

SweetBox  
MiWi

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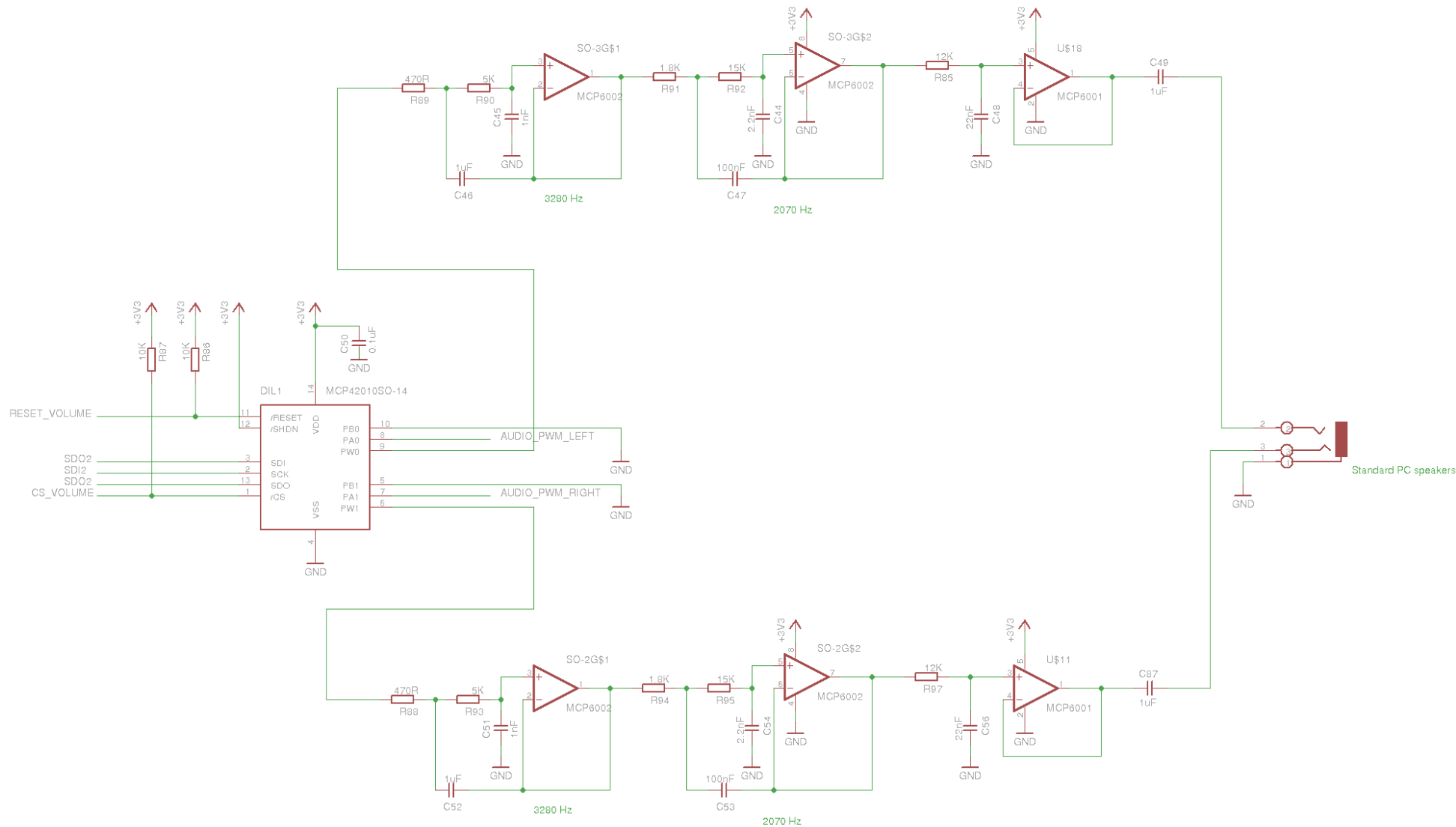
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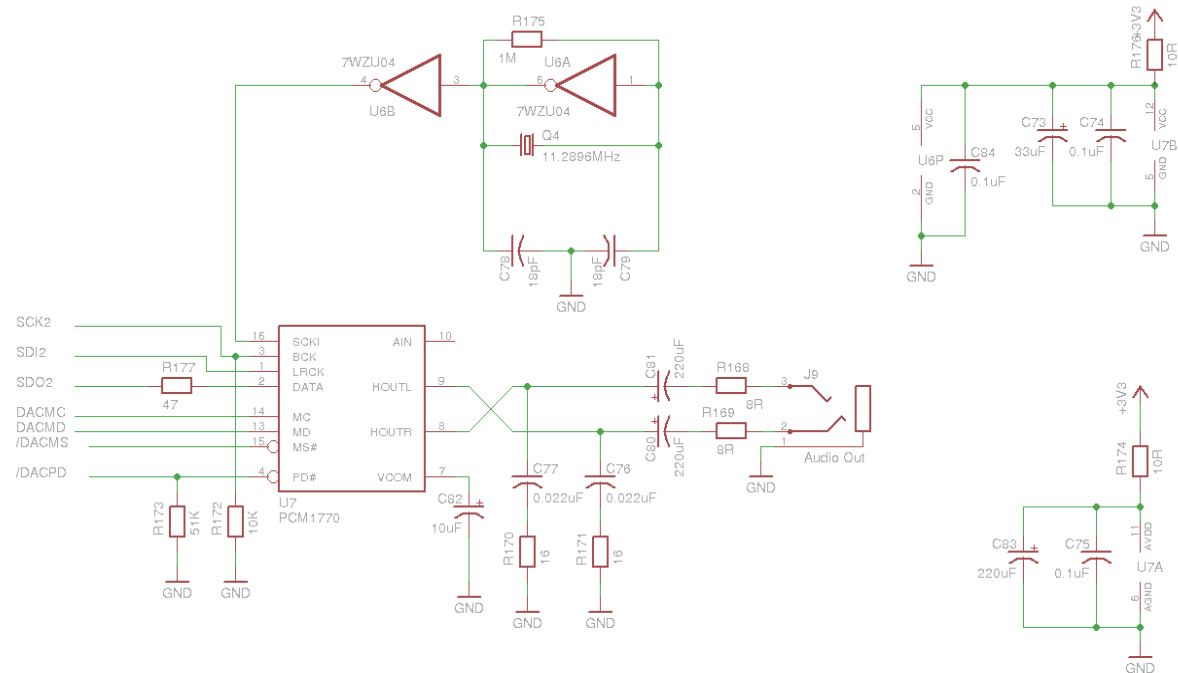
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Alternative for sound output  
 If the PIC32 can cope with full 44.1KHz stereo audio streams I will use this circuit instead of PWM  
 Remember that CAN i/f has to be moved to SPI1 if used.

