

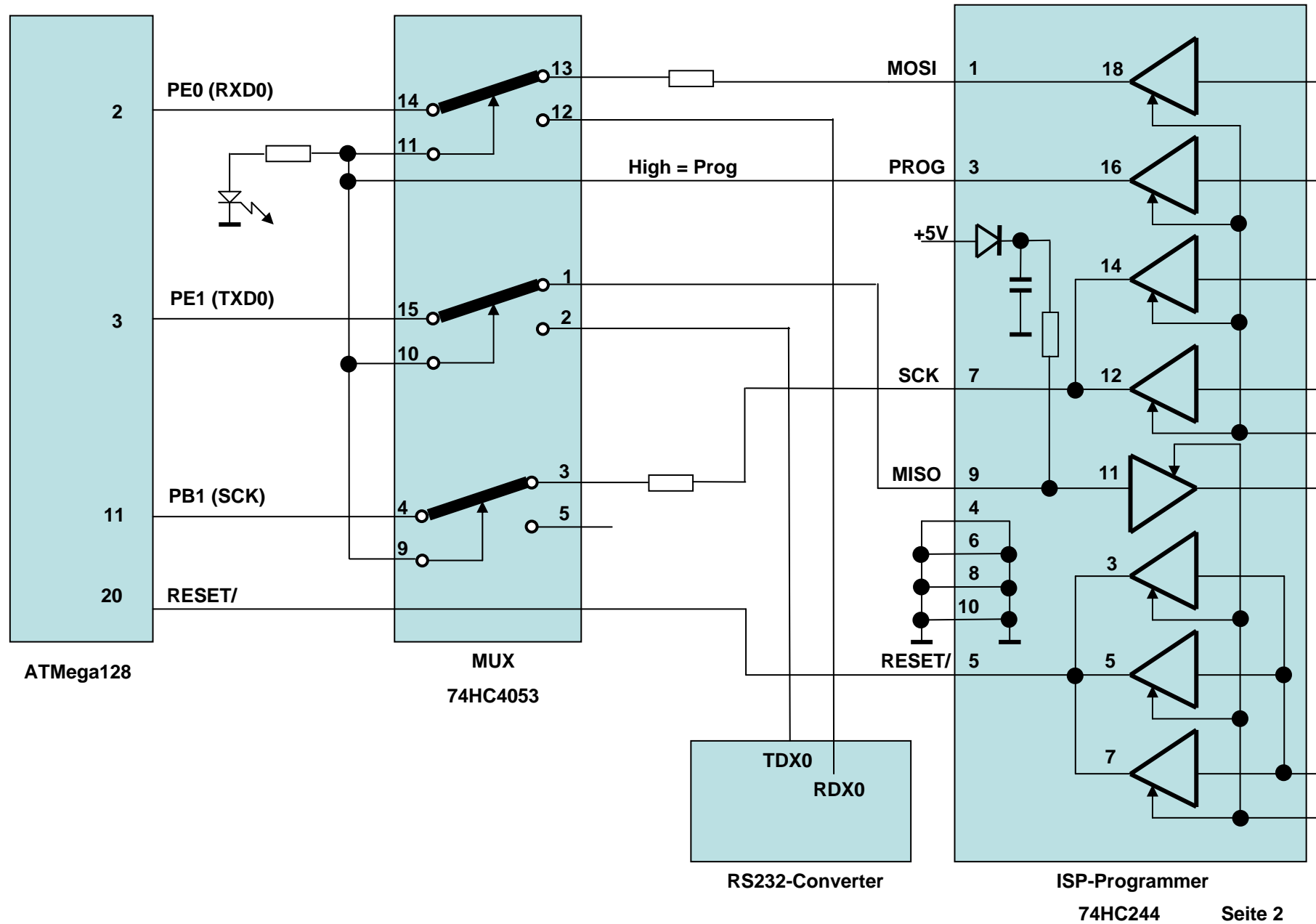
Vom fertigen Mikrocontroller-Modul zum eigenen ATMEGA128-Steuerrechner für den LIF5000



