

## GLOBAL AWARDED NZ'S LARGEST MACHINE CONTROL PROJECT >>

In late 2008, Global Survey was awarded NZ's largest machine control contract to supply Leica fleet management and machine guidance solutions to Solid Energy at their Stockton coal mine north of Westport. The project involves installation of Leica's Jigsaw 360 systems on 30 items of plant, plus installation of a wireless broadband network to cover the mine – an area of 8 x 3km. Systems installed include drill-rigs, excavators, dozers, wheel loaders, haul trucks, and supervisor vehicles. Our teams have spent the last 3-4 months completing the installation of the hardware and are currently involved in commissioning and customer training.

For Solid Energy, the system will allow them to automatically schedule and optimise movements of haul trucks and excavators, improve safety when working above old underground workings and track coal movements from the pits to the stockpiles. Comprehensive reports are available in real time or at shift change to enable analysis of performance against customised KPIs. Visibility to the system is controlled by Solid Energy's IT department, ensuring those who need to know get access to the data they need, right when they need it.

In order to map old underground workings, Solid Energy and Chris Coll Surveying have been Laser Scanning (including the Leica Scanstation and the MDL cavity scanner) to create detailed and accurate maps which are used to generate hazard zones for the Leica fleet management system.

The system is scheduled to 'Go Live' on June 1st, when the many stakeholders at the mine will be analysing the results for improvements in safety, operational costs and product quality.



Forteen Dump trucks are fitted with Leica's Jigsaw 360 Fleet Management System, including these CAT 777 units.



Much of the installation work was completed 'in pit', including this Leica DigNav JS system on a Hitachi 1900 (190 tonne) excavator.

## INTRODUCING GLOBAL SURVEY'S NEW 3D MACHINE CONTROL SPECIALIST



We are pleased to announce the appointment of Scott Craik as a 3D machine control specialist. Scott brings a wealth of experience to the role having spent the last five years

in research and development at Leica's machine control division in Switzerland. Says Ray Copeland, General Manager, "We are very excited to have someone of Scott's calibre join our team. His skills, experience and global perspective will be a great

asset to many clients as we continue to see the utilisation of 3D machine control technology growing rapidly." Scott will be based out of our Christchurch office and can be contacted on 0274 949 731 or [scott@globalsurvey.co.nz](mailto:scott@globalsurvey.co.nz)

**BEST PRODUCTS, BEST PEOPLE, BEST SERVICE**

**NEW  
ITEMS**

### LEICA TM30 HIGH PRECISION TOTAL STATION

- Setting a new benchmark for high precision measurement.
- Angle measurements of 0.5" or 1".
- Unprecedented precision of 0.6mm + 1 ppm on prisms.
- Optional PowerSearch for one person robotic surveying.

- Prisms are automatically targeted up to 3,000 meters with mm accuracy.
- TargetCapture technology stores digital image of points through the telescope.
- Long service intervals, low maintenance costs and outstanding performance.



### FUTURE PROOF RTK GPS RECEIVER

- Supports: GPS including the new L5 signal, Glonass, Galileo and Compass.
- GPS1200+ SmartTrack measurement engine acquires all visible satellites within seconds, tracks to low elevations, and measures in areas of interference where other receivers often fail.

- RTK is faster, more accurate and more reliable than ever before.
- A unique, built-in integrity monitoring system checks all results immediately.
- Upgrade path for existing GPS1200 systems available.

### OUTSTANDING NEW GRADE LASERS FROM LEICA

- Leica's "Rugby" range of lasers has set the standard for accuracy, reliability and performance for many years. Leica has raised the bar further with the release of the new Rugby 320SG Single grade laser and Rugby 410DG and 420DG Dual grade lasers.
- Grade range -5 to +25% (single axis), -5 to +15% (dual axis).
- NEW Axis alignment feature.
- Large, easy to see LCD display with on screen menus.

- Operating range of 900m (320SG), 800m (410DG) and 1,100m (420DG).
- Long range remote 225m (dual grade only).
- Accuracy of +/- 1.6mm per 30m.
- Optional scope for grade axis alignment.
- Dual Battery – rechargeable and Alkaline (up to 130 hours).
- 100% Dust and Waterproof (IPX-7).
- 5 year warranty – 2 years standard, 3 years extended (optional).



