



# SHACKNEWS

## HIGHVELD AMATEUR RADIO CLUB

### JUNE 2011

### COMMUNICATION IS THE NAME OF THE GAME

**Meeting** There was no official club meeting this month. Next meeting will take place on the 16 July at the usual venue.

I hope you have all renewed your ICASA licence. There seem to be a large number of amateur licences that have not been renewed.

**SSC Meeting** This months meeting took place at the home of Doug & Merle where there was a reasonable attendance. Doug managed to dispose of a number of items of no longer use to him. Thanks to Doug & Merle for the catering and to all the others who also brought along goodies to eat.

### Notice from the webmaster

Due to the amount of spam on the site we have added the forced login feature. This means we will hopefully prevent the ability for these bots to posts notes on the website as they have not logged in. Instructions and images have been added to the website under the managers menu option.

I have tried and tested it and all is working well

Thanks to Yvonne and Marianne

---oooOOOooo---

The club received the following e-mail

HAMFEST in Northwest 2011.

Goeie dag Mr. Die Voorsitter

Hiermee wil ons graag van die geleentheid gebruik maak om die geleentheid van die jaar in ons kontrei aan julle bekend te stel.

"HAMFEST in Northwest 2011" sal dv op 2 Jullie 2011 gehou word.

Dit is maar ons skamele poging om ons stokperdjie aan "Jan Publiek" te probeer bekend stel. Maar sonder ons mede Radio Amateurs se ondersteuning sal so 'n dag ook maar 'n so - so poging wees.

Ons as klub het dit vir ons as doelstelling geplaas om dit as 'n vyf jaar plan aan te pak.

Al wat ons vrae is dat u asseblief ons poging op julle nuus bulletin sal meld, en jul lede is meer as welkom om by ons te kom uitstal, sou daar van julle lede belang stel.

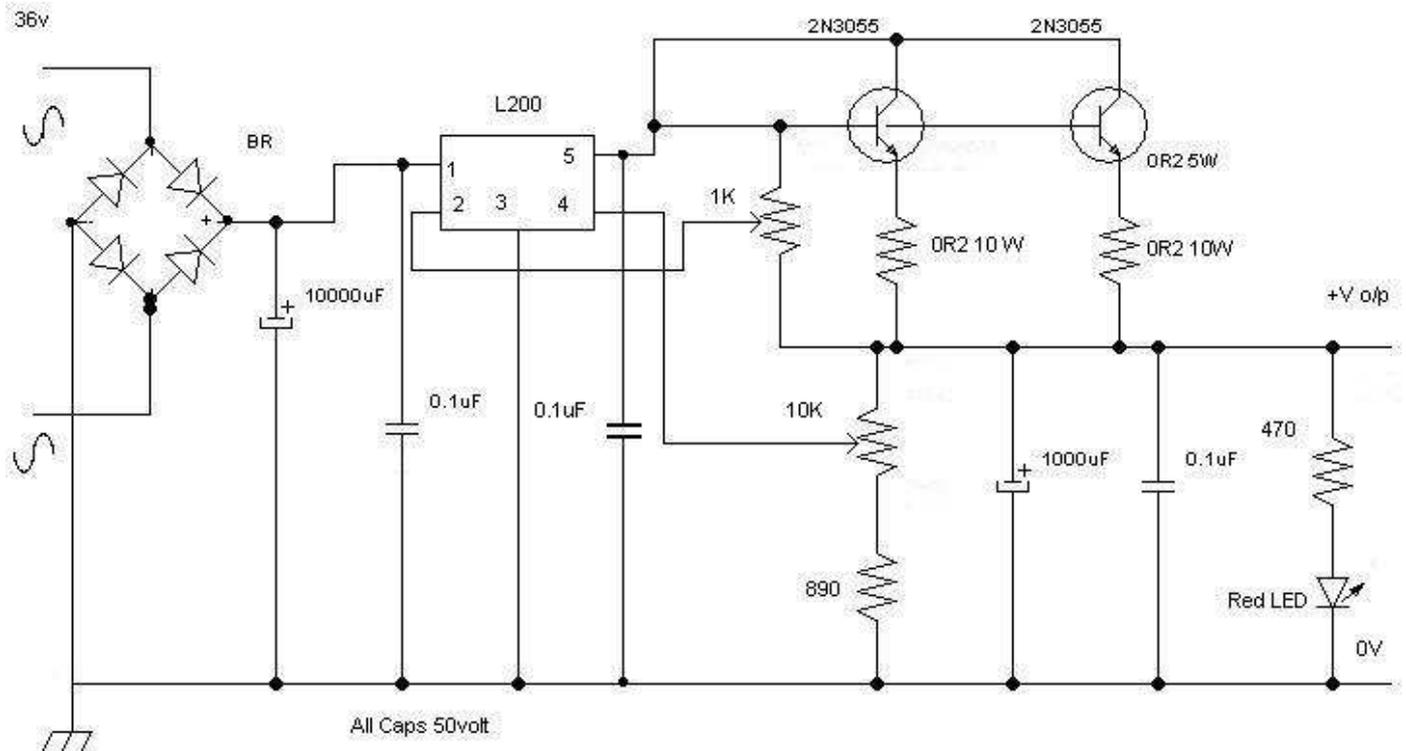
Kyk gerus na ons web werf vir verdere inligting.

