

DIMENSIONS

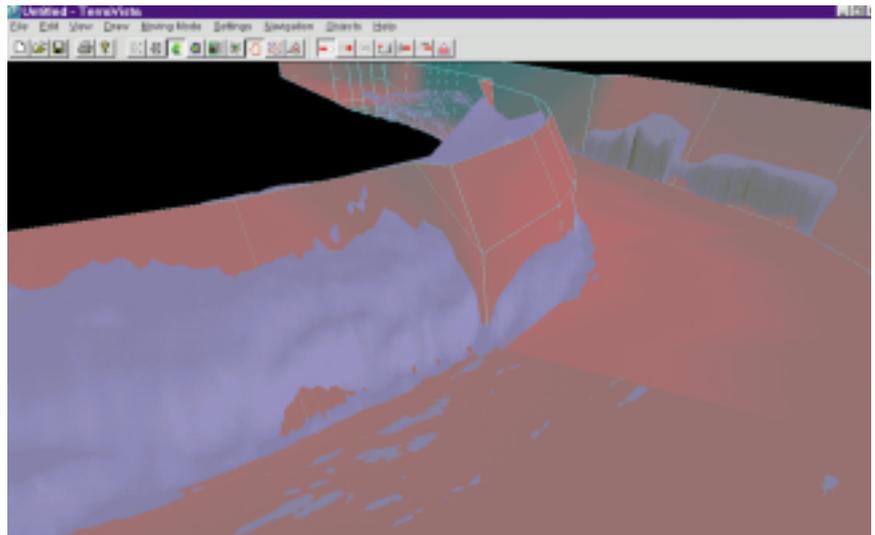
ANNOUNCING TERRAVISTA

*TERRAMODEL's new
virtual reality partner:
3D land visualisation software*

TerraVista is the new Windows-based virtual reality software for project visualisation and verification. Released in the United States by Spectra Precision Software earlier this year, it is now available in Australia, fully supported, from Geocomp Systems.

Geocomp's Client Services Engineer, Bill Lazaris, recently spent four weeks in the USA at the home of TerraVista. "The graphics capabilities of video games are only now being explored more fully in business applications," he said. "For the engineering and construction industries, TerraVista provides the graphics catch-up to complement increasingly sophisticated data manipulation programs."

"It adds a new visual dimension to the processing and design power of TERRAMODEL programs. For example, you can process survey data at lightning speeds in TERRAMODEL and



view the terrain in TerraVista. The next step is to design in TERRAMODEL and look at the impact of the design on the landscape in TerraVista."

TerraVista 1.0 enables TERRAMODEL users to rotate, scale and light projects from any angle. They can then visually walk, drive or fly their clients through the projects.

Alternatively, it can capture high resolution views for inclusion in reports, bids or public hearings, offering an impressive communication advantage.

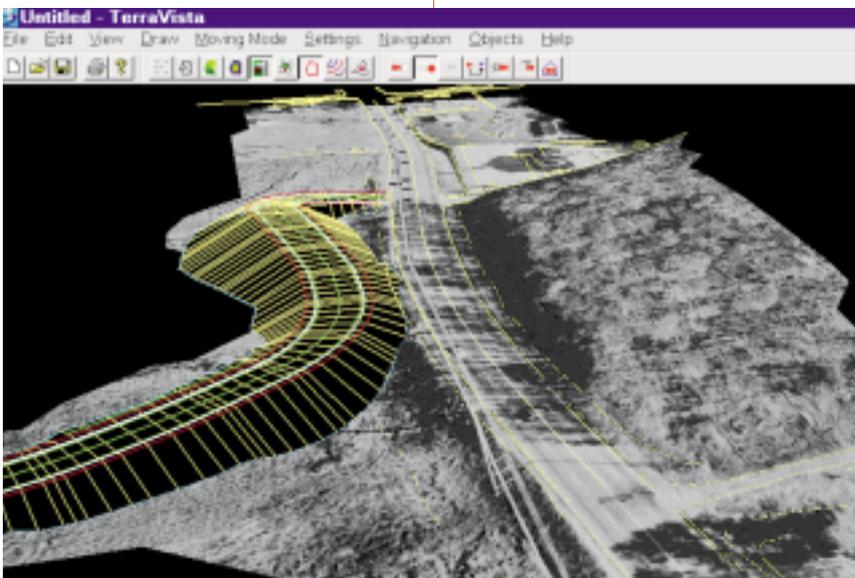
"It means that users can understand the landscape in visual detail. For

instance, you can drop a design on top and check the effect on the existing terrain," Bill Lazaris explains. "Or, you can choose a view point and virtually stand on the new surface to see the impact of your design."

