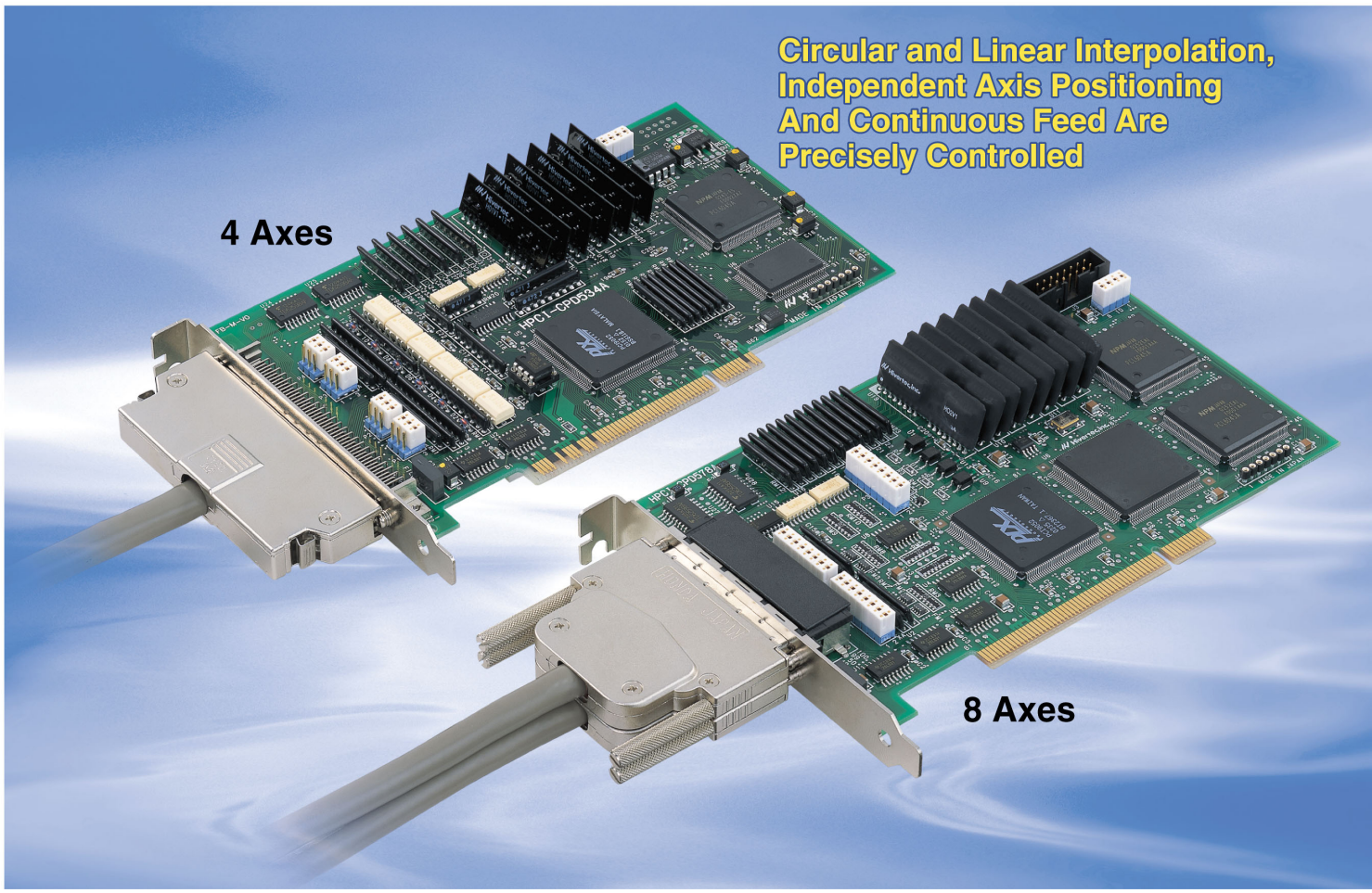
2-, 4- and 8-Axis Contouring Pulse Distribution Boards with PCI, CPCI, ISA PC104 or USB Connectivity

Powerful Control Over Circular/Linear Interpolation And Positioning

All PCL6045/PCL6025 Functions Embedded in One Single Board

CPD Board Series

Best used for semiconductor manufacturing and inspection equipment, robots, and automatic control systems



Lineup supports PCI, ISA, Compact PCI and PC/104 Buses. CPD can be combined with USB I/F for easy construction of FA systems with reduced wiring

