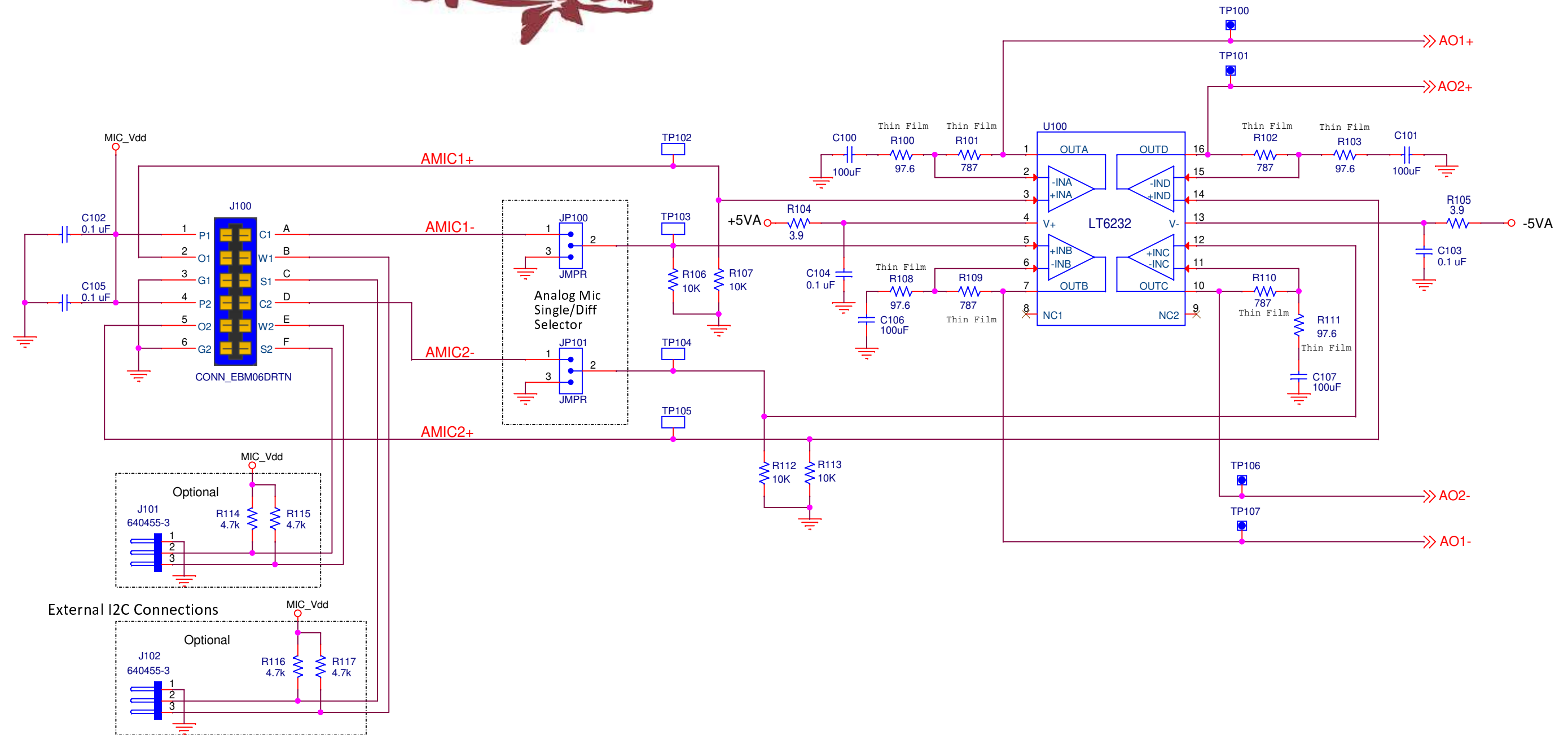
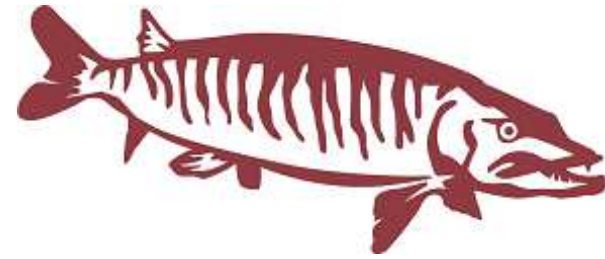

