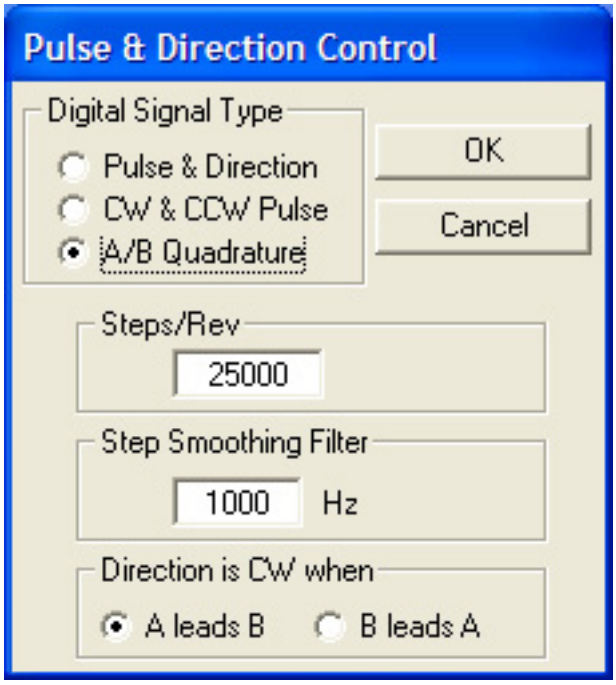
Digital Positioning Mode



Pulse Input Mode is for systems whereby the position of the motor is determined by a digital input signal in the form of pulses.

The three modes available are :

Pulse and Direction. Accepts a signal such as that generated by a stepper motor controller. With this mode the frequency of the pulses fed into one input determines the speed, the direction of rotation is determined by a signal fed into another input. You can configure whether an ON or OFF signal represents clockwise motion.

CW and CCW Pulse. The motor will move CW or CCW depending on which input the pulse is fed into. The drive has two inputs allocated to this feature, pulses fed into one input will generate CW motion, pulses fed into the other input will generate CCW motion.

A & B Quadrature. Sometimes called “Slave Mode”. The motor will move according to signals that are fed to the drive from a master encoder. This encoder can be mounted on a shaft on the machine or it can be another motor in the system. Using quadrature input mode it is possible for a number of motors to be “daisy chained” together with the encoder output signal from each drive being fed into the next.

For all the Pulse Input modes you will need to determine a value to enter into the Electronic Gearing Box, an explanation on how to do this is given in the next section.

Steps/Rev

Allows you to adjust the way that the drive responds to incoming step pulses. This is useful if you are replacing a step motor drive in an existing applicationwith a STAC6, because you can make the new drive have the same number of steps/revolution as the old one.

If your application is new, you should choose a value that makes sense for your pulse source, or indexer. The motor will provide smoother, more precise with a higher step count, but if the frequency of your indexer is limited you may have to reduce the steps/rev to get a speed range you want. For example, if your application calls for a maximum speeds of 20 revs/second and your indexer is limited to a 100 kHz maximum pulse rate, you won't want to set the steps/rev higher that 5000.

Another reason for choosing a particular value is to make one step result in a convenient increment of motion. For example, you may have a linear motion application using a lead screw and the screw pitch is 5 turns per inch, then 20,000 steps/rev will provide a nomimal movement of .00001 inches per step. That will make it easier to calculate move lengths. If you wanted to work in metric using that same leadscrew, you could set the STAC6 for 50800 steps/rev and get .0001 mm per step.

Steps/rev is also important in encoder following applications. If you want the STAC6 to move the motor two turns for every one turn of a 2000 count/rev (500 line) encoder, you would choose 1000 steps/rev.