



SHACKNEWS

HIGHVELD AMATEUR RADIO CLUB

AUGUST 2010

COMMUNICATION IS THE NAME OF THE GAME

Meeting There was no official meeting held this month. The **AGM** which was due to take place on the 18 September has been changed to the **16 October 2010**.

The SARL Radio Technology in Action takes place on the 18 September and clashes with our AGM. It was felt that members would like to attend the RTA and it was decided to change the dates.

SSC Meeting Thanks to Doug and Merle for hosting this month's meeting. A larger number than usual attended and it was nice to see all the guys.

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Web sites of interest

<http://www.caa.co.za/> Browse around. Lots of interesting stuff

<http://www.earthimage.co.za/Radarbox/FAJS.htm> Radar images at OR Tambo airport. Active on the weekends.

<http://www.google.com/intl/en/help/features.html> Lots of interesting Google goodies

<http://m3jzt.proboards.com/index.cgi?> Radio related

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A lady goes to the bar on a cruise ship and orders a Scotch with two drops of water. As the bartender gives her the drink she says, 'I'm on this cruise to celebrate my 80th birthday and it's today...'

The bartender says, 'Well, since it's your birthday, I'll buy you a drink. In fact, this one is on me.'

As the woman finishes her drink, the woman to her right says, 'I would like to buy you a drink, too.'

The old woman says, 'Thank you. Bartender, I want a Scotch with two drops of water.'

'Coming up,' says the bartender. As she finishes that drink, the man to her left says, 'I would like to buy you one, too.'

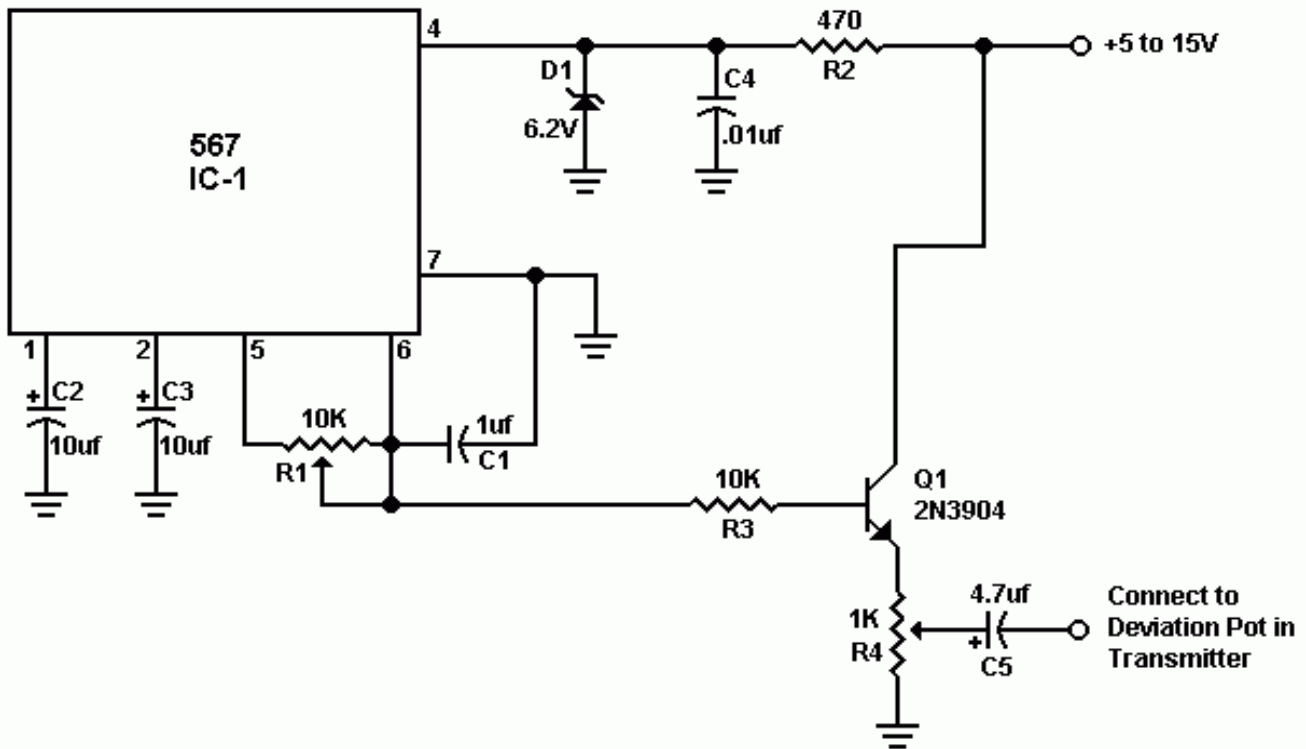
The old woman says, 'Thank you. Bartender, I want another Scotch with two drops of water.'

