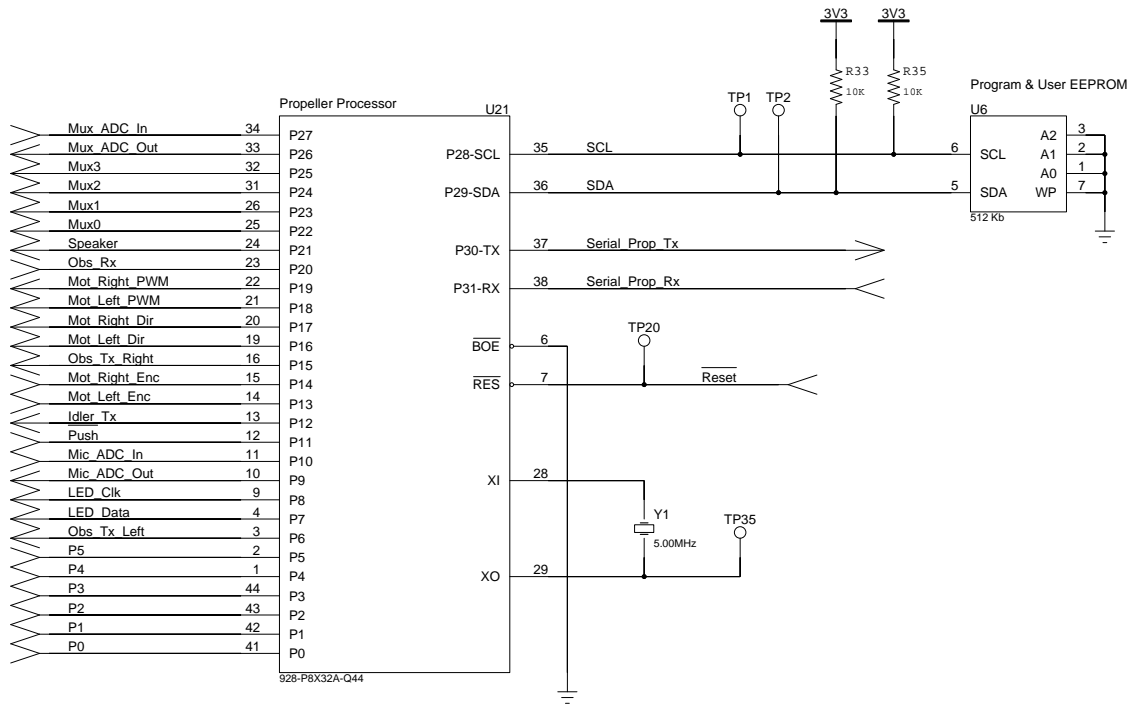
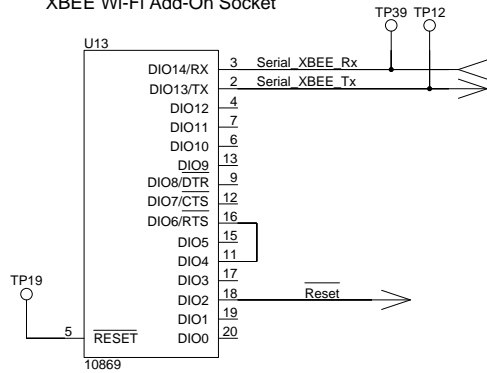


### S3 Robot Electrical Schematics

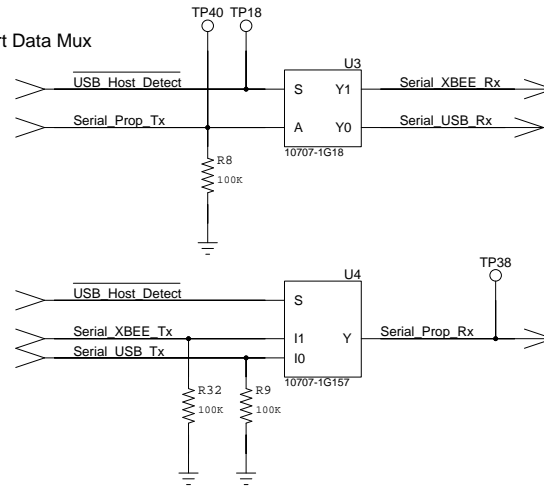
Public Release: Preliminary Rev A  
 Subversion Rev: 2535



