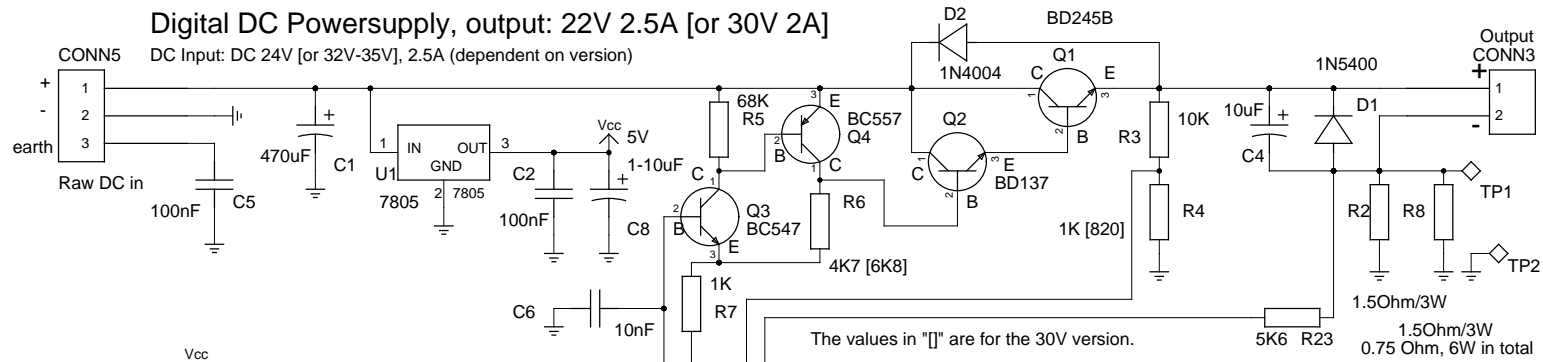


C5 is needed to remove the effects of any asymmetric insulation capacitors between primary and secondary coil of the transformer. Note that some low quality transformers have no insulation foil or a too thin foil between the wires of the primary and secondary coil. In this case you can also use a larger capacitor for C5. You will notice this problem if you can measure voltages between earth and the minus output pins.

## Digital DC Powersupply, output: 22V 2.5A [or 30V 2A]

DC Input: DC 24V [or 32V-35V], 2.5A (dependent on version)



The values in "[ ]" are for the 30V version.

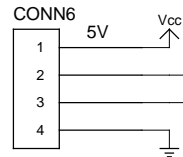
display contrast control

CONN2 LCD

R22 is for contrast/darkness control of the LCD. Insert this resistor only if the display is too dark. You can test if it would improve the readability by connecting it temporarily.

Warning: the LCD display may have a different pin order. Watch out for correct polarity of the power wires.

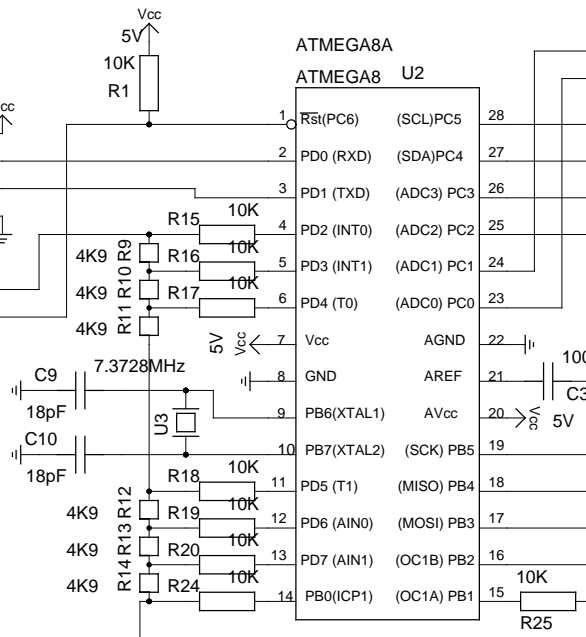
It is recommended to connect the unused LCD pins D0-D3 to GND to reduce the possibility of electromagnetic interference with the LCD display hardware.



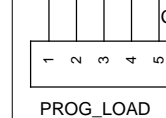
Optional: Connector to RS232/USB adapter

The LM7805 can handle max. 35V on the IN-pin. No cooling is required for the LM7805 unless you plan to power a LCD backlight from Vcc (= +5V).

The crystal U3 and C9/C10 are optional and only needed for RS232 connections at high speed.



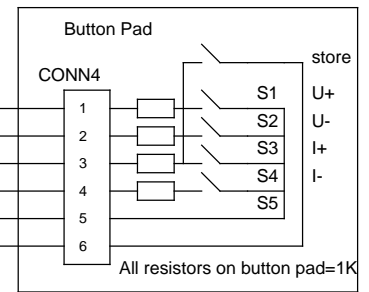
The crystal U3 and the capacitors C9 + C10 are optional and normally not needed.



CONN1

VTG1

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All resistors on button pad=1K