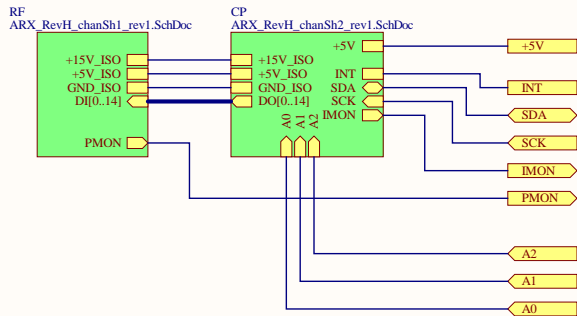
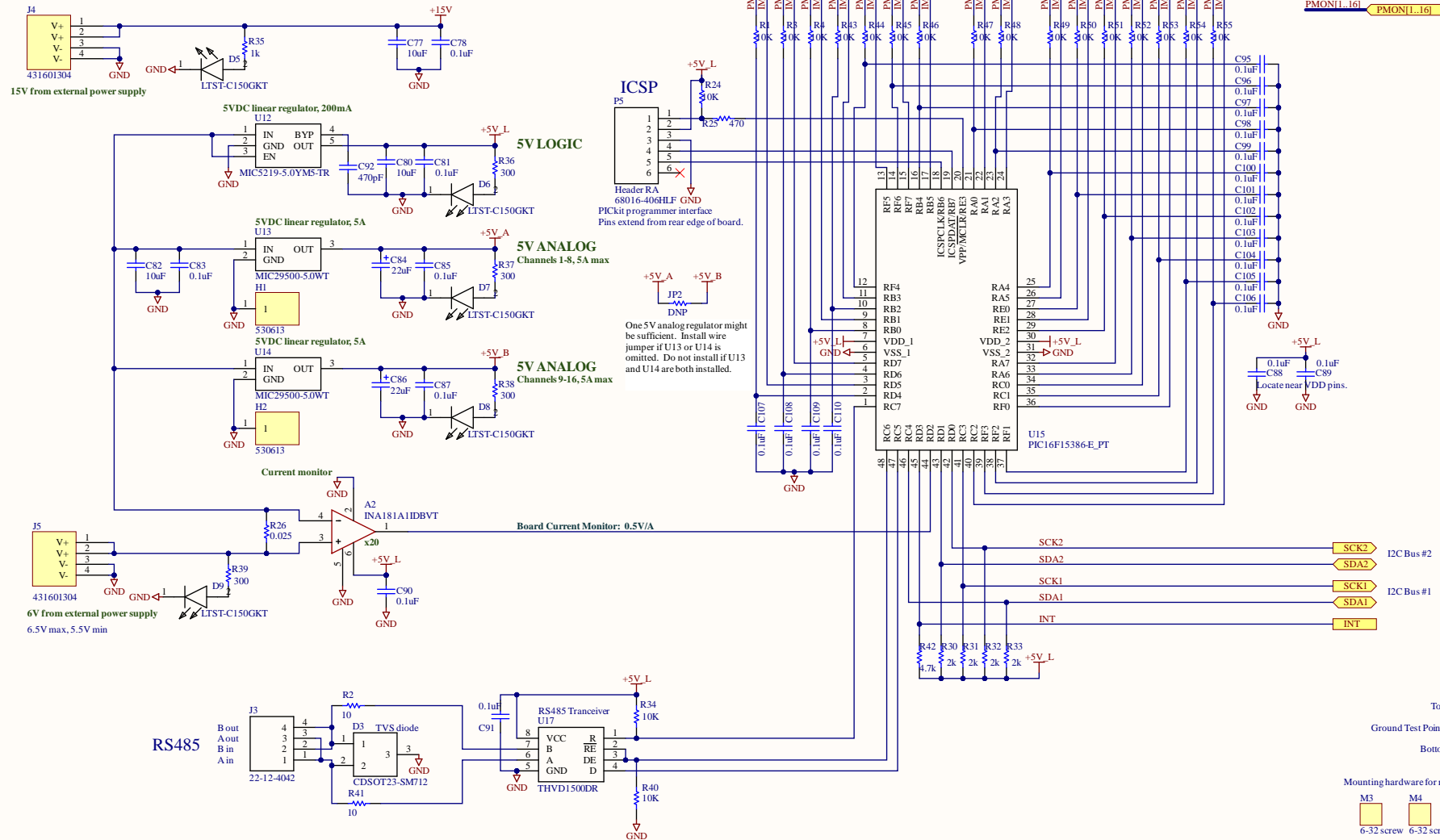


Title OVRO-LWA: Analog Receiver, Rev H		
Size B	Number	Revision
Date: 7/25/2021	Sheet bf	
File: C:\Caltech\...\ARX_RevH_top.SchDoc	Drawn By: L. D'Addario	



2020-09-21 Remove TMON sheet entry and port.

