



SURVEY EQUIPMENT CATALOGUE



C-ASTRAL
AEROSPACE LTD.



LAND SURVEY

GNSS Receivers

Introduction

Topcon GPS solutions are purpose built to provide productivity 24/7. Not only do they deliver the best solutions today, they design their equipment to be repeatedly reliable with your work in mind.

Finish your projects faster with confident results.

Network and Site Base Stations

Whether you require a full RTK set up to move from site to site, a permanent base to remain for months or years, static or monitoring options for specific sites - Topcon have options to suit your needs and budget. Our receivers can be used via digital UHF, long range Bluetooth, or cellular network.

Ask today about the best option to suit your requirements.

Skynet-RTK Network

The Synergy Skynet-RTK network consists of CORS stations that cover over 80% of the New Zealand population and operate 24 hours a day, 7 days a week.

The system dynamically assigns the best RTK solution for any network survey task and is broadcast in the open standard of RTCM3.x so all devices are welcome.





Topcon HiPer HR

All signals, all satellites and all constellations, the high-end HiPer HR receiver incorporates industry technologies including 452 GNSS channels, 9-axis TILT sensor with e-compass, UHF, Cell, Bluetooth and Wi-Fi. Future proof with universal tracking technology.

The HiPer HR is our most versatile and advanced receiver available.



Topcon HiPer VR

With a rugged, compact & lightweight completely sealed design, the VR is packed with advanced universal GNSS tracking technology enabling the VR to track all current and upcoming constellations.

Incorporating the latest TILT technology with a built-in IMU and e-compass, the VR compensates for out of plumb field measurements. The VR can be used with traditional UHF base stations or independently using its interference free LongLink radios.



Topcon HiPer V

Field proven and robust, the HiPer V has been the go-to GNSS receiver for construction and survey companies alike. Tracking GPS and GLONASS, the HiPer V is a reliable and economical workhorse for the busy construction site.



Topcon HiPer SR

The lightweight SR is an entry level, versatile receiver. The SR can be used as a network rover and is ideal for interference free, short range applications using the patented LongLink base to rover wireless communication technology.

Incorporating Topcon's Fence Antenna signal technology, your vertical accuracy is retained even in close to cover situations.

Combine your Topcon HiPer SR receiver with a robotic total station system to create a hybrid solution ready for any environment.



Topcon NET-G5

The NET-G5 incorporates the latest GNSS tracking technologies with 452 universal GNSS tracking channels, ethernet, web, Wi-Fi and serial interfaces. The NET-G5 is future-ready for any permanent base applications.

LAND SURVEY

Optical Instruments

Introduction

Patented, best-in-class robotic prism tracking technology from Topcon ensures that your total station rejects false positives and remains locked onto the prism so you can focus on the job at hand. Their unique hybrid technology delivers the ultimate in non stop productivity by combining GNSS positioning to quickly regain lock, and maintain profit.

Topcon are at the forefront of optical instruments globally, spending millions on research and development each year to make your job easier and more efficient.

Hybrid Positioning Overview

Combining the accuracy of robotic measurements with the speed of GNSS, Hybrid positioning allows you to work faster and more accurately in the field, improving your bottom line.

Topcon TS Shield

TS shield provides remote security and maintenance options for your total station. This service provides protection and piece of mind by disabling the total station remotely if lost or stolen.

Delta Deformation Monitoring

Topcon's Delta hardware and software solutions provide a complete dataset for a thorough understanding of focused assets for deformation monitoring.





Topcon GT Robotic Total Station

With advanced UltraTrac technology, the GT series is not only faster, but is 30% smaller and lighter. The ultrasonic motors are the fastest available in the market - at 180° per second it's the smoothest and most accurate prism-tracking available.



Topcon MS Monitoring Robotic

The MS series offers high precision angle accuracy of 0.5" and 1.0" which can be used for a wide range of precise measurements including deformation monitoring. Equipped with an automatic tracking system and the Topcon Delta kit, the MS series is a complete field to finish monitoring solution.



Topcon LN-100 Layout Navigator

The LN-100 is a specifically engineered instrument for vertical construction and BIM layout tasks. Featuring a self levelling system and robotic tracking, the LN-100 is easy to use and a perfect solution for local engineering grade setout tasks.



Topcon OS Reflectorless Total Station

The OS is a professional grade compact design total station. The advanced design provides an on-board data collection interface, exclusive LongLink communication, and an incredibly powerful EDM.