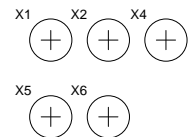
XBEE Wi-Fi Add-On Socket



Serial Port Data Mux



Mounting Holes

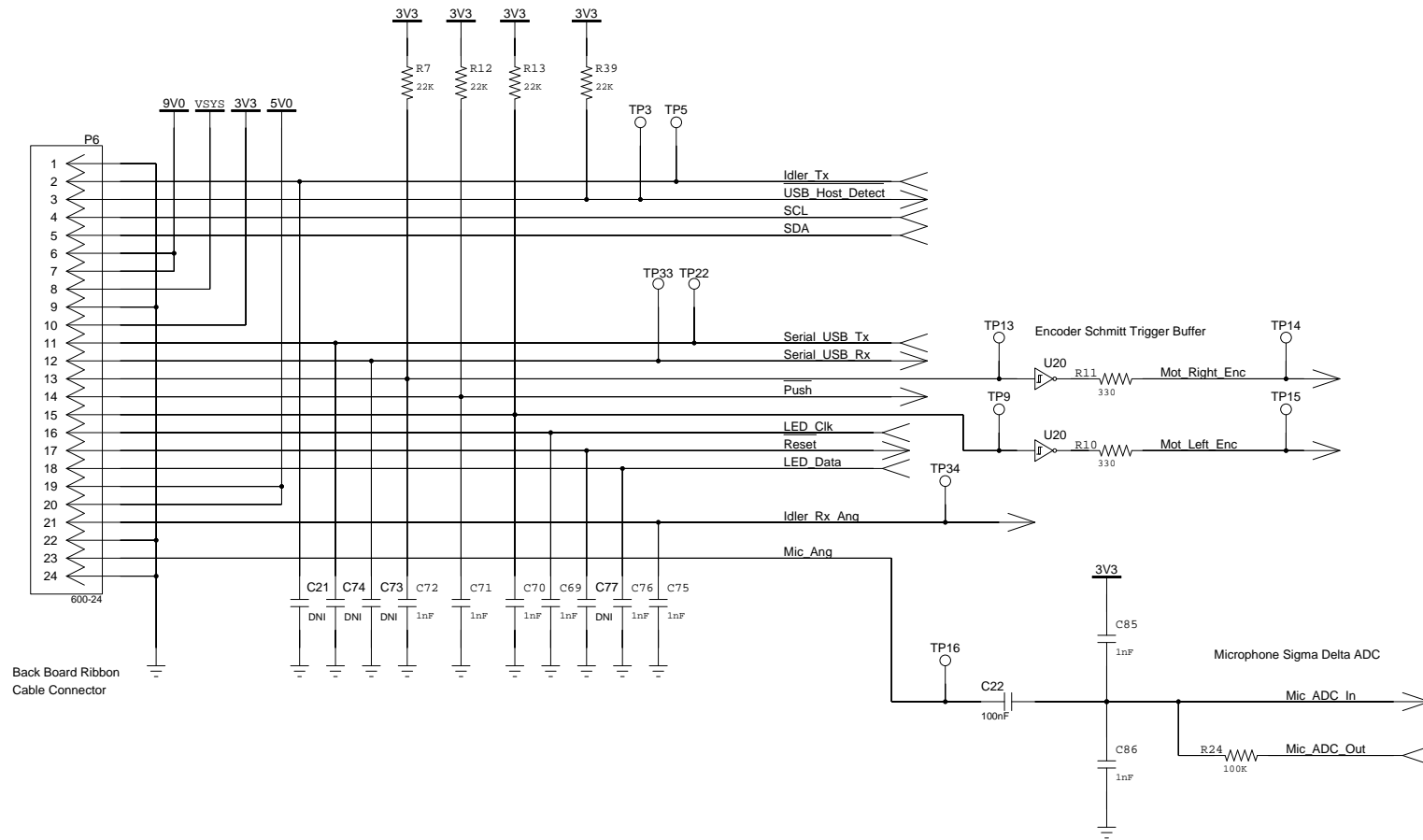


Designer: Ben Wirz  
 Element Products, Inc.  
<http://www.elementinc.com/>

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SIZE	DWG	10857A_Front_PCB	
A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	1	7	Scribbler3

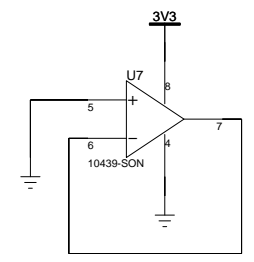
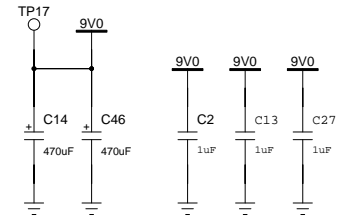
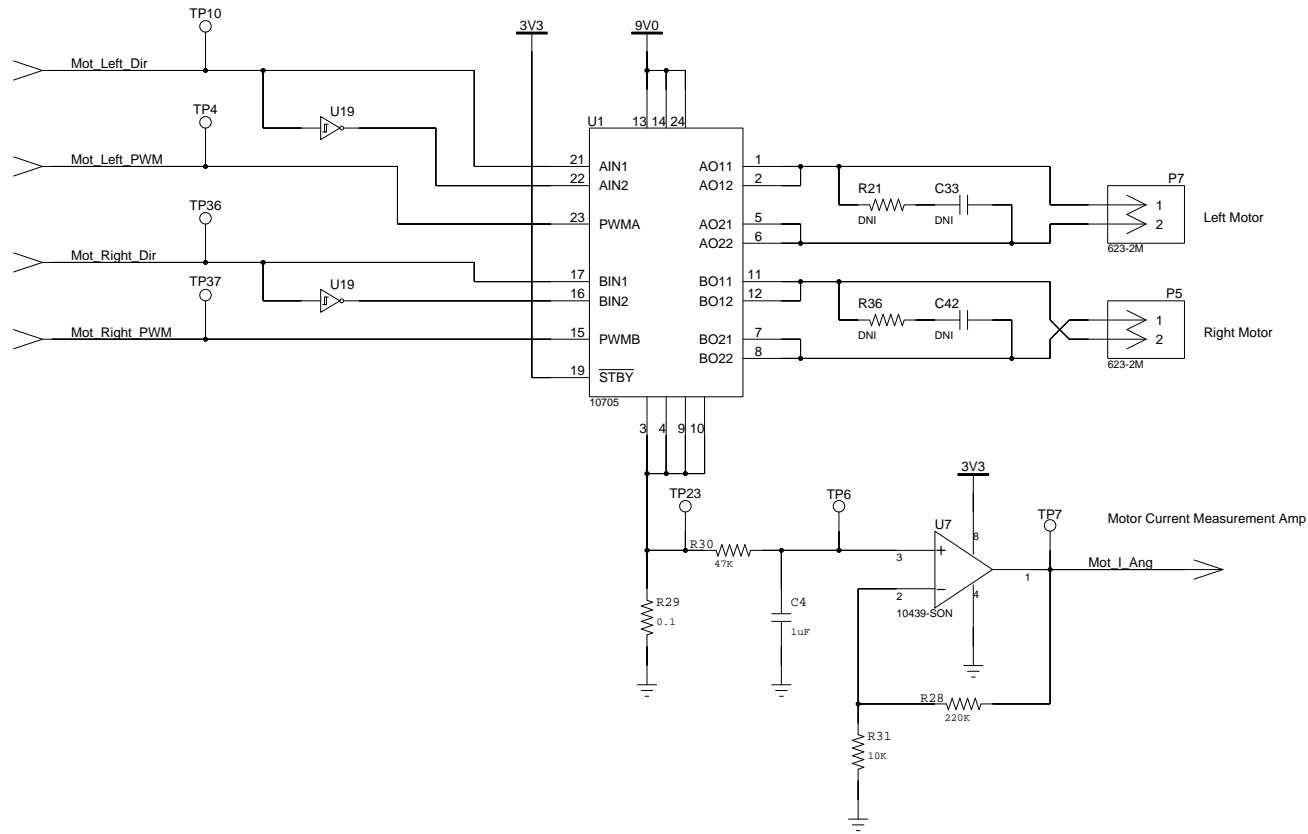
Back Board Interface



Back Board Ribbon  
Cable Connector

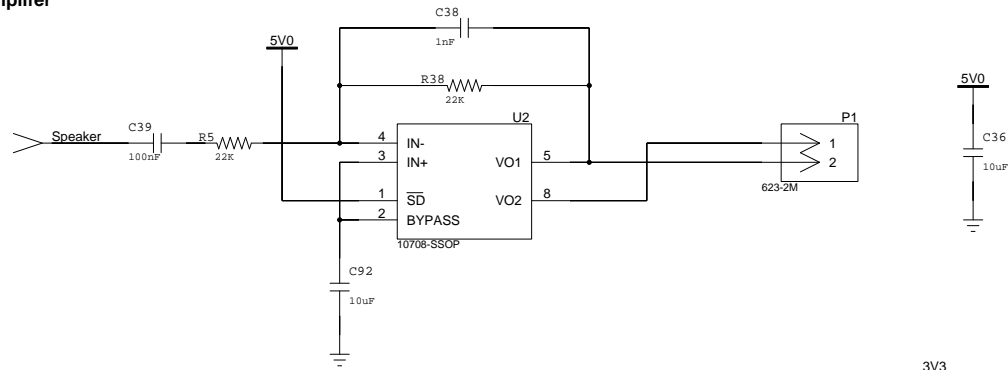
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A			
DRAWN BY B. WIRZ		SHEET OF 2 7	PROJECT Scribblers3

Motor Driver Bridge

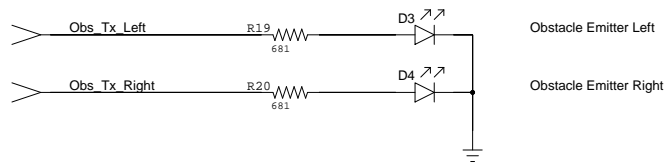


SIZE	DWG	10857A_Front_PCB		
A				
DRAWN BY	SHEET	OF	PROJECT	
B. WIRZ	3	7	Scribblers3	

