



ZS6HVB
Affiliated to
the SARL

SHACKNEWS

HIGHVELD AMATEUR RADIO CLUB

First Quarter 2019

We're on 

COMMUNICATION IS THE NAME OF THE GAME

The first meeting of 2019 will be held at the home of Berridge and Sandra on Saturday 16 March, 14:00 for 14:30

Important notice from the SARL

Amateur Radio License fee increase

ICASA has informed the SARL that the licence fee will be increased by 4,7% on 1 April 2019. The new fees will be

1 Year -	R 148.00
2 Year -	R 283.00
3 Year -	R 406.00
4 Year -	R 517.00
5 Year -	R 617.00

ICASA will start the invoicing process for the 2019/2020 period from 4 February 2019. Radio Amateurs are reminded that it is their responsibility to ensure their license is up to date. If for some reason no invoice is received, check that ICASA has been informed of any address changes.

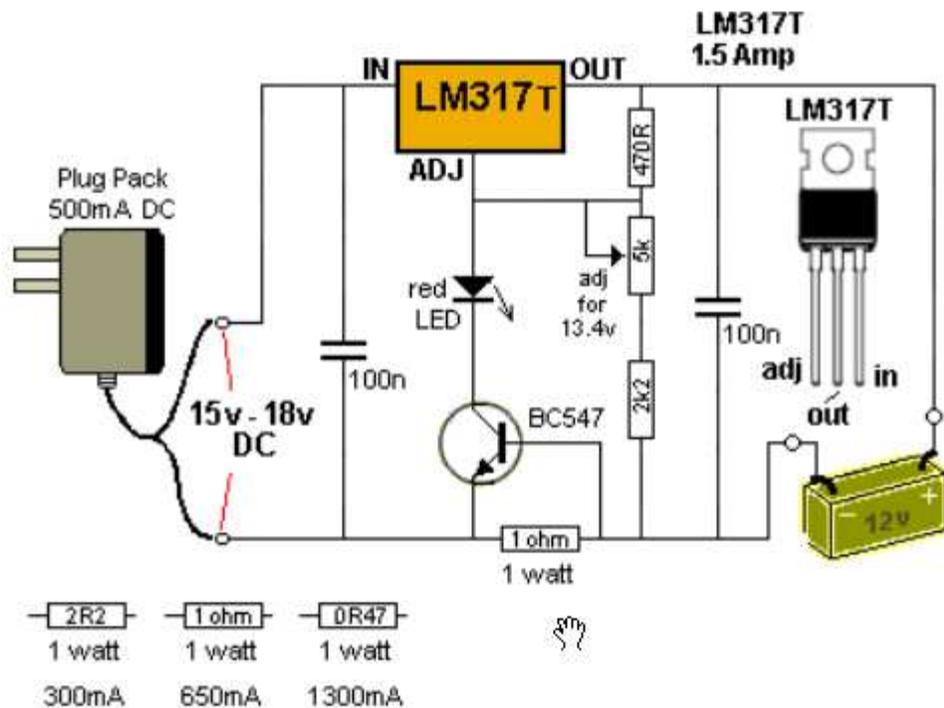
Avoid the hassles of having to renew each year, opt for a multi-year licence. Simply, when renewing pay the appropriate amount. On the EFT state 5 Year licence and your callsign. **Also send an email to dkuhrau@icasa.org.za with a copy of the EFT payment.**

The correct account for your ICASA Licence Fee is NEDBANK Account number: 14 62 00 29 27, Branch Code: 146245 - Corporate Client Services – Pretoria and in the reference field type in your *licence number* and call sign.

