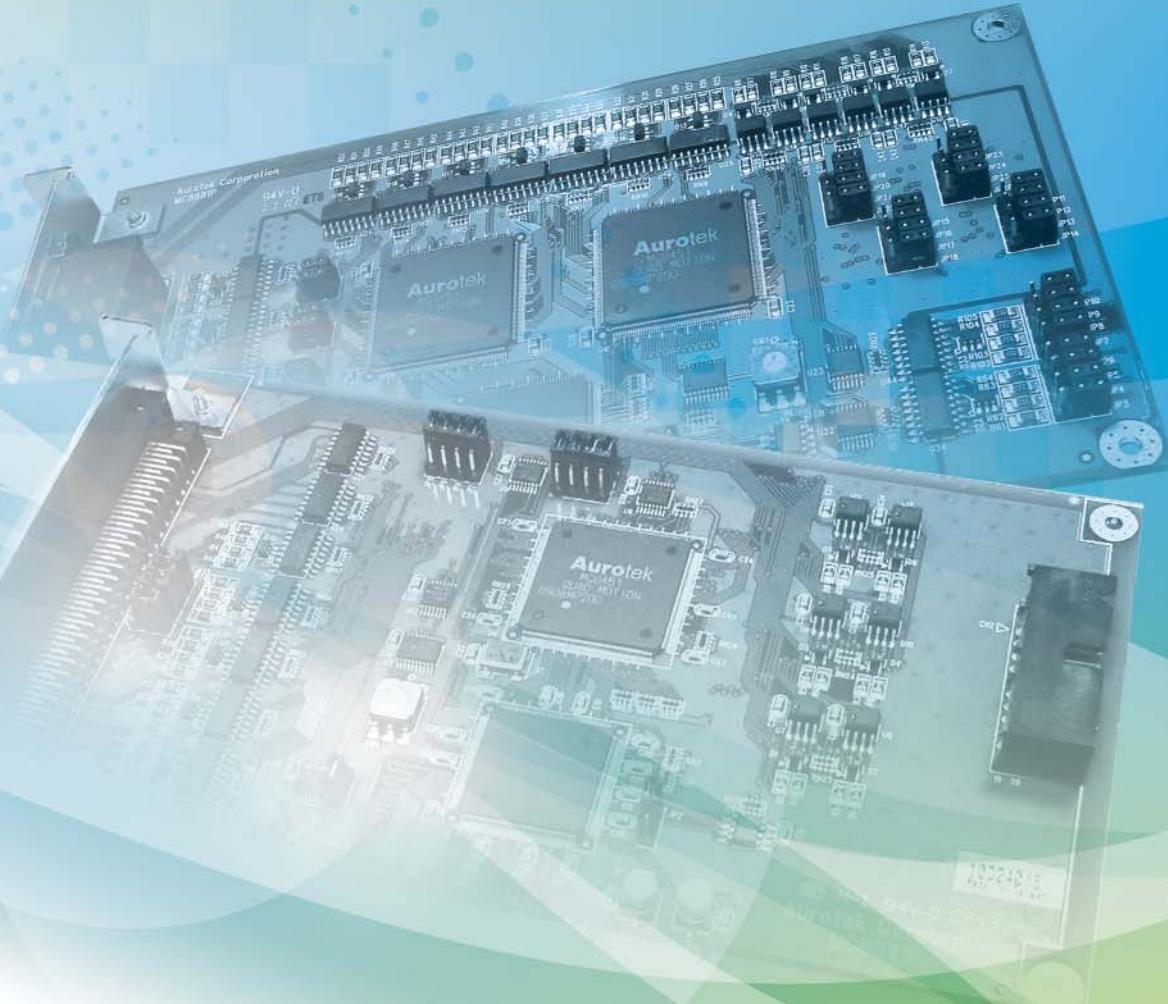


# Aurotek®

A Complete Solution from One Source



## MOTION CONTROL SYSTEM

CREATING AN OPTIMIZATION THROUGH CONTROLS

RTEX Network Type

# MOTION CONTROL SYSTEM

Motion Control Boards for All Pulse Driven Servo, Stepping  
Panasonic, Mitsubishi, Yasugawa, Fuji, Delta... and Linear Motors



## PC-BASED MOTION CONTROL BOARD

From mechanical, driving and controlling aspects of design, Aurotek has been working for motion control boards for all pulse driven servo, stepping and linear motors for years. Not only the standard ones, Aurotek support customized cases and applications which in turn create added value for customers in motion control. Through the communications with customers, Aurotek recognize the demands, needs and wants; through the consultations, the functions can be defined, and the motion control tasks can be well performed. When linking with other linear parts, motors and drivers, Aurotek motion control boards offer a complete solution for different levels of requests in automation from customers.

