

$$N = \frac{120f}{p}$$

$N$  = motor speed

$f$  = frequency

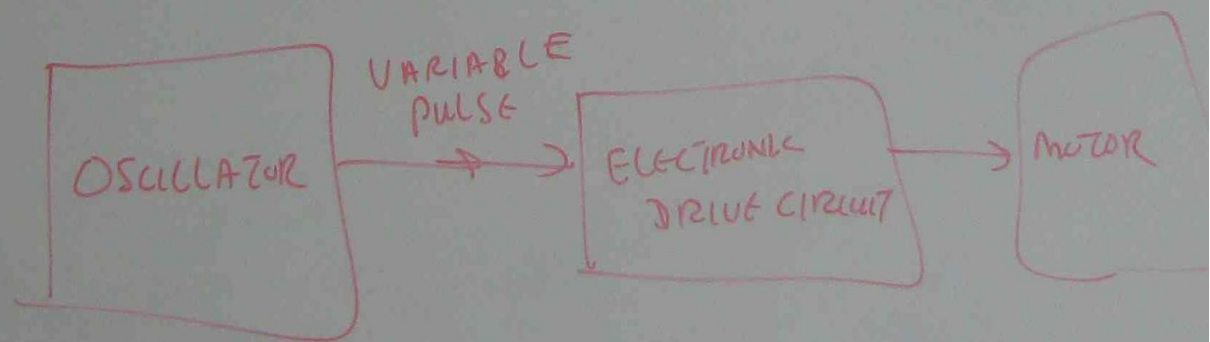
$p$  = No. of poles.

