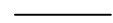
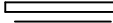
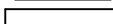
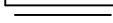
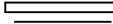




**Board Stackup**

-  Layer 1 - 1 oz finished copper
-  Prepreg - 5 mils
-  Layer 2 - 1 oz copper
-  Core - 47 mils
-  Layer 3 - 1 oz copper
-  Prepreg - 5 mils
-  Layer 4 - 1 oz finished copper

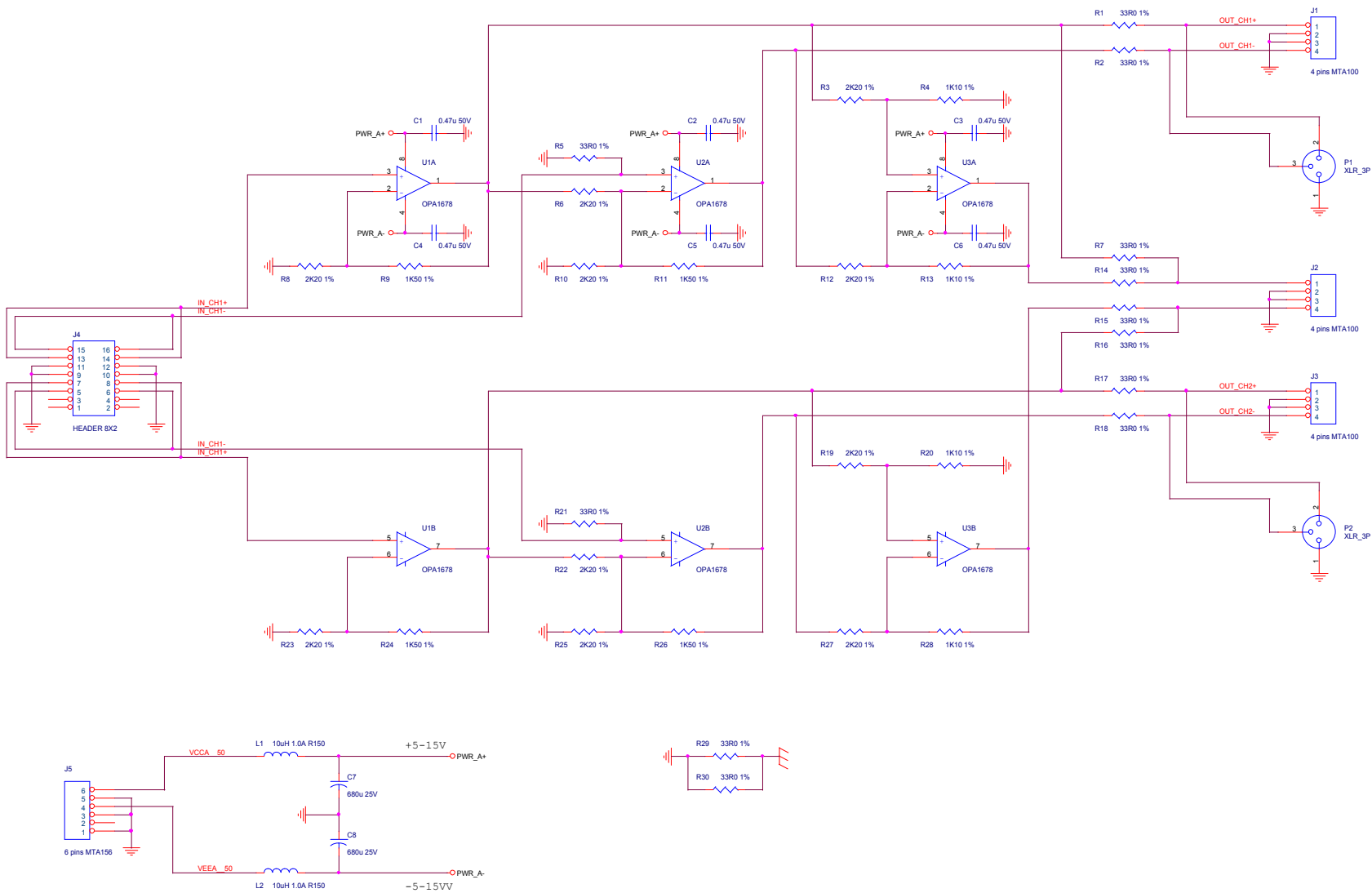
Layer 1 (Top)

