

Ponyprog Circuit for AVR & PIC16F84. Kyriakos Kontakos

Revised: Tuesday, March 05, 2002 Revision: 2

Bill of Materials March 6, 2002 15:15:16

Item	Quantity	Reference	Part
1	1	C1	1000uF/25V or 470uF
2	1	C2	47uF/16V
3	8	C3,C4,C5,C6,C8, C9,C11,C13	100nF
4	1	C7	1uF/16V
5	2	C10,C12	27pF
6	5	D1,D2,D3,D4,D5	1N4001
7	4	D6,D9,D10,D11	1N4148
8	1	D7	PROGRAM LED
9	1	D8	POWER ON LED
10	3	D12,D13,D14	Z5V1
11	1	D15	Z13V
12	1	J1	Ponyprog's ISP 10 pin-array
13	1	J2	FAMILY JUMP 3 pin-array
14	1	J3	12V power jack
15	1	J4	ATMEL's ISP 2*5 pin-array
16	1	J5	XTAL JUMP 2 pin-array
17	1	P1	DB9Female
18	4	Q1,Q2,Q4,Q5	BC547
19	1	Q3	BC557
20	2	R1,R4	2K2
21	1	R2	22K
22	5	R3,R5,R10,R14,R15	10K
23	1	R6	15K
24	4	R7,R8,R9,R13	4K7(or 6K8)
25	2	R11,R12	1K
26	1	R16	100K
27	1	U1	LM7805
28	1	U2	DIP40 socket (AT90S8515)
29	1	U3	DIP40 socket (AT90S8535)
30	1	U4	DIP20 socket (AT90S2313)
31	1	U5	DIP28 socket (AT90S4433)
32	1	U6	DIP8 socket (AT90S2343)
33	1	U7	DIP18 socket (PIC16F84)
34	1	Y1	4MHz

Comments:

All resistors are 1/4W.

The circuit is powered by 9...15V DC or AC. When In Circuit Programming (ISP) connectors are used, is possible the programmer to be powered from target's power source. Diodes D2 and D6 protect the regulator LM7805, when target's power is used.

'**XTAL JUMP**' is used to cut XTAL when the AVR has internal RC oscillator enabled.

'**FAMILY JUMP**' is used to select which ATMEL's family to program, AVR series (ATtinyXX, AT90SXXXX, ATmegaXXX) or 8051 series (AT89Sxxxx).

'**PIC JUMP**' is used to switch between Microchip's PIC and ATMEL's microcontrollers. With jumper ON only PIC can be programmed, while OFF can program ATMEL's microcontrollers.

If you don't need to program PICs, you can leave their board area unsoldered.

The PCB has been designed so that DIP sockets or ZIF sockets can be used. Because of its cost, it is recommended that only one ZIF is used combined with some pin-arrays to switch between the four different places.

The board must be connected to a PC COM port through a 9 pin to pin cable and work with the below application:

'PonyProg2000 - Serial Device Programmer

Copyright (C) 1997-2001 by Claudio Lanconelli

E-mail: lancos@libero.it

Download last version of PonyProg2000 at the address:

<http://www.LancOS.com> '.

Supported microcontrollers are:

