

Pins der Jumper JP4 bis JP9 sind einheitlich aufsteigend 1-2-3 in Richtung von BU1/2 zu Photodioden bzw. von BU1 nach BU2 orientiert

■ aktuelle Jumperstellung
rot gekennzeichnet

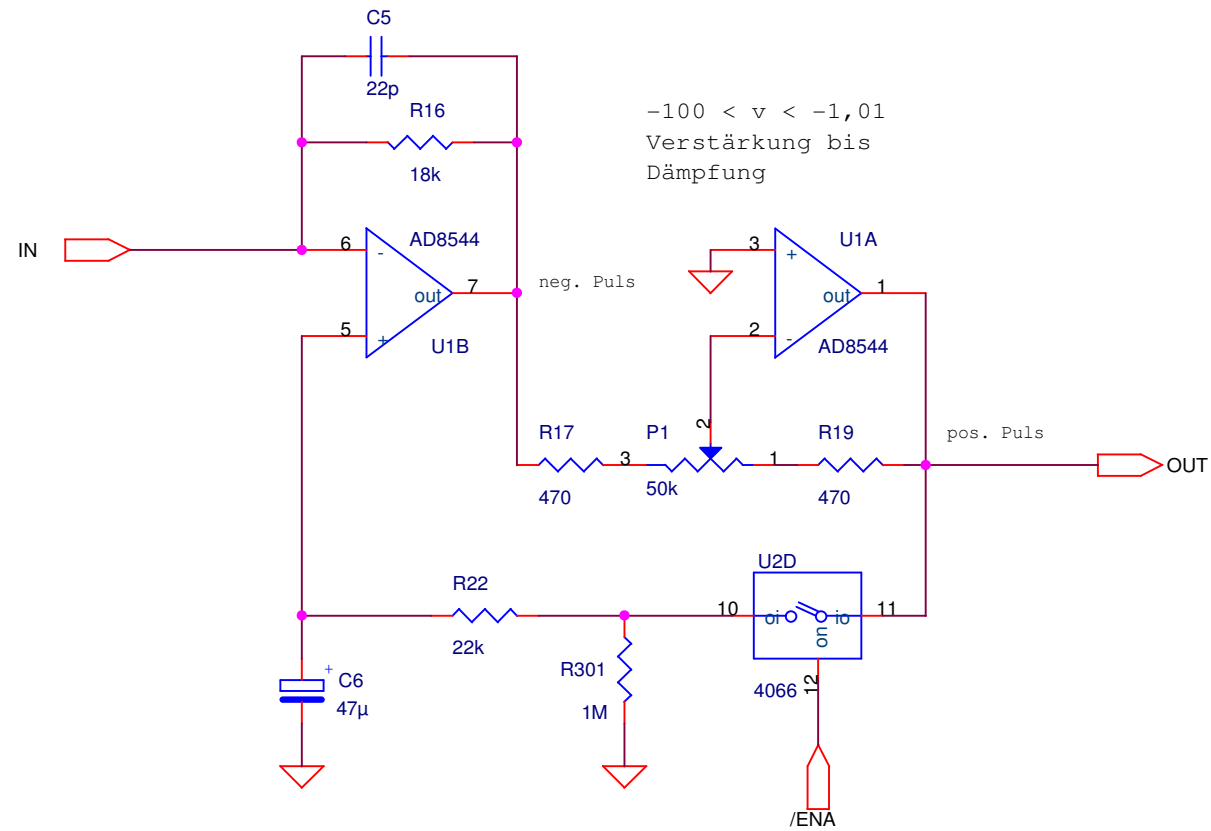
BU4 Vorsicht:

- Sync senden an Quinto/dRec: DE = 1 (default)
- Sync empfangen von Quinto: /RE = 0, DE = 0 setzen

BU4-Jumper:

