
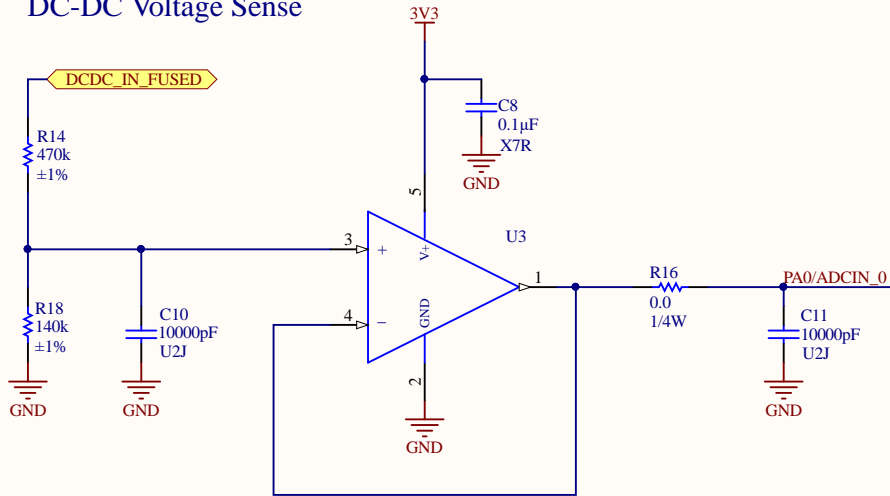
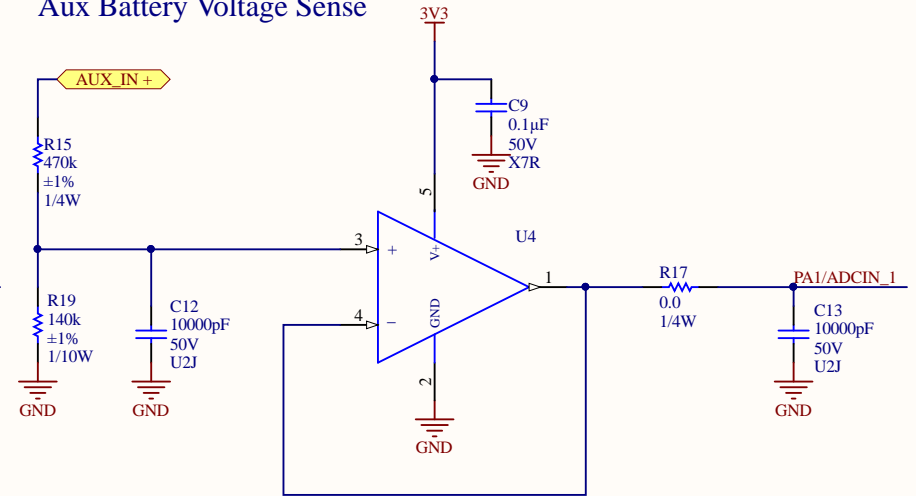


Project: <i>PowerDistribution.PrjPcb</i>		<div>MIDNIGHTSUN</div>
Title: Controller Board Interface		
Project Lead: Taiping Li		University of Waterloo 200 University Ave W Waterloo, ON, Canada N2L 3E9
Size: Letter	Revision: 1.10	
Date: 6/7/2017	Sheet2 of 7	
Website: www.uwmidsun.com		