ATMEL's AVR series

ATtiny12

ATtiny15

AT90S1200

AT90S1200A

AT90S2233

AT90S2313

AT90S2323

AT90S2343

AT90S4414

AT90S4433

AT90S4434

AT90S8515

AT90S8535

ATmega8

ATmega16

ATmega161

ATmega163

ATmega323

ATMEL's 8051 series

AT89S53

AT89S8252

MICROCHIP's PIC series

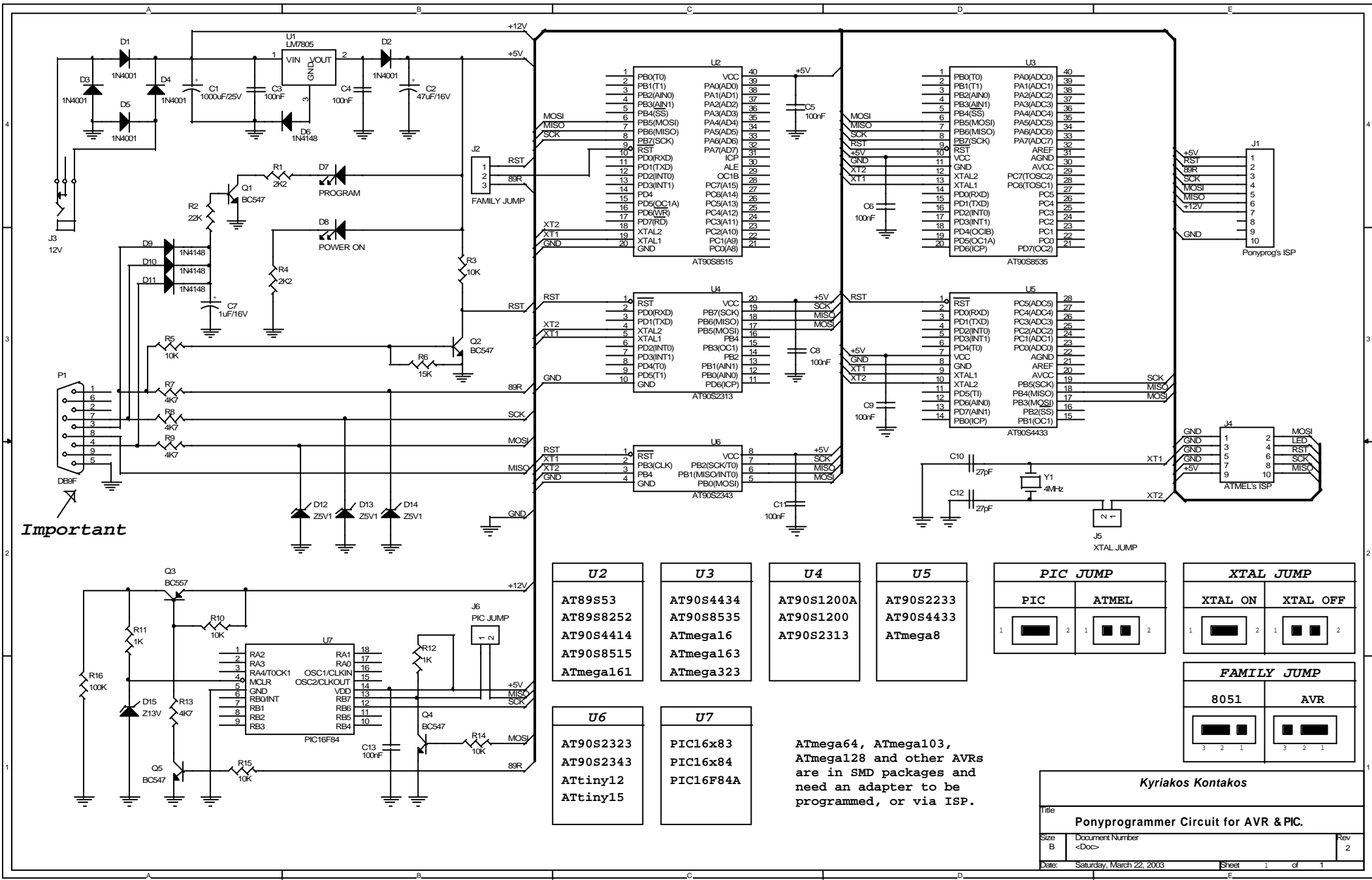
PIC16x83

PIC16x84

PIC16F84A

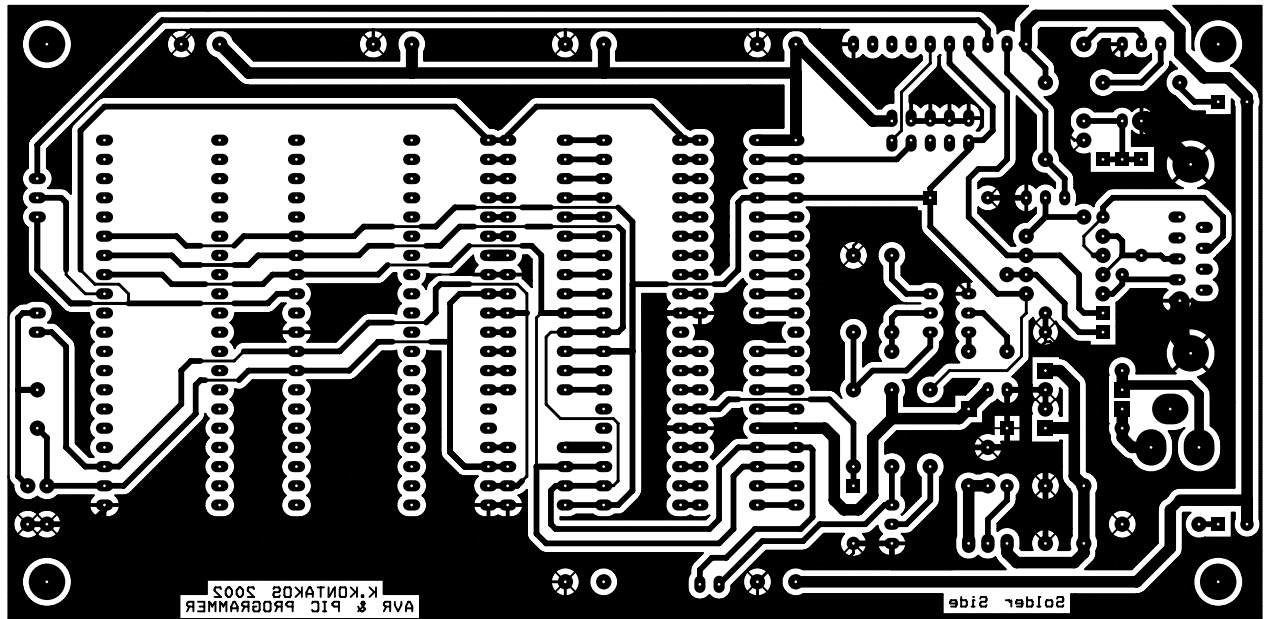
And some other programmable ICs (memories, microcontrollers) which Ponyprog support but need a board adapter to be programmed through ISP connectors.

For more information see Claudio Lanconelli site.