Schema taken from an other open source project at <http://www.k9spud.com/traxmod/>

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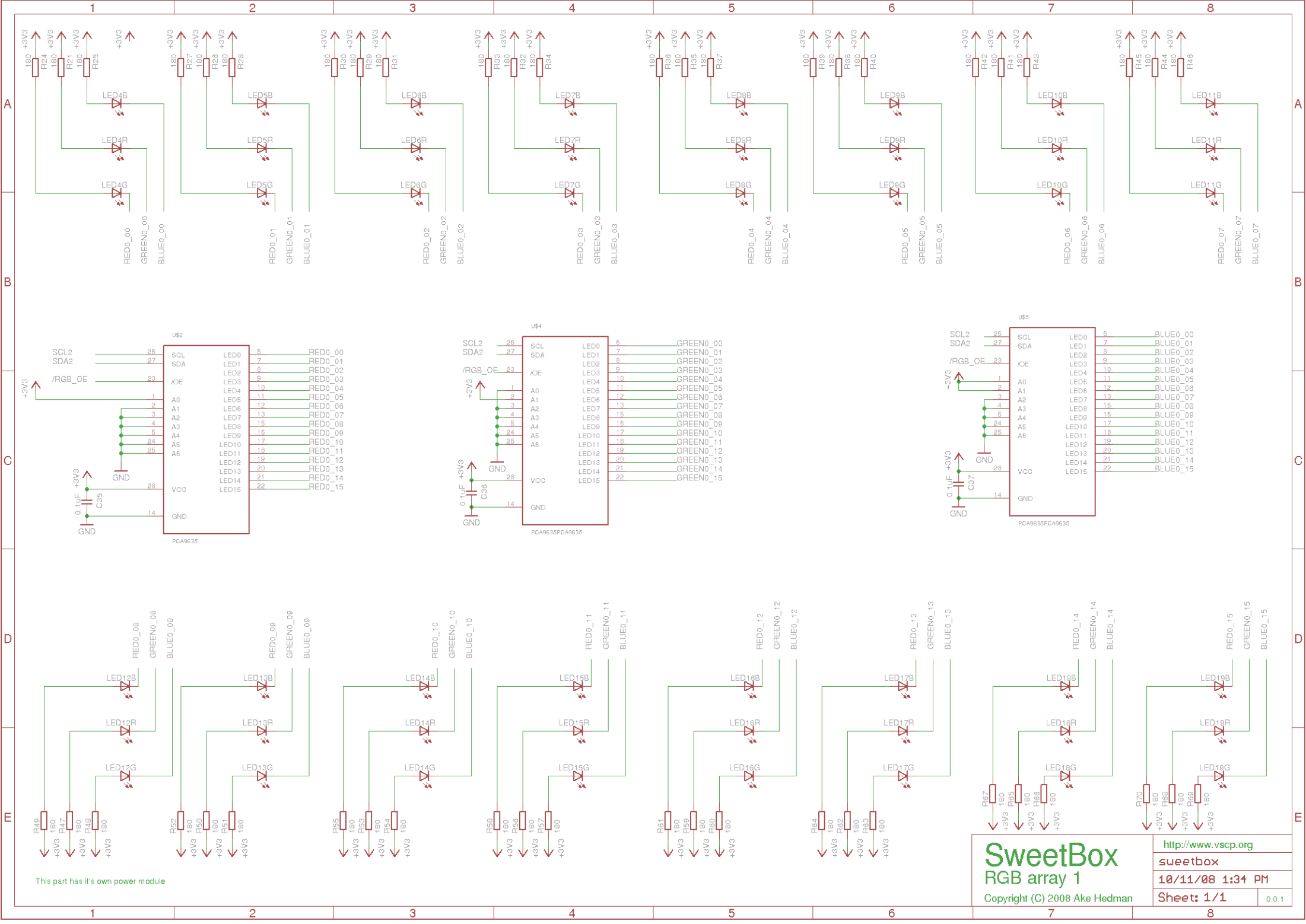
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This part has it's own power module

