



MasTec Limited



Edition 10

Feb 2002

Your One Stop for:

Automation	: Distributed I/O, SCADA, Field Buses
Instrumentation	: Data Acquisition, Loggers, GPIB, PXI
Signal Conditioners	: Analog, 4-20mA loop, isolators
Serial	: RS-232-422-485-Ethernet-Radio
TCP	: Industrial Ethernet switches and comms hubs
Protocol	: Fiber and copper converters, drivers
Imaging	: CCD cameras, scanners, capture cards
Motion	: Stepper and servo controllers and amps
Industrial	: Critical site and embedded DOS and Win computers
Micros	: Micros TCP and RS-232/485 connections, lots of I/O
Internet/Remote	: DAQ, distributed I/O, asset management
Panel	: Digital meters and controllers
Displays	: LCD operator interfaces with touch
QA	: Gauging, sensors and transducers
QA Profilers	: 2D scanner and camera, tolerances, metrics
AC&DC Power	: Lab power supplies, UPS, inverters & converters, chargers
Projects	: Programming, integration, turn key and consulting
Training Software	: Anatomy and physiology and reference CDs
Training Systems	: Analog and digital electronics, micros, FPGA, PIC
Training	: Programming instrumentation and automation software
Life Science	: Bio-medical amps, conditioners and software

Business for 2002

Well, we are back into the thick of it, with one month gone already. We are enjoying our new premises and have done our first LabVIEW course in the new training room.

This month we focus on PXI as the best way to build test systems, also we look at Z World latest Core modules on offer and of course one of the big news points in LabVIEW 6.1 is out. We continue to do develop work on the TIC Imaging Project and we are meeting with great success in Australia with the 2D Profiler.

Alasdair Falconer is on the road in Auckland as our first ever Field Sales Rep. He has a full set up in his car, a Laptop and printer for doing on the spot quotes and invoicing. One of the products he will be showing off is the TIC 2 D Profiler to all those QA engineers who need dimensional information off product.. Alasdair will visit you to show off this helpful system.

LabVIEW Training Courses

Napier:	Feb 20, 21, Feb 22	:Full
Auckland:	Mar 13,14,15	:Full
Christchurch	Mar 20, 21, 22	:This course is filling up quickly.
Auckland	Mar 27, 28, 29	:Just opening this course now.
Auckland	April 24, 25, 26	:Just opening this course now.

We have openings for special courses during Feb 11 –15 next week if you need rapid training now. Let us know if you want to join any of these courses info@mastec.co.nz

MasTec Limited

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Product clearance and specials on our web
<http://www.mastec.co.nz/clear2.html>

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Career position open as Technical Sales Person for MasTec Ltd

MasTec Ltd is looking for an experienced, technical salesperson for our East Tamaki office.

Apply by email to rob.maskell@mastec.co.nz . Rob will contact everyone who applies, however, to qualify, you must have experience as a successful sales person and work in a similar areas as MasTec Ltd. Strengths: **Ability to manage a sale well, technical knowledge, relaxed & professional.**

We also seeking access to small technical sales businesses or commissioned technical sales people, for our products, to expand sales around NZ, Australia and the Pacific Islands.

LabVIEW 6.1: - What's up?

NI LabVIEW 6.1 builds on the Web capabilities of LabVIEW 6i by simplifying the creation of remote applications and integrating XML and wireless communications.

NI LabVIEW 6.1 allows control of applications in seconds from any commonly used Web browser -- anywhere in the world. With just two mouse clicks, engineers can 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.

LabVIEW 6.1 uses the latest commercial technologies to expand networking capabilities. The newest version works with Windows XP, delivering the operating system's increased networking features and enhanced stability to engineers. In addition, LabVIEW 6.1 introduces wireless infrared data communications protocols, empowering engineers to create applications that communicate with wireless devices, such as PDAs. Engineers also can import and export XML-formatted data with LabVIEW to rapidly integrate VIs with other Web or database applications in their enterprise.

LabVIEW 6.1 also expands the measurement capabilities of LabVIEW 6i with features that 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 has functions that increase FFT analysis speed by as much as 10 times over LabVIEW 6i and as much as 100 times over LabVIEW 5.1.

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.