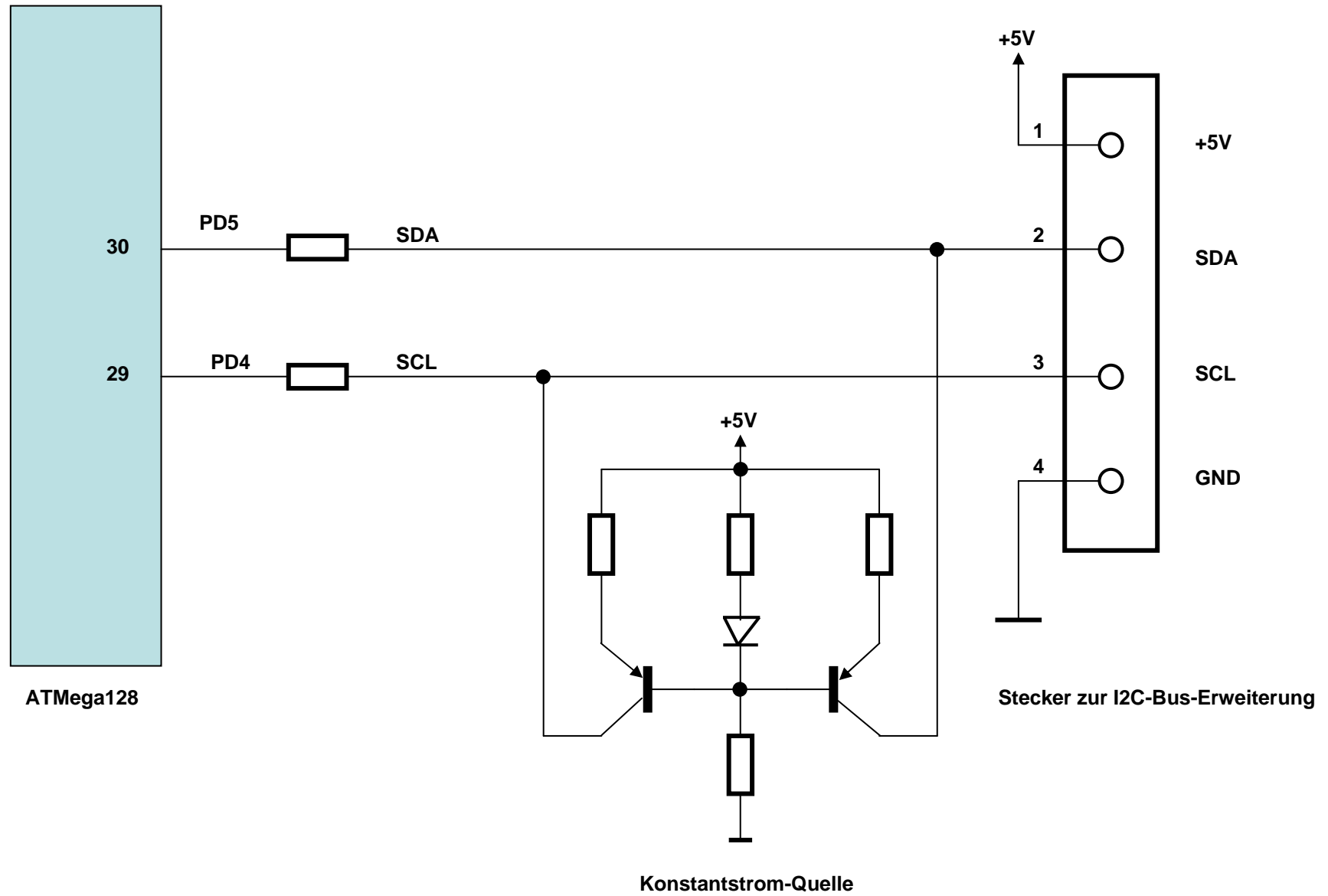
In diesem Manuskript werden die Funktionen des Steuerrechners einzeln dargestellt, weil diese im fertigen Schaltplan nicht so gut zu erkennen sind.

