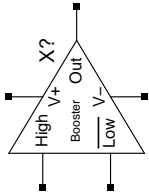
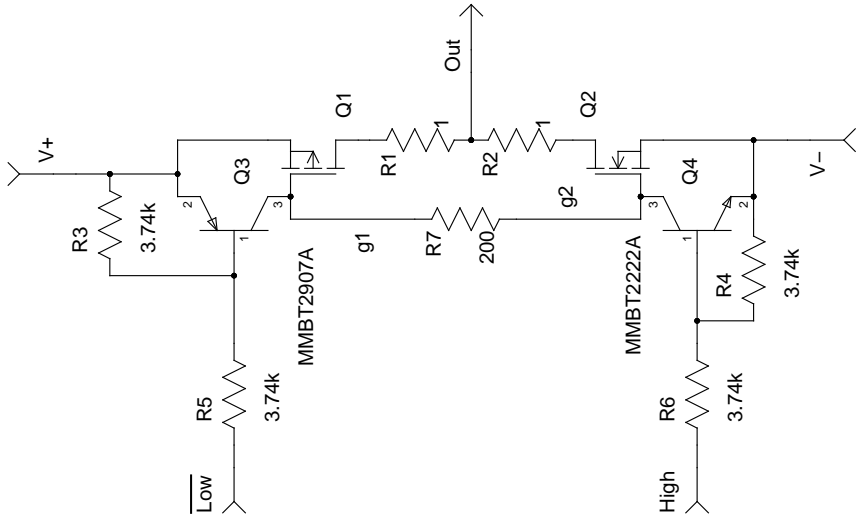


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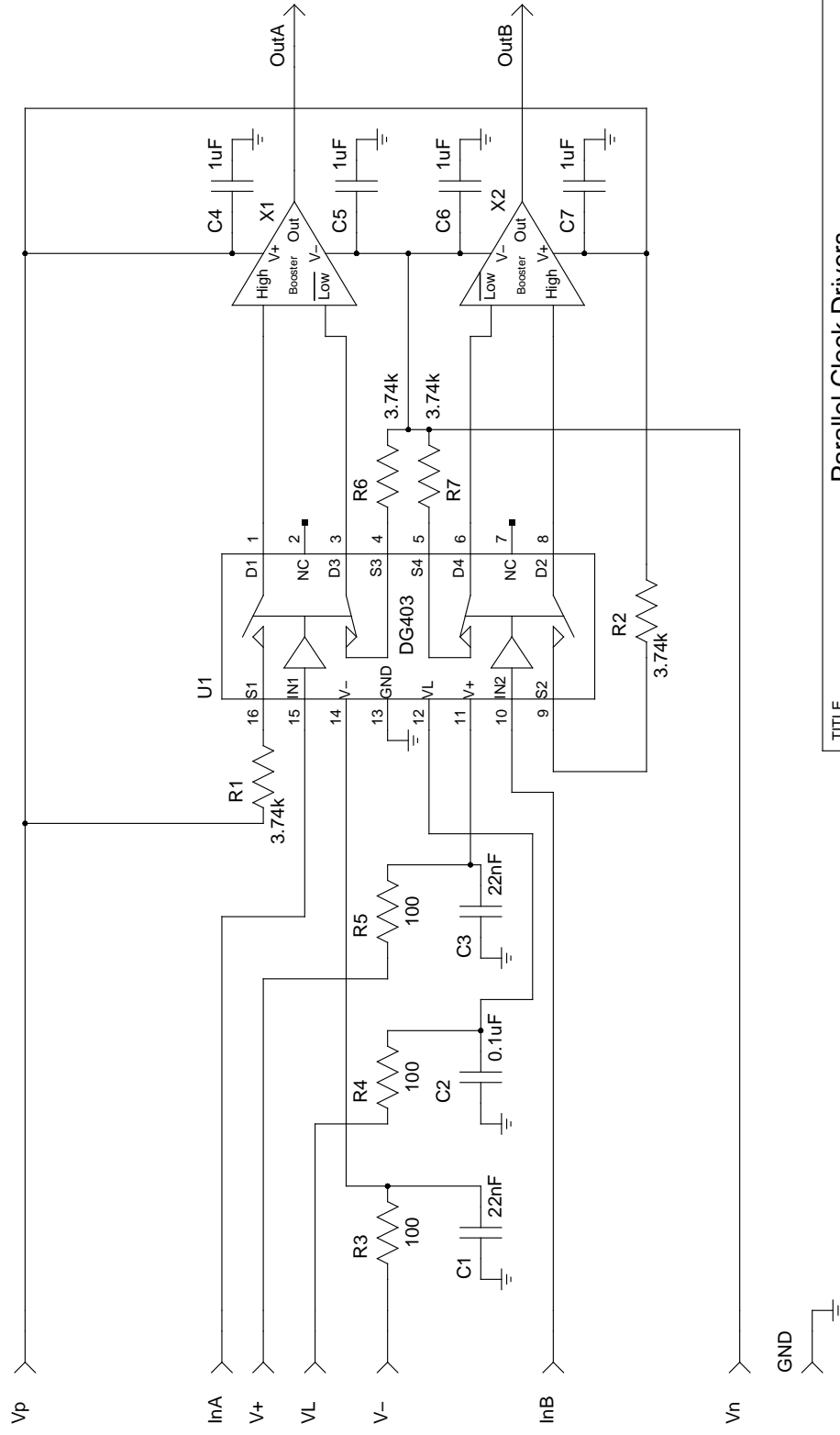
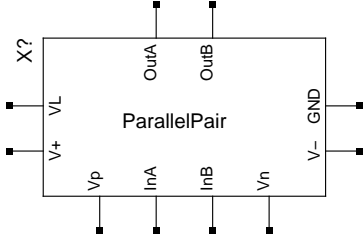


TITLE Parallel clock current booster			
FILE: Booster.sch			
DATE Wed Apr 22 11:45:20 2015 -0600	REVISION: FPE-6.1-RR4		
PAGE 1	OF 1	DRAWN BY: jpd	

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Parallel Clock Drivers

TITLE ParallelPair.sch

FILE: ParallelPair.sch

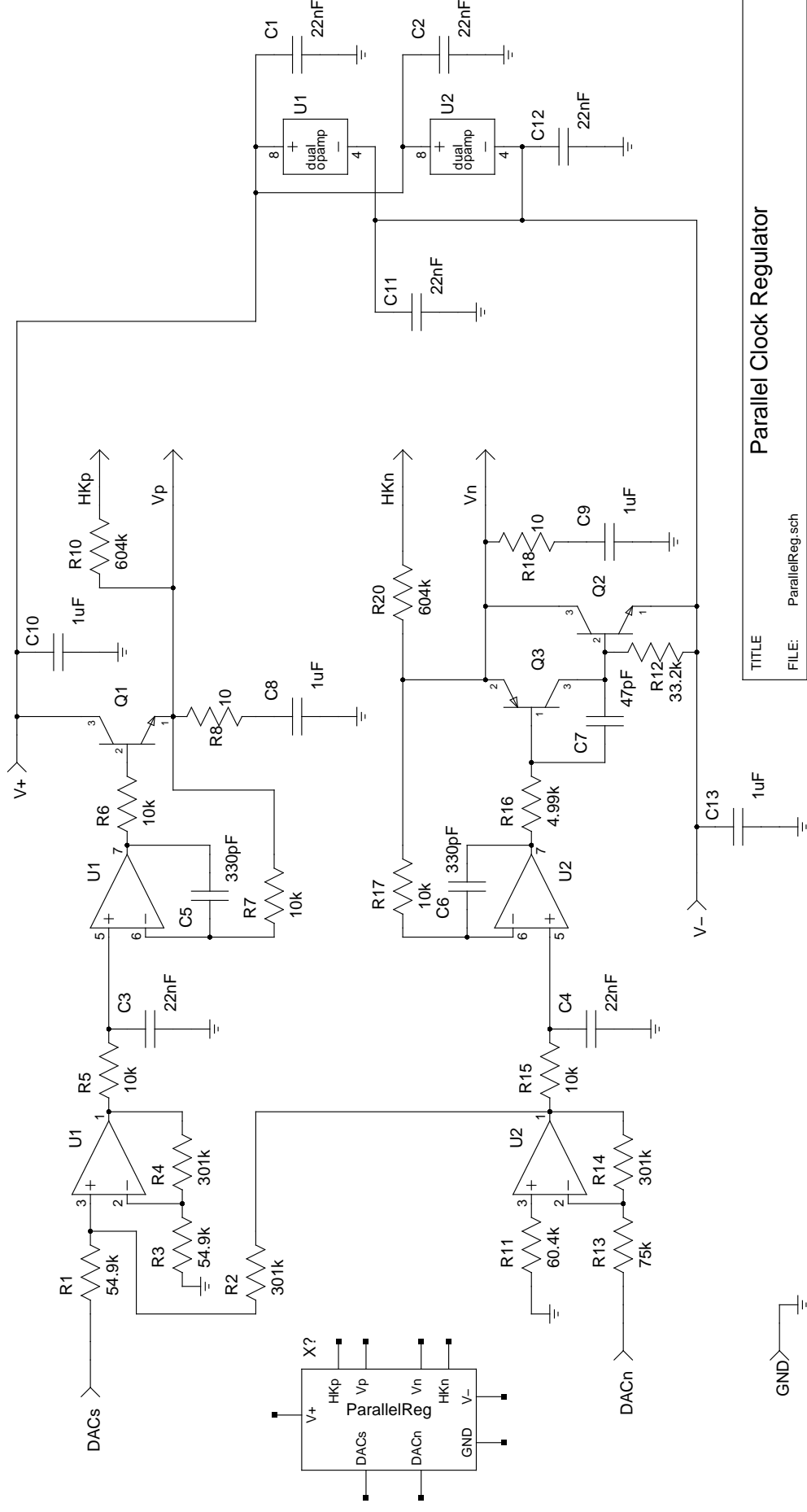
DATE Wed Apr 22 11:45:20 2015 -0600 REVISION: FPE-6.1-RR4

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Parallel Clock Regulator

FILE: ParallelReg.sch

DATE: Wed Apr 22 11:45:20 2015 -0600

REVISION: FPE-6.1-RR4

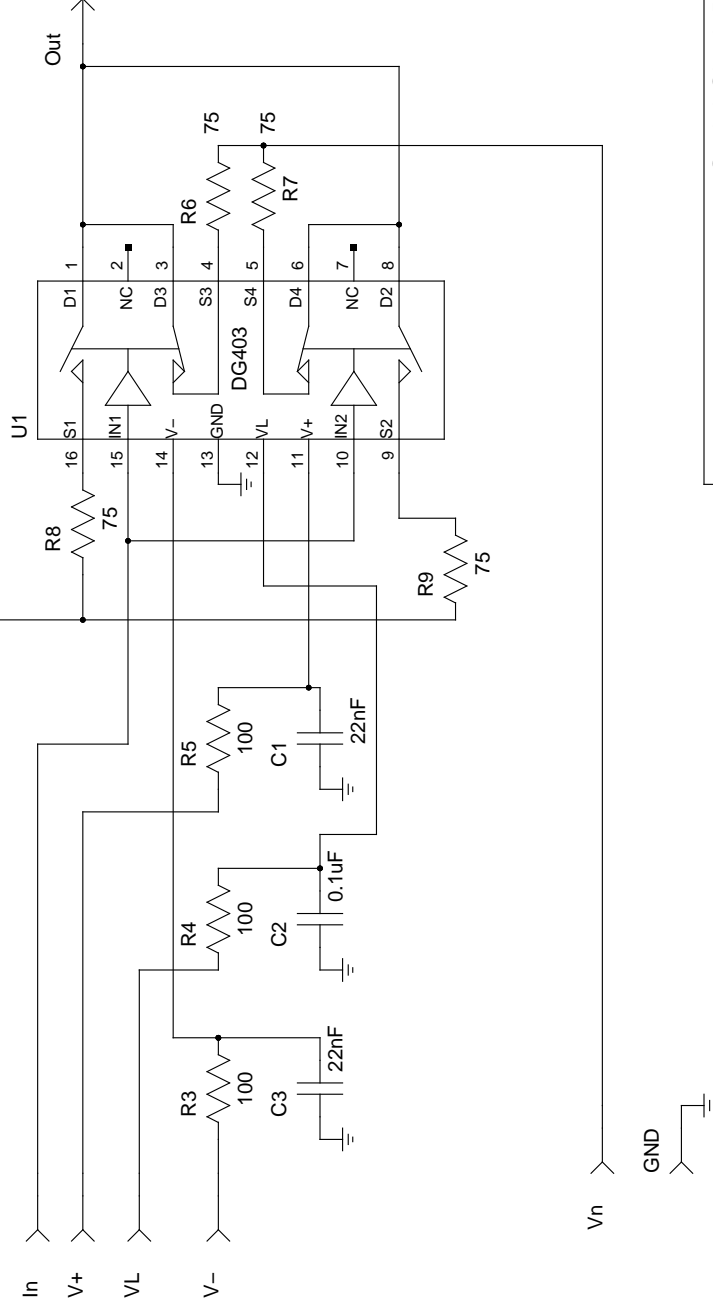
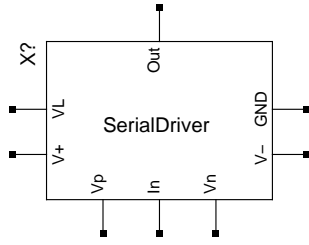
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.subckt SerialDriver %up



Serial Clock Driver

TITLE SerialDriver.sch

FILE: SerialDriver.sch

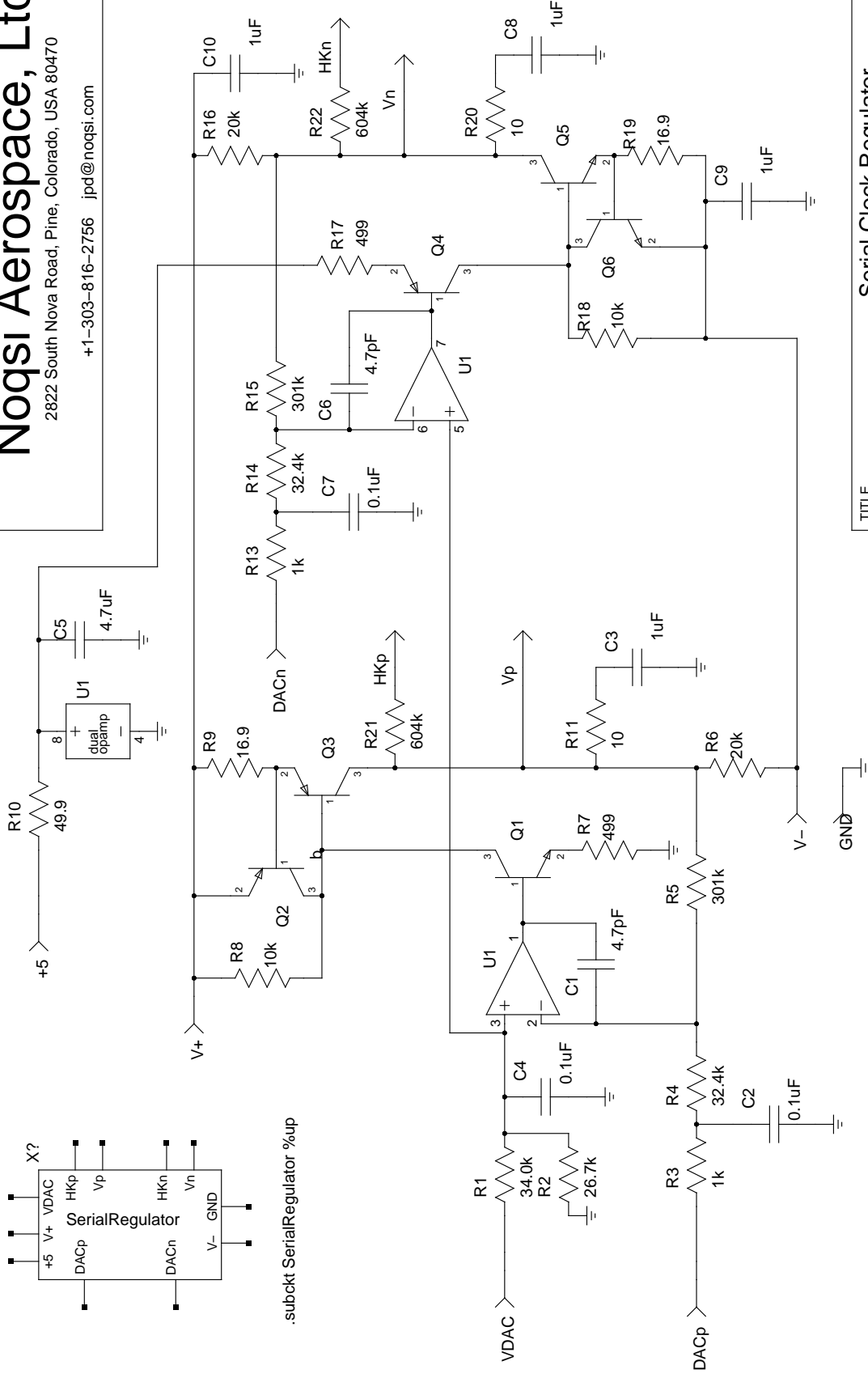
DATE Wed Apr 22 11:45:20 2015 -0600 REVISION: FPE-6.1-RR4

