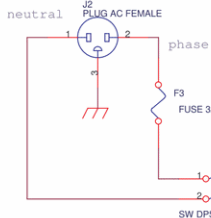


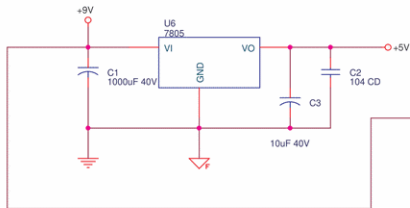
use EMI RFI  
filter Mains  
Socket

Input  
110V AC +/- 25%



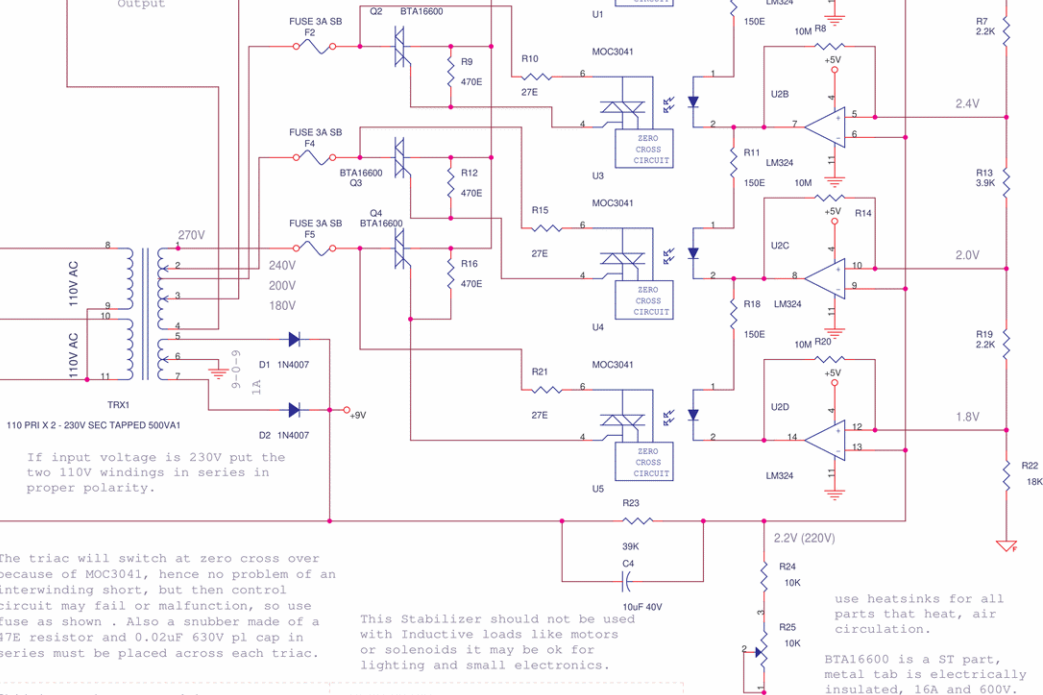
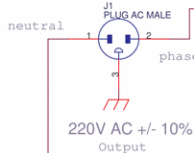
Use Presets with series resistor  
as required so that you can test  
or calibrate.

all mains wiring and connections  
should be designed for high  
voltage and current. They should  
be isolated visually from  
control circuits by 10 mm or  
more.



This circuit is only a design concept, it has not been tested.

use 74HCT40XX chips in place of CD40XX for only 5V and high speed designs. Use Shrink sleeves and proper gauge of wire.  
put 104 CD cap for all ICs from positive to negative close to IC, even if omitted in circuit, for opamps on dual supply two caps.  
unused inputs of logic and opamps pull up or down to avoid oscillations and noise. connect supply of all chips if not mentioned.  
"analog ground" and "digital ground" must be linked at power supply only, avoid loops, let grounds radiate from a ground plane.  
use MFR 1% for all Resistors, 33E means 33 ohms, 22K means 22 kilo ohms, 1M is 1 megohm. 10T tp means ten turn trimpot.  
'474 CD' is 47 with 4 zeros pF, 470000 pF, 470 nF, 0.47uF, ceramic disc. "pl" is plastic, low leakage multilayer.



If input voltage is 230V put the  
two 110V windings in series in  
proper polarity.

The triac will switch at zero cross over  
because of MOC3041, hence no problem of an  
interwinding short, but then control  
circuit may fail or malfunction, so use  
fuse as shown . Also a snubber made of a  
47E resistor and 0.02uF 630V pl cap in  
series must be placed across each triac.

This Stabilizer should not be used  
with Inductive loads like motors  
or solenoids it may be ok for  
lighting and small electronics.

use heatsinks for all  
parts that heat, air  
circulation.

BTA16600 is a ST part,  
metal tab is electrically  
insulated, 16A and 600V.

delabs



delabs design  
delabs-circuits.com  
delabs.net

delabs circuits and technologies

Solid State Mains Voltage Stabilizer		
File		
Size	Document Number	Rev
B	del20023	1
Date	Friday, October 01, 2004	Sheet 1 of 1