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Introduction

Hello again,

Late news: OPTO 22 has released Factory Floor 5 with a new scripting language.

MasTec Highlite this month on Page 2

Discussion on "In House LabVIEW Training Courses" for companies building Test Systems.

The Focus is tightly on Z World this month.

If you haven't seen the Z World revolution in micros, please go to www.ZWorld.com, be ready to be impressed with these new Rabbit based TCP micros and modules.

And other NEW product information as usual.

Features

- Web Info:** MasTec Ltd Marketing Button
- Z-World:** Low cost micro/operator display with TCP
- Z-World:** Low cost micro with TCP
- NI:** LabVIEW 6.1 review continues
- Training:** Stories on In house training
- MC:** Low cost high speed DAQ
- MOXA:** Ethernet Comms, Routers and Switches

MasTec Ltd Marketing Button

Have a look at the www.mastec.co.nz side bar button set and click Marketing. The announcements in this newsletter and many more are to be found there.

Mini Com Operator Display



The Z World MiniCom is a low-cost, C-programmable operator interface and single-board computer that offers Ethernet connectivity, plenty of industrialized I/O, and a graphic LCD/keypad. The MiniCom's compact 4.5" x 3.6" form factor makes it ideal for use in designs and areas with size constraints. Available in both

Ethernet-enabled and non-Ethernet versions, the MiniCom provides comprehensive integrated control, display, and networking capabilities via Internet/Ethernet or serial communications.

Both the Ethernet-enabled OP6800 and the non-Ethernet OP6810 feature 24 rugged digital I/O, an international-character 122 x 32 pixel LCD, user-relegendable keypad with 7-key / 7-LED interface, 4 serial ports, Rabbit 2000 proces-

sor at 22.1 MHz, and 256K Flash/128K SRAM (standard). The OP6800's Ethernet capabilities facilitate remote diagnostics, communication, and control, including sending and receiving E-mails and alerts.

When front-panel mounted, both MiniCom models meet NEMA 4 water-resistance compliance standards, making it suitable for use in harsh environment.

Smart Cat Micro TCP-ADC-DAC

The Z World BL2100 is a low-cost, high-performance single-board computer that gives OEM designers Ethernet connectivity and keypad/display options all in one small package. Perfect for embedded control and data acquisition, the BL2100



Series is a feature-rich design solution, providing comprehensive integrated control capabilities in a compact 4.14" x 3.41" form factor. The BL2100 is also ideal for remotely monitoring and supervising another programmable system or Ethernet-enabling a new or existing product.

More LabVIEW 6.1 Info

LabVIEW 6.1 now takes advantage of event-driven programming to simplify the development of sophisticated user interfaces. With the new event structure, engineers can use the most efficient method for programming user interfaces while retaining the intuitive data flow development paradigm of LabVIEW, which is best suited for measurement applications.

LabVIEW 6.1 also expands on the already-powerful measurement capabilities of LabVIEW 6i with features that further increase the accuracy, efficiency, and speed of measurement and analysis. The new, patent-pending point-by-point analysis libraries increase application performance and enhance real-time response for engineers acquiring and processing data a single point at a time at relatively high speeds, such as in a closed-loop control application. LabVIEW 6.1 also includes functions that increase fast Fourier transform (FFT) analysis speed by as much as 10 times over LabVIEW 6i and as much as 100 times over LabVIEW 5.1.

NI LabVIEW 6.1 makes it easier for engineers to control their applications in seconds from any commonly used Web browser — anywhere in the world. With just two mouse clicks, engineers can instantly embed their application's front panel in a Web browser, reducing the time and costs typically associated with developing remote applications. With this feature, colleagues across the office or across the globe can connect to the same system to view an application in real-time and engineers can easily control hardware from a separate office or from home, increasing efficiency and reducing development costs. [Upgrade soon.](#)

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Call MasTec Limited for information on these exciting new products

LabVIEW Training "In House"

MasTec has been doing "In House" LabVIEW training now for 11 years. However these last few months we have received orders for several "In House" courses. This is a new HIGHER FRQUENCY pattern and we would like to encourage all management or engineering staff that are in charge of test or QC/QA who are having difficulty getting good programmers for building test systems, to think about arranging a course in house with MasTec Ltd because it seems like there is a shortage of LabVIEW programmers at present and this is a good way to create them.