'Coming right up,' the bartender says.

As he gives her the drink, he says, 'Ma'am, I'm dying of curiosity. Why the Scotch with only two drops of water?'

The old woman replies, 'Sonny, when you're my age, you've learned how to hold your liquor. Holding your water, however, is a whole other issue.'

A simple add-on CTCSS tone encoder



This easy circuit that can be constructed with mostly easily available parts on any general purpose circuit board. The only rigid requirement is that capacitor C1 be stable over a wide temperature range. Use only Mylar, Polyester or Metal film for capacitor C1. The frequency is determined by the following formula:

$$\text{FREQUENCY} = 1/R1C1$$

The specified values should allow any tone between 100 to 300 Hz. Increase R1 or add another resistor in series with R1 for lower tone frequencies.

The output of this PL generator should be connected to the deviation potentiometer in the transmitter circuit and not the microphone input. (Check schematic diagram of transceiver.) If the circuit reduces the transmitter audio, install a resistor between the output of the circuit and the transmitter. Use a value in the range of 1K to 10K depending on what yields the best results.

The heart of the PL tone generator is the ultra stable 567 IC

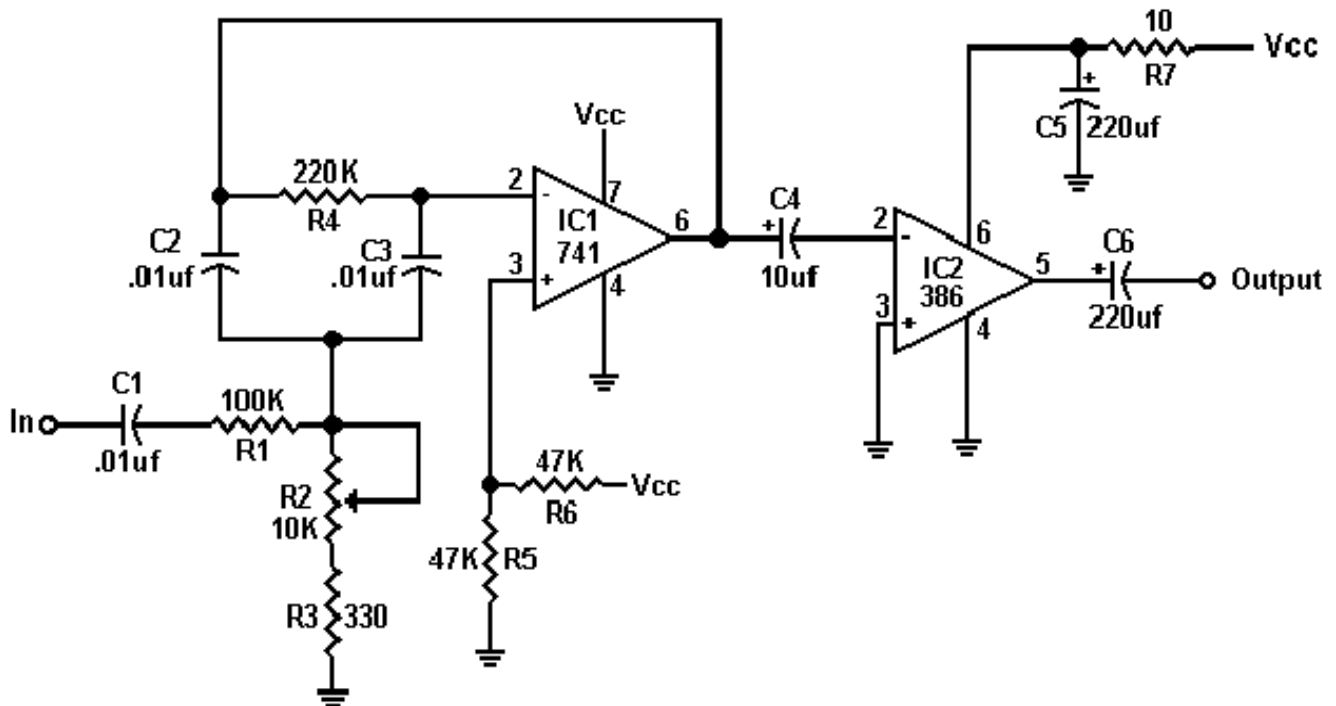
To align the frequency of the tone generator, use another transceiver with CTCSS decode capability for the desired PL tone frequency. Attach a dummy load to the transmitter and key down the transmitter which turning R1. As soon as the correct frequency is obtained, the squelch will open on the transceiver with CTCSS decode. Now adjust R4 for the correct audio level of the tone. The tone level only needs to be loud enough for the other receiver to decode the tone and not loud enough for others to hear it. If the tone can be easily heard then the level is probably too high.

