



MECHATROLINK News "MMA-FLASH" brings the latest MECHATROLINK information.

Feature Article

An Interview with the Group Leader of Tokyo Electron Kyushu Ltd.

Meeting the Open Field Network that Quickly Responds to Industry Innovation

We deliver the latest news and information to MMA member companies and MECHATROLINK users in our feature articles.

For this issue, we asked Jun Ookura, Group Leader of Tokyo Electron Kyushu Ltd., to talk about how Tokyo Electron Kyushu came to the decision to adopt MECHATROLINK and what he expects from the MMA.

Q1. The Tokyo Electron Group engages in development and manufacture of semiconductor production equipments. Could you tell us about the products the Tokyo Electron Kyushu manufactures?

—The products the Tokyo Electron Group develops, manufactures, and sell are roughly classified into two categories: Semiconductor production equipments and FPD production equipments. The Tokyo Electron Kyushu, I belong to, engages in development and manufacture of photoresist coating and developing equipments and surface preparation equipments for semiconductor production, and FPD resist coating and developing equipments for FPD production.

The product lineup of other group companies includes thermal processing system, single-wafer deposition system, surface preparation system, wafer prober, and FPD plasma etching and ashing system.

Q2. Semiconductors are now indispensable to our everyday lives. What are the needs of customers?

—Although the photolithography technology has enabled

semiconductor devices to progressively shrink, the method using photolithography technology is approaching its theoretical limit. As a result, the paradigm shift to new technologies, such as next generation lithography and 3D chip stacking technology, is starting to occur.

At the same time, the speed up for all processes, including equipment development, production, system startup, and product startup, is demanded to flexibly respond to shortened product life-cycle and rapid changes in the market.

As well, the semiconductor industry highlights the needs to improve productivity, reduce total cost including material cost, footprint, and power consumption, and improve quality such as throughput and yields.

Network to Solve the Noise Problem and Reduce the Wiring Time

Q3. Could you tell us about the problems you had before having adopted MECHATROLINK network?

—We had a noise trouble caused by long signal transmission lines and needed so much time and space for routing a large number of cables.

Additionally, the data from motor drivers were so limited that it was difficult to find out a cause of error or failure.

Q4. How did you come to your final selection of MECHATROLINK?

—We compared communication speed, reliability, maintainability (possibility of hot swapping, etc.), load on master CPU, expandability, cost, etc. of several networks, before having made a final selection.

We finally selected MECHATROLINK for the reasons:

- Communication retry function
- Hot swapping possible
- Lower CPU load on master, etc.



Jun Ookura,
Element Development Gr.,
SPE Elec. Engineering Dept.,
Tokyo Electron Kyushu Ltd.

MECHATROLINK Widens the Network Application Range to Provide More Advanced Functionalities to Equipment

Q1. Could you give us your application examples of MECHATROLINK and the results?

—We use MECHATROLINK-III for controlling stepping motors used in the equipments. And, we developed wire-saving and space saving 1-axis, 3-axis, and 5-axis control boards. Each control board is equipped with a general-purpose I/O port for control via MECHATROLINK, which contributes to wire-saving.

In the beginning, we used an ASIC for MECHATROLINK-III. But now, we use the cost effective FPGA IP we developed, in place of the ASIC. The adoption of MECHATROLINK-III resulted in an approx. 20% reduction of total wirings including wirings for other networks, and an approx. 20% increase of noise immunity.

Additionally, the use of MECHATROLINK motion control network remarkably increases the amount of available data, resulting in reduction of troubleshooting time and improvement of equipment monitor function.

Q2. Could you tell us about your projects and expectation from the MECHATROLINK and the MMA?

—We will increase the variation of devices to be connected to MECHATROLINK network as well as extend the motion network application range to other products.

The semiconductor equipment development cycle is getting shorter and shorter as the technological innovation speed increases every year.

We expect the MMA to push forward the technological innovation of MECHATROLINK. Such innovation will help us add value to our product.

Taking this opportunity, we would like to express our appreciation for the cooperation and support the MMA extended to us, not only by communication via e-mails, telephones, etc. but also visiting us in Kumamoto, in our efforts to adopt MECHATROLINK and develop FPGA IP.