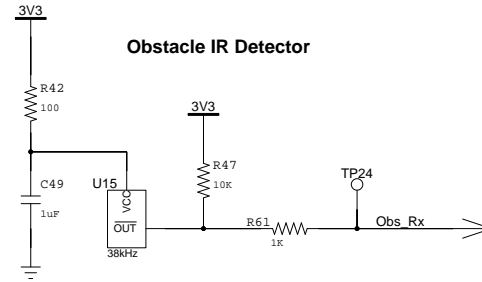
### Speaker Amplifier



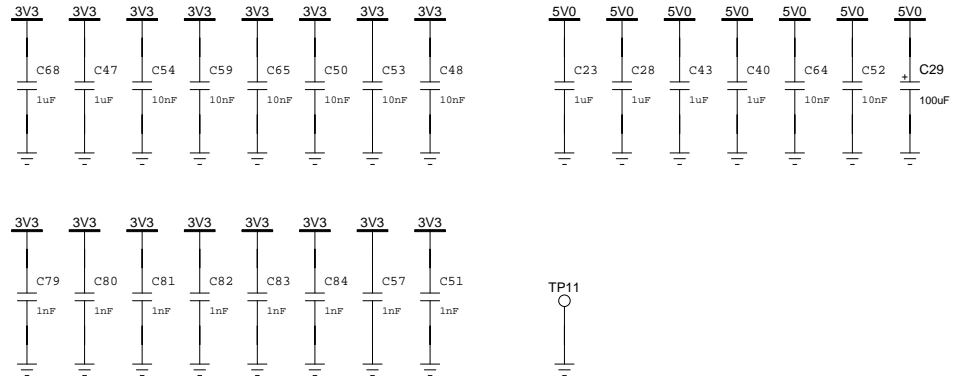
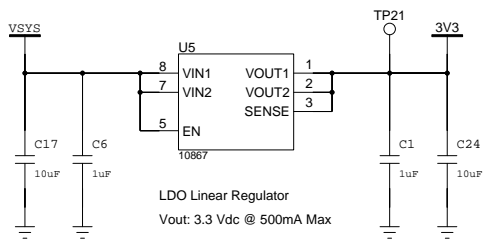
### Obstacle IR Emitters