Assembly Drawing

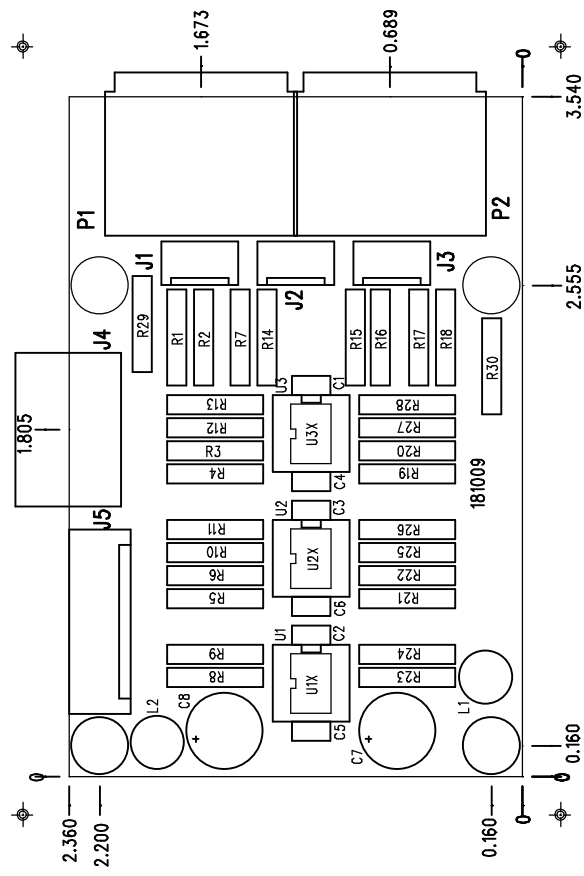
DESIGNED BY Soren Kristensen	DATE 180903	Soekris Engineering		Siblervej 110 DK-4220 Korsør Denmark
		TITLE: dam1941		
SCALE 1:1	PART NOUB 20194101	REV LEVEL 01		



Parts for Single Ended In to Single Ended Out							
Soekris P/N	Qty	Type	Value	Package	Manufacturer	Mfg P/N	Reference
	2	Ceramic Capacitor	0.47u 50V X7R	leaded 1M			C1,C4
	2	Electrolytic Capacitor	680u 25V R049 Ø10	leaded Ø10x16	UCC	EKYB250ELL681MJ16S	C7,C8
	3	Connector MTA100	4 pins MTA100	leaded			J1,J2,J3
	1	Header 2x8 Right Angle Female	Header 2x8	leaded	Sullins	PPPC082LJBN-RC	J4
74443006	1	Connector MTA156	6 pins MTA156	leaded	AMP	640445-6	J5
	2	Inductor	10uH 1.0A R150	leaded Ø7	Bourns	RLB0712-100KL	L2,L1
	4	Resistor Thin Film	33R0 1%	leaded 4M			R7,R16,R29,R30
	2	Resistor Thin Film	1K50 1%	leaded 4M			R9,R24
	2	Resistor Thin Film	2K20 1%	leaded 4M			R8,R23
	1	Dual Audio OpAmp	Dual Audio OpAmp	so8 / dip8	TI	opa1678	U1



<b>Soekris Engineering</b>		Sibbjergvej 110 DK-4220 Korsør	
Design	buf1961	File	dam1941 Output Buffer Board
Size	Document	Date	Tuesday, October 23, 2018
Date	Tuesday, October 23, 2018	Sheet	1 of 1
File	C:\DESIGN\DM1900\BUF1961.DSN		

