



HIGHVELD AMATEUR RADIO CLUB

SHACKNEWS

PO Box 19937 Sunward Park 1470 APRIL 2007

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<http://www.qsl.net/zs6ssc/>

Sunday morning BULLETINS - 145.7875 MHz & 7062 KHz @ ±08h45.

COMMUNICATION IS THE NAME OF THE GAME

Meeting Instead of the usual Saturday meeting the club held a Flea Market and Braai at Rex's QTH on the 1st of April. Not many people pitched up and very few of the freebees were disposed of. The braai of course was a great success. Thanks again to Rex and Ingrid for the use of the farm. A list of items that have been put in storage will be appearing on the HARC website soon. Next meeting is on the 5th May.

SSC Meeting There is no meeting this month as it clashes with the SARL AGM.

ALL ROADS LEAD TO THE NARC NEXT SATURDAY

Next Saturday 14 April is the SARL Annual General meeting. It will be held at the Sentech Conference Centre, the building next to the National Amateur Radio Centre at Sender Technology Park. For a map visit www.sarl.org.za.

Registration starts at 07:30 with the meeting getting underway at 09:00. The annual award function will be held at 13:00 at a special lunch. Book on Tuesday with Vee at 011 675 2392 or send a mail to admin@sarl.org.za. The cost of the buffet lunch is R70. Please book ahead of time, as only limited number seats are available. If you have already booked, collect your ticket from Vee on Saturday morning.

Members who are not able to attend the meeting are urged to send in a proxy. The form and details of how to send a proxy as well as the full AGM documentation can be found on the members section of the SARL web at the following URL <http://www.sarl.org.za/members/agmnotices2007.pdf>.

The main part of the AGM will be transmitted on the air on 7 082 and 14 240 kHz and will be available as a web stream from www.sarl.org.za, click on ARMI and follow the links. Other channels are 145,750 MHz in the Pretoria area, www.zs6mrk.org and Echolink from ZS6FCS. Make use of these to broadcast the proceedings on your local repeaters.

Chairman:	Doug Wetton	ZS6BXU	011-680-4906
Vice Chairman	Frank van Wensveen	ZS6TMV	011-942-3657
Secretary / Treasurer:	Berridge Emmett	ZS6BFL	011-893-1291
Repeater/Packet Radio/Technical	Ton Van Dijk	ZS6ANA	011-942-3657
Shacknews Editor:	Berridge Emmett	ZS6BFL	011-893-1291
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This is the ideal definition of true justice!

This is the best lawyer story of the year, decade, and probably the century!

A Charlotte, NC, lawyer purchased a box of very rare and expensive cigars, then insured them against fire among other things.

Within a month having smoked his entire stockpile of these great cigars and without yet having made even his first premium payment on the policy, the lawyer stated the cigars were lost "in a series of small fires."

The insurance company refused to pay, citing the obvious reason: the man had consumed the cigars in the normal fashion. The lawyer sued, and won!

In delivering the ruling, the judge agreed with the insurance company that the claim was frivolous. The Judge stated, nevertheless, that the lawyer held a policy from the company in which it had warranted that the cigars were insurable and also guaranteed that it would insure them against fire, without defining what is considered to be unacceptable fire, and was obligated to pay the claim. Rather than endure lengthy and costly appeal process, the insurance company accepted the ruling and paid \$15,000 to the lawyer for his loss of the rare cigars lost in the "fires."

NOW FOR THE BEST PART

After the lawyer cashed the cheque the insurance company had him arrested on 24 counts of ARSON! With his own insurance claim and testimony from the previous case being used against him, the lawyer was convicted of intentionally burning his insured property and was sentenced to 24 months in jail and a \$24,000 fine.

This is a true story and was the 1st place winner in the recent Criminal Lawyers Award Contest.

ONLY IN AMERICA!

Useful websites

Boat Anchor Manual Archive. Manuals for all types of older rigs and test equipment.