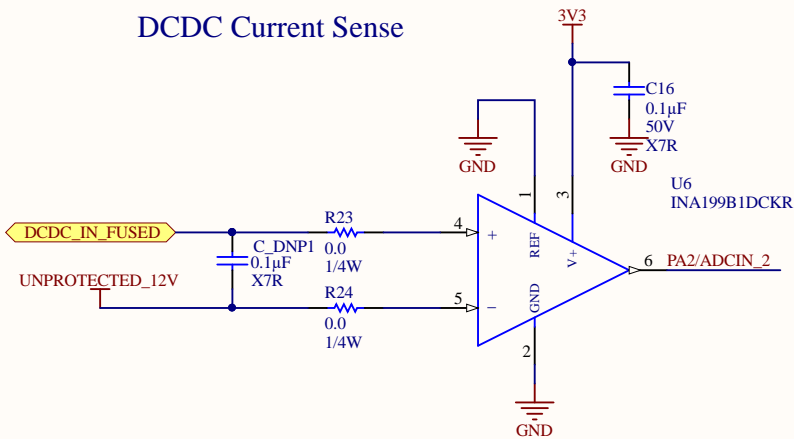
DC-DC Voltage Sense



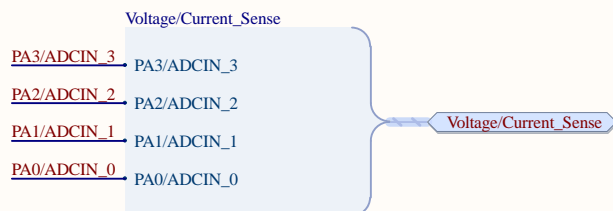
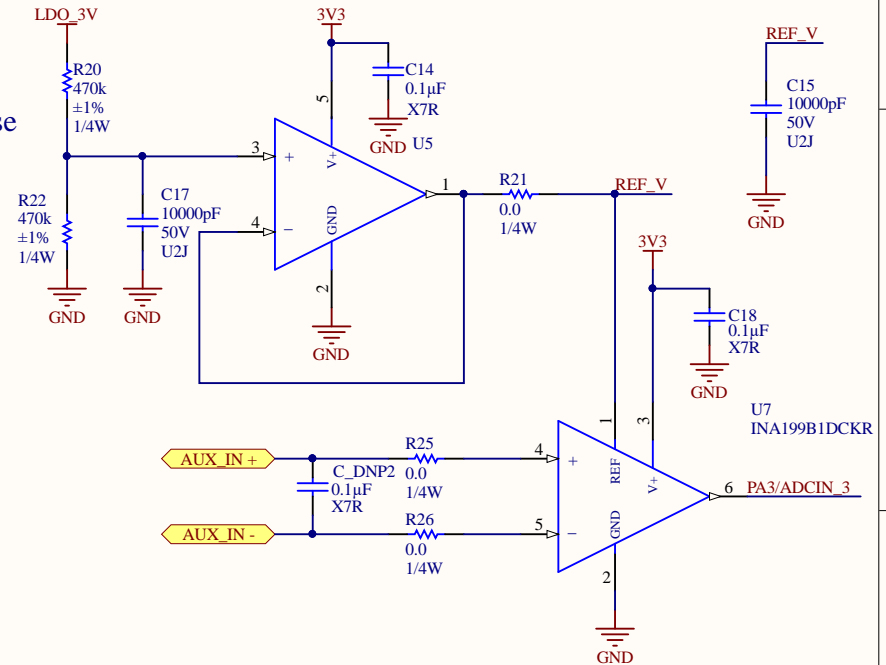
Aux Battery Voltage Sense