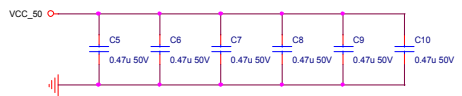
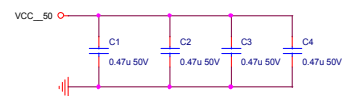
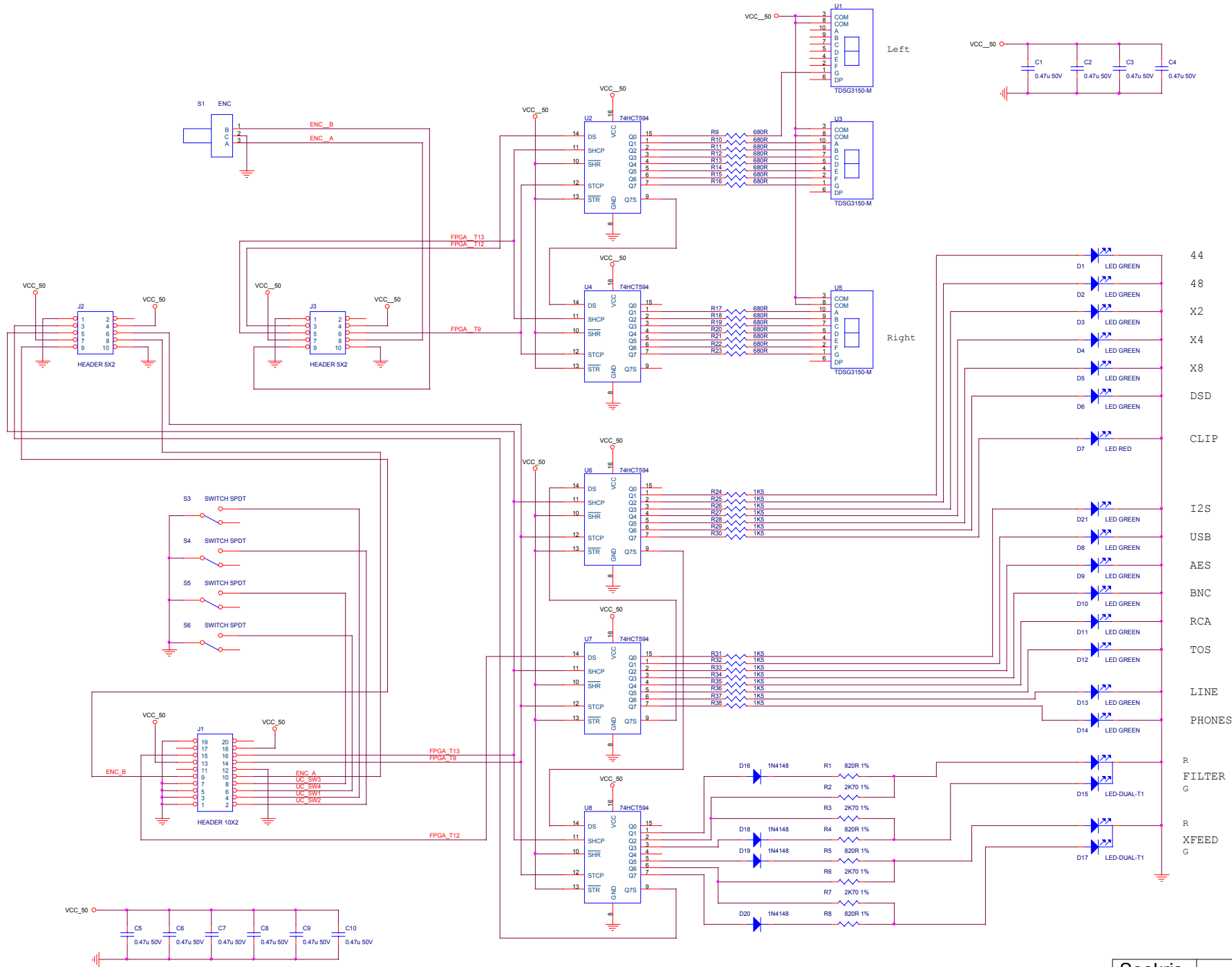


Layer 1 (Top)