# SweetBox

## RGB array 1

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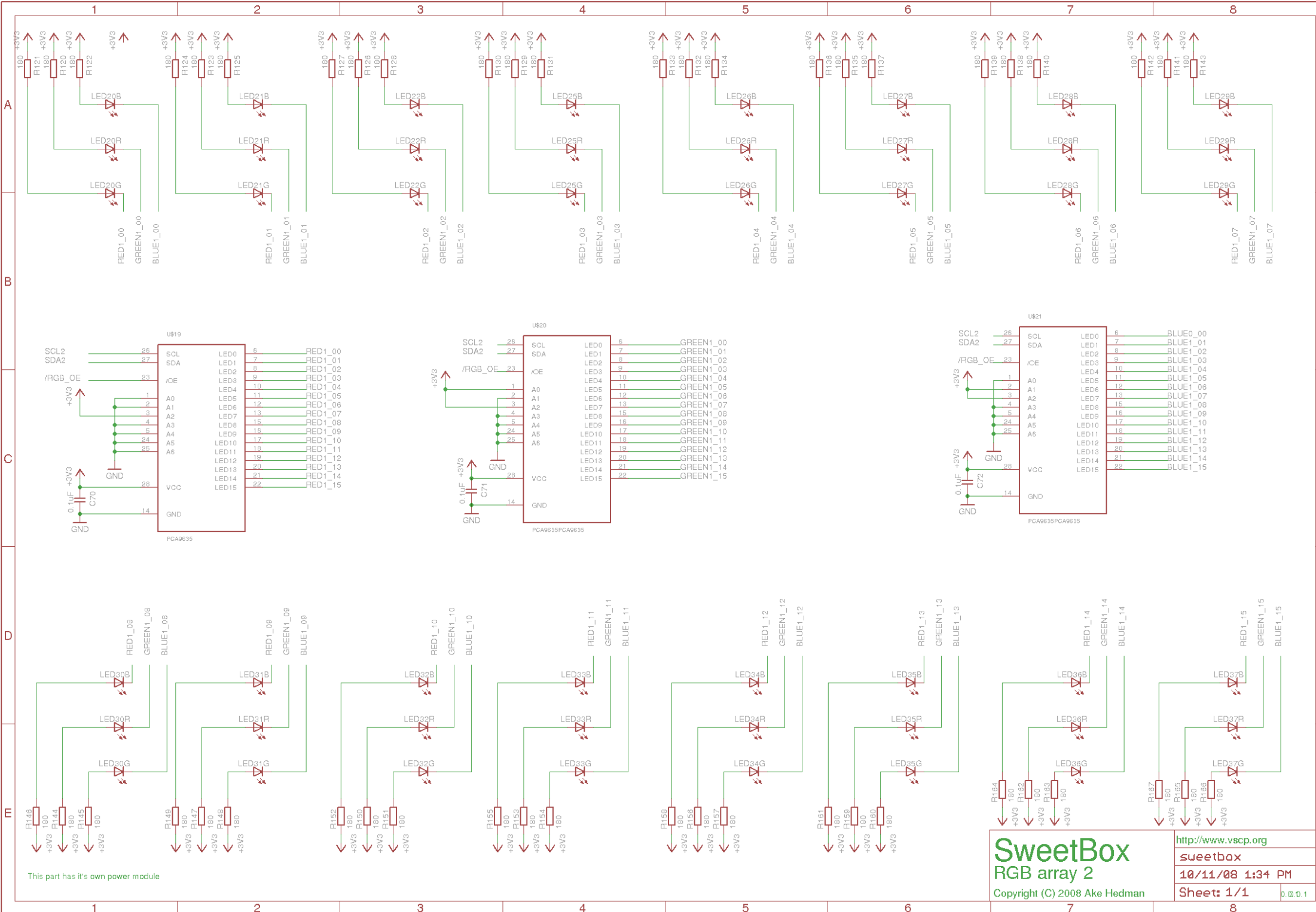
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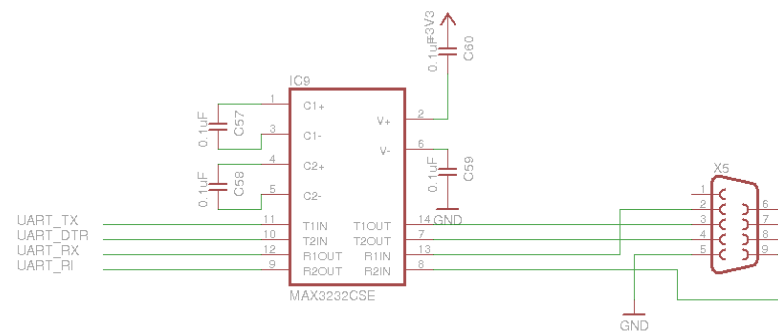