CLEAN TRACK™ LITHIUS Pro™ V

News & Topics

Exhibitions

TECHNO-FRONTIER 2012 (participating in MECHATRONICS CONTROL 2012 group exhibition)

Event Information

Dates: July 11 (Wed) – 13 (Fri), 2012, 10:00 – 17:00

Place: Tokyo Big Sight, Japan

Booth No.: 4D-213

The presentation will be also given in the MMA booth.

Looking forward to seeing many of you

MMA Participants:

- ALGOSYSTEM CO., LTD.
- Digital Electronics Corporation
- Micronet Co.
- NIKKI DENSO Co., Ltd.
- Sankyo Seisakusho Co.
- YOKOGAWA ELECTRIC CORPORATION
- ANYWIRE CORPORATION
- KOYO ELECTRONICS INDUSTRIES CO., LTD.
- M-SYSTEM CO., LTD.
- ORIENTAL MOTOR CO., LTD.
- YASKAWA ELECTRIC CORPORATION



Planned design for MMA booth at TECHNO-FRONTIER 2012/07/12

Industrial Open Networks Fair 2012

Event Information

Dates: July 9 (Mon), 2012, 10:00 – 18:00

Place: 8F Exhibition space at WINC AICHI in Nagoya, Japan

Dates: July 11 (Wed), 2012, 10:00 – 18:00

Place: 7F Event Hall at Curia Shinagawa City Hall in Tokyo, Japan

Taipei International Industrial Automation Exhibition 2012

Event Information

Dates: August 29 (Wed) – September 1 (Sat), 2012, 9:00 – 17:00 (16:00 on Sept. 1)

Place: Taipei World Trade Center (TWTC) Nangang Exhibition Hall

MMA Membership Over 1000 Members! Growing to be a World Standard Network

The MMA membership reached 1000 at the end of March, 2012. The MECHATROLINK Members Club, original of MMA, was established in January, 2003, starting from 51 member companies. And, it was replaced by the MMA in 2005. During nine and half years since the establishment of the MMC, we had developed our promotional activities in Asian, European, and American regions and welcomed 1000 new members. The rapid spread of MECHATROLINK in these few years has been remarkable, and especially the number of MMA member companies in China is rapidly increasing. The MMA is now the largest networking group in Asia that promotes a motion control open network. The MMA will further accelerate the promotion of MECHATROLINK to make MECHATROLINK the de-facto network in Asian markets, and will continue our efforts to reach the next milestone of 2000 members by the end of 2014.



Report of 2012 MECHATROLINK Members Association General Meeting

The 2012 MMA general meeting was held at UDX Conference in Akihabara, Tokyo, on June 1 (Fri), 2012. In spite of the hot temperature like summer heat, 130 people of 62 member companies participated in the meeting and the meeting room was fulfilled with a mood of streaming excitement. The general meeting was opened in an excitement celebrating the MMA steady growth to over 1000 members in this March.

The meeting started with a welcome speech by Hiroshi Ogasawara, the President of the Executive Committee of the MMA, Takashi Tanaka, the General Secretary of the MMA, then reported on the activities of FY2011 and activity plans for FY2012. This was followed by a FY2011 financial report by the MMA Secretariat. Thereafter, the MMA Marketing Group reported on the activities of FY2011 and the schedule for Customer Visits and MECHATROLINK Fair, and announced an invitation to new group members. And, the PC Engineering Group reported on the result of technical information exchange among members and the activity plans for FY2012.

Following the general meeting, Kohei Noguchi from Tokyo Electron Kyushu Ltd. gave a speech titled "Trend and Required Technologies for Semiconductor Production Equipment". In his speech, he talked about his unique experiences, and explained the future trend of semiconductors and what he expects from MECHATROLINK. The MMA will make efforts to respond appropriately to his expectation. After the lecture, MECHATROLINK new products were introduced



Special Lecture by Kohei Noguchi, Element Development Gr., SPE Elec. Engineering Dept., Tokyo Electron Kyushu Ltd.



Special Talk Show by Yoshichi Shimada

and then a special talk show by Yoichi Simada started. Yoichi Shimada is a popular Japanese comic dialogist who wrote a book titled "GABAIBACHAN (slang in Saga pref. means My Amazing Grandma)".