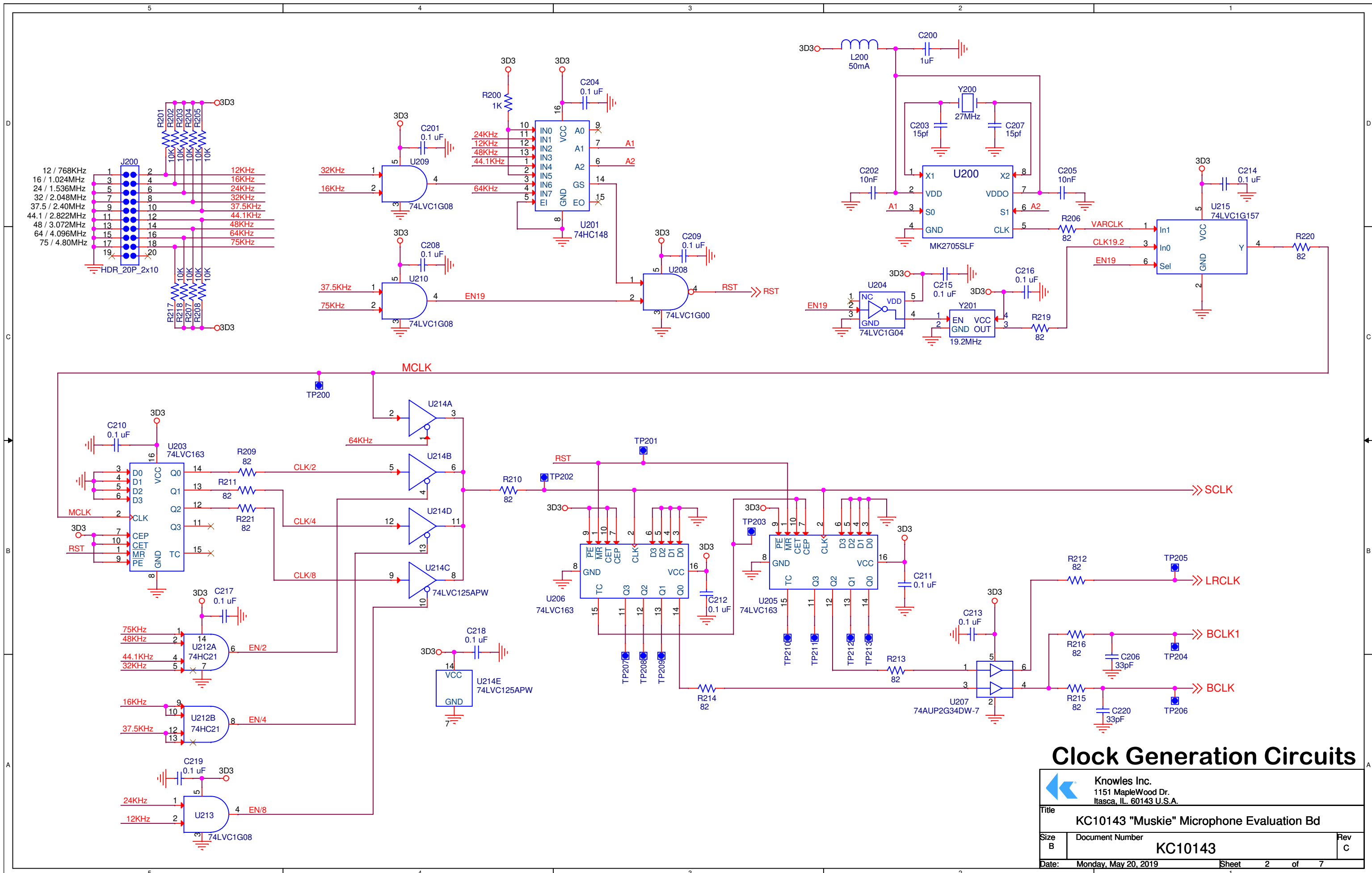


KC10143 "Muskie" Microphone Evaluation Board




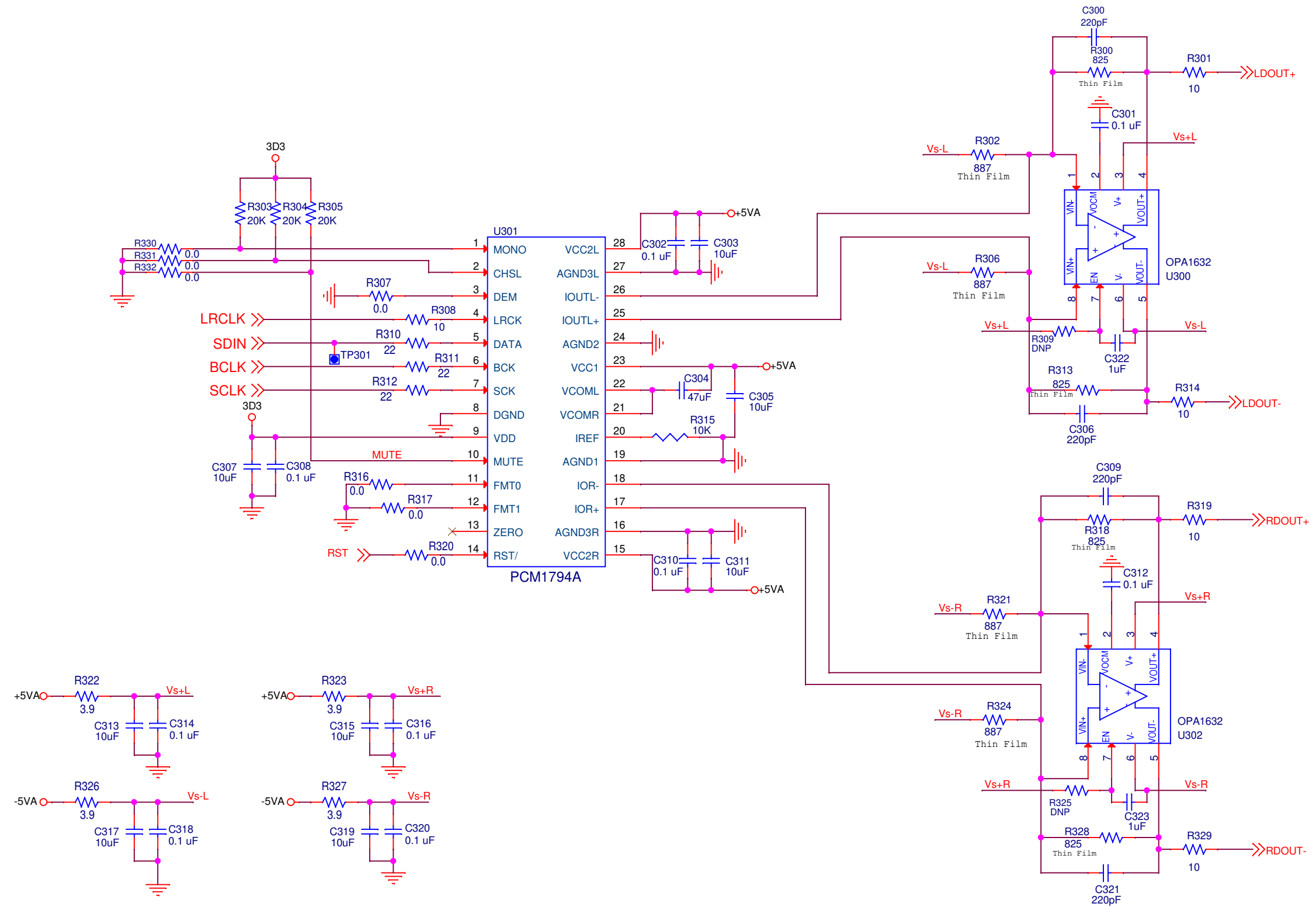
Analog Microphone Interface

 Knowles Inc. 1151 MapleWood Dr. Itasca, IL 60143 U.S.A.		
Title KC10143 "Muskie" Microphone Evaluation Bd		
Size B	Document Number KC10143	Rev C
Date: Monday, May 20, 2019	Sheet 1	of 7