Assembly Drawing

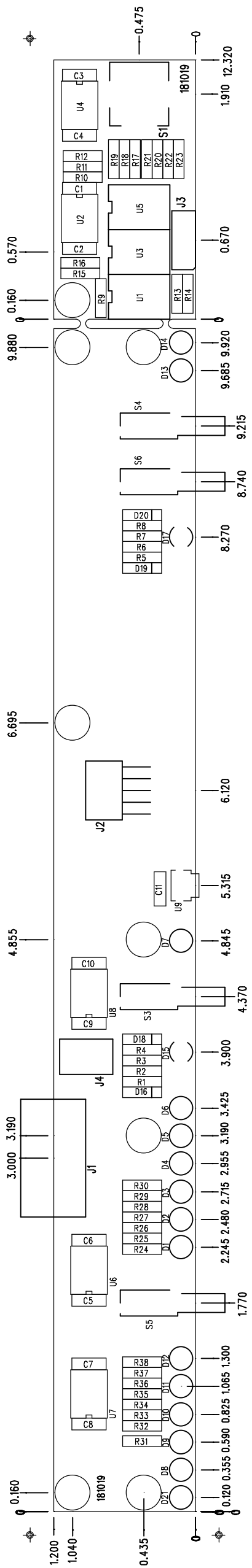
Soren Kristensen soren@soekris.com		Soekris Engineering ApS Sibølgevej 10 DK-4250 Korsør Denmark	
PART NUMB 181009		TITLE buf1961	
SCALE 1:1	PART NUMB 20196100	REV LEVEL 00	

D/A Converter dam1941 - Display Board dsp1971 Revised: Oct 23 , 2018					Revision: 0 for PCB 20197100		
Soekris Engineering P/N 15197100							
Soekris P/N	Qty	Type	Value	Package	Manufacturer	Mfg P/N	Reference
	10	Ceramic Capacitor	0.47u 50V X7R	leaded 2M			C1,C2,C3,C4,C5,C6,C7,C8,C9,C10
	15	Resistor Thin Film	680R	leaded 2.5M	Stackpole	RNMF14FTC680R	R9,R10,R11,R12,R13,R14,R15,R16,R17,R18,R19,R20,R21,R22,R23
	4	Resistor Thin Film	820R	leaded 2.5M	Stackpole	RNMF14FTC820R	R1,R4,R5,R8
	15	Resistor Thin Film	1K50	leaded 2.5M	Stackpole	RNMF14FTC1K50	R24,R25,R26,R27,R28,R29,R30,R31,R32,R33,R34,R35,R36,R37,R38
	4	Resistor Thin Film	2K70	leaded 2.5M	Stackpole	RNMF14FTC2K70	R2,R3,R6,R7
	4	Diode Small Signal	1N4148	leaded 2M5			D16,D18,D19,D20
62202501	14	LED Green T1 50mcd @ 20mA	LED Green	leaded	Kingbright	WP3A10GD	D1,D2,D3,D4,D5,D6,D8,D9,D10,D11,D12,D13,D14,D21
62202502	1	LED Red T1 50mcd @ 20mA	LED Red	leaded	Kingbright	WP3A8ID	D7
62202407	2	LED Red/Green T1 40mcd @ 20mA	LED Red/Green	leaded	Kingbright	WP3VEGW	D15,D17
62251141	3	7 Seg Green 10mm 14mcd @ 20mA	7 Seg Green 10mm	leaded	Vishay	TDSG3150-M	U1,U3,U5
45230594	5	Shift/Store Register	74HCT594A	so16	Diodes	74HCT594S16-13	U2,U4,U6,U7,U8
	1	Header 2x10 Right Angle Female	Header 2x10	leaded	Sullins	PPPC102LJBN-RC	J1
	1	Header 2x5 Right Angle Male	Header 2x5	leaded	Harwin	M20-9740542	J2
	1	Header 2x5 Straight Female	Header 2x5	leaded	Sullins	PPPC052LFBN-RC	J3
	1	Header 1x3 Right Angle Female	Header 1x3	leaded	Sullins	PPPC031LGBN-RC	J4
71801124	1	ENC PCB Horizontal	ENC	leaded	Bourns	PEC11R-4215K-N0024	S1
83271258	4	Push Switch	SWITCH SPDT	leaded	E-Switch	LC1258OASP	S3,S4,S5,S6
62838438	1	IR Receiver 38 Khz	TSOP38438	leaded	Vishay	TSOP38438	U9