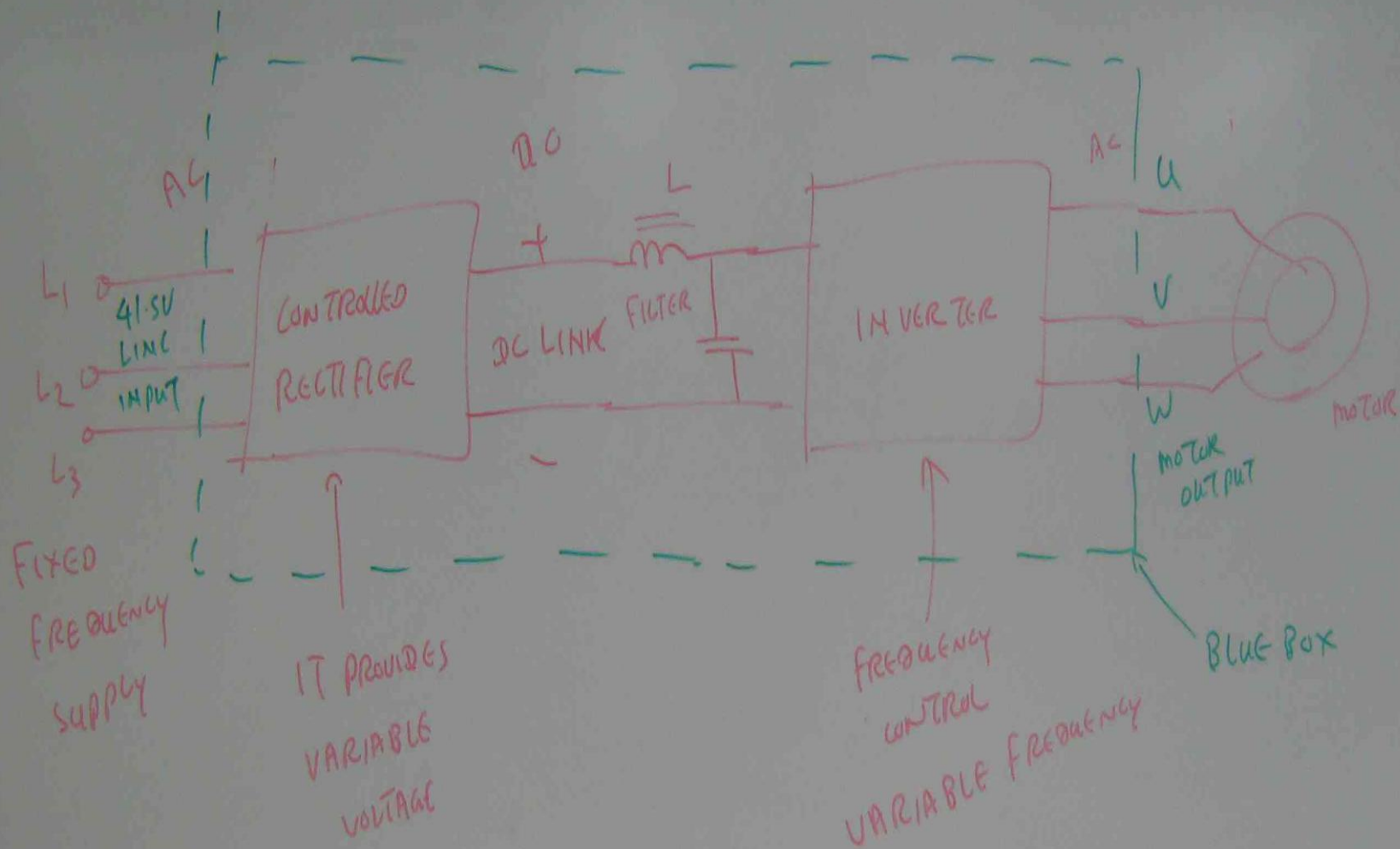
$$f = 50 \text{ Hz}$$

$$p = 4 \text{ poles}$$

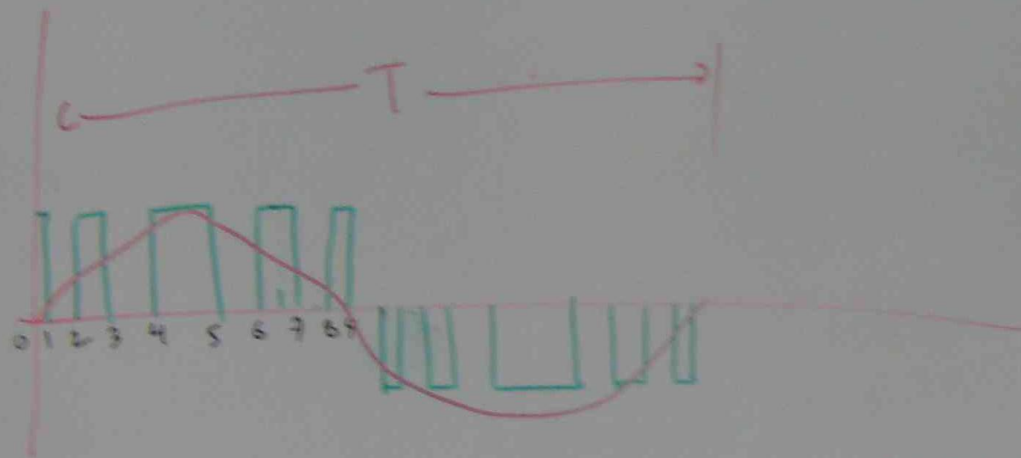
$$N = \frac{120 \times 50}{4}$$

$$= 1500 \text{ RPM}$$





PULSE WIDTH MODULATION SYSTEM  $\rightarrow$  FREQUENCY / OUTPUT VOLTAGE  
CONTROL



SWITCHING CIRCUITS. THEIR SWITCHING RATES ARE  
DIFFERENT.

$$0 \rightarrow 1 = 1 \mu s$$

$$2 \rightarrow 3 = 2 \mu s$$

$$4 \rightarrow 5 = 3 \mu s$$

$$6 \rightarrow 7 = 2 \mu s$$

$$8 \rightarrow 9 = 1 \mu s$$

By SWITCHING RATE, SINUSOIDAL  
OUTPUT VOLTAGE IS CREATED.

T DEPENDS ON TOTAL SWITCHING  
TIMES OF ELECTRONIC DEVICES

$$f = \frac{1}{T}$$

By adjusting the switching rates of  
electronic devices, the output frequency  
can be changed.

