WATTS

02-2013

Year 83 + 2m

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

ZR6FD logo

Drukwerk ZS6RH

Papier / Paper ZS6RH

Iain ZS5IE joins PARC -- no doubt extremely radio active – see all of his large facility on QRZ.com

In this issue

In hierdie uitgawe

Next club events

Fleamarkets at PMC
Sat 2 Feb Wed 1 May
Sat 10 Aug Sat 7 Dec

Club social at U.P.
Thursday 7 Feb 7pm
Club committee meeting
Thursday 21 Feb 7pm

PARC Management team / Bestuurspan Aug. 2012 – Aug. 2013

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Historian, Archives, Awards	Tjerk Lammers	ZS6P	zs6p@iafrica.com	012-809-0006	

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Editors comment:

Electronic WATTS will be 10 years old in June this year. Distribution figures were as high as 150 since then but have dwindled much lower over the past few years due to reducing membership which had a record low not long ago.
Since then we have been fortunate to welcome a number of new members in our club over the past months especially those younger than us OM's. We must however keep up the canvassing effort and also entice the many strayed members to come back.
Strengthening club numbers, activities and expertise are mandatory if we are to reach a century of existence. Many of us OM's will not be here any more in the year 2030 which is some 17 years on.
Current and subsequent management must take cognizance of this and devise actions to effect contnuity, longevity and replacement of inevetable SK's.
Attracting more souls is, in my opinion, not just through RAE students but a large question of our image to the outside-amateur and non-amateur communities who are attracted by our visible and audible activities and also wish to become involved.
The very fact that we have attracted members outside Pretoria and even Gauteng must be a good example of a favourable image we currently represent.
Let us not slack in this respect and build on all the good things that are to our advantage.

Redakteur kommentaar:

Elektroniese WATTS sal Junie vanjaar10 jaar oud wees. Verspreidingsyfers was so hoog as 150 maar sedertdien heelwat laer geval oor die laaste jare as gevolg van afgaande lidmaatskapsyfers wat redelik onlangs 'n laagtepunt beleef het.
Sedertdien was ons gelukkig om weer 'n aantal nuwe lede te verwelkom in ons klub oor die laaste maande; spesifiek die wat jonger is as ons OK's. Ons moet egter ons pogings met werwing staande hou en ook die baie afgedwaalde lede probeer laat terugkom.
Versterking van klublidmaatskap, aktiwiteite en kundigheid is broodnodig as ons 'n eeu van bestaan wil bereik. Baie van ons OK's sal nie meer hier wees nie in die jaar 2030 wat slegs 17 jaar vorentoe is.
Huidige en opvolgende bestuur moet kennis neem hiervan en aksies instel om kontinuiteit, lewensduur en die vervanging van onvermydelike Stil Sleutels.
Om meer siele te trek is, in my opinie, nie net vanaf RAE studente, maar 'n kwessie van ons beeld na buite-amateur en nie-amateur gemeenskappe wat deur ons sigbare en hoorbare aktiwiteite aangetrek word en dan ook betrokke wil wees.
Die blote feit dat ons lede kon trek buite Pretoria en selfs Gauteng is 'n goeie voorbeeld van 'n gunstige beeld wat ons huidiglik aanbied.
Ons mag nie dit laat verslap nie en verder bou op al die goeie dinge wat ons baat.

Birthdays Feb.
Verjaarsdae

01 Pieter ZS6SPY, OM of Brinette ZS6MZA
03 Willie ZR6WGR
03 Nico ZR6AQ
04 Nina, SW of Edwin ZR6ESP
06 Ellen, sw of Joe, ZS6AIC
09 David, son of Ellen and Joe ZS6AIC
11 Leanne, sw of Allan ZS6AVC
12 Yvette, daughter of Rika and Errol ZR6VDR
14 Tobile ZS6TKO
16 Pat ZR6AVC, sw of Frank ZS6GE
20 Ivo ZS6AXT
22 Joshua, son of Darlington and hilary ZR6HAP
22 Christopher, son of Joey and Graham ZS6GJR
23 Arrie ZS6IRA
28 Peter ZS6PJ

Anniversaries Feb.
Herdenkings

03 Heather and vince ZS6BTY (23)
18 Sarina en willie ZR6WGR (13)
28 Martie en "JB" ZR6YV (37)

Lief en Leed | Joys and Sorrows

OM **Bill ZS6KO** is still cared for at home after a hospital visit
Paul ZS6BOO is engaged to be married
Antoinette ZS6D was hospitalised for a while