He gave a talk titled "EGAODE IKINSHAI (Live Life with a Smile), making the participants laugh and changing the atmosphere in the room to a relax mode. The time passed much too quickly while we were together laughing. Shimada well transmit his message, the importance of enjoying life, through his talk. We hope all the participants enjoyed refreshing respite from their busy day.

Many participants attended the reception in another room, following the meeting, which offered a once-a-year opportunity for MMA members to exchange information in person. The meeting concluded on a high note.

Preparing occasions to exchange information with MMA member companies, the MMA will continue to promote the use of MECHATROLINK.

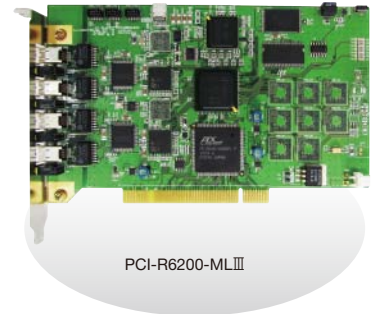


General Meeting

New MECHATROLINK Products

AJINEXTEK CO.,LTD “PC base Motion Controller”

PCI-R6200-MLⅢ is a MECHATROLINK-Ⅲ compatible half-size PCI board controller that can control up to 62 axes, and capable of communicating in real-time with distributed control elements using MECHATROLINK-Ⅲ communication protocol. It can be used for precision control of stepping motors, DC servomotors, and AC servomotors that are used as main actuators in industrial equipments such as semiconductor manufacturing equipments, fiber equipments, packing equipments, and PCB shredders.



PCI-R6200-MLⅢ

Features

- MECHATROLINK-Ⅲ compatible master board
- Number of control axes (nodes): 16 (Up to 62 when option boards are mounted)
- Up to 30 MECHATROLINK-Ⅲ slave modules can be mounted.
- Scan (cycle) time when 30 axes (nodes) are connected: 1 msec
- Control functions: Positioning, JOG operation, signal detection, interpolation, speed/distance override
- 2 to 4 axes liner interpolation, 2 axes arc interpolation, continuous interpolation, 3 axes helical interpolation
- Automatic generation of symmetric/asymmetric trapezoid and S-curve velocity profiles
- Firmware upgrade available
- Support of software tool EzSoftware RM

Inquiries

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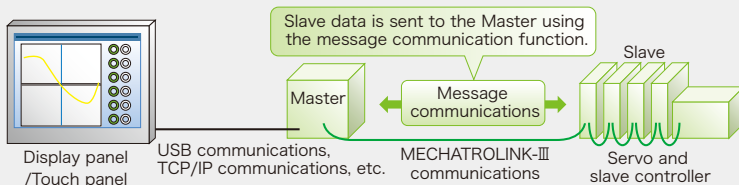
MECHATROLINK-Ⅲ Message Communications

In the cyclic communication mode of MECHATROLINK-Ⅲ communication, data can be transmit between the Master and each slave using the message communication function in intervals between exchanges of command data and response data.

The use of the message communication function allows exchange of data of slave setting tool, which adds value to your system.

Application Examples

- The Master receives a status data from a slave using the message communication function. Thus, each slave status can be monitored on a display panel.
- Construction of a system where you can instruct a slave for maintenance from the touch panel
- Downloading of recipe data to a slave controller



MMA Unveils New Logos

The MMA has unveiled new MMA and MECHATROLINK logos.

The new MMA logo uses the same black lettering as in the MECHATROLINK logo to exert a strong appeal to audiences, and the thickened orange-color ring that represents our connection stronger than ever before.

The refreshing lime colored MECHATROLINK symbol on white background is simple but attractive.

Going along with these new logos, the MMA will continue our efforts to promote the widespread use of MECHATROLINK.



New MMA logo



New MECHATROLINK logo

Editor's Comment

The good news of the MMA membership over 1000 members gave us a high motivation for the new fiscal year 2012. And still, we are receiving every day many inquiries about MMA membership and MECHATROLINK. Meeting with many MMA members at the general meeting renews our vitality every year. Not to decelerate this speed of growth, we will continue the promotional activities. Written by Hiranuma.

Inquiries

For questions about joining MECHATROLINK Members Association and other inquiries, please contact the MMA.

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