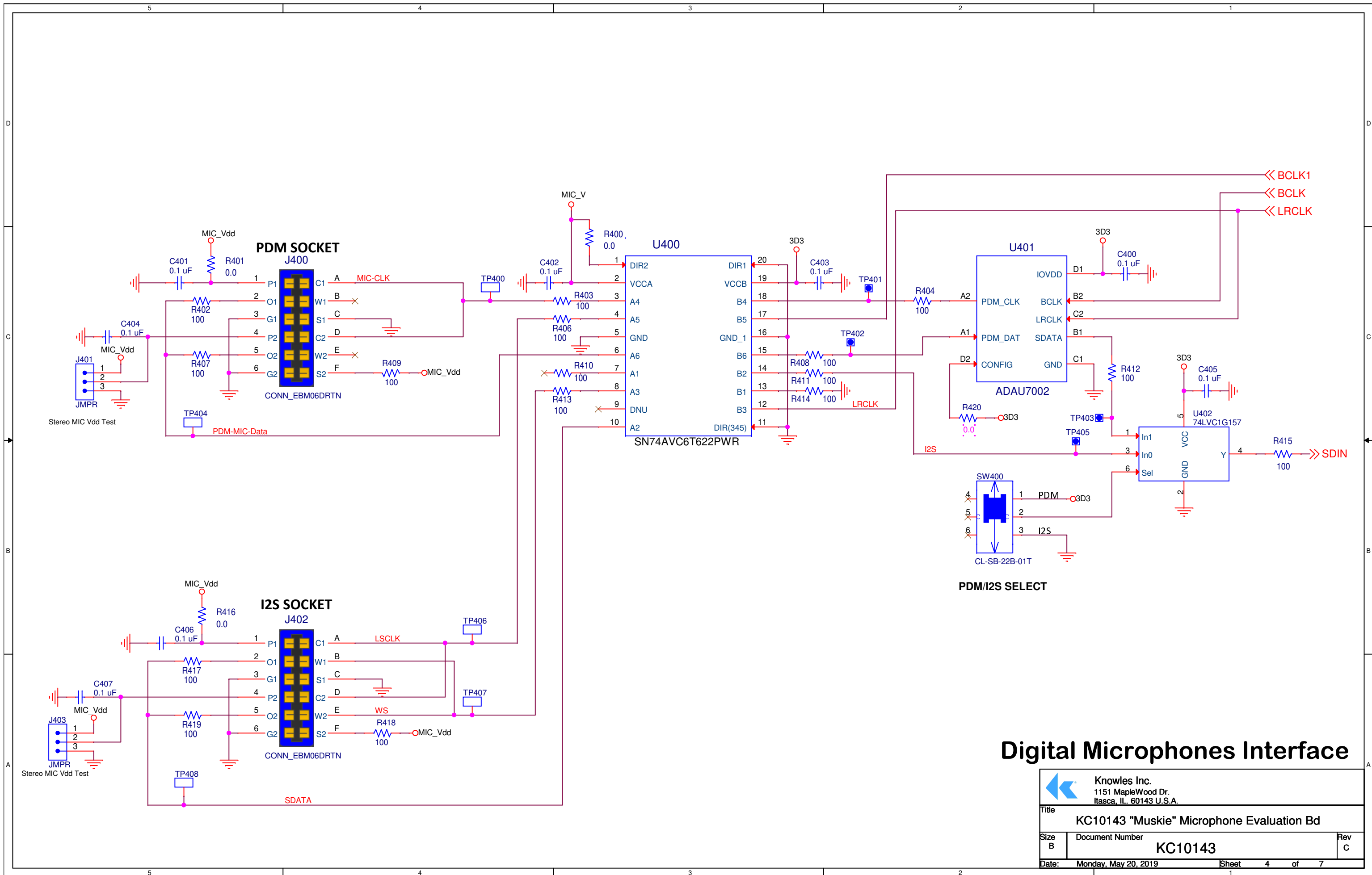
Clock Generation Circuits

 Knowles Inc. 1151 MapleWood Dr. Itasca, IL 60143 U.S.A.		
Title KC10143 "Muskie" Microphone Evaluation Bd		
Size B	Document Number KC10143	Rev C
Date: Monday, May 20, 2019 Sheet 2 of 7		




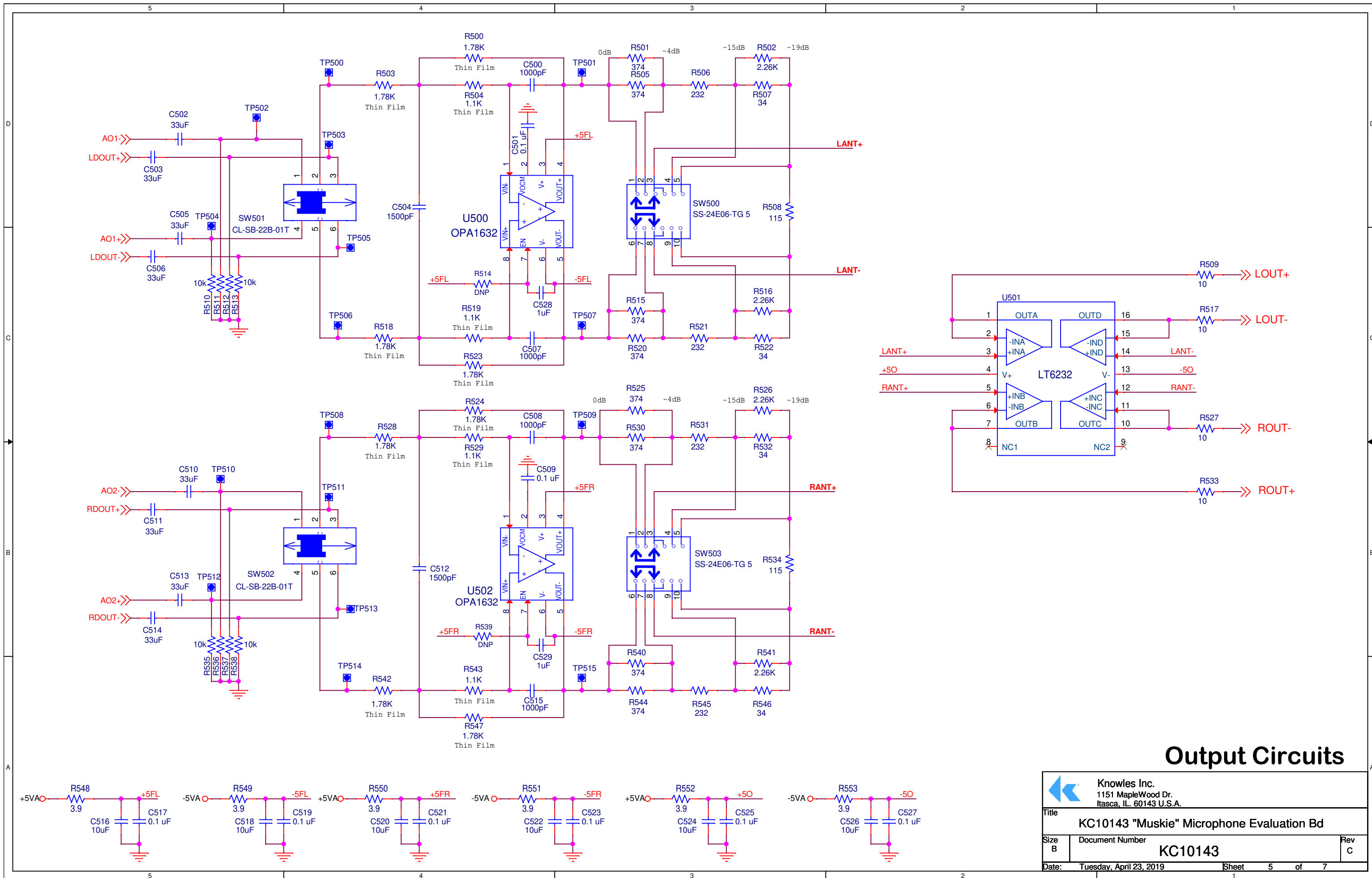
Digital to Analog Signal Conversion

 Knowles Inc. 1151 MapleWood Dr. Itasca, IL 60143 U.S.A.		
Title KC10143 "Muskie" Microphone Evaluation Bd		
Size B	Document Number KC10143	Rev C
Date: Monday, May 20, 2019	Sheet 3	of 7




