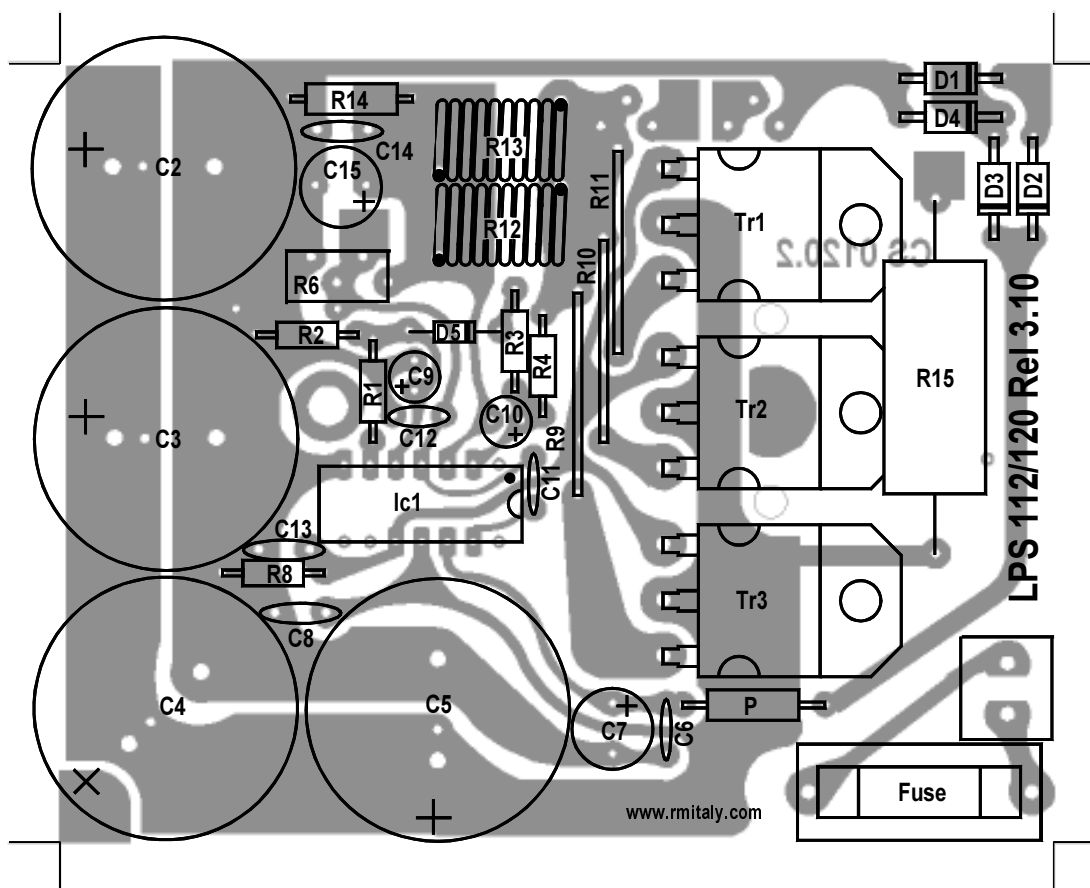
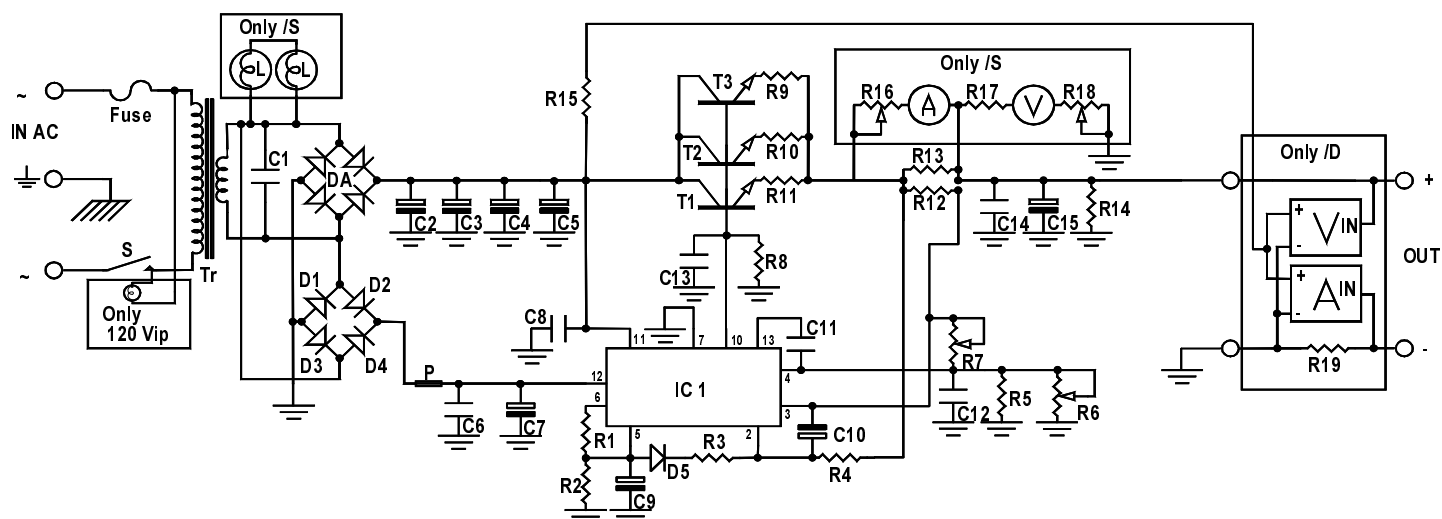