Topcon GM-50/100 Reflectorless Total Station

The GM Series is the perfect entry-level site layout and survey tool offering reliability and flexibility without sacrificing cost or functionality. The sleek design is built tough, with a water and dust proof IP66 rating and internal antenna.



Topcon DL-500 Digital Level

Quick, easy and reliable, the DL-500 digital level strips away the main sources of errors (humans!) in levelling by integrating RAB (Random-Bidirectional) staff encoding and "Wave-and-Read" technologies. Can be used with Magnet Field for ease of use.



Topcon RC-5 Bluetooth Remote Controller

The RC-5 Remote Controller rests on the top of the prism pole and emits a fan shaped laser beam. The robotic total station uses long range Bluetooth technology (up to 600m) and a directional sensor to hone in on the prism and then initiate auto tracking.



HYBRID Positioning

Hybrid Positioning™ systems perform faster than stand-alone robotic systems and are more versatile than RTK-only solutions. A true upgrade, our Hybrid technology combines GNSS positioning and optical robotic measurements.

LAND SURVEY

3D Laser Scanners and Software

Introduction

Synergy Positioning Systems offer laser scanners and software from the worlds leading brands. From short range scanners like the FARO Focus M70 to the advanced vehicle mounted Topcon RD-M1, there's a solution to match your requirements.



**FARO Focus M70
Laser Scanner**

The ultra-portable Focus M70 is recommended for short range scanning and is perfect for most interior applications. It enables fast, straightforward 3D scanning with high accuracy.



**FARO Focus S70
Laser Scanner**

The ultra-portable Focus S70 enables fast, straightforward and ultra high accurate measurements of objects and buildings.



**FARO Focus S150
Laser Scanner**

With a range of up to 150m the Focus S150 enables fast and ultra high accurate measurements of objects and buildings. Featuring detailed, high resolution scans of specific targets, superior colour imaging and a quick scan to finish workflow.



**FARO S350
Laser Scanner**

FARO's ultra long range Focus S350 laser scanner enables you to capture fast and accurate measurements at up to 350m. Featuring detailed, high resolution scans of specific targets, superior colour imaging and a quick scan to finish workflow.



**Topcon RD-M1
Road Scanner**

A vehicle mounted laser scanner system to measure the topography of any road surface with unprecedented accuracy. The RD-M1 stands alone in accuracy, speed, surveyor safety and ease of use.



Topcon GLS-2000 Long Range Laser Scanner

The compact, lightweight, full featured GLS-2000 accurately captures existing as-built conditions and can carry out a full 360° scan in less than three minutes.



Magnet Collage Software

Process disparate data sets into one 3D environment accommodating laser and mobile scanners, road scanners, and photogrammetric point clouds.



Topcon Clearedge3D EdgeWise

As the industry's most technologically advanced as-built modelling platform, Edgewise can reduce your modelling time substantially by auto detecting structures, features or terrain.



FARO Scene 2018

Process and manage scan data efficiently and easily using real time, on-site registration, automatic object recognition, scan registration, and positioning.



FARO As-Built for AutoCAD® or Revit®

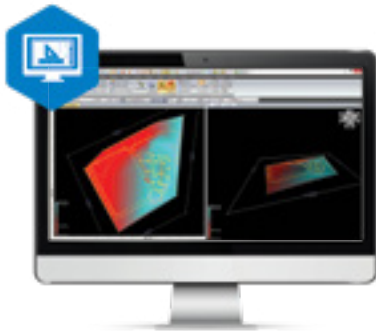
All the functionality that AEC professionals need to evaluate 3D laser scanner data directly in AutoCAD® or Revit® with the highest precision.

LAND SURVEY

Geospatial Software

Software that puts you in control

The MAGNET software productivity suite streamlines your project process. Topcon evolved what modern software solutions can do to allow your team to work seamlessly. From Autodesk and Bentley data integration capabilities, to real-time data exchange between office and field, and so much more. Explore what's possible with MAGNET.



Magnet Survey Smart processing and Field-to-Finish software

All surveyors can benefit from the features and functions available in Magnet Survey including sub-division design, contour surface creation and automated pad design tools. Magnet Survey now includes tools for survey measurement adjustments and Enterprise, a world class survey project management platform.

Modules

Topo



Magnet Office Site A complete software for jobsite survey, roading and design

MAGNET Site is a fully featured design and drafting software solution for any machine control, land development and road design project. Visualise your design in 3D on-site and prevent problems before they happen with advanced clash detection features.