"With TerraVista, TERRAMODEL users will be able to create alternative scenarios and pinpoint errors quickly and accurately," he said.

"Once our clients see TerraVista in action, they want to load their own data in," Bill warned. "They realise that design work will never be the same."

Contact Geocomp's Sales team for a demo.



*Top: TerraVista under water. This shows a dredging channel at the mouth of the Hunter River.
Bottom: TerraVista overlaid on an aerial photograph.*

FEATURES

- 100% TERRAMODEL compatible
- unlimited view points
- supports geotypical textures
- multiple navigation modes
- interactive camera path generation
- interactive camera and light placement
- multiple surface representation modes
- supports TERRAMODEL labels and markers
- interactive surface editing.

FROM THE DIRECTORS

Welcome to the first issue of *DIMENSIONS*, our quarterly newsletter designed to keep Geocomp Systems clients up-to-date with construction industry software news. We hope you find it interesting and informative.

Many Geocomp clients will be aware of our growing relationship with US firm Spectra Precision, but might not realise that our role goes far beyond distributing their software.

In the early days, software developers had to create low-level routines to handle everything from the user input-output to disk storage input-output, as well as the modelling and graphics.

By the early 1990s, however, software utility libraries (such as Quickwindows, QuickComs and Dr Halo's Graphic Utilities) combined with rapid advances in software development environments meant that specialist developers could concentrate more on their particular applications and less on the underlying machine codes.

Today, practically all of a software's user and machine interface is handled directly by the operating system (for example, Windows 95 and NT). Additionally, other utilities such as word processors, spreadsheets and databases can be embedded directly into the specialist application (OLE).

In 1993, Atlanta-based Plus 3 Software (now Spectra Precision Software) foresaw this trend and used their sizeable development team and resources to create P3 Toolpak.

The P3 Toolpak does all the routine work like data storage and retrieval, DTM formation and manipulation, and contour generation. Increasingly, surveying, engineering, and equipment manufacturing companies are developing their own applications using the P3 Toolpak as their computation engine.

One way that Geocomp stays abreast of industry trends is to tailor Spectra Precision software so that it can be used in Australian conditions, in the same way as specialist manufacturers supply key parts to the car industry.

This specialisation means that we can put more energy into what we do best: that is, providing innovative, value-added software solutions to our clients.

Brad Quick and Barry Smith
Directors, Geocomp Systems

INDUSTRY NEWS



The Millennium Bug

Alias the Y2K problem ... which is that most of the world's computers and a lot of its software cannot cope with dates beyond 1999. The year 2000 threatens to play havoc with automated systems world-wide.

The format of recognising dates by dd/mm/yy (that is, two digits each for day, month and year) was devised in the 1960s for computers that had little data processing space. On New Years Day 2000, programs that use these kinds of date counters for calculations could wake up with bad hangovers. Date-reliant programs such as those used for invoicing or accounting might produce unpredictable results when their year digits turn to double zero.

The place is bugged?

Any piece of equipment that relies on a computer chip could be affected, from large computer systems to PCs, the office photocopier, the telephone system, computer-controlled manufacturing systems ...

In Australia, 31 December 1998 is generally accepted as the date by which workable Y2K compliance programs are to be in place. Spectra Precision Software is investigating the implications of the Millennium Bug for its software on all of its supported platforms: Windows, DOS and UNIX. Naturally, this applies to TERRAMODEL and TerraVista.

This investigation has three phases: 1) to identify any problems; 2) to make code changes; and 3) to provide certification. Phase 1 is now under way and to date, no code has been identified that might cause year 2000 difficulties with Spectra Precision programs. Accordingly, we expect certification (Phase 3) to be complete by the end of 1998. Each client will be contacted by mail with the results.

Geocomp software is already year 2000 compliant, as is Geonav. However, clients are urged to determine whether their operating systems and hardware are similarly compliant. Please contact our Support staff if you have any questions about Y2K issues.