Title		
OVRO-LWA: Analog Receiver, Rev H		
Size	Number	Revision
B		
Date:	7/25/2021	Sheet 2 of
File:	C:\Caltech\...\ARX_RevH_chan_rev1.SchDoc	Drawn By: L. D'Addario



Title			OVRO-LWA: Analog Receiver, Rev H		
Size	Number	Revision			
Orcad B	Common Circuitry: Control and Power	Rev H			
Date:	7/25/2021	Sheet	30		
File:	C:\Caltech\JAX Rev H Control and Power\Drawings\	L.D'Addario			

Shield can encloses components on this sheet, all of which are on top side of board unless otherwise stated

First stage amplifier

Gain Control Attenuator 1

NOTE 1:
For coax input omit JP1 and D2.
For fiber input omit L19 and J1.

L19 and R43 are for impedance matching and are optional. R43 may be omitted. L19 may be replaced by a 0-ohm resistor.

See NOTE 1

CATHODE
ANODE
TVS diode PESD15VU1UT,215

RF INPUT
COAX or FIBER

SC1
shield can

M1
BroachingNut
M7
2-56 screw
For mounting photodetector
(mechanical only)

+15V_ISO
+5V_ISO
GND_ISO

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HPF1 (Butterworth n=5 18.2MHz)

LPF1 (Chebyshev 0.1dB 73.0MHz)

HPF2 (Butterworth n=5 14.9MHz)

HPF2 BYPASS OPTION: DNI L12, L13, C43. Replace C42 with 0.1uF. Replace C35 and C44 with zero-ohm jumpers. Implemented on all 60 units of May 2012 production run.