[www.chrisr.co.za](http://www.chrisr.co.za) - HAMFEST 2011.

The event takes place on the main road between Potch and Stilfontein. 26deg 47'18.17S and 26deg 55'15.83E. Visit the website for more details

## A variable 10 Amp PSU

Found somewhere on the www



### Construction details:

This circuit and project is simple and to the point.

The two emitter resistors must be able to handle 10 amps max. The L200 and pass transistors must be mounted on substantial heatsinks. The transformer, bridge rectifier and smoothing capacitor may be chosen for the voltage/current required.

Appropriate meters can be added for Voltage and Ampere measurement.

Transistors, 2N3055, must be fitted with TO3 thermal mounting kits. Use heat sink paste to give good thermal contact. Check that the collectors, emitters and bases have a very high resistance to ground i.e. not short circuited.

Before switching on the power supply check your work thoroughly. Make sure there are no short circuits. Once you are convinced that everything is OK, you can switch on, wait a few seconds, search for smoke and if none then good show.

### Parts List:

L200 IC Regulator

Bridge Rectifier 15 Amp

10,000µF 50v Electrolytic Capacitor

0.1µF 50v Ceramic Capacitor x 3

1,000µF 50v Electrolytic Capacitor

1K Variable Potentiometer 0.4 Watt

0R2 10 Watt Resistor x 2 (Wirewound)

