



WATTS 09-2017

Year 87 + 09m

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
Swoptshop : 2m and 7.066 MHz live on-air after bulletins
Bulletin repeats on Mondays / herhalings op Maandae : 2m 19:45

Pretoria
Amateur
Radio Club

Annual
General
Meeting
23 Sept
2017



Pretoria
Amateur
Radio Klub

Algemene
Jaar
Vergadering
23 Sept
2017

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Club Meetings / Klub Vergaderings

Club Social Meeting :

Saturday the 2nd of September from
14h00 at SAM

Committee Meeting :

Wednesday the 13th of September
2017 from 19h00 at SAM

Next PARC Flea Market dates for 2017
Volgende PARK Vlooiemark datums vir 2017

28 October (From 10h00) / 28 Oktober (Vanaf 10h00)

For more information please listen to the Sunday Bulletins or contact Alméro Du Pisani ZS6LDP
at 083-938-8955 or almero.dupisani@up.ac.za

Birthdays / Verjaarsdae – September

19 Johan Classen ZS6IAM
21 Johan de Bruyn ZS6JHB
26 Graham Reid ZS6GJR

27 Ryan Gibson ZS6GGR
28 Irene Myburgh ZS6IEA

Spouse's Birthdays / Gade Verjaardae – September

16 Annelize, gade van De Jager Burger ZS6ZO
28 Irene ZS6IEA, gade van Pieter Myburgh ZS6PAM

Anniversaries / Herdenkings – September

28 Erika en Jan (Pine) Pienaar ZS6OB

Lief en Leed / Joys and Sorrows

Erna, die gade van Whitey Joubert ZS6JJJ het 'n voetoperasie ondergaan. Ons wens haar spoedige beterskap.

Birthdays October / Verjaarsdae – Oktober

01 Evan Seligmann ZS6ELI
02 Andre van Tonder (Erelid) ZS6BRC
10 Roy Alexander ZS6MI
16 Fintan Wilson ZS6FIN

20 Martinho Dos Santos ZS6BQP
25 Gawie Marais ZS6GJM
30 Andre Coetzee ZS6GCA
31 Pieter Myburgh ZS6PAM

Spouse's Birthdays October / Gade Verjaardae – Oktober

03 Poppie, gade van Hansie Meyer ZS6AIK
12 Juanita, gade van Ryan Gibson ZS6GGR
14 Wilma, gade van Nic Louw ZS6NWL
16 Nielmari Wilson ZS6NMW, gade van Fintan ZS6FIN
21 Louise, gade van Alméro Du Pisani ZS6LDP
31 Maria, spouse of Jyri Hamalainen ZR5AAE

Anniversaries October / Herdenkings – Oktober

06 Poppie en Hansie Meyer ZS6AIK
09 Annatjie en Pieter Fourie ZS6CN
13 Wilma en Nic Louw ZS6NWL
15 Annelize en de Jager Burger ZS6ZO

PARC Bulletins / PARK Bulletins

PARC Bulletins are presented on Sunday mornings at approximately 08h45, after the SARL Bulletins in English and Afrikaans, from 08h15. The Bulletin Presenters for the following two months are presented below. Please do contact the applicable presenter beforehand if you wish to make a contribution to the Bulletin. PARC Bulletins are broadcast on the 2 meter repeater on 145.725 MHz, and 70 cm on 438.025 MHz. Relays are done on 7.060 MHz by Hans Kappetijn ZS6KR and on Echolink by Johan Lehman ZS6JPL.

PARK Bulletins word op Sondag oggende aangebied om 08h45, na die SARL Bulletins in Engels en Afrikaans, vanaf 08h15. The Bulletin aanbieders vir die volgende twee maande word onder aangedui. Kontak gerus die toepaslike Bulletin leser indien u 'n bydrae tot die Bulletin wil maak. PARK Bulletins word uitgesaai op die 2 meter Herhaler op 145.725 MHz, en 70cm op 438.205 MHz. Herleidings word gedoen op 7.060 MHz deur Hans Kappetijn ZS6KR, en op Echolink deur Johan Lehman ZS6JPL.