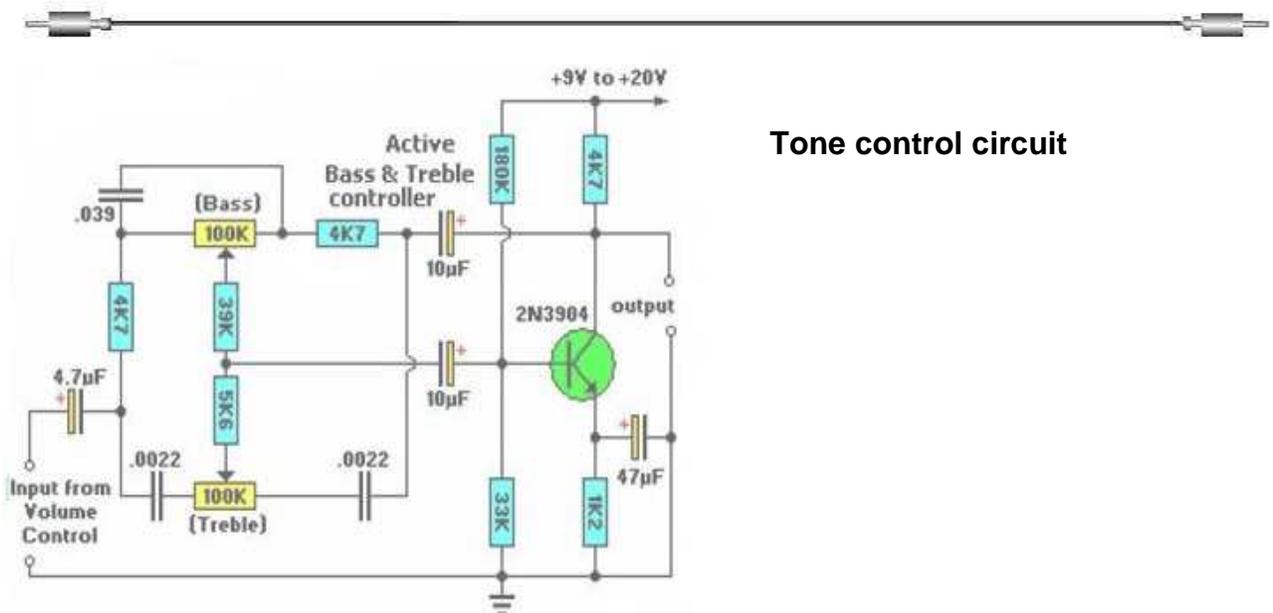
NB

ICASA Licence Fees - DO NOT pay the ICASA licence fee into the SARL bank account, all moneys wrongfully paid into the SARL account will be refunded less the bank charges associated with these transactions.

A simple automatic 12volt battery charger

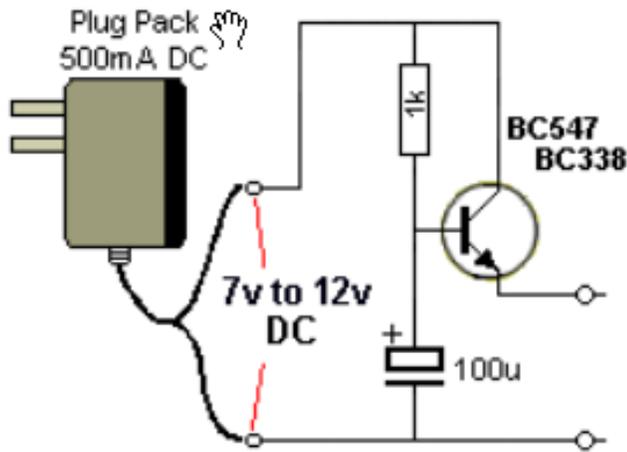


A transistor can be used as a CURRENT TO VOLTAGE detector. The circuit shows a 1 ohm sense resistor connected to a transistor. When the circuit is turned ON, the charging current (the current flowing into the battery) will be high and when the voltage across the **sense resistor** reaches 0.65v, the transistor turns ON and the voltage on the collector reduces. This turns on the red LED and reduces the voltage on the ADJ terminal of the LM317T regulator and the regulator outputs a lower current to the batter. This is how the circuit limits the charging current. The resistor is **converting** the current flowing through the circuit (and into the battery) into a voltage, and the transistor detects the voltage. The transistor is not detecting or measuring the current. It has absolutely no idea of the amount of current flowing. It is detecting the voltage across the resistor. The resistor is performing the **CURRENT to VOLTAGE** conversion.