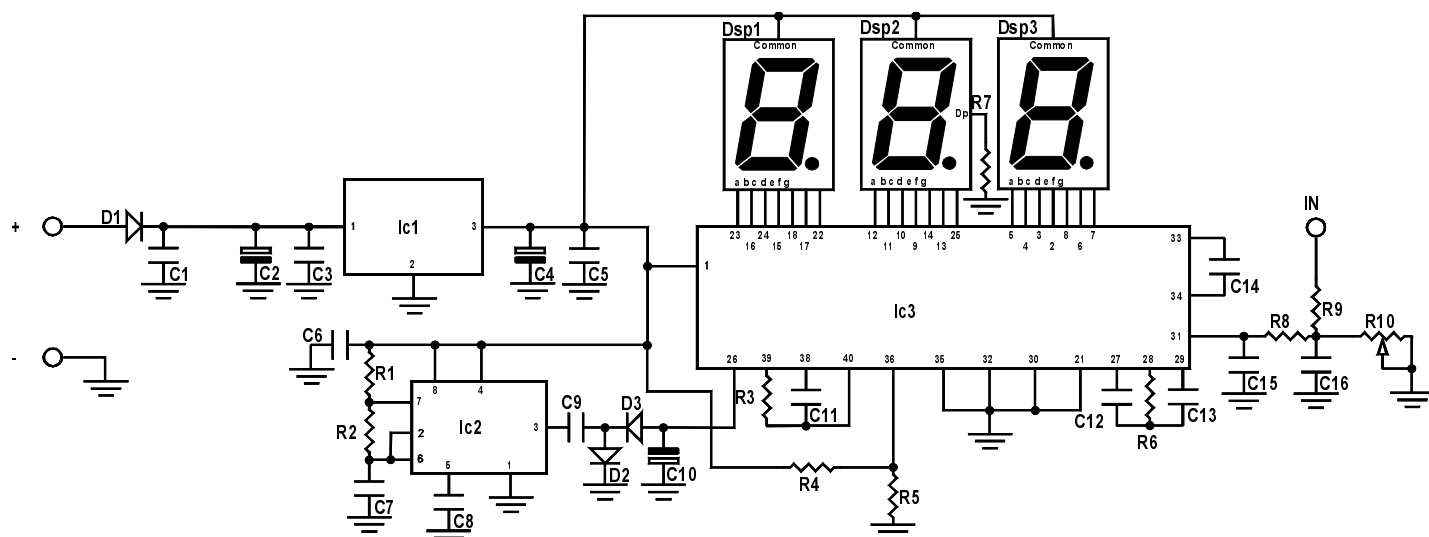