PARC Bulletin Presenters : August - October 2017			
Date	Presenter	Date	Presenter
10 September 2017	Etienne Naude ZS6EFN	22 October 2017	Tjerk Lammers ZS6P
17 September 2017	Tjerk Lammers ZS6P	29 October 2017	Johan du Bruyn ZS6JHB
24 September 2017	Johan du Bruyn ZS6JHB	05 November 2017	Louis de Wet ZS6SK
1 October 2017	Louis de Wet ZS6SK	12 November 2017	Almero du Pisani ZS6LDP
8 October 2017	Almero du Pisani ZS6LDP	19 November 2017	Etienne Naude ZS6EFN
15 October 2017	Etienne Naude ZS6EFN	26 November 2017	Tjerk Lammers ZS6P

Please do contact Etienne Naude ZS6EFN for more information or any Bulletin arrangements

PARC SUBS : PARK LEDEGELD : FROM / VANAF : 30-06-2017			
Bank	First National Bank	Ordinary Members / Gewone Lede : R160 Spouses / Pensioners : R60	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 Committee Members / Komiteelede : 2016 - 2017

Elected Members	Name	Callsign	Email Adress	Tel No	Mobile No
Chairman, Web co-ordination	Graham Reid	ZS6GJR	greid@wol.co.za	012-667-2720	083-701-0511
Vice Chairman, Repeater & Rallies	Johan de Bruyn	ZS6JHB	zs6jhb@gmail.com	012-803-9418	079-333-4107
Bulletins, RAE & Liason	Etienne Naude	ZS6EFN	etienne@afgrid.com	012-661-6745	082-553-0542
Treasurer	Andre van Tonder	ZS6BRC	andre.vtonder@absamail.co.za	012-361-3292	079-869-0753
Clubhouse Manager	Pieter Fourie	ZS6CN	pieterzs6cn@gmail.com	012-804-7417	082-573-7048
Social	Whitey Joubert	ZS6JJJ	zs6jjj@gmail.com	012-993-2267	072-120-4516
Secretary, Watts & RAE	Louis de Wet	ZS6SK	louis.zs6sk@gmail.com	012-349-1044	072-140-9893
Co-Opted Members	Name	Callsign	Email Adress	Tel No	Mobile No
Fleamarkets	Alméro Dupisani	ZS6LDP	almero.dupisani@up.ac.za	012-420-3779	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
Contests	Jaco Cronje	ZR6CMG	jacocronje@yahoo.com		081-474-2220
Contests	Pierre Holtzhausen	ZS6PJH	zs6pjh@telkomsa.net	012-655-0726	082-575-5799

Contests and Diary of Events / Kompetisies en Dagboek van Gebeure - September 2017 (UTC Times)

02	Russian RTTY World Wide Contest : 00h00 - 23h59
02 - 03	All Asian DX Contest, Phone : 00h00 - 24h00
02 - 03	RSGB SSB Field Day : 13h00 - 13h00
02 - 03	IARU Region 1 Field Day, SSB : 13h00 - 12h59
09 - 10	WAE DX Contest, SSB : 00h00 - 23h59
09 - 10	ARRL EME Contest : 00h00 - 23h59
09 - 10	SARL National Field Day Contest : 10h00 - 10h00 : CW, SSB & Digital : 160 - 10 meters
10	North American Sprint : 00h00 - 04h00
11	RSGB 80m Autumn Series : 19h00 - 20h30
16 - 17	SARL VHF/UHF Analogue / Digital Contest : 10h00 - 10h00 : 6 meters up to microwave
16 - 17	Scandinavian Activity Contest, CW : 12h00 - 12h00
16 - 17	All Africa International DX Contest : 12h00 - 12h00 : CW, RTTY & SSB : 160 - 10 meters
20	RSGB 80m Autumn Series, CW : 19h00 - 20h30
21	Closing Date : October RAE Registration
22	CQ Worldwide DX Contest, RTTY : 00h00 - 24h00
23	Pretoria Amateur Radio Club Annual General Meeting : From 11h00

