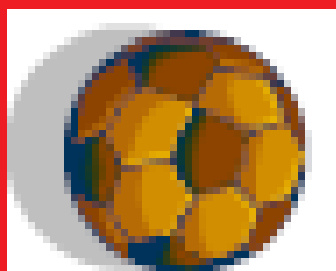


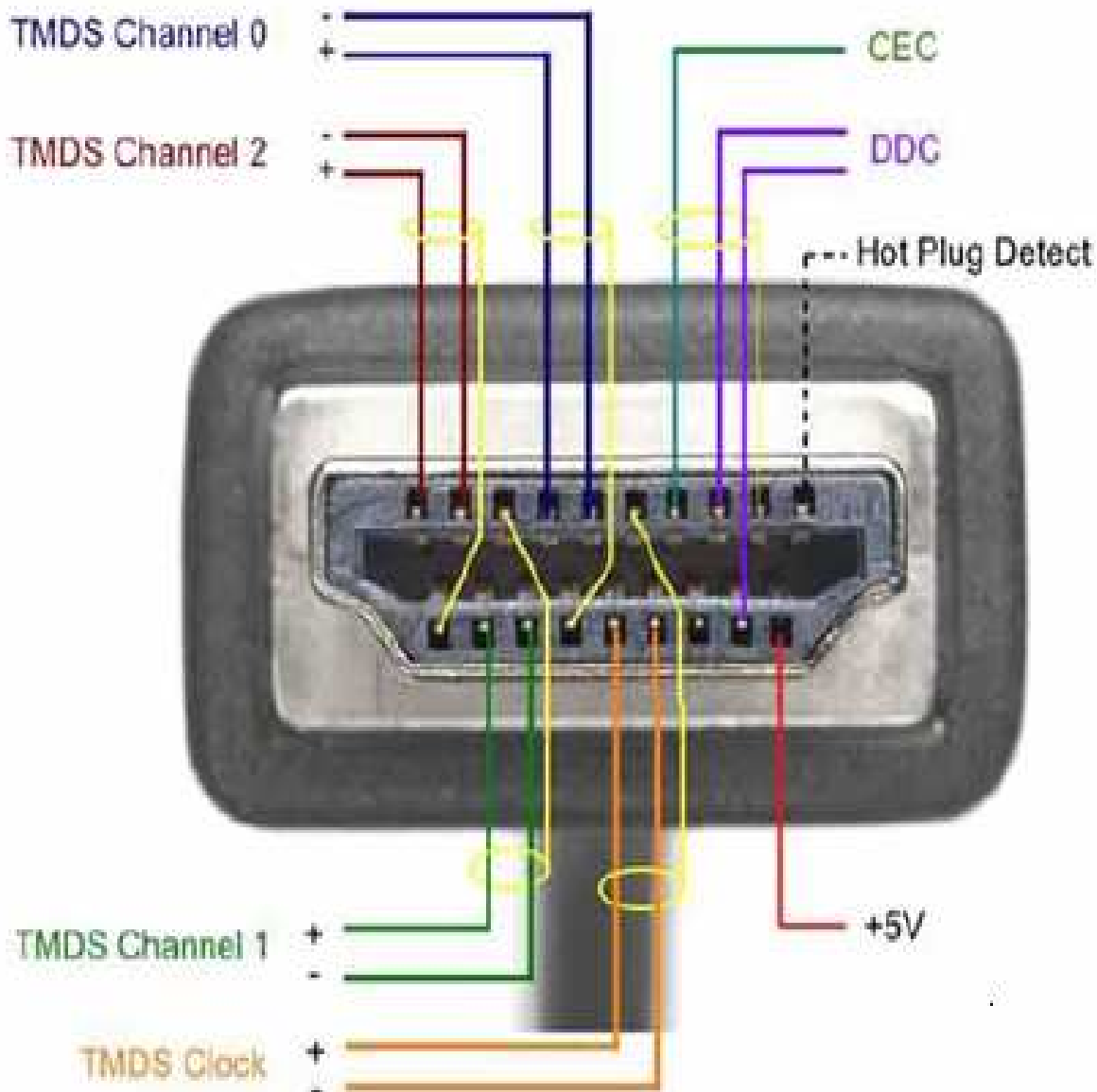
OFFICIAL NEWSLETTER OF THE  
**BORDER RADIO CLUB**  
EAST LONDON



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# INSIDE A HDMI CABLE



## Blond

"Two Brazilian men die in a skydiving accident."  
The blonde starts sobbing "That's horrible!!! So many men dying that way!" Confused, he says, "Yes dear, it is sad, but they were skydiving, and there is always that risk involved."