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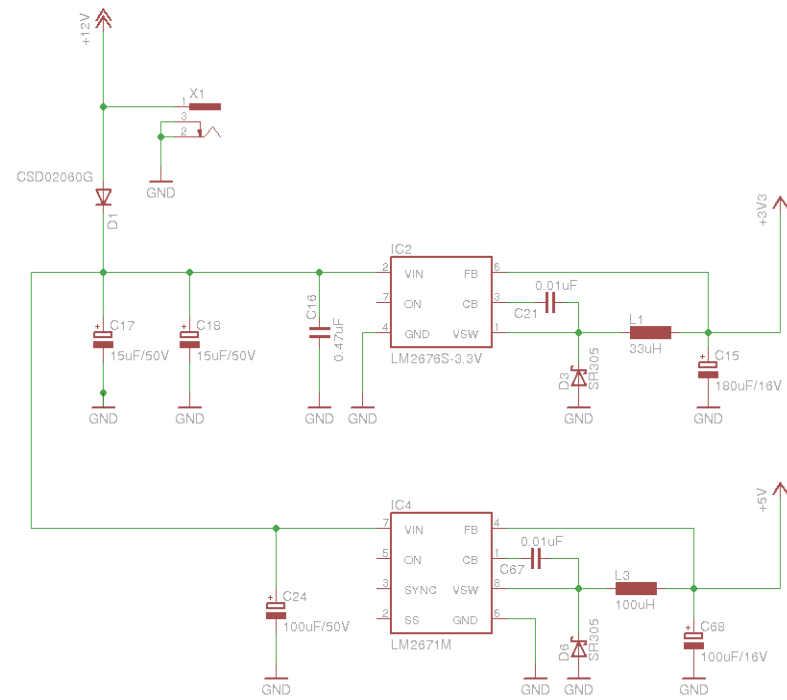
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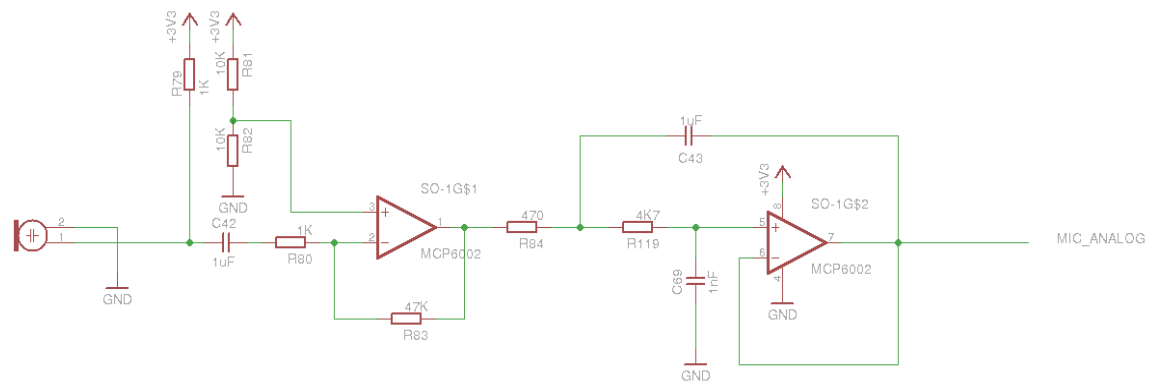
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## SweetBox BOM