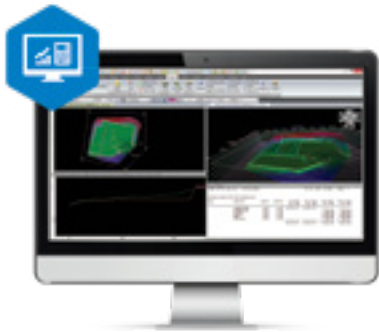
Modules

Topo

Roads

Viasys VDC Modeler

Viasys VDC Explorer



Magnet Construction Takeoff, 3D constructible model and survey software

Combining all the power of Magnet Site, Construction adds our advanced Takeoff and Resurfacing modules for pavement design, site material balancing, pipe libraries and trench design modules.

Modules

Roads
Resurfacing
Viasys VDC Modeler
Viasys VDC Explorer



Magnet Project Earthwork planning software for Project Managers

Consisting of the Magnet Construction base and adding on Mass Haul to calculate material balance, haul distances and material optimization options. Magnet Project is designed for the Infrastructure designed, Estimator and Project Manager for large roading infrastructure projects.

Modules

Mass Haul
Viasys VDC Modeler
Viasys VDC Explorer
Dynaroad Plan
Dynaroad Schedule
Dynaroad Control

LAND SURVEY

Geospatial Software

Field-to-Finish

Solutions that connect field and office in real time to get the most out of your data. Easily increase your productivity and simplify data collection and processing workflows.



Magnet Field A complete field solution for geopositioning professionals

MAGNET Field is a powerful and intuitive field application software that enables you to collect survey mapping data and perform construction and road layout using total stations, levels, and GNSS receivers.

MAGNET Field is easy to use. Perform topographic and layout operations with a supportive Microsoft Bing Maps satellite image background. Carry your custom CAD standards to the field with a single screen tap; The software will instantly draw three dimensional linework and symbols.



Magnet Enterprise Secure services for seamless collaboration for project site and office activities

MAGNET Enterprise is a cloud environment that simplifies project tasks and directly improves field and office communications. Track your survey projects and communicate with each team member even while on the move. Gain secured access to project data using any web browser on any device to oversee the real-time advancement of your projects.

Experience a new and better way to collaborate and increase survey productivity.



Seamless integration with your existing software

We actively collaborate with global and regional industry leaders to better address your needs. Together with our partners, we deliver integrated solutions that improve productivity, efficiency and profitability.



We partner with Bentley Systems to deliver integrated measurement, positioning, and software solutions that better connect and improve the workflows of surveyors, engineers, contractors and owners working on infrastructure projects.

A direct cloud connection provides access to project data in real time, while compatible file formats make it easier to move data between software platforms without re-work. Integrated software for UAV mapping and inspection workflows deliver higher quality data and more insightful deliverables.



We partner with Autodesk to deliver measurement and positioning solutions to the vertical construction and civil earthworks industries.

These solutions form a tighter, more seamless connection between the office and the field, bringing increased efficiency and productivity to workflows. File compatibility, software integrations, and cloud connectivity are the key elements to delivering improved combined workflows.

LAND SURVEY

Data Collectors

Introduction

Data Collectors bridge the gap between the office and the field. Good field technology will ensure that your time out of the office is spent efficiently. It will also ensure that you don't miss vital information required for the job.

Synergy Positioning Systems carry a range of collectors from Topcon which are fully loaded to meet the demand of today's modern job site.

Data Collectors and Magnet Field

Powerful, tough and versatile, our data collectors bring the processing speed of the office to the project site. With easy to use touch screens and hard keyboard options, you can be sure to use them anywhere, anytime.





Topcon FC-5000

The FC-5000 sets the benchmark in Field tablet performance. With superior full-day battery life, daylight readable screen and multiple connectivity options, the Topcon FC-5000 is the field tablet of choice for surveyors, engineers and technicians.

Optional hardware: Keyboard, long range Bluetooth and docking station.



Panasonic Toughpad FZ-M1

The FZ-M1 has a rugged, sealed design which is certified to meet MIL-STD-810G and IP65 specifications for resistance to drops of up to 5 feet, water, dust and other elements.

With a long-life user replaceable battery and sunlight readable high-sensitivity, multi-touch screen (for use with heavy gloves), the Toughpad FZ-M1 is the ideal tool for today's mobile workforce.