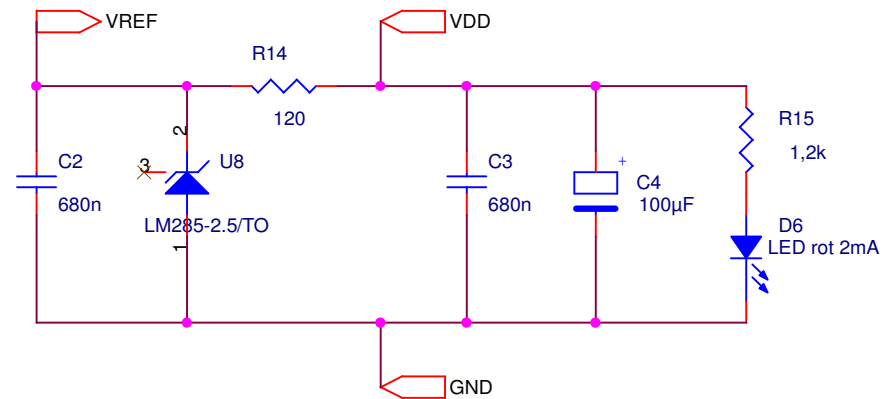
- dRec (sendet SYNC aus)
- SYNC intern (Autosync)
- SYNC extern (ext. Sync)

Title		Confidential – Vertraulich! Weitergabe nur Genehmigung der GFai	
OptoController			
Size A	Document Number	Rev 8	
	heinz@gfai.de		
Date:	Monday, February 08, 2010	Sheet	1 of 7

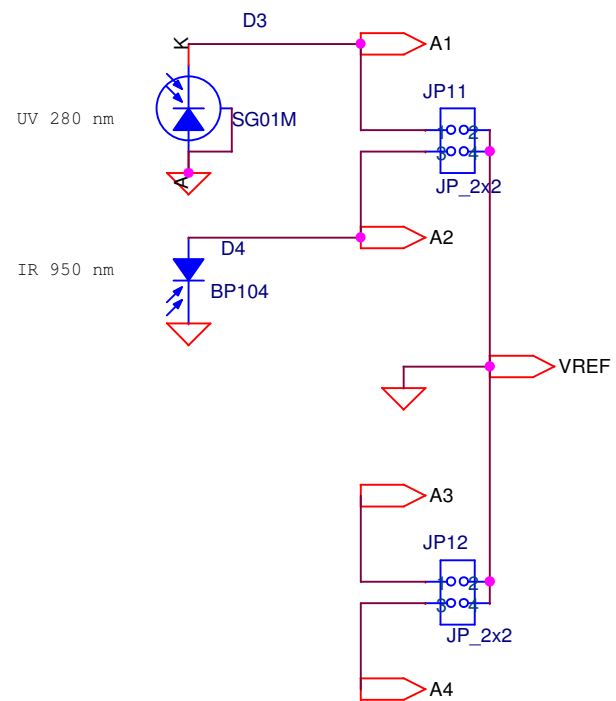


Title		
Preamp		
Size	Document Number	Rev
A	heinz@gfai.de	1
Date:	Monday, November 19, 2007	Sheet 6 of 7