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<b>Soekris Engineering</b>		Sibbjergvej 110 DK-4220 Korsør	
Design	dsp1971	File	dam1941 User Interface Board
Size	Document	Date	20191100
Date	Tuesday, October 23, 2018	Sheet	1 of 1
File	C:\DESIGN\DM1900\DSP1971.DSN		



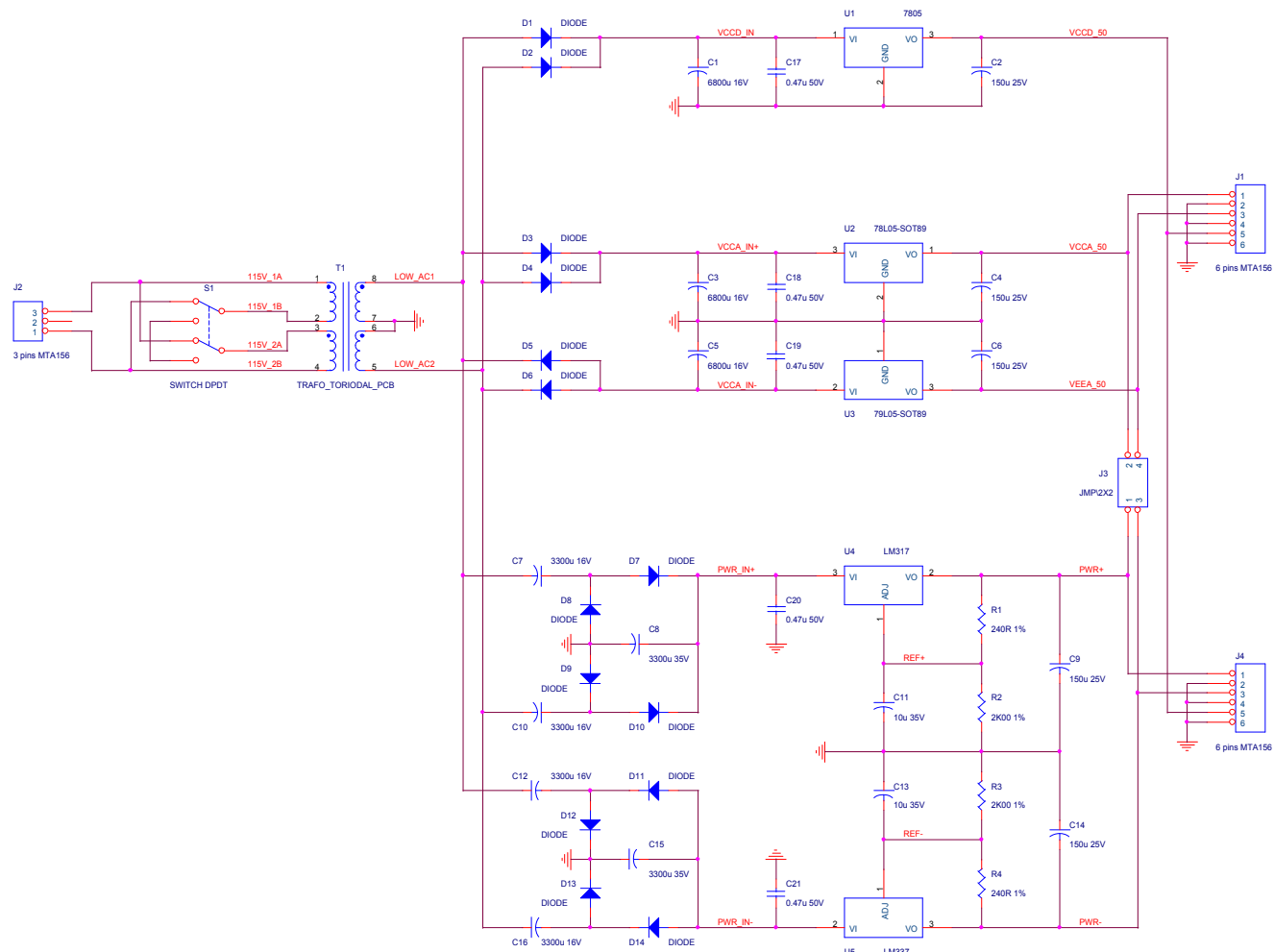
Layer 1 (Top)