### Obstacle IR Detector

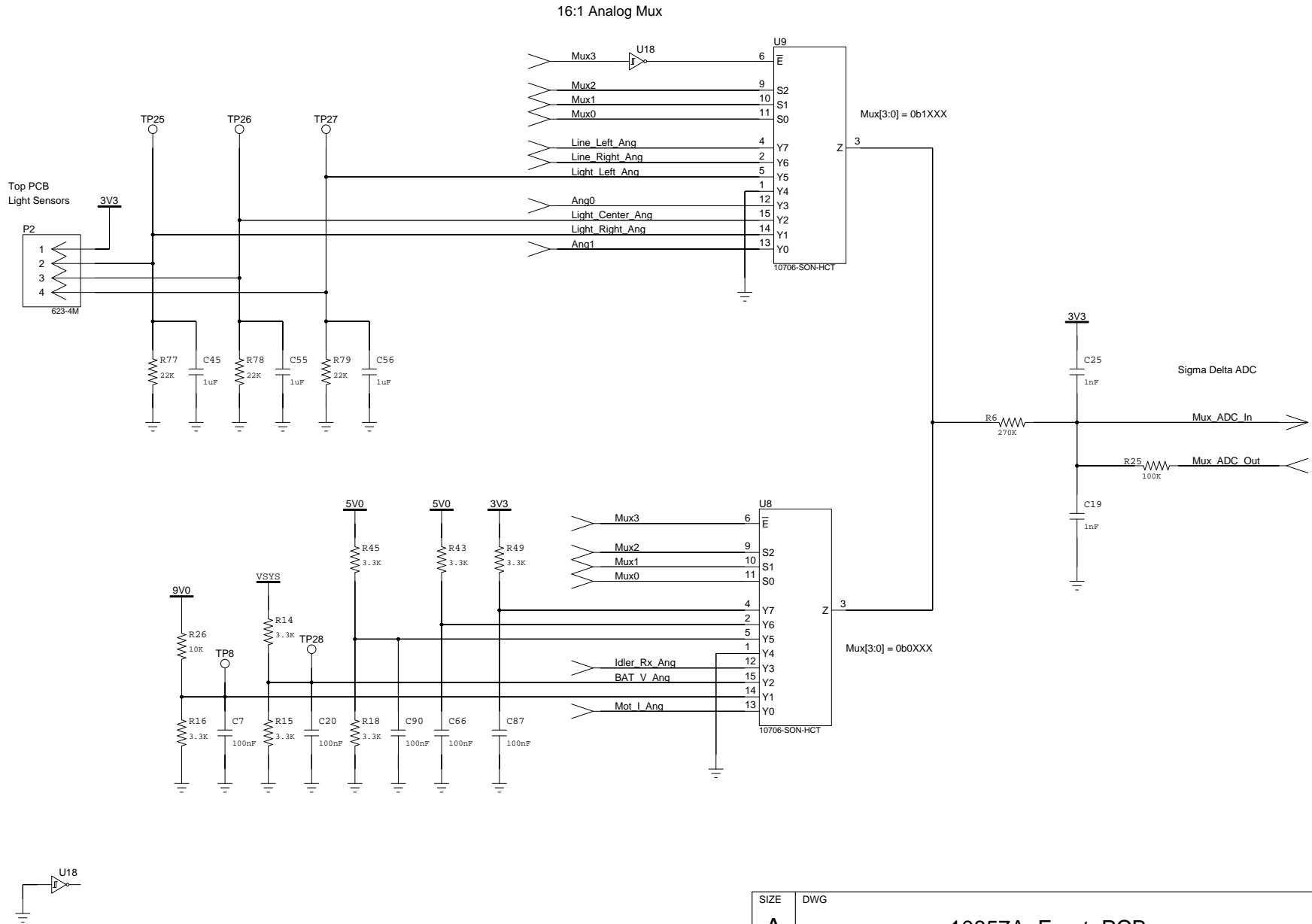


### 3V3 Power Supply



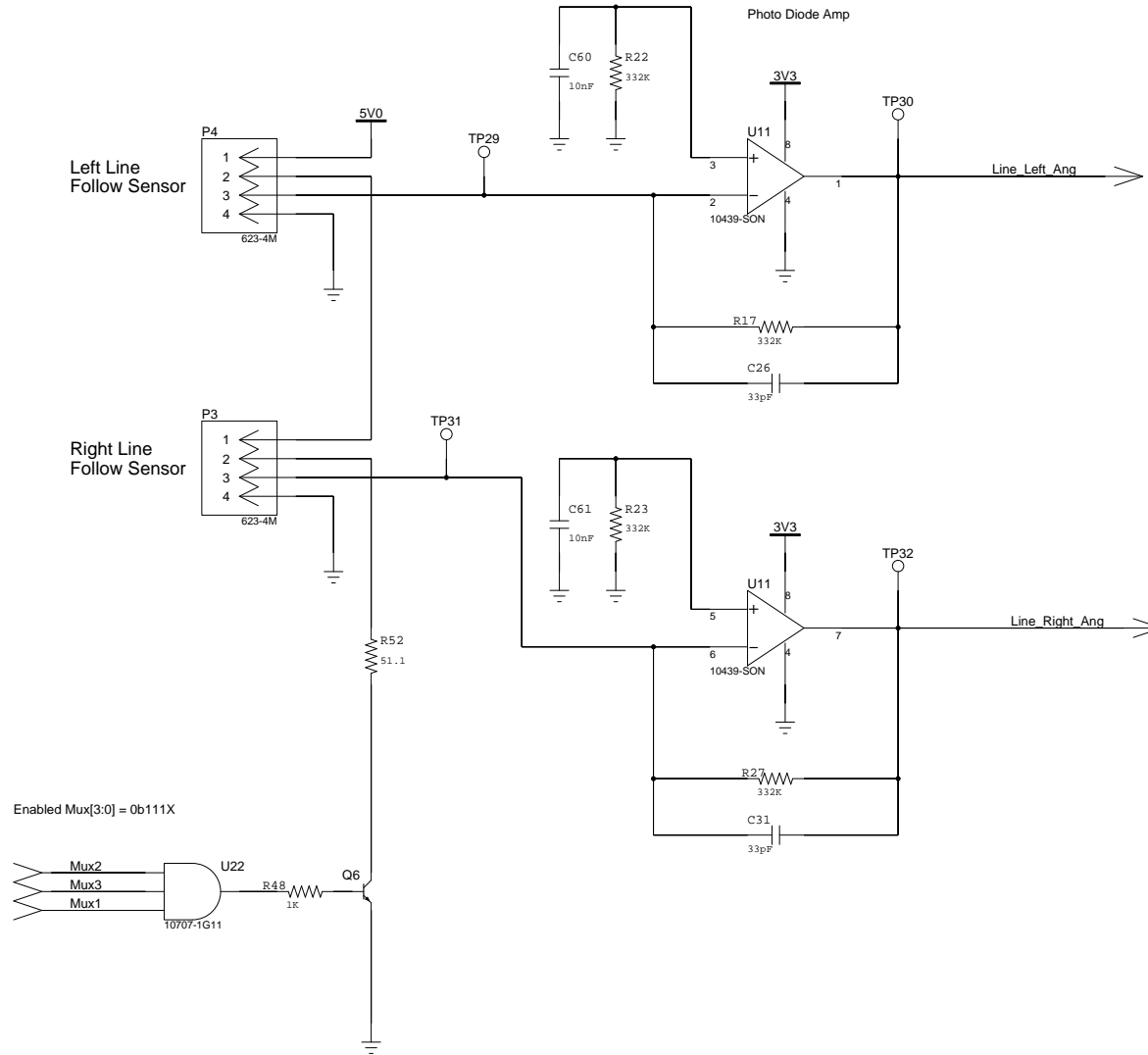
SIZE	DWG	10857A_Front_PCB	
A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	4	7	Scribblers3

16 Channel Sigma Delta ADC



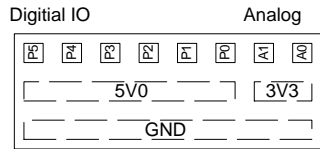
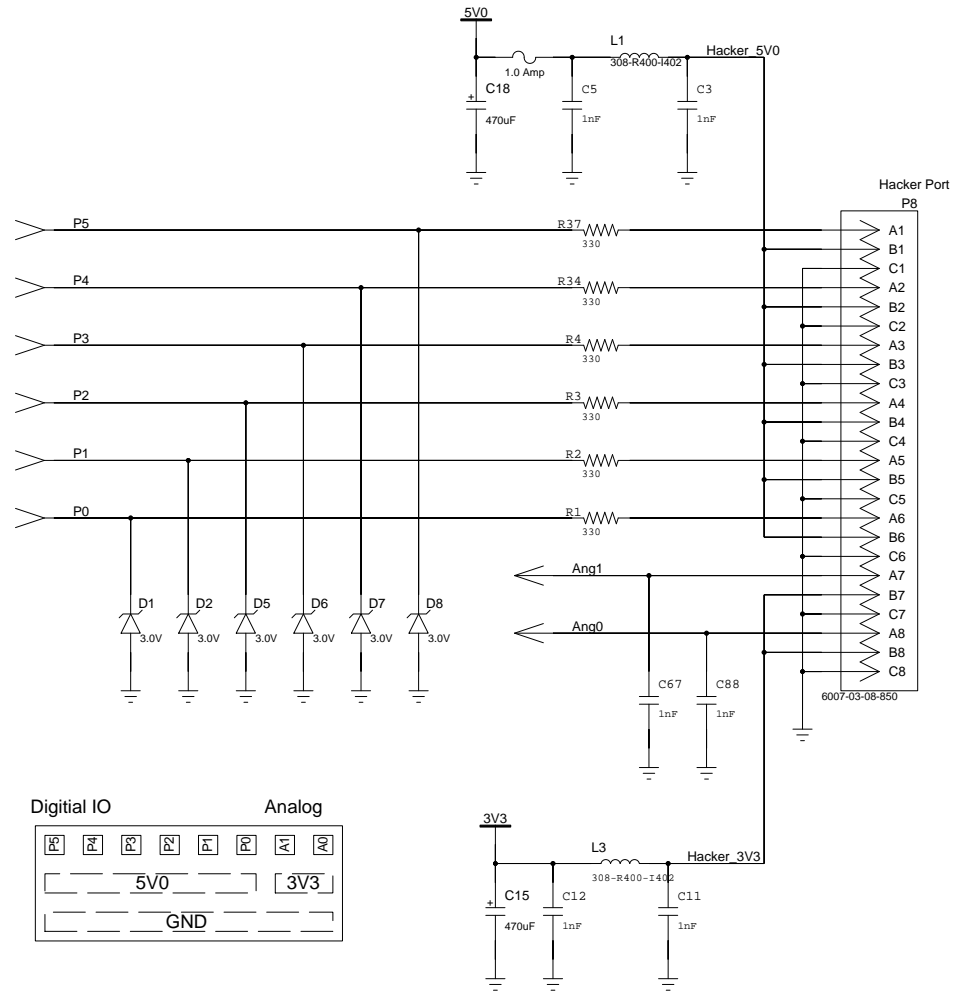
SIZE	DWG	10857A_Front_PCB	
A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	5	7	Scribblers3

Line Follow Sensor Interface



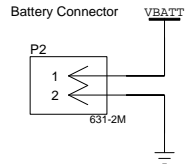
SIZE	DWG	10857A_Front_PCB	
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B. WIRZ	6	7	Scribbler3

# Hacker Port Interface



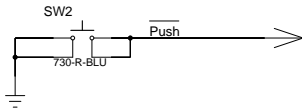
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A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	7	7	Scribblers3

Back PCB

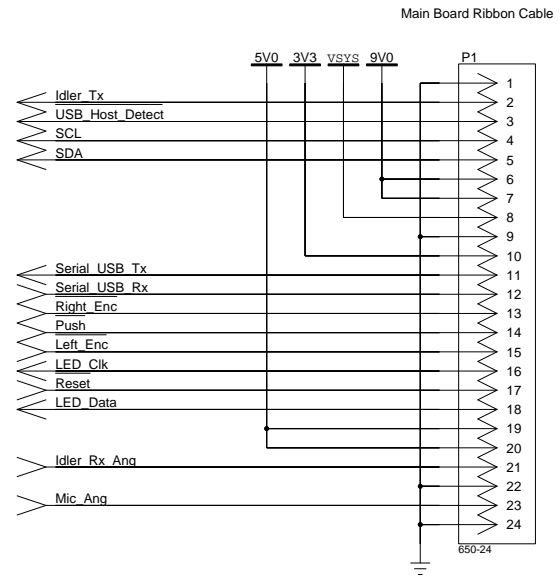
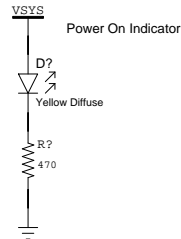
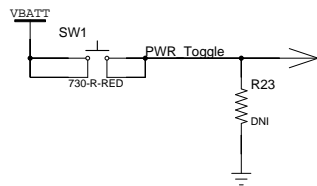