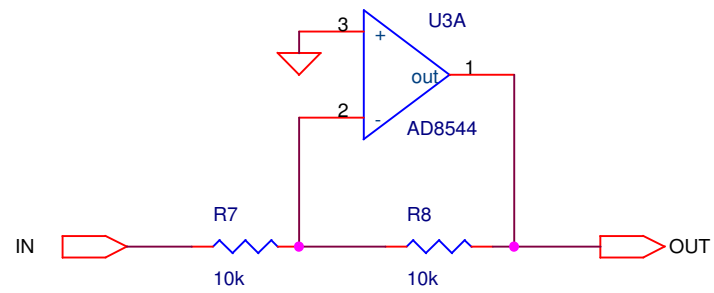
interne Abschirmung auf VREF



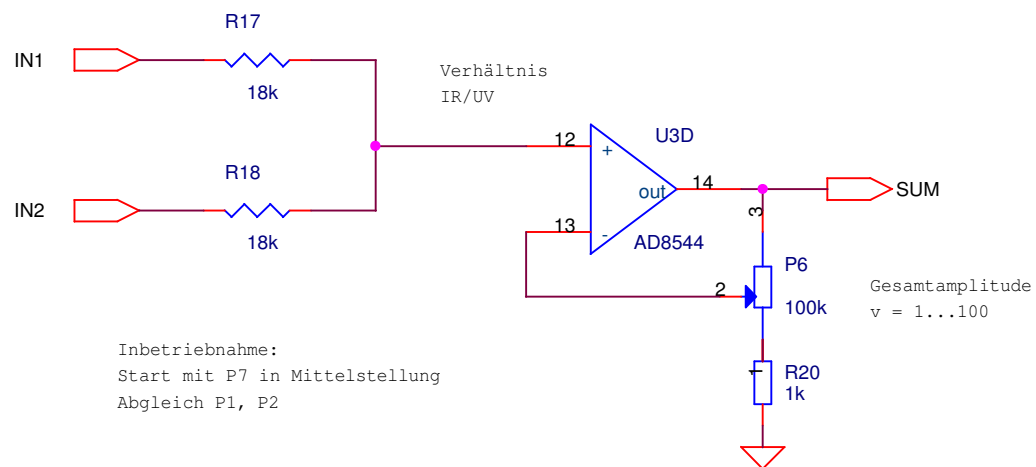
Title			
Power			
Size	Document Number		Rev
A	heinz@gfai.de		1
Date:	Sunday, October 28, 2007	Sheet	5 of 7



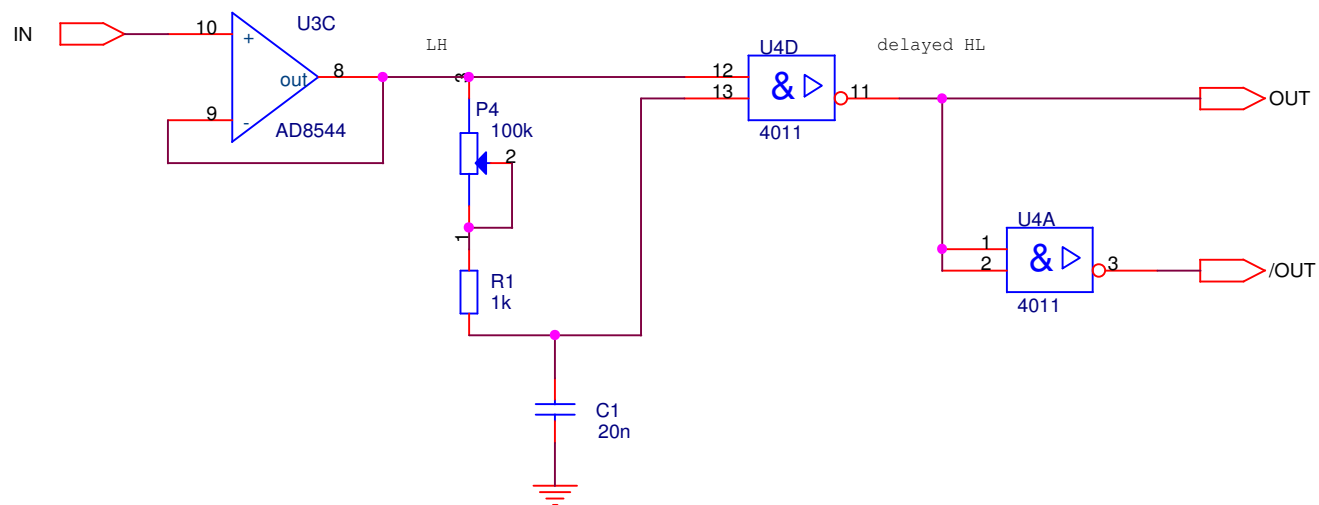
Title			
Photodioden			
Size	Document Number		Rev
A	heinz@gfai.de		1
Date:	Wednesday, October 31, 2007	Sheet	1 of 1



Title			
Inverter			
Size	Document Number		Rev
A	heinz@gfai.de		1
Date:	Tuesday, October 02, 2007	Sheet	2 of 7