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Serial Clock Regulator

FILE: SerialRegulator.sch

DATE Wed Apr 22 11:45:20 2015 -0600 REVISION: FPE-6.1-RR4

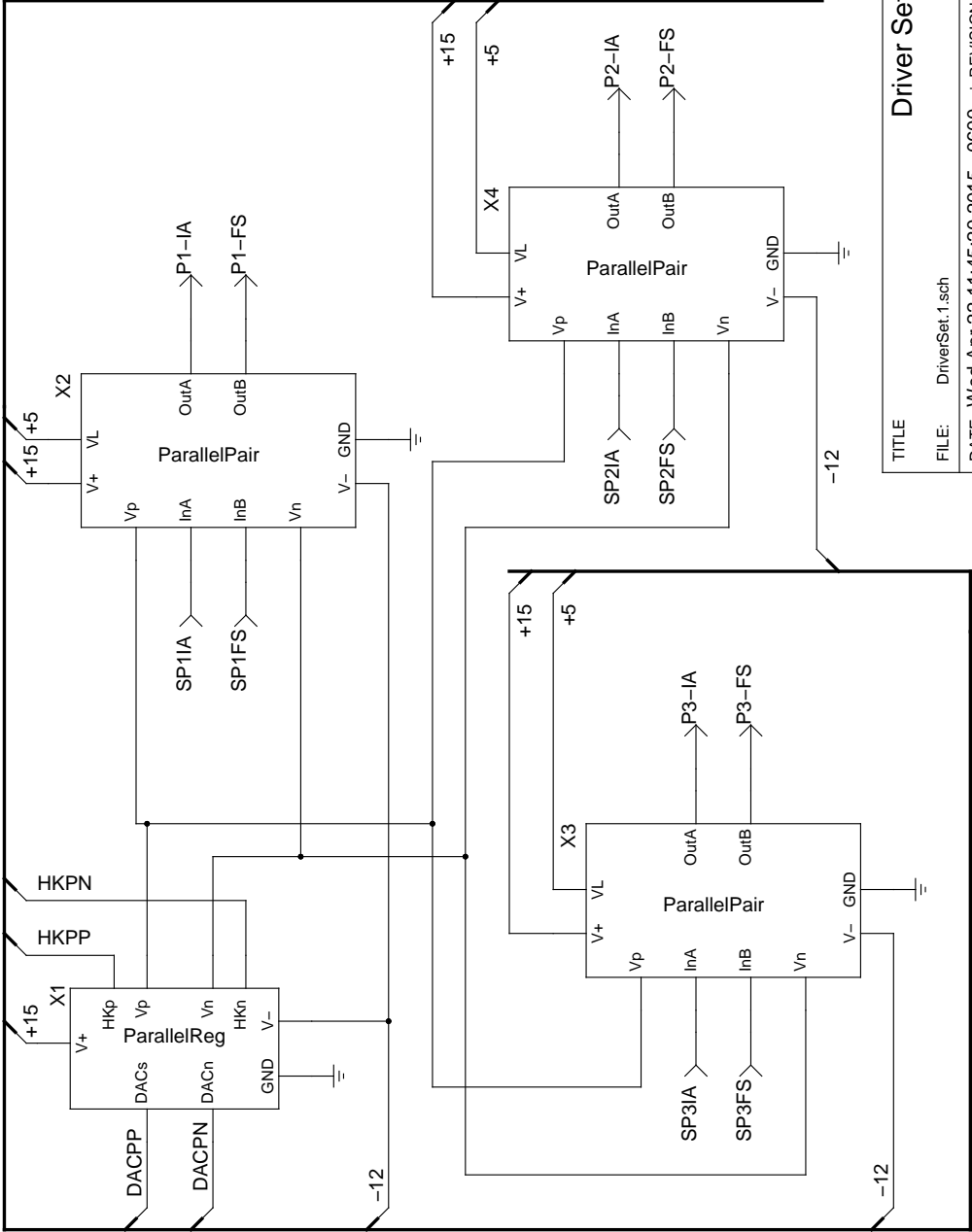
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Parallel Clock Drivers



Driver Set

TITLE DriverSet.1.sch

FILE: DriverSet.1.sch

DATE Wed Apr 22 11:45:20 2015 -0600

REVISION: FPE-6.1-RR4

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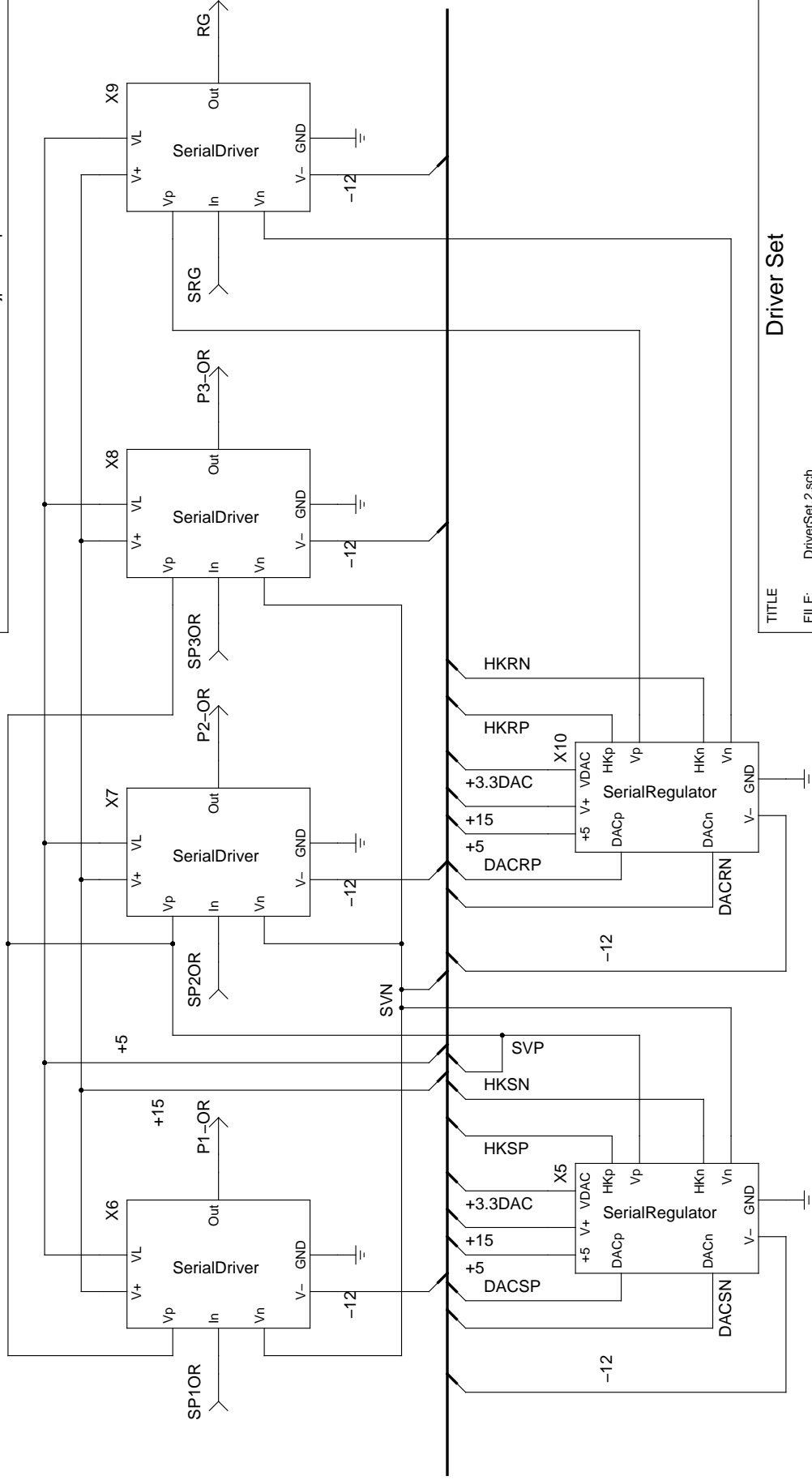
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Serial Clock Drivers