Tone control circuit

The Electronic Filter



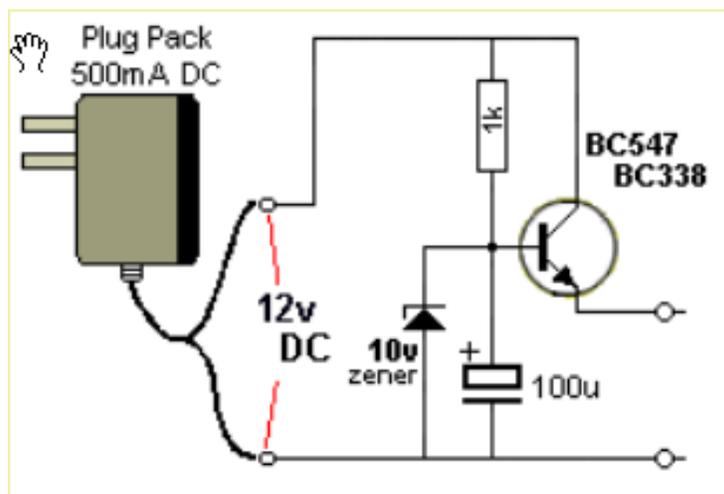
Here is a simple circuit to reduce the ripple from a power supply by a factor of about 100. This means a 20mV ripple will be 0.2uV and will not be noticed. This is important when you are powering some audio device from a plug pack. The background hum is annoying and very difficult to remove with electrolytics. This circuit is the answer. The 1k and 100u form a filter that makes the 100u one hundred times more effective than if placed directly on the supply-line. The transistor detects the voltage on the base and also detects the very small ripple.

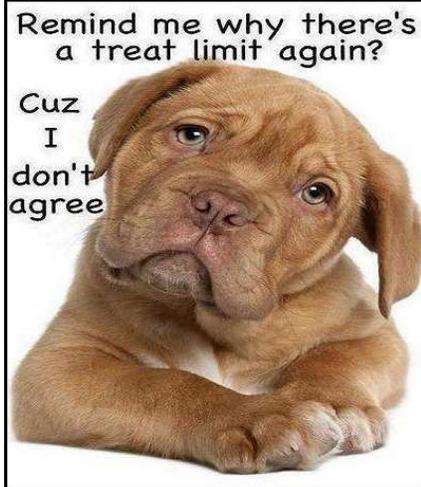
As current is taken by the load, about 100th of this current is required by the base and if the load current is 100mA, the current into the base will be 1mA and one volt will be dropped across the 1k resistor.

The circuit is suitable for up to 100mA. A power transistor can be used, but the 1k will have to be reduced to 220R for 500mA output. The output of the circuit is about 2v less than the output of the plug pack.

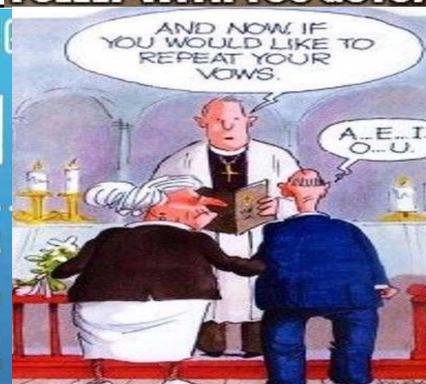
By adding a zener across the electro, the output voltage will remain much more constant (fixed). If a zener is not added, the output voltage will drop as the current increases due to a factor called REGULATION. This is the inability of the small transformer to provide a constant voltage. The addition of the 3 components only reduces the RIPPLE portion of the voltage - and does not change the fact that the voltage will drop when current is increased. It requires a zener to fix this problem.

Improved version





I'M GREAT AT MULTITASKING
I CAN LISTEN
IGNORE, AND FORGE
ALL AT ONCE



I wonder if clouds ever look down on us and say "Hey look...that one is shaped like an idiot."

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

Repeater 145.1875 MHz input - 145.7875 MHz output

Bulletins Sunday morning - 145.7875 MHz & 7162 KHz @ 08h45.

Monthly meetings

Venue to be advised

Every Third month
On the *3rd Saturday of the month* at 14:30.

Chairman:

Vacant

Secretary/Treasurer:

Berridge Emmett

ZS6BFL

011-893-1291

Shacknews Editor:

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