**RUGBY – THE TOUGHEST PLAYER ON THE FIELD**



### MDL BLAST HOLE-BURDEN MEASUREMENT SYSTEM

- Single person operation.
- Real time burden and face height calculations.
- Reflectorless profiling.
- Built-in rangefinder and digital inclinometer.

- Input basic drilling parameters including drill angle, collar crest distance and required minimum burden.
- Shoot up to 150m reflectorless and 600m with a reflector with an accuracy of 5cm.
- All data can be transferred using optional Bluetooth or serial port (RS232).

**SPECIALS**

## LEICA RUGBY 100 LASER WITH MANUAL GRADE

- Leica's popular Rugby 100 has always been rugged, cost effective and dependable for siteworks and general construction. Now its even more affordable with this great offer. **GET IN QUICK.**
- Allows a manual grade of up to 10% to be set quickly and easily.
- Operates up to 60 hours on Alkaline batteries and 35 hours on NiMH rechargeable batteries (optional).
- 24 month knockdown Leica warranty.
- Accurate to +/- 1.5mm at 30m.
- 300m diameter operating range.
- Price includes ROD-EYE Classic sensor.
- Dust and water protected IP66.

**\$1,895**  
SAVE \$200



- when it has to be **right**

**Leica**

## LEICA RUGBY 200 HORIZONTAL AND VERTICAL LASER

- The Rugby 200 is a heavy duty laser that auto self-levels in both horizontal and vertical modes and is ideal for both exterior and interior construction applications.
- Operates up to 50 hours on Alkaline batteries and 30 hours on NiMH rechargeable batteries (optional).
- Split beam laser for plumbing and squaring.
- 24 month knockdown Leica warranty.
- Accurate to +/- 1.5mm at 30m.
- 300m diameter operating range.
- Price includes ROD-EYE Classic sensor.
- Dust and water protected IP66.

**\$2,295**  
SAVE \$500



- when it has to be **right**

**Leica**

## LEICA NA700 SERIES OPTICAL LEVELS

- 3 models: NA720 Builders level, 20x magnification **\$749**
- NA724 Engineers level, 24x magnification **\$849**
- NA728 Surveyors level, 28x magnification **\$1,099**
- Extremely robust with the highest measurement precision and superb Leica optics.
- Precise targeting is quick due to double-sided endless drives.
- Dust and waterproof up to IP57 (total immersion).
- 36 month warranty.

Free Tripod and staff worth \$320



## PACIFIC CREST PDL RADIO AND ANTENNA

- New Zealand's most popular radio for RTK GPS.
- Configurable as base, rover or repeater.
- Compatible with all manufacturers GPS products.
- Type approved for use in NZ.
- Rugged and robust for all use in all conditions.

**\$2,745**  
SAVE \$500



## LATEC SNAP ON LASER RECEIVER

- The SNAP-ON laser detector can be machine mounted or used as a conventional receiver with any rotating laser.
- Simply SNAP the detector off the magnetic bracket and attach it directly to the dipper arm of the excavator, skidsteer or boxblade.
- The super-bright LED display gives clear visual guidance as you dig or grade.
- Fine Mode Accuracy 5mm, Coarse Mode Accuracies 10mm and 25mm.
- Battery life on 2 x AA is minimum 160 hours.

**\$895**  
SAVE \$100



## DISTO D2 LASER DISTANCE METER

- Shortcut keys for addition, subtraction, area and volume calculations.
- Indirect height measurement.
- Illuminated 3 line display.
- Range 60m.
- Accuracy +/- 1.5mm.
- 36 month warranty.
- Supplied with carry case and batteries.

**\$385**  
SAVE \$64



## LASER TECHNOLOGY TRUPULSE LASER RANGEFINDER

- Low cost professional laser rangefinder.
- Options include data transfer via RS232 or Bluetooth, with or without compass.
- Distance measurement 1000m typical, 2000m to reflective target.
- Horizontal distance, vertical distance, slope distance and inclination measurements.
- 4 models in the range.
- "Heads-up" display of data.
- Accuracy +/- 0.3m.
- 7x magnification.

PRICES START FROM  
**\$1,695**



## TRUMETER MEASURING WHEELS

- 4 different models starting from \$275.
- Large easy to read displays.
- 2 year warranty.
- The most robust counter on the market.
- Digital and mechanical counters

**20% OFF**



## CST PRISM POLES

- 3.7m and 4.6m pole available with the Leica Bayonet fitting.