After a few minutes, the blonde, still sobbing, says, "How many is a Brazillion?"



# Anniversary

July -	None	Listed		
August	30	ZS2JM	Jim & Sandy	Miller
	31	ZS2NP	Phil & Jean	Sorensen
September	21	ZS2AP	Fred & Vanessa	Pike



# Birthdays this Quarter



July	3	Vanessa	Pike	XYL Fred ZS2AP
August	11	ZS2NC	Nico	Cloete
	13	Kay	Tottle	XYL Peter ZS2ABF
	13	ZS2JM	Jim	Miller
	14	ZS2HJ	Heinz	Jasson
	18	Suzette	Forteach	XYL Anthony ZS2BQ
	24	ZS2ABF	Peter	Tottle

**Wife:** 'You always carry my photo in your wallet to the office. Why?'

**Hubby:** 'When there is a problem, no matter how impossible, I look at Your picture and the problem disappears.'

**Wife:** 'You see, how miraculous and powerful I am for you?'

**Hubby:** 'Yes!! 'I see your picture and say to myself, 'What other problem can there be greater than this one?'

**Son:** 'Mom, when I was on the bus with Dad this morning, he told me to give up my seat to a lady.'

**Mom:** 'Well, you have done the right thing.'

**Son:** 'But mom, I was sitting on daddy's lap.'

The Border Radio Club holds monthly General Meetings every third Tuesday of the month at The Gatehouse, Eskom's Sunilaws Office Park, Quenera Drive, Beacon Bay 19:30 for 19:45. Anyone and everyone is welcome to attend.

## Bacon Tree

Two Mexicans are stuck in the desert after crossing into the United States, wandering aimlessly and starving. They are about to just lie down and wait for death, when all of a sudden Luis says.....

"Hey Pepe, do you smell what I smell. Ees bacon, I theenk."

"Si, Luis, eet sure smells like bacon. "

With renewed hope they struggle up the next sand dune, & there, in the distance, is a tree loaded with bacon.

There's raw bacon, there's fried bacon, back bacon, double smoked bacon ... every imaginable kind of cured pork.

"Pepe, Pepe, we ees saved. Ees a bacon tree."

"Luis, maybe ees a meerage? We ees in the desert don't forget."

"Pepe, since when deed you ever hear of a meerage that smell like bacon...ees no meerage, ees a bacon tree."

And with that, Luis staggers towards the tree. He gets to within 5 metres, Pepe crawling close behind, when suddenly a machine gun opens up, and Luis drops like a wet sock. Mortally wounded, he warns Pepe with his dying breath,

"Pepe... go back man, you was right, ees not a bacon tree!"

"Luis, Luis mi amigo... what ees it? "

"Pepe.. ees not a bacon tree. Ees, Ees, Ees, Ees

Wait for it .....



Ees a **Ham Bush**....."