If you would like more information, you can also dial up the Millennium Bug on the Internet. One recommended website is the Year 2000 Information Center at <http://www.year2000.com>

The tax man and Y2K

The 1998-99 Budget announced that expenditure on year 2000 compliance is 100% tax deductible in the first year.

Ye olde bugge

The British Museum has one of the oldest clocks in the world that is still functioning. When it was built some four hundred years ago, its makers never contemplated a new millennium ... and, you've guessed already, its year counting mechanism is also likely to be afflicted by the Millennium Bug at the dawn of the year 2000.

BON VOYAGE

Down under ... almost

The Royal Australian Navy has enlisted five TerraVista programs to complement their existing crew of Geonavs and TERRAMODELS. They will be assigned duty on board the Navy's five survey vessels and at Head Office. See our back page for more.

Amsterdam to Argentina

Geocomp Directors Brad Quick and Barry Smith recently hand-delivered 15 TERRAMODEL ConstuctionPaks and 11 TerraVista programs to construction giant Ballast Nedam's Dredging Division in Holland. Ballast Nedam is involved in the whole spectrum of the construction industry: dredging, civil engineering, industrial building, general building, housing and roads.

This group has been a Geocomp user for some years and purchased the new software for work on a massive road and causeway project in Argentina. Brad and Barry conducted intensive training courses so that Ballast surveyors could immediately begin work on-site.

EXPERT ADVICE



HELPLINE

Upgrade & Support

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Tel: +61 3 9882 2200
Fax: +61 3 9882 2177
BBS: +61 3 9882 2011
E-mail: support@geocomp.com.au

8 am – 6 pm EST every working day

For help with all queries about using our software, including:

- installation
- systems compatibility
- converting data to or from other applications.

2 hour response time

We aim to respond to your call 95% of the time within 30 minutes, and 100% of the time within 2 hours.

Just like having a software expert on your team

When you become a member of Geocomp's Customer Care program, you will have direct contact with one of our Support Consultants or Engineers who can help you to use Geocomp and Spectra Precision software to its fullest. Our Support Team has extensive experience in civil engineering, surveying and hydrography.

Membership entitles you to unlimited support, software updates, and discounts on the latest software.

We will also send you our quarterly newsletter and information on our regular training courses.

Contact our Sales or Support Teams for more information.

TRAINING

Geocomp Systems conducts regular training sessions for Geocomp, TERRAMODEL and TerraVista software. Our trainers are all engineers with experience in applying our software to a multitude of situations.

We can also tailor training courses to suit your organisation or for a particular project. Contact Jerry Cresp for more details.

Our experts answer your questions about using

TERRAMODEL

Q. How can I create commands that I find easier to remember?

A. Use the Alias command to assign a name that you find easier to remember. For example, you could make an Alias "ZA" for Zoom All if you find that easier to remember than "^A" or "All".

Alternatively, you can use the TML programming language to write your own applications or to carry out small functions.

Q. I have finally got my DTM right. How can I prevent it being accidentally changed?

A. Make a DTM Edge, and then lock the layer using LSET. The Lock command ensures that the locked layer cannot be modified in any way. This will prevent any global project variable, such as link settings, from being altered.

Q. What are the conditions for DTM boundaries to work?

A. No 3D points on the DTM layer outside the boundary set. All points along the boundary must be 3D.

All points along the boundary and the boundary set must be on the same layer.

Q. How do I stop contours from crossing a building?

A. Put a closed breakline around the building's perimeter. Use the Set/Smooth command and apply the "dead" option to the building set.

Q. TERRAMODEL's built-in reference guide has more than 1300 pages! This will take a week to print out ...

A. The reference guide is stored as TMW_RG.EXE. We recommend that you only print out the Index and then access the rest by page number on-screen. Then print only those pages that you frequently refer to.

Q. How do I draw an ellipse?

A. Spline a box.

Q. How do I get batter points from a pad?

A. In using the Road Design or DPAD command, it is easy to collect the tops and toes of batter points for set-out purposes. Select the desired points using the selections criteria (right mouse button) and print them out as radiations (Inquire/Brg/Dist reports/Radial). You can store points in a file for uploading to your favourite total station.

Q. How do I set the start chainage of alignments?

A. For all horizontal alignments, the beginning chainage can be set in the Edit/Chainage option.

Hints and tips

Just gimme a break

The BREAKLINE= command allows you to control a surface link. For example, the computer will not recognise features like creeks, so simply creating contours will generate absurd results. Overcoming this is simple: just introduce breaklines along the creek boundary, because contours do not cross breaklines. All breaklines affecting the surface must be on the same layer.