Mod. 120 D power supply

Schematic diagram

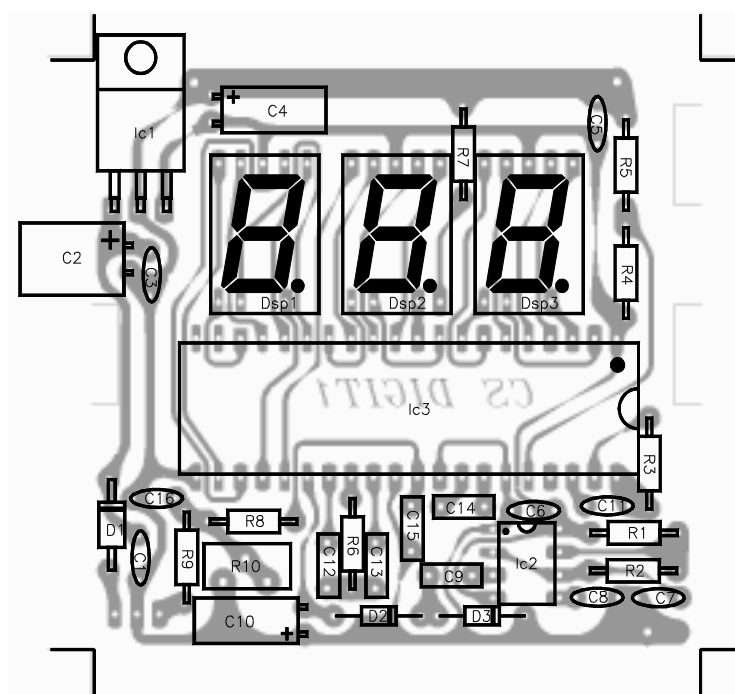
Version 3.10





List of components

$C_1 = 220 \text{ nF } 63 \text{ V}$
 $C_2 = 4700 \text{ } \mu\text{F } 25 \text{ V}$
 $C_3 = 4700 \text{ } \mu\text{F } 25 \text{ V}$
 $C_4 = 4700 \text{ } \mu\text{F } 25 \text{ V}$
 $C_5 = 4700 \text{ } \mu\text{F } 25 \text{ V}$
 $C_6 = 100 \text{ nF } 50 \text{ V}$
 $C_7 = 47 \text{ } \mu\text{F } 25 \text{ V}$
 $C_8 = 100 \text{ nF } 50 \text{ V}$
 $C_9 = 2,2 \text{ } \mu\text{F } 25 \text{ V}$
 $C_{10} = 2,2 \text{ } \mu\text{F } 25 \text{ V}$
 $C_{11} = 470 \text{ pF } 50 \text{ V}$
 $C_{12} = 150 \text{ pF } 50 \text{ V}$
 $C_{13} = 100 \text{ nF } 50 \text{ V}$
 $C_{14} = 100 \text{ nF } 50 \text{ V}$
 $C_{15} = 22 \text{ } \mu\text{F } 25 \text{ V}$
 $R_1 = 2,2 \text{ K}\Omega \text{ } \frac{1}{4} \text{ W}$
 $R_2 = 4,7 \text{ K}\Omega \text{ } \frac{1}{4} \text{ W}$
 $R_3 = 470 \text{ } \Omega \text{ } \frac{1}{4} \text{ W}$
 $R_4 = 470 \text{ } \Omega \text{ } \frac{1}{4} \text{ W}$
 $R_6 = \text{Trimmer } 4,7 \text{ K}\Omega$
 $R_7 = \text{Potentiometer } 4,7 \text{ K}\Omega$
 $R_8 = 2,2 \text{ K}\Omega \text{ } \frac{1}{4} \text{ W}$
 $R_9 = \text{Resistive wire } \phi 0,8 \text{ mm} \times 20 \text{ mm}$
 $R_{10} = \text{Resistive wire } \phi 0,8 \text{ mm} \times 20 \text{ mm}$
 $R_{11} = \text{Resistive wire } \phi 0,8 \text{ mm} \times 20 \text{ mm}$
 $R_{12} = \text{Resistive wire coil } \phi 1 \text{ mm } 6 \text{ turn } \phi 6 \text{ mm}$
 $R_{13} = \text{Resistive wire coil } \phi 1 \text{ mm } 6 \text{ turn } \phi 6 \text{ mm}$
 $R_{14} = 2,2 \text{ K}\Omega \text{ } \frac{1}{4} \text{ W}$
 $R_{15} = 27 \text{ } \Omega \text{ } 5 \text{ W}$
 $R_{19} = \text{Resistive wire}$
 $DA = \text{Diode bridge } 20 \text{ A}$