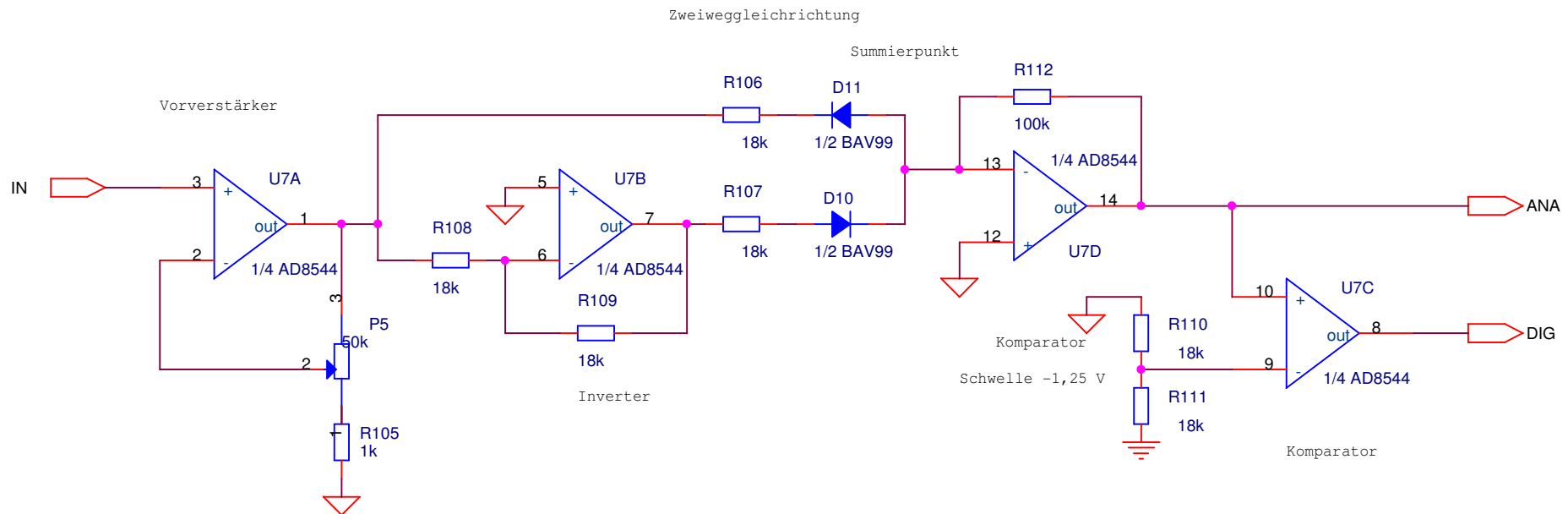
Title		
Addition/Subtraktion		
Size A	Document Number heinz@gfai.de	Rev 1
Date:	Thursday, November 15, 2007	Sheet 6 of 7



Funktion: Wenn Puls kürzer als Delay,
versiegt der Stop-Puls. Er wird immer um
das eingestellte Delay verzögert.

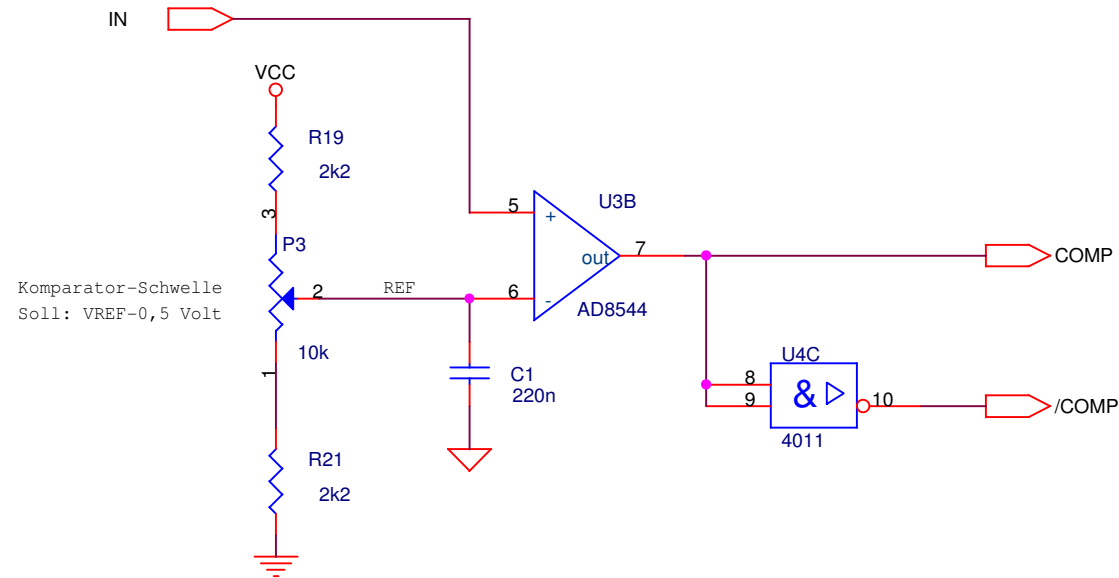
Schaltung funktioniert nur auf
angegebener Flanke und mit hinreichend
langer L-Erholzeit am RC-Glied.