Count	Id	Description	Digikey	Price each	Row Total
1	U\$12	IR-RECEIVER	425-1148-ND	1,13	1,13
1	U\$14	Movement Sensor	255-1803-ND	36,63	36,63
1	J7	RJ45 + Magnetics	553-1349-ND	6,72	6,72
1	IC1	PIC32 processor	PIC32MX460F512L-80I/PT-ND	12,7	12,7
1	U\$6	Tempsensor	MCP9803-M/SN-ND	1,58	1,58
2	IC7, IC8	EEPROM 25AA1025	24AA1025-I/SM-ND	6,68	13,36
1	IC3	CAN interface MCP2515	MCP2515-I/SO-ND	2,98	2,98
1	U1	CAN Transceiver, MCP2551	MCP2551-I/SN-ND	1,45	1,45
1	U\$1	CAN bus isolator	296-21955-1-ND	2,38	2,38
1	IC5	DCDC 12V-5V	102-1395-1-ND	4,82	4,82
1	IC6	Ethernet Controller ENC28J60	ENC28J60/SO-ND	3,3	3,3
6	I, U\$5, U\$19, U\$	RGB LED Ctrl	568-4067-1-ND	2,37	14,22
1	U\$3	RF Card MRF24J40MA	MRF24J40MA-I/RM-ND	9,95	9,95
1	IC9	RS-232 Transceiver	296-13095-1-ND	1,5	1,5
1	DIL1	Volume Control	MCP42010-I/SL-ND	2,65	2,65
1	SG1	Siren	458-1092-ND	14,34	14,34
1	U\$8	Pressure sensor	MPXA4115AP-ND	19,15	19,15
1	D4	PIN Photo Diode	PNZ334-ND	1,46	1,46
1	U\$7	Instrument amplifier	INA126U-ND	2,99	2,99
32	LED4-19	RGB LED	475-1236-1-ND	1,29	41,28
1	OK1	Optocoupler	CNY17F2MFS-ND	0,55	0,55
1	IC2	Regulator 3.3V, 3A	LM2676S-3.3-ND	4,48	4,48
1	IC4	Regulator 5V, 0.5A	LM2671N-5.0-ND	3,28	3,28
1	L1	Inductor 33uH, 3A	308-1467-1-ND	2,91	2,91
2	D3, D6	Scotty Diod SR305	SR305DICT-ND	0,72	1,44
1	L3	Inductor, 100uH, 0.5A	445-2015-1-ND	1,31	1,31
1	D1	Diode 5A	CSD02060G-ND	1,87	1,87
1	Q2	CRYSTAL 32.768KHZ CYL	X801-ND	0,3	0,3
1	Q1	Crystal 8MHz	535-9721-1-ND	1,38	1,38