10K Variable Potentiometer 0.4 Watt

890 Ohm 5 Watt Resistor

470 Ohm 1 Watt Resistor

Red Led

2N3055 NPN Transistor x 2

36 Volt 10 Ampere Transformer

Heatsink for 2N3055 Transistors

Heatsink for L200 IC Regulator

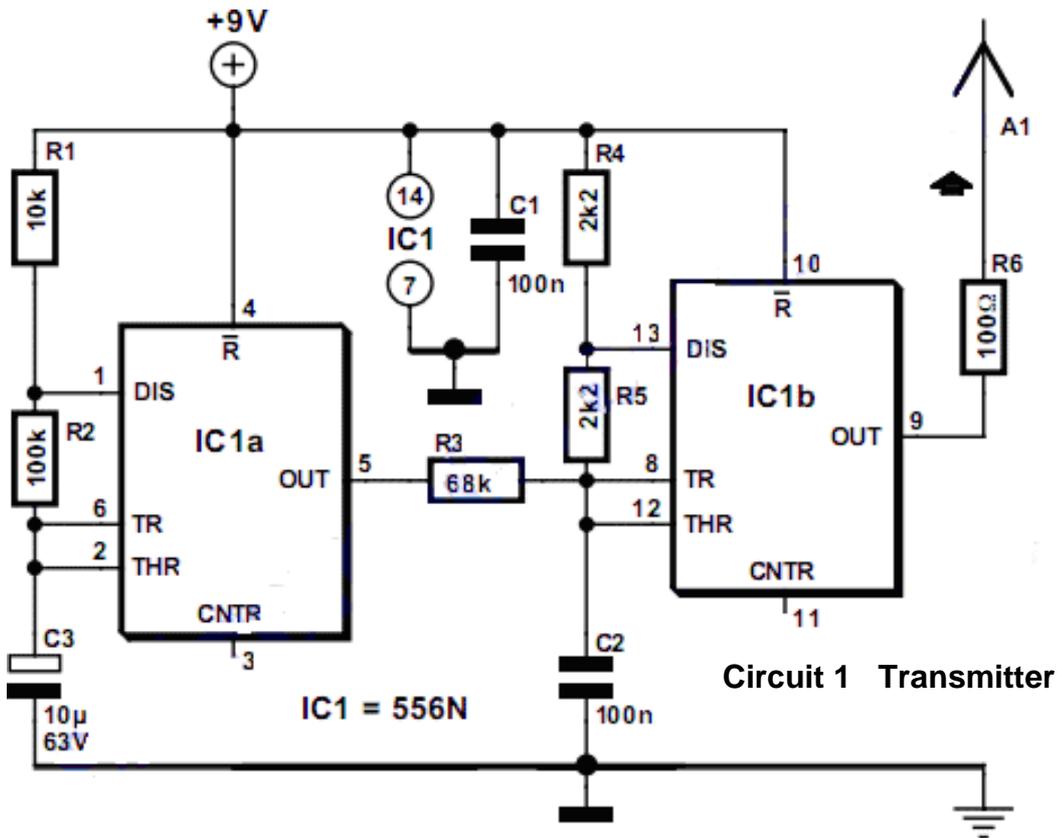
4mm Red Binding Post 20 Amp (Banana plug type)

4mm Black Binding Post 20 Amp (Banana plug type)

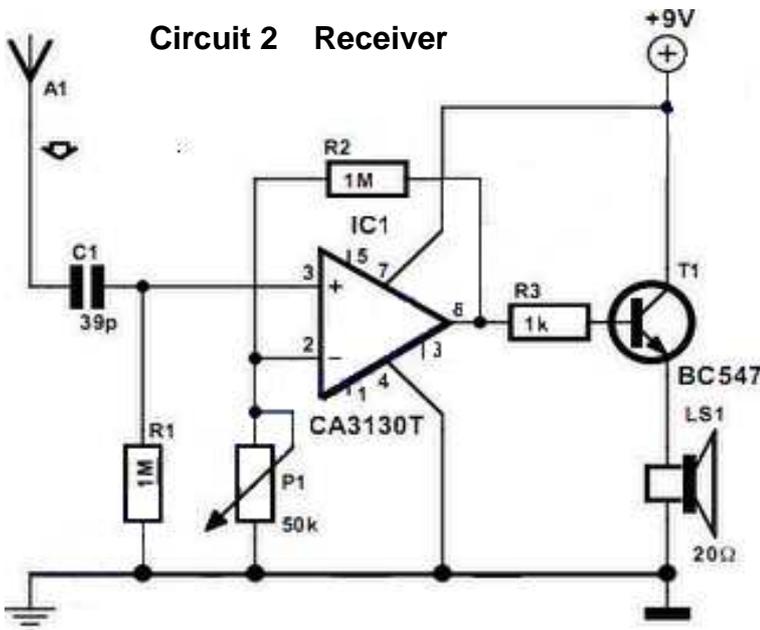
Amp and Volt meters of choice

I have built two supplies using the above circuit and one is in use daily driving two 2M rigs.