DL7MWN

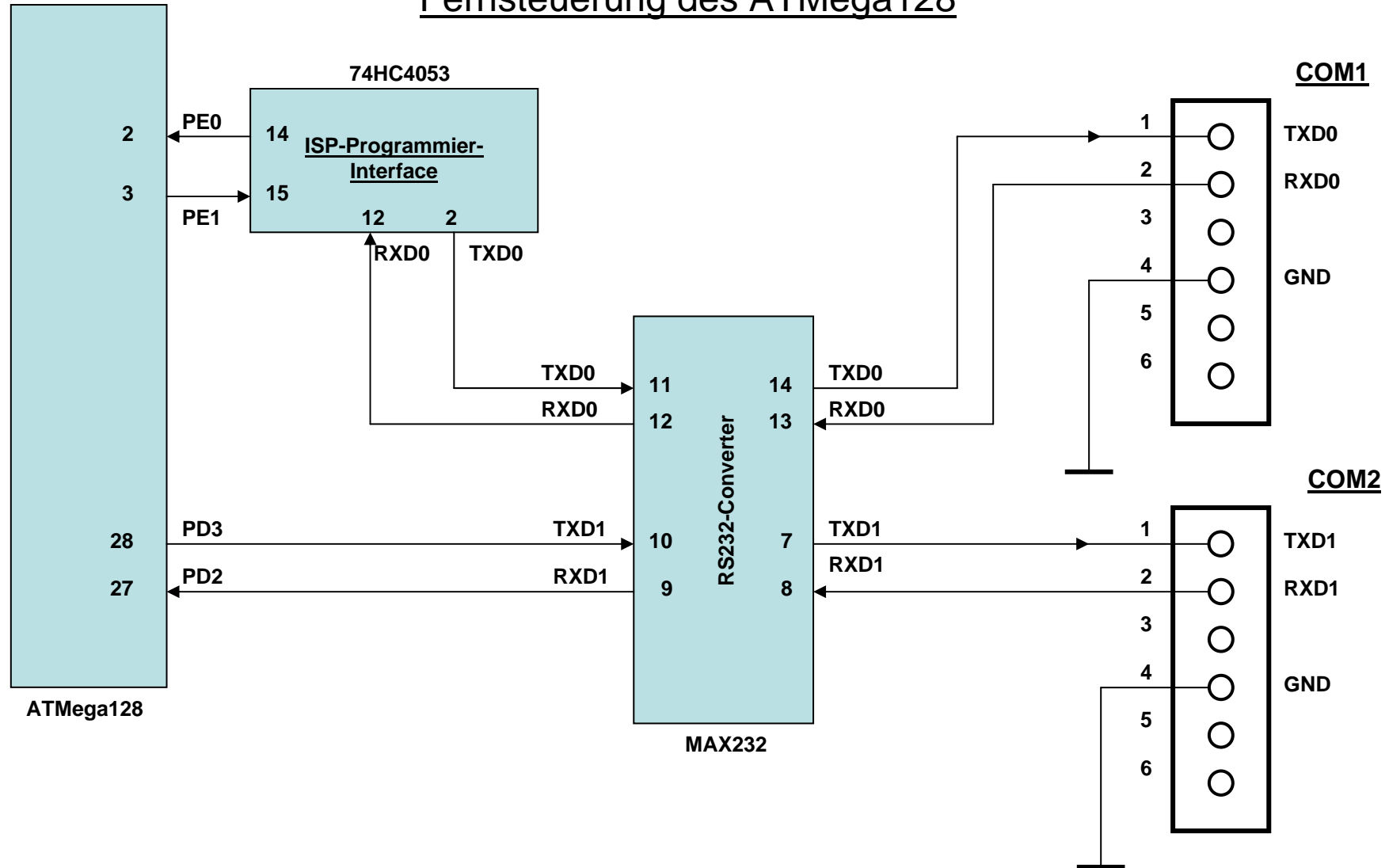
ISP-Programmier-Interface ATmega128