Parts List

- R1 10K 15 turn trimmer pot
- R2 470 ohm ¼ watt resistor
- R3 10K ohm ¼ watt resistor
- R4 1K ohm trimmer pot
- C1 1 uF Mylar, Polyester or Metal Film Capacitor
- C2, C3 10 uF Electrolytic Capacitor
- C4 .01 uF ceramic Capacitor
- C5 4.7 uF Electrolytic Capacitor
- D1 1N4735 6.2 volt Zener diode
- Q1 2N3904 or similar transistor

For those that still enjoy CW and have an older type receiver try this filter

Vcc = +9 to +14VDC



The circuit is a variable bandwidth CW filter using two IC's. The first IC is a 741 op amp used as an active filter and the second IC is a 386 audio amp IC. This circuit connects to the headphone or speaker jack of your HF rig. The volume is controlled by the volume control of your rig and R2 controls the bandwidth. There is plenty of audio to drive a small speaker or a pair of headphones.

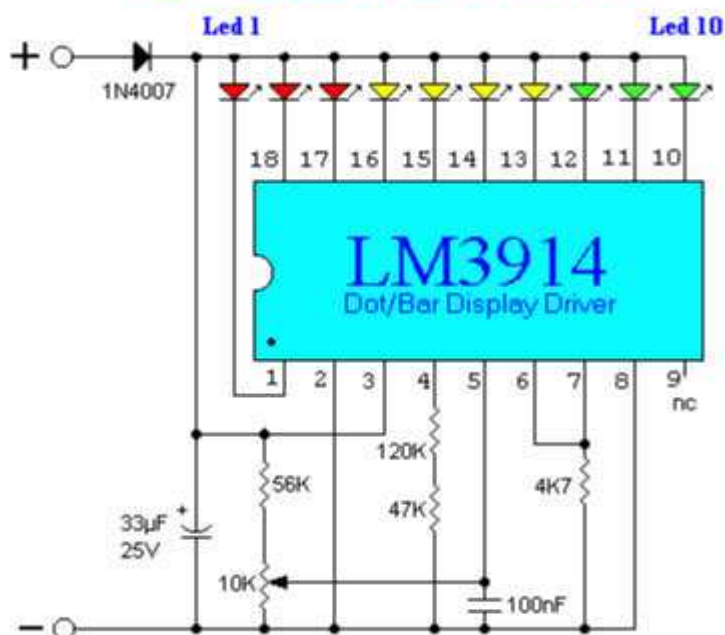
This circuit is different from other active filter circuits because it provides an audio boost which more than compensates for any attenuation in the filter stage. Many active filter circuits do not have enough volume to make them useful for most operators. Capacitor C5 and R7 were added to prevent the LM386 IC from oscillating which is common with this family of IC's. Use good construction practices since this circuit contains a very large amount of gain at the selected bandwidth. To make life easier, only Radio Shack parts were used for those who hate mail order.

R1	100K resistor (brown, black, yellow)
R2	10K potentiometer
R3	330 ohm resistor (orange, orange, brown)
R4	220K resistor (red, red, yellow)
R5,R6	47K resistor (yellow, violet, orange)
R7	10 ohm resistor (brown, black, black)
C1,C2,C3	.01 microfarad capacitor (103 marking)
C4	10 microfarad electrolytic capacitor (observe polarity)
C5,C6	220 microfarad electrolytic capacitor (observe polarity)
IC1	741 op amp IC (use 8 pin socket)
IC2	LM386 audio amp IC (use 8 pin socket)

Note: All resistors are ¼ watt 5% tolerance unless otherwise specified.

For the car

12 V Lead-Acid Monitor



CLUB INFORMATION

Postal address PO Box 19937 Sunward Park 1470

Website <http://www.qsl.net/zs6hvb/>

e-mail zs6hvb@gmail.com

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
Hall
Lady Duncan Rd
Germiston

3rd Saturday of the month at 14:30

Committee

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