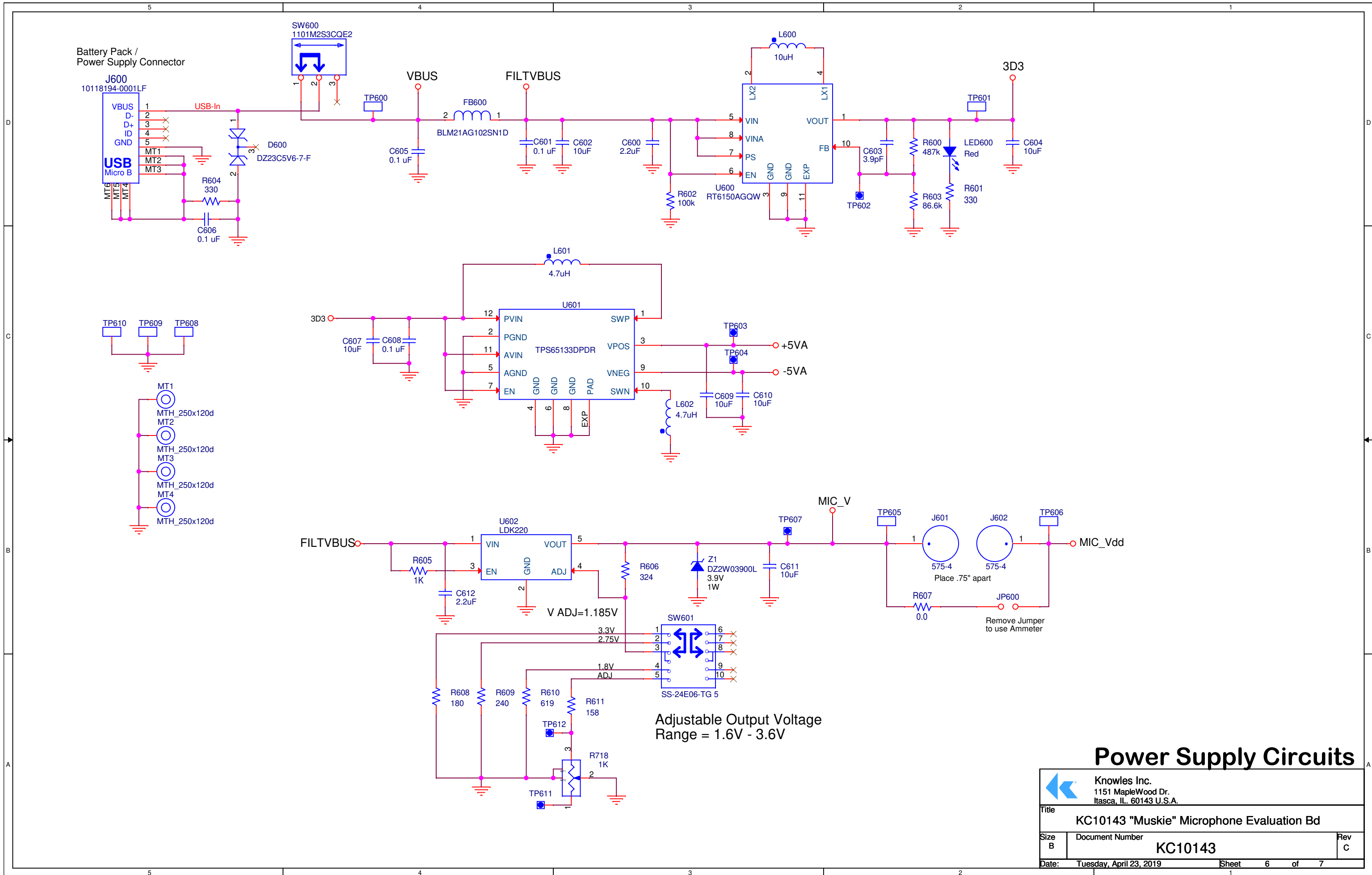
Digital Microphones Interface

 Knowles Inc. 1151 MapleWood Dr. Itasca, IL 60143 U.S.A.		
Title		
KC10143 "Muskie" Microphone Evaluation Bd		
Size	Document Number	Rev
B	KC10143	C
Date:	Monday, May 20, 2019	Sheet 4 of 7