To Do: Battery Connector & Location

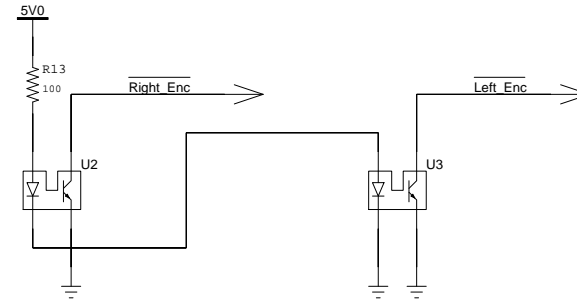
User Push Button Switch



Soft Power Push Button Switch



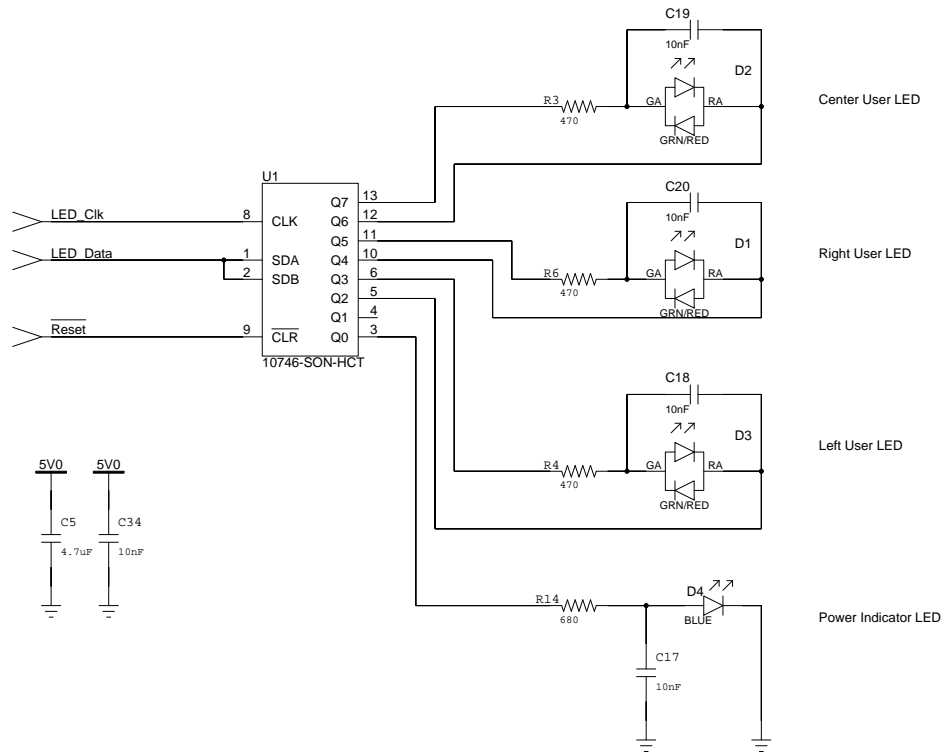
Motor Break Beam Encoders



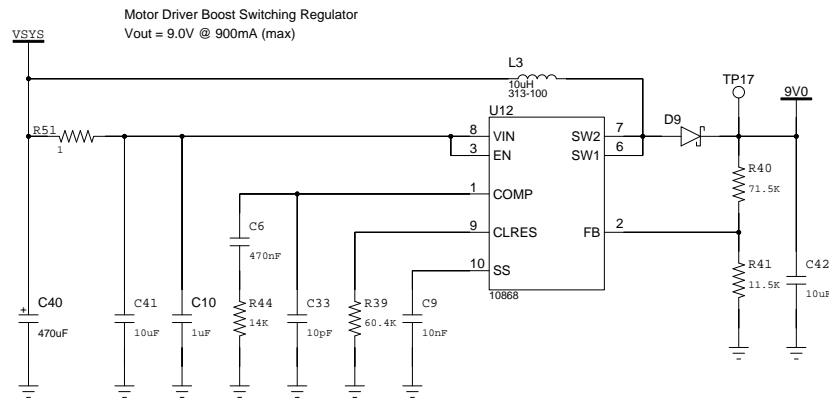
SIZE	DWG	10860A_Back_PCB	
A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	1	5	Scribblers3



**Bi-Color LED Driver**

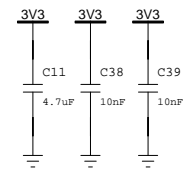
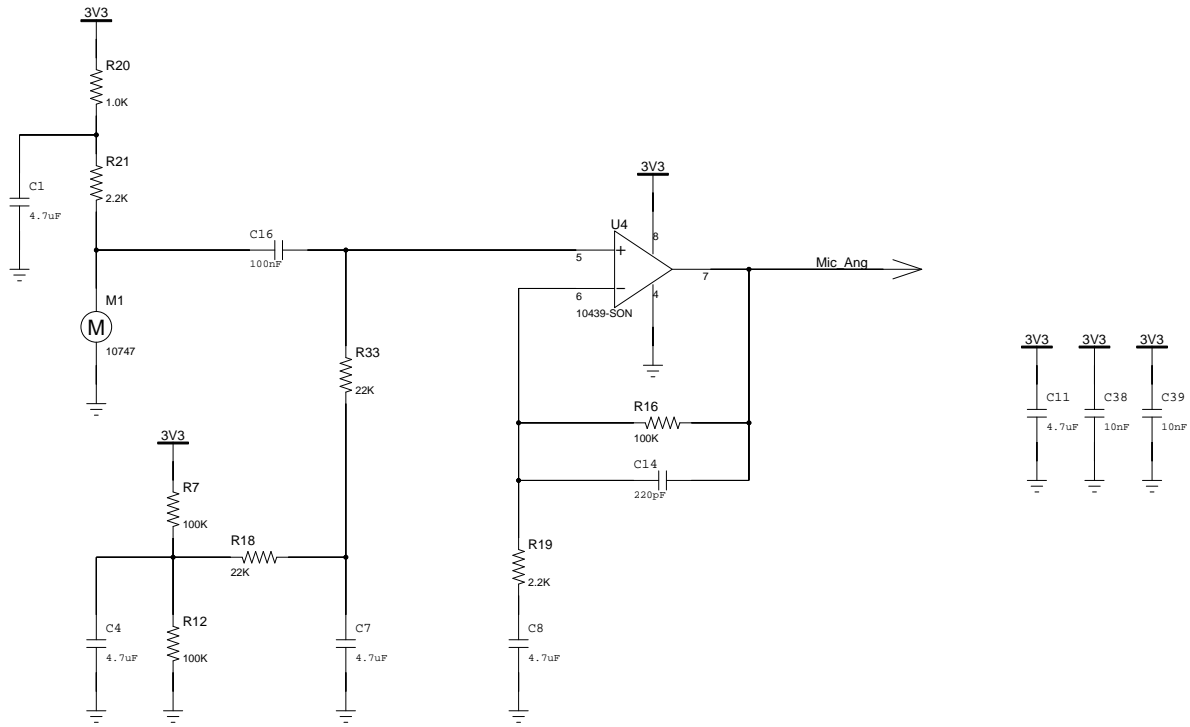