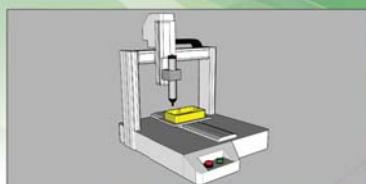
## Position and Speed Management



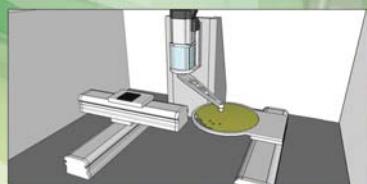
### APPLICATIONS



■ PCB Equipment



■ Screw Diving Robots



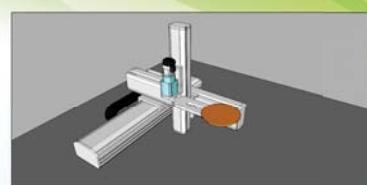
■ LED Equipment



■ Dispensing Robots



■ Solar Cell Equipment



■ Pick & Place Applications



## RTEX NETWORK TYPE

### MCN-8032P / MCN-8016P

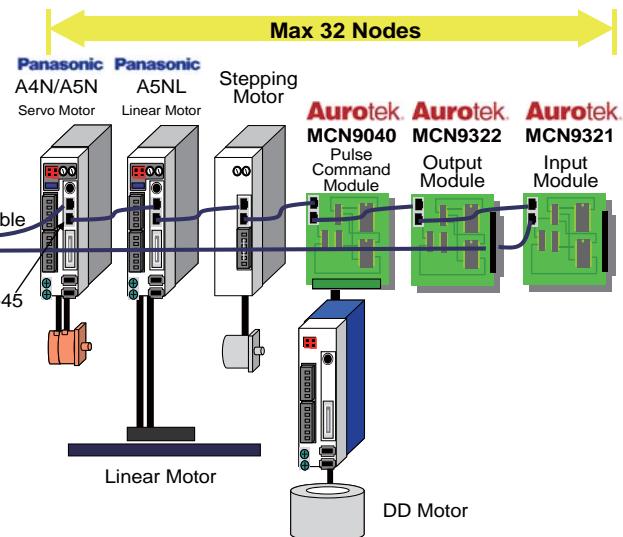
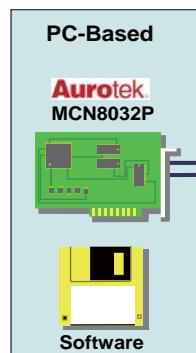
PC-BASED Motion Control Board

## FEATURES

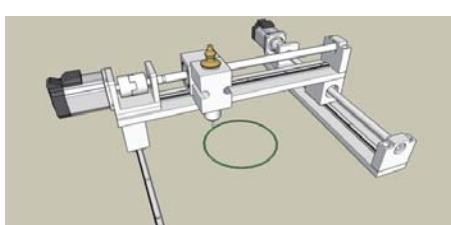
- RTEX (Real Time Express) servo network
- Network Speed 100 Mbps, Communication Period 0.5ms
- Easy to wire, saving wiring working-hour
- Up to 32 nodes / 16 nodes for one loop
- Excellent Error correction
- Multi-axes linear / circular interpolation
- multi-axes synchronous motion (for gentry)
- Up to 16 boards in one PC

## SYSTEMS

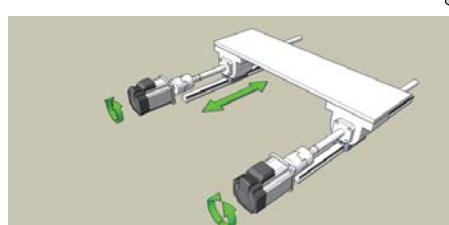
### RTEX System



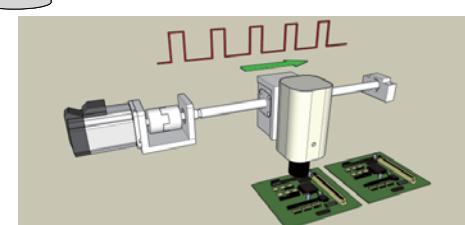
## MAIN MOTION FUNCTIONS



**Linear and Circular Interpolations**



**Gentry Motion**



**Position Comparing & Triggering Functions**

MCN-8032P/MCN-8016P supports 32/16 axes linear interpolation, or 16/8 pairs circular interpolation at the same time.