Driver Set

FILE: DriverSet.2.sch

DATE: Wed Apr 22 11:45:20 2015 -0600

REVISION: FPE-6.1-RR4

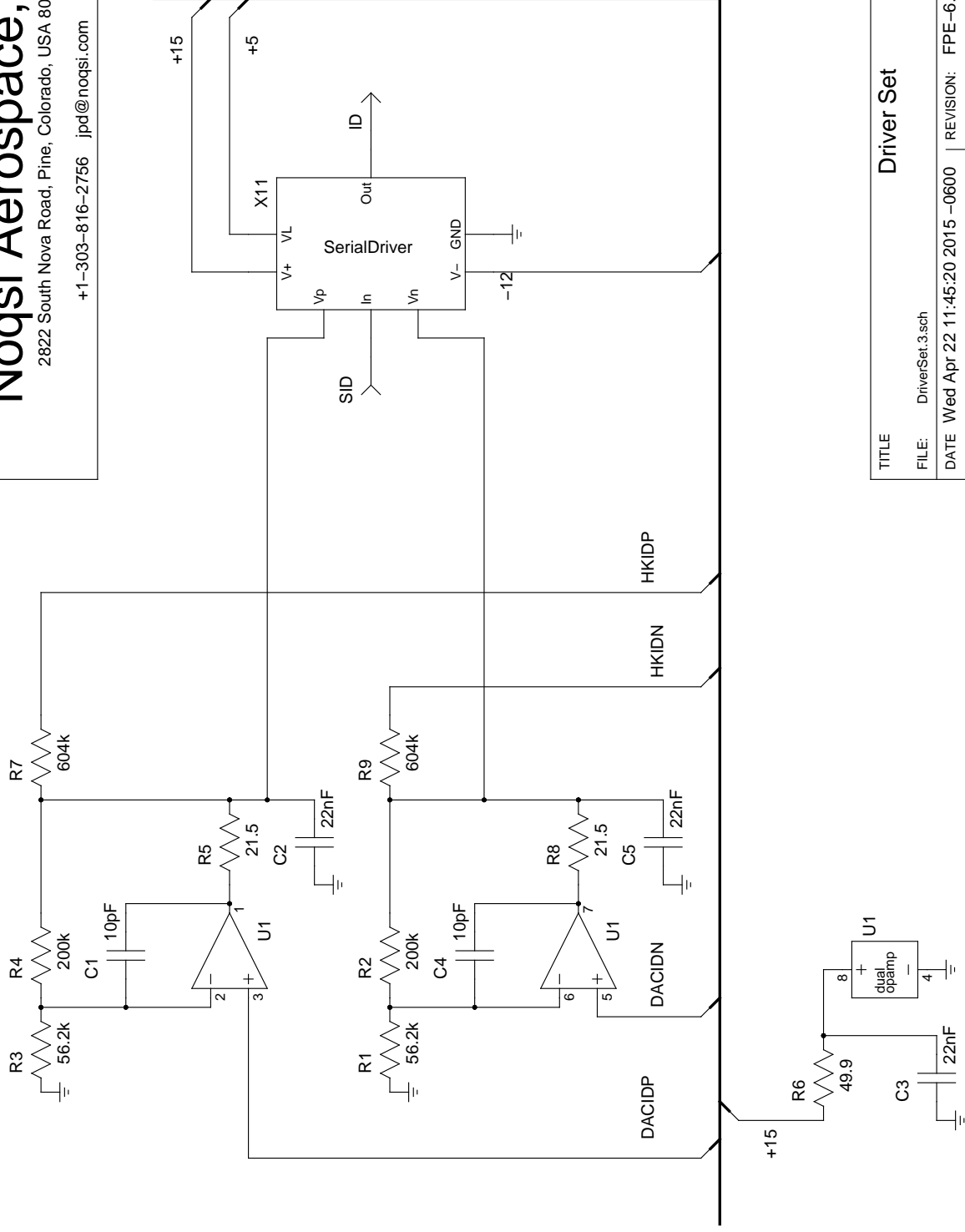
PAGE 2 OF 5

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Driver Set

TITLE DriverSet.3.sch

FILE: DriverSet.3.sch

DATE Wed Apr 22 11:45:20 2015 -0600

REVISION: FPE-6.1-RR4

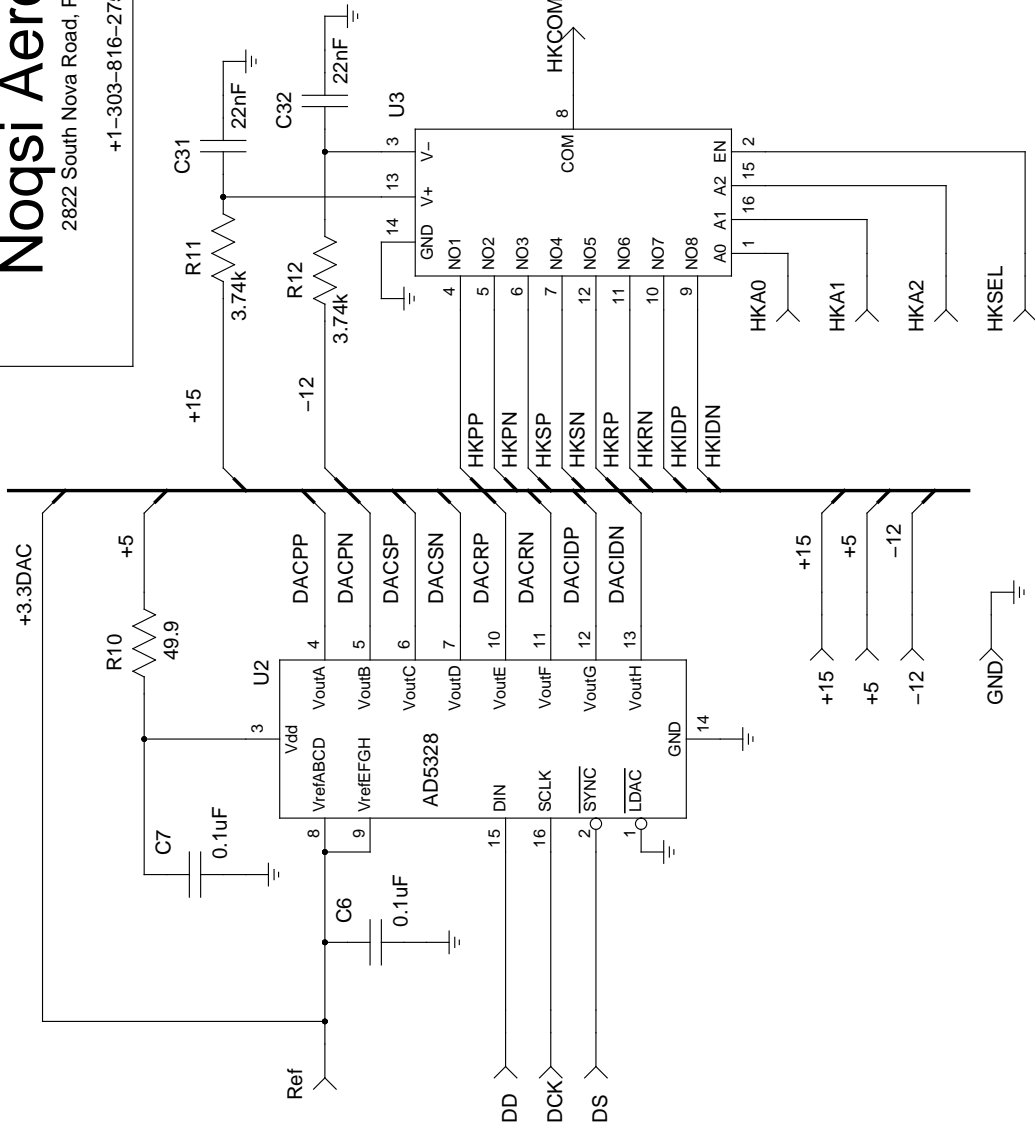
PAGE 3 OF 5

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Driver Set

TITLE DriverSet.4.sch

FILE: DriverSet.4.sch

DATE Wed Apr 22 11:45:20 2015 -0600

REVISION: FPE-6.1-RR4

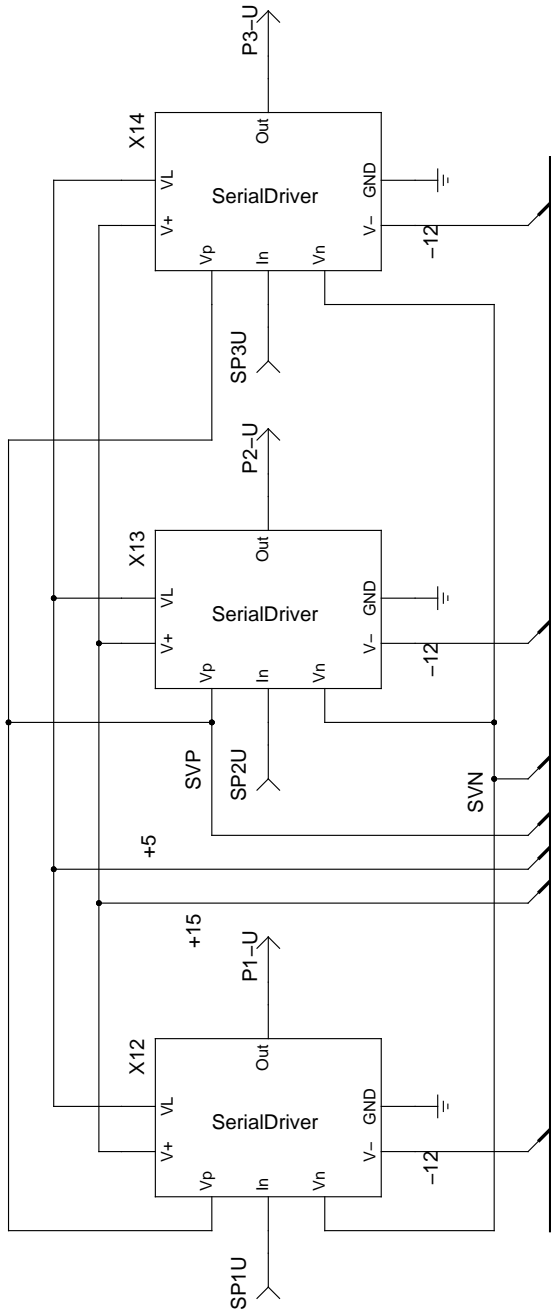
PAGE 4 OF 5

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Driver Set

FILE: DriverSet.5.sch

DATE: Wed Apr 22 11:45:20 2015 -0600

REVISION: FPE-6.1-RR4

PAGE: 5

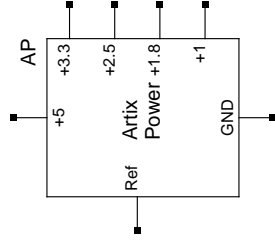
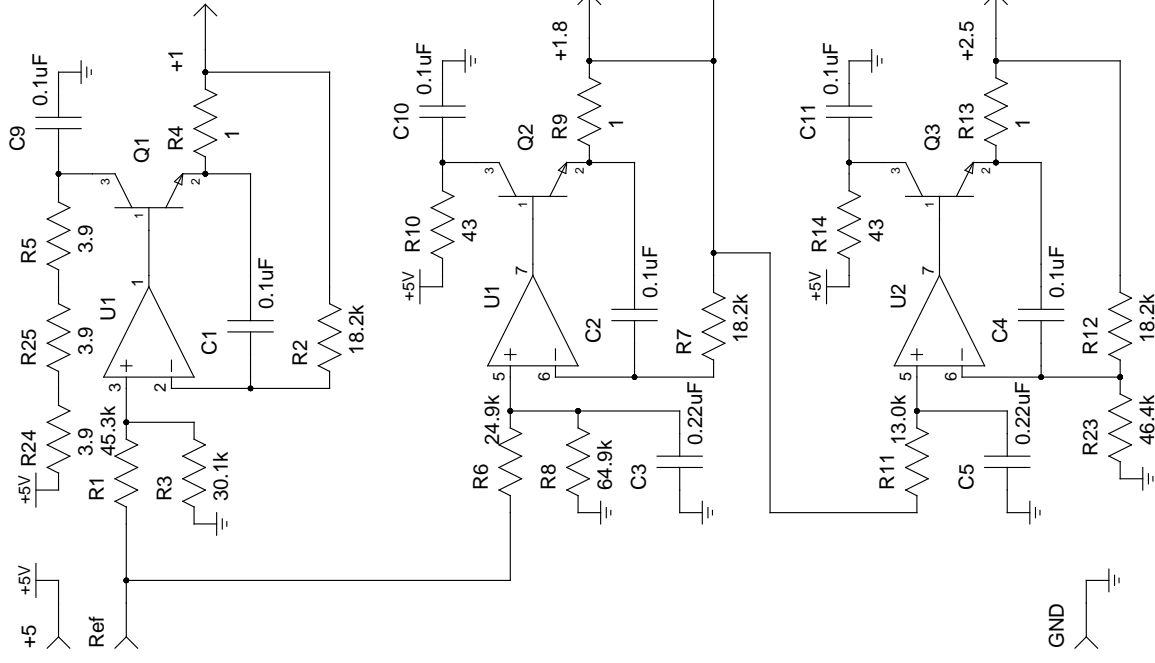
OF: 5

DRAWN BY: jpd

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.subckt ArtixPower %up

Artix Power

FILE: ArtixPower.sch

DATE Wed Apr 22 11:45:20 2015 -0600 REVISION: FPE-6.1-RR4

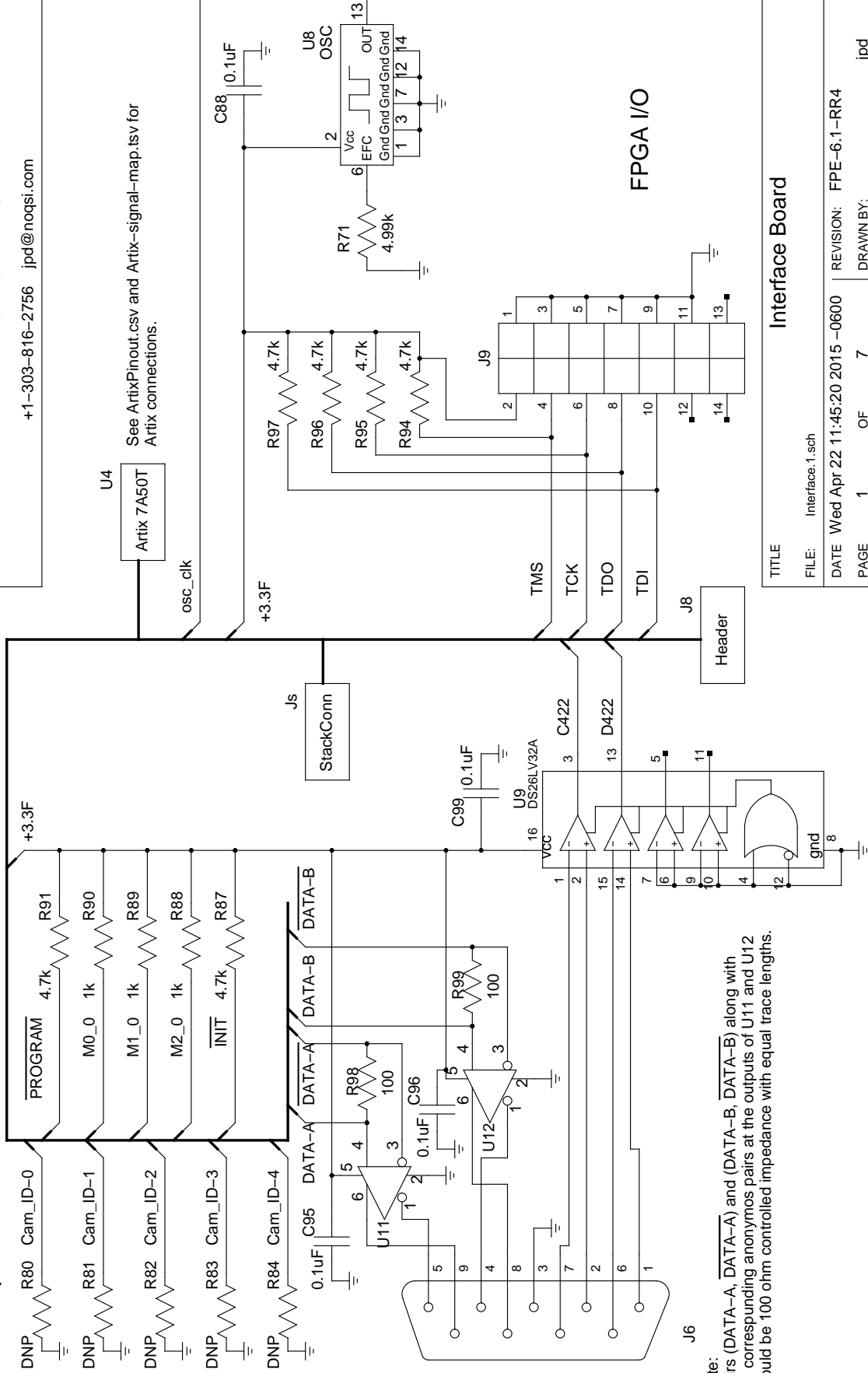
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Encode board serial number
by populating selected R80–R84
with zero-ohm resistors for
each binary zero.

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Note:
Pairs (DATA-A, DATA-B) and (DATA-B, DATA-A) along with
the corresponding anonymous pairs at the outputs of U11 and U12
should be 100 ohm controlled impedance with equal trace lengths.