**9V0 Power Supply**

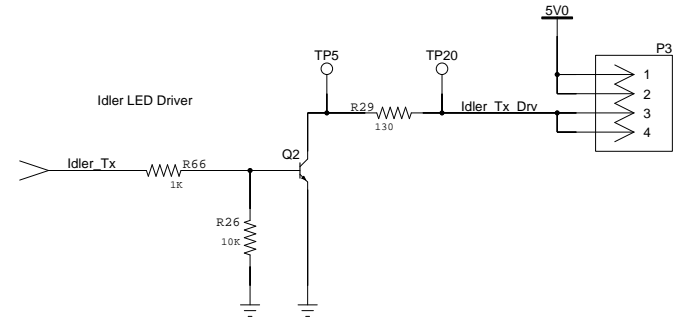
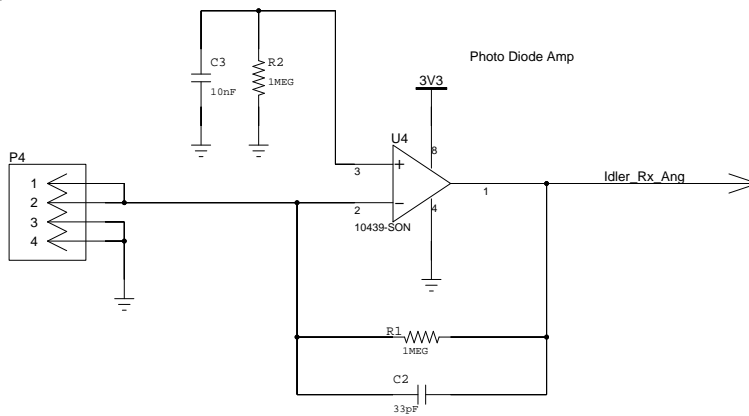


SIZE	DWG	<b>10860A_Back_PCB</b>	
<b>A</b>			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	2	5	Scribbler3

**Microphone Pre-Amp**

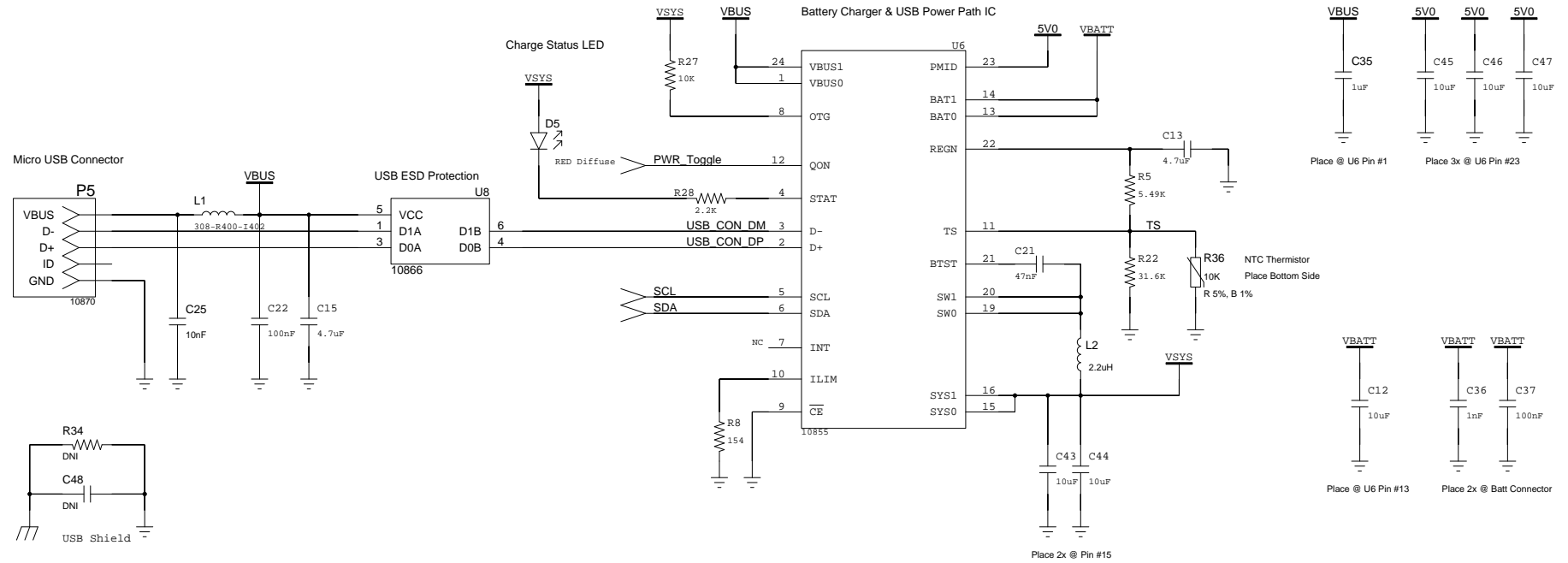


**Idler Wheel Break Beam Sensor**

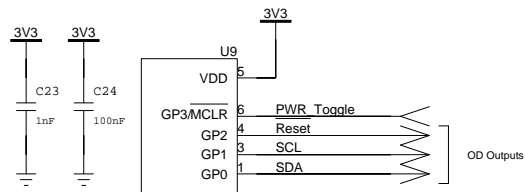


SIZE	DWG	10860A_Back_PCB		
<b>A</b>				
DRAWN BY	SHEET	OF	PROJECT	
B. WIRZ	3	5	Scribbler3	