Title		
Delay		
Size	Document Number	Rev
A	heinz@gfai.de	1
Date:	Monday, October 29, 2007	Sheet 1 of 1



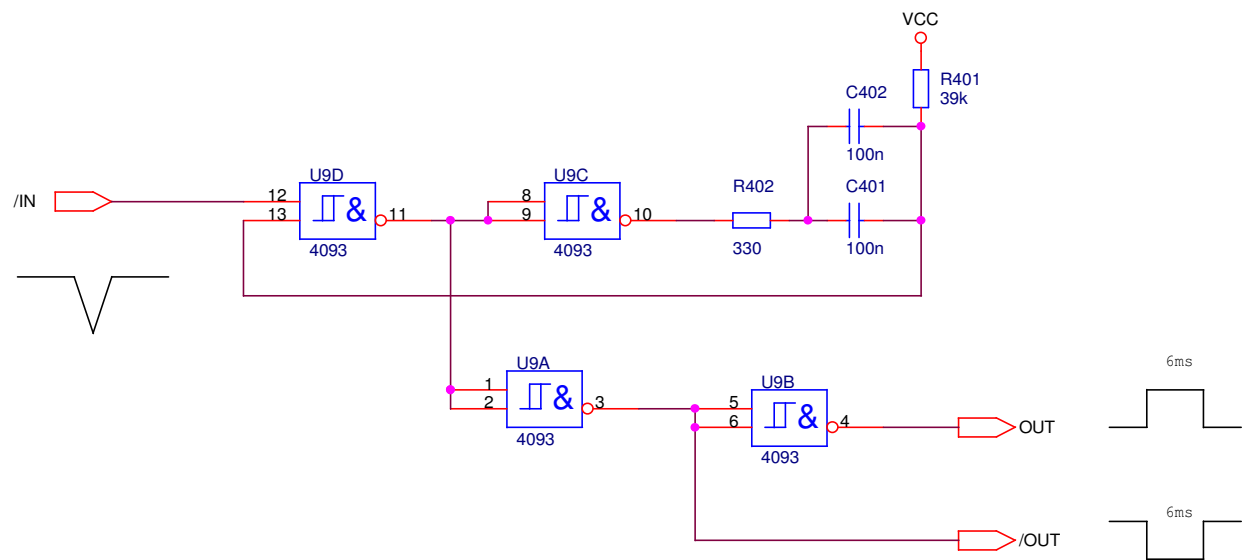
Schaltung dient der Selbstsynchronisation des Offsetabgleiches. Basis ist ein Nulldurchgangsdetektor. Dieser generiert ein Signal, wenn UV und IR dunkel sind.

Title		
Autosync3		
Size	Document Number	Rev
A	heinz@gfai.de	1
Date:	Tuesday, October 30, 2007	Sheet 1 of 1



UV-IR: Differenz (- IN1 + IN2) < REF ?
ja: zu heiß -> Puls-Ende

Title		
Comparator		
Size A	Document Number heinz@gfai.de	Rev 1
Date:	Thursday, November 15, 2007	Sheet 6 of 7



Title		
Pulsverlängerung		
Size	Document Number	Rev
A4	heinz@gfai.de	1
Date:	Tuesday, November 20, 2007	Sheet 1 of 1