**BORDER RADIO CLUB**



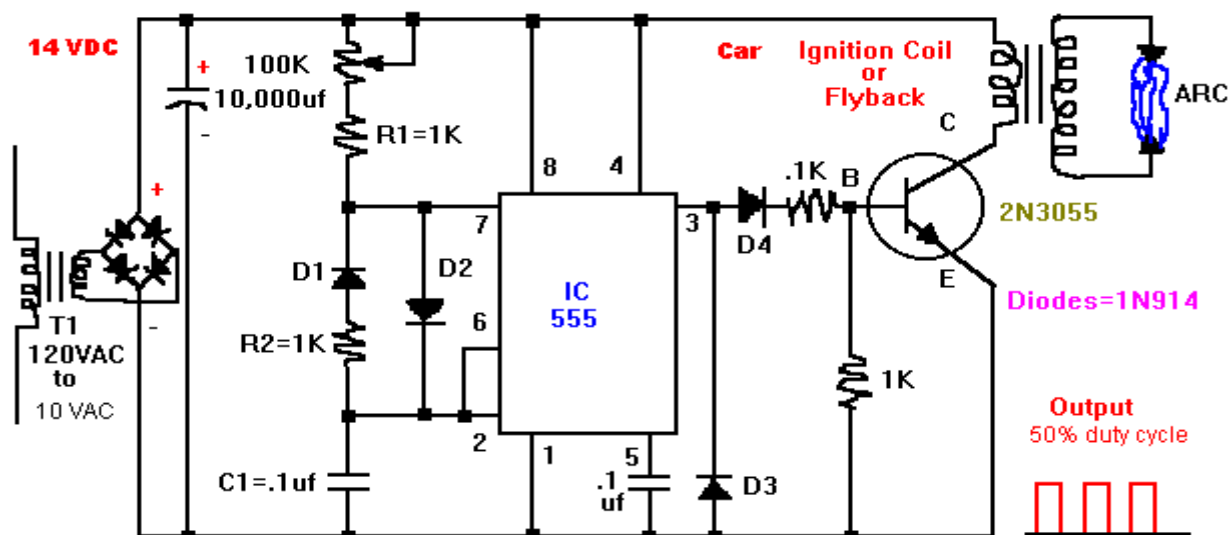
With the current load shedding situation from Eskom it is, perhaps, time to take stock of the alternatives to electricity as a primary source of fuel. So, don't be caught without power half way through cooking your next meal. LPGas is the most suitable alternative, in a variety of uses, and the following are but some of the good reasons why:

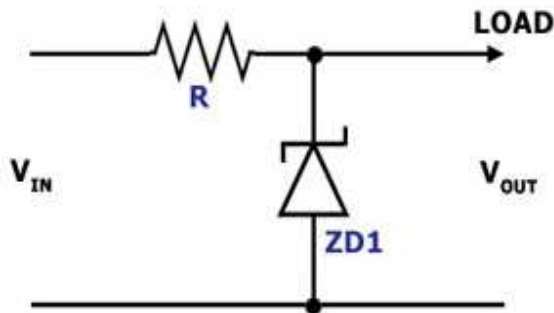
1. It is a most efficient fuel for cooking, space & water heating.
2. When heating water with LPGas, only the water used is heated as opposed to an electric immersion heater (geyser) which requires the run-off of many litres of valuable water before hot water is achieved.  
In your geyser, the water used is then replaced with cold water which reduces the overall temperature of the total content (+/- 200 litres). Electricity is then required to re-heat the entire content to the operating temperature. This wastes both water & electricity.
3. Cooking with LPGas is extremely economical as there is no warm up or cool down time. A gas flame is infinitely variable thus making temperature control (e.g. simmering) far easier. Most modern gas stoves are fitted with both self-ignition and flame failure devices. Chefs all over the world will only cook with gas ask Jamie Oliver or Nigella.
4. For space heating, LPGas provides instant, powerful warmth at the touch of a button. Unlike electricity, heat generated from a gas heater does not remove water molecules from the air. With the popular roll-about cabinet heaters you can move your heater from room to room as required - but turn it off first. Most units operate on three burning panels which, when used simultaneously, heat up even the largest room in next to no time. It is then recommended that the heater be turned down to one panel which will retain the desired heat and also make the use of the heater much more economical.
5. LPGas, unlike electricity, is portable and provides a host of usages both indoors and outdoors. Gas braais are rapidly becoming SA's favorite way to cook that T-bone steak and Wors at the weekend. As with top-of-stove cooking, gas braais provide instant, powerful and infinitely variable heat to ensure a perfect result every time.
6. LPGas is widely accessible with outlets throughout SA. Through hardware stores and specialist gas shops there is a nationwide distribution channel with an outlet close to you.
7. LPGas can be stored and is ready for use whenever and wherever you need heat and light. Keep 1 x spare cylinder for when your main one is empty and you will never be out of power.
8. LPGas is economical. Despite being a 100% derivative of oil, 1Kg of LPGas (approx 2 litres of 93 octane petrol) cooks and heats at a kilojoule cost which is comparative to both electricity and other alternative fuels due to its high efficiency. Cooking and heating are faster with LPGas so, you use less overall.