A recent course we did, involved 4 engineers who are going to become the core of a new test strategy inside this manufacturing company. Almost all their product is exported and they are working towards new test methods and procedures to reduce cost and time to market and also increase control over R&D, Validation, Production and Service. It was worth while for them to take three days of training to jump start this project. **They are starting right.**

You may find your company in a similar situation, needing programmers but no one applying for jobs. A solution is to take in house staff and train them, the advantages are these, they know the technicals of the products, they know the methods of the company, they may even know the test methods and with a little training and the correct strategy can jump the test program markedly.

Some thoughts on Testing as a Culture inside a company.

Have you thought that test programs contain most of the technology secrets of the companies products. Embedded somewhere is the MAGIC that makes the product different. This information has to be defined in a spec to make the test system. Someone has to know this information and tell the programmer. My experience is that often making Test a focus will reveal more truths about these SECRETS of the company. It is not until you measure, control, analyse, report that you can gain a deeper insite into the product.

I recently spoke to a company engineer who told me their \$1M+ Test system was not doing it anymore for them and they needed to update it. The only reason they know this is that they have been educated by it and they now know more about the product, so they need to test more.

Get the picture, Test brings evolution, stops products going down blind alleys, everyone is more aware and can communicate more meaningful about the product.

This is the Competitive Edge, this is the magic, this is the reason no one else can make the product like you.

Get into this groove and you will see vast improvements in knowledge, skills, communication, better documentation, manuals, service, less failures and lower costs and better products that work better.

Maybe all this Testing will make the product become mature eventually and lead to a cash cow for the company.

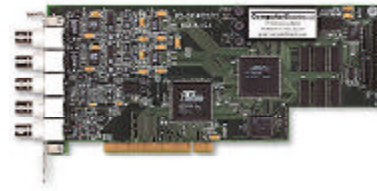
Management is responsible for allowing/making this culture to develop, engineers want it, they crave it, that is why they are engineers. They have to know, they have to define, they have to be sure, they have to improve things.

Use this desire to make your company great.

MasTec Ltd can assist you with "In House Training".

Low Cost-High Speed DAQ

Here is a an excellent DAQ solution for those not needing scope performance but still want several channels with MHZ sampling and a little bit more I/O.



Measurement Computing's PCI-DAS4020/12 is a 4 channel simultaneous sampling 20 MHZ per channel DAS card, with 24 bits of Digital I/O (8255 high current) and dual DAC. The ADC and the DAC are 12 bits. It also has analog and digital triggering. Cost <\$4K NZ. Try and find that any where else?!, you may be paying \$6-9K for such a board. It also runs with conventional code and LV and VEE.

(Note the BNC Connectors, no need for those quite expensive input cables with this unit.)

I/Ethernet Comms-Router-NPower



NPort Express is a serial device server on the cutting edge of the serial communications field. It is a mainstay in automated communications systems and is in high demand in the industrial automation

field. This is due to the fact that the mature TCP/IP Ethernet technology is being used more in industrial automation. NPort Express is ideally suited to connect TCP to RS-232/422/485.

The SR3000 Internet ThinRouter, is for connecting LANs to high speed dedicated lines. This product is used by engineers & technicians who appreciate its economical design and complete lineup of useful functions. It provides highly effective and stable T1/E1 and ISDN access, giving enterprises the most attractive and cost-effective solution for high-speed access to the worldwide Internet.

NPower Commander is a perfect solution for Membership Management in the sports/resort market

Problem: Membership management is a challenge for some recreation businesses, such as pool halls, health clubs, and Internet cafes. The traditional way of operating this type of business requires administrative staff to manually turn machines on and off after the customer signs in.

Solution:By integrating MOXA NPower Commander into the system, customers gain more control over the system and their own schedule. Members are able to activate machines, lights, facilities, simply by using a standard membership card.

"Integrating this product into our system has saved us a lot of time for routine on/off tasks, and I also save a lot on electric bills," commented a pool center owner. "By using NPower Commander with MOXA provided APIs, I was able to streamline our operation, and develop specialized routines that make everyone's job easier."

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