- Camera triggers can be activated at specified positions while moving
  ——Synchronous count pulse output
- Target positions can be changed during actions
  ——Position override feature
- Elimination of detouring loss time
  ——Starts actions of other axes at specified pass points
- Positioning can start from any sensor detection point while moving
  ——Positioning-Control-Start (PCS)
- Asymmetrical acceleration/deceleration control possible for reduced vibration on a machine
  ——Acceleration and deceleration times can be independently set with different values
- Acceleration or deceleration for high-speed movements made possible by interpolation
  ——Acceleration, deceleration and constant-speed blocks independently executed
- Connects easily to servo drivers and stepping-motor drivers
- Windows XP/2000/NT/98 & MS-DOS compatible
  Library software, driver software, sample software, and quick start programs are included

Hivertec, inc.
http://www.hivertec.com

2-, 4- and 8-Axis Contouring Pulse Distribution Boards with PCI, CPCI, ISA PC104 or USB Connectivity

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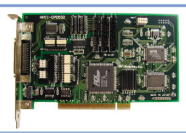
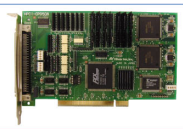
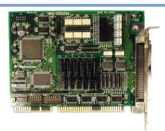
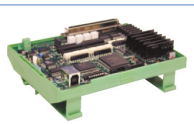
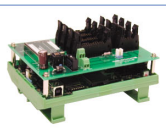
Series Lineup

Bus	8-Axis Board	Axis	Models	Specific Features	Information
PCI		2	**HPCI-CPD532**	In addition to standard specifications of the CPD: ●Optical-isolator for axis-sensor inputs and servo I/Fs except for command outputs (differential drivers). ●High-speed optical-isolator receiving of inputs from encoders for each axis. (Differential driver or open collector type receiver available)	·Cable:HCL-015W (50-pin MDR connector) ·Connector board: ACB-MU0502/ *
		4	**HPCI-CPD534**		·Cable:HCL-018W (100-pin MDR connector) ·Connector board: ACB-MU1004/ *
		8	**HPCI-CPD578**	In addition to standard specifications of the CPD: ●Camera trigger signal output by coordinate matching. ●Capable of receiving complete encoder input signals (phase A, B and ,Z) on all axis.	·Cable:HCL-051W(x2) (100-pin x2 HDRA connector) ·Connector board: 2 sets of ACB-HU1004/ *
		8	**HPCI-CPD508**	In addition to standard specifications of the CPD: ●Suitable for stepping motor control. ●High-speed optical-isolator receiving of inputs from encoders for each axis. ●Input signal from the encoder restricted to phase Z only.	·Cable:HCL-018W (100-pin MDR connector) ·Connector board: ACB-MU1008/ *
ISA		4	**HPC-CPD234**	●ISA version of HPCI-CPD534 model. ●Same pin-arrangement of 100-pin connector as the CPD534.	·Cable:HCL-018W (100-pin MDR connector) ·Connector board: ACB-MU1004/ *
	Under development	8	**HPC-CPD278**	●ISA version of HPCI-CPD578 model. ●Same pin-arrangement of double 100-pin connectors as the CPD578.	·Cable:HCL-051W(x2) (100-pin x2 HDRA connector) ·Connector board: 2 sets of ACB-HU1004/ *
Compact PCI		4	**HCPCI-CPD734**	●Compact PCI version of HPCI-CPD534 model. ●Same pin-arrangement of 100-pin connector as the CPD534. ●Sized 3U for rack-mount housing.	·Cable:HCL-018W (100-pin MDR connector) ·Connector board: ACB-MU1004/ *
		8	**HCPCI-CPD738**	●8-axis version of HPCI-CPD734 model. ●Double 100-pin connectors. ●Sized 6U for rack-mount housing.	·Cable:HCL-018W (x2) (100-pin MDR connector) ·Connector board: 2 sets of ACB-MU1004/ *
Embedded PC/104		2	**HPC104-CPD132**	●Compact-sized (96 x 90 mm) 2-axis (PCL6025) board with PC104 bus. ●Optical-isolator insulation for all outputs except for command output. ●Differential driver for command output.	8-bit bus system
		4	**HPC104-CPD134**	●Compact-sized (96 x 90 mm) 4-axis (PCL6045) board with PC104 bus. ●Differential driver for command output.	16-bit bus system
	Under development	4	**HPC104-CPD364**	●4-axis (PCL6045) + DIO 16-in/16-out with PC104 bus connectivity. ●Board dimensions: 215.3 mm x 101.6 mm. ●Stackable on PC104 CPU and 3.5-inch CPU boards. ●Expandable to 8-axis by stacking two boards.	Both 8-bit & 16-bit bus systems available
Reduced wiring USB I/F		4	**HUSB-CPD434MS**	●Reduced wiring USB expandable with more axes using HUB. ●4-axis motion. ●+5V and +24V power supply required.	DIO 32-in/32-out with USB I/F is also available. HUSB-DIO464
			**HUSB-CPD434MS(D)**	●MS model with DIN-mount added.	
			HUSB-CPD434CB	●MS model with connector board added. ●Only +24 V power supply required.	
			**HUSB-CPD434CB(D)**	●CB model with DIN-mount added. ●Only +24 V power supply required.	