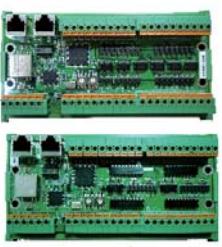
For a long span length table, it may need two motors and two transmission devices to drive the table. MCN-8032P/MCN-8016P provide a master-slave following function that can make slave motors following the master motor moving in order to control a gentry table.

Provides position compare function which will output a trigger signal if present position is equal to the preset position. A user can use this function for continuous vision scanning.

## SPECIFICATIONS

RTEX motion control	
Module type support	Servo motor driver, Linear motor driver, Stepping driver, I/O module, Pulse module
Max. number of nodes	32 (MCN-8032P) /16 (MCN-8016P) nodes
Max. ring loop length	200 meters
Max. node to node length	60 meters
Connector / cable type	RJ45 8 pins, STP (Shielding type)
Isolation voltage	1500 Vrms
Noise immunity	Over 2.5 KV
LED loop status	Link / Comm (two elements LED)
Position range	32 bits ( $\pm 2,147,483,648$ )
Motion	
Interpolation	32-axes linear interpolation / 2-axes circular interpolation (max. 16 pairs 2-axes circulator interpolation)
Gantry motion	Max. 31 slave axes can follow the master axis to move synchronously
Position compare signal	All servo axis, up to 1 kHz
Software	
Software utility	MCN80XXP series utility for motion test and diagnosis
Driver/LIB	Driver for windows XP(32-bit), windows 7(64-bit), DLL function for windows
General specification	
Certification	CE (applying)
Dimension(LxWxH)	175 x 100 x 20 mm
Power consumption	5 V @ 500 mA
Operation temperature	0°C ~ 60°C

## MODULES

Panasonic A4N series	Aurotek	Aurotek	Asahi Engineer
Servo / Linear Driver	I/O Module (MCN-9321, MCN-9322)	4-Axis Pulse Module (MCN-9040)	2-Phase Micro Stepping Driver (D4610)
			
RTEX servo drivers from 50W to 7.5kW	32 points digital outputs / inputs for RTEX network.	4 axes pulse command for the motors, linear, DD motor/stepping motors, Max 8.192Mpps pulse output frequency.	Max. 200 division for each stepping.

### Ordering Information

- MCN-8032P      RTEX 32-axis motion control PCI board
- MCN-8016P      RTEX 16-axis motion control PCI board
- MCN-9040      RTEX 4-axis pulse command module
- D4610      RTEX 2-phase micro stepping driver
- MCN-9321      RTEX 32 points input module with terminal block
- MCN-9322      RTEX 32 points output module with terminal block

\*Please contact with distributors for special cable length



PULSE TRAIN TYPE

**MC-8841P**

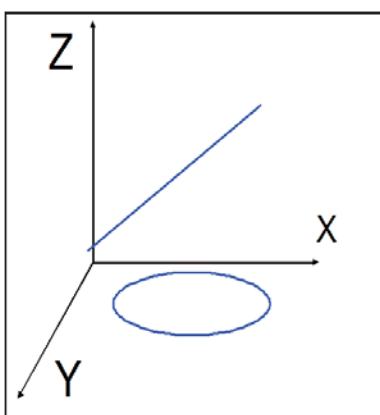
PC-BASED Motion Control Board

## FEATURES

- Pulse speed up to 8 Mpps
- Interpolation speed up to 4 Mpps
- Pulse drive option CW/CCW, PULSE/DIR and AB phase
- T / S curve velocity profiles
- 2/3/4 axes linear interpolation(for MC-8841P)
- 2~8 axes linear interpolation(for MC-8881P)
- 2 axes circular interpolation
- Multi-axes continuous interpolation

- Multi-board /axes linear interpolation
- Interpolate period support S/T curve acc. /dec.
- Programmable acc. /deceleration timing
- Simultaneously drive by Interpolation / non- Interpolation both
- Hand wheel and jog function
- Hardware emergency stop
- Up to 16 boards in a PC

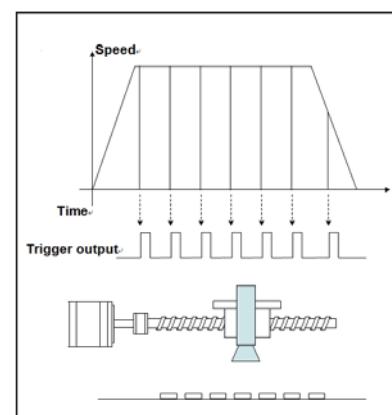
## MAIN MOTION FUNCTIONS



### Linear and Circular Interpolation

Linear Interpolation  
For one board: any 2 axes circular interpolation ,any 2~4axes linear interpolation

For multiple boards, linear interpolation crossing with different boards is available.

