HAMS
Haywire News
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P.O. BOX 1076, HILTON, 3245
MIDLANDS AMATEUR RADIO CLUB

AFFILIATED TO THE SARL & IN ASSOCIATION WITH THE NATAL CARBINEERS

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RUMINATIONS

I imagine that one of the signs of the inevitable advance of what is politely known as old age is a sort of insidious sense of fatigue. But in point of fact this is quite the opposite of the rate at which one is compelled to live : one is probably retired and not infrequently one has the means to live comfortably without the daily hassle of going to work and making the usual round of decisions.

But what are the facts? There is **always** a shortage of time. There is **never** any let-up in the need to make decisions, nor any lack of frustrations. And the extent to which one may live "comfortably" is utterly relative.

Like many before me, when I reached my point of retirement I fondly imagined it was the beginning of an endless trouble-free holiday, in the course of which I would have plenty of time to pursue my hobbies……endless QSO's and experimentation, not mention happy hours on the Internet.

Sadly, it was not to be. Time is at a frightening premium. Family matters are suddenly amplified. The bands remain sealed, or seemimgly so. Internet banking has its own set of priorities. Energy has constricted boundaries and hardly resemble those halcyon days of training for the 440, cycling for hours through the bush, and even partying into the wee hours.

And so it is with some considerable relief that I am able to pass the baton (as it were) to those whose time has not yet come. My best wishes and thanks to MikeL and the others on our mighty Midlands committee. I **KNOW** that you guys will treat our hobby with enthusiasm and kindness and ENERGY. Hambani kahle.

de Robin, ZS5MRS

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` The M.A.R.C. Infrastructure

Voice Repeaters (FM)

VHF	**Worlds View**	**145.750 MHz (Tx)**	**145.150 MHz (Rx)**	**Emcom SA256 25W**
	Windy Hill	**145.700 MHz (Tx)**	**145.100 MHz (Rx)**	**Emcom SA256 25W**
	Estcourt	**145.675 MHz (Tx)**	**145.075 MHz (Rx)**	**SCR200 15W**
	Greytown	**145.775 MHz (Tx)**	**145.175 MHz (Rx)**	**Storno**
	Swartberg	**145.725 MHz (Tx)**	**145.125 MHz (Rx)**	
	Underberg	**145.7875MHz (Tx)**	**145.1875MHz(Rx)**	**YaesuFTC1525a20W**
UHF	**Mt Gilboa**	**439.225 MHz (Tx)**	**431.625 MHz (Rx)**	**General Electric MII**

Packet Digipeater

Mt Gilboa **144.800 MHz (Tx & Rx)** **Kantronics KPC3 + V9.10**
Alinco DJ -135 50W
Diamond X-200 Omni 6.db

The PBBS (mailbox) is on ZS0PMB-1. The digi is on ZS0PMB-2. The KA-node is on ZS0PMB-7. Use Winpack on 144.800MHz to connect to the PBBS and leave a message for someone. The packet digi also acts as the aprs digi (ZS0PMB) and will respond to WIDEn-n or TRACEn-n.

APRS

The national APRS frequency is 144.800 MHz (Tx & Rx). The I-Gate is at ZR5S (Polly Shortts). Fixed stations should beacon at approximately 30min intervals with a path of WIDE5-5. Mobile stations should beacon at approximately 1min intervals with a path of WIDE5-5.

ECHO-LINK "voip"

Our node number is 244279 Call Sign ZS5PMB. This Echo-link facility is available on the Midlands linked Repeater network.

E-QSO "voip"

We are in the " 101ENGLISH" virtual room, on the "repeater.dns2go.com" server. This is linked to RF at Polly Shortts on 433.400 MHz simplex..

BEACONS

Hilton: 50.321 MHz (Tx) ZS5SIX FSK

WEB SITE

MARC'S very own website: www.marc.org.za
SARL's website: www.sarl.org.za

NEWSFLASH!

On February13th, the MARC Committee met out at Midmar Dam for the usual monthly session. This coincided with the SARL HF Field Day Competition. Our erstwhile reporter sent us this dispatch:-

"The SARL HF Field Day at Midmar was a huge success. We had a great committee meeting at the water's edge, followed by a general meeting, together with the HARC members who had also arrived. (HARC = Highway Amateur Radio Club – Ed.) Some valid points were raised, and it turned out to be enlightening and a success.

Quite a few MARC and HARC members arrived on Saturday afternoon, and quite a few had a turn at the radio. We used the batteries of my LandRover to power the radio. The solar panels kept the batteries full, enabling us to run at high power – who said that solar panels had nothing to do with ham equipment? The Kenwood TS50 radio was connected to Collin's (ZS5CF) 80 metre loop antenna, and my 40m NVIS, attached to the LandRover. A manual ATU (Yaesu FC-902) was used. We were surprised at how well the simple NVIS compared to the loop antenna.

In total, we made 20 contacts on 80 meters, and 64 on 40 meters. Brad, ZS5Z (of HARC – Ed) collated the logsheets, and these have been sent off to the SARL. Most contacts were made in other areas – local stations, e.g. in Durban, were in the skip area and could not be worked. Our total points claimed came to 15,132, and we shall have to wait and see how this compares with other contestants.

Irrespective of how we fared in the competition, we really had a super week-end. Camping over was special, even if the misty weather put a damper on things on Sunday morning. We still managed to make quite a few contacts on Sunday, huddled under the awning of the Land Rover. Importantly, we were pleased about the good turnout of members at the outing, and it must be said that the company was good, and great to see both old and new faces.