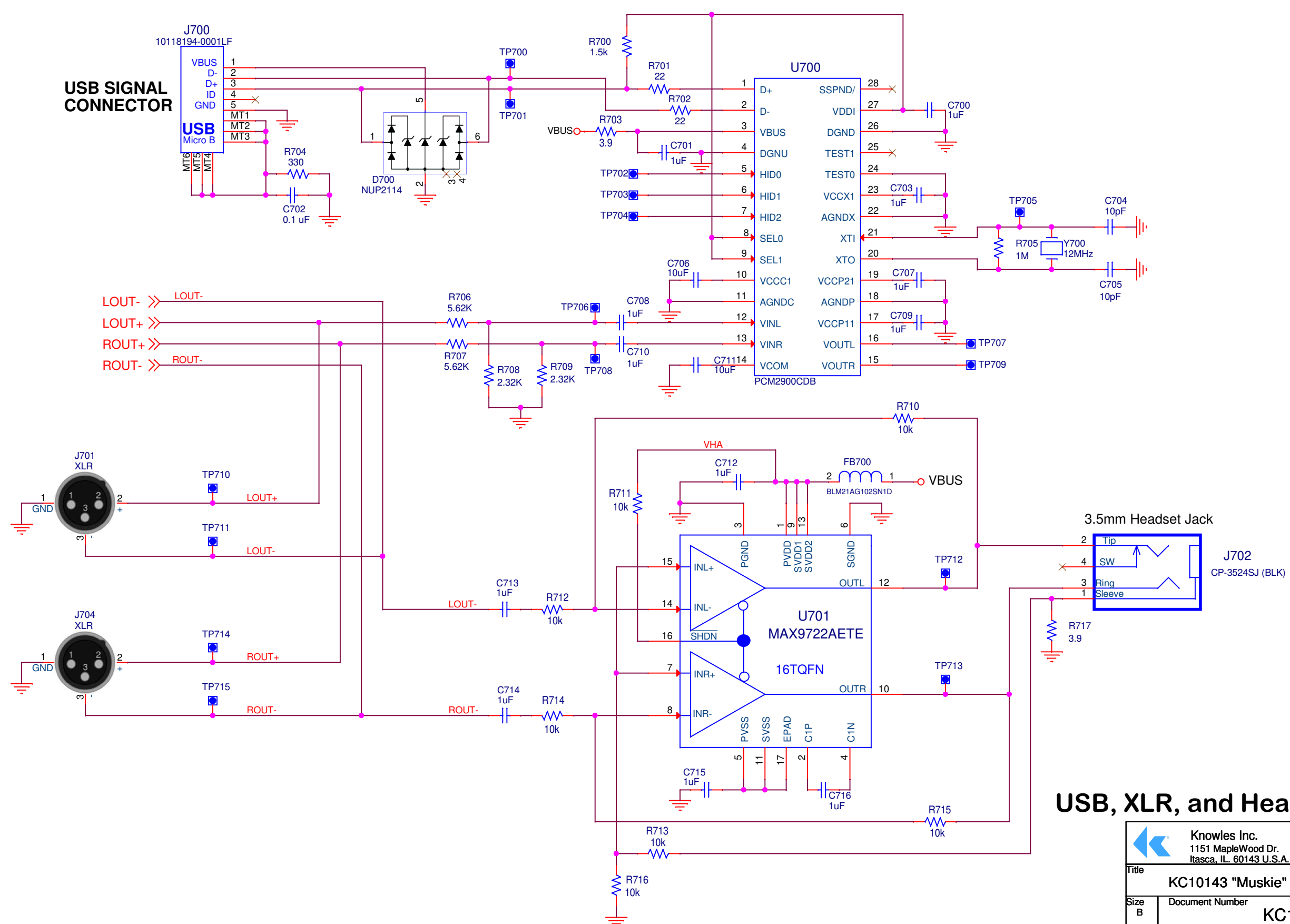
Output Circuits

 Knowles Inc. 1151 MapleWood Dr. Itasca, IL 60143 U.S.A.		
Title KC10143 "Muskie" Microphone Evaluation Bd		
Size B	Document Number KC10143	Rev C
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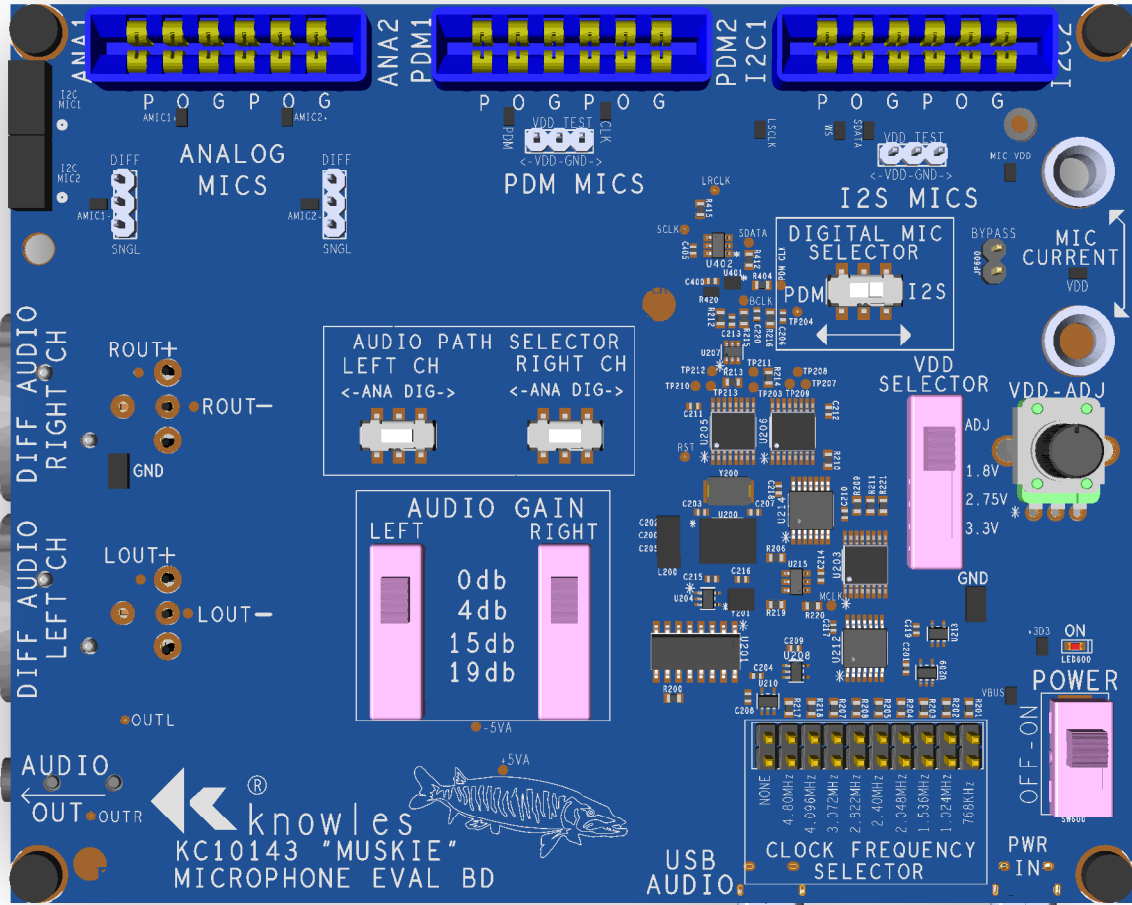
Power Supply Circuits

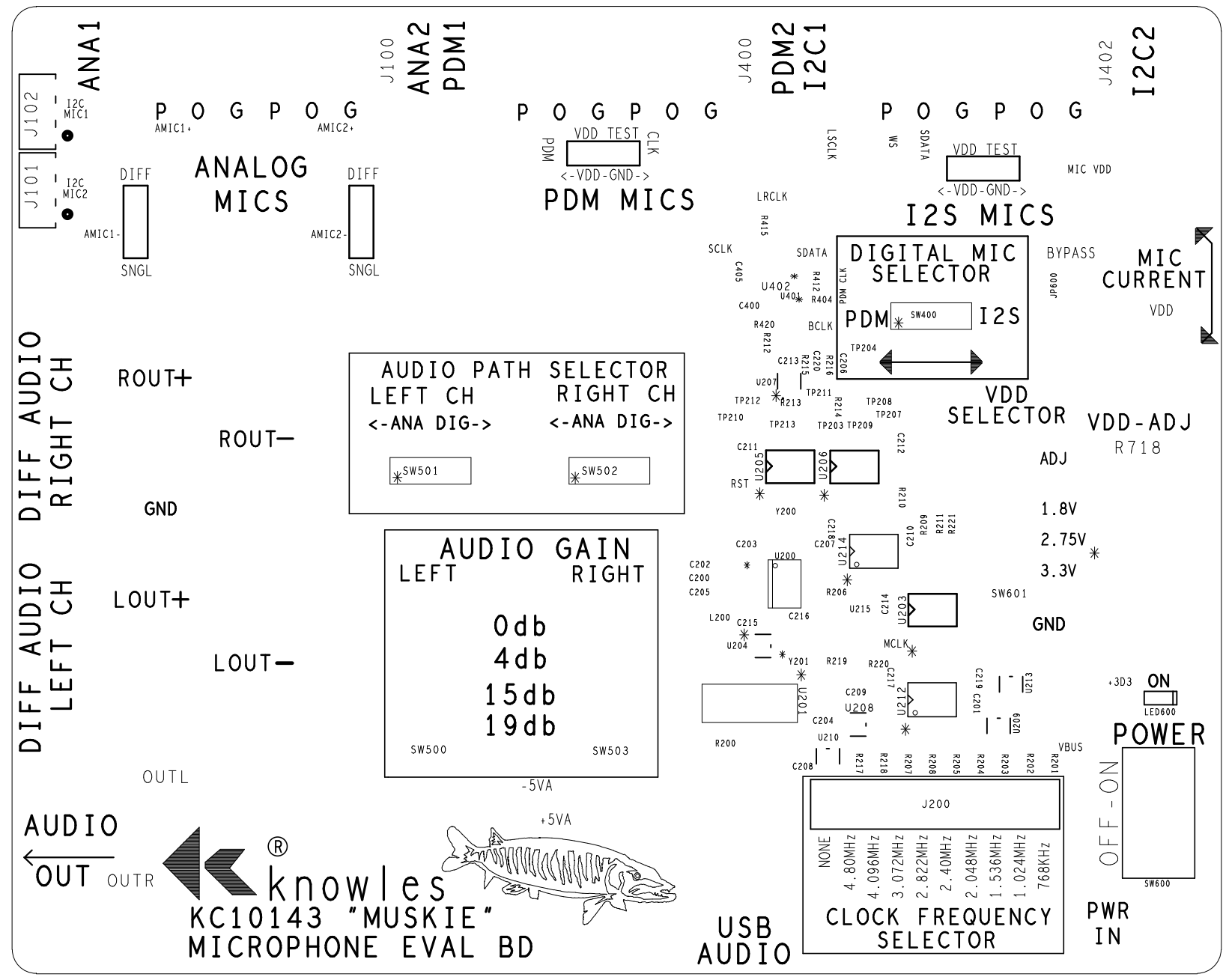
 Knowles Inc. 1151 MapleWood Dr. Itasca, IL 60143 U.S.A.		
Title KC10143 "Muskie" Microphone Evaluation Bd		
Size B	Document Number KC10143	Rev C
Date: Tuesday, April 23, 2019	Sheet 6	of 7