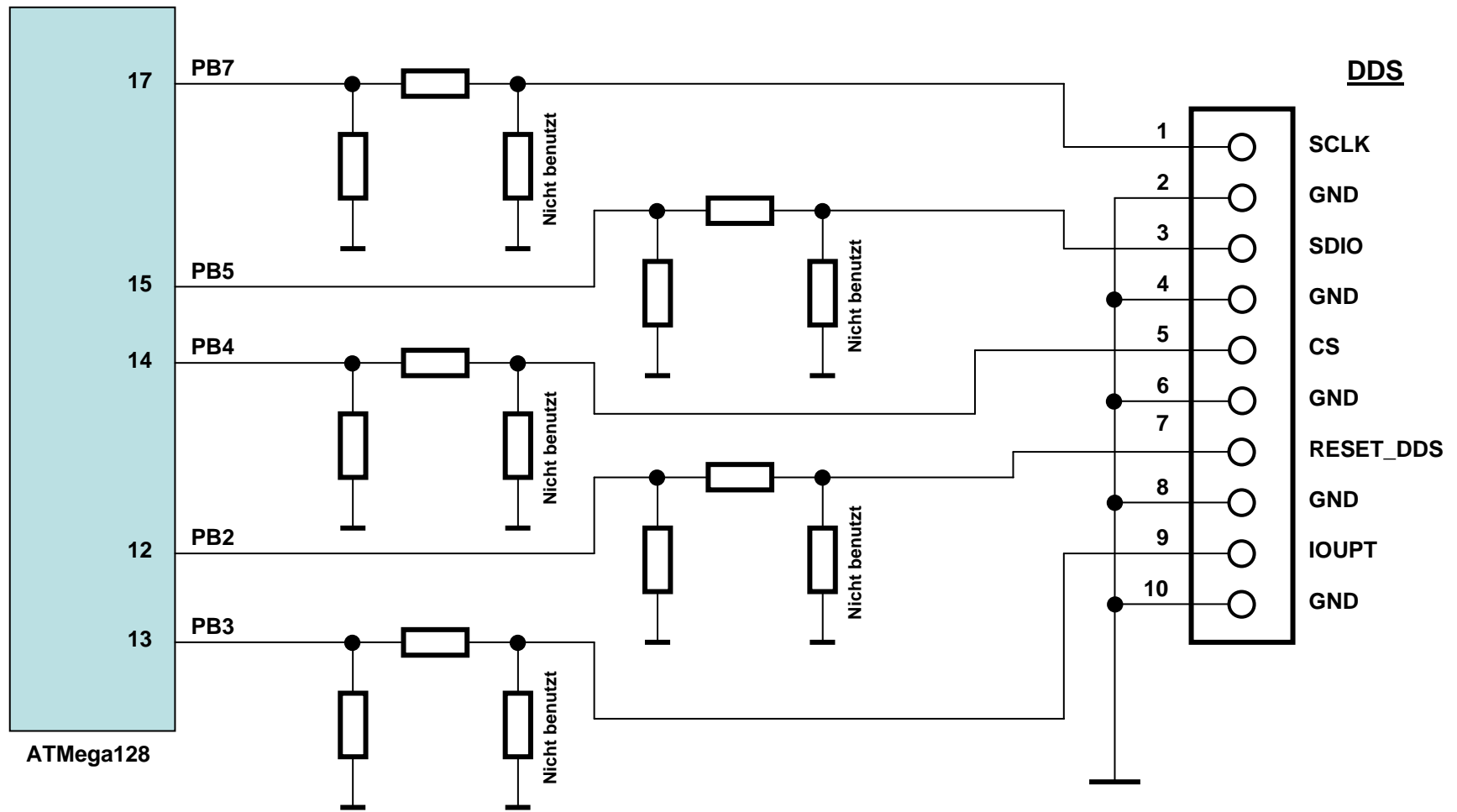
I2C-BUS-Interface ATmega128