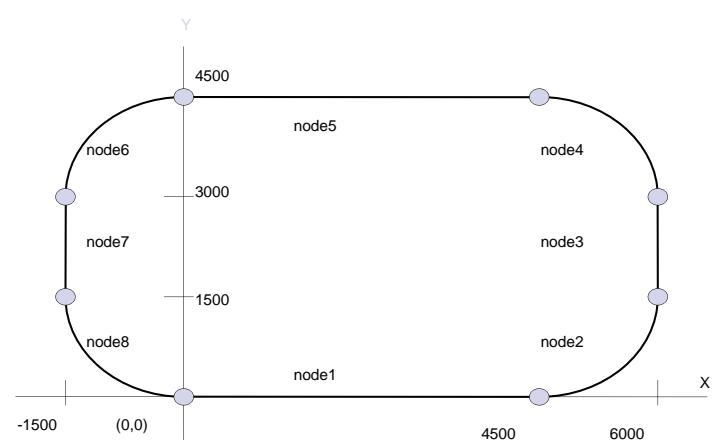
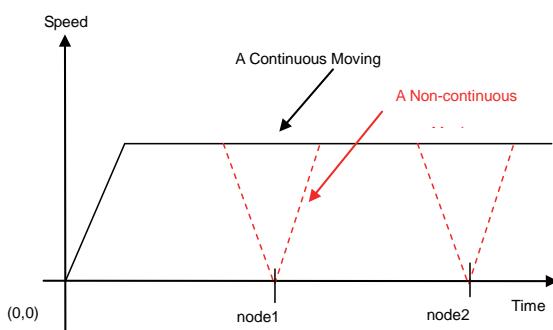


### Position Compare and Trigger

Provides position compare function which will output a trigger signal if present position is equal to the preset position. A user can use this function for continuous vision scanning.

### Continuous Interpolation

Combine multiple linear interpolations or circular interpolations to be a continuous route, moving with a constant speed.





PULSE TRAIN TYPE

## MC-8881P

PC-BASED Motion Control Board

### SPECIFICATIONS

Pulse train motion control	
<b>Motor type support</b>	AC Servo / stepping motor
<b>Max. number of axes</b>	4 (MC-8841P) / 8(MC-8881P)
<b>Max. pulse output rate</b>	8 Mpps (4 Mpps when interpolation)
<b>Max. acceleration rate</b>	1024 Mpps <sup>2</sup>
<b>Interpolation (for MC8841P)</b>	2/3/4 axes linear, 2-axes circular, continuous, linear interpolation cross with different MC-8841/MC-8881P
<b>Interpolation (for MC8881P)</b>	2~8 axes linear, 2-axes circular, continuous, linear interpolation cross with different MC-8841/MC-8881P
<b>Speed resolution</b>	16 bits(1~65,536)
<b>Encoder counter resolution</b>	32 bits(Max. 2,147,483,648)
<b>Encoder feedback rate</b>	8 Mpps under 4 x AB phase
<b>Position range</b>	32 bits ( $\pm 2,147,483,648$ )
I/O interface signal (External power DC12~24V)	
<b>Machine interface</b>	LMT+ x 4 / 8, LMT- x 4 / 8, ORG x 4 / 8
<b>Servo motor interface</b>	ALM x 4 / 8, INP x 4 / 8
<b>Encoder interface</b>	A,B,Z Max.8 Mhz
<b>General purpose input</b>	(IN0 ~IN3) x 4 / 8
<b>General purpose output</b>	(Out4 ~Out7) x 4 / 8 Max.100 mA
Software	
<b>Software utility</b>	MC88XXP series utility for motion test and diagnosis
<b>Driver/LIB</b>	Driver for windows XP(32-bit), windows 7(64-bit), DLL function for windows applications
General specification	
<b>Certification</b>	CE(applying)
<b>Dimension(LxWxH)</b>	175 x 100 x 20 mm
<b>Power consumption</b>	Typical 5 V @ 700 mA / 950 mA

### MODULES

Terminal Board (PCN-5050D)	Terminal Board for Panasonic Servo Motor / Stepping Motor	Control Cable for MC-8881P	Control Cable for MC-8841P	Motor Control Cable

#### Ordering Information

- MC-8841P      4-axis servo / stepping motion control PCI board
- MC-8881P      8-axis servo / stepping motion control PCI board
- PCN-5050D      Terminal board with 50 pins terminal block, DIN-rail mounting
- MCB-8412P4      Terminal board with SCSI-50 x2, Panasonic MINAS A4/A5, DIN-rail mounting
- FX2B-100-1.27R(260)      100 pins ribbon cable, IDE connector type , 1.3m \*
- SCSI-III 100P-1.3M      SCSI-III 100 pins shielding cable,IDE connector type , 1.3m \*
- MDR-50-0010      SCSI-II 50 pins shielding cable, quick release type 1 m \*