Contests and Diary of Events - October 2017 / Kompetisies en Dagboek van Gebeure - Oktober 2017 (UTC Times)

05	SARL 80m QSO Party : 17h00 - 20h00
07 - 08	ARRL EME Contest : 00h00 - 23h59
07 - 08	Oceana DX Contest, Phone : 08h00 - 08h00
07 - 08	Antique Wireless Association Valve QSO Party
08	RSGB DX Contest : 05h00 - 23h00
09	RSGB 80m Autumn Series, CW : 19h00 - 20h30
21	October RAE
21	JOTA / YOTA : CQ Hou Koers
21 - 22	10-10 International Fall Contest, CW : 00h01 - 23h59
21 - 22	Worked all Germany Contest : 15h00 - 14h59
28 - 29	CQ Worldwide DX Contest, SSB : 00h00 - 24h00
28	Pretoria Amateur Radio Club Fleamarket : 11h00

More information can be obtained from the SARL website, as well as the WA7BNM contest calendar at the following website: <http://hornucopia.com>

Rally News 2017 : Tydren Nuus 2017

2017 Rally Calendar / 2017 Tydren Kalender

*Round	Date	Province	Location
7	21 October	Free State	Welkom

**Other rounds 4 and 6 are in Port Elizabeth and Caledon*

2017 Cross Country Championship Calendar

Round	Date	Location
5	15/16 September	Sun City
6	27/28 October	TBC

Indien u sou belangstel om met radio ondersteuning betrokke te raak, kontak gerus vir Johan de Bruyn ZS6JHB by 079-333-4107 of zs6jhb@gmail.com

Pretoria Amateur Radio Club Annual General Meeting : Agenda
Pretoria Amateur Radio Klub Algemene Jaarvergadering : Agenda

PRETORIA AMATEUR RADIO CLUB / PRETORIA AMATEUR RADIO KLUB

Agenda for the Annual General Meeting of PARC

At 11h00 on Saturday the 23rd of September 2017 at the Pretoria Motor Club Silverton

Agenda vir die Algemene Jaarvergadering van PARK

Om 11h00 op Saterdag die 23^{ste} September 2017 by die Pretoria Motor Klub Silverton

- 1 Welcome and Attendance / Verwelkoming en Teenwoordigheid
- 2 Apologies and Proxies / Verskonings en Volmagte
- 3 Declaration of Quorum / Verklaring van Kworum
- 4 Opening: Graham Reid ZS6GJR
- 5 Minutes of Previous AGM / Notules van Vorige AJV: Louis de Wet ZS6SK
- 6 Treasurer's Report / Penningmeester Verslag: Andre van Tonder ZS6BRC
- 7 PARC bank savings : alternative suggestions : Andre van Tonder ZS6BRC
- 8 Appointment of Auditor / Aanstelling van Ouditeur
- 9 Chairman's Report / Voorsitter Verslag: Graham Reid ZS6GJR
- 10 Discussion of Motions / Bespreking van Mosies
- 11 Election of Committee 2017 / Verkiesing van Komitee 2017
- 12 General Matters / Algemene Sake
- 13 Presentation of Awards / Toekenning van Pryse
- 15 Guest Speaker / Gasspreker
- 16 Closing / Afsluiting
- 17 *Lunch / *Middagete

*Lunch will be a bring and braai. PARC will supply fires, porridge, gravy and salads.

*Middagete sal 'n bring en braai wees. PARC sal die vure, pap, sous en slaaie voorsien.