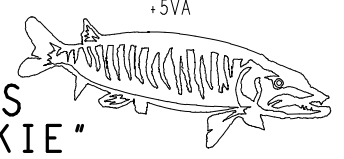
USB, XLR, and Headphone Interface

 Knowles Inc. 1151 MapleWood Dr. Itasca, IL 60143 U.S.A.		
Title KC10143 "Muskie" Microphone Evaluation Bd		
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AUDIO OUT ←  **knowles**
 KC10143 "MUSKIE"
 MICROPHONE EVAL BD

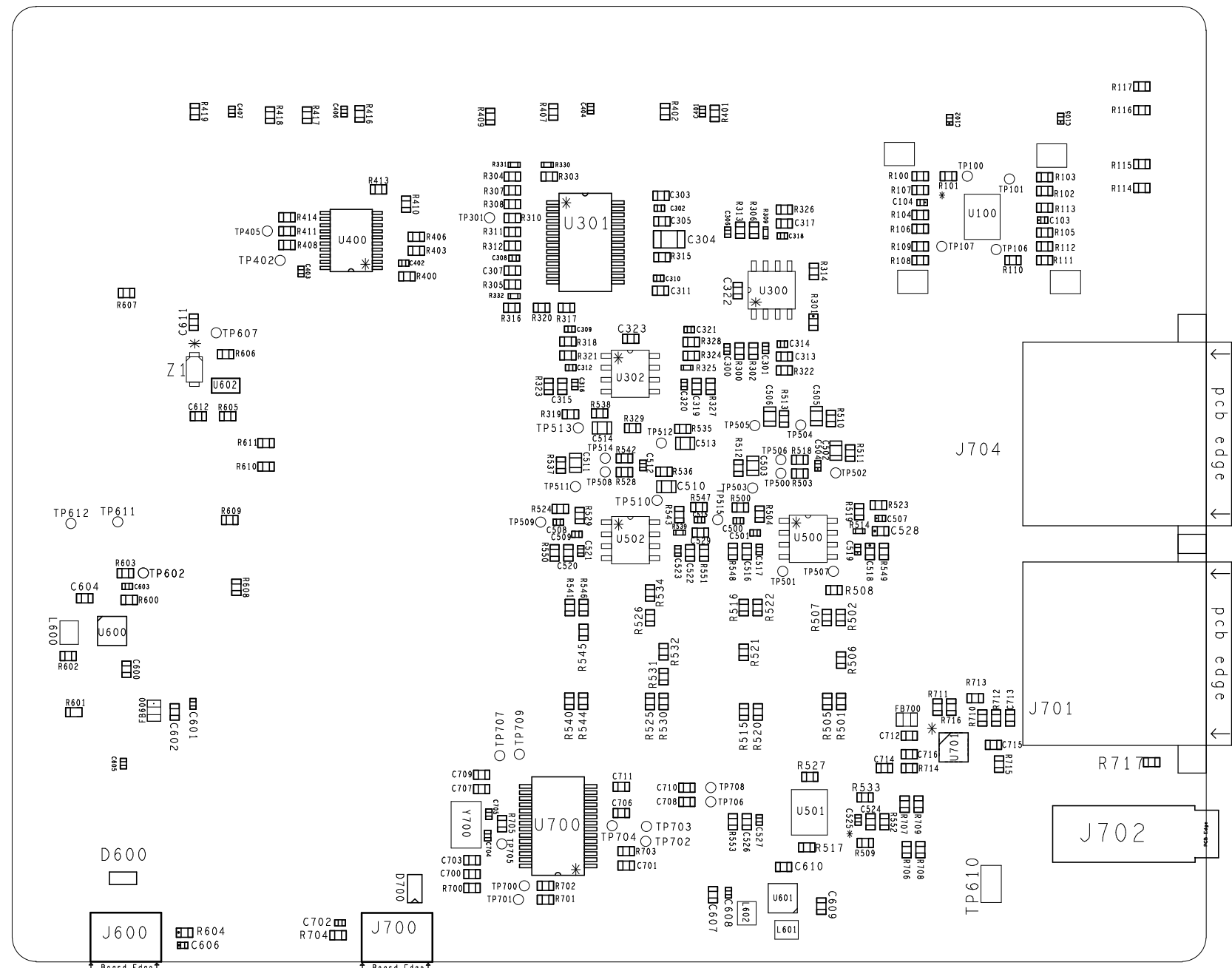


USB AUDIO

CLOCK FREQUENCY SELECTOR

NONE
4.80MHz
4.096MHz
3.072MHz
2.822MHz
2.40MHz
2.048MHz
1.536MHz
1.024MHz
768kHz