Item	Quantity	Reference	Part
1	2	BU1,BU2	Bu_RJ45
2	1	BU3	JP_2x1
3	1	BU4	JP_6x1_S
4	1	C1	220n
5	1	C1	20n
6	2	C3,C2	680n
7	1	C4	100µF
8	2	C5,C7	22p
9	2	C6,C8	47µ
10	1	D3	SG01M
11	1	D4	BP104
12	1	D6	LED rot 2mA
13	2	D11,D10	1/2 BAV99
14	3	JP1,JP2,JP3	JP_3x1
15	6	JP4,JP5,JP6,JP7,JP8,JP9	JP_3x1_S
16	2	JP11,JP12	JP_2x2
17	3	P1,P2,P5	50k
18	3	P3,R7,R8	10k
19	3	P4,P6,R112	100k
20	3	R1,R20,R105	1k
21	4	R3,R4,R5,R6	150
22	1	R14	120
23	1	R15	1,2k
24	10	R16,R17,R18,R25,R106, R107,R108,R109,R110,R111	18k
25	4	R17,R19,R26,R28	470
26	2	R21,R19	2k2
27	2	R22,R31	22k
28	3	U1,U3,U7	AD8544
29	1	U2	4066
30	1	U4	4011
31	2	U6,U5	75LBC176
32	1	U8	LM285-2.5/TO

OPTOCONTROLLER_V5.XRF

OptoController Revised: Thursday, November 01, 2007
heinz@gfai.de Revision: 6

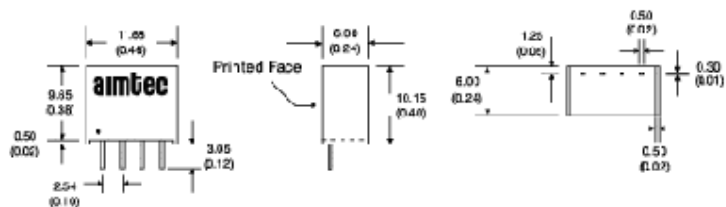
Design Name: C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN

Cross Reference November 1, 2007 9:21:34 Page1

Item	Part	Reference	SchematicName	Sheet	Library
1	1,2k	R15	G3/Power 5		C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
2	1/2 BAV99	D11	G7/Autosync	1	C:\PROGRAM FILES\ORCAD\CAPTURE\LIBRARY\DISCRETE.OLB
3	1/2 BAV99	D10	G7/Autosync	1	C:\PROGRAM FILES\ORCAD\CAPTURE\LIBRARY\DISCRETE.OLB
4	1k	R1	G8/Delay 1		C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
5	1k	R20	G6/Vergleich	6	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
6	1k	R105	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
7	2k2	R21	G6/Vergleich	6	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
8	2k2	R19	G6/Vergleich	6	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
9	10k	P3	G6/Vergleich	6	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
10	10k	R8	G5/Inverter	2	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
11	10k	R7	G5/Inverter	2	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
12	18k	R108	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
13	18k	R109	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
14	18k	R110	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
15	18k	R111	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
16	18k	R16	G1/Preamp	6	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
17	18k	R17	G6/Vergleich	6	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
18	18k	R18	G6/Vergleich	6	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
19	18k	R25	G2/Preamp	7	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
20	18k	R107	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
21	18k	R106	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
22	20n	C1	G8/Delay 1		C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
23	22k	R22	G1/Preamp	6	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
24	22k	R31	G2/Preamp	7	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
25	22p	C5	G1/Preamp	6	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
26	22p	C7	G2/Preamp	7	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
27	47μ	C6	G1/Preamp	6	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
28	47μ	C8	G2/Preamp	7	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
29	50k	P1	G1/Preamp	6	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
30	50k	P2	G2/Preamp	7	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
31	50k	P5	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
32	75LBC176U6	/Root	1		C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN

				OPTOCONTROLLER_V5.XRF
33	75LBC176U5	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
34	100µF C4	G3/Power	5	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
35	100k P4	G8/Delay	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
36	100k P6	G6/Vergleich	6	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
37	100k R112	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
38	120 R14	G3/Power	5	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
39	150 R3	/Root	1	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
40	150 R4	/Root	1	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
41	150 R5	/Root	1	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
42	150 R6	/Root	1	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
43	220n C1	G6/Vergleich	6	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
44	470 R17	G1/Preamp	6	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
45	470 R19	G1/Preamp	6	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
46	470 R26	G2/Preamp	7	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
47	470 R28	G2/Preamp	7	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
48	680n C3	G3/Power	5	C:\PROGRAM FILES\ORCAD\CAPTURE\LIBRARY\EIGENE.OLB
49	680n C2	G3/Power	5	C:\PROGRAM FILES\ORCAD\CAPTURE\LIBRARY\EIGENE.OLB
50	4011 U4B	/Root	1	C:\PROGRAM FILES\ORCAD\CAPTURE\LIBRARY\IEC\CMOS1.OLB
51	4011 U4C	G6/Vergleich	6	C:\PROGRAM FILES\ORCAD\CAPTURE\LIBRARY\IEC\CMOS1.OLB
52	4011 U4D	G8/Delay	1	C:\PROGRAM FILES\ORCAD\CAPTURE\LIBRARY\IEC\CMOS1.OLB
53	4011 U4A	G8/Delay	1	C:\PROGRAM FILES\ORCAD\CAPTURE\LIBRARY\IEC\CMOS1.OLB
54	4066 U2D	G1/Preamp	6	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER.DSN
55	4066 U2A	G2/Preamp	7	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER.DSN
56	AD8544 U3B	G6/Vergleich	6	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V2.DSN
57	AD8544 U3C	G8/Delay	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V2.DSN
58	AD8544 U3D	G6/Vergleich	6	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V2.DSN
59	AD8544 U1A	G1/Preamp	6	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V2.DSN
60	AD8544 U1B	G1/Preamp	6	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V2.DSN
61	AD8544 U1C	G2/Preamp	7	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V2.DSN
62	AD8544 U1D	G2/Preamp	7	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V2.DSN
63	AD8544 U3A	G5/Inverter	2	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V2.DSN
64	AD8544 U7A	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
65	AD8544 U7B	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
66	AD8544 U7C	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
67	AD8544 U7D	G7/Autosync	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
68	BP104 D4	G4/Photodioden	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER.DSN
69	Bu_RJ45 BU1	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
70	Bu_RJ45 BU2	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
71	JP_2x1 BU3	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
72	JP_2x2 JP11	G4/Photodioden	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
73	JP_2x2 JP12	G4/Photodioden	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
74	JP_3x1_S JP4	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
75	JP_3x1_S JP5	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
76	JP_3x1_S JP6	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB

				OPTOCONTROLLER_V5.XRF
77	JP_3x1_S JP7	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
78	JP_3x1_S JP8	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
79	JP_3x1_S JP9	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB
80	JP_3x1 JP1	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
81	JP_3x1 JP2	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
82	JP_3x1 JP3	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
83	JP_6x1_S BU4	/Root	1	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V5.DSN
84	LED rot 2mA	D6	G3/Power 5	C:\PROGRAMME\ORCAD91\CAPTURE\LIBRARY\DISCRETE.OLB
85	LM285-2.5/TO	U8	G3/Power 5	C:\DATEN\ORCAD_DATEN\USERDIR\OPTOCONTROLLER_V2.DSN
86	SG01M D3	G4/Photodioden	1	C:\DATEN\ORCAD_DATEN\USERDIR\EIGENE.OLB



AIMTEC AM1S 0509S DC/DC Conv.

Isol., 1W, 5V auf 9V +/- 5%, 80 kHz

- 1* -V in
- 2 +V in
- 3 -V out
- 4 +V out

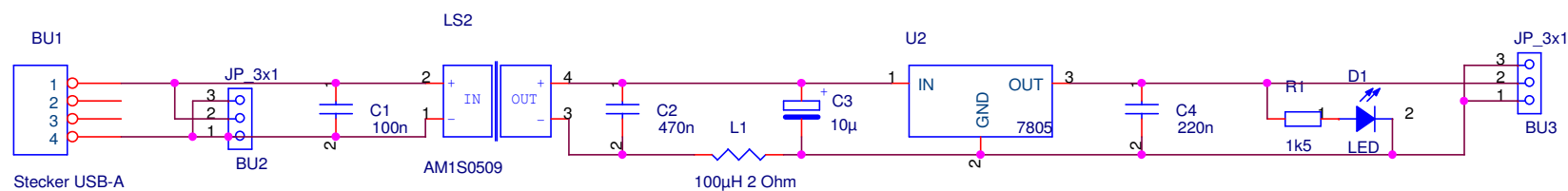


7805 (300mA)