Diary | Dagboek (UTC times)

Feb
02-03 10-10 International Winter Contest SSB 00:01-23:59
04-05 AWA CW activity day ????
09-10 SARL HF Field Day ????
09-10 Dutch PACC Contest 12:00-12:00
09-10 CQ WW RTTY WPX Contest 00:00-24:00
16-17 ARRL Inter. DX Contest CW 00:00-24:00
22-24 CQ 160-Meter Contest SSB 22:00-21:59
23 SARL Youth Sprint 10:00-12:00 CAT with 09:00 event
23-24 REF Contest, SSB 06:00-18:00
23-24 UBA DX Contest CW13:00-1300

RAE classes have started.

Classes every Tuesday evening 19:00-21:00

Handbooks can be downloaded from SARL website.

Contact Vincent or Fritz
(see p.2 for contact details)

New member

Welcome to Iain McAllister ZS5IE
QTH PieterMaritzburg

Snippets | Brokkies

- **Rally season starting**

Contact Johan ZS6JHB 079-333-4107 if you wish to assist.
Details should also be available on our website soon.

It appears that the Pretoria Club involved themselves with radio communication assistance activities (and not only motor sport) since many years ago as this 1948 photograph proves.
There was no lack of RF – even the type with no electricity --- --- --- --- →

OM's Mike Smuts, 6GO, and Boet Kok, 6LO, have the RF under control during the 125-mile air race staged by the Pretoria Light Plane Club on the 11th April.

- **Kenwood TS990** Hi-tech HF radio to be released in February. Price of a small car….?

- **Re-apply for your amateur license.** As recently announced on HQ Bulletin some weeks ago, ICASA is compelled to institute amateur, repeater and commercial re-licensing renewal every 5 years. This currently appears not to be for financial gain, but simply to comply with law to which the Auditor General has drawn their attention.
- **If you not yet done so go to the SARL website and use the available (simplified) form for Radio Amateurs which only became available 17 January.** *Read the instructions on the web page.* Although the deadline was set at 25 Jan. it is doubtful that that can be reached but in the last part of the form it can be stated that your application is a late application.

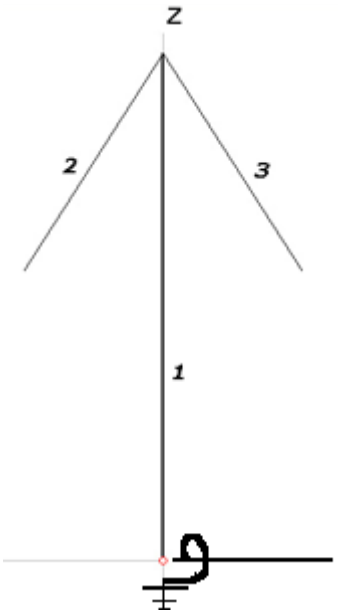
NB: You do not have to be an SARL member to access the form. ICASA fax 011-611- 3340 or email to Specxxx address on SARL web.

80M Vertical Antenna with Capacitance Hat

Original design by KB0FHP originally available at http://home.comcast.net/~kb0fhp/80M_Vertical/80M_Vertical.htm

Design Criteria:

- Simple wire antenna;
- Cheap to make, using readily available materials;
- Low angle radiation, with rejection of high angle signals;
- Wide bandwidth, with resonance at the 80M DX window (3.790-3.800 MHz); and
- Maximum height is 40 feet (limitation due to tree height).



Design:

Since the use of a full ¼-wave vertical was out of the question because of space reasons, it was decided to use a smaller vertical, and load the top portion of the antenna with a capacitance hat.
Based on modeling results, the following dimensions satisfied the design requirements:

Description of 80M Vertical with Capacitance Hat

The nylon lines connecting wires #2 and #3 to the ground are 6.58 m (21'-7") from the vertical wire #1. This makes the determining the angle moot, and simplifies installation.