$D_1 = 1N 4004$
 $D_2 = 1N 4004$
 $D_3 = 1N 4004$
 $D_4 = 1N 4004$
 $D_5 = 1N4148$
 $T_1 = TIP 142$
 $T_2 = TIP 142$
 $T_3 = TIP 142$
 $P = 0 \text{ } \Omega \text{ wire}$
 $TR = \text{Transformer } 220 - 18 \text{ V } 12 \text{ A}$
 $FUSE = \text{Fuse } 2 \text{ A}$
 $IC_1 = LM 723$
 $S = \text{Switch (ON - OFF)}$

Digital instruments componets

$C_1 = 10 \text{ nF}$ 50 V
 $C_2 = 47 \text{ }\mu\text{F}$ 25 V
 $C_3 = 10 \text{ nF}$ 50 V
 $C_4 = 22 \text{ }\mu\text{F}$ 16 V
 $C_5 = 10 \text{ nF}$ 50 V
 $C_6 = 10 \text{ nF}$ 50 V
 $C_7 = 100 \text{ pF}$ 50 V Multi-layer
 $C_8 = 10 \text{ nF}$ 50 V
 $C_9 = 220 \text{ nF}$ 63 V Polyester
 $C_{10} = 22 \text{ }\mu\text{F}$ 16 V
 $C_{11} = 100 \text{ pF}$ 50 V Multi-layer
 $C_{12} = 220 \text{ nF}$ 63 V Polyester
 $C_{13} = 47 \text{ nF}$ 63 V Polyester
 $C_{14} = 100 \text{ nF}$ 63 V Polyester
 $C_{15} = 10 \text{ nF}$ 63 V Polyester
 $C_{16} = 10 \text{ nF}$ 50 V
 $R_1 = 47 \text{ K}\Omega$ $\frac{1}{4} \text{ W}$
 $R_2 = 82 \text{ K}\Omega$ $\frac{1}{4} \text{ W}$
 $R_3 = 100 \text{ K}\Omega$ $\frac{1}{4} \text{ W}$
 $R_4 = 3160 \text{ }\Omega$ $\frac{1}{4} \text{ W}$ 1%
 $R_5 = 787 \text{ }\Omega$ $\frac{1}{4} \text{ W}$ 1%
 $R_6 = 47 \text{ K}\Omega$ $\frac{1}{4} \text{ W}$
 $R_7 = 1,0 \text{ K}\Omega$ $\frac{1}{4} \text{ W}$
 $R_8 = 1,0 \text{ M}\Omega$ $\frac{1}{4} \text{ W}$
 $R_9 = \text{Voltmeter } 220 \text{ K}\Omega$ $\frac{1}{4} \text{ W}$
 $R_9 = \text{Amperometer } 180 \text{ }\Omega$ $\frac{1}{4} \text{ W}$
 $R_{10} = \text{Voltmeter Trimmer } 4,7 \text{ K}\Omega$
 $R_{10} = \text{Amperometer Trimmer } 22 \text{ K}\Omega$
 $D_1 = 1\text{N } 4004$
 $D_2 = 1\text{N } 4148$
 $D_3 = 1\text{N } 4148$
 $\text{Dsp}_1 = \text{Common anode display}$
 $\text{Dsp}_2 = \text{Common anode display}$
 $\text{Dsp}_3 = \text{Common anode display}$
 $\text{IC}_1 = \text{LM } 7805$
 $\text{IC}_2 = \text{NE } 555$
 $\text{IC}_3 = \text{ICL } 7107$