Also the latest versions of the Real-Time Module and the Datalogging and Supervisory Control Module are available The LabVIEW Real-Time Module extends LabVIEW graphical development to enable creation of deterministic, real-time applications. The newest version of the LabVIEW Real-Time Module features improved networking bandwidth and enhanced real-time performance. The Datalogging and Supervisory Control Module is the ideal tool for distributed monitoring applications and now offers enhanced historical data management tools in addition to built-in features for monitoring applications, such as automatic data logging, full alarm and event management, security, and real-time and historical trending.

UPGRADE Cost from LabVIEW 5 upwards is \$1230 NZ + GST

New PXI companies spring up

Adlink, PXIT, Chroma are new players in the PXI market. NI invented PXI, these new companies are coming on board to expand the Instruments, cards and also range of chassis.

PXIT have a 13 slot chassis, and specialise in fiber and matrix switches for PXI ATE.

Chroma have an 18 slot chassis and have several new modules, including for the first time a significant wattage Dual Output DC power supply for powering ATE. (Note NI have an 18 slot also)

Adlink have released their first 8 slot PXI chassis with or without an integrated 6.4" TFT SVGA LCD display, also has a 280 watt ATX supply.

PXI is rapidly becoming the platform of choice to build ATE inside.

This product reduces the cost to enter considerably.

Z World Core Micro modules with TCP or RS-485 or RS-232

Are you developing micro systems, time to look at Z Worlds Core Modules.

Z World has over the last few months released several families of low cost core module micros.

"A core module allows you to build your own I/O PCB and mezzanine the micro section".

The Core module families are RCM 2000, 2100, 2200 and now the new 2300. Most of you have seen the 2000, 2100 and the 2200 modules already, these are TCP based core controllers with a Rabbit micro, 4 serial ports, 20+ DI/O, 6 timers, address and data lines, 5VDC operation and loads of Flash and Static and to boot are very low cost.

The new RCM2300 is similar to the 2100 and 2200 without TCP. The size is 29mm*41mm*12mm and cost in Qty 100 is \$29 US + Freight to NZ. Qty 1000 is \$25US.

This price is for a micro with 256K of Flash and 128K of Static, Watchdog, RTC and all of the above and more. Operate over the CMOS temperature range also down to -40 and up to 70 C

Technman have easy LabVIEW access for Control It 5000:- A range of low cost input & output modules

MasTec recently became the Technman Electronics distributor for NZ. Technman make the Control It 5000 RS-232/485/HSP range of distributed I/O modules.

The Control-It range comprises of relay, isolated input, and analogue I/O modules. All modules may be interfaced to any PC, using an RS232 port or the Control-it 5101 PCI co-processor board, Each module contains fully floating circuitry in order to protect from surges and power spikes.

Control-it modules are packaged in robust, high quality, metal enclosures for reliability and ease of use, and are supplied with a 3-year warranty. Status LEDs are incorporated for each I/O channel and communication port.

The Control-it 5020 relay module supplies a remotely controlled set of 16 230VAC 5Amp relays, and a microprocessor-controlled 'watchdog' feature automatically disables all outputs in the event of power failure or loss of communications.

The isolated 5030 module has eight optically isolated terminals to support a wide variety of positive or negative switched pick-ups and sensors. This module can also provide eight 230VAC 5Amp relay outputs for alarm switching or control of external devices, including heating or ventilation systems.

The 5040 isolated input module allows computers to sense and monitor up to 16 digital input devices, including switches, photodiodes, proximity detectors and alarms.

The 5050 analogue I/O module enables the reading of -1 to + 1V, - 10 to + 10V and - 20 to +20 mA analogue signals, plus J, K and T type thermocouple inputs. Modules are available in 16 single ended or eight differential inputs, each with two outputs allowing precise control of 4-20mA loads.

The LabVIEW Virtual Instruments work with the Control-it **5101 RS485 co-processor board**, which plugs directly into a computer's PCI bus and handles all communications for the Control IT distributed I/O system. It provides automatic system polling and remote module identification without tying up the computer's resources.

MOXA Industrial Ethernet Switches

Ethernet Measurement and Control Systems are becoming more popular. OPTO 22, NI, CEC and several other Measurement companies are now producing Ethernet systems

Yes, if you hang your factory off an Ethernet Switch, you do need to make sure it is an Industrial grade Ethernet Switches.

Reasons/Features:

Extended temperature range 0-70 degrees C

Redundant power supplies

DIN Rail mount and rugged steel case

High MTBF

Auto sense 10/100

Full and half duplex

Class 1 Division 2 hazardous location certificates.