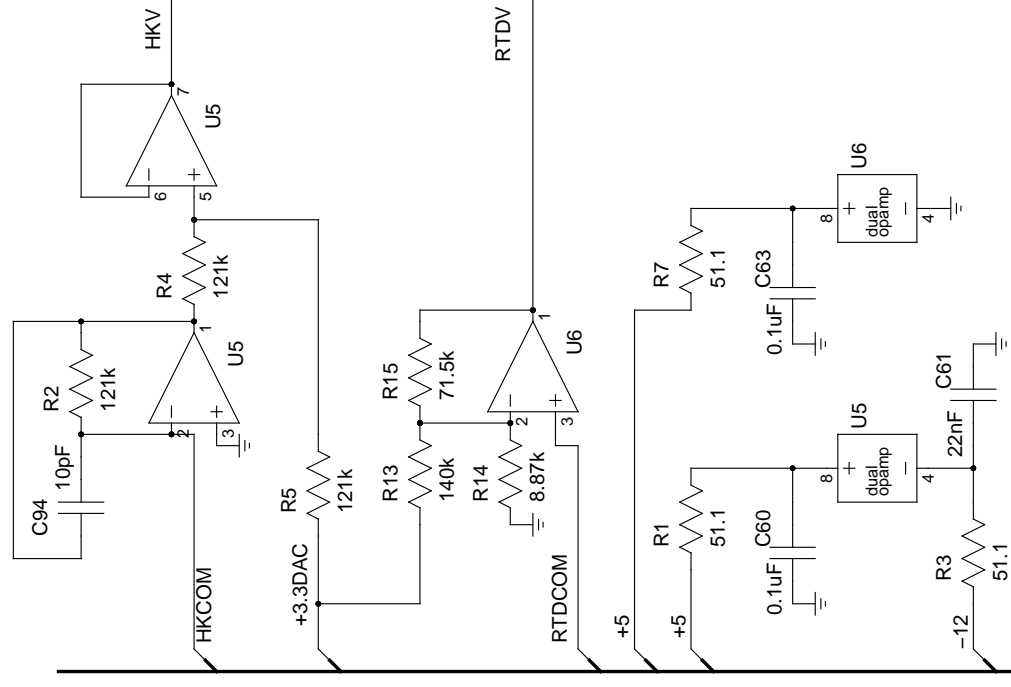
Interface Board

TITLE: Interface.1.sch
FILE: Interface.1.sch

DATE: Wed Apr 22 11:45:20 2015 -0600 REVISION: FPE-6.1-RR4

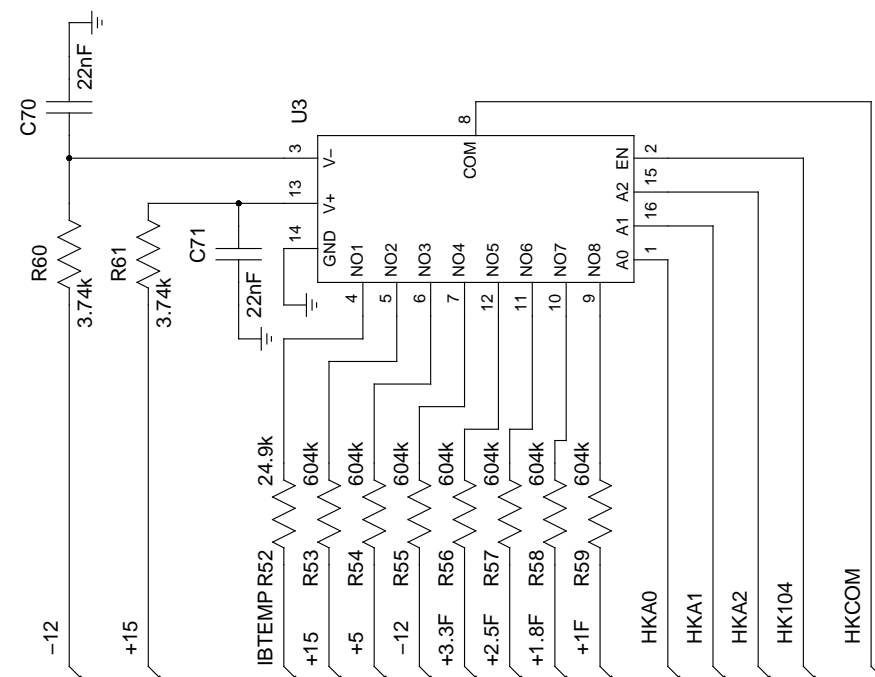
PAGE: 1 OF 7 DRAWN BY: jpd

Housekeeping



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Interface Board

TITLE: Interface.2.sch

FILE: Interface.2.sch

DATE: Wed Apr 22 11:45:20 2015 -0600

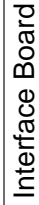
REVISION: FPE-6.1-RR4

PAGE: 2 OF 7

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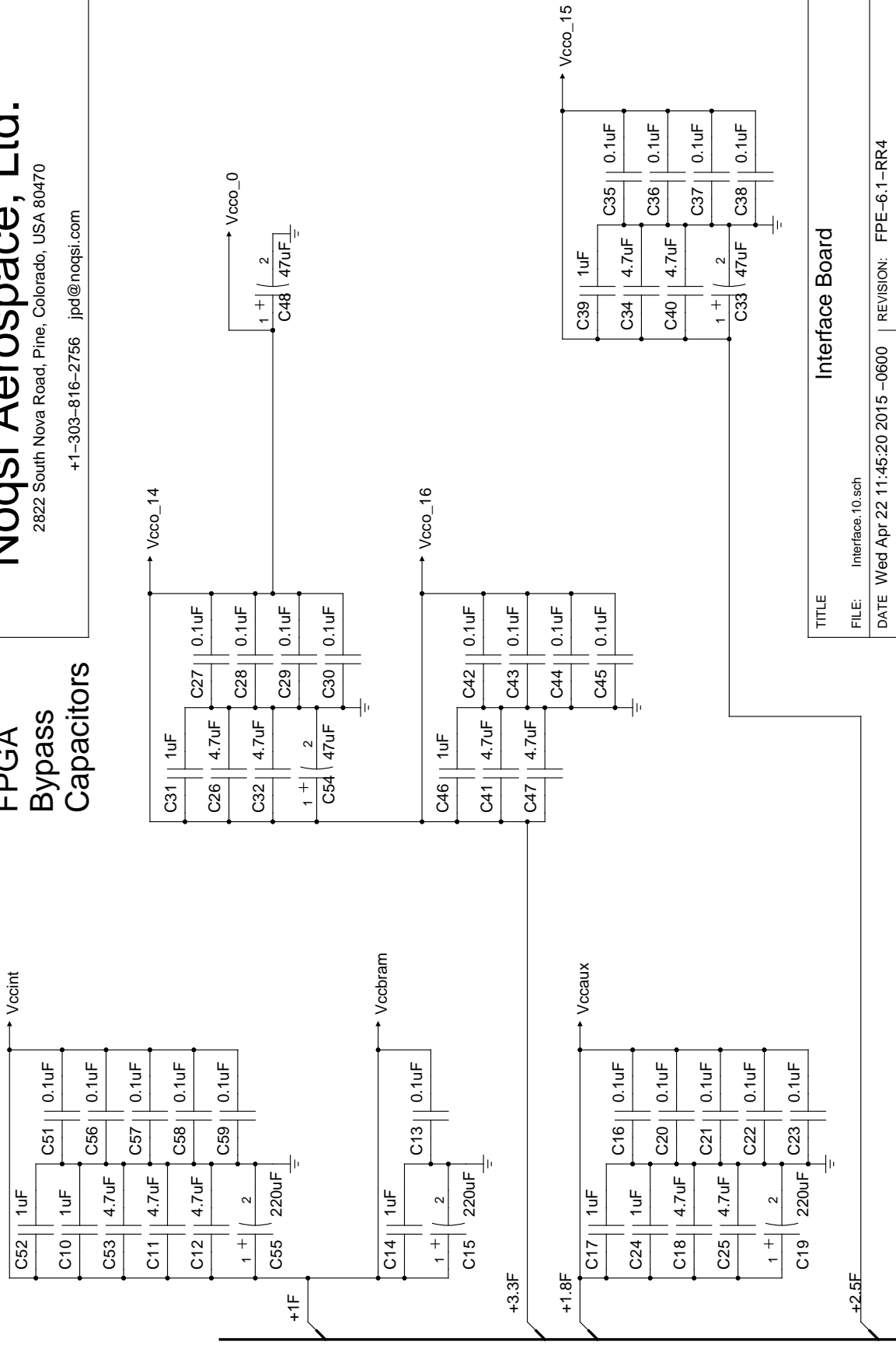
Interface Board		
TITLE		
FILE:	Interface.3.sch	
DATE	Wed Apr 21 11:45:20 2015	-0600
PAGE	3	OF 7
REVISION:	FPE-6.1-RR4	
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FPGA
Bypass
Capacitors

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Interface Board

TITLE
FILE: Interface.10.sch

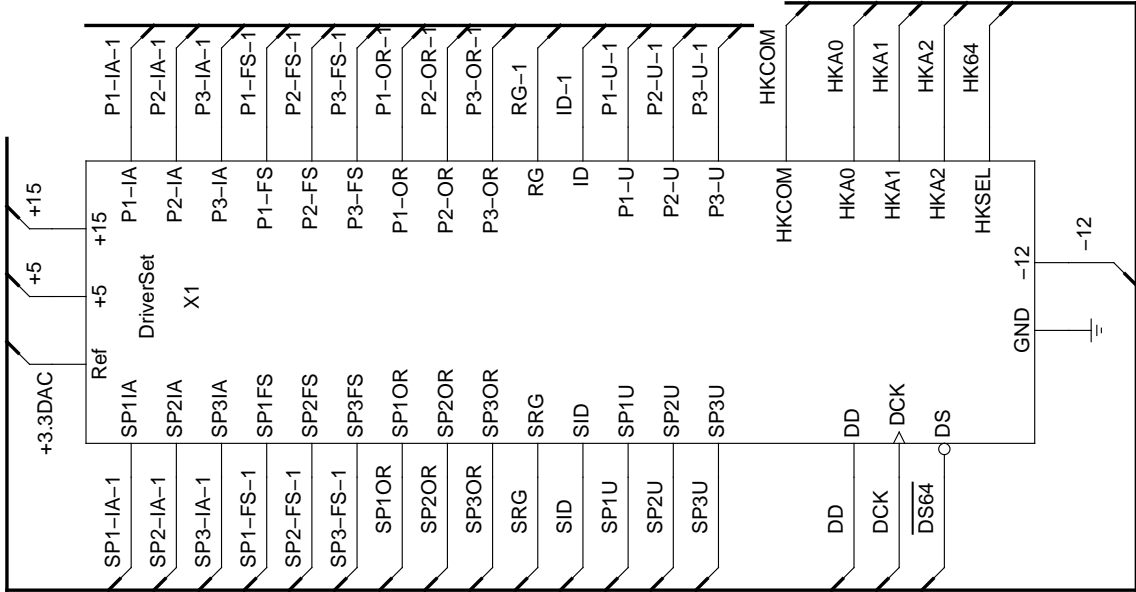
DATE Wed Apr 22 11:45:20 2015 -0600 REVISION: FPE-6.1-RR4

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TITLE

Interface Board

FILE: Interface.5.sch

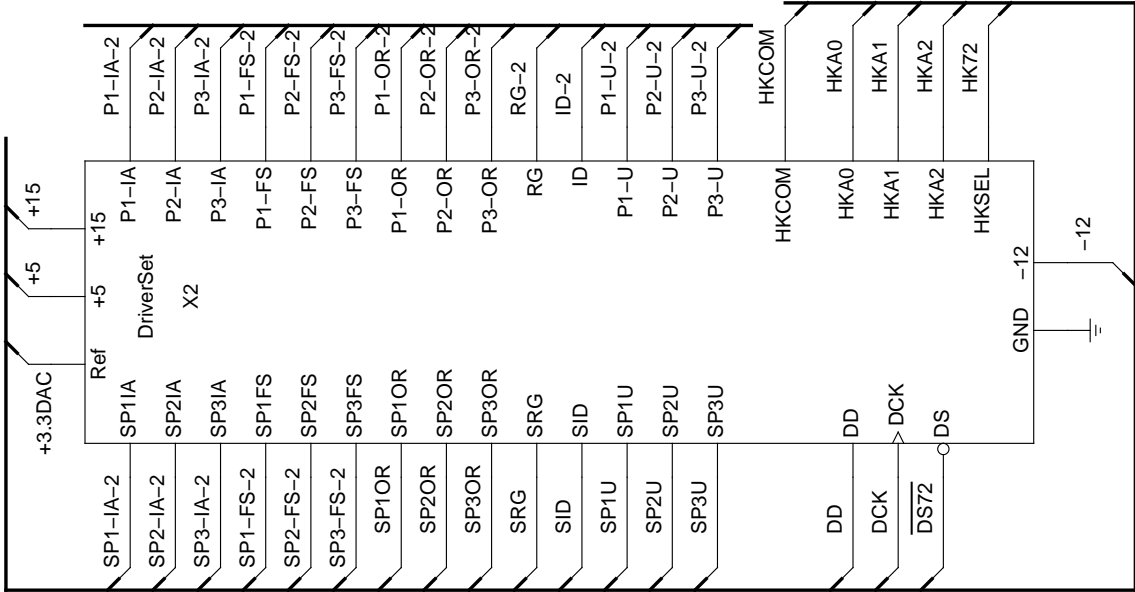
DATE Wed Apr 22 11:45:20 2015 -0600 REVISION: FPE-6.1-RR4

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TITLE

Interface Board

FILE: Interface 6.sch

DATE Wed Apr 22 11:45:20 2015 -0600 REVISION: FPE-6.1-RR4

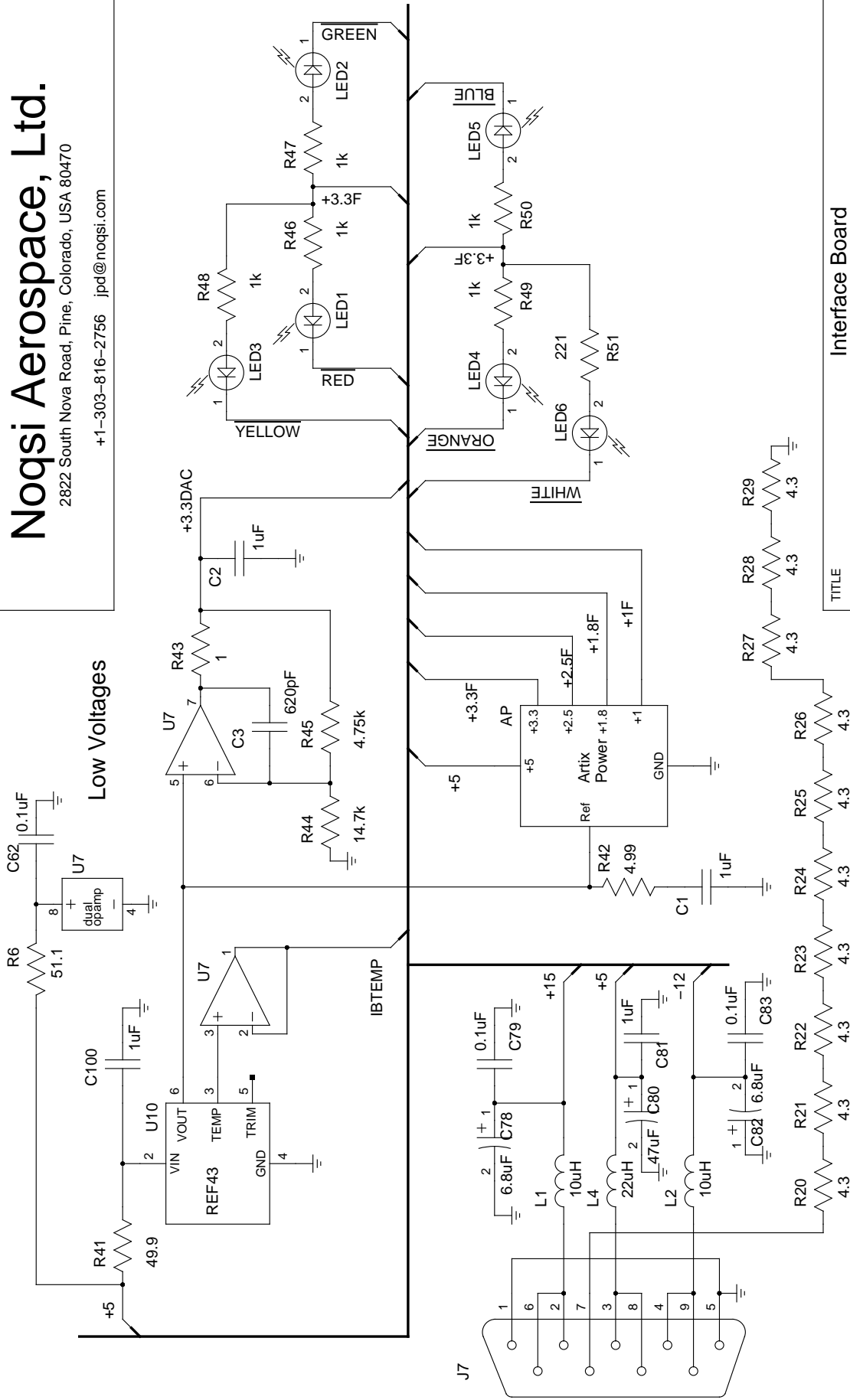
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Low Voltages



Interface Board

R20-R29 are the survival heater. Arrange these in a circle around the outside of the board to spread the heat.

FILE: Interface.9.sch

DATE: Wed Apr 22 11:45:20 2015 -0600

REVISION: FPE-6.1-RR4

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Interface.J8.txt

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J8	1	GND
J8	2	ArtixDebug7
J8	3	GND
J8	4	ArtixDebug6
J8	5	GND
J8	6	DONE_0
J8	7	GND
J8	8	M0_0
J8	9	GND
J8	10	M1_0
J8	11	GND
J8	12	M2_0
J8	13	GND
J8	14	_INIT_
J8	15	GND
J8	16	_PROGRAM_

Apr 17, 15 13:27

Interface.U4.txt

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U4	F18	SP1-IA-4	CCD_IA1_pin[3]
U4	B20	SP1-IA-3	CCD_IA1_pin[2]
U4	E18	SP1-IA-2	CCD_IA1_pin[1]
U4	A20	SP1-IA-1	CCD_IA1_pin[0]
U4	B21	SP2-IA-4	CCD_IA2_pin[3]
U4	A21	SP2-IA-3	CCD_IA2_pin[2]
U4	C22	SP2-IA-2	CCD_IA2_pin[1]
U4	B22	SP2-IA-1	CCD_IA2_pin[0]
U4	C13	SP3-IA-4	CCD_IA3_pin[3]
U4	B15	SP3-IA-3	CCD_IA3_pin[2]
U4	B16	SP3-IA-2	CCD_IA3_pin[1]
U4	B13	SP3-IA-1	CCD_IA3_pin[0]
U4	D16	SP1-FS-4	CCD_FS1_pin[3]
U4	E14	SP1-FS-3	CCD_FS1_pin[2]
U4	C14	SP1-FS-2	CCD_FS1_pin[1]
U4	E13	SP1-FS-1	CCD_FS1_pin[0]
U4	E22	SP2-FS-4	CCD_FS2_pin[3]
U4	E21	SP2-FS-3	CCD_FS2_pin[2]
U4	D22	SP2-FS-2	CCD_FS2_pin[1]
U4	D21	SP2-FS-1	CCD_FS2_pin[0]
U4	D14	SP3-FS-4	CCD_FS3_pin[3]
U4	D15	SP3-FS-3	CCD_FS3_pin[2]
U4	C15	SP3-FS-2	CCD_FS3_pin[1]
U4	E16	SP3-FS-1	CCD_FS3_pin[0]
U4	L21	SDO-D-4	CCD_ADC_Sdi_pin[15]
U4	K19	SDO-C-4	CCD_ADC_Sdi_pin[14]
U4	H15	SDO-B-4	CCD_ADC_Sdi_pin[13]
U4	G17	SDO-A-4	CCD_ADC_Sdi_pin[12]
U4	K18	SDO-D-3	CCD_ADC_Sdi_pin[11]
U4	G18	SDO-C-3	CCD_ADC_Sdi_pin[10]
U4	J20	SDO-B-3	CCD_ADC_Sdi_pin[9]
U4	J14	SDO-A-3	CCD_ADC_Sdi_pin[8]
U4	J21	SDO-D-2	CCD_ADC_Sdi_pin[7]
U4	M21	SDO-C-2	CCD_ADC_Sdi_pin[6]
U4	L20	SDO-B-2	CCD_ADC_Sdi_pin[5]
U4	J15	SDO-A-2	CCD_ADC_Sdi_pin[4]
U4	J19	SDO-D-1	CCD_ADC_Sdi_pin[3]
U4	H14	SDO-C-1	CCD_ADC_Sdi_pin[2]
U4	H19	SDO-B-1	CCD_ADC_Sdi_pin[1]
U4	N22	SDO-A-1	CCD_ADC_Sdi_pin[0]
U4	V18	HKA2	HSK_ADC_Sel_pin[2]
U4	V19	HKA1	HSK_ADC_Sel_pin[1]
U4	AB20	HKA0	HSK_ADC_Sel_pin[0]
U4	L18	ArtixDebug7	DebugStatus_pins[7]
U4	K21	ArtixDebug6	DebugStatus_pins[6]
U4	H18	_RED_	DebugStatus_pins[5]
U4	K22	_ORANGE_	DebugStatus_pins[4]
U4	G20	_YELLOW_	DebugStatus_pins[3]
U4	H20	_GREEN_	DebugStatus_pins[2]
U4	J22	_BLUE_	DebugStatus_pins[1]
U4	H22	_WHITE_	DebugStatus_pins[0]
U4	F13	Cam_ID-4	Cam_ID_pin[4]
U4	E17	Cam_ID-3	Cam_ID_pin[3]
U4	F15	Cam_ID-2	Cam_ID_pin[2]
U4	F14	Cam_ID-1	Cam_ID_pin[1]
U4	F16	Cam_ID-0	Cam_ID_pin[0]
U4	E19	osc_clk	osc_clk_60_pin
U4	Y18	cwclk	ChargePumpClk_pin
U4	R18	SP1U	CCD_SU1_pin

