

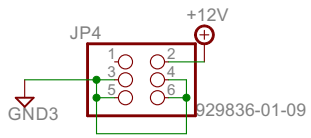
TLC5940 Daisy Chain  
1 = SIN/SOUT A  
2 = SCLK  
3 = XLAT  
4 = BLANK  
5 = GSCLK  
6 = SIN/SOUT B

Configure pins 1 & 6 as SIN or SOUT using jumpers SJ1 & SJ2.

For the FIRST board, connect A to SIN on SJ1 and B to SOUT on SJ2. Repeat for third board, fifth board, etc.

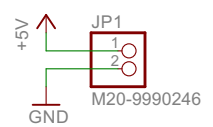
Use a FIVE PIN connector on JP2 between each pair of boards. Connect the first MOSFET board to the interface board on the A side (pins 1-5). Connect the first and second MOSFET boards on the B side (pins 2-6). Connect the second and third MOSFET boards on the A side (pins 1-5). Alternate sides for each pair of boards.

For the SECOND board, connect A to SOUT on SJ1 and B to SIN on SJ2. Repeat for fourth board, sixth, etc.



Secondary PSU In  
1 = +5V  
2 = +12V  
3 = 0V (GND)  
4 = 0V (GND)

Connect to secondary PSU dedicated to powering output devices. DO NOT CONNECT GROUNDS between primary (PC) PSU and secondary PSU.



Primary (PC) PSU In  
1 = +5V  
2 = 0V (GND)

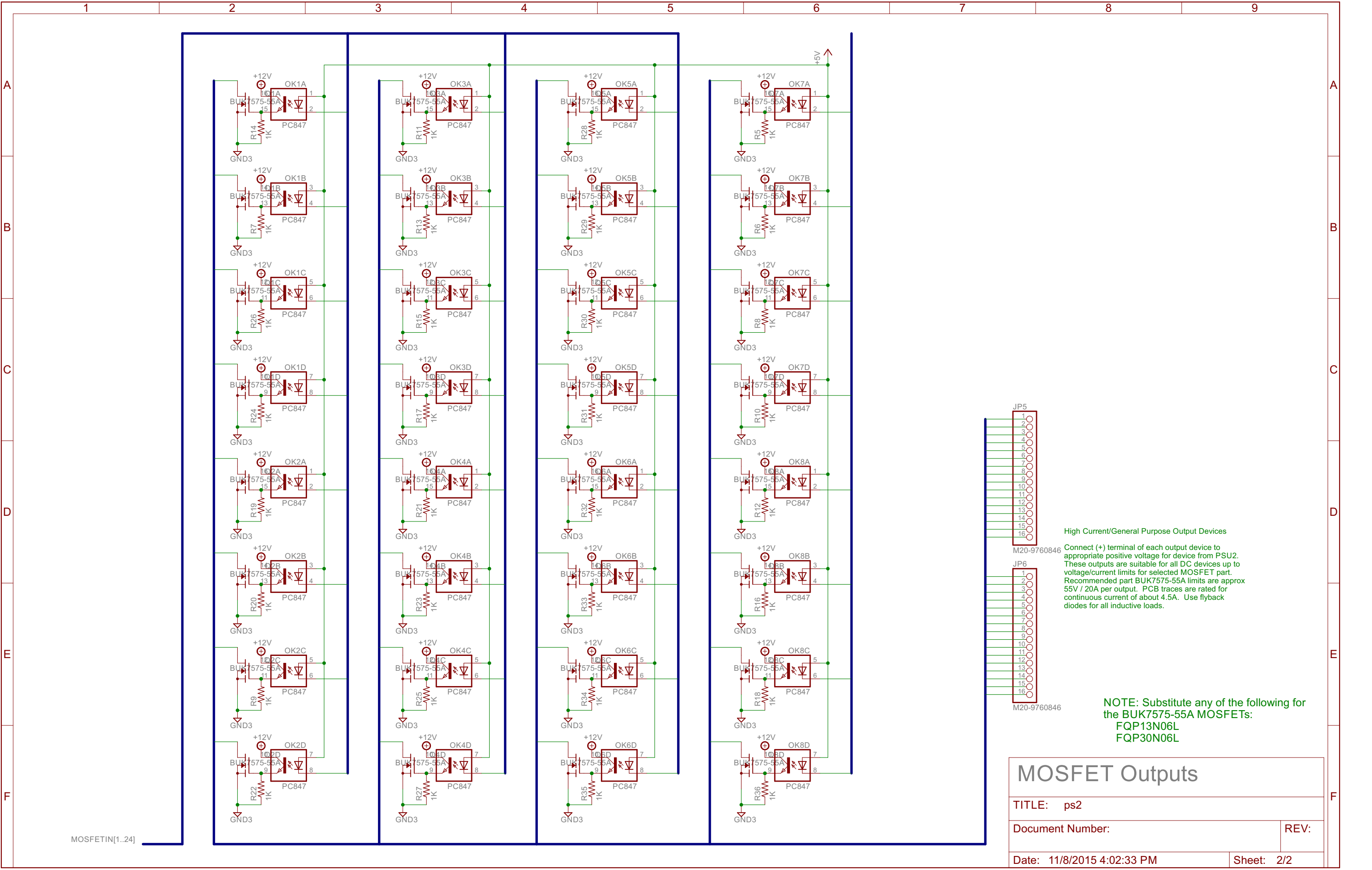
Connect to primary PC motherboard PSU.

- NOTES:
- 100nF decoupling capacitor between TLC5940 Pins 21-22 should be as close to the IC leads as possible.
  - PSU2 is a separate PSU dedicated to feedback devices. DO NOT CONNECT GROUNDS of primary PC PSU and secondary PSU. Secondary PSU should be electrically isolated from PC PSU to minimize logic signal interference from inductive and high power devices.
  - Use a flyback diode (1N4007 or similar) on every inductive output device. Attach the diode close to the device's power terminals, with the "bar" side attached to the positive (+) power terminal.
  - Fuses are recommended for all high-power outputs (the MOSFET output group). Fuse each output individually.

## PWM Array

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High Current/General Purpose Output Devices

Connect (+) terminal of each output device to appropriate positive voltage for device from PSU2. These outputs are suitable for all DC devices up to voltage/current limits for selected MOSFET part. Recommended part BUK7575-55A limits are approx 55V / 20A per output. PCB traces are rated for continuous current of about 4.5A. Use flyback diodes for all inductive loads.

NOTE: Substitute any of the following for the BUK7575-55A MOSFETs:  
FQP13N06L  
FQP30N06L

MOSFET Outputs

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