The MOXA Ethernet Industrial Switch range is called **N Switch** and comes in 4, 8 and 16 switch modules.

MOXA also make a large range of Industrial Grade RS-232/Ethernet Comms Hubs.

Use these Ethernet Comms units to convert any RS_232/485 instrument or device into a TCP device with the single port version

We stock their PCI and ISA bus RS-232/422/485 boards also.

Projects and Integration

We are always interested in any programming / Integrating projects that you may have. Send us a spec a short discussion on the phone and/r several emails and we will quote you.

In many cases we can save you buying a software development package and build your software for you at a lower cost than the development purchase price.

If you are going to evolve the project, we can do the first cut for you and get it right from the beginning making the project stable from the outset. You then take our work and expand and grow it as required. We can also train the programmer/s who will do this and teach them successful techniques and methods.

Most of you know we do custom projects, have for years, and have built hundreds of different products for end users.

The work of Projects at MasTec Ltd has increased over the last two months.

Some examples of recent projects:

Coffee Making Machine---Radio Packet Monitoring---Industrial Grade Strip Chart and Logger---Isolated Analog Conditioner System---Gas Turbine Vibration Monitoring---Servo Control System for Mobile Cameras---Printing Press Alignment Control and Monitoring---2D Image Profiling

We work with the following development tools: LabVIEW, BridgeVIEW/ (LabVIEW SCADA and Data Logging), Softwire, VB, C/C++, Dynamic C for Z World, LabWindows CVI and OPTO 22 Factory Floor

DasyLab:- Free Demo CDs

Have you seen DasyLab, it is another NI Graphical programming system like LabVIEW, VEE and Softwire. It has been around for years and is supported by many manufacturers.

It is easy to use and in many cases you can be collecting data from a DAQ card, writing data to disk, doing analysis and plotting graphs in just a few minutes of wiring.

If you don't want to get involved with complexities of the other three graphical methods maybe DasyLab is for you.

This German/USA made product is compatible with many DAQ companies products including Advantech DAQ & ADAM 4000, NI DAQ, SCXI, Measurement Computing (Computer Boards) and also Adlink DAQ cards and NuDam RS-485 products, Data Translation, MetraByte and Omega.

This is the best package for doing ADAM 4000 /5000 or NuDAM 6000 programming also.

Ask for your colour product brochure and a free Demo CD.

TIC= Technology in Co-Ordination 2D Profiler

MasTec Ltd and QIC Pty (Melbourne) have just releases via TIC their development company a new image inspection tool.

iMate 2002: is for use for getting 2 D Profiles off objects like this: multi layered film, pipe, cable, extruded widgets, CNC machined gadgets, wood, in fact any object that you want a 2D measurement off. There are many other industries requiring QA on manufactured goods that we have not even thought of yet..

iMate 2002: is an advanced 2D Profiler automated Inspection system, with Scanner or Camera, PC Capture and Advanced Measurement and ability to do Reports. We are just adding and beta testing thin multi-layer film measurement, pattern matching, automatic measurement off recipes and many other advanced features, such as SPC links and reports

Do you need a QA 2 D Profile measurement on products you manufacturer??

Let us know, we are at the fore front of this type of product development and can supply a system that will do specifically what you require.

Alasdair Falconer can visit your site and do a demo if in Auckland, outside Auckland we have a CD demo system that runs without a scanner using stored images we have captured.

LabVIEW programmers in demand in NZ

Starting around November 2001, we started to get calls from manufacturers looking for LabVIEW programmers for building ATE systems. The calls just keep coming, hence our continuing push on LabVIEW training courses.

Before the end of March MasTec will have done 5 LabVIEW courses.

If you need a LabVIEW programmer inside your company you may need to look internally rather than externally and get someone trained. There is a shortage right now.

If you are a programmer and want to move into ATE work then take a course, there are jobs available.

Here is our LabVIEW training schedule for 2002 Q1,

Auckland	Jan 30, 31 Feb 1	Completed from Basic I to Advanced info covered
Auckland	Mar	In House Company course
Napier	Feb	In House Company course
Christchurch	Mar 20, 21, 22	Still open but filling up
Auckland	Mar 27, 28, 29	Opening now

We will do other courses between those dates if you require them.

A group in Wellington is looking for more people to join up so we can go down and do a course for them..