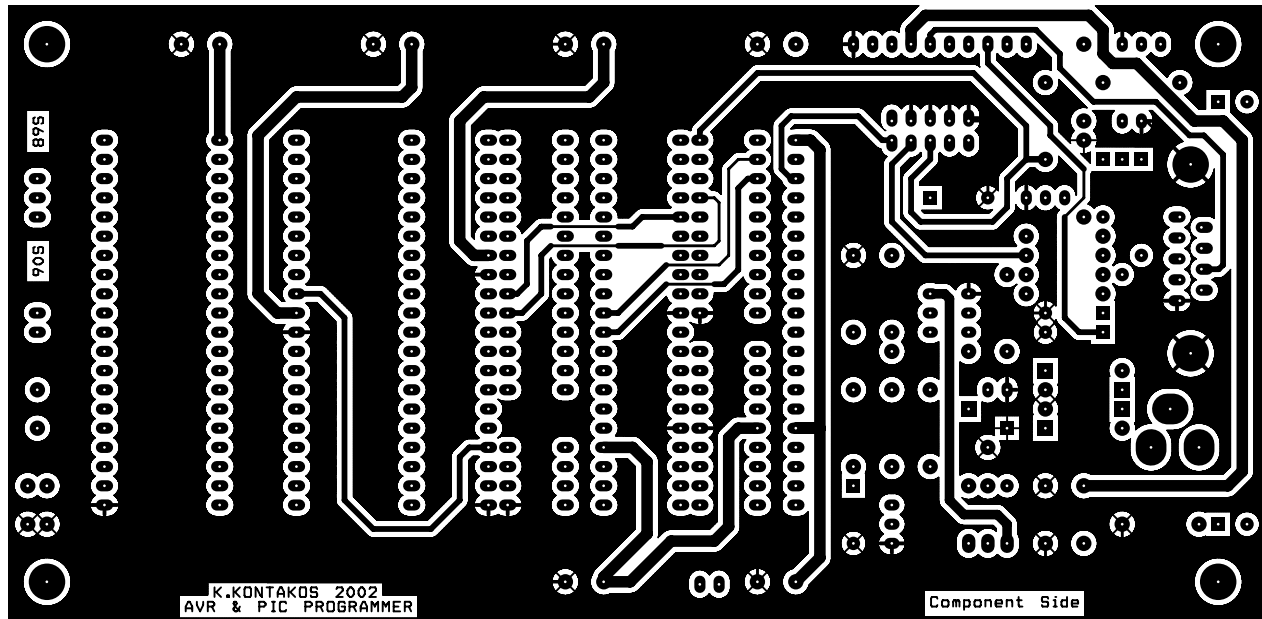


Important

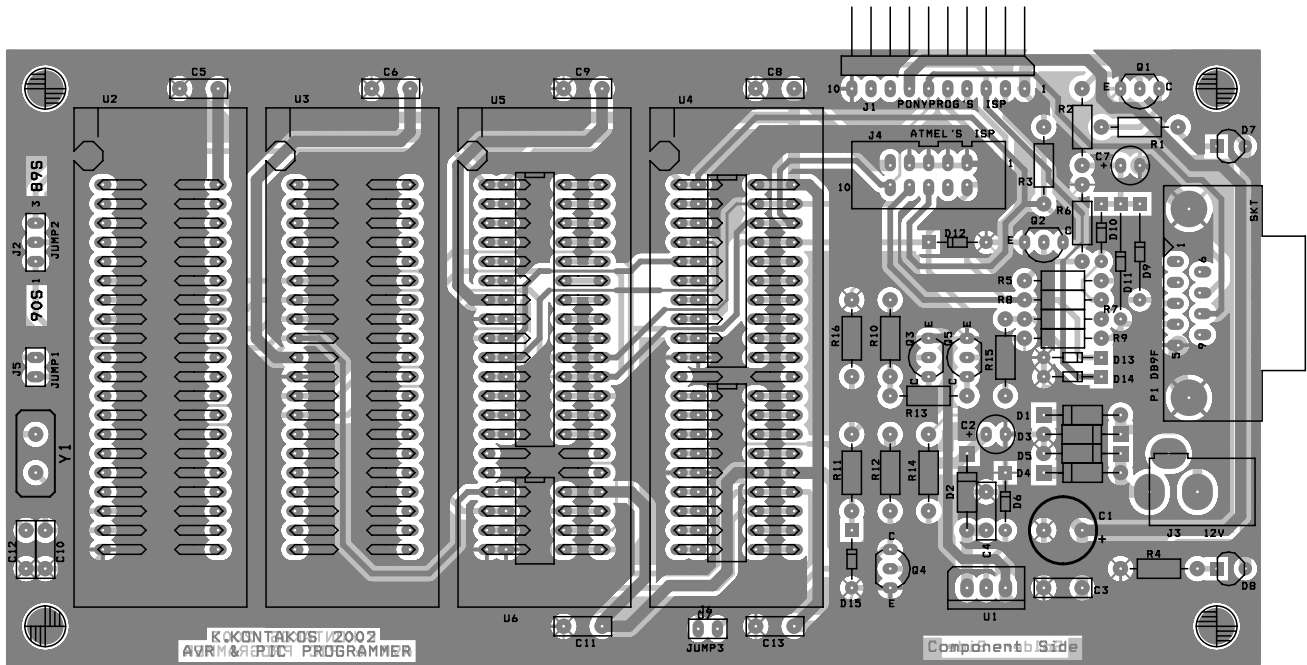
<p>U2</p> <p>AT89S53 AT89S8252 AT90S414 AT90S8515 ATmega161</p>	<p>U3</p> <p>AT90S4434 AT90S8535 ATmega16 ATmega163 ATmega323</p>	<p>U4</p> <p>AT90S1200A AT90S1200 AT90S2313</p>	<p>U5</p> <p>AT90S2233 AT90S4433 ATmega8</p>	<p>PIC JUMP</p> <table border="1"> <tr> <td>PIC</td> <td>ATMEL</td> </tr> <tr> <td>1</td> <td>2</td> </tr> </table>	PIC	ATMEL	1	2	<p>XTAL JUMP</p> <table border="1"> <tr> <td>XTAL ON</td> <td>XTAL OFF</td> </tr> <tr> <td>1</td> <td>2</td> </tr> </table>	XTAL ON	XTAL OFF	1	2
PIC	ATMEL												
1	2												
XTAL ON	XTAL OFF												
1	2												
<p>U6</p> <p>AT90S2323 AT90S2343 ATtiny12 ATtiny15</p>	<p>U7</p> <p>PIC16x83 PIC16x84 PIC16F84A</p>	<p>ATmega64, ATmega103, ATmega128 and other AVRs are in SMD packages and need an adapter to be programmed, or via ISP.</p>		<p>FAMILY JUMP</p> <table border="1"> <tr> <td>8051</td> <td>AVR</td> </tr> <tr> <td>3</td> <td>2</td> </tr> </table>		8051	AVR	3	2				
8051	AVR												
3	2												



PCB solder side



PCB components side



PCB and Silkscreen