Allegro 2 Hard Button Controller

Designed for all out data collection, the Allegro 2 features a full QWERTY & numeric keyboard, carefully selected for its ergonomic form.

The product includes an Overtime Technology™ battery that powers this sturdy piece of equipment for well over 20 hours on one charge, eliminating the worry of a dying battery. And let's not forget the Sun-to-Shade™ high-visibility display, 20% larger than the previous Allegro and easy to view in both glaring sunlight and shady conditions.

AIR SURVEY

RPAS and Software

Introduction

The next frontier of survey. RPAS is becoming ever more prevalent and a must have tool in the modern surveyors tool box. Improvements in RPAS technology and software mean that RPAS is now a cost effective solution for all surveyors. Synergy Positioning Systems offer best of class products from trusted brands like DJI, Topcon and C-Astral. These products and their associated software solutions will meet all your RPAS requirements.

Software

Aerial mapping and surveying is only half the job, having the right software on hand that brings together the collected data and allows you to process that data into meaningful views is essential. Synergy Positioning Systems carry a range of leading software that will allow you to get the post flight processing done, fast.

Training

As part of any RPAS solution, Synergy Positioning Systems offer comprehensive training in both RAPS and data processing.





Quantum Fixed Wing

The Trinity combines high efficiency, flexible mission capabilities and a small, portable footprint. The result is the world's most compact VTOL fixed-wing drone available today!



Topcon Falcon 8+

Topcon Falcon 8+ features first-in-class sensors, active vibration damping and compensating camera mounts for solid performance. Perfect for capturing all perspectives, oblique as well as nadir.



Topcon Sirius Pro

Accurate aerial mapping with pre-planned flights. Send a custom flight plan to the Sirius Pro with MAVinci software, then simply hand-launch the unmanned aircraft system (UAS).



C-Astral Bramor rTK

The BRAMOR rTK is the ultimate aerial mapping tool with pre-planned flights and an industry leading endurance of 2.5 hours, an operational ceiling of 5000m AGL and capable of operating in winds of up to 60km/h.



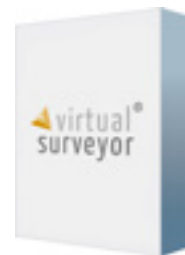
DJI Phantom 4 RTK

The Phantom 4 RTK provides real-time, centimetre-level positioning data for improved accuracy on image metadata. The Phantom 4 RTK uses a GNSS module and the RTK receiver to optimise flight safety in signal-poor regions such as cities while ensuring the most precise data is captured for surveying, inspection and mapping.



Agisoft Metashape

Agisoft Metashape performs photogrammetric processing of digital images and generates 3D spatial data to be used in GIS applications, cultural heritage documentation, and visual effects production as well as for indirect measurements of objects of various scales.



Virtual Surveyor

Virtual Surveyor is a drone data analysis software tool that allows you to extract specific information from your dataset and present it in a meaningful way. With 4 different plans available, you'll find a plan that meets your needs.



Context Capture

Context Capture, powered by Bentley, is ideal for any scale infrastructure project throughout design, construction and operations. Its power, flexibility and scalability turn simple photographs into highly detailed 3D models quickly.

WATER SURVEY

Hydrographic Survey

Introduction

CEE HydroSystems are a manufacturer of high quality hydrographic survey single beam echo sounders, with a focus on shallow water surveying from small boats or personal watercraft.

CEE HydroSystems products are aimed to streamline the hydrographic survey process and offer the simplest, easiest, and fastest way to get the job done.

Software

Use your existing Topcon Magnet Field software or bring your own controller and survey software. If you want extra features or the ability to use the range of dual frequency CEE HydroSystems options then our dedicated HydroSystems software will work for you.

Training

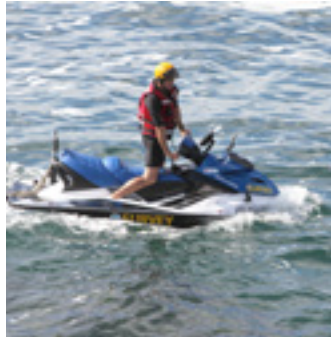
Whether getting into hydrographic surveys, looking at new software, or wanting to get training before launching your new unmanned system - we can offer a range of training options to suit your requirements.





CEE-USV

CEE-USV™ is a state of the art, high performance survey boat incorporating a single beam echo sounder, GNSS positioning, live video and on-board data management. Dual frequency option available for survey specific applications.



