

Ponyprogrammer Circuit for ATMEL's AVR
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Bill Of Materials

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Item Quantity Reference Part

Item	Quantity	Reference	Part
1	1	C1	470uF/25V
2	2	C2,C3	27pF
3	3	C4,C5,C6	100nF
4	2	C8,C7	47uF/16V
5	4	D1,D2,D3,D4	1N4001
6	1	D5	RED LED (PROGRAM)
7	1	D6	GREEN LED (POWER)
8	3	D7,D8,D9	1N4148
9	3	D10,D11,D12	Zener 5V1
10	1	J1	CON10 (Ponyprog ISP)
11	1	J2	Power Jack (12-15V)
12	1	J3	2-pin Jumper (JUMP1)
13	1	J4	3-pin Jumper (JUMP2)
14	1	P1	Connector DB9 FEMALE
15	2	Q2,Q1	BC547
16	3	R1,R4,R5	10K
17	1	R2	1K
18	1	R3	1K5
19	1	R6	15K
20	3	R7,R8,R9	4K7
21	1	U1	20-pin DIP (AT90S1200/2313...)
22	1	U2	LM78L05
23	1	U3	40-pin DIP (AT89SXX-AT90S4414/8515...)
24	1	U4	8-pin DIP (AT90S2323//2343Tiny12...)
25	1	U5	40-pin DIP (AT90S4434/8535...)
26	1	U6	28-pin DIP (AT90S4433/2233...)
27	1	Y1	Crystal 4MHz

The ATMEL AVR programmer works with the Windows program "Ponyprog" which works under 95, 98, XP, ... and can be found at <http://www.lancos.com/prog.html>

On board the AVRs that can be programmed are those in the schematic. For other members of AVR family or the rest programmable ICs that Ponyprog can program, there is the J1 connector (CON10) which allows expanding the programmer's hardware. See Ponyprog's site for other's ICs Ponyprog circuits.

The JUMP1 jumper is there to connect the crystal's circuitry to the 8-pin AVRs or to disconnect it. Some AVRs have internal RC oscillator and an external XTAL is not allowed or needed. Check the JUMP1's table and the datasheet for the AVR of your choice for more details.

The JUMP2 jumper is there to allow programming a member of the AT89Sxxxx family or the AVR's AT90Sxxxx & ATmegaxxx family.