3.7m  
**\$295**  
SAVE \$100

4.6m  
**\$395**  
SAVE \$100



## TRIPODS

- Prices start from \$200.
- Light, medium and heavy duty.
- Excludes crankable tripods.

20% off Aluminium  
10% off Wooden



Offers valid until 31st June • Prices exclude GST and Freight • No other discounts apply

**0800 4 LEICA [0800 453 422]**

# FLETCHER CONSTRUCTION ONEWA ROAD INTERCHANGE >>

NEWS



The Onewa Road Interchange project on Auckland's North Shore was part of Stage 2 of the Northern Busway, a dedicated 8.7km bus route from Constellation Drive to just before the Auckland Harbour Bridge, alongside

a major upgrade of the existing Onewa Road interchange to improve safety and access on and off the Northern Motorway.

This \$33m project was funded by the New Zealand Transport Agency and North Shore City Council with construction works being undertaken by Fletcher Construction from early 2007 to November 2008.

The original Onewa Road Bridge was a two-lane structure with tight high speed turns not suited to modern traffic flows. The project involved completely removing this bridge and its approaches and replacing it with two new bridges dedicated to traffic entering and exiting the southbound lane of SH1. These bridges were built on sweeping curves to allow for safer, faster traffic flow and also included a bus lane for city bound commuters. A third bridge skirts the junction over the City of Cork beach to carry the busway unimpeded around the interchange to join the motorway south just before the Auckland Harbour Bridge.

The site was well-suited to the use of both Leica GPS1200 and TPS1200 Total Stations with the two new on and off ramps designed on superelevated arcs with non-perpendicular piers. In order to calculate and model the complex three-dimensional shape of the piers, 12d software was used to great advantage from



interrogation of design drawings to supplying setout coordinates for surveyors on site. Pre-cast T-Roff girders of up to 30 metres in length were craned into position between the piers after checks and setout of each girder centreline. The bridge deck itself was modelled in 12d and then set out using Road Runner software on a Leica TCRP1203. Constant as-built surveys were undertaken throughout the project to ensure construction tolerances were being adhered to as well as monthly monitoring surveys on areas of pre-loaded fill to keep an eye on the settlement of the four new embankments.

Apart from the need to cause minimum disturbance to traffic, the construction team had to take extra special care not to disturb the habitat of resident New Zealand dotterels. Works were programmed and halted around the nesting seasons of the birds in order to ensure the endangered species had every chance of breeding successfully.

For more information about the Leica GPS1200 GPS solution or the TPS1200 Total Stations please contact Bryan on 027 221 0507.

**GLOBAL  
HIRE**  
0800 4 LEICA  
0800 4 53422

## Laser and Survey Equipment – Hire Pricing Schedule

SURVEYING EQUIPMENT				CONSTRUCTION LASERS / MACHINE CONTROL			
TOTAL STATION / LEVEL	DAILY FROM	WEEKLY FROM	MONTHLY FROM	ROTATING LASERS	DAILY FROM	WEEKLY FROM	MONTHLY FROM
Reflectorless	\$150	\$600	\$2200	Self-levelling Lasers	\$50	\$200	\$600
Robotic	\$300	\$1200	\$4000	<b>GRADE LASERS</b>			
Digital Level	\$150	\$600	\$2200	Single Grade Lasers	\$70	\$280	\$750
<b>GPS</b>				Dual Grade Lasers	\$90	\$330	\$850
RTK (cm)	\$500	\$2000	POA	<b>PIPE LASERS</b>			
DGPS (sub m)	\$150	\$650	\$2100	Pipe Laying Lasers	\$70	\$300	\$900
<b>LASER RANGEFINDERS</b>				<b>MACHINE CONTROL</b>			
DISTO	\$50	\$180	–	3D Machine Control Systems	–	POA	POA
Rangefinders	\$100	\$400	\$1200	Laser Machine Control Sensors	\$50	\$200	\$550
HDS Laser Scanner	POA	POA	POA				

LONG-TERM HIRE RATES AVAILABLE ON REQUEST. ALL PRICES EXCLUDE GST AND FREIGHT.

NZ's Largest Locally Owned and Operated Supplier of Survey and Construction Technology

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