MasTec Ltd Courses:

Basic I:	For Beginners, start knowing nothing, end up capable.
Basic II:	How to plan for applications and then do it.
Advanced:	Advanced LabVIEW programmers, best for teams or developers.
Data Acquisition:	Covers all the DAQ methods in detail, ADC, DAC, DIO, Counters.
Network Measurements:	Remote Data Acquisition, Execution, Email
Machine Vision:	Capture, Display all the way to Advanced Analysis
Data Logging & SCADA:	Large Channel Count systems SCADA
Signal Processing:	Both Time and Frequency Domain Analysis

Some reasons to train your staff or yourself:

**Get the most of your investment in software---Get the most out of your programmers.
Produce better products and services----Start the project correctly.
Save money in the long haul with better designs & methods---Learn to program correctly.**

Low Cost DIN Rail 5 and 24 volt Power Supplies
Also High Isolation DIN Rail 24 volt Power Supplies
Also Panel 24 volt and 5/24 volt Power Supplies

We have a large range of DIN Rail Signal Conditioners from Dataforth, Advantech, APCS, OMEGA and others. All use 5 volt supplys.

We have low cost DIN Rail 5 volt supplies.(5VDC 0.5 amps \$110NZ)

Also for high isolation systems we have an excellent range from Dataforth that can provide up to 5amps at 24VDC.

We have had the Adlink 24volt 3A model NDP-243 for sometime. They also now have a new model NDP-243U which is 5/12/24 volts with current of 3/1/1 amps for those voltages. Very useful supply for developers.

ADI PowerLab
Life Science Teaching and Monitoring

ADI has expanded it's Life Science teaching and monitoring product range with new Power Lab software systems, front end conditioners, pod signal conditioners and transducer kits.

Software available includes monitoring:- Charts and Scopes, with extensions for Charts.

Echem is for used for voltametrics and amperometric experiments.

Peaks is used for flow injection analysis like chromatography systems.

PowerChrom is a software hardware combo for linking to HPLC, GC, IC or LC systems

The signal conditioners now include bridge, bio, GSR, pH, picostat, spirometer, dual bio, animal bio, quad bridge, BP, octal bridge, GP, micropump, stimulus isolator, dual bio and stimulus, potentiostat, RTD, T type TC, conductivity, EMG, thermistor, K type TC, oximeter, ECG and EEG amps or pods.

OPTO 22 Classic Parts Sale

Starting February 2002, we have a sale running on all the Classic Digital OPTO 22 SSR, Input isolator modules and backplanes and accessories.

When you order any of these products you will receive a 10% discount on the current prices.

Catalogs and Demo CDs

We have new catalogs and demo CDs for 2002.

Instrupaedia, Test Stand, Measurement Studio, DasyLab, LabVIEW, Softwire, LabTech Notebook and OPTO 22's CD with Factory Floor demo. Also the new Ultimate I/O hardware and software.

Manufacturers

ADAC, ADAM, ADI, Addison Wesley, Adlink, Advantech, Agilent, Alpha Power, Alpha Electronics, APC, APCS, Arbor, Autoplex, Aver Media, Basler, BetaControl, Blackwell Scientific, Brankamp, Bravo, CEC, Celesco, Chroma, Codinor, Commtest, Computer Boards, Control, ConPro, Cotek, Dalsa, Dataforth, DataPac, Data Translation, Decision, Deltonic, Designtech, DSE, Eagle, Energizer, ETE, Eltrotec, Exide, Faro, Flite, Frequency Devices, Grass, GRI, Hamamatsu, Heart Interface, Hiber Tech, ICP DAS, ICS, Innovative, Energies, Integral, Integral, Jumo, Kintek, Kroeplin, Lighten, Lion, McGraw Hill, Mark-10, Measurement Computing, Meter Drive, Mettler Toledo, Micronor, Mitutoyo, Moxa, Mesa, MuTech, National Instruments, National Electric, Omega, OPTO 22, Panamax, Panametrics, Panasonic, PK, Power Box, Power Kinetics, Prentice Hall, Pulsotronic, Pulnix, PXIT, Quality by Vision, QIC, Quatech, Rabbit, Silicon Imaging, Silver Platter, Small World Systems, Spiracell, SPLat, Sterling Power, Technman, Technology In Co-ordination, Telebyte, TrippLite, Unimeasure, Vacumed, Versatile Technologies, VMIC, Wylam Hill, Zumbach, Z World