Sheet1

3	J\$5, U\$18, U\$11	MCP6001 Opamp	MCP6001RT-I/OTCT-ND	0,42	1,26
3	J1G, SO2G, SO2	MCP6002 Opamp	MCP6002-I/SN-ND	0,53	1,59
1	U\$17	RF 433MHz transmitter	TXM-433-LC-ND	6,9	6,9
1	U\$22	RF 433MHz Receiver	RXM-433-LR_-ND	13,56	13,56
1	LED1	Red LED, 0805	L62401CT-ND	0,28	0,28
1	LED2	Yellow LED, 0805	L62407CT-ND	0,28	0,28
1	LED3	Green LED, 0805	L62405CT-ND	0,28	0,28
3	s1,s2,s3	Switch	P12969SCT-ND	1,52	4,56
1	JP4	Programming connector	SAM1174-06-ND	2,26	2,26
1	SV1	CAN terminator selector	SAM1178-04-ND	1,52	1,52
1	J2	CAN RJ45	RJSSE-5080-ND	1,87	1,87
1	L2	Induktor 4.7uH	587-2034-1-ND	1,55	1,55
1	X5	RB9, Female	182-909FE-ND	2,01	2,01
1	X1	Power Jack	CP-202A-ND	0,38	0,38
1	-	Audio connector	CP-3504-ND	2,06	2,06
1	--	Microphone	102-1721-ND	0,66	0,66
1	D5	S1D	S1DB-FDICT-ND	0,52	0,52
2	U\$10, U\$13	IRFL110	IRFL110PBFCT-ND	1,92	3,84
1	R103	2K Multiturn Pot	490-2683-1-ND	2,45	2,45
1	IC10	555	LM555CMFS-ND	0,44	0,44
2	LED23, LED24	IR-LED's	67-1000-ND	0,25	0,5
39	41,C47,C50,C53	0.1uF cheramic capacitor, 0805	399-1169-1-ND	0,05	1,79
2	C6,C7	22pF cheramic capacitor 0805	PCC220CNCT-ND	0,36	0,72
2	C8,C9	12pF cheramic capacitor 0805	PCC120CNCT-ND	0,48	0,96
1	C13	10uF electrolytic capacitor	PCE3166CT-ND	1,65	1,65
4	4,C42,C43,C49,C	1uF cheramic capacitor 0805	PCC1807CT-ND	0,19	0,76
1	C15	180uF, Electrolytic capacitor	565-3078-1-ND	1,74	1,74
1	C16	0.47uF cheramci capacitor 0805	PCC1818CT-ND	0,2	0,2
2	C17,C18	15uF, Electorlytic capacitor	PCE3167CT-ND	1,65	3,3
2	C19,C20	15pF, cheramic capacitor 0805	PCC150CNCT-ND	0,48	0,96
1	C21	0.01uF cheramic capacitor, 0805	PCC103BNCT-ND	0,25	0,25
2	C24, C68	100uF/50V electrolytic capacitor	PCE3232CT-ND	0,61	1,22
5	J,C61,C82,C85,C	10uF electrolytic capacitor	PCE3022CT-ND	0,25	1,25