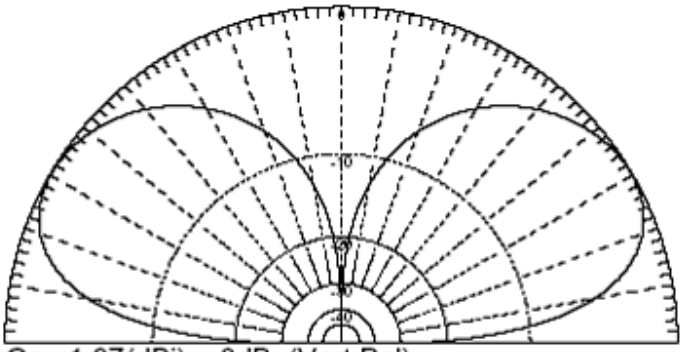
Model:

The model was made in MMANA, with 200 segments per wire. Real ground was modeled, with a dielectric strength of 1.0 and an earth conductivity of 1.0 mS/m – very poor conductivity. The model included 3 radials, approximately 5 m long. Results of the model are shown attached.

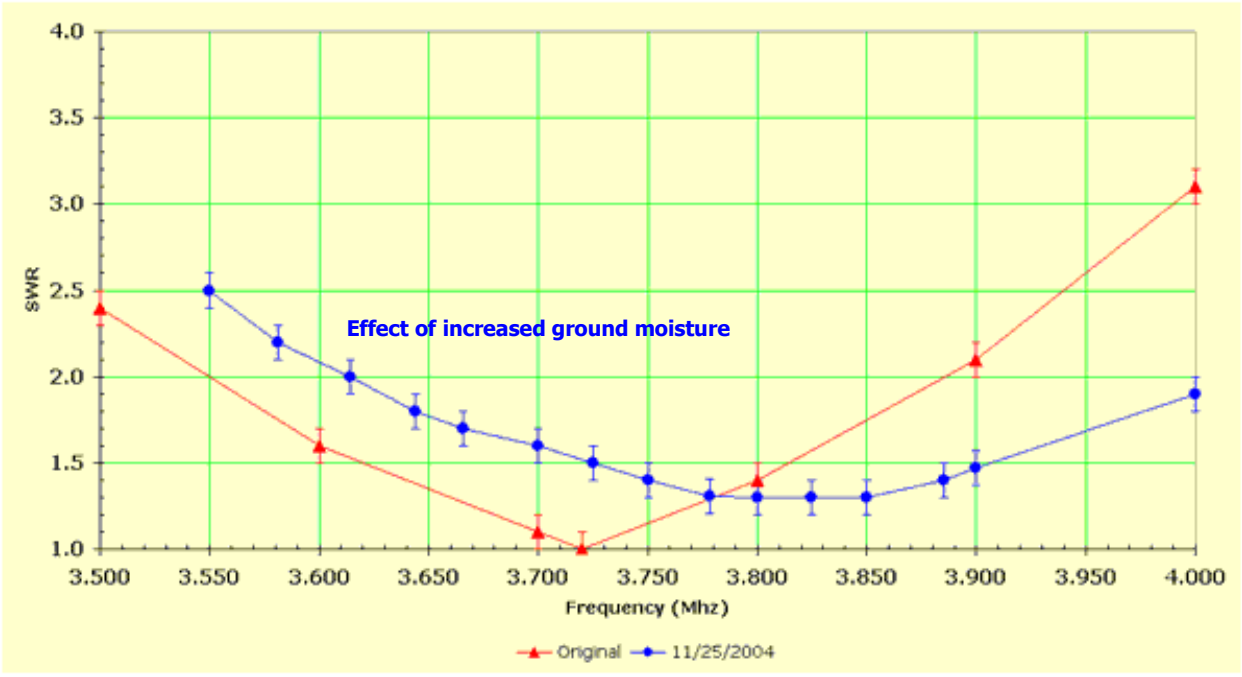
Wire Lengths of Antenna Described for 3.800 Mhz (can be scaled for lower frequency)

Wire,	Length ,	Included Angle
1	11.89 m	N/A
2	5.84 m	29º
3	5.84 m	29º

After erecting the antenna, and driving in a 12mm copper ground rod, measurements were taken prior to attachment of radials. The resistance was very high. Radials were attached, and the measurements were retaken using a MFJ-259 SWR Analyzer. The results showed resonance at 3.720 MHz, with no tuning required. The 1.5:1 bandwidth was 3.620-3.82 MHz, or approximately 200 KHz. The bandwidth definition of 1.5:1 was chosen to allow the use of an amplifier.