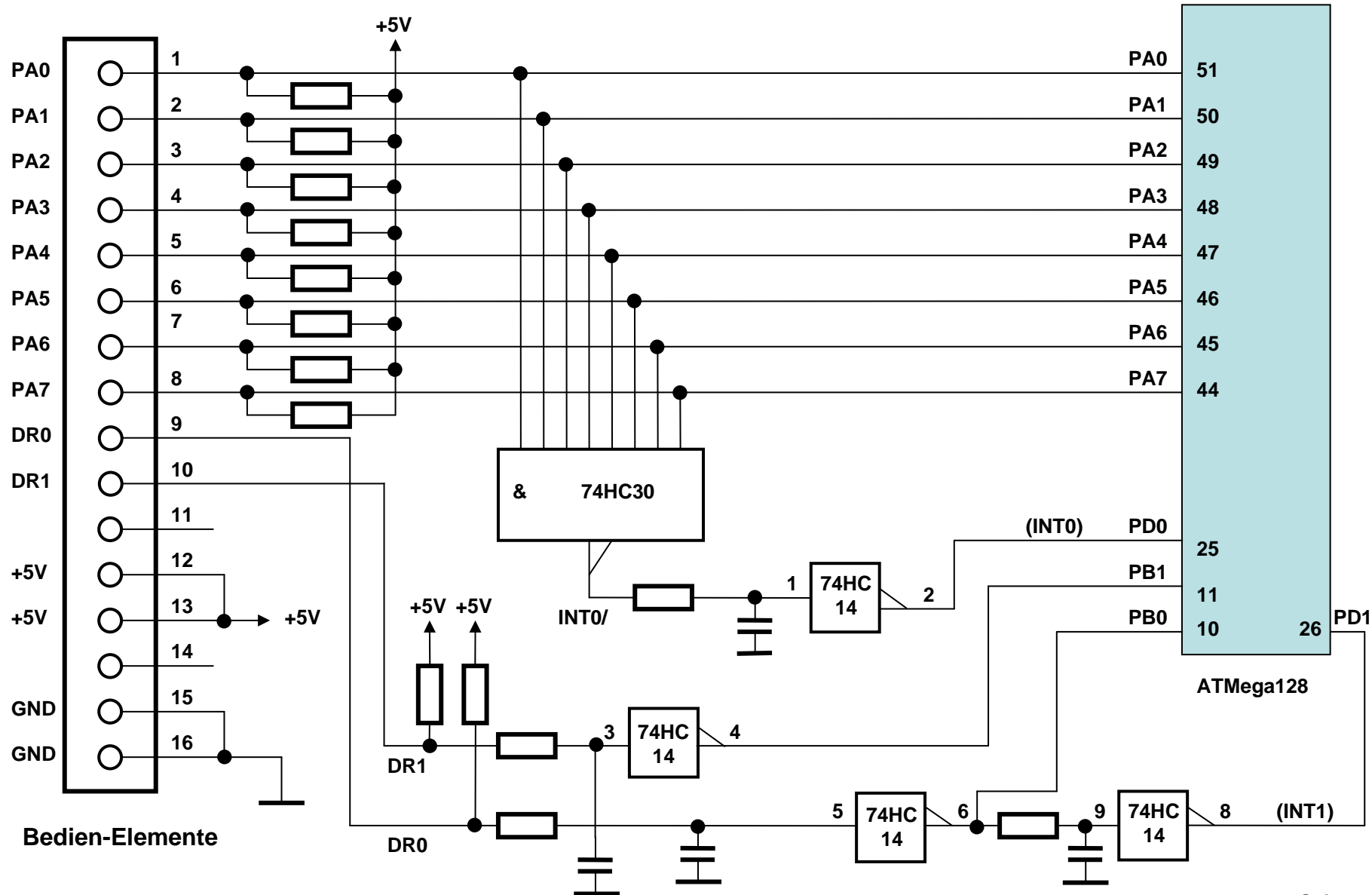
RS232-Interface für Debug und Fernsteuerung des ATmega128