CEE JET

The CEE JET™ is a fully integrated surf zone hydrographic survey system for professional grade results in challenging near shore environments, based on the "all in one" CEESCOPE™ echo sounder. Dual frequency option available for survey specific applications.



CEE-LINE

CEE-LINE™ brings hydrographic grade performance to bathymetry projects using land survey data acquisition. Indestructible with exceptional sounding consistency, simply connect the CEE-LINE™ to a data collector, tablet or PC. Dual frequency option available for survey specific applications.



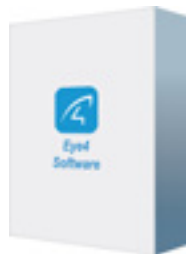
CEESCOPE

CEESCOPE™ represents the ultimate in portable, shallow water, single beam survey solutions for any boat. The CEESCOPE couples a powerful built-in RTK GNSS with a survey grade echo sounder in a single waterproof enclosure. Dual frequency option available for survey specific applications.



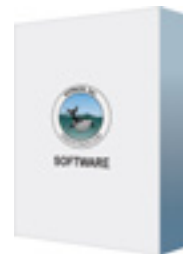
CEE ECHO

CEE ECHO™ is a state of the art portable echo sounder with advanced capabilities in a truly compact package. Internal data logging, full water column echogram and 20 Hz ping rate in a robust waterproof enclosure. Dual frequency option available for survey specific applications.



Eye4 Hydromagic

Hydromagic is a professional hydrographic survey software package for the acquisition and editing of single beam echo sounder surveys. Easy to use, the software is designed for hydrographic surveying and bathymetry projects.



Xylem HYPACK

HYPACK is the most widely used hydrographic survey software package worldwide. Used for shallow water single beam surveys, sub bottom sediment profiling, advanced multibeam navigation surveys and dredging surveys.

ACCESSORIES



Seco Tri-Max® Tripod

The Tri-Max® is the only surveying grade tripod with certified accuracy – highly recommended for all servo driven and robotic total stations, 3-D laser scanners or construction lasers.



Topcon TP-10 Tripod

Topcon's TP-10 is an all wooden wide frame, extension leg tripod with metal hardware (no plastic). The hinges are self-adjusting and it has durable nylon bushings for smooth operation and great stability.



Topcon Prism Targets

Ideal in any situation where multiple measurements to the same point make the use of regular prisms too time consuming.



The Marksman C-001

The ultimate tool for quick and accurate construction layout, The C-001 is Ideal for layout on concrete and for setting mechanical, electrical and piping fixtures on form decks.

Synergy Positioning Systems



Seco Quick Release Bipod

The quick release handles put the power and action right where you need it allowing fast and accurate rangepole setup.



GXI Prism Pole Tripod

Cost effective tripod with spring loaded jaws to attach to your prism pole to keep it upright, level and stable.



Topcon ATP-1 360°

Standard 5/8th thread, 360° prism for use with robotic total stations.



Topcon Prism

Topcon prisms are made from the highest grade precision ground glass for maximum optical accuracy and precision



Topcon Prism Holder

Tilting holder allows 0 or 30 second prism constant. Strong plastic, with an aluminium yoke.



The Marksman XY-001

Designed for the total station surveyor looking for an accurate, effective and hands-free approach to targeting with swivel feet and comfort grips making this unit easy to carry and use.



Topcon Carbon Rangepole - GNSS

Construction tough and ultra light. Reinforced metal bracket section improves performance and prevents carbon stress fractures.



Topcon Carbon Rangepole - Robotic

Lightweight yet tough. Extends to 2.5m, ideal for Robotic Total Stations.



Mix of Tribrach and Adapter Options

Synergy Positioning Systems carry a range of tribrach and adapters, contact us directly for more information.



Seco Twist Lock Rangepoles

The Seco twist lock incorporates a level vial in the lock mechanism, maximising space for other accessories on the pole.

Synergy Skynet RTK Map

SYNERGY POSITIONING SYSTEMS

Synergy Positioning Systems Ltd is 100% New Zealand owned and operated and brings you over 30 years of sales and consultancy experience, utilising the latest in innovative positioning system technologies.

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BRANCH LOCATIONS

AUCKLAND

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Melling
Lower Hutt 5010

CHRISTCHURCH

Unit 6, Jade Court
211 Ferry Road
Christchurch 8011