Pretoria Amateur Radio Club AGM : Awards for Long Membership
Pretoria Amateur Radio Klub AJV : Toekennings vir Lang Lidmaatskap

The following PARC Members will receive awards for membership of more than 20 years:

Die volgende PARK Lede sal tydens die AJV toekennings ontvang vir lidmaatskap van meer as 20 jaar:

Name	Call Sign	Date Joined	Years Membership
Roy Alexander	ZS6MI	1996-06-01	21
Sollie Conradie	ZS6SV	1997-03-30	20
JB de Beer	ZR6YV	1979-03-30	38
Johan de Bruyn	ZS6JHB	1995-07-13	22
Doréén de Bruyn	ZR6DDB	1996-03-30	21
Raymond de Wet	ZS6ALG	1997-03-30	20
Alméro Du Pisani	ZS6LDP	1991-03-30	26
Menno Havelaar	ZS6AGC	1997-04-06	20
Hans Kappetijn	ZS6KR	1979-12-20	38
Joe Katzman	ZS6TB	1993-07-09	24
Tjerk Lammers	ZS6P	1979-03-01	38
Hal Lund	ZS6WB	1978-12-05	39
Hansie Meyer	ZS6AIK	1959-11-30	58
Johannes Momberg	ZS6BPB	1997-07-12	20
Roy Newton	ZS6XN	1975-10-01	42
Richard Peer	ZS6UK	1993-01-06	24
Frank Schneider	ZS6GE	1997-03-30	20
Paul Sterling	ZS6BMF	1962-07-01	55
Paul Straub	ZS6BOO	1997-03-30	20
André van Tonder	ZS6BRC	1975-03-30	42
Edmar Willers	ZS6UT	1988-06-01	29
Dave Williams	ZS6JW	1946-12-30	71
Daniel Zeelie	ZR6AUS	1990-09-05	27

Pretoria Amateur Radio Club Annual General Meeting : Proxy & Nomination Forms
Pretoria Amateur Radio Klub Algemene Jaarvergadering : Volmag en Nominasie Vorms



87th ANNUAL GENERAL MEETING
87^{ste} ALGEMENE JAARVERGADERING
Pretoria Amateur Radio Club



Pretoria Old Motor Club
Keuning Str. Silverton

Venue

Saturday 23 September 2017
Time : 11h30
Agenda : To be published

Plek

Saterdag 23 September 2017
Tyd : 11h30
Agenda : Sal gepubliseer word

NB

Nominations awaited. Latest acceptance by 11h00 on 23 September 2017
 Nominasies word afgewag. Laatste indiening teen 11h00 op 23 September 2017
 Contact details on page 3 of WATTS / Kontakdetails op bladsy 3 van WATTS

PROXY Form (cut out) || VOLMAG Vorm (knip uit)

Only paid-up members may submit proxies || Slegs opbetaalde lede mag volmagte indien

I/Ekbeing ZS/R/U..... give/geeZS/R/U.....

Proxy to vote on my behalf at the 2017 PARC AGM

Volmag om namens my te stem tydens die 2017 PARK AJV **Geteken/Signed**.....

NOMINATION Form (cut out) || NOMINASIE Vorm (knip uit)

Committee Nominations must be in writing and signed by both the Proposer and Nominee and be handed in on **23 September 2017 at 11h00 at the latest**. Use the Nomination Form below. The Proposer and Nominee must both be paid-up members.
Komitee Nominasies moet skriftelik wees en deur beide die Voorsteller en Voorgestelde geteken word en moet **op laaste teen 11h00 op 23 September 2017** ingehandig word. Gebruik die Nominasievorm hieronder. Beide Voorsteller en Voorgestelde moet opbetaalde lede wees.

Proposer: ZS Signature:
 Voorsteller:.....ZR..... Handtekening:.....
 ZU

NOMINEE GENOMINEERDE	CALLSIGN ROEPSEIN	NOMINATION ACCEPTED NOMINASIE AANVAAR
1		
2		
3		
4		

Pretoria Amateur Radio Club Annual General Meeting : Notice of Motion
Pretoria Amateur Radio Klub Algemene Jaarvergadering : Kennisgewing van Mosie

**Notice of motion to amend the constitution
of
Pretoria Amateur Radio Club**

The amendments are proposed for the following reasons:

To add certain key governance principles currently omitted from the club's constitution.
To align the club's operational and fiduciary responsibilities with best practices.
To correct certain spelling and syntax errors

Changes are highlighted in **bold print**. Insertions and deletions are printed in **red**.