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Interface.U4.txt

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U4	N13	SP2U	CCD_SU2_pin
U4	N14	SP3U	CCD_SU3_pin
U4	R17	SP1OR	CCD_S1_pin
U4	N17	SP2OR	CCD_S2_pin
U4	P17	SP3OR	CCD_S3_pin
U4	R16	SRG	CCD_RstGate_pin
U4	P15	SID	CCD_InDiode_pin
U4	L16	Clamp	CCD_ADC_Clamp_pin
U4	L14	DeInt	CCD_ADC_DeInt_pin
U4	L15	Int	CCD_ADC_Int_pin
U4	K16	CNV	CCD_ADC_Cnv_pin
U4	K17	SCK	CCD_ADC_Sck_pin
U4	R22	D422	Cmd_DIN_pin
U4	U20	C422	Cmd_SCK_pin
U4	G15	DATA-A	dataA_out_pin_p
U4	H13	DATA-B	dataB_out_pin_p
U4	G16	_DATA-A_	dataA_out_pin_n
U4	G13	_DATA-B_	dataB_out_pin_n
U4	AA21	HKC	HSK_ADC_Sck_pin
U4	Y22	HKD	HSK_ADC_Sdi_pin
U4	AA20	_HKCS_	HSK_ADC_Cnv_pin
U4	W21	HK0	HSK_ADC_0_pin
U4	W22	HK8	HSK_ADC_8_pin
U4	U22	HK16	HSK_ADC_16_pin
U4	V22	HK24	HSK_ADC_24_pin
U4	Y21	HK32	HSK_ADC_32_pin
U4	T19	HK40	HSK_ADC_40_pin
U4	T20	HK48	HSK_ADC_48_pin
U4	P21	HK56	HSK_ADC_56_pin
U4	P19	HK64	HSK_ADC_64_pin
U4	T21	HK72	HSK_ADC_72_pin
U4	U21	HK80	HSK_ADC_80_pin
U4	R19	HK88	HSK_ADC_88_pin
U4	R21	HK96	HSK_ADC_96_pin
U4	U17	HK104	HSK_ADC_104_pin
U4	W17	HK112	HSK_ADC_112_pin
U4	P20	HK120	HSK_ADC_120_pin
U4	J17	_DS0_	CLS_DCS_0_pin
U4	M13	_DS8_	CLS_DCS_8_pin
U4	L13	_DS16_	CLS_DCS_16_pin
U4	K13	_DS24_	CLS_DCS_24_pin
U4	K14	_DS32_	CLS_DCS_32_pin
U4	N20	_DS40_	CLS_DCS_40_pin
U4	M20	_DS48_	CLS_DCS_48_pin
U4	N18	_DS56_	CLS_DCS_56_pin
U4	M15	_DS64_	CLS_DCS_64_pin
U4	M16	_DS72_	CLS_DCS_72_pin
U4	J16	_DS80_	CLS_DCS_80_pin
U4	H17	_DS88_	CLS_DCS_88_pin
U4	N19	_DS96_	CLS_DCS_96_pin
U4	M18	DD	CLC_DAC_Din_pin
U4	L19	DCK	CLC_DAC_Sck_pin
U4	M9	GND	VN_0
U4	L10	GND	VP_0
U4	G11	DONE_0	DONE_0
U4	N10	GND	DXP_0
U4	K9	GND	GNDADC_0
U4	K10	+1.8F	VCCADC_0
U4	M10	GND	VREFP_0

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Interface.U4.txt

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U4	E12	GND	VCCBATT_0	
U4	V12	TCK	TCK_0	
U4	N9	GND	DXN_0	
U4	L9	GND	VREFN_0	
U4	L12	C422	CCLK_0	
U4	U11	M0_0	M0_0	
U4	U10	M1_0	M1_0	
U4	U12	_INIT_		INIT_B_0
U4	R13	TDI	TDI_0	
U4	U13	TDO	TDO_0	
U4	U9	M2_0	M2_0	
U4	U8	+3.3F	3.30	
U4	N12	_PROGRAM_		PROGRAM_B_0
U4	T13	TMS	TMS_0	
U4	F12	+3.3F	VCCO_0	
U4	T12	+3.3F	VCCO_0	
U4	AA17	GND	VCCO_13	
U4	AB14	GND	VCCO_13	
U4	V16	GND	VCCO_13	
U4	W13	GND	VCCO_13	
U4	Y10	GND	VCCO_13	
U4	M14	+3.3F	3.30	
U4	P18	+3.3F	3.30	
U4	R15	+3.3F	3.30	
U4	T22	+3.3F	3.30	
U4	U19	+3.3F	3.30	
U4	Y20	+3.3F	3.30	
U4	G19	+2.5F	2.50	
U4	H16	+2.5F	2.50	
U4	J13	+2.5F	2.50	
U4	K20	+2.5F	2.50	
U4	L17	+2.5F	2.50	
U4	N21	+2.5F	2.50	
U4	A17	+3.3F	3.30	
U4	B14	+3.3F	3.30	
U4	C21	+3.3F	3.30	
U4	D18	+3.3F	3.30	
U4	E15	+3.3F	3.30	
U4	F22	+3.3F	3.30	
U4	AA7	GND	VCCO_34	
U4	AB4	GND	VCCO_34	
U4	R5	GND	VCCO_34	
U4	T2	GND	VCCO_34	
U4	V6	GND	VCCO_34	
U4	W3	GND	VCCO_34	
U4	C1	GND	VCCO_35	
U4	F2	GND	VCCO_35	
U4	H6	GND	VCCO_35	
U4	J3	GND	VCCO_35	
U4	M4	GND	VCCO_35	
U4	N1	GND	VCCO_35	
U4	D11	GND	MGTPRXP1_216	
U4	B10	GND	MGTPRXP2_216	
U4	D9	GND	MGTPRXP3_216	
U4	B8	GND	MGTPRXP0_216	
U4	C11	GND	MGTPRXN1_216	
U4	A10	GND	MGTPRXN2_216	
U4	C9	GND	MGTPRXN3_216	
U4	A8	GND	MGTPRXN0_216	

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U4	F8	GND	MGTRREF_216	
U4	D8	GND	GND	
U4	A2	GND	GND	
U4	A3	GND	GND	
U4	A5	GND	GND	
U4	A7	GND	GND	
U4	A9	GND	GND	
U4	A11	GND	GND	
U4	A12	GND	GND	
U4	A22	GND	GND	
U4	AA2	GND	GND	
U4	AA12	GND	GND	
U4	AA22	GND	GND	
U4	AB9	GND	GND	
U4	AB19	GND	GND	
U4	B3	GND	GND	
U4	B12	GND	GND	
U4	B19	GND	GND	
U4	C3	GND	GND	
U4	C6	GND	GND	
U4	C10	GND	GND	
U4	C12	GND	GND	
U4	C16	GND	GND	
U4	D3	GND	GND	
U4	D4	GND	GND	
U4	D12	GND	GND	
U4	D13	GND	GND	
U4	E4	GND	GND	
U4	E5	GND	GND	
U4	E7	GND	GND	
U4	E9	GND	GND	
U4	E11	GND	GND	
U4	E20	GND	GND	
U4	F5	GND	GND	
U4	F11	GND	GND	
U4	F17	GND	GND	
U4	G5	GND	GND	
U4	G6	GND	GND	
U4	G7	GND	GND	
U4	G8	GND	GND	
U4	G9	GND	GND	
U4	G10	GND	GND	
U4	G12	GND	GND	
U4	G14	GND	GND	
U4	H1	GND	GND	
U4	H7	GND	GND	
U4	H9	GND	GND	
U4	H11	GND	GND	
U4	H21	GND	GND	
U4	J8	GND	GND	
U4	J10	GND	GND	
U4	J12	GND	GND	
U4	J18	GND	GND	
U4	K5	GND	GND	
U4	K7	GND	GND	
U4	K11	GND	GND	
U4	K15	GND	GND	
U4	L2	GND	GND	
U4	L8	GND	GND	

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U4	L22	GND	GND
U4	M7	GND	GND
U4	M11	GND	GND
U4	M19	GND	GND
U4	N6	GND	GND
U4	N8	GND	GND
U4	N16	GND	GND
U4	P3	GND	GND
U4	P7	GND	GND
U4	P9	GND	GND
U4	P11	GND	GND
U4	P13	GND	GND
U4	R8	GND	GND
U4	R10	GND	GND
U4	R12	GND	GND
U4	R20	GND	GND
U4	T7	GND	GND
U4	T9	GND	GND
U4	T11	GND	GND
U4	T17	GND	GND
U4	U4	GND	GND
U4	U14	GND	GND
U4	V1	GND	GND
U4	V11	GND	GND
U4	V21	GND	GND
U4	W8	GND	GND
U4	W18	GND	GND
U4	Y5	GND	GND
U4	Y15	GND	GND
U4	H8	+1F	VCCINT
U4	H10	+1F	VCCINT
U4	J7	+1F	VCCINT
U4	J9	+1F	VCCINT
U4	K8	+1F	VCCINT
U4	L7	+1F	VCCINT
U4	M8	+1F	VCCINT
U4	N7	+1F	VCCINT
U4	P8	+1F	VCCINT
U4	P10	+1F	VCCINT
U4	R7	+1F	VCCINT
U4	R9	+1F	VCCINT
U4	T8	+1F	VCCINT
U4	T10	+1F	VCCINT
U4	H12	+1.8F	1.80
U4	K12	+1.8F	1.80
U4	M12	+1.8F	1.80
U4	P12	+1.8F	1.80
U4	R11	+1.8F	1.80
U4	J11	+1F	VCCBRAM
U4	L11	+1F	VCCBRAM
U4	N11	+1F	VCCBRAM

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refdes	device	value	spec	footprint		description	
R29	RESISTOR		4.3	5% 1W	2512	Resistor	
R28	RESISTOR		4.3	5% 1W	2512	Resistor	
R26	RESISTOR		4.3	5% 1W	2512	Resistor	
R27	RESISTOR		4.3	5% 1W	2512	Resistor	
R24	RESISTOR		4.3	5% 1W	2512	Resistor	
R25	RESISTOR		4.3	5% 1W	2512	Resistor	
R22	RESISTOR		4.3	5% 1W	2512	Resistor	
R23	RESISTOR		4.3	5% 1W	2512	Resistor	
R21	RESISTOR		4.3	5% 1W	2512	Resistor	
R20	RESISTOR		4.3	5% 1W	2512	Resistor	
U7	DUAL_OPAMP		LM6142AIM		N/A	S08	generic dual operational
	amplifier, S08						
R6	RESISTOR		51.1	1% 1/10W		0603	Resistor
C1	CAPACITOR		1uF	10WVDC	X7R	0805	Ceramic capacitor
R42	RESISTOR		4.99	1% 1/10W		0603	Resistor
C62	CAPACITOR		0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C2	CAPACITOR		1uF	10WVDC	X7R	0805	Ceramic capacitor
R45	RESISTOR		4.75k	1% 1/10W		0603	Resistor
C3	CAPACITOR		620pF	50WVDC	X7R	0603	Ceramic capacitor
R44	RESISTOR		14.7k	1% 1/10W		0603	Resistor
R43	RESISTOR		1	1% 1/10W		0603	Resistor
C79	CAPACITOR		0.1uF	50WVDC	X7R	0805	Ceramic capacitor
C83	CAPACITOR		0.1uF	50WVDC	X7R	0805	Ceramic capacitor
C81	CAPACITOR		1uF	10WVDC	X7R	0805	Ceramic capacitor
C82	POLARIZED_CAPACITOR		6.8uF	35WVDC		2711	Tantalum capacitor
C78	POLARIZED_CAPACITOR		6.8uF	35WVDC		2711	Tantalum capacitor
C80	POLARIZED_CAPACITOR		47uF	15WVDC		2711	Tantalum capacitor
L4	CDPH4D19FNP-220MC			22uH	unknown	CDPH4D19F	incuctor
J7	747467-1	unknown	unknown	747467-1		unknown	
L2	IHLP5050FDER100M01			10uH	unknown	IHLP5050	incuctor
L1	IHLP5050FDER100M01			10uH	unknown	IHLP5050	incuctor
R51	RESISTOR		221	1% 1/10W		0603	Resistor
LED6	LED	67-2226-1-ND		unknown	0603	LED	
R50	RESISTOR		1k	1% 1/10W		0603	Resistor
LED5	LED	VAOL-S6SB4CT-ND		unknown	0603	LED	
R49	RESISTOR		1k	1% 1/10W		0603	Resistor
LED4	LED	475-2481-1-ND		unknown	0603	LED	
AP/C13	CAPACITOR		0.33uF	10WVDC	X7R	0805	Ceramic capacitor
AP/R26	RESISTOR		10	5% 1W	2512	Resistor	
AP/R18	RESISTOR		10	5% 1W	2512	Resistor	
AP/R14	RESISTOR		43	5% 1W	2512	Resistor	
AP/R10	RESISTOR		43	5% 1W	2512	Resistor	
AP/R24	RESISTOR		3.9	5% 1W	2512	Resistor	
AP/R25	RESISTOR		3.9	5% 1W	2512	Resistor	
AP/R23	RESISTOR		46.4k	1% 1/10W		0603	Resistor
AP/C11	CAPACITOR		0.1uF	16WVDC	X7R	0603	Ceramic capacitor
AP/C10	CAPACITOR		0.1uF	16WVDC	X7R	0603	Ceramic capacitor
AP/C12	CAPACITOR		0.1uF	16WVDC	X7R	0603	Ceramic capacitor
AP/C9	CAPACITOR		0.1uF	16WVDC	X7R	0603	Ceramic capacitor
AP/C8	CAPACITOR		0.1uF	16WVDC	X7R	0603	Ceramic capacitor
AP/R22	RESISTOR		51.1	1% 1/10W		0603	Resistor
AP/C7	CAPACITOR		0.1uF	16WVDC	X7R	0603	Ceramic capacitor
AP/R21	RESISTOR		51.1	1% 1/10W		0603	Resistor
AP/R20	RESISTOR		18.2k	1% 1/10W		0603	Resistor
AP/R19	RESISTOR		21.5k	1% 1/10W		0603	Resistor
AP/Q5	PNP_TRANSISTOR		MMBT2907A		unknown	UB	unknown
AP/R17	RESISTOR		1	1% 1/10W		0603	Resistor
AP/Q4	NPN_TRANSISTOR		MMBT2222A		unknown	UB	unknown