DDS-Interface zum ATmega128



Interruptsteuerung für die Bedienelemente



Anschlussbelegung ATMEGA128 im LIF5000

Pin	Signalname	Signal	Funktion
1	PEN/	PEN/	keine
2	RXD0/(PDI) PE0	PE0	RXD0
3	(TXD0/PD0) PE1	PE1	TXD0
4	(XCK0/AIN0) PE2	PE2	TP1
5	(OC3A/AIN1) PE3	PE3	TP2
6	(OC3B/INT4) PE4	PE4	TP3
7	(OC3C/INT5) PE5	PE5	TP4
8	(T3/INT6) PE6	PE6	TP5
9	(ICP3/INT7) PE7	PE7	TP6
10	(SS) PB0	PB0	Drehschalter DR0
11	(SCK) PB1	PB1	Drehschalter DR1
12	(MOSI) PB2	PB2	RESET_DDS
13	(MISO) PB3	PB3	I/O_UPT
14	(OC0) PB4	PB4	CS
15	(OC1A) PB5	PB5	SDIO
16	(OC1B) PB6	PB6	keine
17	OC2/OC1C) PB7	PB7	SCLK
18	TOSC2/PG3	N\$7	Quarz 32KHz
19	TOSC1/1PG4	N\$6	Quarz 32KHz
20	RESET	RESET	Reset
21	VCC	+5V	+5V
22	GND	GND	GND
23	XTAL2	N\$9	16MHz
24	XTAL1	N\$8	16MHz
25	SCL/INT0) PD0	PD0	INT0
26	SDA/INT1) PD1	PD1	INT1
27	RXD1/INT2) PD2	PD2	RXD1
28	TXD1/INT3) PD3	PD3	TXD1
29	(ICP1) PD4	PD4	SCL_I2C
30	(XCK1) PD5	PD5	SDA_I2C
31	(T1) PD6	PD6	keine
32	(T2) PD7	PD7	keine
33	PG0(WR/)	WR/	WR/
34	PG1(RD/)	RD/	RD/
35	PC0 (A8)	PC0	Display-Beleuchtung
36	PC1 (A9)	PC1	Display RS
37	PC2 (A10)	PC2	Display RW
38	PC3 (A11)	PC3	Display Enable
39	PC4 (A12)	PC4	Display D4
40	PC5 (A13)	PC5	Display D5
41	PC6 (A14)	PC6	Display D6
42	PC7 (A15)	PC7	Display D7
43	PG2(ALE)	ALE	ALE
44	PA7 (AD7)	PA7	Schalter 8 Reserve
45	PA6 (AD6)	PA6	Schalter 7 Reserve
46	PA5 (AD5)	PA5	Schalter 6 Reserve
47	PA4 (AD4)	PA4	Schalter 5 Reserve
48	PA3 (AD3)	PA3	Schalter 4 Frontplatte
49	PA2 (AD2)	PA2	Schalter 3 Frontplatte
50	PA1 (AD1)	PA1	Schalter 2 Frontplatte
51	PA0 (AD0)	PA0	Schalter 1 Frontplatte
52	AVCC	AVCC	Analog GND
53	GND	GND	GND
54	PF7 (ADC7/TDI)	PF7	keine
55	PF6 (ADC6/TDO)	PF6	keine
56	PF5 (ADC5/TMS)	PF5	keine
57	PF4 (ADC4/TCK)	PF4	keine
58	PF3 (ADC3)	PF3	Analog-Eingang 3
59	PF2 (ADC2)	PF2	Analog-Eingang 2
60	PF1 (ADC1)	PF1	Analog-Eingang 1
61	PF0 (ADC0)	PF0	Analog-Eingang 0
62	AREF	AREF	Referenzspannung
63	AGND	AGND	Analog GND
64	AVCC	AVCC	+5V-Analogversorgung

Figure 1. Pinout ATmega128