### Battery Power Path & Charger

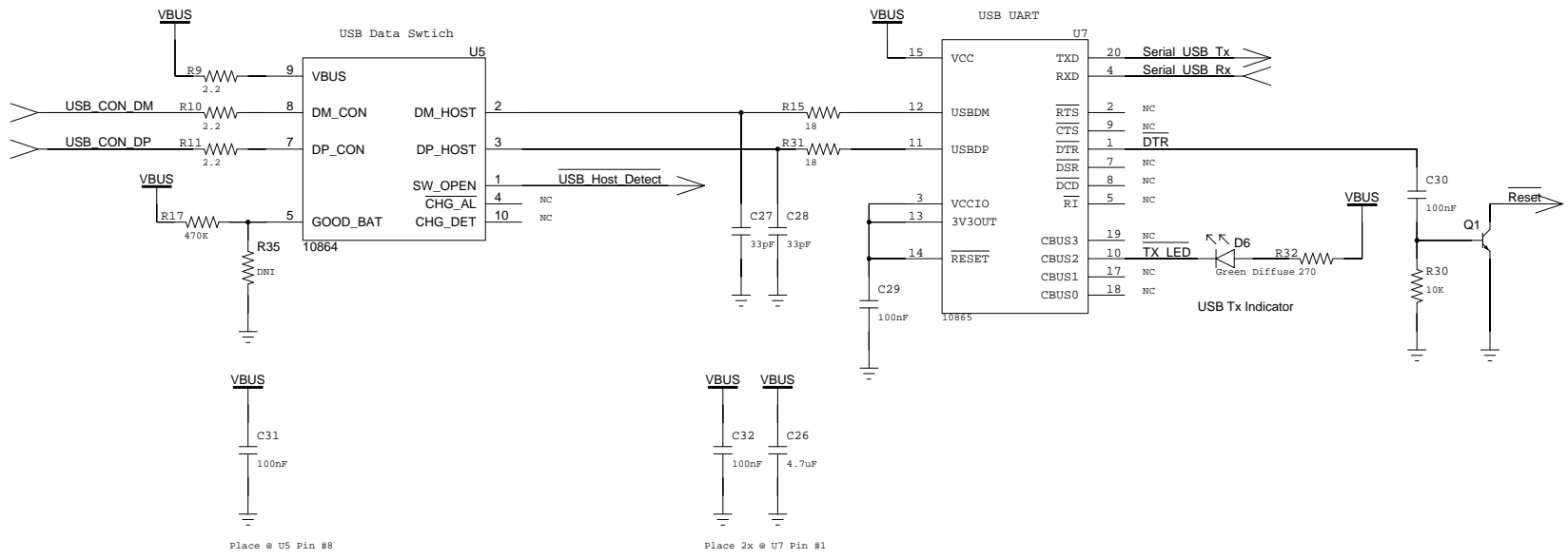


### Soft Power Switch Controller



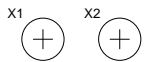
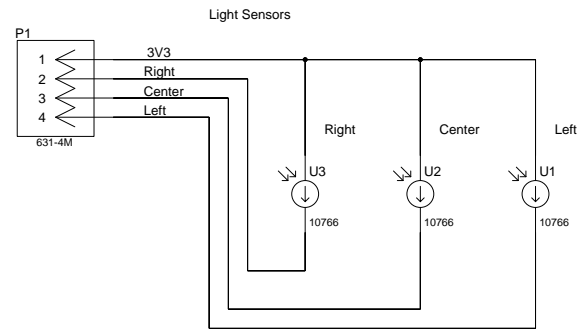
SIZE	DWG	10860A_Back_PCB	
A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	4	5	Scribblers3

# USB Serial Converter



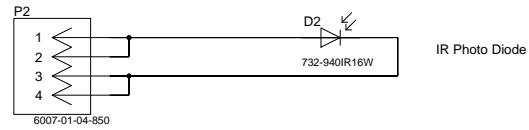
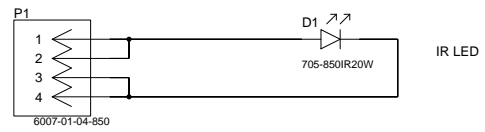
SIZE	DWG	10860A_Back_PCB		
A				
DRAWN BY	SHEET	OF	PROJECT	
B. WIRZ	5	5	Scribblers3	

Top Light Sensor PCB



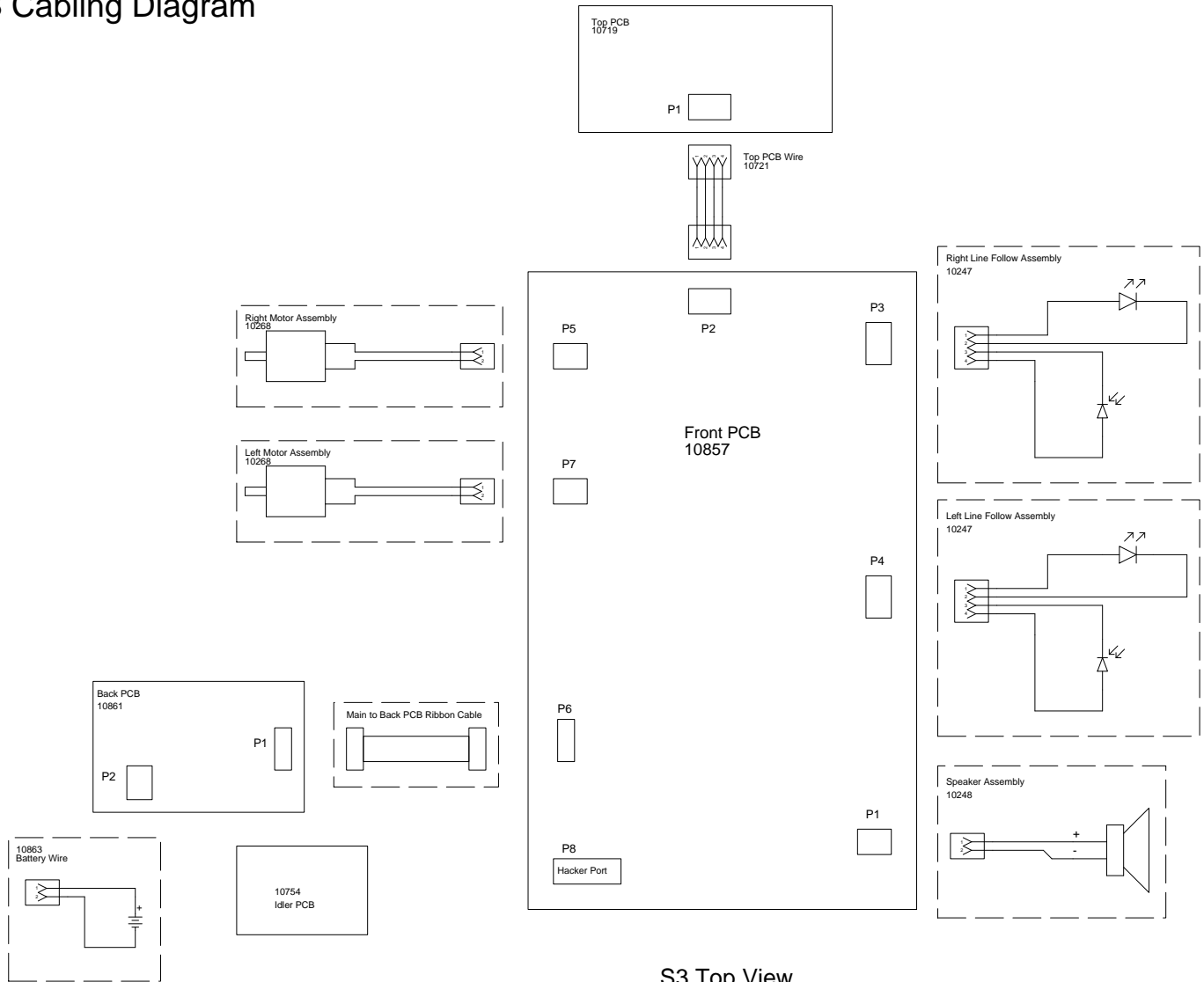
SIZE	DWG		
<b>A</b>		<b>10718C_Top_PCB</b>	
DRAWN BY B. WIRZ	SHEET 1	OF 1	PROJECT Scribbler3

Idler Wheel Stall Detector

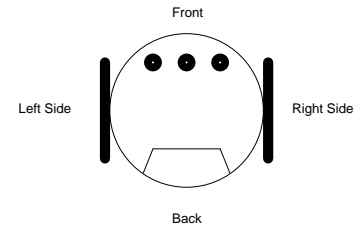


SIZE	DWG	10753B_Idler_PCB	
A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	1	1	Scribbler3

