Electronix EXPRESS
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TECHNICAL SPECIFICATIONS

- Dimensions (no headers or terminal block) 2.1" x 2.7" x 0.1" (54mm x 70mm x 3mm)
- This board/chip uses I2C 7-bit addresses between 0x60-0x80, selectable with jumpers.

- There's an I2C-controlled PWM driver with a built in clock. That means that, unlike the TLC5940 family, you do not need to continuously send it signal tying up your microcontroller, its completely free running!
- It is 5V compliant, which means you can control it from a 3.3V Arduino and still safely drive up to 6V outputs (this is good for when you want to control white or blue LEDs with 3.4+ forward voltages)
- 6 address select pins so you can stack up to 62 of these on a single i2c bus, a total of 992 outputs - that's a lot of servos or LEDs
- Adjustable frequency PWM up to about 1.6 KHz
- 12-bit resolution for each output - for servos, that means about 4us resolution at 60Hz update rate
- Configurable push-pull or open-drain output
- Terminal block for power input (or you can use the 0.1" breakouts on the side)

- Reverse polarity protection on the terminal block input
- Green and red power-good LEDs
- 3 pin connectors in groups of 4 so you can plug in 16 servos at once (Servo plugs are *slightly* wider than 0.1" so you can only stack 4 next to each other on 0.1" header
- Stackable design. You'll need to pick up stacking headers and right angle 3x4 headers in order to stack on top of this shield without the servo connections getting in the way.
- A spot to place a big capacitor on the V+ line (in case you need it)
- 220 ohm series resistors on all the output lines to protect them, and to make driving LEDs trivial
- Solder jumpers for the 6 address select pins
- A lot of extra space remaining? Let's turn it into a prototyping area. You get a 5x20 proto area for any extra wiring you'd like to add