<http://bama.sbc.edu/index.htm>

Mirror site for the above

<http://bama.edebris.com/manuals/>

Vintage Radio and Electronics. Boatanchors, Military, Homebrew, Societies and Ham Sites

<http://vintageradio.me.uk/links/links7.htm>

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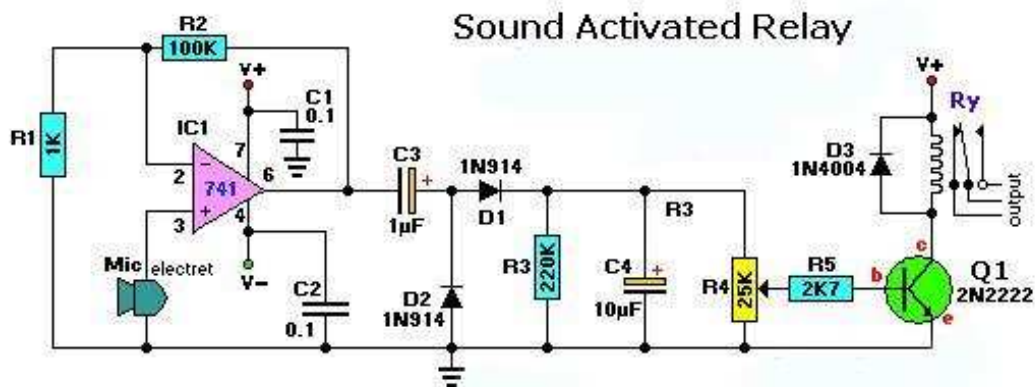
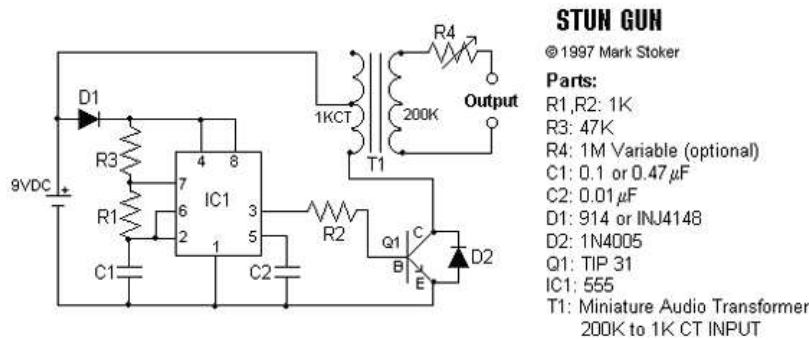
Vintage military radios. Something on the C11/13 and R210 ex-military equipment.

<http://www.vmarsmanuals.co.uk/> also <http://koti.mbnet.fi/~ijl/>

Something for our day and age

Stun Gun Circuit

This stun gun is powered by a 9V battery. The transformer steps up the voltage to about 1800V (but with very low current) A 555 timer IC is used to generate a high-frequency output. A 1 MEG variable resistor can also be used at the output to drop the voltage, but this is optional. If you build this circuit, be careful, as it outputs a high voltage. Touching the output leads will induce a painful shock.



This relay remains dormant until the op-amp activates upon sound via the electret-microphone.

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Only tested with the 2-wire type. The input stage is a regular off-the-shelf 741 operational amplifier and connected as a non-inverting follower audio amplifier. Gain is approximately 100%, which you can raise by increasing the value of R2. The amplified signal coming off pin 6 is rectified and filtered via C3, D1/D2, and R3 to an acceptable DC level. D1 and D2 can be any signal diode like 1N914, 1N4148, or the NTE519.

Q1, the 2N2222 or 2N3904, is a general purpose NPN transistor and is not critical. The NTE123A will work too. Potentiometer R4 is used to set the audio level to a desired sensitivity value to activate the relay via transistor Q1. R5 is a 'minimum' bias protector when the potentiometer is adjusted to '0' ohms and protects the transistor. Diode D3 is mounted over the relay coil to absorb sparks when the relay opens. Cathode goes to '+'.

HOW DO YOU DECIDE WHO TO MARRY? (written by kids)

(1) You got to find somebody who likes the same stuff. Like, if you like sports, she should like it that you like sports, and she should keep the chips and dip coming.