# S3 Cabling Diagram

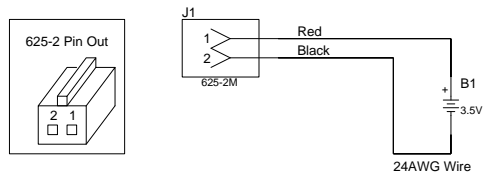


S3 Top View



SIZE <b>A</b>	DWG	<b>S3_Cabling_Diagram</b>	
DRAWN BY B. WIRZ	PROJECT Scribblers3		
SHEET 1 OF 1			

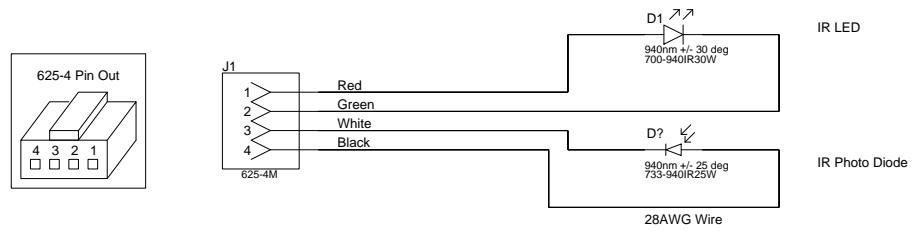
Battery Wire Diagram



SIZE	DWG	10863A_Battery_Wire	
<b>A</b>			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	1	1	Scribbler3

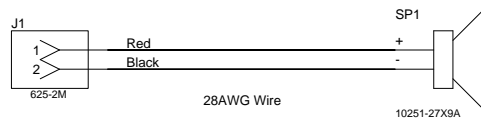
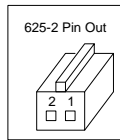


Line Sensor Wire Diagram



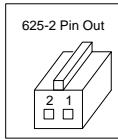
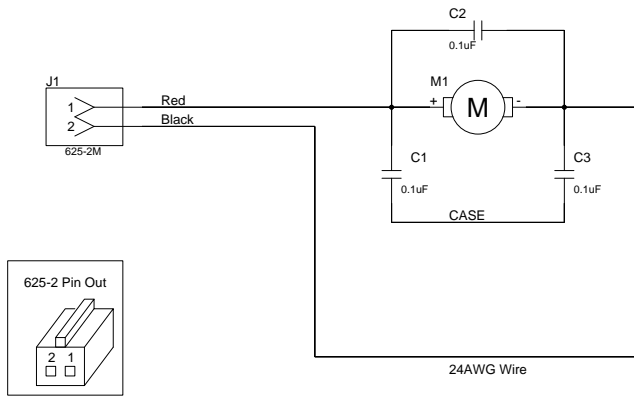
SIZE	DWG	10247F_Line_Sensor_Wire	
A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	1	1	Scribbler3

Speaker Wire Diagram



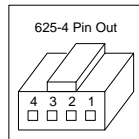
SIZE	DWG	10248C_Speaker_Wire	
A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	1	1	Scribbler3

Motor Wire Diagram



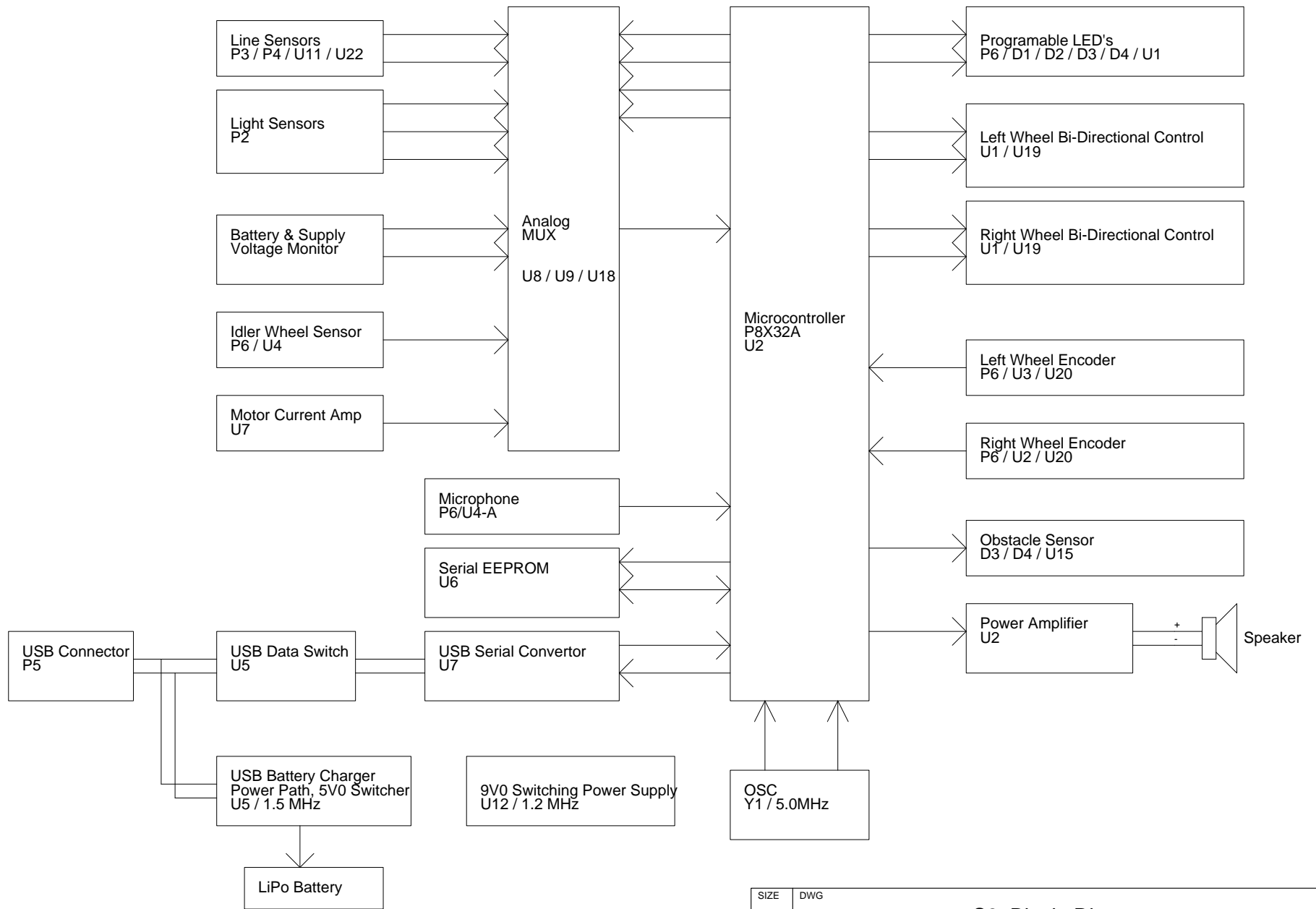
SIZE	DWG	10268E_Motor_Wire	
A			
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B. WIRZ	1	1	Scribbler3

Top PCB (10719) to Front PCB (10858) Wire Diagram



SIZE	DWG	10721A_Top_PCB_Wire	
<b>A</b>			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	1	1	Scribbler3

# S3 System Block Diagram



SIZE	DWG	S3_Block_Diagram	
A			
DRAWN BY	SHEET	OF	PROJECT
B. WIRZ	1	1	Scribbler3