IN THE INTERESTS OF A SAFER SOUTH AFRICA

## Electric Fence Circuit

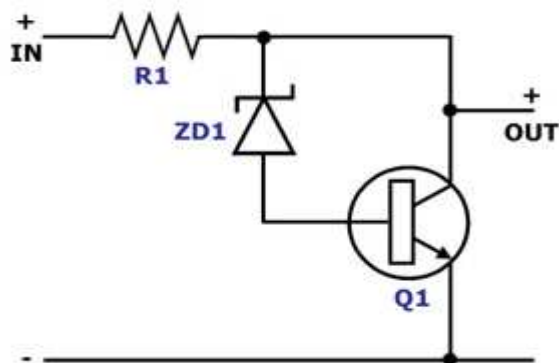




FEEDBACK

**Figure 1.** Simple Zener Shunt Stabilizer Circuit Diagram

The circuit in Figure 1 is a simple voltage stabilizer circuit that employs a zener diode and a single resistor. In this circuit, the zener diode, which is the stabilizing component, is in parallel (or in shunt) with the load, which is why it is also called a shunt stabilizing circuit. The value of  $R$  must be chosen so that a 'holding current' of 2 mA will flow into the zener diode even at the lowest input voltage and maximum load current. The zener diode maintains the output voltage level by 'conducting' the excess current to ground whenever the voltage across it becomes excessive.



**Figure 2.** Amplified Zener Shunt Stabilizer Circuit Diagram

The circuit in Figure 2 is another shunt voltage stabilizer circuit that employs an additional NPN transistor to the simple circuit in Figure 1. In this circuit, the zener diode no longer has to conduct large currents to stabilize the output voltage. The transistor takes care of conducting the excess current whenever the current required by the load drops. This circuit is also known as the 'amplified zener' shunt stabilizer.



## INTRODUCTION

The battery, or more accurately the "**STORAGE BATTERY**", is an electro-chemical device. It stores chemical energy which is released as electrical energy when connected to an external load, such as the vehicle's starter motor or lighting system.

In order to keep the battery in good working order, it has to be kept fully charged by the vehicle's alternator or generator. Batteries used in other applications such as caravans or burglar alarms are charged by means of an independent charger which supplies direct current to the battery through rectification. It is also necessary to charge motor vehicle batteries which have become discharged due to faulty alternators or charging systems by this means from time to time.

Other than this, a battery requires a minimal amount of care in order to extend its life appreciably.

If the following few hints are adhered to, the battery will give extended and trouble-free service:

[1. CLEANING](#)

[2. BATTERY POSTS, TERMINALS AND CABLES](#)

[3. TOPPING](#)

[4. CHARGING SYSTEM](#)

[5. TESTING](#)

[6. LOAD TESTING](#)

[7. BATTERY CHARGING](#)

### 1. CLEANING

**The battery should at all times be kept clean and dry.** The electrolyte which is used in a battery is Sulphuric Acid and is both conductive and corrosive. If acid is evident, it will cause an electrical discharge path which slowly discharges the battery. It also damages the paint-work and metal parts of the vehicle. Evidence of acid is generally due to the overfilling of the battery or possibly a damaged casing and should be investigated and remedied immediately.

**The Sulphuric Acid should be neutralised by washing the affected area and outside of the battery with a solution of bi-carbonate soda and warm water (10 grams to 1 litre).** Take care not to allow any of the solution into the battery. Rinse off thoroughly with clean, cold water and dry off as best possible. Affected areas may be prepared and re-painted or a thin layer of Petroleum Jelly applied to the affected area to avoid oxidation. Always ensure that the battery is properly located and secured in its correct position.

### 2. BATTERY POSTS, TERMINALS AND CABLES

**Battery terminals tend to corrode due to electrolysis and the acid fumes which are evident.** These should be cleaned by soaking them in the bi-carbonate solution for a while. The metallic contact area of the terminals and battery posts should be cleaned with terminal cleaner or emery cloth to ensure good contact. Once cleaned, a thin layer of Petroleum Jelly should be applied around the visible metal area of the terminal and post. This will assist in halting the build up of corrosion.