CLAUSE 31

31. General meetings shall be held by the Club ~~which shall decide the month in each year when it's~~
Compulsory Annual General Meeting will be held **within 60 days after the club's financial year end** in substitution
OF its ordinary meeting. Special general meetings may also be convened under these Rules.

Reason for change: The current constitution does not mention any specific date/timeline by which an Annual General meeting has to be held. Not stating a date/timeline leaves the decision on a AGM open-ended and which can lead a prolonged final decision on an AGM date.

CLAUSE 34.2

34.2. the bank or ~~building society~~ with which the funds of the Club are to be deposited and, subject
to the provisions of the Rules, the manner in which such funds shall be administered.

Reason for change: building societies are no longer a financial services organisation and therefore propose to remove the reference to building society from clause 34.2

CLAUSE 37

37. Nominations for election to the committee shall be made by the members **and should be submitted to the club secretary in writing on the nomination forms provided. Such committee nominations shall reach the club secretary latest 14 days before the date of the AGM;** provided, however, that any member who will be unable to attend the meeting may address his nomination to the secretary as to reach the secretary at least two clear days before the date of such meeting

Reason for change: Currently there are no specific deadlines by which committee nominations are to be submitted at. This cause for an open-ended approach and late nominations been created just to fill committee positions.

CLAUSE 38.4

38.4. Nominations are received after the closing date of nomination submissions which is 14 days before the date of the AGM.

Reason for deletion: Submission of nominations will not be valid if the nominations are received after the closing date of the such nominations.

CLAUSE 66

66. The Chairman's report, AGM Agenda, Audited Financial results and minutes of the previous AGM must be published on the club's web site and distributed to members latest 21 days before the date of the scheduled AGM each year.


Reason for changes: Currently no financial results, Chairman reports or minutes of the previous AGM are being distributed before the start of the scheduled AGM. This is a) not according to best practises and b) does not allow members to prepare for the meeting if information pertaining to the AGM is not received within time before hand.

CLAUSE 49


49. The club's treasurer shall publish the quarterly, half year and year end Financial Management Reports on the club's web site.

Reasons for changes: In order to become more transparent and to provide our members with insight to the financial matter of the club, regular publication of the financial status of the club is necessary.

Proposed By:


Etienne Naudé (Z56EFN)
2017-06-27

Seconded By:


Louis de Wet (Z56SK)
2017-06-27

RAE October 2017 Syllabus and Lectures

Lectures for the October 2017 Radio Amateur Examination will be presented by PARC from the 1st of July 2017. The course presented by PARC is free of charge. For more information on the lectures, please do contact Etienne Naude ZS6EFN at etienne@afgrid.co.za.

Week	Date	Material	Tutor	Chapter	Tutor
1	01-Jul-17	RAE Information Session	E/LdW/VH	1	Overview of Amateur Radio
2	08-Jul-17	Chapter 1 - 4	E	2	Operating Procedures
3	15-Jul-17	Chapter 5 - 7	E	3	Basic Electrical Concepts
4	22-Jul-17	Chapter 8 - 10	E	4	Resistance and Ohm's Law
5	29-Jul-17	Chapter 11 - 13	LdW	5	The Resistor and Potentiometer
6	05-Aug-17	Chapter 14 - 16	LdW	6	Direct Current
7	12-Aug-17	Chapters 17 - 19	LdW	7	Power in DC Circuits
8	19-Aug-17	Break		8	Alternating Current
9	26-Aug-17	Chapters 20 - 22	LdW	9	Capacitance and the Capacitor
10	02-Sep-17	Chapter 23 - 25	LdW	10	Inductance and the Inductor
11	09-Sep-17	Chapters 26 - 27	VH	11	Tuned Circuits
12	16-Sep-17	Chapters 28 - 30	E	12	Decibel Notation
13	23-Sep-17	Chapters 31 - 33	E	13	Filters
14	07-Oct-17	HF Assessment	E/LdW/VH	14	The Transformer
	21-Oct-17	RAE		15	Semiconductors and the Diode
				16	The Power Supply
	E	Etienne Naude		17	Bipolar Junction Transistor
	LdW	Louis de Wet		18	The Transistor Amplifier
	VH	Vincent Harrison		19	The Oscillator
				20	Frequency Translator
				21	Modulation Methods
				22	The Transmitter
				23	Receiver Fundamentals
				24	The Super Heterodyne Receiver
				25	Transceivers and Transverters
				26	Antennas
				27	Propagation
				28	Electromagnetic Compatibility
				29	Measurements
				30	Digital Systems
				31	Digital Communication Modes
				32	Safety Considerations
				33	Before You Go