- Pin 1. Input
- 2. Ground
- 3. Output

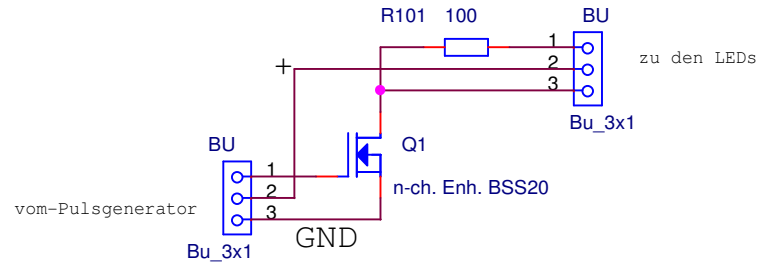


7805 (1A)

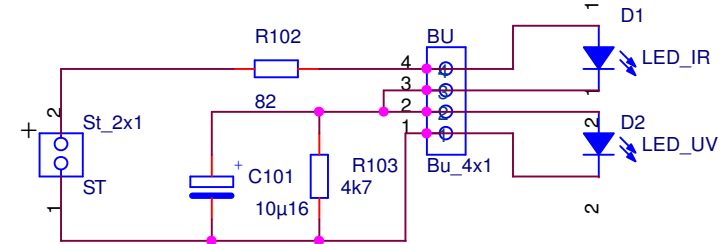


Title		
DC-DC-Wandler		
Size	Document Number	Rev
A4	heinz@gfai.de	1
Date:	Monday, November 19, 2007	Sheet 1 of 1

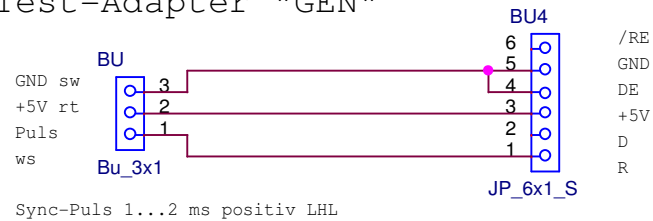
LED-Pulsverstärker



LED-Farbsimulator

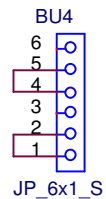


Test-Adapter "GEN"

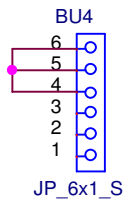


Jumper BU4:

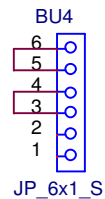
Sync-int



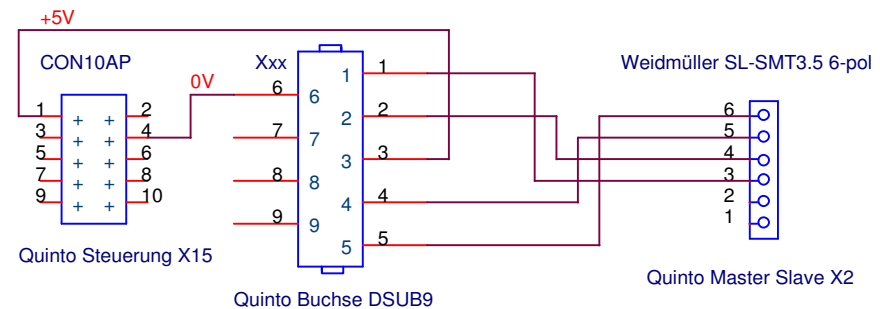
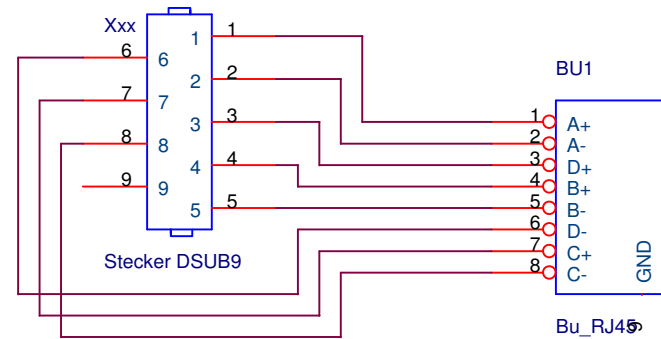
Sync-ext



dRec



Adapter Cloos RJ45 auf Stecker D-Sub9



Title		
Adapters		
Size	Document Number	Rev
A	heinz@gfai.de	2
Date:	Monday, November 19, 2007	Sheet 1 of 1