Assembly Drawing

DESIGNER	Soren Kristensen	DATE	20190710
DRAWN	Soren Kristensen	PROJECT	PCB-2258 104000
CHECKED	Soren Kristensen	TITLE	Soekris Engineering ApS
DATE	20190710	SCALE	1:1
BY	Soren Kristensen	SCALE	2019/7/10
DATE	20190710	REV	00
BY	Soren Kristensen	LEVEL	00

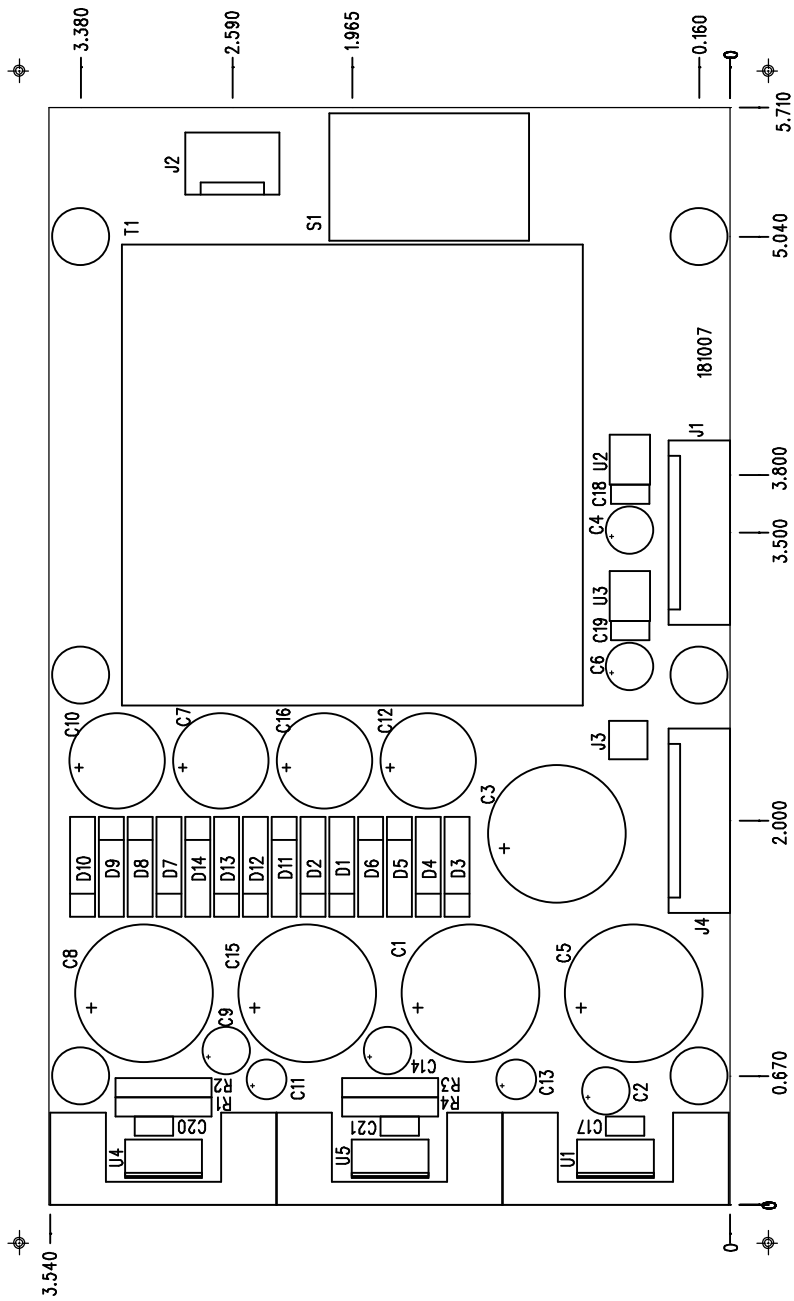


D/A Converter dam1941 - Power Supply Board psu1951 Revised: Oct 23 , 2018					Revision: 0 for PCB 20195100		
Soekris Engineering P/N 15195100							
<b>Parts for basic +- 5V Power Supply</b>							
Soekris P/N	Qty	Type	Value	Package	Manufacturer	Mfg P/N	Reference
	3	Ceramic Capacitor	0.47u 50V X7R	1M			C17,C18,C19
	3	Electrolytic Capacitor	150u 25V R150 Ø6	6x12.5	UCC	EKYB250ELL151MF11D	C2,C4,C6
	3	Electrolytic Capacitor	6800u 16V R017 Ø18	18x25	UCC	EKYB160ELL682MM25S	C1,C3,C5
	6	Diode Schottky	Schottky 40V 1A	4M		SB140	D1,D2,D3,D4,D5,D6
	1	Linear Regulator 5V 1A	7805	to220		7805	U1
	1	Linear Regulator 5V 0.1A	78L05	sot89		L78L05ABUTR	U2
	1	Linear Regulator -5V 0.1A	79L05	sot89		L79L05ABUTR	U3
74443003	1	Connector MTA156	3 pins MTA156	leaded	AMP	640445-3	J2
	1	Header 0.1" 2x2 Straight	Header 2x2				J3
	1	Switch	SWITCH DPDT	leaded	C&K	V80212MS02Q	S1
	1	Transformer	Toriod Trafo 15W 2x7V	leaded	Amgis Talema	L01-6350 70050K	T1
	1	Heat Sink	12x30mm PCB Mount		Assman	V6560W	