## A tone and probe unit



**Circuit 1 Transmitter**



**Circuit 2 Receiver**

The circuit depicted here forms one half of a device that will prove extremely handy when tracing the path of electrical wiring in a building or to locate a break in a wire. The system is based on similar equipment that is used by technicians in telephone exchanges. The operation is straightforward. You require a generator that delivers an easily recognizable signal which, using a short antenna, is inductively coupled to a simple, but high gain, receiver. To create a useful transmitter it would suffice to build a simple generator based on a 555. But as the adjacent diagram shows, a 556 was selected instead. The second timer (IC1a) is used to modulate the tone produced by IC1b.

The output frequency alternates between about 2100 Hz and 2200 Hz. This is a very distinctive test signal that is easily distinguished from any other signals that may be present.

Resistor R6 is connected to a piece of wire, about ten centimetres long, that functions as the antenna. The ground connection (junction C2-C3) is connected to ground. When the antenna is connected directly to a cable, it is possible to determine at the other end of the cable, with the aid of the receiver, which conductor is which (don't do this with live conductors!).

The circuit depicted in 2 is the receiver device of a transmitter/receiver combination that will prove extremely handy when tracing the path of electrical wiring in a building or to locate a break in a wire. The transmitter produces a distinctive tone which alternates between 2100 Hz and 2200 Hz. The matching receiver for the wire tracer is possibly even simpler than the transmitter, as is shown by the schematic. It consists of no more than a short wire antenna (a piece of wire, 10 cm long is adequate), a high-pass filter (C1-R1), an amplifier stage (IC1), an output stage (T1) and a loudspeaker (A telephone handset receiver or earphone works better).

The purpose of P1 is to adjust the amplification. At the highest amplification, the wire energized by the transmitter can be traced from several tens of centimetres away. A direct electrical connection is therefore not required. However, it is important that you hold the ground connection (earth) in your hand.



I have used a similar one to the picture to trace breaks in the cable of the lawnmower. To speaker wires in a car. The receiver on its own even picks up ignition noise from your car eg. the exhaust pipe.

### **CLUB INFORMATION**

**Postal address** PO Box 19937 Sunward Park 1470

**Website** <http://www.zs6hvb.za.net>

**Back issues of Shacknews available on the club website**

**e-mail** [zs6hvb@zs6hvb.za.net](mailto:zs6hvb@zs6hvb.za.net)

**Repeater** 145.1875 MHz input - 145.7875 MHz output

**Linked** to 70 cm - 438.850 Mhz (Sunday bulletins)

**Bulletins** Sunday morning - 145.7875 MHz & 7062 KHz @ 08h45.  
Relay - 80M - 3662KHz

#### **Monthly meeting venue**

Germiston Methodist Church  
Room at back of the offices  
Lady Duncan Rd  
Germiston

*3rd Saturday of the month at 14:30*

#### **Committee**

Chairman	Ton van Dijk	ZS6ANA	011-432-5494
Secretary/Treasurer	Berridge Emmett	ZS6BFL	011-893-1291
Assistant Secretary	Marianne Treyvellan	ZR6JMT	079-519-8808
Repeater/Technical	Ton van Dijk	ZS6ANA	011-432-5494
Repeater/Technical Assistant	Frank van Wensveen	ZS6TMV	082-294-2648
Shacknews Editor	Berridge Emmett	ZS6BFL	011-893-1291
Shacknews Printing	Harry Lautenbach	ZS6LT	011-888-5362
Webmaster	Yvonne van Dijk	ZR6TBL	011-432-5494
Assistant Webmaster	Marianne Treyvellan	ZR6JMT	079-519-8808

#### **Club bank details**

First National Bank - Current Account 62116557309. Branch Code for EFT 250655