



DIP switch	ON	OFF
1 - VCC_Prog	5V	3,3V
2 - mode	ISP	JTAG
3 - sense for Target voltage	from Target	internal VCC_Prog
4 - High Voltage programming	enable	disable



Close JP 1-2, 3-4, 5-6, 7-8  
to enable programming of  
JTAG-Controller

VCC\_Prog

ISP\_TRST  
ISP\_MISO  
ISP\_MOSI  
ISP\_SCK

JP3  
HEADER 4X2

JTAG\_MISO  
JTAG\_MOSI  
JTAG\_SCK

VCC\_Target

C20 22pF

J6 AVR JTAG

GND  
TRST  
GND

1 TCK  
3 TDO  
5 TMS  
7 TDI

VCC\_Prog

R49 10k

JTAG Active

D7 LED gn

R43 150k

C21 100nF

U8  
PA0(ADC0) (SCL)PC0  
PA1(ADC1) (SDA)PC1  
PA2(ADC2) (TCK)PC2  
PA3(ADC3) (TMS)PC3  
PA4(ADC4) (TDO)PC4  
PA5(ADC5) (TDI)PC5  
PA6(ADC6) (TOSC1)PC6  
PA7(ADC7) (TOSC2)PC7

19  
20  
21  
22  
23  
24  
25  
26

(Rx)PD0  
(Tx)PD1  
(INT0)PD2  
(INT1)PD3  
(OC1B)PD4  
(OC1A)PD5  
(ICP)PD6  
(OC2)PD7

AREF  
AVCC  
AGND

RESET  
XTAL1  
XTAL2  
GND  
GND  
GND

ATmega16-TQ44

29  
27  
28  
5  
17  
38

J7

1  
2

Bootloader en

R39 10k

R41 10k

R44 10k

R47 10k

JTAG\_RxD

JTAG\_TxD

## JTAG connector

1 - TCK	2 - GND
3 - TDO	4 - VCC
5 - TMS	6 - RST
7 -	8 -
9 - TDI	10 - GND

close J7 for FW update  
using AVR-Studio

Title		
AVR-Programmer, JTAG		
Size	Document Number	Rev
B	<Doc>	1.0
Date:	Friday, October 12, 2007	Sheet 3 of 3