DCDC Current Sense



Aux Current Sense



Project: **PowerDistribution.PrjPcb**

Title: **Voltage & Current Sense**

Project Lead: Taiping Li

Size: Letter

Revision: 1.10

Date: 6/7/2017

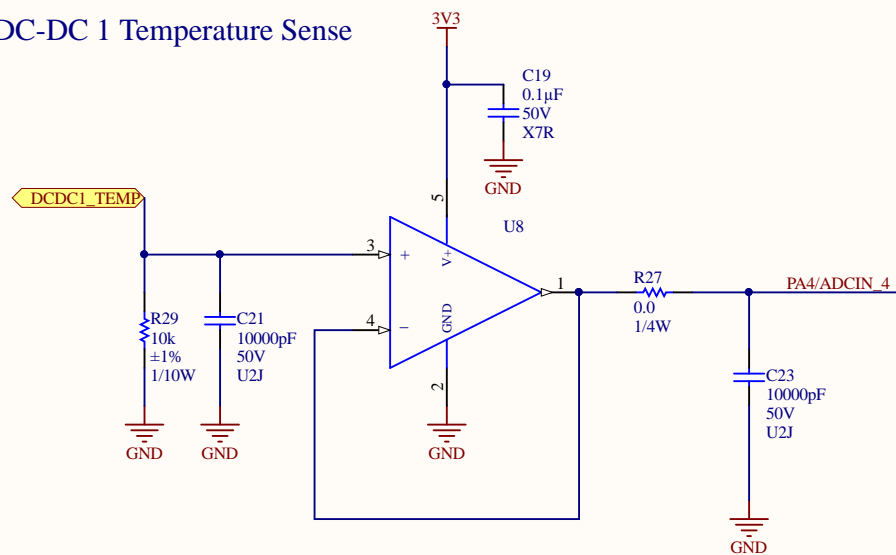
Sheet4 of 7



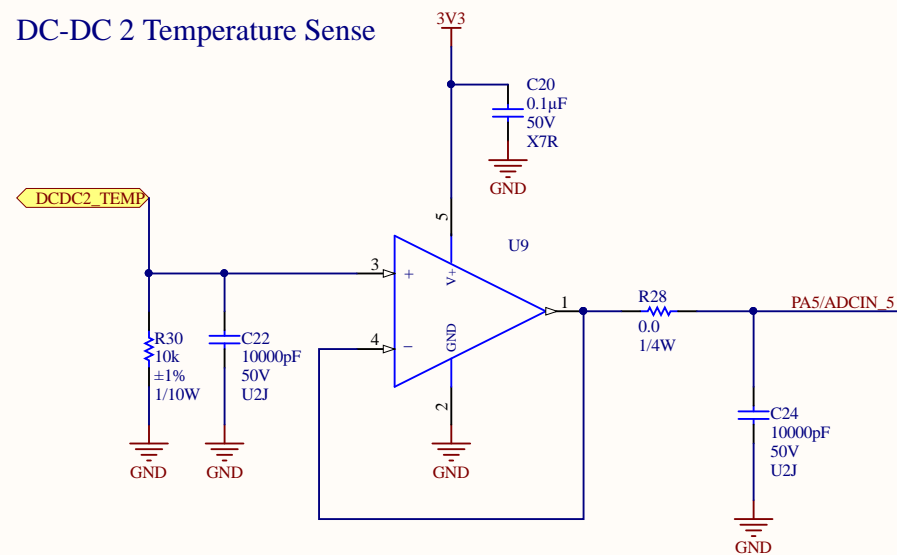
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N2L 3E9

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DC-DC 1 Temperature Sense



DC-DC 2 Temperature Sense



Project: **PowerDistribution.PrjPcb**

Title: **Voltage/Current/Temp Sensing**

Project Lead: **Taiping Li**

Size: **Letter**

Revision: **1.10**

Date: **6/7/2017**

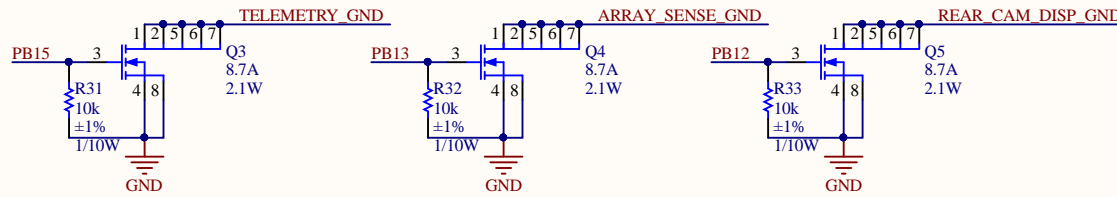
Sheet5 of 7



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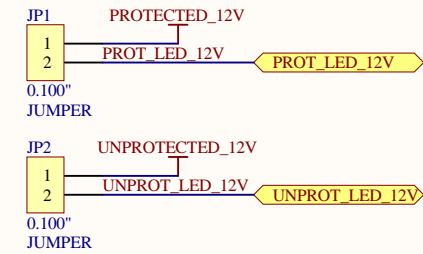
Roof Enclosure



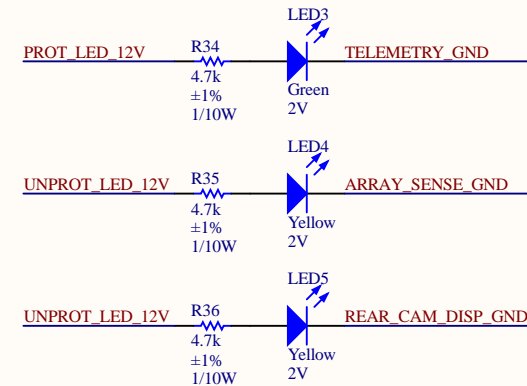
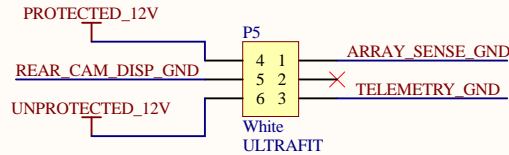
Telemetry (Protected)

Array Sense (Unprotected)

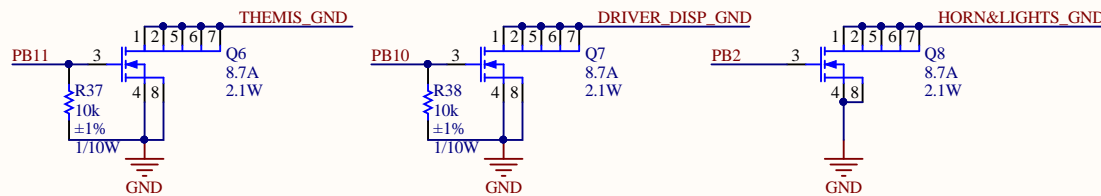
Rear Camera/Disp (Unprotected)