Lecture notes for the RAE can be obtained from the SARL website at <http://www.sarl.org.za/public/licences/rae.asp>. The various files which can be downloaded required for study for the RAE include the following:

The following documents are available. Click on the document title to download a copy.

Reference Date	Document Title	File Type	Size
2016-06-14	SARL Inleiding tot Amateurradio - Klas A Studiegids	PDF	980 kB
2016-05-06	ICASA Regulations - Effective for Oct 2016 examination and onwards	PDF	286 kB
2016-05-05	SARL RAE Class A Study Guide - 2016 Effective for Oct 2016 exam and onwards	PDF	4.6 MB
2016-05-05	HF Assessment Preparation Guide - Effective for Oct 2016 Exam and onwards	PDF	1.3 MB

Venue and times:

Lectures will be presented in the Board Room of Waterlab (Pty) Ltd from 9h00 - 12h00 each of the dates (Saturdays) listed above. The address of the venue is 23B de Havilland Crescent, Perseus Park, Pretoria. Please do contact Louis de Wet ZS6SK at louis.zs6sk@gmail.com if you require more information on the venue.

Noise Factor, Figure and overall noise in your receiver : By Hans Kappetijn ZS6KR

A brief summary of theory leading up to determining the Noise Figure of RF receivers and amplifiers. The reader is referred to Agilent Application notes AN57-1/2, R Fisk and many others from which much of the material has been condensed below in simplified form.

The **Noise Factor** of any device is defined as $F = \text{Signal/Noise in} / \text{Signal/Noise out}$.
The degradation of a network S/N depends on the temperature of the source that excites that network.

Noise power is defined as $K.T.B$ where $K =$ Boltzmann's constant, $T =$ temperature in °K, $B =$ bandwidth.
The accepted chosen reference value for T is $T_0 = 290^\circ\text{K} (=16,8^\circ\text{C})$

A source at a higher temperature will thus add more noise to a system.

Skipping some physics calculations and defining T_e as the equivalent noise temperature of the source we

find $F = 1 + T_e / T_0$ and also define the **Noise Figure** as $NF = 10 \log(F)$ dB.

In practical radio systems a listener is subjected to $N(\text{radio}) + N(\text{feedline}) + N(\text{Antenna})$. Examining this:

a) **Transmission feedlines** have finite resistance (losses) and due to thermal agitation contribute noise.

$F_{\text{line}} = 1 + [T_{\text{line}} (1/L - 1)] / 290$ and the total system Noise Factor of (feedline+RX) is $F_t = F_{\text{line}} + [F_{\text{rx}} - 1] / L$

As an example a receiver with $N=4$ ($NF=6\text{dB}$) and a line with $L=0,63$ (2dB loss) and line temperature 300°K , then $F_{\text{line}}=1,61$ and thus $F_t=1,61 + [3/0,63]=6,37$ (8,04dB).

b) **Antenna noise**. The physical antenna itself contributes very little. The noise power delivered to the receiver depends almost entirely on the atmospheric (galactic) noise received within its view.