Second stage amplifier

Gain Control Attenuator 2

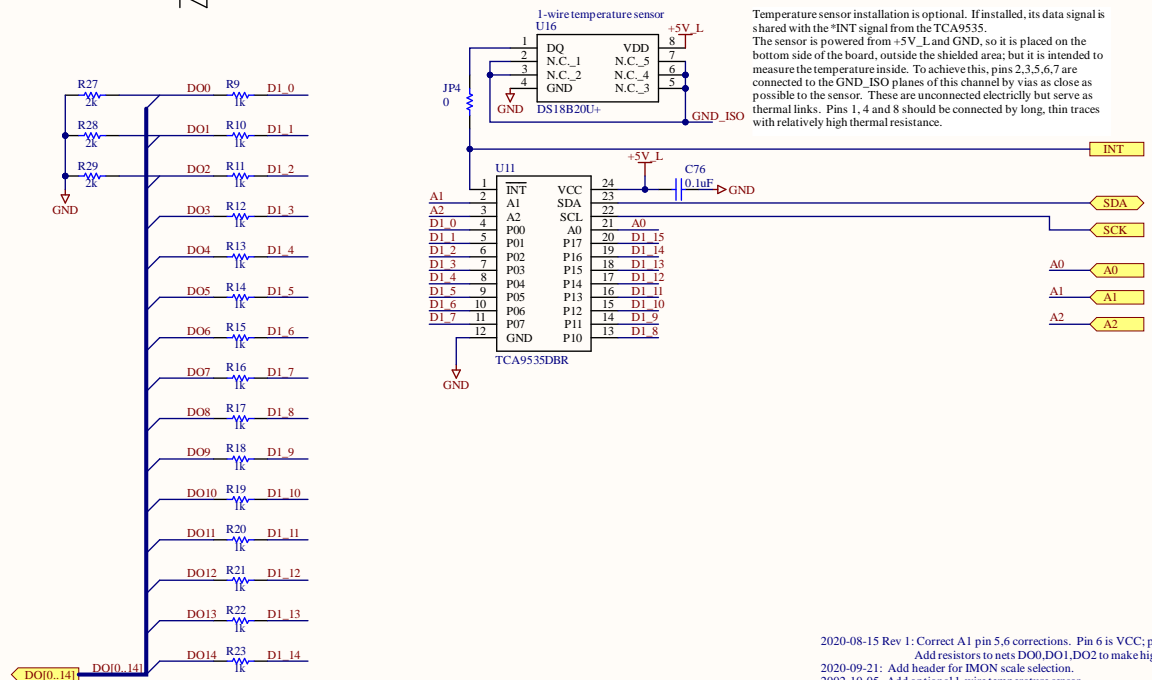
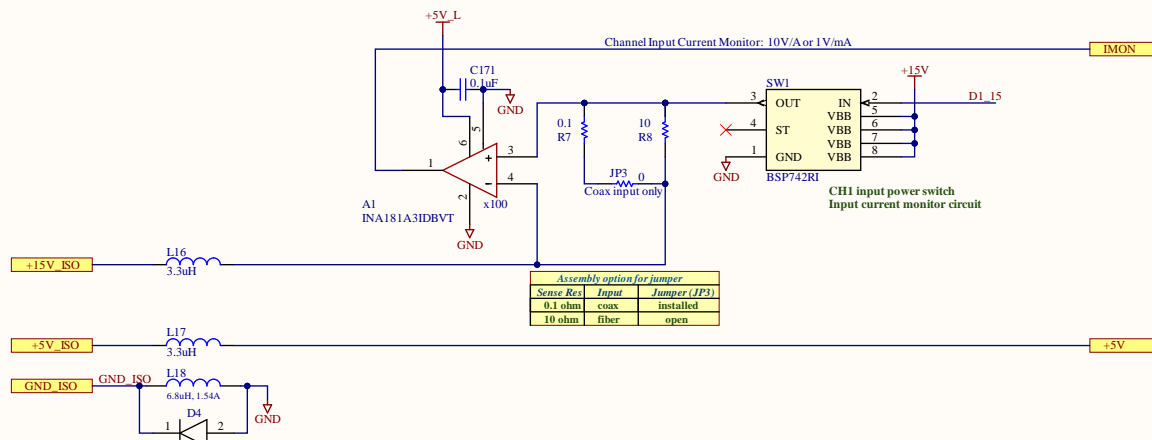
Third stage amplifier

Output RF Power Monitor

2020-08-15 Rev 1: Reverse order of control bits to U1 and U8.
Connect U5:U8-11 (LS) to ground, not 5V.
2020-09-20 Revise thermistor circuit and add jumper.
2020-10-17 Delete thermistor circuit and jumper.
2020-10-17 Change footprint of JP1 to 0402 minimum.
2020-10-31 Corrected MPNs of some inductors. Added M1,M2.
2020-12-01 Power monitor resistors both 510 ohms. Fewer unique parts.
2020-12-24 Revise input matching, add notes. Add pins 0,3 to photodiode.
2021-02-01 Add 2-56 screws for photodetector mounting.
2021-07-25 Chance C70 from 0.1uF to 1000pF. Add note about LPF2 bypass.

Title		
OVRO-LWA: Analog Receiver, Rev H		
Size	Number	Revision
B	RF Signal Path (Shielded)	
Date:	7/25/2021	Sheet 4 of 4
File:	C:\Caltech\ARX RevH_chansh1_rev1	Author By:

Components on this sheet to be placed on bottom side



2020-08-15 Rev 1: Correct A1 pin 5,6 corrections. Pin 6 is VCC; pin 5 is REF, should be grounded.
Add resistors to nets DO0,DO1,DO2 to make high 3.3V for RF switches.

2020-09-21: Add header for IMON scale selection.

2002-10-05. Add optional 1-wire temperature sensor.

2002-10-05. Replace isolation inductors L1-18 with lower Rs parts.

2002-12-24. Change IP3 from header to wire jumper.

Title			OVRO-LWA: Analog Receiver, Rev H		
Size	Number			Revision	
Orcad B	Signal path power & control				
Date:	7/25/2021			Sheet of 5	
File:	C:\Caltech\...ARX RevH_chanSh2_rev			ShtNo: By:	