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AP/C6	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
AP/R16	RESISTOR	18.2k	1% 1/10W	0603	Resistor	
AP/R15	RESISTOR	9.76k	1% 1/10W	0603	Resistor	
AP/C5	CAPACITOR	0.22uF	10WVDC X7R	0805	Ceramic capacitor	
AP/R13	RESISTOR	1	1% 1/10W	0603	Resistor	
AP/Q3	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
AP/C4	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
AP/R12	RESISTOR	18.2k	1% 1/10W	0603	Resistor	
AP/R11	RESISTOR	13.0k	1% 1/10W	0603	Resistor	
AP/U2	DUAL_OPAMP	LM6142AIM	N/A	SO8	generic dual operational amplifier, SO8	
AP/C3	CAPACITOR	0.22uF	10WVDC X7R	0805	Ceramic capacitor	
AP/R9	RESISTOR	1	1% 1/10W	0603	Resistor	
AP/Q2	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
AP/R8	RESISTOR	64.9k	1% 1/10W	0603	Resistor	
AP/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
AP/R7	RESISTOR	18.2k	1% 1/10W	0603	Resistor	
AP/R6	RESISTOR	24.9k	1% 1/10W	0603	Resistor	
AP/R5	RESISTOR	3.9	5% 1W 2512	Resistor		
AP/R4	RESISTOR	1	5% 1/4W 0805	Resistor		
AP/Q1	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
AP/R3	RESISTOR	30.1k	1% 1/10W	0603	Resistor	
AP/C1	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
AP/R2	RESISTOR	18.2k	1% 1/10W	0603	Resistor	
AP/R1	RESISTOR	45.3k	1% 1/10W	0603	Resistor	
AP/U1	DUAL_OPAMP	LM6142AIM	N/A	SO8	generic dual operational amplifier, SO8	
R48	RESISTOR	1k	1% 1/10W	0603	Resistor	
LED3	LED	475-2794-1-ND	unknown	0603	LED	
R47	RESISTOR	1k	1% 1/10W	0603	Resistor	
LED2	LED	475-2709-1-ND	unknown	0603	LED	
R46	RESISTOR	1k	1% 1/10W	0603	Resistor	
LED1	LED	475-2506-1-ND	unknown	0603	LED	
C100	CAPACITOR	1uF	10WVDC X7R	0805	Ceramic capacitor	
R41	RESISTOR	49.9	1% 1/10W	0603	Resistor	
U10	REFERENCE	REF43GS	N/A	SO8	2.5V	Reference
X2/X14/R9	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X14/R8	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X14/R7	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X14/R6	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X14/R3	RESISTOR	100	1% 1/10W	0603	Resistor	
X2/X14/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/X14/R4	RESISTOR	100	1% 1/10W	0603	Resistor	
X2/X14/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X2/X14/R5	RESISTOR	100	1% 1/10W	0603	Resistor	
X2/X14/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/X14/U1	DG403	unknown	unknown	SO16	Dual SPDT switch	
X2/X13/R9	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X13/R8	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X13/R7	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X13/R6	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X13/R3	RESISTOR	100	1% 1/10W	0603	Resistor	
X2/X13/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/X13/R4	RESISTOR	100	1% 1/10W	0603	Resistor	
X2/X13/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	

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r						
X2/X13/R5	RESISTOR	100	1% 1/10W	0603	Resistor	
X2/X13/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacito	
r						
X2/X13/U1	DG403	unknown	unknown	SO16	Dual	SPDT switch
X2/X12/R9	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X12/R8	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X12/R7	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X12/R6	RESISTOR	75	1% 1/10W	0603	Resistor	
X2/X12/R3	RESISTOR	100	1% 1/10W	0603	Resistor	
X2/X12/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacito	
r						
X2/X12/R4	RESISTOR	100	1% 1/10W	0603	Resistor	
X2/X12/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacito	
r						
X2/X12/R5	RESISTOR	100	1% 1/10W	0603	Resistor	
X2/X12/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacito	
r						
X2/X12/U1	DG403	unknown	unknown	SO16	Dual	SPDT switch
X2/R12	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/R11	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/C7	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X2/R10	RESISTOR	49.9	1% 1/10W	0603	Resistor	
X2/C6	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X2/C32	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/U3	MAX308CSE+	unknown	unknown	SO16	8 input	analog mux
X2/C31	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/U2	AD5328	unknown	unknown	TSSOP16	Octal	DAC
X2/X1/C11	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacito	
r						
X2/X1/C12	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacito	
r						
X2/X1/C2	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacito	
r						
X2/X1/C13	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacito	
r						
X2/X1/C10	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacito	
r						
X2/X1/R20	RESISTOR	604k	1% 1/10W	0603	Resistor	
X2/X1/R10	RESISTOR	604k	1% 1/10W	0603	Resistor	
X2/X1/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacito	
r						
X2/X1/R18	RESISTOR	10	1% 1W	2512	Resistor	
X2/X1/C9	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacito	
r						
X2/X1/R12	RESISTOR	33.2k	1% 1/10W	0603	Resistor	
X2/X1/Q2	LM195H	unknown	unknown	TO39	unknown	
X2/X1/C7	CAPACITOR	47pF	50WVDC	NP0	0603	Ceramic capacito
r						
X2/X1/R16	RESISTOR	4.99k	1% 1/10W	0603	Resistor	
X2/X1/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown
X2/X1/R8	RESISTOR	10	1% 1W	2512	Resistor	
X2/X1/C8	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacito	
r						
X2/X1/R2	RESISTOR	301k	1% 1/10W	0603	Resistor	
X2/X1/C6	CAPACITOR	330pF	50WVDC	NP0	0603	Ceramic capacito
r						
X2/X1/R6	RESISTOR	10k	1% 1/10W	0603	Resistor	
X2/X1/Q1	LM195H	unknown	unknown	TO39	unknown	

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X2/X1/R17	RESISTOR	10k	1% 1/10W	0603	Resistor	
X2/X1/R7	RESISTOR	10k	1% 1/10W	0603	Resistor	
X2/X1/C5	CAPACITOR	330pF	50WVDC NP0	0603	Ceramic capacitor	
X2/X1/C4	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/X1/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/X1/R15	RESISTOR	10k	1% 1/10W	0603	Resistor	
X2/X1/R5	RESISTOR	10k	1% 1/10W	0603	Resistor	
X2/X1/R11	RESISTOR	60.4k	1% 1/10W	0603	Resistor	
X2/X1/R13	RESISTOR	75k	1% 1/10W	0603	Resistor	
X2/X1/R14	RESISTOR	301k	1% 1/10W	0603	Resistor	
X2/X1/U2	DUAL_OPAMP	LM6142AIM	N/A	SO8	generic dual operational amplifier, SO8	
X2/X1/R1	RESISTOR	54.9k	1% 1/10W	0603	Resistor	
X2/X1/R3	RESISTOR	54.9k	1% 1/10W	0603	Resistor	
X2/X1/R4	RESISTOR	301k	1% 1/10W	0603	Resistor	
X2/X1/U1	DUAL_OPAMP	LM6142AIM	N/A	SO8	generic dual operational amplifier, SO8	
X2/X2/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X2/X2/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/X2/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/X2/C7	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
X2/X2/C4	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
X2/X2/C6	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
X2/X2/C5	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
X2/X2/R2	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/R1	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/R7	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/R6	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/X2/Q1	PMOS_TRANSISTOR	IRFR9120N	unknown	TO252AA	generic P channel MOS transistor (enhancement type)	
X2/X2/X2/Q2	NMOS_TRANSISTOR	IRFR220N	unknown	TO252AA	generic N channel MOS transistor (enhancement type)	
X2/X2/X2/R6	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/X2/R5	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/X2/R4	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/X2/R3	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/X2/R7	RESISTOR	200	1% 1/10W	0603	Resistor	
X2/X2/X2/Q4	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
X2/X2/X2/Q3	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown	
X2/X2/X2/R2	RESISTOR	1	1% 1W	2512	Resistor	
X2/X2/X2/R1	RESISTOR	1	1% 1W	2512	Resistor	
X2/X2/X1/Q1	PMOS_TRANSISTOR	IRFR9120N	unknown	TO252AA	generic P channel MOS transistor (enhancement type)	
X2/X2/X1/Q2	NMOS_TRANSISTOR	IRFR220N	unknown	TO252AA	generic N channel MOS transistor (enhancement type)	
X2/X2/X1/R6	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/X1/R5	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/X1/R4	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X2/X2/X1/R3	RESISTOR	3.74k	1% 1/10W	0603	Resistor	

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X2/X2/X1/R7	RESISTOR	200	1%	1/10W	0603	Resistor	
X2/X2/X1/Q4	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown	
X2/X2/X1/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown	
X2/X2/X1/R2	RESISTOR	1	1%	1W	2512	Resistor	
X2/X2/X1/R1	RESISTOR	1	1%	1W	2512	Resistor	
X2/X2/R3	RESISTOR	100	1%	1/10W	0603	Resistor	
X2/X2/R4	RESISTOR	100	1%	1/10W	0603	Resistor	
X2/X2/R5	RESISTOR	100	1%	1/10W	0603	Resistor	
X2/X2/U1	DG403	unknown	unknown	SO16	Dual	SPDT switch	
X2/X3/C2	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor	
X2/X3/C3	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor	
X2/X3/C1	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor	
X2/X3/C7	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor	
X2/X3/C4	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor	
X2/X3/C6	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor	
X2/X3/C5	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor	
X2/X3/R2	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/R1	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/R7	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/X2/Q1	PMOS_TRANSISTOR	IRFR9120N		unknown	TO252AA	generic P channel MOS transistor (enhancement type)	
X2/X3/X2/Q2	NMOS_TRANSISTOR	IRFR220N		unknown	TO252AA	generic N channel MOS transistor (enhancement type)	
X2/X3/X2/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/X2/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/X2/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/X2/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/X2/R7	RESISTOR	200	1%	1/10W	0603	Resistor	
X2/X3/X2/Q4	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown	
X2/X3/X2/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown	
X2/X3/X2/R2	RESISTOR	1	1%	1W	2512	Resistor	
X2/X3/X2/R1	RESISTOR	1	1%	1W	2512	Resistor	
X2/X3/X1/Q1	PMOS_TRANSISTOR	IRFR9120N		unknown	TO252AA	generic P channel MOS transistor (enhancement type)	
X2/X3/X1/Q2	NMOS_TRANSISTOR	IRFR220N		unknown	TO252AA	generic N channel MOS transistor (enhancement type)	
X2/X3/X1/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/X1/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/X1/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/X1/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X2/X3/X1/R7	RESISTOR	200	1%	1/10W	0603	Resistor	
X2/X3/X1/Q4	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown	
X2/X3/X1/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown	
X2/X3/X1/R2	RESISTOR	1	1%	1W	2512	Resistor	
X2/X3/X1/R1	RESISTOR	1	1%	1W	2512	Resistor	
X2/X3/R3	RESISTOR	100	1%	1/10W	0603	Resistor	
X2/X3/R4	RESISTOR	100	1%	1/10W	0603	Resistor	
X2/X3/R5	RESISTOR	100	1%	1/10W	0603	Resistor	
X2/X3/U1	DG403	unknown	unknown	SO16	Dual	SPDT switch	
X2/X4/C2	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor	

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X2/X4/C3	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
X2/X4/C1	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
X2/X4/C7	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X2/X4/C4	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X2/X4/C6	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X2/X4/C5	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X2/X4/R2	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/R1	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/R7	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/X2/Q1	PMOS_TRANSISTOR	IRFR9120N		unknown	TO252AA	generic P channel MOS transistor (enhancement type)
X2/X4/X2/Q2	NMOS_TRANSISTOR	IRFR220N		unknown	TO252AA	generic N channel MOS transistor (enhancement type)
X2/X4/X2/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/X2/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/X2/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/X2/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/X2/R7	RESISTOR	200	1%	1/10W	0603	Resistor
X2/X4/X2/Q4	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown
X2/X4/X2/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown
X2/X4/X2/R2	RESISTOR	1	1%	1W	2512	Resistor
X2/X4/X2/R1	RESISTOR	1	1%	1W	2512	Resistor
X2/X4/X1/Q1	PMOS_TRANSISTOR	IRFR9120N		unknown	TO252AA	generic P channel MOS transistor (enhancement type)
X2/X4/X1/Q2	NMOS_TRANSISTOR	IRFR220N		unknown	TO252AA	generic N channel MOS transistor (enhancement type)
X2/X4/X1/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/X1/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/X1/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/X1/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor
X2/X4/X1/R7	RESISTOR	200	1%	1/10W	0603	Resistor
X2/X4/X1/Q4	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown
X2/X4/X1/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown
X2/X4/X1/R2	RESISTOR	1	1%	1W	2512	Resistor
X2/X4/X1/R1	RESISTOR	1	1%	1W	2512	Resistor
X2/X4/R3	RESISTOR	100	1%	1/10W	0603	Resistor
X2/X4/R4	RESISTOR	100	1%	1/10W	0603	Resistor
X2/X4/R5	RESISTOR	100	1%	1/10W	0603	Resistor
X2/X4/U1	DG403	unknown	SO16	Dual	SPDT switch	
X2/X10/C5	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
X2/X10/R22	RESISTOR	604k	1%	1/10W	0603	Resistor
X2/X10/R21	RESISTOR	604k	1%	1/10W	0603	Resistor
X2/X10/C10	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X2/X10/C9	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X2/X10/C4	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
X2/X10/R20	RESISTOR	10	1%	1/10W	0603	Resistor
X2/X10/C8	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor

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X2/X10/R18	RESISTOR	10k	1%	1/10W	0603	Resistor
X2/X10/Q6	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown
X2/X10/R19	RESISTOR	16.9	1%	1/10W	0603	Resistor
X2/X10/Q5	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown
X2/X10/R16	RESISTOR	20k	1%	1/10W	0603	Resistor
X2/X10/R17	RESISTOR	499	1%	1/10W	0603	Resistor
X2/X10/Q4	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown
X2/X10/C7	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
r						
X2/X10/R13	RESISTOR	1k	1%	1/10W	0603	Resistor
X2/X10/R14	RESISTOR	32.4k	1%	1/10W	0603	Resistor
X2/X10/C6	CAPACITOR	4.7pF	100WVDC	NP0	0603	Ceramic capacitor
r						
X2/X10/R15	RESISTOR	301k	1%	1/10W	0603	Resistor
X2/X10/R11	RESISTOR	10	1%	1/10W	0603	Resistor
X2/X10/C1	CAPACITOR	4.7pF	100WVDC	NP0	0603	Ceramic capacitor
r						
X2/X10/Q1	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown
X2/X10/R7	RESISTOR	499	1%	1/10W	0603	Resistor
X2/X10/R10	RESISTOR	49.9	1%	1/10W	0603	Resistor
X2/X10/U1	DUAL_OPAMP	LM6142AIM		N/A	SO8	generic dual operational amplifier, SO8
X2/X10/R8	RESISTOR	10k	1%	1/10W	0603	Resistor
X2/X10/R2	RESISTOR	26.7k	1%	1/10W	0603	Resistor
X2/X10/R1	RESISTOR	34.0k	1%	1/10W	0603	Resistor
X2/X10/C2	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
r						
X2/X10/R3	RESISTOR	1k	1%	1/10W	0603	Resistor
X2/X10/R4	RESISTOR	32.4k	1%	1/10W	0603	Resistor
X2/X10/R5	RESISTOR	301k	1%	1/10W	0603	Resistor
X2/X10/R6	RESISTOR	20k	1%	1/10W	0603	Resistor
X2/X10/C3	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
r						
X2/X10/R9	RESISTOR	16.9	1%	1/10W	0603	Resistor
X2/X10/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown
X2/X10/Q2	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown
X2/X9/R9	RESISTOR	75	1%	1/10W	0603	Resistor
X2/X9/R8	RESISTOR	75	1%	1/10W	0603	Resistor
X2/X9/R7	RESISTOR	75	1%	1/10W	0603	Resistor
X2/X9/R6	RESISTOR	75	1%	1/10W	0603	Resistor
X2/X9/R3	RESISTOR	100	1%	1/10W	0603	Resistor
X2/X9/C3	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
r						
X2/X9/R4	RESISTOR	100	1%	1/10W	0603	Resistor
X2/X9/C2	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
r						
X2/X9/R5	RESISTOR	100	1%	1/10W	0603	Resistor
X2/X9/C1	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
r						
X2/X9/U1	DG403	unknown	unknown	SO16		Dual SPDT switch
X2/X8/R9	RESISTOR	75	1%	1/10W	0603	Resistor
X2/X8/R8	RESISTOR	75	1%	1/10W	0603	Resistor
X2/X8/R7	RESISTOR	75	1%	1/10W	0603	Resistor
X2/X8/R6	RESISTOR	75	1%	1/10W	0603	Resistor
X2/X8/R3	RESISTOR	100	1%	1/10W	0603	Resistor
X2/X8/C3	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
r						
X2/X8/R4	RESISTOR	100	1%	1/10W	0603	Resistor
X2/X8/C2	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor

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r					
X2/X8/R5	RESISTOR	100	1% 1/10W	0603	Resistor
X2/X8/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X2/X8/U1	DG403	unknown	unknown	SO16	Dual SPDT switch
X2/X7/R9	RESISTOR	75	1% 1/10W	0603	Resistor
X2/X7/R8	RESISTOR	75	1% 1/10W	0603	Resistor
X2/X7/R7	RESISTOR	75	1% 1/10W	0603	Resistor
X2/X7/R6	RESISTOR	75	1% 1/10W	0603	Resistor
X2/X7/R3	RESISTOR	100	1% 1/10W	0603	Resistor
X2/X7/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X2/X7/R4	RESISTOR	100	1% 1/10W	0603	Resistor
X2/X7/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor
r					
X2/X7/R5	RESISTOR	100	1% 1/10W	0603	Resistor
X2/X7/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X2/X7/U1	DG403	unknown	unknown	SO16	Dual SPDT switch
X2/X6/R9	RESISTOR	75	1% 1/10W	0603	Resistor
X2/X6/R8	RESISTOR	75	1% 1/10W	0603	Resistor
X2/X6/R7	RESISTOR	75	1% 1/10W	0603	Resistor
X2/X6/R6	RESISTOR	75	1% 1/10W	0603	Resistor
X2/X6/R3	RESISTOR	100	1% 1/10W	0603	Resistor
X2/X6/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X2/X6/R4	RESISTOR	100	1% 1/10W	0603	Resistor
X2/X6/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor
r					
X2/X6/R5	RESISTOR	100	1% 1/10W	0603	Resistor
X2/X6/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X2/X6/U1	DG403	unknown	unknown	SO16	Dual SPDT switch
X2/X5/C5	CAPACITOR	4.7uF	10WVDC X7R	1812	Ceramic capacitor
r					
X2/X5/R22	RESISTOR	604k	1% 1/10W	0603	Resistor
X2/X5/R21	RESISTOR	604k	1% 1/10W	0603	Resistor
X2/X5/C10	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor
r					
X2/X5/C9	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor
r					
X2/X5/C4	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor
r					
X2/X5/R20	RESISTOR	10	1% 1/10W	0603	Resistor
X2/X5/C8	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor
r					
X2/X5/R18	RESISTOR	10k	1% 1/10W	0603	Resistor
X2/X5/Q6	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown
X2/X5/R19	RESISTOR	16.9	1% 1/10W	0603	Resistor
X2/X5/Q5	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown
X2/X5/R16	RESISTOR	20k	1% 1/10W	0603	Resistor
X2/X5/R17	RESISTOR	499	1% 1/10W	0603	Resistor
X2/X5/Q4	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown
X2/X5/C7	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor
r					
X2/X5/R13	RESISTOR	1k	1% 1/10W	0603	Resistor
X2/X5/R14	RESISTOR	32.4k	1% 1/10W	0603	Resistor
X2/X5/C6	CAPACITOR	4.7pF	100WVDC NP0	0603	Ceramic capacitor
r					

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X2/X5/R15	RESISTOR		301k	1% 1/10W	0603	Resistor	
X2/X5/R11	RESISTOR		10	1% 1/10W	0603	Resistor	
X2/X5/C1	CAPACITOR		4.7pF	100WVDC NP0	0603	Ceramic capacitor	
X2/X5/Q1	NPN_TRANSISTOR		MMBT2222A	unknown UB		unknown	
X2/X5/R7	RESISTOR		499	1% 1/10W	0603	Resistor	
X2/X5/R10	RESISTOR		49.9	1% 1/10W	0603	Resistor	
X2/X5/U1	DUAL_OPAMP		LM6142AIM	N/A SO8		generic dual operational amplifier, SO8	
X2/X5/R8	RESISTOR		10k	1% 1/10W	0603	Resistor	
X2/X5/R2	RESISTOR		26.7k	1% 1/10W	0603	Resistor	
X2/X5/R1	RESISTOR		34.0k	1% 1/10W	0603	Resistor	
X2/X5/C2	CAPACITOR		0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X2/X5/R3	RESISTOR		1k	1% 1/10W	0603	Resistor	
X2/X5/R4	RESISTOR		32.4k	1% 1/10W	0603	Resistor	
X2/X5/R5	RESISTOR		301k	1% 1/10W	0603	Resistor	
X2/X5/R6	RESISTOR		20k	1% 1/10W	0603	Resistor	
X2/X5/C3	CAPACITOR		1uF	25WVDC X7R	1812	Ceramic capacitor	
X2/X5/R9	RESISTOR		16.9	1% 1/10W	0603	Resistor	
X2/X5/Q3	PNP_TRANSISTOR		MMBT2907A	unknown UB		unknown	
X2/X5/Q2	PNP_TRANSISTOR		MMBT2907A	unknown UB		unknown	
X2/X11/R9	RESISTOR		75	1% 1/10W	0603	Resistor	
X2/X11/R8	RESISTOR		75	1% 1/10W	0603	Resistor	
X2/X11/R7	RESISTOR		75	1% 1/10W	0603	Resistor	
X2/X11/R6	RESISTOR		75	1% 1/10W	0603	Resistor	
X2/X11/R3	RESISTOR		100	1% 1/10W	0603	Resistor	
X2/X11/C3	CAPACITOR		22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/X11/R4	RESISTOR		100	1% 1/10W	0603	Resistor	
X2/X11/C2	CAPACITOR		0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X2/X11/R5	RESISTOR		100	1% 1/10W	0603	Resistor	
X2/X11/C1	CAPACITOR		22nF	50WVDC X7R	0603	Ceramic capacitor	
X2/X11/U1	DG403	unknown	unknown	SO16		Dual SPDT switch	
X2/R9	RESISTOR	604k	1%	0603		Resistor	
X2/R1	RESISTOR	56.2k	1%	0603		Resistor	
X2/R2	RESISTOR	200k	1%	0603		Resistor	
X2/C4	CAPACITOR	10pF	100WVDC NP0	0603		Ceramic capacitor	
X2/R8	RESISTOR	21.5	1% 1/10W	0603		Resistor	
X2/C5	CAPACITOR	22nF	50WVDC X7R	0603		Ceramic capacitor	
X2/R6	RESISTOR	49.9	1% 1/10W	0603		Resistor	
X2/C3	CAPACITOR	22nF	50WVDC X7R	0603		Ceramic capacitor	
X2/U1	DUAL_OPAMP	LM6142AIM		N/A SO8		generic dual operational amplifier, SO8	
X2/R7	RESISTOR	604k	1%	0603		Resistor	
X2/R3	RESISTOR	56.2k	1%	0603		Resistor	
X2/R4	RESISTOR	200k	1%	0603		Resistor	
X2/C1	CAPACITOR	10pF	100WVDC NP0	0603		Ceramic capacitor	
X2/R5	RESISTOR	21.5	1% 1/10W	0603		Resistor	
X2/C2	CAPACITOR	22nF	50WVDC X7R	0603		Ceramic capacitor	
X1/X14/R9	RESISTOR		75	1% 1/10W	0603	Resistor	
X1/X14/R8	RESISTOR		75	1% 1/10W	0603	Resistor	
X1/X14/R7	RESISTOR		75	1% 1/10W	0603	Resistor	
X1/X14/R6	RESISTOR		75	1% 1/10W	0603	Resistor	
X1/X14/R3	RESISTOR		100	1% 1/10W	0603	Resistor	
X1/X14/C3	CAPACITOR		22nF	50WVDC X7R	0603	Ceramic capacitor	

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r						
X1/X14/R4	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X14/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
r						
X1/X14/R5	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X14/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
r						
X1/X14/U1	DG403	unknown	unknown	SO16	Dual SPDT switch	
X1/X13/R9	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X13/R8	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X13/R7	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X13/R6	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X13/R3	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X13/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
r						
X1/X13/R4	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X13/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
r						
X1/X13/R5	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X13/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
r						
X1/X13/U1	DG403	unknown	unknown	SO16	Dual SPDT switch	
X1/X12/R9	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X12/R8	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X12/R7	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X12/R6	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X12/R3	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X12/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
r						
X1/X12/R4	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X12/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
r						
X1/X12/R5	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X12/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
r						
X1/X12/U1	DG403	unknown	unknown	SO16	Dual SPDT switch	
X1/R12	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X1/R11	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
X1/C7	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X1/R10	RESISTOR	49.9	1% 1/10W	0603	Resistor	
X1/C6	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X1/C32	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X1/U3	MAX308CSE+	unknown	unknown	SO16	8 input analog mux	
X1/C31	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
X1/U2	AD5328	unknown	unknown	TSSOP16	Octal DAC	
X1/X1/C11	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
r						
X1/X1/C12	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
r						
X1/X1/C2	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
r						
X1/X1/C13	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
r						
X1/X1/C10	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
r						
X1/X1/R20	RESISTOR	604k	1% 1/10W	0603	Resistor	
X1/X1/R10	RESISTOR	604k	1% 1/10W	0603	Resistor	
X1/X1/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
r						

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X1/X1/R18	RESISTOR	10	1% 1W	2512	Resistor	
X1/X1/C9	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X1/X1/R12	RESISTOR	33.2k	1% 1/10W		0603	Resistor
X1/X1/Q2	LM195H unknown	unknown	TO39	unknown		
X1/X1/C7	CAPACITOR	47pF	50WVDC	NP0	0603	Ceramic capacitor
X1/X1/R16	RESISTOR	4.99k	1% 1/10W		0603	Resistor
X1/X1/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown
X1/X1/R8	RESISTOR	10	1% 1W	2512	Resistor	
X1/X1/C8	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X1/X1/R2	RESISTOR	301k	1% 1/10W		0603	Resistor
X1/X1/C6	CAPACITOR	330pF	50WVDC	NP0	0603	Ceramic capacitor
X1/X1/R6	RESISTOR	10k	1% 1/10W		0603	Resistor
X1/X1/Q1	LM195H unknown	unknown	TO39	unknown		
X1/X1/R17	RESISTOR	10k	1% 1/10W		0603	Resistor
X1/X1/R7	RESISTOR	10k	1% 1/10W		0603	Resistor
X1/X1/C5	CAPACITOR	330pF	50WVDC	NP0	0603	Ceramic capacitor
X1/X1/C4	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
X1/X1/C3	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
X1/X1/R15	RESISTOR	10k	1% 1/10W		0603	Resistor
X1/X1/R5	RESISTOR	10k	1% 1/10W		0603	Resistor
X1/X1/R11	RESISTOR	60.4k	1% 1/10W		0603	Resistor
X1/X1/R13	RESISTOR	75k	1% 1/10W		0603	Resistor
X1/X1/R14	RESISTOR	301k	1% 1/10W		0603	Resistor
X1/X1/U2	DUAL_OPAMP	LM6142AIM		N/A	SO8	generic dual operational amplifier, SO8
X1/X1/R1	RESISTOR	54.9k	1% 1/10W		0603	Resistor
X1/X1/R3	RESISTOR	54.9k	1% 1/10W		0603	Resistor
X1/X1/R4	RESISTOR	301k	1% 1/10W		0603	Resistor
X1/X1/U1	DUAL_OPAMP	LM6142AIM		N/A	SO8	generic dual operational amplifier, SO8
X1/X2/C2	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
X1/X2/C3	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
X1/X2/C1	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
X1/X2/C7	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X1/X2/C4	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X1/X2/C6	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X1/X2/C5	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacitor
X1/X2/R2	RESISTOR	3.74k	1% 1/10W		0603	Resistor
X1/X2/R1	RESISTOR	3.74k	1% 1/10W		0603	Resistor
X1/X2/R7	RESISTOR	3.74k	1% 1/10W		0603	Resistor
X1/X2/R6	RESISTOR	3.74k	1% 1/10W		0603	Resistor
X1/X2/X2/Q1	PMOS_TRANSISTOR	IRFR9120N		unknown	TO252AA	generic P channel MOS transistor (enhancement type)
X1/X2/X2/Q2	NMOS_TRANSISTOR	IRFR220N		unknown	TO252AA	generic N channel MOS transistor (enhancement type)

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X1/X2/X2/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X2/X2/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X2/X2/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X2/X2/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X2/X2/R7	RESISTOR	200	1%	1/10W	0603	Resistor	
X1/X2/X2/Q4	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown	
X1/X2/X2/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown	
X1/X2/X2/R2	RESISTOR	1	1%	1W	2512	Resistor	
X1/X2/X2/R1	RESISTOR	1	1%	1W	2512	Resistor	
X1/X2/X1/Q1	PMOS_TRANSISTOR	IRFR9120N		unknown	TO252AA	generic P channe	
l MOS transistor (enhancement type)							
X1/X2/X1/Q2	NMOS_TRANSISTOR	IRFR220N		unknown	TO252AA	generic N channe	
l MOS transistor (enhancement type)							
X1/X2/X1/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X2/X1/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X2/X1/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X2/X1/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X2/X1/R7	RESISTOR	200	1%	1/10W	0603	Resistor	
X1/X2/X1/Q4	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown	
X1/X2/X1/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown	
X1/X2/X1/R2	RESISTOR	1	1%	1W	2512	Resistor	
X1/X2/X1/R1	RESISTOR	1	1%	1W	2512	Resistor	
X1/X2/R3	RESISTOR	100	1%	1/10W	0603	Resistor	
X1/X2/R4	RESISTOR	100	1%	1/10W	0603	Resistor	
X1/X2/R5	RESISTOR	100	1%	1/10W	0603	Resistor	
X1/X2/U1	DG403	unknown	unknown	SO16	Dual	SPDT switch	
X1/X3/C2	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacito	
r							
X1/X3/C3	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacito	
r							
X1/X3/C1	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacito	
r							
X1/X3/C7	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacito	
r							
X1/X3/C4	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacito	
r							
X1/X3/C6	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacito	
r							
X1/X3/C5	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacito	
r							
X1/X3/R2	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/R1	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/R7	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/X2/Q1	PMOS_TRANSISTOR	IRFR9120N		unknown	TO252AA	generic P channe	
l MOS transistor (enhancement type)							
X1/X3/X2/Q2	NMOS_TRANSISTOR	IRFR220N		unknown	TO252AA	generic N channe	
l MOS transistor (enhancement type)							
X1/X3/X2/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/X2/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/X2/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/X2/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/X2/R7	RESISTOR	200	1%	1/10W	0603	Resistor	
X1/X3/X2/Q4	NPN_TRANSISTOR	MMBT2222A		unknown	UB	unknown	
X1/X3/X2/Q3	PNP_TRANSISTOR	MMBT2907A		unknown	UB	unknown	
X1/X3/X2/R2	RESISTOR	1	1%	1W	2512	Resistor	
X1/X3/X2/R1	RESISTOR	1	1%	1W	2512	Resistor	
X1/X3/X1/Q1	PMOS_TRANSISTOR	IRFR9120N		unknown	TO252AA	generic P channe	
l MOS transistor (enhancement type)							

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X1/X3/X1/Q2	NMOS_TRANSISTOR	IRFR220N	unknown	TO252AA	generic N channe		
l MOS transistor (enhancement type)							
X1/X3/X1/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/X1/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/X1/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/X1/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X3/X1/R7	RESISTOR	200	1%	1/10W	0603	Resistor	
X1/X3/X1/Q4	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown		
X1/X3/X1/Q3	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown		
X1/X3/X1/R2	RESISTOR	1	1%	1W	2512	Resistor	
X1/X3/X1/R1	RESISTOR	1	1%	1W	2512	Resistor	
X1/X3/R3	RESISTOR	100	1%	1/10W	0603	Resistor	
X1/X3/R4	RESISTOR	100	1%	1/10W	0603	Resistor	
X1/X3/R5	RESISTOR	100	1%	1/10W	0603	Resistor	
X1/X3/U1	DG403	unknown	unknown	SO16	Dual SPDT switch		
X1/X4/C2	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacito	
r							
X1/X4/C3	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacito	
r							
X1/X4/C1	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacito	
r							
X1/X4/C7	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacito	
r							
X1/X4/C4	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacito	
r							
X1/X4/C6	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacito	
r							
X1/X4/C5	CAPACITOR	1uF	25WVDC	X7R	1812	Ceramic capacito	
r							
X1/X4/R2	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/R1	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/R7	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/X2/Q1	PMOS_TRANSISTOR	IRFR9120N	unknown	TO252AA	generic P channe		
l MOS transistor (enhancement type)							
X1/X4/X2/Q2	NMOS_TRANSISTOR	IRFR220N	unknown	TO252AA	generic N channe		
l MOS transistor (enhancement type)							
X1/X4/X2/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/X2/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/X2/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/X2/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/X2/R7	RESISTOR	200	1%	1/10W	0603	Resistor	
X1/X4/X2/Q4	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown		
X1/X4/X2/Q3	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown		
X1/X4/X2/R2	RESISTOR	1	1%	1W	2512	Resistor	
X1/X4/X2/R1	RESISTOR	1	1%	1W	2512	Resistor	
X1/X4/X1/Q1	PMOS_TRANSISTOR	IRFR9120N	unknown	TO252AA	generic P channe		
l MOS transistor (enhancement type)							
X1/X4/X1/Q2	NMOS_TRANSISTOR	IRFR220N	unknown	TO252AA	generic N channe		
l MOS transistor (enhancement type)							
X1/X4/X1/R6	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/X1/R5	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/X1/R4	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/X1/R3	RESISTOR	3.74k	1%	1/10W	0603	Resistor	
X1/X4/X1/R7	RESISTOR	200	1%	1/10W	0603	Resistor	
X1/X4/X1/Q4	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown		
X1/X4/X1/Q3	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown		
X1/X4/X1/R2	RESISTOR	1	1%	1W	2512	Resistor	
X1/X4/X1/R1	RESISTOR	1	1%	1W	2512	Resistor	