**Check all cables and connections** between the battery, engine block, body, alternator and starter motor to ensure that these are tight, clean and not frayed or damaged. Dirty terminals and poor earth connections can cause similar symptoms to those presented by a discharged or faulty battery.

### 3. TOPPING

The electrolyte levels of the battery should be checked **regularly**. These should be corrected by the level indicated or 10-15mm above the plates which are visible through the vents. Add only approved battery water (distilled or de-ionised water). Acid should only be used where some has been lost due to spillage or overtopping. Consult your battery dealer where this is required.

**The electrolyte levels tend to decrease on a discharged battery and increase as the battery becomes fully charged.** Topping should therefore be carried out on a fully charged battery to avoid acid spillages explained in (1) above. If the state of charge of the battery is not known, water should only be added to cover the plates and corrected after charging or a reasonable drive. Most modern batteries require very little topping. If topping is required more frequently than usual, overcharging may be indicated and should be investigated. More frequent topping and a reduction in the fully charged specific gravity readings of the battery are often an indication of an older battery reaching the end of its useful life.

# Memory Accumulation

## 1. Symptoms

If a **nickel cadmium battery** is recharged (or discharged) from a point when its charge is only partially used, the voltage level at that point will become slightly lower.

If a battery's charge is repeatedly used (discharged) down to the same point (only partially used with power still remaining), the voltage in that area will remain at a low level.

When a battery remembers the point that it stopped discharging, it's called "memory accumulation." This effect lasts only for a short time, and the battery will recover after being completely discharged.

Nickel Cadmium Batteries are not always discharged completely, so memory accumulation sometimes occurs without users really realizing it's happening.

## 2. Cause

Although scientists have various hypotheses, the cause of memory accumulation has yet to be identified. The following are some possible causes:

- \* Formation of a higher order nickel active material such as g-NiOOH.
- \* Accumulation of undischARGEABLE active materials during cycling.
- \* Formation of an alloy of the cadmium (Cd) and nickel (Ni) used in the electrode (Ni5Cd21).

## 3. Problems

When the minimum operating voltage of equipment powered by a Nickel Cadmium Battery is set at a high level, memory accumulation will occur even if the equipment is operated right until it stops. As a result, voltage drops more quickly and operating time becomes shorter. The degree of a battery's voltage drop depends on the discharge current, minimum operating voltage, battery type, and ambient temperature.

Battery operation time drops to a certain level and stabilizes at that level.

## 4. Conditions

Although the conditions in which memory accumulation occurs depend on discharge current and ambient temperature, consider 1.1V or larger/cell for 1C discharging and 1.15V or larger/cell for 2C discharging as a guideline for when to stop discharging. Also, be sure to prevent poor wiring and battery contact as it leads to battery voltage drops as well.

The minimum operating voltage of equipment should be less than the guideline given above. We recommend approximately 1.0V/cell. When equipment using less than 1.0V/cell is employed, battery operation time is not affected even if memory accumulation occurs.

The following are examples of shortened operation times caused by memory accumulation.

1. Number of cell in battery pack is reduced up to minimum number that the machine can drive, because of making light, compact, low cost.
2. For word processors, a certain amount of capacity is reserved so that there is enough power to save data before shutting down.
3. For equipment with a residual capacity alarm (a battery voltage indicator), if the battery is replaced right after an alarm, the time between alarms becomes shorter. (Whether the actual operating time is shortened or not depends on the equipment's minimum operating voltage.)

## 5. Equipment that requires caution

### [ Equipment that requires caution ]

- \* Equipment having a high-level minimum operating voltage. (See Section 4.)

Through the use of integrated circuits, this equipment shuts down when the operating voltage decreases to a certain level.

- \* Equipment with a residual capacity alarm dependent on battery voltage (excluding those using discharge capacity addition systems.)  
e.g. Camcorders, personal computers, word processors, cellular phones, etc.

### [ Equipment that does not require caution ]

- \* Equipment whose minimum operating voltage is not set at a high level.
- \* Equipment without a residual capacity alarm dependent on battery voltage.  
e.g. Power tools, electric toys, lighting equipment, etc.