Ga :1.37(dBi) = 0dB (Vert Pol)
F/B :-0.02(dB) Rear:Az.120 dg El.60dg
Freq:3.800(MHz)
Z :19.332-j2.672



BATTERY DISPOSITION AND DISPOSAL

TECHNICAL BULLETIN TB43-0134

Approved for public release; distribution is unlimited. **HEADQUARTERS, DEPARTMENT OF THE ARMY**

Ed note: With the growing trend to go *green*, larger dependence on batteries is imminent and various technologies have sprouted. Lead-acid batteries are slowly on the way out especially for motorized and portable applications. This article is a condensed version of US Army practice as per 1996 release, in which the references to disposal routes, packaging and transport regulations have been omitted leaving some useful information generally not encountered.

1. Lithium-Sulfur Dioxide (Li-SO_2) Batteries

Li- SO_2 batteries are primary (non-rechargeable) batteries. Multi-cell batteries have two or more cells (up to ten cells depending on configuration). The cell has a liquid cathode of sulfur dioxide (SO_2), with up to 2.8 grams of lithium (Li)/cell. Batteries currently available have a built-in *Complete Discharge Device (CDD)* activated by a switch below an instruction label used prior to disposal.

Chemical characterization:

(1) Anode: Lithium (Li).

(2) Cathode: Sulfur dioxide (SO_2).

(3) Electrolyte: Organic solvent (acetonitrile (CH_3CN)) solution with lithium bromide (LiBr).

WARNING: Li- SO_2 batteries contain pressurized SO_2 gas. The gas has a pungent odor, and is highly toxic. Abuse in any way which may cause the battery to rupture. Turn off the equipment if battery or battery compartment shows signs of overheating, and/or a hissing sound is heard (venting with an irritating smell). Leave the area and allow 60 min cooling. SO_2 gas has a sharp suffocating odor and is a corrosive and poisonous material. It may irritate the eyes, nose, throat, and upper respiratory tract. A person can detect SO_2 at 1 ppm concentration, and concentrations above 10 ppm are dangerous.

NEVER test Li- SO_2 batteries for capacity with a conventional test set not specifically designed to test these batteries.

Fire control/suppression: A Li- SO_2 battery does not catch fire easily. Typically, (Li) metal is less than 2% of total battery weight. If it does catch fire, it will probably burn out in less than five minutes. A battery heated by fire will vent toxic and corrosive SO_2 gas.

Flood the burning materials with water to cool the batteries, control the combustion of surrounding flammables, and reduce the hazards of gaseous SO_2 , by removing some of the gas from the air with ventilation.

WARNING: Halon fire extinguishers SHALL NOT be used to combat fires involving Li- SO_2 batteries. $C0_2$ extinguishers will not extinguish burning Li metal, but will extinguish other combustible materials within or near the battery. Use of an approved Class-D fire extinguisher, such as Lith-X, for Li metal fires, is recommended. Deactivated Li- SO_2 batteries which have been completely discharged with a CDD can be disposed of with general refuse/trash.after 5 days.

CAUTION: Complete deactivation cannot be ensured if Li- SO_2 batteries show signs of damage prior to discharge with the built-in CDD or if the battery shows evidence of overheating during discharge (too hot to hold, melted plastic case, vented cell, etc.) Such Li- SO_2 batteries MUST BE disposed as Hazardous Waste.

WARNING: Multi-cell Li- SO_2 batteries may also vent during complete discharge.

2. Lithium-Thionyl Chloride (Li-$SOCl_2$) Batteries

Li-$SOCl_2$ batteries are primary (non-rechargeable) batteries. Multi-cell batteries have two or more cells (up to eight cells depending on configuration). The cell has a liquid cathode of thionyl chloride ($SOCl_2$), with up to 4,7 grams of lithium (Li)/cell. Batteries currently available have a built-in Complete Discharge Device (CDD) as explained in (1)

Chemical characterization:

(1) Anode: Lithium (Li).

(2) Cathode: Thionyl chloride ($SOCl_2$).

(3) Electrolyte: Non-aqueous thionyl chloride ($SOCl_2$) solution containing lithium aluminum chloride ($LiAICl_4$) salt.

WARNING:

Li-$SOCl_2$ batteries contain liquid $SOCl_2$, which fumes upon exposure to air. The vapor is highly toxic, and the battery MUST NOT be abused in any way which may cause the battery to rupture.