\*Please contact with distributors for special cable length



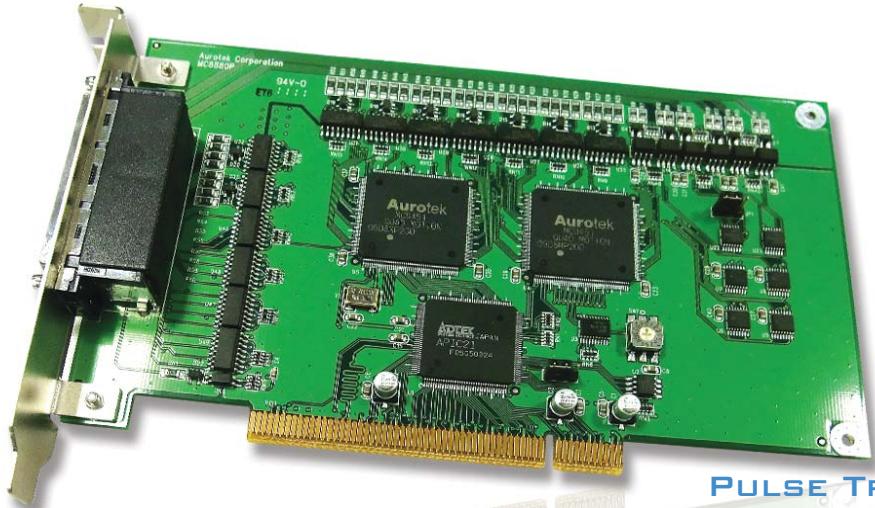
PULSE TRAIN TYPE

## MC-8882P

PC-BASED Motion Control Board

### SPECIFICATIONS

Pulse train motion control	
Motor type support	AC Servo / stepping motor
Number of axes	8
Pulse output rate	Max. 8Mpps
Acceleration rate	Max. 1024 Mpps <sup>2</sup>
Interpolation	2~8 axes linear, 2-axis circular, continuous, linear interpolation cross with different MC8841P/MC8881P/MC8882P
Speed resolution	16 bits( 1~65535)
Encoder counter resolution	32 bits(Max. 2,147,483,648)
Encoder feedback rate	Max. 8Mpps
Position range	32 bits( $\pm$ 2,147,483,648)
I/O interface signal( External power DC 12~24V)	
Machine interface	LMT+ x 8, LMT- x 8, ORG x 8
Servo motor interface	ALM x 8, INP x 8
Encoder interface	A, B, Z Max. 8 Mhz
General purpose input	(in1 ~ in3) x 8
General purpose output	(Out4 ~ Out7) x 8 Max. 100mA
Software	
Software utility	MC88XXP series utility for motion test and diagnosis
Driver / LIB	Driver for windows XP(32-bit), windows 7(64-bit), DLL function for windows applications
General specification	
Bus type	Universal PCI
Certification	CE(Appling)
Connector	100-pin SCSI-III-type connector x 2
Dimension(LxWxH)	175 x 100 x 20 mm
Power consumption	Slot power supply: Max. 1050 mA
Operation temperature	0 ~ 60°C
Counter	
Trigger pulse frequency	Max. 5Mhz
Trigger pulse width	0.2μm ~ 6.55ms
Number of trigger output port	8
Latch frequency	Max. 5Mhz
Number of latch input port	8