Some pictures of the event can be viewed on our **website** on
http://www.marc.org.za/images/midmar0902/index.html
We need to organize more outings in future!

73
Mike
ZS5ML"

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NOG 'N NEWSFLASH!

APRS : ***The APRS network is working well and there appears to be a renewed interest in it around Durban and in the Midlands areas. A self-contained pre-assembled APRS module, with integrated GPS receiver and 8W vhf transmitter, and the required antennas is available for around R1500. ZS5ML will be placing a bulk order for these modules on the 2nd March 2009. IF you are interested, please e-mail zs5ml@marc.org.za. More info on these modules can be found at:***
http://www.rfdesign.co.za/pages/5645456/Products/Amateur-Radio/Amateur-Radio.asp

(Thanks and 73, From: Mike,ZS5ML)

GALVANIC CORROSION

"Galvanic corrosion is an electrochemical process in which one metal corrodes preferentially when in electrical contact with a different type of metal and both metals are immersed in an electrolyte" – *Wikipedia.*

Now what does this have to do with Amateur Radio? Radio Amateurs use antennas and towers. The antennas are normally constructed from aluminium, but steel, galvanized steel, stainless steel and brass are also used. A current will flow between these dissimilar metals in a conducive environment according to their anodic index, not unlike what happens in a battery.

But now you argue that our antennas are not immersed in sea water for these currents to occur. If the metals were in contact in a perfectly dry environment, then no corrosion would occur. But our antennas and towers are exposed to the elements of rain and dew. In pure distilled water, there would be virtually no conductivity. Following are some typical conductivity figures:

Distilled water:	0.5 – 2 uS/cm
Normal supply water	50 - 1,500 uS/cm
Sea water	50,000 uS/cm
Sulphuric acid	800,000 uS/cm

Our antennas attract dirt from the dirty polluted air, and at the coast saltiness will add to this. Mixed with water from dew and rain, we are starting to provide these antennas with a decent electrolytic solution for an electrical current between two dissimilar metals.

So what materials should we use? Well, aluminium oxidizes and forms its own powdery protective layer, and stainless steel does not rust. But when these two come into contact with each other in a wet environment, the aluminium will start to corrode away. The reason is that aluminium is more anodic (least noble) than stainless steel, which is more cathodic (most noble). It is possible to obtain a table of popular materials which we use to construct our towers and antennas, showing the anodic indices of the materials in flowing sea water.

From such a table it can be seen that combining aluminium and stainless steel together is a bad idea, as there is a big relative potential difference between them. Some claim that a potential difference of up to 0.15V is acceptable, but at the coast even this will cause corrosion.

It can be argued that stainless steel fasteners are used without ill effect on aluminium antennas. But what you have to look at is the cathode to anode area ratio. For example: imagine two aluminium plates joined together with a stainless steel rivet as against two stainless steel plates joined with an aluminium rivet. In both cases the aluminium will be the anode and corrode faster than the stainless steel, which will be the cathode. The cathode to anode area ratio (C/A) is large in the case of the aluminium rivet, and the corrosion of the rivet will be severe. In the case of the stainless steel rivet, the C/A ratio is small, and there will be minimal corrosion on the aluminium plates.

This indicates why stainless steel fasteners generally work in holding our aluminium antennas together. But beware – this is not always the case. There are some antennas where stainless steel bolts are bolted into a threaded aluminium section. Ever wondered why it is so difficult to remove these stainless steel bolts, especially if the joint has been subjected to the elements ?

What about galvanized steel ? Zinc has a voltage value of about -1.0V as against aluminium's -0.8 to -0.9V, so they are much closer related than a stainless steel/aluminium bond.

In an aluminium/galvanized steel joint, the galvanized steel becomes the anode, and will corrode before the aluminium does. So it is important to use quality galvanizing. Quality Cadmium-plated fasteners will also work well with aluminium.

So how can we reduce galvanic corrosion ?

* Use the same material in your construction e.g. use aluminium rivets on the aluminium antenna
* Avoid relatively small areas of the anode metal in relation to the cathode metal
* Separate the dissimilar metals with non-metallic and non-absorbent insulators to prevent current flow (e.g. plastic and ceramic washers , sleeves etc)
* Make the critical parts in contact out of the cathodic material
* Exclude the electrolyte (e.g. rain) by sealing the bimetallic joints with paint, non-corrosive silicone sealer etc
*Painting both metals, and if impractical, paint the more noble material (cathode)
* Fit a sacrificial anode (e.g. zinc).

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- **NEXT CLUB MEETINGS on SAT. 21ST MARCH at Carbineers.**

WITH TWO PRESENTATIOS:

(a) THE SQUELCH – by Peter (ZS5PJ)

(b) RF AMPLIFIERS – by Mickey (ZS5QB)

- **MARCH MARC BULLETIN READERS:**

1ST : Mike (ZS5ML)
8th : Peter (ZS5PJ)
15th : Errol (ZS5EGW)
22nd : Mike (ZS5BGV)
29th : Robin(ZS5MRS)

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VISIT OUR CLUB WEBSITE:

www.marc.org.za

OLD is when…….Your sweetie says “Let’s go upstairs and make love” and you answer: “Honey, I can’t do both”.

OLD is when……..A sexy body on TV catches your attention and your pacemaker opens the Garage door.

OLD is when……..**Getting lucky** means finding your car in the car park.

WOW!