Danger conditions and action as described in (1) apply. $SOCl_2$ vapor has a sharp suffocating odor and is a corrosive and poisonous material. It may irritate the eyes, nose, throat, and upper respiratory tract. A person can detect $SOClI_2$ at 1 ppm concentration, and concentrations above 10 ppm are dangerous.

NEVER test Li-$SOCl_2$ batteries for capacity with a conventional test set not specifically designed to test these batteries.

WARNING The same as in (1) applies concerning fire and CCD procedure and disposal.

3. Lithium-Manganese Dioxide (Li-MnO_2) Batteries

Li-MnO_2 batteries are primary (non-rechargeable) batteries. The cell has a solid cathode of manganese dioxide (MnO_2). Some haves two cells/battery, each containing approximately 0,14 grams (g) of lithium (Li). Each cell contains approximately 0.49 g of (Li).

Chemical characterization:

(1) Anode: Lithium (Li).

(2) Cathode: Manganese dioxide (MnO_2).

(3) Electrolyte: Organic solvent (propylene carbonate and 1,2 dimethoxyethane) solution of lithium perchlorate ($LiCl0O_4$).

WARNING: Halon fire extinguishers SHALL NOT be used to combat fires. Use only an approved Class-D fire extinguisher.

4. Lead-acid (LA) Batteries

Lead-acid batteries are secondary (rechargeable) batteries. There are two kinds of LA batteries: sealed batteries without vent-filler caps, and vented batteries with vent-filler caps for servicing the battery.

Chemical characterization:

(1) Anode: Lead (Pb).

(2) Cathode: Lead dioxide (PbO_2).

(3) Electrolyte: Aqueous solution of sulfuric acid (H_2SO_4).

(4) The battery cell contains 60 to 75 percent Pb and PbO_2 by weight. The battery cell contains an acidic electrolyte solution of between 28.3% and 50.5% H_2SO_4 by weight. The electrolyte is a strong oxidizing agent and can cause severe skin burns or irritation upon contact. If acid gets into your eyes, it can cause severe damage and/or blindness. Repeated or prolonged exposure to low concentrations of H_2SO_4 fumes or mist will cause tooth erosion and irritation of the mucous membranes, eyes and upper respiratory tract. Contact lenses should *not* be worn and smoking should be prohibited in areas where H_2SO_4 is stored or handled.

(5) Pb and Pb salts are toxic and hazardous materials. It is recommended to turn-in LA batteries wet.
DO NOT use metal or galvanized equipment when draining electrolyte from Lead-Acid batteries.
DO NOT use finely divided combustible materials to absorb an H_2SO_4 spill as it is highly reactive on contact.
(1) DO NOT attempt to drain electrolyte from sealed secondary batteries.
(2) DO NOT drain electrolyte from vented secondary batteries unless authorized.
(3) If H_2S0_4 electrolyte spills or leaks, DO NOT touch spilled material. Stop the leak if you can do it without risk. Spread sand or other noncombustible material, then flush area with water.
(4) If battery contents or electrolyte come in contact with the skin, immediately flush the affected area for at least 15 minutes with clean WATER and seek medical attention promptly. Small fires may be extinguished with a dry chemical CO_2 extinguisher.
CAUTION: Batteries should be protected from freezing. Specific freezing Points of Solutions of Pure Sulfuric Acid:

SG	°C	SG	°C	SG	°C	SG	°C	SG	°C	SG	°C	SG	°C
1.000	0,0	1,050	-3,3	1,100	-7,7	1,150	-15,0	1,200	-27,0	1,250	-52,0	1,300	-70,0

5. Magnesium (Mg) Batteries
MG battery is a multi-cell primary (non-rechargeable) battery. The cell has a solid cathode of manganese dioxide (MnO_2).
Chemical characterization:
(1) Anode: Magnesium (Mg).
(2) Cathode: Manganese dioxide (MnO_2).
(3) Electrolyte: Aqueous solution of magnesium bromide ($MgBr_2$) or magnesium perchlorate ($MgClO_4$).
CAUTION: Depleted MG batteries continue to generate H_2 gas after use. DO NOT seal batteries in any non-vented containment.