Sheet1

2	C31,C32	0.27pF cheramic capacitor	PCC270CGCT-ND	0,24	0,48
2	C44,C54	2.2nF cheramci capactor	PCC222BNCT-ND	0,26	0,52
5	5,C46,C51,C52,C	1nF cheramic capacitor	PCC102CGCT-ND	0,25	1,25
4	48,C56,C76,C7	22nF cheramic capacitor 0805	PCC1860CT-ND	0,21	0,84
1	C55	0.22uF cheramic capacitor 0805	PCC1845CT-ND	0,31	0,31
1	C62	Humidity sensor, HCH-1000-002	480-2904-ND	4,84	4,84
3	C63,C78,C79	18pF cheramci capacitor, 0805	PCC180CNCT-ND	0,48	1,44
1	C64	33nF cheramic capacitor, 0805	PCC1834CT-ND	0,31	0,31
1	C73	33uF electrolytic capacitor	PCE3003CT-ND	0,21	0,21
3	C80,C81,C83	220uF electrolytic capacitor	PCE2040CT-ND	0,51	1,53
1	D2	NUP2105L,SOT23	NUP2105LT1GOSCT-ND	0,45	0,45
1	Q3	Crystal 16MHz	XC694CT-ND	0,73	0,73
1	Q4	Crystal 11.2896MHz	300-8129-1-ND	1,1	1,1
1	Q5	Crystal 25MHz	SE2539CT-ND	1,12	1,12
1	U\$2	PCA9635	568-4067-1-ND	2,37	2,37
1	U6	7WZU04	NC7WZU04P6XCT-ND	0,38	0,38
1	U7	PCM1770	296-13470-5-ND	2,81	2,81
1	U8	PGA2311P	PGA2311U-ND	7,5	7,5
6		4.7K	P4,7KADCT-ND	0,17	1,02
4		330R	P330ADCT-ND	0,17	0,68
23		10K	P10KADCT-ND	0,17	3,91
1		120R, 1W	PT120XCT-ND	0,3	0,3
2		2K	P2KADCT-ND	0,17	0,34
72		180R	P180ADCT-ND	0,17	12,24
5		50R, 1%	P49,9ADCT-ND	0,17	0,85
4		1K	P1KADCT-ND	0,17	0,68
1		47K	P47KADCT-ND	0,17	0,17
3		470R	P470ADCT-ND	0,17	0,51
2		12K	P12KADCT-ND	0,17	0,34
2		5K	P5KADCT-ND	0,17	0,34
3		1K8	P1.8KADCT-ND	0,17	0,51
2		15K	P15KADCT-ND	0,17	0,34
1		16K	P16KADCT-ND	0,17	0,17

Sheet1

3	100R	100H_ND	0,17	0,51
1	220R	P220ADCT-ND	0,17	0,17
2	1M	P1MADCT-ND	0,17	0,34
1	100K	P100KADCT-ND	0,17	0,17
1	12R, 1W	PT12XCT-ND	0,4	0,4
1	39K	P39KADCT-ND	0,17	0,17
2	8R	P8ADCT-ND	0,17	0,34
2	16R	P16ADCT-ND	0,17	0,34
1	51K	P51KADCT-ND	0,17	0,17
2	10R	P10ADCT-ND	0,17	0,34
2	750R	P750ADCT-ND	0,17	0,33
3	0R			0