## 6. Corrective measures regarding equipment

1. Design equipment so that it can operate to a voltage level (approximately 1.0V/cell) at which it is not affected even if memory accumulation occurs.
2. If the measure in section 6-1 is impossible, attach a refresh device\* to the battery charger. (\* a device that separately discharges power not sufficiently discharged during equipment operation). \* It depends on the equipment's minimum operating voltage and load current, but if the equipment's load current on standby decreases greater than when in operation, keep the equipment on standby until it shuts down to eliminate battery's residual capacity.

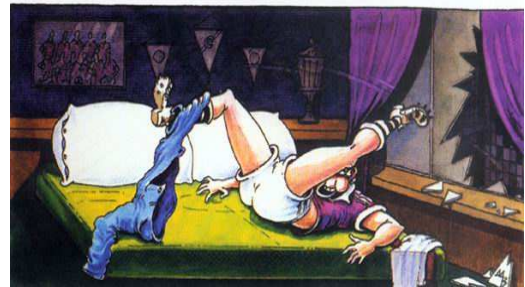
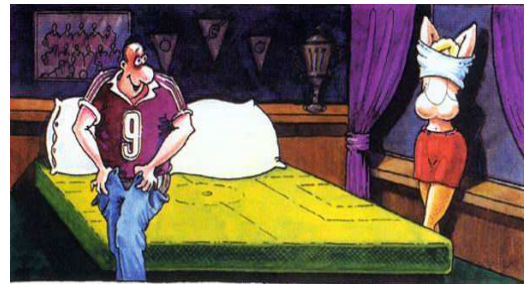
\* The above action should be taken only when you are sure the battery operating time has become shorter.



Ivan ZS2ILN had the pleasure of inspecting the main optic fibre routes that carried the main TV feeds during the Fifa world cup, this on a weekly basis. He gathered quite a collection of photo's which was shown at one of the General meetings. The low level flight back along the coast was always the best.

ZS2ILN

## Passionate about the game



I was in the restaurant yesterday when I suddenly realized I desperately needed to pass gas. The music was really, really loud, so I timed my gas with the beat of the music.

After a couple of songs, I started to feel better. I finished my coffee, and noticed that everybody was staring at me....

Then I suddenly remembered that I was listening to my iPod.

Well, guess what? Here we are with the July edition of FEEDBACK, thanks to Ivan. He promised he would try to get a quarterly copy out, and here's the first. I haven't seen anything of it yet, but I am sure he has done an excellent job.

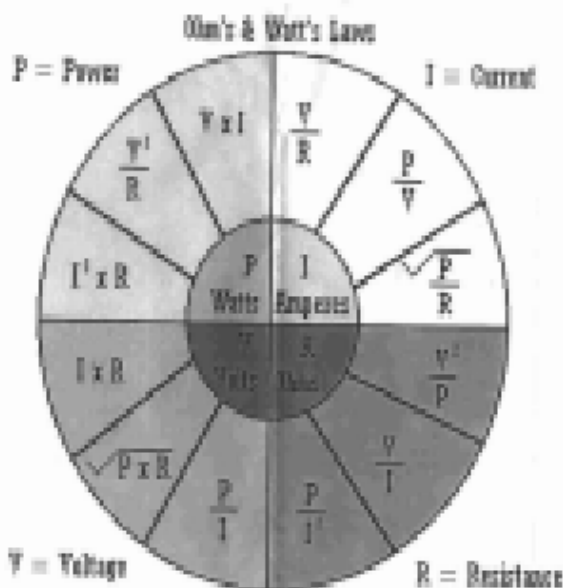
Please folks, remember that a Club Newsletter can only survive with contributions from the members. Don't worry about whether you think your contribution is suitable or not, let Ivan have it and let him decide.

Your present Committee's term of office comes to an end at the end of July and by the time you read this, a new one will have been elected and starting with the new Club year's running of things. To my old Committee, a big thanks for your assistance in keeping the ship afloat. To the new Committee, everything of the best for the coming year.