PWR IN
 OFF-ON
 SW600



KC10143 "Muskie" Microphone Evaluation Bd						
Item	Quan	Reference	Part	Description	Manuf#	Manuf Part#
1	4	C100,C101,C106,C107	100uF	CAP CER 100UF 10V X5R 1210	Taiyo Yuden	LMK325BJ107MM-T
2	48	C102,C103,C104,C105,C201,C204,C208,C209,C210,C211,C212,C213,C214,C215,C216,C217,C218,C219,C301,C302,C308,C310,C312,C314,C316,C318,C320,C400,C401,C402,C403,C404,C405,C406,C407,C501,C509,C517,C519,C521,C523,C525,C527,C601,C605,C606,C608,C702	0.1 uF	CAP CER 0.1UF 16V X5R 0402	Murata	GRM155R61C104KA88D
3	17	C200,C322,C323,C528,C529,C700,C701,C703,C707,C708,C709,C710,C712,C713,C714,C715,C716	1uF	CAP CER 1UF 16V X7R 0603	Samsung	CL10B105MO8NNWC
4	2	C202,C205	10nF	10nF 50V Ceramic Capacitor X7R 0603	Samsung	CL10B103KB8NCNC
5	2	C203,C207	15pf	CAP CER 15PF 16V NPO 0402	Kemet	C0402C150J4GACTU
6	2	C206,C220	33pF	CAP CER 0402 33PF 16V X7R 5% AUT	KEMET	C0402C330J4RACAUTO
7	4	C300,C306,C309,C321	220pF	220pF ±10% 50V Ceramic Capacitor X7R 0402	Yageo	CC0402KRX7R9BB221
8	22	C303,C305,C307,C311,C313,C315,C317,C319,C516,C518,C520,C522,C524,C526,C602,C604,C607,C609,C610,C611,C706,C711	10uF	CAP CER 10UF 16V X5R 0603	Murata	GRM188R61C106KAALD
9	1	C304	47uF	CAP CER 47UF 16V X5R 1206	TDK	C3216X5R1C476M160AB
10	4	C500,C507,C508,C515	1000pF	CAP CER 1000PF 25V NPO 0402	Murata	GRM1555C1E102JA01D
11	8	C502,C503,C505,C506,C510,C511,C513,C514	33uF	33µF ±20% 10V Ceramic Capacitor JB 0805	TDK	C2012JB1A336M125AC
12	2	C504,C512	1500pF	CAP CER 1500PF 25V NPO 0402	Samsung	C0402C152J5GAC7867
13	2	C600,C612	2.2uF	2.2µF ±10% 16V Ceramic Capacitor X5R 0603	Yageo	CC0603KRX5R7BB225
14	1	C603	3.9pF	3.9pF ±0.25pF 50V Ceramic Capacitor COG, NPO 0402	Murata	GRM1555C1H3R9CA01D
15	2	C704,C705	10pF	10pF ±10% 50V Ceramic Capacitor COG, NPO 0402	Johanson Dielectrics Inc.	500R07N100JV4T
16	1	D600	DZ23C5V6-7-F	Zener Diode Array 1 Pair Common Cathode 300mW ±5% SOT-23	Diodes Incorporated	DZ23C5V6-7-F
17	1	D700	NUP2114	TVS DIODE 5VWM 10VC 6TSOP	ON Semi	NUP2114UCMR6T1G
18	2	FB600,FB700	BLM21AG102SN1D	FERRITE BEAD 1 KOHM 0805 1LN	Murata	BLM21AG102SN1D
19	2	JP100,JP101	JMPR	3 Positions Header, Unshrouded Connector 0.100"	Amphenol	68000-103HLF
20	1	JP600	JMPR_TH_68000-102HLF	2 Positions Header, .100"	Amphenol	609-3500-ND
21	3	J100,J400,J402	CONN_EBM06DRTN	CONN EDGE DUAL FEMALE 12POS 0.156	Sullins	EBM06DRTN
22	2	J101,J102	DNP	CONN HEADER RT ANG 3POS .100	TE	640455-3
23	1	J200	HDR_20P_2x10	CONN HEADER 20POS .100" DBL	Samtec	TSW-110-07-F-D
24	2	J401,J403	JMPR	3 Positions Header, Unshrouded Connector 0.100"	Amphenol	68000-103HLF
25	2	J600,J700	10118194-0001LF	CONN USB MICRO B RECPT SMT R/A	Amphenol	10118194-0001LF
26	2	J601,J602	575-4	Banana Jack, TH, Terminal	Keystone	575-4
27	2	J701,J704	XLR	XLR Audio Connector, Plug, 3, PCB Mount	Neutrik	NC3MAAH-0
28	1	J702	CP-3524SJ (BLK)	3.5mm Headphone Phone Jack Stereo	CUI Inc.	SJ-3524-SMT-TR
29	1	LED600	Blue	LED BLUE CLEAR CHIP SMD	Lite On	LTST-C193TBKT-5A
30	1	L200	50mA	FERRITE BEAD 2.5 KOHM 0603 1LN	Murata	BLM18BD252SN1D
31	1	L600	10uH	10µH Shielded Wirewound Inductor 1A 460 mOhm	Murata	1239AS-H-100M=P2
32	2	L601,L602	4.7uH	4.7µH Shielded Inductor 1.5A 190 mOhm	Murata	DFE252012F-4R7M=P2
33	4	R100,R103,R108,R111	97.6	97.6 Ohms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film	Panasonic	ERA-3AEB97R6V
34	4	R101,R102,R109,R110	787	787 Ohms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Moisture Resistant Thin Film	Yageo	RT0603BRD07787RL
35	14	R104,R105,R322,R323,R326,R327,R548,R549,R550,R551,R552,R553,R703,R717	3.9	RES SMD 3.9 OHM 1% 1/10W 0603	Rohm	KTR03EZPF3R90
36	4	R106,R107,R112,R113	10K	10 kOhms ±0.5% 0.063W, 1/16W Chip Resistor 0603 (1608 Metric) Thin Film	Susumu	RR0816P-103-D
37	4	R114,R115,R116,R117	4.7k	RES SMD 4.7K OHM 1% 1/10W 0603	Yageo	RC0603FR-074K7L
38	2	R200,R605	1K	RES SMD 1K OHM 1% 1/10W 0603	Yageo	RC0603FR-071KL
39	25	R201,R202,R203,R204,R205,R207,R208,R217,R218,R315,R510,R511,R512,R513,R535,R536,R537,R538,R710,R711,R712,R713,R714,R715,R716	10k	RES SMD 10K OHM 1% 1/10W 0603	Yageo	RC0603FR-0710KL
40	12	R206,R209,R210,R211,R212,R213,R214,R215,R216,R219,R220,R221	82	RES SMD 82 OHM 1% 1/10W 0603	Yageo	RC0603FR-0782RL
41	4	R300,R313,R318,R328	825	RES SMD 825 OHM 0.5% 1/10W 0603 Thin Film	Yageo	RT0603DRD07825RL
42	9	R301,R308,R314,R319,R329,R509,R517,R527,R533	10	RES SMD 10 OHM 1% 1/10W 0603	Yageo	RC0603FR-0710RL
43	4	R302,R306,R321,R324	887	RES SMD 887 OHM 0.1% 1/10W 0603 Thin Film	Panasonic	ERA-3AEB8870V
44	3	R303,R304,R305	20K	RES SMD 20K OHM 1% 1/10W 0603	Yageo	RC0603FR-0720KL
45	8	R307,R316,R317,R320,R400,R401,R416,R607	0	RES SMD 0.00HM JUMPER 1/10W 0603	Yageo	RC0603FR-070RL
46	4	R309,R325,R514,R539	DNP	RES SMD 0 OHM JUMPER 1/16W 0402	Yageo	RC0402JR-070RL
47	5	R310,R311,R312,R701,R702	22	RES SMD 22 OHM 1% 1/10W 0603	Yageo	RC0603FR-0722RL
48	4	R330,R331,R332,R420	0	RES SMD 0 OHM JUMPER 1/16W 0402	Yageo	RC0402JR-070RL
49	16	R402,R403,R404,R406,R407,R408,R409,R410,R411,R412,R413,R414,R415,R417,R418,R419	100	RES SMD 100 OHM 1% 1/10W 0603	Yageo	RC0603FR-07100RL
50	8	R500,R503,R518,R523,R524,R528,R542,R547	1.78K	1.78 kOhms ±0.1% 0.063W, 1/16W Chip Resistor 0603 Thin Film	Vishay	MCT06030D1781BP500
51	8	R501,R505,R515,R520,R525,R530,R540,R544	374	RES SMD 374 OHM 1% 1/10W 0603	Panasonic	ERJ-3EKF3740V
52	4	R502,R516,R526,R541	2.26K	2.26 kOhms ±1% 0.1W, 1/10W Chip Resistor 0603	Yageo	RC0603FR-072K26L
53	4	R504,R519,R529,R543	1.1K	1.1 kOhms ±1% 0.063W, 1/16W Chip Resistor 0603 Thin Film	TE	CPF0603F1K1C1
54	4	R506,R521,R531,R545	232	RES SMD 232 OHM 1% 1/10W 0603	Yageo	RC0603FR-07232RL
55	4	R507,R522,R532,R546	34	RES SMD 34 OHM 1% 1/10W 0603	Yageo	RC0603FR-0734RL
56	2	R508,R534	115	115 Ohms ±1% 0.1W, 1/10W Chip Resistor 0603	Yageo	RC0603FR-07115RL

