Council Members presented the League's Annual Report.

The following PARC members received awards:

The Silent Keys Memorial Trophy SSB and the Joseph White Trophy to Hans Kappetijn, ZS6KR

The JJ Pienaar Trophy was awarded to Vincent Harrison, ZS6BTY

Sincere congratulations to both Gentlemen.



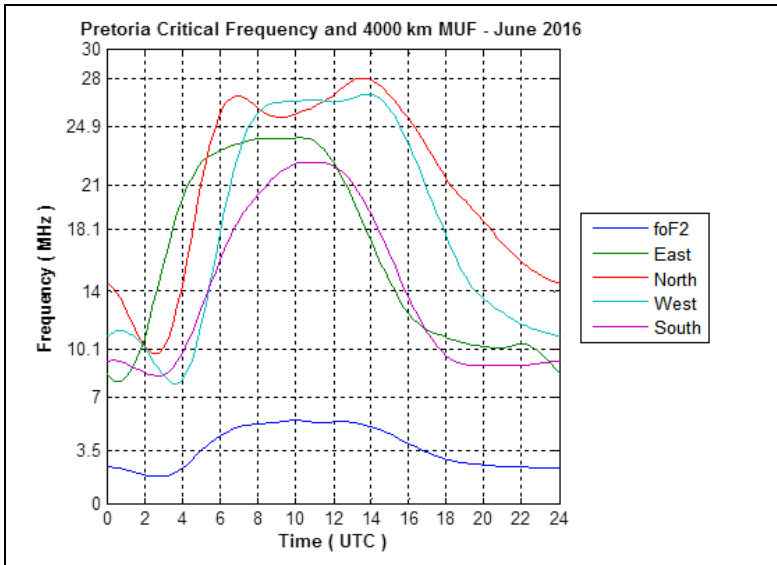
PARK Vlooiemark : 28 Mei 2016

Die afgelope PARK vlooiemark het vroeg afgeskop om diegene wat die AMSAT SA wou bywoon 'n kans te gee om ook rond te snuffel. Al was dit nog vroeg en redelik koud, was die bywoning goed, en was daar 'n hele paar aantreklike winskopies beskikbaar.

Natuurlik was die worsbroodjies en koffie soos altyd 'n treffer om die lee mage te vul, en Johan ZS6JHB, Pieter ZS6CN en Almero ZS6LDP moes bontstaan om almal te help. Baie dankie namens PARK vir u hulp met die geleentheid.



The next PARC Fleamarket will be on the 27th of August 2016. Please do contact Almero du Pisani if you wish to book a table. If you wish to donate any any equipment for the Club fund or Museum, please do contact Johan ZS6JHB or Almero ZS6LDP.



Long Term HF Propagation for June 2016

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 F-layer frequency for short range communications.

See also the Propagation tab at <http://www.parc.org.za/>

Courtesy Vincent ZS6BTY

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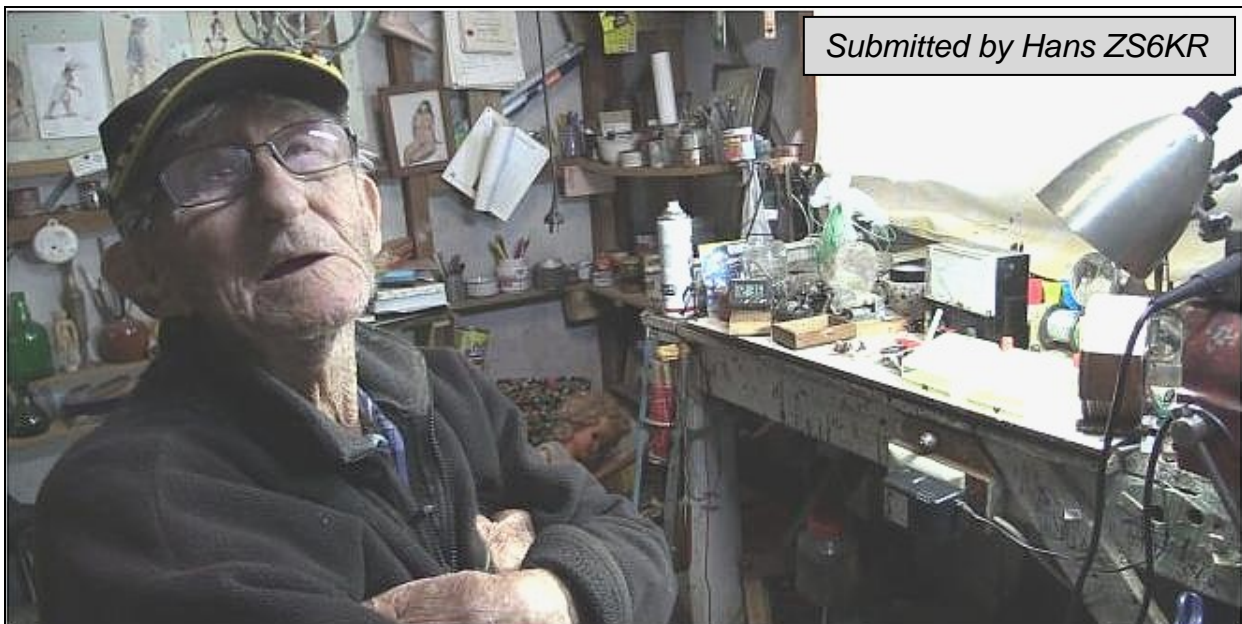
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Submitted by Hans ZS6KR

EEVblog #874 - World's Oldest Electronics Hobbyist!

105yo Ted Wale still builds FM bugs in his lab, and carves his own PCB's (none of this etching rubbish!)
 Dave caught up with him in his backyard workshop in Cabramatta in Sydney. Forum [HERE](#) EEVblog #874 -
 World's Oldest Electronics Hobbyist! [0.01 MB] Download (2373)