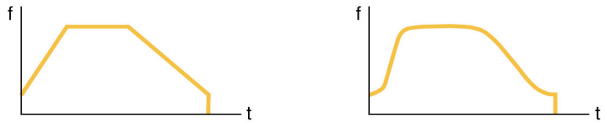
Note1: Cable form is HCL-015 or HCL-018 when a connector board is not used(single-sided separation).
Note2: ∗indicates MR (right-angle connector), MS (straight connector), or MS (D)(with DIN-mount).(See photos of accessories in the next page)

Powerful Control Over Circular/Linear Interpolation And Positioning

得意技 Specific Features

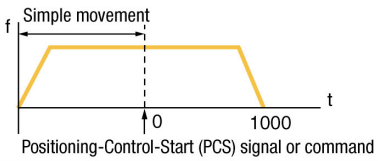
Acceleration/deceleration function

- Asymmetric acceleration/deceleration is possible (Automatic acceleration/deceleration control starts when the deceleration time is less than twice the acceleration time)



Positioning-Control-Start (PCS) functions

- Starts positioning control, during a simple movement, by detecting the PCS signal at a pass point



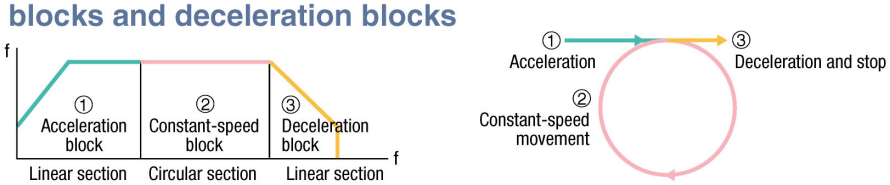
Linear interpolation functions

- Multiaxial interpolation for 2 to 4 axes
- Constant speed control (3-axis speed control principle is also applied to 4-axis systems)
- Acceleration/deceleration control available

Circular interpolation functions

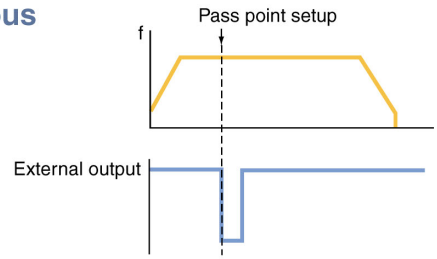
- Capable of circular interpolation of any two axes out of four
- Circular constant-speed control
- Circular control with acceleration/deceleration but with constant speed control disabled
- Forced finishing of circular movement at the end point

Linear high-speed or circular constant-speed movement using acceleration blocks, constant speed blocks and deceleration blocks

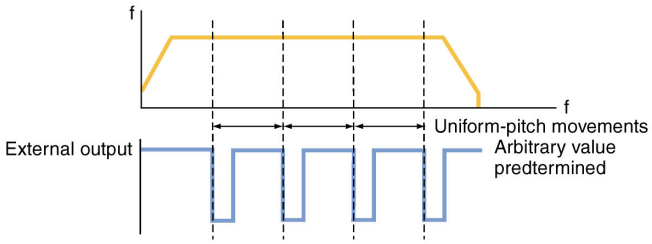


Timing output of pass points and synchronous output

Timing output of pass points

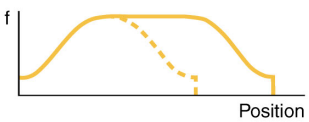


Synchronous output (Example: External synchronization output for every 1000-pulse movement)