<b>Additional Parts for extra +- 5V to +- 15V Power Supply</b>							
Soekris P/N	Qty	Type	Value	Package	Manufacturer	Mfg P/N	Reference
	2	Ceramic Capacitor	0.47u 50V X7R	1M			C20,C21
	2	Electrolytic Capacitor	10u 35V R950 Ø5	5x8	Nichicon	UPW1V100MDD6	C11,C13
	3	Electrolytic Capacitor	150u 25V R150 Ø6	6x12.5	UCC	EKYB250ELL151MF11D	C6,C9,C14
	4	Electrolytic Capacitor	3300u 16V R024 Ø13	13x25	UCC	EKYB160ELL332MK25S	C7,C10,C12,C16
	2	Electrolytic Capacitor	3300u 35V R017 Ø18	18x25	UCC	EKYB350ELL332MM25S	C8,C15
	2	Resistor Thin Film	240R 1%	4M			R4,R1
	2	Resistor Thin Film	2K00 1%	4M			R2,R3
	8	Diode Fast	Fast Rect 100V 1A	4M		UF4004	D7,D8,D9,D10,D11,D12,D13,D14
	1	Linear Regulator Pos Adj 1A	LM317	to220		LM317	U4
	1	Linear Regulator Neg Adj 1A	LM337	to220		LM337	U5
	2	Heat Sink	12x30mm PCB Mount		Assman	V6560W	



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<b>Soekris Engineering</b>		Sibbjergvej 110 DK-4220 Korsør	
Design	psu1951	File	dam1941 Power Supply Board
Size	Document	Date	20195100 Rev 0
Date	Thursday, November 01 2018	Sheet	1 of 1
File	C:\DESIGN\DM1900\PSU1951.DSN		



Layer 1 (Top)

Assembly Drawing

Soren Kristensen soren@soekris.com		Soekris Engineering ApS Suldrupvej 110 DK-2605 Slagelse Denmark	
DATE: 181007		TITLE: psu1951	
DRAWN BY: Soren Kristensen		SCALE: 1:1	PART NUMBER: 20195100
REV: 00		REV. LEVEL: 00	