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X1/X4/R3	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X4/R4	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X4/R5	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X4/U1	DG403	unknown	unknown SO16	Dual SPDT switch		
X1/X10/C5	CAPACITOR	4.7uF	10WVDC X7R	1812	Ceramic capacitor	
X1/X10/R22	RESISTOR	604k	1% 1/10W	0603	Resistor	
X1/X10/R21	RESISTOR	604k	1% 1/10W	0603	Resistor	
X1/X10/C10	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
X1/X10/C9	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
X1/X10/C4	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X1/X10/R20	RESISTOR	10	1% 1/10W	0603	Resistor	
X1/X10/C8	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
X1/X10/R18	RESISTOR	10k	1% 1/10W	0603	Resistor	
X1/X10/Q6	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
X1/X10/R19	RESISTOR	16.9	1% 1/10W	0603	Resistor	
X1/X10/Q5	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
X1/X10/R16	RESISTOR	20k	1% 1/10W	0603	Resistor	
X1/X10/R17	RESISTOR	499	1% 1/10W	0603	Resistor	
X1/X10/Q4	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown	
X1/X10/C7	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X1/X10/R13	RESISTOR	1k	1% 1/10W	0603	Resistor	
X1/X10/R14	RESISTOR	32.4k	1% 1/10W	0603	Resistor	
X1/X10/C6	CAPACITOR	4.7pF	100WVDC NP0	0603	Ceramic capacitor	
X1/X10/R15	RESISTOR	301k	1% 1/10W	0603	Resistor	
X1/X10/R11	RESISTOR	10	1% 1/10W	0603	Resistor	
X1/X10/C1	CAPACITOR	4.7pF	100WVDC NP0	0603	Ceramic capacitor	
X1/X10/Q1	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
X1/X10/R7	RESISTOR	499	1% 1/10W	0603	Resistor	
X1/X10/R10	RESISTOR	49.9	1% 1/10W	0603	Resistor	
X1/X10/U1	DUAL_OPAMP	LM6142AIM	N/A	SO8	generic dual operational amplifier, SO8	
X1/X10/R8	RESISTOR	10k	1% 1/10W	0603	Resistor	
X1/X10/R2	RESISTOR	26.7k	1% 1/10W	0603	Resistor	
X1/X10/R1	RESISTOR	34.0k	1% 1/10W	0603	Resistor	
X1/X10/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
X1/X10/R3	RESISTOR	1k	1% 1/10W	0603	Resistor	
X1/X10/R4	RESISTOR	32.4k	1% 1/10W	0603	Resistor	
X1/X10/R5	RESISTOR	301k	1% 1/10W	0603	Resistor	
X1/X10/R6	RESISTOR	20k	1% 1/10W	0603	Resistor	
X1/X10/C3	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor	
X1/X10/R9	RESISTOR	16.9	1% 1/10W	0603	Resistor	
X1/X10/Q3	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown	
X1/X10/Q2	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown	
X1/X9/R9	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X9/R8	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X9/R7	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X9/R6	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X9/R3	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X9/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	

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r					
X1/X9/R4	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X9/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor
r					
X1/X9/R5	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X9/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X1/X9/U1	DG403	unknown	unknown	SO16	Dual SPDT switch
X1/X8/R9	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X8/R8	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X8/R7	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X8/R6	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X8/R3	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X8/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X1/X8/R4	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X8/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor
r					
X1/X8/R5	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X8/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X1/X8/U1	DG403	unknown	unknown	SO16	Dual SPDT switch
X1/X7/R9	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X7/R8	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X7/R7	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X7/R6	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X7/R3	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X7/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X1/X7/R4	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X7/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor
r					
X1/X7/R5	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X7/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X1/X7/U1	DG403	unknown	unknown	SO16	Dual SPDT switch
X1/X6/R9	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X6/R8	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X6/R7	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X6/R6	RESISTOR	75	1% 1/10W	0603	Resistor
X1/X6/R3	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X6/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X1/X6/R4	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X6/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor
r					
X1/X6/R5	RESISTOR	100	1% 1/10W	0603	Resistor
X1/X6/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor
r					
X1/X6/U1	DG403	unknown	unknown	SO16	Dual SPDT switch
X1/X5/C5	CAPACITOR	4.7uF	10WVDC X7R	1812	Ceramic capacitor
r					
X1/X5/R22	RESISTOR	604k	1% 1/10W	0603	Resistor
X1/X5/R21	RESISTOR	604k	1% 1/10W	0603	Resistor
X1/X5/C10	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor
r					
X1/X5/C9	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacitor
r					
X1/X5/C4	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor

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r						
X1/X5/R20	RESISTOR	10	1% 1/10W	0603	Resistor	
X1/X5/C8	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacito	
r						
X1/X5/R18	RESISTOR	10k	1% 1/10W	0603	Resistor	
X1/X5/Q6	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
X1/X5/R19	RESISTOR	16.9	1% 1/10W	0603	Resistor	
X1/X5/Q5	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
X1/X5/R16	RESISTOR	20k	1% 1/10W	0603	Resistor	
X1/X5/R17	RESISTOR	499	1% 1/10W	0603	Resistor	
X1/X5/Q4	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown	
X1/X5/C7	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacito	
r						
X1/X5/R13	RESISTOR	1k	1% 1/10W	0603	Resistor	
X1/X5/R14	RESISTOR	32.4k	1% 1/10W	0603	Resistor	
X1/X5/C6	CAPACITOR	4.7pF	100WVDC NP0	0603	Ceramic capacito	
r						
X1/X5/R15	RESISTOR	301k	1% 1/10W	0603	Resistor	
X1/X5/R11	RESISTOR	10	1% 1/10W	0603	Resistor	
X1/X5/C1	CAPACITOR	4.7pF	100WVDC NP0	0603	Ceramic capacito	
r						
X1/X5/Q1	NPN_TRANSISTOR	MMBT2222A	unknown	UB	unknown	
X1/X5/R7	RESISTOR	499	1% 1/10W	0603	Resistor	
X1/X5/R10	RESISTOR	49.9	1% 1/10W	0603	Resistor	
X1/X5/U1	DUAL_OPAMP	LM6142AIM	N/A	SO8	generic dual ope	
rational amplifier, SO8						
X1/X5/R8	RESISTOR	10k	1% 1/10W	0603	Resistor	
X1/X5/R2	RESISTOR	26.7k	1% 1/10W	0603	Resistor	
X1/X5/R1	RESISTOR	34.0k	1% 1/10W	0603	Resistor	
X1/X5/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacito	
r						
X1/X5/R3	RESISTOR	1k	1% 1/10W	0603	Resistor	
X1/X5/R4	RESISTOR	32.4k	1% 1/10W	0603	Resistor	
X1/X5/R5	RESISTOR	301k	1% 1/10W	0603	Resistor	
X1/X5/R6	RESISTOR	20k	1% 1/10W	0603	Resistor	
X1/X5/C3	CAPACITOR	1uF	25WVDC X7R	1812	Ceramic capacito	
r						
X1/X5/R9	RESISTOR	16.9	1% 1/10W	0603	Resistor	
X1/X5/Q3	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown	
X1/X5/Q2	PNP_TRANSISTOR	MMBT2907A	unknown	UB	unknown	
X1/X11/R9	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X11/R8	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X11/R7	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X11/R6	RESISTOR	75	1% 1/10W	0603	Resistor	
X1/X11/R3	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X11/C3	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacito	
r						
X1/X11/R4	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X11/C2	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacito	
r						
X1/X11/R5	RESISTOR	100	1% 1/10W	0603	Resistor	
X1/X11/C1	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacito	
r						
X1/X11/U1	DG403	unknown	unknown	SO16	Dual SPDT switch	
X1/R9	RESISTOR	604k	1%	0603	Resistor	
X1/R1	RESISTOR	56.2k	1%	0603	Resistor	
X1/R2	RESISTOR	200k	1%	0603	Resistor	
X1/C4	CAPACITOR	10pF	100WVDC NP0	0603	Ceramic capacitor	
X1/R8	RESISTOR	21.5	1% 1/10W	0603	Resistor	

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X1/C5	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
X1/R6	RESISTOR	49.9	1%	1/10W	0603	Resistor
X1/C3	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
X1/U1	DUAL_OPAMP amplifier, SO8	LM6142AIM		N/A	SO8	generic dual operational
X1/R7	RESISTOR	604k	1%		0603	Resistor
X1/R3	RESISTOR	56.2k	1%		0603	Resistor
X1/R4	RESISTOR	200k	1%		0603	Resistor
X1/C1	CAPACITOR	10pF	100WVDC	NP0	0603	Ceramic capacitor
X1/R5	RESISTOR	21.5	1%	1/10W	0603	Resistor
X1/C2	CAPACITOR	22nF	50WVDC	X7R	0603	Ceramic capacitor
C48	POLARIZED_CAPACITOR		47uF	15WVDC	2711	Tantalum capacitor
C47	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C46	CAPACITOR	1uF	10WVDC	X7R	0805	Ceramic capacitor
C45	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C44	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C43	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C42	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C41	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C40	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C39	CAPACITOR	1uF	10WVDC	X7R	0805	Ceramic capacitor
C38	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C37	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C36	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C35	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C34	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C33	POLARIZED_CAPACITOR		47uF	15WVDC	2711	Tantalum capacitor
C32	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C31	CAPACITOR	1uF	10WVDC	X7R	0805	Ceramic capacitor
C30	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C29	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C28	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C27	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C26	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C25	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C24	CAPACITOR	1uF	10WVDC	X7R	0805	Ceramic capacitor
C23	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C22	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C21	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C20	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C19	POLARIZED_CAPACITOR		220uF	6WVDC	2915	Tantalum capacitor
C18	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C17	CAPACITOR	1uF	10WVDC	X7R	0805	Ceramic capacitor
C16	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C15	POLARIZED_CAPACITOR		220uF	6WVDC	2915	Tantalum capacitor
C14	CAPACITOR	1uF	10WVDC	X7R	0805	Ceramic capacitor
C13	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C12	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C11	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C10	CAPACITOR	1uF	10WVDC	X7R	0805	Ceramic capacitor
C59	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C58	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C57	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C56	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor
C55	POLARIZED_CAPACITOR		220uF	6WVDC	2915	Tantalum capacitor
C54	POLARIZED_CAPACITOR		47uF	15WVDC	2711	Tantalum capacitor
C53	CAPACITOR	4.7uF	10WVDC	X7R	1812	Ceramic capacitor
C52	CAPACITOR	1uF	10WVDC	X7R	0805	Ceramic capacitor
C51	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor

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R67	RESISTOR	20	1% 1/10W	0603	Resistor	
R68	RESISTOR	62	1% 1/10W	0805	Resistor	
R62	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
U1	MAX308CSE+	unknown	unknown SO16	8 input	analog mux	
C84	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
R65	RESISTOR	121k	1% 0603	Resistor		
R66	RESISTOR	121k	1% 0603	Resistor		
R63	RESISTOR	121k	1% 0603	Resistor		
R64	RESISTOR	121k	1% 0603	Resistor		
C68	CAPACITOR	4.7uF	10WVDC X7R	1812	Ceramic capacitor	
C73	CAPACITOR	10nF	50WVDC X7R	0603	Ceramic capacitor	
C77	CAPACITOR	1uF	10WVDC X7R	0805	Ceramic capacitor	
C74	CAPACITOR	10nF	50WVDC X7R	0603	Ceramic capacitor	
R70	RESISTOR	750	1% 1/10W	0603	Resistor	
R69	RESISTOR	750	1% 1/10W	0603	Resistor	
C75	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
C76	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
U2	AD7984BRMZ	unknown	unknown MSOP10	ADC		
C94	CAPACITOR	10pF	100WVDC NP0	0603	Ceramic capacitor	
R59	RESISTOR	604k	1% 0603	Resistor		
R58	RESISTOR	604k	1% 0603	Resistor		
R57	RESISTOR	604k	1% 0603	Resistor		
R56	RESISTOR	604k	1% 0603	Resistor		
R55	RESISTOR	604k	1% 0603	Resistor		
R54	RESISTOR	604k	1% 0603	Resistor		
R53	RESISTOR	604k	1% 0603	Resistor		
R52	RESISTOR	24.9k	1% 0603	Resistor		
C70	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
R60	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
R61	RESISTOR	3.74k	1% 1/10W	0603	Resistor	
U3	MAX308CSE+	unknown	unknown SO16	8 input	analog mux	
C71	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
R5	RESISTOR	121k	1% 0603	Resistor		
U6	DUAL_OPAMP	LT2078AIS8	N/A	SO8	unknown	
U5	DUAL_OPAMP	LT2078AIS8	N/A	SO8	unknown	
C63	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
R7	RESISTOR	51.1	1% 1/10W	0603	Resistor	
C61	CAPACITOR	22nF	50WVDC X7R	0603	Ceramic capacitor	
C60	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
R3	RESISTOR	51.1	1% 1/10W	0603	Resistor	
R1	RESISTOR	51.1	1% 1/10W	0603	Resistor	
R14	RESISTOR	8.87k	1% 0603	Resistor		
R15	RESISTOR	71.5k	1% 0603	Resistor		
R13	RESISTOR	140k	1% 0603	Resistor		
R4	RESISTOR	121k	1% 0603	Resistor		
R2	RESISTOR	121k	1% 0603	Resistor		
C96	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
C95	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
R99	RESISTOR	100	5% 1/10W	0603	Resistor	
R98	RESISTOR	100	5% 1/10W	0603	Resistor	
U12	MAX9180	unknown	unknown SC70-6	unknown		
U11	MAX9180	unknown	unknown SC70-6	unknown		
Js	StackConn	unknown	unknown RC422-200-201-3900		Stacking connect	
or						
R71	RESISTOR	4.99k	1% 0603	Resistor		
C88	CAPACITOR	0.1uF	16WVDC X7R	0603	Ceramic capacitor	
U8	OSC	2104D60M0000YAX	unknown FP14	Surface Mount	Oscillator	
R84	RESISTOR	DNP	5% 1/10W	0603	Resistor	
J8	Header	unknown	unknown HEADER16	unknown		

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R83	RESISTOR	DNP	5% 1/10W	0603	Resistor		
R82	RESISTOR	DNP	5% 1/10W	0603	Resistor		
R81	RESISTOR	DNP	5% 1/10W	0603	Resistor		
R80	RESISTOR	DNP	5% 1/10W	0603	Resistor		
R91	RESISTOR	4.7k	5% 1/10W	0603	Resistor		
R87	RESISTOR	4.7k	5% 1/10W	0603	Resistor		
R88	RESISTOR	1k	5% 1/10W	0603	Resistor		
R89	RESISTOR	1k	5% 1/10W	0603	Resistor		
R90	RESISTOR	1k	5% 1/10W	0603	Resistor		
J6	MDM9S	unknown	unknown	MDM9S	unknown		
C99	CAPACITOR	0.1uF	16WVDC	X7R	0603	Ceramic capacitor	
U9	DS26LV32A	unknown	unknown	CFP16	unknown		
J9	HEADER14	87832-1420	unknown	HEADER14	SMT2MM	unknown	
R94	RESISTOR	4.7k	5% 1/10W	0603	Resistor		
R95	RESISTOR	4.7k	5% 1/10W	0603	Resistor		
R96	RESISTOR	4.7k	5% 1/10W	0603	Resistor		
R97	RESISTOR	4.7k	5% 1/10W	0603	Resistor		
U4	Artix	XC7A50T-1FGG484C	unknown	BGA484	unknown		

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