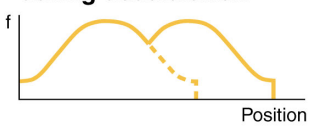


Position override function

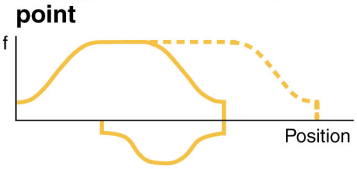
Change to a farther point



Change to a farther point during deceleration

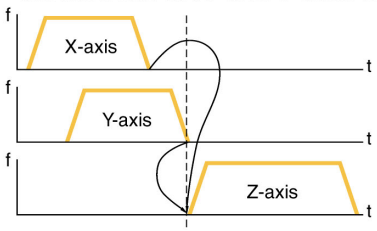


Change to a previous pass point

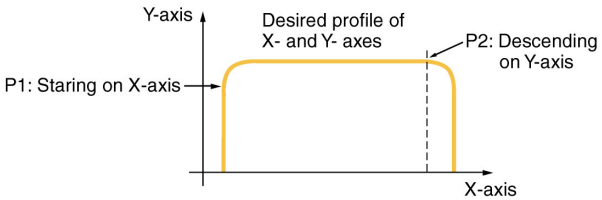


Conditional starts

Z axis automatically starts moving when the motions of X- and Y-axes end



Other axes start at specified pass points



添付ソフトウェア Accompanying Software

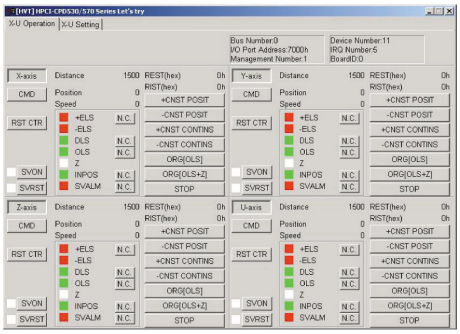
[Driver Software]

●Drivers for Windows XP/2000/NT/98 & MS-DOS included *1

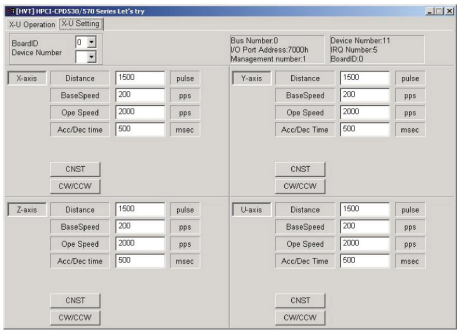
[Quick Start]

●Fundamental operations easily confirmed on the board immediately after installation.
●Test run, wiring and connection checks possible from the simple operation screen.
●Useful as a reference when creating/debugging software applications.
●Source files are also provided as reference.

Operation screen



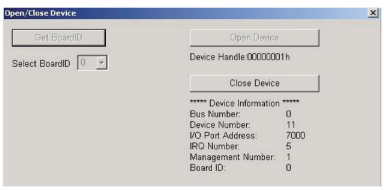
Setting screen

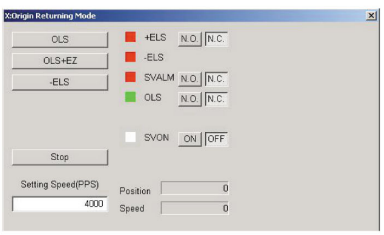


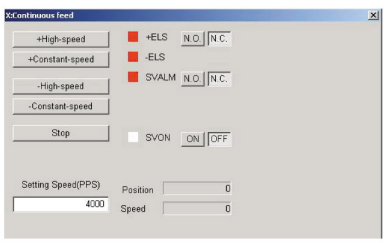
[Sample Programs and Library Functions]

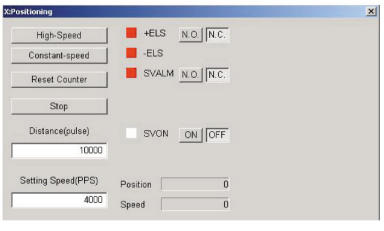
●Sample programs and all source programs of library functions for C and BASIC are provided.
●You can build, debug, and trace sample programs immediately after installation because the files required for VC or VB environment are provided as a whole project (the program content for VB is equivalent to that for VC).
●You can also use other development environments (Borland C++ Builder, etc.) using their respective DLL functions.*2
●Since sample programs, organized by their basic operation, are tabulated under the main menu, you can easily understand their initialization and setup procedures required by each function. Also, they are easy to refer to and incorporate in your own programs.

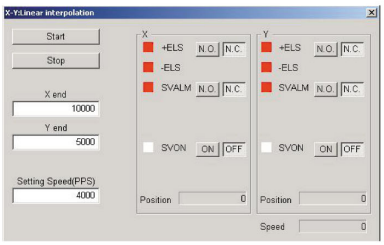
Sample Programs screens

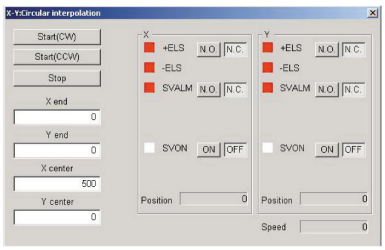












*1 ●The supported OS may be limited on some products such as USB.

■Specifications

Item	8-Axis Board	4-Axis Board	2-Axis Board	8-Axis Board
	PCI and Compact PCI	PCI,ISA,USB,Compact	PCI and PC104	(Suited for stepping motors)