6. Mercury (Hg) Batteries
HG battery is a primary (non-rechargeable) battery. The battery has one or more cells depending on configuration.
Chemical characterization:
(1) Anode: Zinc (Zn).
(2) Cathode: Mercuric oxide (HgO).
(3) Electrolyte: Aqueous solution of potassium hydroxide (KOH) or sodium hydroxide (NaOH).
(4) The cell has a solid cathode of mercuric oxide (HgO) and contains 20 to 50 percent mercury (Hg) and HgO by weight. The battery cell contains caustic KOH or NaOH electrolyte, which may leak if the battery is abused.
Chemically, KOH and NaOH (caustic soda) are strong alkalis. Contact can cause chemical skin burns or result in severe eye damage and/or blindness. Hg and Hg salts are toxic and hazardous materials for disposal. Depleted HG batteries continue to generate H_2 gas after use. DO NOT seal batteries in gas tight plastic bag(s), drum(s), or any non-vented container.

7. Nickel-Cadmium (Ni-Cd) Batteries
Ni-Cd batteries are secondary (rechargeable) batteries. There are two kinds of Ni-Cd batteries: sealed batteries without ventfiller caps, and vented batteries with vent-filler caps in order to service the battery.
Chemical characterization:
(1) Anode: Cadmium (Cd).
(2) Cathode: Nickel oxyhydroxide (NiOOH).
(3) Electrolyte: Aqueous solution of potassium hydroxide (KOH).
WARNING: Do not try to neutralize caustic electrolyte with vinegar or any other acidic solutions. Neutralization will do more harm than good, as it will trap caustic under the skin, copious amounts of water.
(4) The battery cell typically contains 13 to 15 percent Cd, and 20 to 30 percent nickel by weight. The battery cell typically contains a caustic electrolyte solution composed of 31% KOH by weight. Chemically, KOH is a strong alkali similar to caustic soda
(5) Cd and Cd salts are toxic and hazardous materials. It is recommended to turn-in Ni-Cd batteries wet.
If battery contents or electrolyte are spilled and come in contact with the skin, immediately flush the affected area for at least 15 minutes with clean water and seek medical attention promptly. Contact can cause chemical skin burns or result in severe eye damage and/or blindness.
Fire control/suppression: A $C0_2$ fire extinguisher is recommended.

8. Silver (Ag) Batteries
Primary (non-rechargeable) batteries containing silver (Ag).
Chemical characterization:
1. Anode: Zinc (Zn).
2. Cathode: Silver chloride (AgCl).
3. Electrolyte: Aqueous solution of lithium chloride (LiCl) or zinc chloride ($ZnCl_2$) and zinc sulfate ($ZnSO_4$). The sealed cell types contain a mild acid which may leak if the battery is abused. A typical cell contains 20 to 30 percent AgCl by weight. Serious chemical burns can result if this electrolyte comes into contact with the skin or eyes. If the battery electrolyte gets into your eyes, it can cause severe damage and/or blindness.
5. Ag and Ag salts are toxic and Hazardous Materials for disposal.
WARNING: do not try to neutralize caustic electrolyte with vinegar or any other acidic solutions. Neutralization will do more harm than good, as it will trap caustic under the skin, preventing it from coming out. Flush with copious amounts of water. A battery cell typically contains 20 to 30 percent Ag_20 by weight. The battery cell typically contains a caustic electrolyte solution. Chemically, KOH is a strong alkali similar to caustic soda. Contact can cause chemical skin burns or result in severe eye damage and/or blindness.
(e) Ag and Ag oxides are toxic and hazardous materials for disposal. It is recommended to turn in AG batteries wet.
Fire control/suppression: A $C0_2$ fire extinguisher is recommended.

9. Thermal (THR) Batteries
WARNING: When activated, THR battery temperatures can exceed 500° F.
THR batteries are primary (non-rechargeable) batteries. The battery contains an inorganic salt electrolyte that is a nonconductive solid at ambient temperatures, and a pyrotechnic mixture sufficient to melt the electrolyte. The battery is activated by an electrical squib or mechanical striker which activates a primer, which in turn ignites the pyrotechnic and melts the salt electrolyte.
Chemical characterization:
(1) Anode: Calcium (Ca).

(2) Cathode: Calcium chromate ($CaCrO_4$).
(3) Electrolyte: Solid lithium chloride (LiCl) and potassium chloride (KCl).
These batteries may contain ASBESTOS.
Fire control/suppression: Halon fire extinguishers SHALL NOT be used to combat fires involving THR batteries. Use $C0_2$ only.