Remove jumpers to disable all LEDs



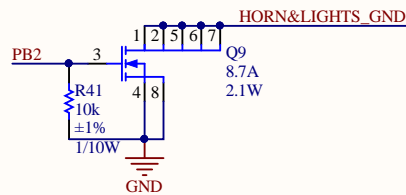
Front Enclosure



Themis (Protected)

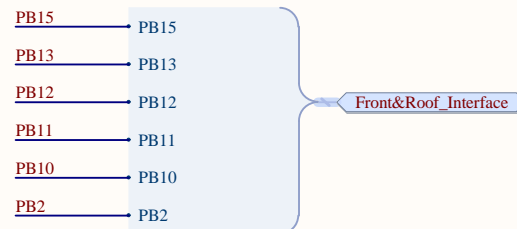
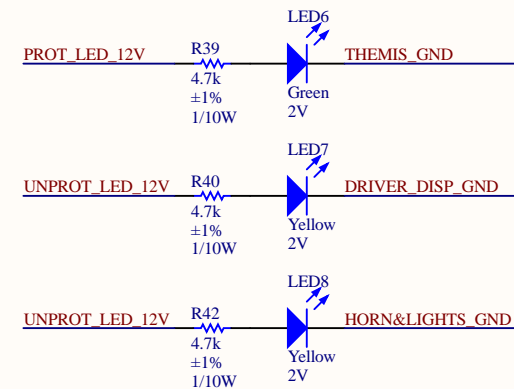
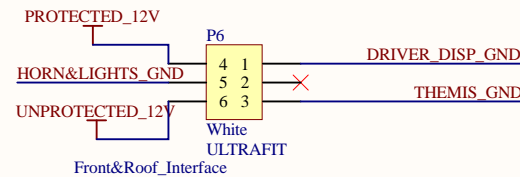
Driver Disp/Rasp Pi (Unprotected)

Horn & Lights 1 (Unprotected)



Horn & Lights 2 (Unprotected)

Horn & Lights 1 is in parallel with Horn & Lights 2 for load sharing



Project: **PowerDistribution.PrjPcb**

Title: **Front and Roof Enclosure Boards**

Project Lead: Taiping Li

Size: Letter

Revision: 1.10

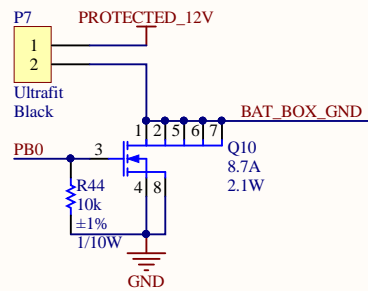
Date: 6/7/2017

Sheet6 of 7

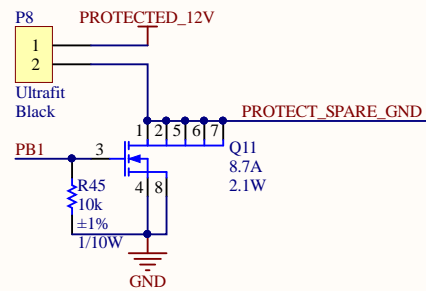
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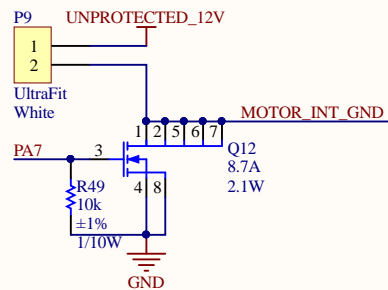
Website: www.uwmidsun.com



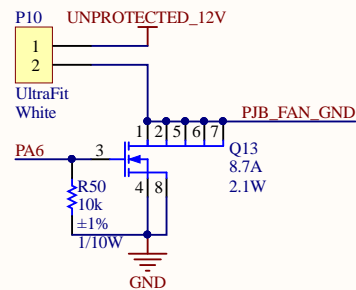
Battery Box (Protected)



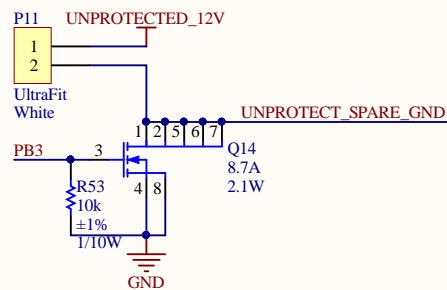
Spare (Protected)