KC10143 "Muskie" Microphone Evaluation Bd						
Item	Quan	Reference	Part	Description	Manuf#	Manuf Part#
57	1	R600	487k	RES SMD 487K OHM 1% 1/10W 0603	Yageo	RC0603FR-07487KL
58	3	R601,R604,R704	330	RES SMD 330 OHM 1% 1/10W 0603	Yageo	RC0603FR-07330RL
59	1	R602	100k	RES SMD 100K OHM 1% 1/10W 0603	Yageo	RC0603FR-07100KL
60	1	R603	86.6k	RES SMD 86.6K OHM 1% 1/10W 0603	Yageo	RC0603FR-0786K6L
61	1	R606	324	RES SMD 324 OHM 0.1% 1/10W 0603	Panasonic	ERA-3AEB3240V
62	1	R608	180	RES SMD 180 OHM 1% 1/10W 0603	Panasonic	ERJ-3EKF1800V
63	1	R609	240	RES 240 OHM 1% 1/8W 0603	Vishay	MCT06030C2400FP500
64	1	R610	619	RES SMD 619 OHM 1% 1/10W 0603	Panasonic	ERJ-3EKF6190V
65	1	R611	158	RES SMD 158 OHM 1% 1/10W 0603	Yageo	RC0603FR-07158RL
66	1	R700	1.5k	RES SMD 1.5K OHM 1% 1/10W 0603	Yageo	RC0603FR-071K5L
67	1	R705	1M	RES SMD 1M OHM 1% 1/10W 0603	Yageo	RC0603FR-071ML
68	2	R706,R707	5.62K	5.62 kOhms ±1% 0.1W, 1/10W Chip Resistor 0603	Yageo	RC0603FR-075K62L
69	2	R708,R709	2.32K	2.32 kOhms ±1% 0.1W, 1/10W Chip Resistor 0603	Yageo	RC0603FR-072K32L
70	1	R718	1K	POT 1K OHM 1/20W LINEAR 1TURN	Bourns	PTV09A-4015F-B102
71	3	SW400,SW501,SW502	CL-SB-22B-01T	Slide Switch DPDT Surface Mount	Copal	CL-SB-22B-01T
72	3	SW500,SW503,SW601	SS-24E06-TG 5	SWITCH SLIDE DP4T 300MA 30V	C&K	SS-24E06-TG 5
73	1	SW600	1101M2S3CQE2	SWITCH SLIDE SPDT 6A 120V	C&K	1101M2S3CQE2
74	3	TP608,TP609,TP610	TP_150x80	PC TEST POINT MINI SMD	Keystone	5019
75	2	U100,U501	LT6232	General Purpose Amplifier 4 Circuit Rail-to-Rail	Linear Technology	LT6232IGN#PBF
76	1	U200	MK2705SLF	IC AUDIO CLOCK SOURCE 8-SOIC	IDT	MK2705SLF
77	1	U201	74HC148	Encoder 1 x 8:3	TI	SN74HC148DR
78	3	U203,U205,U206	74LVC163	Counter IC Binary Counter 1 Element 4 Bit Positive Edge	NXP	74LVC163PW,118
79	1	U204	74LVC1G04	IIC SINGLE INVERTER GATE SC70-5	TI	SN74LVC1G04DCKR
80	1	U207	74AUP2G34DW-7	IC BUF NON-INVERT 3.6V SOT363	Diodes Inc	74AUP2G34DW-7
81	1	U208	74LVC1G00	IC GATE NAND 1CH 2-INP SC70-5	TI	SN74LVC1G00MDCKREP
82	3	U209,U210,U213	74LVC1G08	C GATE AND 1CH 2-INP SC-70-5	TI	SN74LVC1G08QDCKRQ1
83	1	U212	74HC21	IC GATE AND 2CH 4-INP 14TSSOP	TI	SN74HC21PWR
84	1	U214	74LVC125APW	IC BUFF DVR TRI-ST QD 14TSSOP	Nexperia	74LVC125APW
85	2	U215,U402	74LVC1G157	IC MULTIPLEXER 2INPUT 6TSOP	TI	SN74LVC1G57DBVR
86	4	U300,U302,U500,U502	OPA1632	IC OPAMP AUDIO 180MHZ 8SOIC	TI	OPA1632DR
87	1	U301	PCM1794A	DAC, Audio 24 bit 200k I ² S 28-SSOP	TI	PCM1794ADBR
88	1	U400	Value	AUDIO CODEC AC'97 VOLTAGE-TRANSLATION TRANSCEIVER	TI	SN74AVC6T622PWR
89	1	U401	ADAU7002	Stereo PDM-to-I2S	Analog Devices	ADAU7002ACBZ-R7
90	1	U600	RT6150AGQW	Buck-Boost Switching Regulator IC Positive Adj 800mA	Richtek	RT6150AGQW
91	1	U601	TPS65133DPDR	Voltage Regulator IC 2 Output 12-WSON	TI	TPS65133DPDR
92	1	U602	LDK220	Linear Voltage Regulator Adjustable 200mA SOT-23-5	STMicro	LDK220M-R
93	1	U700	PCM2900CDB	Stereo Audio Interface 16 b USB 28-SSOP	TI	PCM2900CDB
94	1	U701	MAX9722AETE	Amplifier IC Headphones, 2-Channel (Stereo) Class AB	Maxim	MAX9722AETE+T
95	1	Y200	27MHz	27MHz ±20ppm Crystal 18pF 40 Ohm	CTS	445C25D27M00000
96	1	Y201	19.2MHz	19.2MHz XO Oscillator 3.3V Enable/Disable 4-SMD,	ECS Inc.	ECS-1633-192-BN-TR
97	1	Y700	12MHz	12MHz ±20ppm Crystal 18pF 50 Ohm	CTS	445I23D12M00000
98	1	Z1	DZ2W03900L	DIODE ZENER 3.9V 1W MINI2	Panasonic	DZ2W03900L
99	4	N/A	N/A	HEX STANDOFF #4-40 ALUMINUM 1"	RAF Electronic Hardware	2112-440-AL
100	4	N/A	N/A	MACHINE SCREW PAN PHILLIPS 4-40	Keystone	9900
101	1	PCB	KC10143	Printed Circuit Board	Knowles	KC10143
102	1	USB Cable	N/A	USB Cable	Stewart Connector	SC-2AMK003F
103	6	Jumper	N/A	Jumper	Sullins	QPC02SXGN-RC
Total Part Count	385					