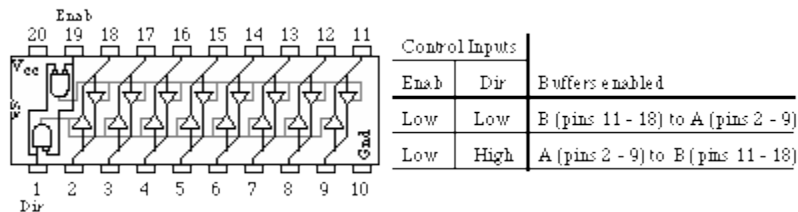


# A 74\*245-BASED MOTOR DRIVER

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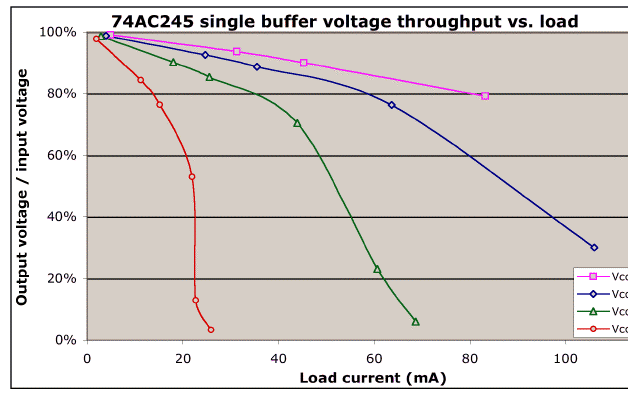
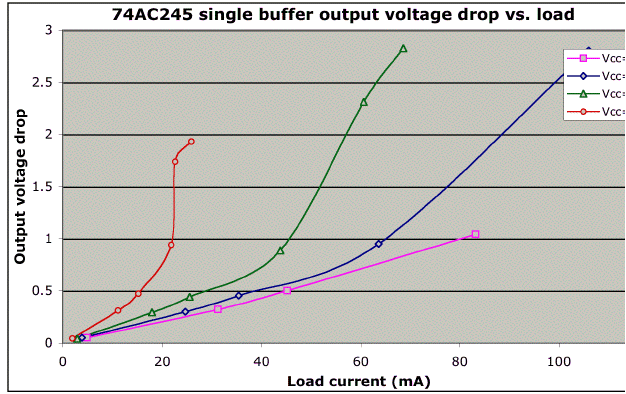
A simple, time-honored approach is to use one or more 74\*245 chips (normally the 74AC245 is used for maximum current capability) to provide motor drive current. Here, each channel of drive power is provided by one or more buffer on the chip.



One of these chips can provide 8 individual drives, at up to 35 mA per channel (at least, this is the official number -- read on, and you'll see you can get a bit more out of this chip...). If you need more current than one driver can provide, you can put drivers in parallel, or stack chips (or both):

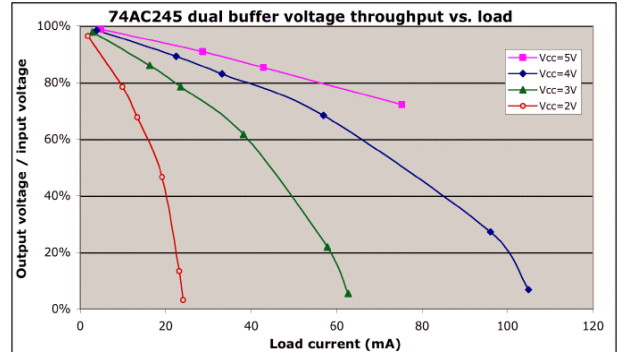
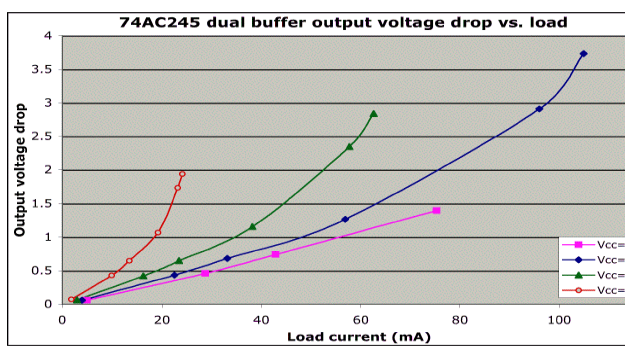


Note that the available drive current is a function of both your supply voltage, as well as of the output voltage you can tolerate. Below, I've plotted data I collected from a single 74AC245 chip (YMMV):



Voltage drop as a function of drive current and supply voltage -- here, driving a load between a single buffer and ground

Voltage throughput as a function of drive current and supply voltage -- here, driving a load between a single buffer and ground

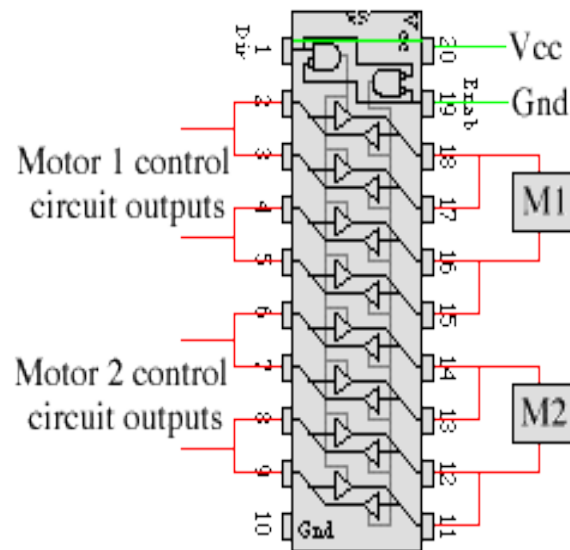


Voltage drop as a function of drive current and supply voltage -- here, driving a load between a pair of buffers

Voltage throughput as a function of drive current and supply voltage -- here, driving a load between a pair of buffers

Since the 74\*245 is a 20-pin chip, it'll require 20 connections / PCB holes.

The 74\*245 is a popular choice for providing drive power for 2-motor / 4-legged walkers:



Source: [http://www.solarbotics.net/library/circuits/driver\\_245.html](http://www.solarbotics.net/library/circuits/driver_245.html)