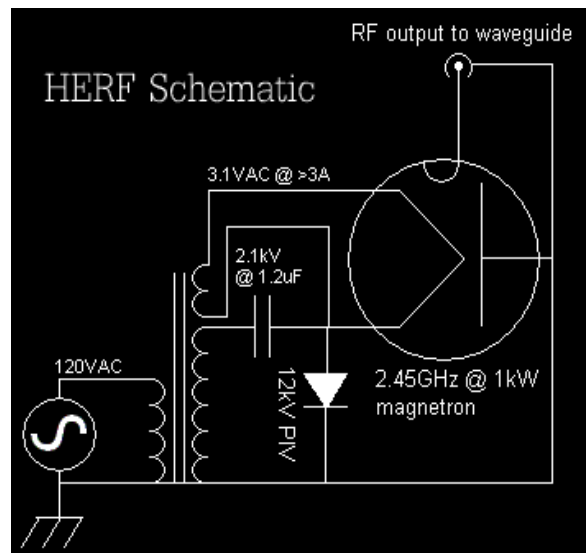
Our first Club task will be to run our normal Lighthouse Day on Saturday 21 August. Some bad planning has seen the Port Elizabeth RTA clashing with this date. To those who are wondering, yes, we will be running a station at Hood Point on the 21<sup>st</sup>. Those who haven't yet attended an RTA, it is very worthwhile and you should make every effort to attend, especially seeing that it is on our doorstep.

Well, I will end off for now and wish all readers everything of the best for the coming quarter.

Anthony – ZS2BQ



Basic Microwave Diagram





**FEEDBACK**



Our Chairman Anthony ZS2BQ recently handed over an award to Jim ZS2JM for all his time spent and hard work on our repeater linked network, as well as for all that he does on our local repeaters. Well done Jim the club members really appreciate all your efforts.

### Just a tap on the shoulder:

A passenger in a taxi leaned over to ask the driver a question and gently tapped him on the shoulder to get his attention.

The driver screamed lost control of the cab nearly hit a bus drove up over the curb and stopped just inches from a large plate glass window.

For a few moments everything was silent in the cab. Then the still shaking driver said 'Are you OK? I'm so sorry but you scared the daylights out of me.'

The badly shaken passenger apologized to the driver and said he didn't realize that a mere tap on the shoulder would startle the driver so badly.

The driver replied, "No No I'm the one who is sorry it's entirely my Fault, today is my very first day driving a cab.

I've been driving a hearse for the past 25 years".

**BORDER RADIO CLUB**

# BORDER RADIO CLUB COMMITTEE

## CHAIRMAN

Anthony Forteath - ZS2BQ  
 H - 043 7411686  
 W - 043 7032032  
 C - 083 7758880  
 anthony.forteath@eskom.co.za



## VICE-CHAIRMAN & SECRETARY



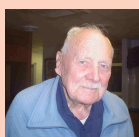
Ivan Newman - ZS2ILN  
 H - 043 7269013  
 W - 7021151  
 C - 082 8258512  
 newmanil@telkom.co.za

## TREASURER

Phil Sorensen - ZS2NP  
 H - 043 7261689  
 W - N/A  
 C - 072 7244923  
 philzs2np@absamail.co.za



## HON. LIFE MEMBERS



ZS2BV Trevor  
 Foxcroft

whit-

ingb@yebo.co.za



## EDITOR

Send magazine contributions  
 to:- feedbacknews@zs2brc.co.za

The Border Radio Club holds monthly General Meetings every third Tuesday of the month at The Gatehouse, Eskom's Sunilaws Office Park, Quenera Drive, Beacon Bay 19:30 for 19:45.

Anyone and everyone is welcome to attend. The Club can be contacted via e-mail at:

[info@zs2brc.co.za](mailto:info@zs2brc.co.za) or [news@zs2brc.co.za](mailto:news@zs2brc.co.za) or [feedbacknews@zs2brc.co.za](mailto:feedbacknews@zs2brc.co.za)

Visit our Border Radio Club Website at address, <http://www.zs2brc.co.za/> (do not use a search engine)

Listen to our Sunday bulletin at 07:45 on 145.650 Mhz. FM Local, and relays on 145.675 Mhz. FM. 3.575 Mhz. FM, 7.074 Mhz LSB, and 3.615 Mhz LSB.

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