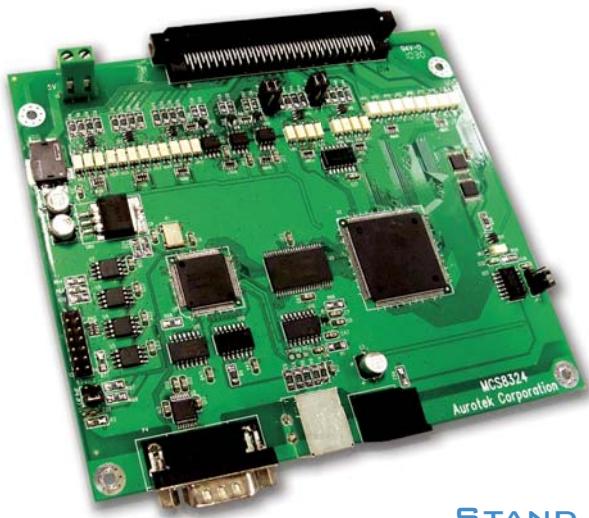
PULSE TRAIN TYPE

## MC-888OP

PC-BASED Motion Control Board

### SPECIFICATIONS

Pulse train motion control	
<b>Motor type support</b>	AC Servo / stepping motor
<b>Number of axes</b>	8
<b>Pulse output rate</b>	Max. 8Mpps
<b>Acceleration rate</b>	Max. 1024 Mpps <sup>2</sup>
<b>Speed resolution</b>	16 bits( 1~65535)
<b>Encoder counter resolution</b>	32 bits(Max. 2,147,483,648)
<b>Encoder feedback rate</b>	Max. 8Mpps
<b>Position range</b>	32 bits(±2,147,483,648)
I/O interface signal( External power DC 12~24V)	
<b>Machine interface</b>	LMT+ x 8, LMT- x 8, ORG x 8
<b>Servo motor interface</b>	ALM x 8, INP x 8
<b>Encoder interface</b>	8 Mhz
<b>General purpose input</b>	(in1 ~ in3) x 8
<b>General purpose output</b>	(Out4 ~ Out7) x 8 Max. 100mA
Software	
<b>Software utility</b>	MC88XXP series utility for motion test and diagnosis
<b>Driver / LIB</b>	Driver for windows XP(32-bit), windows 7(64-bit), DLL function for windows applications
General specification	
<b>Bus type</b>	Universal PCI
<b>Certification</b>	CE(Appling)
<b>Connector</b>	100-pin SCSI-III-type connector x 2
<b>Dimension(LxWxH)</b>	175 x 100 x 20 mm
<b>Power consumption</b>	Slot power supply: Max. 1050 mA
<b>Operation temperature</b>	0 ~ 60°C
Counter	
<b>Trigger pulse frequency</b>	Max. 5Mhz
<b>Trigger pulse width</b>	0.2μm ~ 6.55ms
<b>Number of trigger output port</b>	8
<b>Latch frequency</b>	Max. 5Mhz
<b>Number of latch input port</b>	8



## STAND ALONE CONTROLLER

MCS-8324

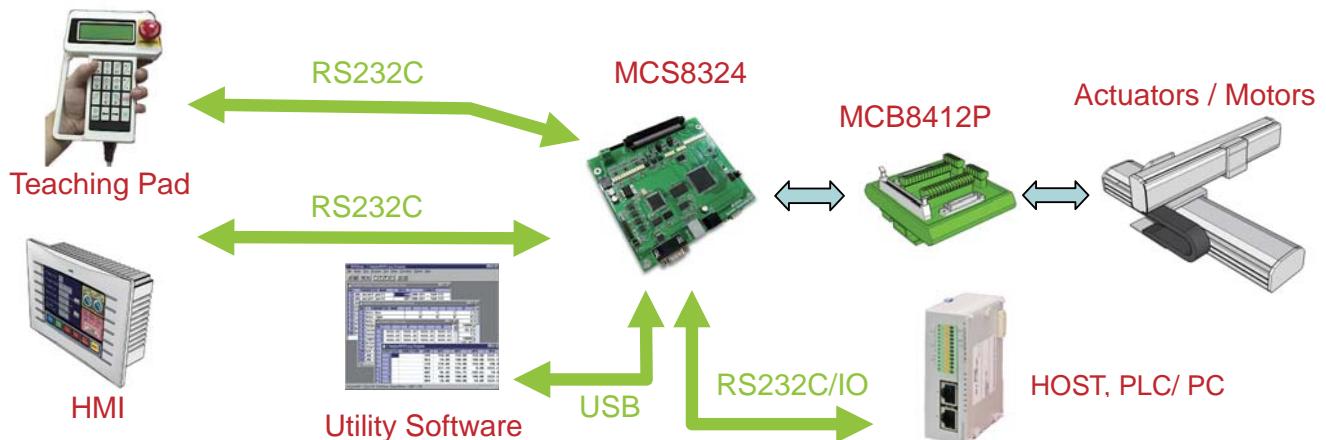
## STAND ALONE Motion Controller

## FEATURES

- Pulse speed up to 6 Mpps
  - Interpolation speed up to 3 Mpps
  - Through RS232 connect to HMI
  - Programming capacity up to 999 sets
  - Pulse drive option CW/CCW, PULSE/DIR and AB phase
  - T / S curve velocity profiles
  - 2/3/4 axes linear interpolation
  - 2 axes circular interpolation

- Multi-axes continuous interpolation
  - Interpolate period support S/T curve acc. /dec.
  - Programmable acc./deceleration timing
  - Simultaneously drive by Interpolation /  
non-Interpolation both

