

ELECTRONIC CIRCUITS

FUNDAMENTALS AND APPLICATIONS

LOW-COST BENCH POWER SUPPLY

Build time: 90 minutes

A surplus ATX computer power supply can provide the basis of an excellent low-cost fixed voltage bench power unit. Such a unit can be removed from a scrapped PC and will only require a few external components and a suitable enclosure in order to operate as a versatile stand-alone power supply, see Figure 1. The standard wiring of the 20-way ATX power connector is shown in Figure 2 and the typical output current rating for a 250W ATX power supply is shown in Table 1.

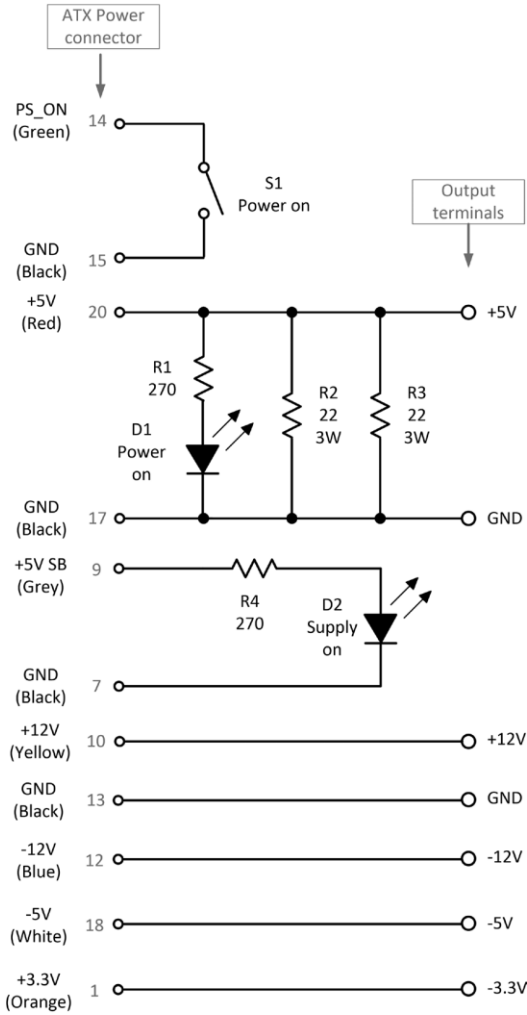


Figure 1 Connections for the ATX power supply



Figure 2 The ATX power connector



Figure 3 The author's ATX-based power unit makes a handy bench supply

Voltage supply	Wiring colour	ATX 20-way connector pin number(s)	Typical current rating
+12V	Yellow	10	10A
+5V	Red	4, 6, 19, 20	25A
-12V	Blue	12	0.5A
+3.3V	Orange	1, 2, 11	13A
-5V	White	18	0.3A
+5V SB	Dark grey	9	2A
GND	Black	3, 5, 7, 13, 15, 16, 17	n/a

Table 1 Current rating for a typical 250W ATX power supply