10. Alkaline (ALK) Batteries

Alkaline batteries are primary (non-rechargeable) batteries.
Chemical characterization:
(1) Anode: Zinc (Zn).
(2) Cathode: Manganese dioxide (MnO2).
(3) Electrolyte: Aqueous solution of potassium hydroxide (KOH).
(4) The battery cell contains caustic KOH electrolyte, which may leak if the battery is abused. KOH is a strong alkali similar to caustic soda (sodium hydroxide (NaOH)). Serious chemical burns can result if electrolyte comes into contact with the skin or eyes. If the battery electrolyte gets into your eyes, it can cause severe damage and/or blindness.
CAUTION: Depleted batteries may continue to vent hydrogen gas after use, and if stored at high temperatures.
Disposal: These batteries may be disposed with general refuse unless stipulated otherwise in your locality.

11. Carbon-Zinc (LeClanché (LCE)) Batteries

LeClanché batteries are primary (non-rechargeable) batteries.
Chemical characterization:
(1) Anode: Zinc (Zn).
(2) Cathode: Manganese dioxide (MnO_2).
(3) Electrolyte: Aqueous solution of ammonium chloride (NH_4Cl) and zinc chloride ($ZnCl_2$).
Depleted batteries may continue to vent hydrogen gas after use, and if stored at high temperatures.
Disposal: These batteries may be disposed with general refuse unless stipulated otherwise in your locality.

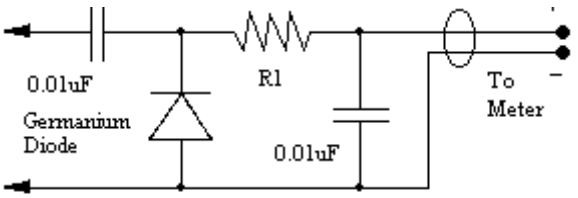
Designing RF Probes

Circuit By RAMASWAMI VU2PRI.

An RF probe is used to directly measure the level of RF voltage present at a particular point and is one of the most useful test instrument in the hands of the home brewer. It is normally used with a digital multi meter to indicate the voltage level as dc voltage which is equivalent to the RMS value of the RF voltage being measured.

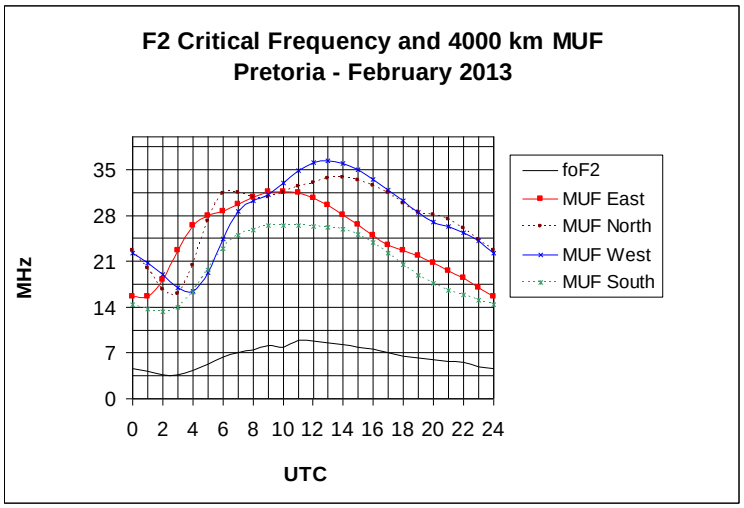
However, the level of RF voltage being measured provides useful information only when the probe has been designed for use with a specific multi meter. The design of the RF probe is a function of the DC input resistance of the meter we intend to use with it. If a new meter with a different input resistance is used with the probe the reading will be inaccurate.

Look at the figure below which shows the construction of the RF probe. The rectified DC voltage at the cathode of the diode is at about the peak level of the RF voltage at the tip. The value of the resistor R1 is so chosen that when this resistor is connected in parallel with the input resistance of the digital multi meter, the peak value is about 1.414 times the RMS voltage. R1 has to drop this excess voltage so the meter indication is accurate. If we know the input resistance of the meter, we can calculate the value of R1 as follows. Usually, digital multi meters have an input resistance of 11 MΩ. In this example we shall take the input resistance of the meter as 10 MΩ which will make calculation easier to understand.