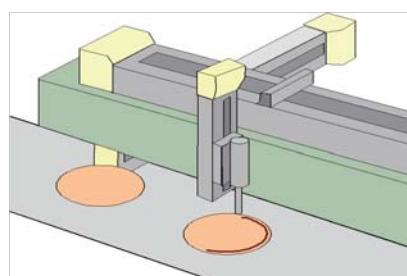
SYSTEMS



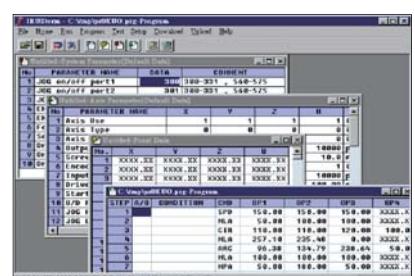
## MAIN MOTION FUNCTIONS



## HMI Supported



## Function Ready for Dispensing

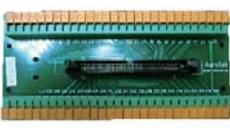


## Software Utility Provided

## SPECIFICATIONS

Pulse train motion control	
<b>Motor type support</b>	AC servo / stepping motor
<b>Max. number of axes</b>	4
<b>Max. pulse output rate</b>	6 Mpps(3 Mpps when interpolation)
<b>Max. acceleration rate</b>	1024 Mpps <sup>2</sup>
<b>Interpolation</b>	2/3/4 axes linear, 2 axes circular
<b>Speed resolution</b>	16 bits(1~65,536)
<b>Encoder counter resolution</b>	32 bits(Max. 2,147,483,648)
<b>Encoder feedback rate</b>	Max. 6Mpps
<b>Position range</b>	32 bits ( $\pm 2,147,483,648$ )
I/O interface signal(External Power DC12~24V)	
<b>Machine interface</b>	LMT+ x 4, LMT- x 4, ORG x 4
<b>Servo Motor interface</b>	ALM x 4, INP x 4
<b>General purpose input</b>	(IN0 ~ IN3) x 4
<b>General purpose output</b>	(Out4 ~ Out7) x 4 Max.100 mA
General specification	
<b>Program capacity</b>	99 Programs x 999 Step max. 19300 Steps
<b>Certification</b>	CE (applying)
<b>Dimension(LxWxH)</b>	145 x 130 x 16 mm
<b>Power consumption</b>	Typical 5 V @ 850 mA
<b>Operation temperature</b>	0°C~ 60°C

## MODULES

Terminal Board (PCN-5050D)	Terminal Board for Panasonic Servo Motor / Stepping Motor (MCB-8412P4)	Control Cable for MCS-8324 (FX2B-100-1.27R(260))	Motor Control Cable
			
50 pins terminal, one board for 2 axes.	2 axes terminal board special for Panasonic A4 / A5 driver or stepping driver.	100pin ribbon cable, IDE connector type , available variety length	SCSI-II 50pin shielding cable, special for linking MCB-8412P4 with Panasonic servo driver

### Ordering Information

- MCS-8324 4-axis servo / stepping motion controller
- TP-104E Teaching pad for MCS8324
- PCN-5050D Terminal board with 50pin terminal block, DIN-rail mounting
- MCB-8412P4 Terminal board with SCSI-50 x2, Panasonic MINAS A4/A5, DIN-rail mounting
- FX2B-100-1.27R(260) 100pin ribbon cable, IDE connector type , 1.3m \*
- MDR-50-0010 SCSI-II 50pin shielding cable, quick release type 1m \*

\*Please contact with distributors for special cable length

## PRODUCT SELECT GUIDE

## OPTION MODULES FOR RTEXT NETWORK SYSTEM



<b>Model</b>	<b>MCN-9321</b>
<b>Description</b>	32 points digital input module for RTEX network
<b>Input interface</b>	Photo coupler
<b>Voltage</b>	DC18~36 V
<b>Current</b>	5~11 mA per point
<b>Dimensions</b>	158 X 86 X 43 mm
<b>Producer</b>	Aurotek Corporation



<b>Model</b>	<b>MCN-9322</b>
<b>Description</b>	32 points digital output module for RTEX network
<b>Output interface</b>	Open collector
<b>Voltage</b>	DC18~36 V
<b>Max output (sink)current</b>	150 mA
<b>Dimensions</b>	158 X 86 X 43 mm
<b>Producer</b>	Aurotek Corporation