Total degradation is illustrated below using a receiver with a -129dBm noise floor (0,08uV) with a (-119dBm) 10dB SINAD sensitivity of 0,5uV over 2,1kHz bandwidth. (calculated $N=15,1$ and $NF=11,8\text{dB}$)
This is now fed with 30m of transmission line and the effect shown in the second column.

Frequency MHz	At receiver from 30m line		Quiet atmosphere available noise power (dBm - uV)		Input required for 10dB SINAD. (S+N)/N	Acceptabl e noise figure NF(dB)
	N	NF(dB)				
1,8	15.8	12.0	-93	5uV	15,3uV	45
3,5	16.2	12.1	-101	2uV	12,6	37
7.0	16.7	12.2	-111	0,64uV	4,0	27
14.0	17.6	12.5	-113	0,50uV	3,1	24
21.0	18.3	12.6	-118	0,28uV	1,8	20
28.0	18.9	12.8	-123	0,16uV	1,0	15
50.0	20.9	13.2	-129	0,08uV	0,5	9
144.0	26.9	14.2	-139	0,025uV	0,2	2

Minimum usable sensitivity (MUS). You now note that the original N of 15,1 has been added on to by the feedline. Even at 28MHz where the line loss has increased the N by 25%, the system NF of 12,8 is still well below the 15dB margin for 10dB SINAD.

Not so at 50MHz and 144MHz. Hence now very low loss lines are recommended. Poor receive sensitivity is acceptable on the 40, 80 and 160m bands and explains why the simple 1920 receivers were relatively successful.

This article has not gone into the 50MHz and higher requirements for receivers but it can clearly be seen that equipment with 1-1,5dB noise figures and line losses <1dB are very desirable. Actually the higher frequencies above 18MHz are more influenced by galactic noise and below 18MHz by atmospheric noise.

Receiving systems for space and satellite communications should ideally be galactic-noise limited.

Congratulations to Theo Bresler ZS6TVB who does it again!

J **2017** *S*

CQ

The Radio Amateur's Journal
Takes pleasure in awarding this Certificate of Merit to

ZS6TVB

World Wide WPX Contest

#2 South Africa #20 World
Single Operator High Power 15M #3 Africa

A Total score of 133,280 points was computed on the basis of the number of stations worked and call sign prefixes contacted. In witness of this achievement, we hereby affix our signatures on this day.

Terry Zivny N4TZ
CQ WPX Contest Director

E. S. Wood w2vu
Editor, CQ

Tool for Twist-on cables : By Hans Kappetijn ZS6KR

Thicker cables need considerable twist power to do a proper job and this simple tool can save you some irritation and damaged skin.



Take a discarded shell and find an eyelet that can fit round its back end. Best find a brass one else you need to flux and heat it considerably like I had to do it with one made of steel. A small wooden file handle or similar completes the tool.

Screw the PL259 inner part in the wrong way round as shown until it hits home possibly with an internal spacer to even out the length that both sides stick out. Once the cable is fitted the tool can be turned clockwise to extract it.

Cars in the Park : Zwartkops Renbaan

Die gebruiklike “Cars in the Park” het die jaar op die 6^{de} Augustus op die Zwartkops renbaan plaasgevind. Johan de Bruyn ZS6JHB en Louis de Wet ZS6SK het radio ondersteunings dienste verskaf. Soos u kan sien uit die enkele fotos was daar iets vir almal te sien wat ‘n belangstelling het in voertuie van alle soorte en ouderdomme.



Die Alfa-Romeo dag is die daarop-volgende sondag die 13^{de} Augustus ook by die Zwartkops renbaan gehou. ‘n Groot groep van PARK het hulp verleen tydens hierdie dag. Hier is Pieter Fourie ZS6CN saam met verteenwoordigers van die Alfa Klub.

