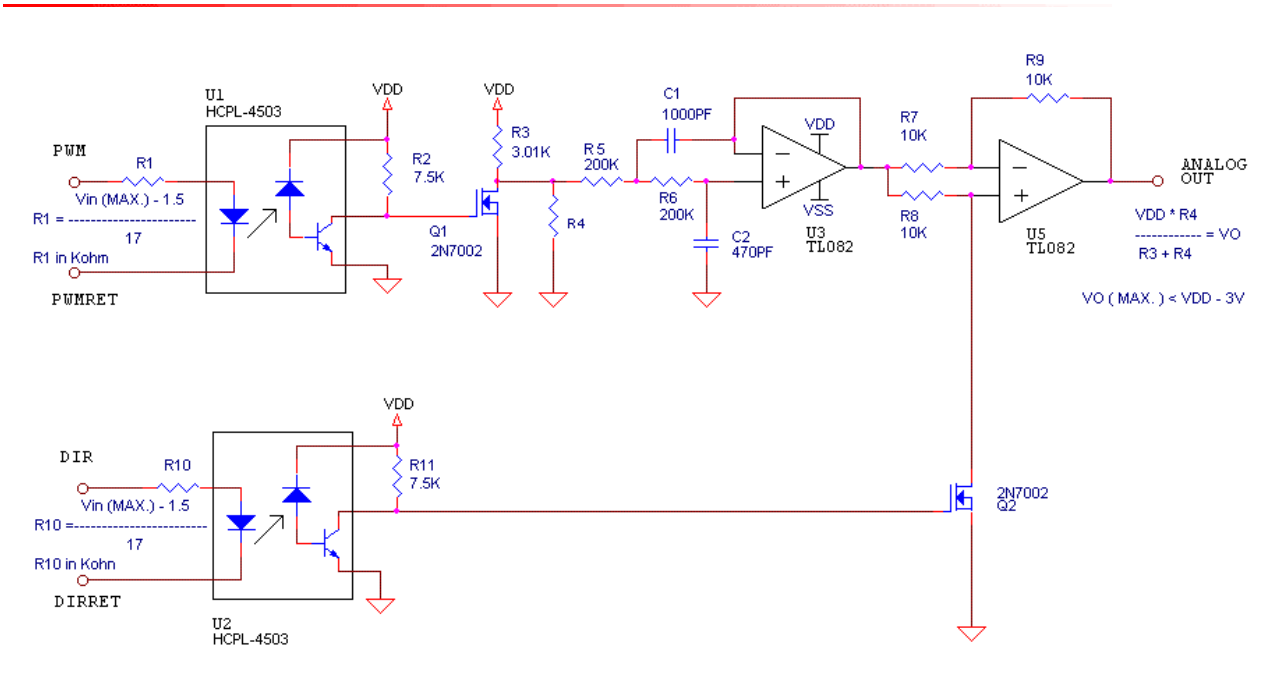


Interfacing with a PWM & Direction reference

Some applications require a PWM & Direction interface between the motion controller and the servo amplifier. A typical interface includes two pairs of lines: one pair sets the direction and the other pair is the PWM modulated amplitude reference.

The purpose of this application note is to provide the design engineer with a tested and proven schematic that performs the demodulation of the PWM & Direction format into a single ended analog signal.



Circuit specifications:

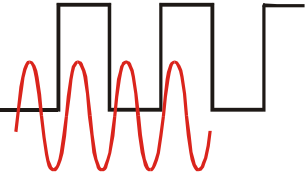
- Input signal:** 20KHz - The input frequency may vary FROM 15 TO 50 kHz. (For lower frequency the filter must be changed).

- MAX. Output signall** * Positive : VDD - 3V.
* Negative: VSS + 3V.

$$V_{out} = \frac{V_{DD} \times R4}{R3 + R4}$$

- Supplies** +8V < VDD < +15V
-15V < VSS < -8V

- Propagation Delay Time (HCPL 4503):** < 1µs.



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- **Bandwidth:** > 2KHz.
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- **Current Consumption:** < 15ma.
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- **Resistors accuracy:** $\pm 2\%$