<b>Model</b>	<b>MCN-9040</b>
<b>Description</b>	4 axes pulse train command module for RTEX network
<b>Axis</b>	4 axes
<b>Output pulse frequency</b>	8.192 Mpps
<b>Output pulse mode</b>	One pulse mode(PULSE, DIR), Two pulses mode(CW / CCW), Quadrature pulse (A, B phase)
<b>Output pulse interface</b>	Line driver
<b>Feedback pulse Freq.</b>	Max. 4 Mpps (2 phase, X 4)
<b>Input pulse mode</b>	Up/Down signal, Quadrature pulse (A, B phase), Z phase signal
<b>Input pulse Interface</b>	Line driver
<b>Outputs</b>	16 points (4 points each axis)
<b>Output interface</b>	Photo coupler
<b>Output sink current</b>	Max. 50 mA
<b>Output Voltage</b>	Max. 30 V
<b>Inputs</b>	21 points ( 5 points each axis, one emergency stop) + limit, - limit, home, in-position, driver alarm, emergency stop
<b>Input interface</b>	Photo coupler
<b>Input current</b>	4.6 mA~5.2 mA
<b>Input voltage</b>	DC+24 V
<b>Ambient temperature</b>	0~50°C
<b>Ambient humidity</b>	Less than 85% RH (free from condensation)
<b>Installation place</b>	Where the products are not subjected to corrosive atmospheres, and are free from splash of inflammable gas, oil mist, and etc.
<b>Power</b>	DC+24 V, 6 A (Max)
<b>Dimensions</b>	W32 x D120 x H150 mm
<b>Producer</b>	Aurotek



<b>Model</b>	<b>D4610</b>
<b>Description</b>	2-phase micro stepping driver for RTEX network
<b>Power</b>	Main power: DC 24 V ± 10% (4.0 A MAX) Sensor Power: DC 24 V ± 10% (0.1 A)
<b>Adaptor motor</b>	Less than 2.55 A/ phase 2-phase HB type stepping motor
<b>Step deviation</b>	200 deviations per motor step (40,000 p/r for a step angle 1.8deg motor)
<b>Inputs</b>	4 inputs(HOME, EX, CWLS, CCWLS) encoder input, emergency stop input
<b>Outputs</b>	Alarm, motor brake signal
<b>Protection</b>	Over current, voltage monitor,
<b>Ambient temperature</b>	0°C to 50°C (free from freezing) storage: -20°C to 60°C (free from freezing)
<b>Ambient humidity</b>	Less than 90% RH (free from condensation) Storage: Less than 90% RH (free from condensation)
<b>Installation place</b>	Indoor use, where the products are not subjected to rain or direct sun beam. Where the products are not subjected to corrosive atmospheres, and are free from splash of inflammable gas, oil mist, and etc.
<b>Altitude</b>	Lower than 1000 m
<b>Vibration</b>	Less than 2G (10~250 Hz XYZ direction 1 hr) Less than 10G (once)
<b>Dimensions</b>	160 x 92 x 29 mm
<b>Weight</b>	about 300 g
<b>Producer</b>	Asahi Engineering Co.,LTD

\*Please contact with distributors for special cable length

## WebOP 2000 series



WebOP-2040T

WebOP-2050T

WebOP-2070T

WebOP-2080T

WebOP-2100T

To satisfy the stringent standards required in the automation market, Advantech offers the WebOP-2000 series for different applications involving the use of PLCs, motion/thermal controllers, inverters and sensors. WebOP Designer 2.0 is a software development kit which helps create application solutions for labor-saving, improved efficiency of manufacturing and easy control of every machine in the factory. WebOP-2000 series is bundled with WebOP Designer 2.0 offering an outstanding price performance ratio for various markets such as conventional operator panels, HMI + Low mini SCADA systems, and HMI + communication gateways.

### Industrial Applications

- Focuses on textile, packaging and pharmaceutical applications
- Wide market coverage in Building Automation, with BACNet MSTP/TP support

### Hardware & Communication

- Compact, flat-sealed with NEMA4/IP66
- Support Ethernet-based operator data acquisition and bi-directional control
- Data acquisition and bi-directional control through real time communication
- Support various communication links

# Intelligent Operator Panels

# Enabling Flexible Connectivity through Powerful



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*Enabling an Intelligent Plan t*

# WebOP-2000 Series Selection Guide



# Aurotek®

*A Complete Solution from One Source*

## Taiwan

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Fax : +886-2-8752-3347  
E-mail : info@robot.com.tw  
E-mail : sales@robot.com.tw  
Website : <http://www.robot.com.tw>

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Fax : +886-3-322-0866

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Tel : +886-4-2452-2822  
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## Tainan Office

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Tel : +886-06-293-4853  
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## Thailand

### Plenty Island (Thai) Co., Ltd.

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Thailand.  
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