Geocomp under Windows 95

1. Use START, RUN, SYSEDIT to ensure that you have a C:\config.sys file with something in it.
2. Install Geocomp GC9.
3. Restart WIN 95. Start on MS-DOS prompt. Type gc9 to see if it runs. Type MEM to check that you have 550 Kb conventional memory. Type EXIT to close the DOS window.
4. Back in WIN 95, right-click on an empty space. Select New Shortcut. Browse to find C:\geocomp\gc9.pif. Then right-click on the new icon and select properties. Check that cmd line is C:\geocomp\gc9. bat. Browse to C:\geocomp\gcv9.ico icon. Check that XMS total is 3072, initial environment is at least 2048, idle sensitivity is set to low and background is not always suspended. In Advanced, select "MSDOS mode" as necessary.
5. Use this method for other DOS applications.

IN ACTION

MAPPING THE 'BERGS



Top: RAN's survey vessel HMAS Mermaid

The Royal Australian Navy is working on an ambitious program to survey and map all Australian waters for scientific purposes and safety reasons.

You might be aware of their recent discovery of an underwater mountain range off the coast of Tasmania, which supports about 200 "new" species.

Further south, though, the program's more obvious concern is to enable supply ships battling icy winds and chilling temperatures to navigate safely through the ice-packed entrances to Australian bases in the Antarctic.

HODSU (RAN's Hydrographic Office Detached Survey Unit) is progressively surveying and charting the waters of Australia's three Antarctic bases and Macquarie and Heard islands.

Apart from the extreme conditions, the main difficulty facing projects like this is the limited time for data collection. Traditional charting systems could

not acquire and log data quickly enough in the acquisition stage, without thinning the data to reduce processing time.

Enter Geocomp Systems. HODSU has used GeoNav and TERRAMODEL data logging and processing systems for the past year, with great success.

GeoNav is designed to collect survey data and produce charts. It can acquire and log up to 200 depth and heave measurements per second, without losing or thinning any data during the acquisition stage.

GeoNav couples formidably with TERRAMODEL's unlimited size data files and model formation rate of up to 10,000 points per second. Both software systems have been performing numerous functions in extreme weather conditions at Casey and Davis stations, and on Macquarie Island.

Barry Smith, Director of Geocomp Systems, developed GeoNav. He spent four weeks at the Navy's HMAS Cairns in Queensland, installing GeoNav and TERRAMODEL and training the staff.

"The data processing stage, from editing to final chart production takes about 5 to 10% of the data acquisition time, compared with up to 50% in other systems," said Mr Smith.

GeoNav logs and corrects for all vessel motions, interfacing with a variety of sensors. Digital data is then imported into TERRAMODEL for post-processing, volume computations and plotting.

The end result is that passage through treacherous waters is more predictable.

WHAT'S NEW?

Two new models of the Geodimeter System 600 total station have been recently released. The Geodimeter System 600S Pro, has a powerful new micro-processor and improved software which make it much easier to follow moving targets. The system comes with AUTOLOCK or ROBOTIC Total Station options that can be used in all types of applications, with or without an operator.

The Pro also includes additional search features and search control, cutting search times by up to 40 per cent.

Survey equipment can become addled by cold weather ... even a standard

display acts sluggishly at -5C (23F) with a wind speed of 10 m/s. And a cold total station needs hours to adapt to room temperature before it can provide accurate information.

But the new Geodimeter System 600 Arctic thrives in conditions of extreme cold: it can be used in temperatures down to -32C, extending survey time considerably. And you can leave the instrument out in the cold, taking the removable control unit inside for programming, checking or editing.

Your Geodimeters System 600 can be upgraded with either the 600S Pro, or the Arctic package, both fully compatible with Geocomp Systems software.

GEOCOMP SYSTEMS

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Products

Geocomp proudly distributes and supports:

GeoCalc
GeoNav
TERRAMODEL
Geocomp
TerraVista

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DID YOU KNOW?

No need to limit your contours to heights! Geocomp and TERRAMODEL have been used to contour atmospheric corrosivity, bacterial concentrations, soil conductivity and water velocity.

We invite readers of *DIMENSIONS* to contact us about your Unusual Uses of the software.