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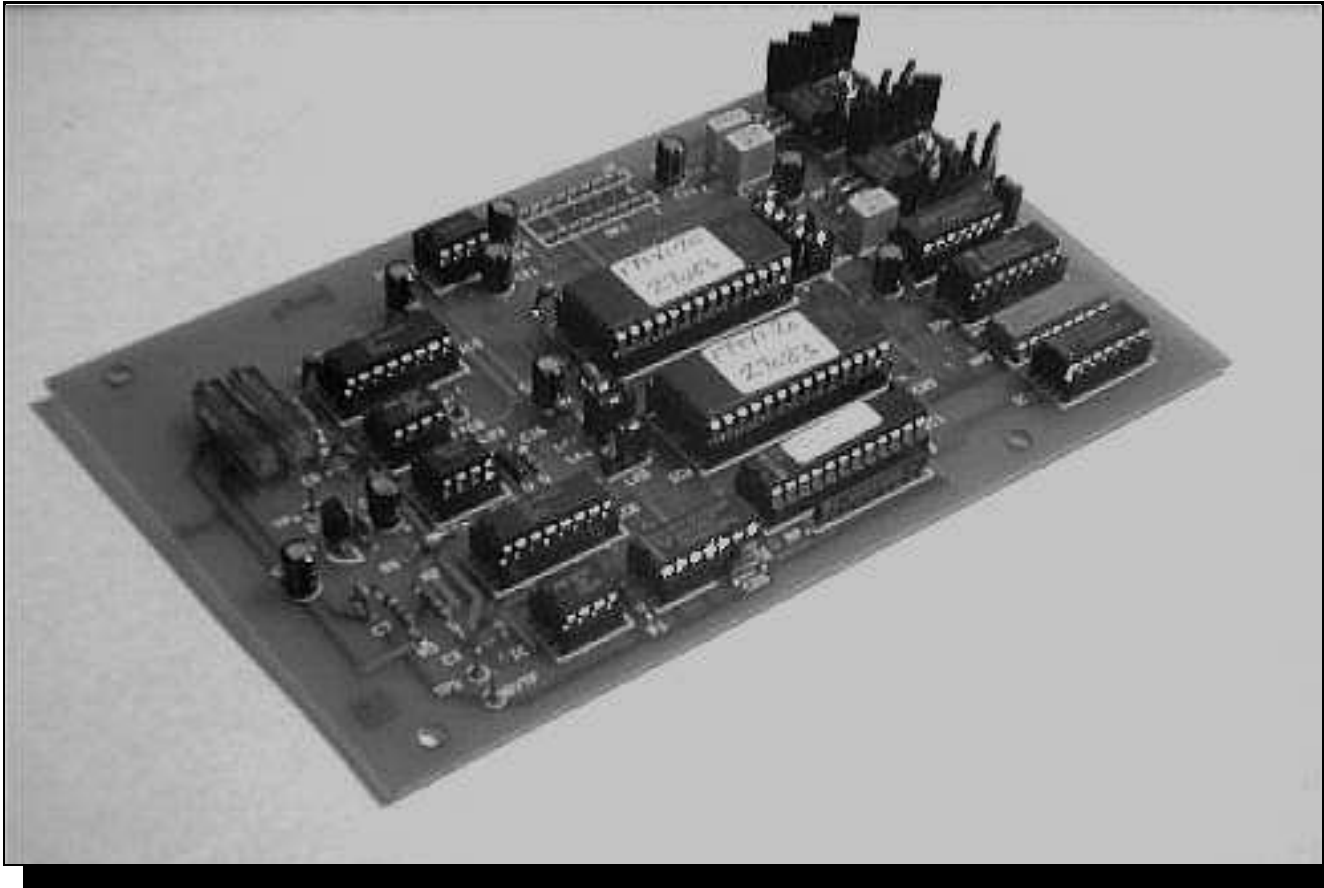
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# PV P179

## MICROSTEPPING ADAPTER

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The PVP179 Microstepping Adapter is used in conjunction with the PVP2460 or PVP2490 Stepper Drive Boards and converts the normal full step into a selectable range of smaller ones. Six step sizes are available, selected via the on-board links (see table overleaf). Installation is easy - no special tools are required - simply connect the two PCB's together using the 16 way jumper lead, then snap the PCB's together with the four spacers supplied. The action of connecting the PCB's together automatically disables the conventional full/half step translator on the drive card and re-routes the clock and direction signals to the counters on the microstepping PCB. The data from these counters is then used to produce analogue sine and cosine current programming levels together with the phase selection waveforms. When considering the use of microstepping, a number of factors must be taken into consideration. First, in microstep mode, the torque produced by the motor will be reduced by approximately 30%. Second, microstepping should not be considered as a substitute for accurate gear reduction when positional accuracy is required for three reasons:

- 1/ The stepper motor accuracy is normally a  $\pm 5\%$  deviation on a single full step at no load with the phase currents balanced to  $< 1\%$ .
- 2/ The accuracy of the analogue current programming levels versus temperature.
- 3/ The motor loading where varying loads will vary the rotors position within its detent resulting in significant positional variations.

The real benefit of microstepping is the virtual elimination of mechanical resonance at very low speeds which gives a useful increase in the speed range over which the motor can be used.



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## SPECIFICATIONS

<b>CONTROL INPUTS</b>	SAME AS DRIVE BOARD
<b>CLOCK INPUT</b>	50 KHz MAX., 1 $\mu$ S MIN. PULSE WIDTH
<b>OPERATING TEMPERATURE</b>	0 TO 40°C
<b>DIMENSIONS</b>	160mm x 100mm x 17mm
<b>WEIGHT</b>	100 grams

### MICROSTEP RANGES AVAILABLE

STEP SIZE	LK1	LK2	LK5
1/5	1	1	D
1/10	2	1	D
1/20	1	2	D
1/8	1	1	B
1/16	2	1	B
1/32	1	2	B

Shaded areas are only available on Issue 2 circuit boards