RF PROBE FLASHWEBHOST.COM

10,000,000 X 1.414 = 14,140,000
R1 = 14,140,000 - 10,000,000 = 4,140,000 Ω = 4.14 MΩ.
4.7 MΩ is the value chosen in all circuits since digital multimeters have input resistance of 11 MΩ.



Long Term HF Propagation Prediction for February 2013

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.

Radio ZS 1959
Who were ZS6CC and ZS6ASS?

Hamateurs

By ZS6ASS

You know, when you come to work it out, there's something about Ham Radio that connects it with photography. I mean, take the average photographer. He buys a camera and takes a few snaps; fine. He then takes some colour stuff and finds he needs a viewer which sets him back a coupon; not so fine because only one chap can view at a time, so he buys a projector which causes his bank manager to frown pretty severely. What I'm trying to get at is that before you can say Scotch and Soda, please, the bally bank manager has clamped down and the SW is practically accusing you of starving the kids.

I'm speaking from the heart, as I once owned a lovely Leica outfit which I was forced to sell at a horrible loss when I found I couldn't pay the hotel bill in Johannesburg.

Now this Ham business is much the same, and since I obtained my licence I've had several shocks, mental and physical. The day I collected the old licence, for instance, I marched proudly into the local pub and said, "What ho, what ho; I'm a Ham. Gin and tonic, please."

The bar bloke put the bottle back on the shelf; he was obviously perturbed.

"Why," he said, "do you call yourself a ham? Hams are pink, you're red. Hams sit on the breakfast table and you eat them. I wouldn't eat you."

Luckily I have a very nimble brain, and I saw in a flash that he was mistaking Hams and hams, if you follow the reasoning. I put him straight, of course, and got my gin, but it was a near thing.

I don't want to turn this into an autobiography, but I feel I ought to warn the not-so-wary that Ham Radio is fraught with danger and difficulties, especially if the bank manager doesn't like you. It was OM Phil who first started my feet on the downward path; he guaranteed to put me on the air for £30, and I've got to hand it to Phil, he did just that as far as Transmitter and Receiver were concerned, but . . . erect an aerial, said Phil. Right ho, I said, and two 60 foot gum poles set me back another £10.

Well, I had a lot of fun with that little transmitter. We have no mains down here in the bush, so I was operating off 12 volts. "No good," said Eric, 6ATK, who knows all, but all, the answers to Radio questions. "Buy a 28v. Genemotor and we'll step the plate voltage up to 540." "Right ho," I said, and a few more Benders went to Cape Town in exchange for a massive genemotor which Eric duly hooked up and we switched on.

The effect was impressive, I must admit that. Phil had designed the rig for a mere 15 watts with about 250 volts on the Final, and that Final, plus a few other bits and pieces, objected pretty strongly when it was suddenly confronted with 540 volts.

For the next week or so there was sound and fury in the shack of ZS6ASS for Donkey. Alarm and despondency followed, and I don't mind telling you that Eric was kept busy. He sorted it all out in the end, of course, and to-day that 12 watt rig is putting out quite a decent 50 watt signal with only the occasional flame and smoke.

A week ago Eric gazed sadly at the 1155 receiver. "You'll have to buy a new receiver; this one's had it."

I was a bit indignant. "It hasn't actually had it," I said. "When it goes off like that all you have to do is smack it, like this, and it works again."

I smacked the desk in front of it, and there was ZS6CC, clear as crystal.

Eric wasn't impressed. "Get an R208. Also get this, that, and the other thing and I'll build you a new transmitter with TWO 807's."

"Righto," I said, and another twenty coupons went to Cape Town.

"What you need," said OM Norman, "is my type of aerial."

"What you really need," said OM Ricky, of Salisbury, "is MY type of aerial."

"If you'd put up an aerial like mine," said Phil, "you'd work the world on 10 watts."

I pointed out, pretty plaintively, that I didn't want to work the blasted world on 10 watts, all I wanted was a readability 5 from the Union.

What the more intelligent reader will have gathered is that I'm trying to get at the fact that Ham Radio, like photography, costs money. Totting things up, I reckon I've spent darn nearly £150 during the last eighteen months, and that £150 would buy . . . come to think of it, it would buy a brand new Viking Ranger. What a life.

"No matter how much you push the envelope, it remains stationery."