- Alan, age 10

(2) No person really decides before they grow up who they're going to marry. God decides it all way before, and you get to find out later who you're stuck with.

- Kristen, age 10

WHAT IS THE RIGHT AGE TO GET MARRIED?

(1) Twenty-three is the best age because you know the person FOREVER by then.

- Camille, age 10

(2) No age is good to get married at. You got to be a fool to get married.

- Freddie, age 6 (very wise for his age)

HOW CAN A STRANGER TELL IF TWO PEOPLE ARE MARRIED?

(1) You might have to guess, based on whether they seem to be yelling at the same kids.

- Derrick, age 8

73 Berridge ZS6BFL

(Last page is the RAE dated November 1980. How many would pass this one today?
Hi)

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DEPARTMENT OF POSTS AND TELECOMMUNICATIONS
AMATEUR RADIO OPERATOR'S
CERTIFICATE EXAMINATION

Part I (Regulations)

- 1 (a) Name the four conditions under which an amateur may make music transmissions for experimental purposes. (10)
- (b) What are the Q-code abbreviations for the following?
- (i) Does my frequency vary?
(ii) Are you busy?
(iii) Shall I send faster?
(iv) Shall I change to transmission on another frequency?
(v) When will you call me again?
- 2 (a) (i) At what age may an amateur radio station licence be issued to a candidate?
(ii) Is it correct that a candidate should be able to speak Afrikaans and English fluently?
(iii) May entertainment be transmitted from an amateur radio station?
(iv) May an amateur radio station be used for reward?
(v) Who is responsible for the operation of an amateur radio station? (5)
- (b) State the lower and upper frequencies of the following amateur bands:
- (i) 80 m
(ii) 40 m
(iii) 20 m
(iv) 10 m
(v) 6 m (10)

Part II

Answer questions 3 and any five of the remaining eight questions. All calculations and formulae used must be shown.

- 3 (a) Describe clearly and include sketches where necessary of the interference in adjacent channels caused by keying a C W transmitter where no special precautions have been taken against such interference. (15)
- (b) Explain the operation of suitable circuits to reduce key click interference in adjacent channels either long range or short range. (10)
- 4 Describe the purpose of Automatic Gain Control (AGC) in a radio receiver.
With the aid of a circuit diagram de-

- scribe how AGC voltage is obtained indicating what stages are controlled in a typical receiver. (10)
- 5 A resistor of 100 ohms, a coil of 0.10 Henry and a capacitor of 120 microfarads are all connected in series across a 110 volt 60 hertz supply. Calculate
- (a) The current in the circuit
(b) The voltage across the coil (15)
- 6 Describe with the aid of suitable sketches three methods of supplying grid bias voltage to the final R.F. Amplifier of a transmitter, stating the advantages and disadvantages of each. (15)
- 7 Draw a diagram of an output tank circuit for a radio transmitter coupled via a PI network to a low impedance coaxial cable and explain the tuning procedure.
- 8 Describe in detail the advantages of a Superheterodine receiver over the conventional TRF receiver. (9)
Draw a simple circuit diagram of a IF amplifier and state why double conversion in a Superheterodine is sometimes used. (6)
- 9 Draw the circuit of a Hartley or Colpitts variable frequency oscillator using either valves or transistors. (7)
- 10 The characteristic impedance of an open wire line is $276 \log \frac{2D}{10d}$
where D is the centre to centre spacing of the wires and d is the wire diameter.
Calculate the spacing required for a line made of 0.1 inch diam. copper wire to be used in a quarter wave matching transformer between impedances of 600 ohms and 250 ohms.
- 11 (a) A Pentode A.F. amplifier has Anode, Screen and Cathode resistors of 75k, 400k and 1,2k ohms respectively. The supply voltage is 250 volts and measured values of Anode and Screen voltages are 100 volts and 50 volts relative to earth. Calculate the Cathode voltage. (9)
- (b) State the class in which an RF output Amplifier of a transmitter is operated for the following transmission modes, and give the reasons.
- (a) SSB
(b) DSB
(c) FM (6)