Die Electrothread Tydren : Bronkhorstspuit

Die Electrothread tydren, bestaande uit 11 trajekte, is op vanaf die 18de tot die 19de Augustus in die omgewing van Bronkhorstspuit gehou. Die aantal nasionale en streeks inskrywings was 38 motors met talle bekende name wat deelgeneem het. Radio amateurs van PARK het radio bystand verleen, met onder andere Willie Greyling ZR6WGR wat die beheerstasie beman het, met Sandy Wolliatt ZS6ICE en Ben van den Berg ZR6BVB op Mobiel 1 en 2 onderskeidelik. Menno Havelaar ZS6AGC en Phillip Swanepoel het Karre 0 en 00 beman, terwyl Irene Myburgh ZS6IEA as Marshal 1 diens verrig het.



Veldstasies is beman deur Pieter Fourie ZS6CN, Johan du Bruyn ZS6JHB, Louis de Wet ZS6SK en Pieter Myburgh ZS6PAM. PARK bedank almal wat uitgehelp het hartlik vir hul moeite en insette.



Die Electrothread tydren is afgesluit met trajekte 10 en 11 wat by die Willem Prinsloo museum plaasgevind het. Hierdie trajekte is gekenmerk met aksie wat bestaan het uit haarnaald draaie en min spasie tussen die pad en toeskouers (sien fotos onder).



National Rally Championship

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RE: H.M.C ELECTROTHREAD RALLY 18-19 AUGUST 2017

Dear Johan and Radio Marshal Teams,

Please allow us to express our heartfelt **THANK YOU** to you and your Team for all the assistance that you gave us to make the 2017 H.M.C Electrothread Rally in Bronkhorstspuit the huge success that it was.

Without the kind and helpful assistance of Volunteers like yourselves, we would not be able to present and showcase the Fantastic Sport of Rallying to the general public. We would also like to thank you on behalf of the Competitors, Organizers and event sponsors for your generosity and supporting the event. We trust that you enjoyed it as much as we did.

We look forward working with you again in the future, and please convey our gratitude to the rest of your team.

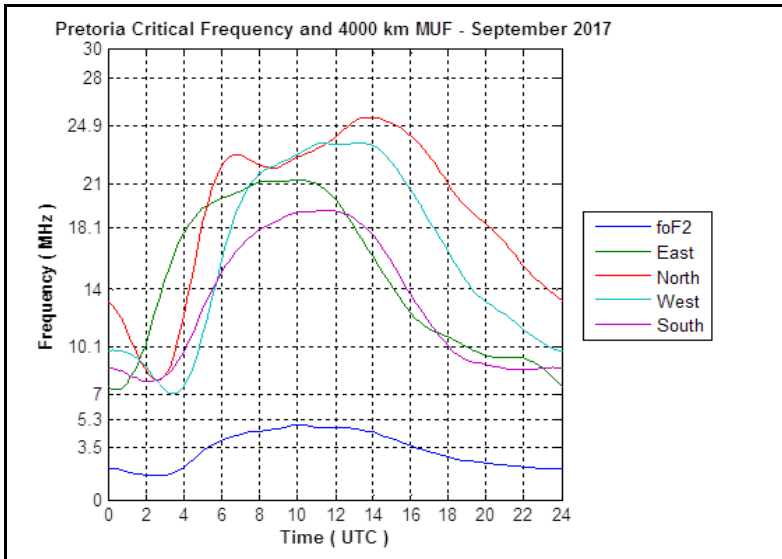
Best Regards

WA Louw

William Louw

on Behalf of the National Rally Steering Committee

Skrif ontvang deur Johan ZS6JHB vanaf William Louw van die NRC waar hulle hul waardering teenoor PARK se radio amateurs uitspreek vir radio bystand tydens die Electrothread tydren.



Long Term HF Propagation for September 2017

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.

For worldwide propagation see: <http://www.parc.org.za/index.php?page=propagation>

Courtesy Vincent ZS6BTY

C/O NELSPOORT & 801 MALMESBURY STR, WINGATE PARK, PRETORIA [S25.49.36 & E28.16.07]

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