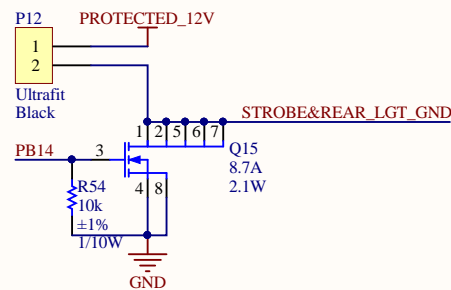
Motor Interface (Unprotected)



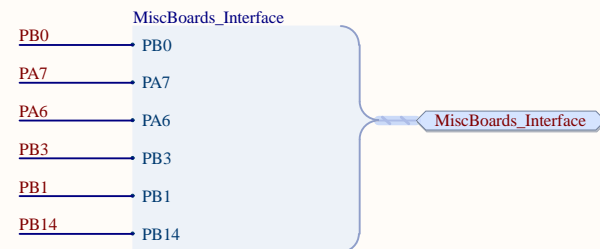
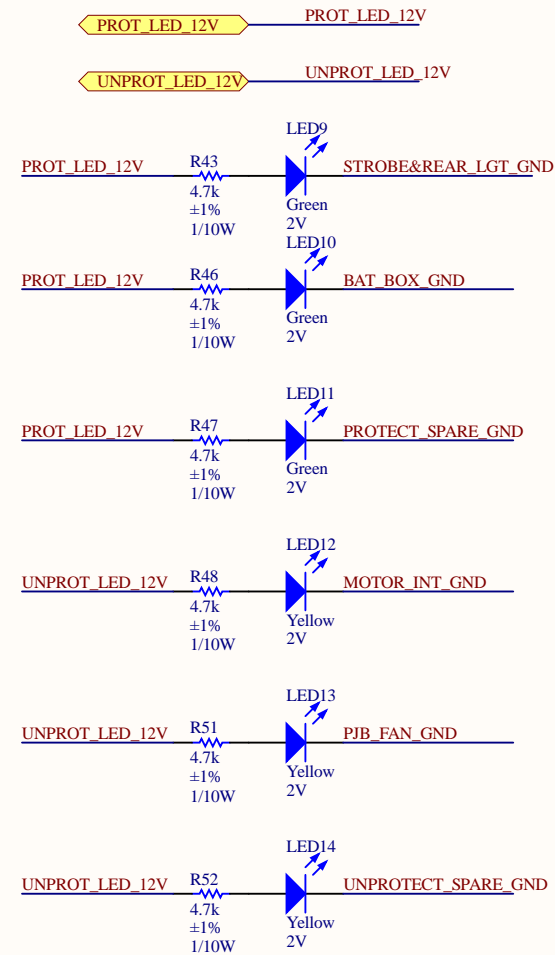
PJB Fans (Unprotected)



Spare (Unprotected)



Strobe&RearLights (Protected)



White/Natural color for unprotected rail

Project: **PowerDistribution.PrjPcb**Title: **Misc Boards Switching**

Project Lead: Taiping Li

Size: Letter

Revision: 1.10

Date: 6/7/2017

Sheet 7 of 7

MIDNIGHT SUN

University of Waterloo
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Waterloo, ON, Canada
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Website: www.uwmidsun.com

PROTECTED +12V

CONNECT TO TURN LEDS ON

UNPROTECTED +12V

BAT BOX

SPARE

STROBE/REAR LIGHTS

ROOF ENCLOSURE

UNPROTECTED +12V

P7

P8

P12

JP1

JP2

LED1

LED2

LED3

LED4

LED5

LED6

LED7

LED8

LED9

LED10

LED11

LED12

LED13

LED14

LED15

LED16

LED17

LED18

LED10

LED11

LED9

F2

R19

C12

R13

R17

C3

TP2

AUX BAT IN

R25

R26

C_DNP2

R2

Q2

LED8

LED7

LED6

LED5

LED4

LED3

AUX IN

P3

R19

C12

R13

R17

C3

TP2

AUX BAT IN

R25

R26

C_DNP2

R2

Q2

LED8

LED7

LED6

LED5

LED4

DCDC 2 IN

P4

U4

C9

U9

C23

R30

C24

F1

U2

C7

TP5

U6

C16

R23

R24

C_DNP1

R25

R26

DCDC 1 IN

P2

U8

C19

U3

C8

TP1

DCDC IN

R18

C10

R14

R16

R1

TP1

DCDC IN

R18

C10

R14

R16

DCDC 1 IN

P2

U8

C19

U3

C8

TP1

DCDC IN

R18

C10

R14

R16

R1

TP1

DCDC IN

R18

C10

R14

R16

MSXII POWER DISTRIBUTION REV 1.10

