

Office Software

Survey & GIS

Data Collection

Civil Engineering

Hardware

Construction

Accident
Reconstruction

Laser
Measurement
Devices



Carlson Works for You 3
 Carlson iCAD / Survey 4
 Carlson Civil Suite 6
 Carlson Takeoff Suite 8
 Carlson Precision 3D 10
 Carlson Photo Capture 11
 Carlson P3D Hydro / Drill&Blast 12
 Crime Scene Investigation 13
 Carlson SurvCE / SurvPC 14
 What's new in version 6 15
 SurvPC with ESRI® 16
 Listen Listen / Atlas 17
 Carlson BRx6+ 18
 Carlson RT3 19
 Data Collection 20
 Carlson CR+ 21
 Laser Measurement Devices 22
 Contact info 24

Carlson Software produces a complete suite of solutions for land development professionals, across the disciplines of data collection, surveying, engineering design and drafting. In addition, utilizing its expertise in data collection, Carlson also offers accident and crime reconstruction field and office software for law enforcement personnel or law consultants.

“ We at Carlson recognize the paramount importance of free choice to the professional consumer in the land industry. We are committed to providing consistent software interfaces across hardware and across disciplines. This is the mission of Carlson Software. ”

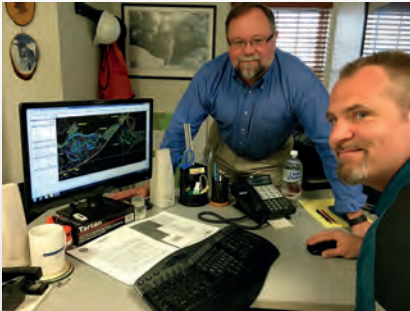
--R. Bruce Carlson
 Founder and President
 Carlson Software

Founded in 1983 and based in Maysville, Kentucky, U.S.A., Carlson has a branch office in Boston, Massachusetts, U.S.A., York, UK, and local representatives in Australia, Russia, Germany, The Netherlands, Spain, Ireland, and El Salvador.



Carlson Works for You

Carlson Software encourages a “positive feedback loop” from our customers ensuring that our annual software releases are full of customer-driven new features. We are grateful for our high rate of customer retention over our history and firmly believe in providing free technical support, which Carlson has done since the day of its founding.



“With RoadNETwork [in Carlson Civil], you can grip/edit a centerline and have the whole thing seamlessly and dynamically update. That is the coolest thing I’ve experienced in the software.”

-- Christian Smith
Beals & Associates
Stratham, NH



“Carlson, with their hardware and their software, as far as I’m concerned, they’re number one in the market. You just can’t beat them. I recommend it to everybody.”

-- John Hill
President, CEO,
Alphatec Surveyors LTD
Chesapeake, VA



“Biggest benefit I’ve seen from SurvPC is really the time management and just how compatible it is with multiple types of software, whether it’s a Carlson software, not a CAD software, or simply just Esri®. Because of being able to do so many different data file types, I can work in any of those and I don’t have to worry about how I am going to convert files.”

-- Clay White
GIS Coordinator,
Berea Municipal Utilities
Berea, KY



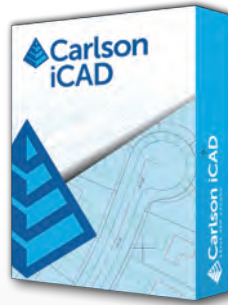
“We started with SurvCE on the Carlson GPS receiver and expanded to Carlson Survey and then moved over to Carlson Construction for its estimating capabilities, 3D drawings and the ability to make 3D models for machine control. The more you get to know it, the more you can do it with it.”

-- Sean Roberts
Construction Surveyor
Van Etten/Blijdorp
Vlaardingen,
The Netherlands

Carlson iCAD

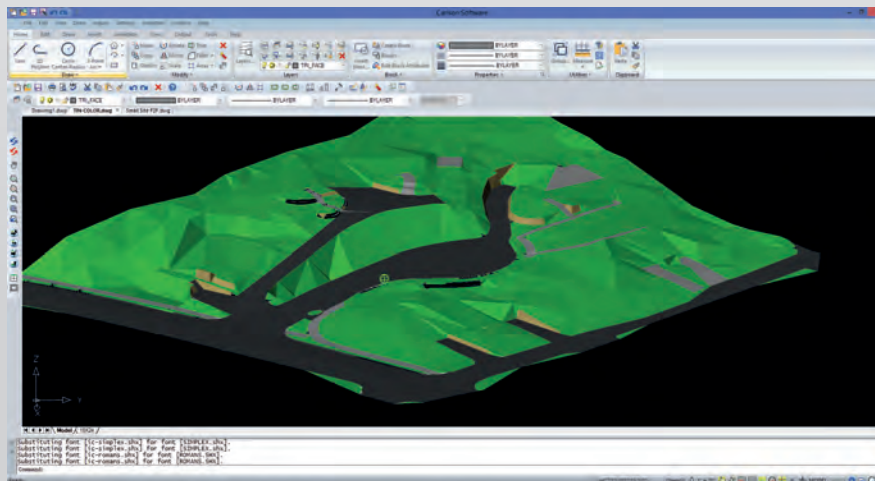
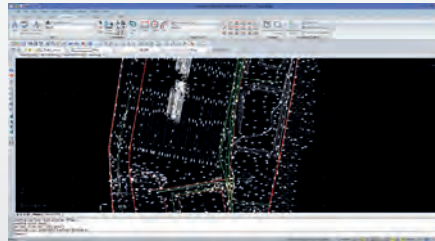
Simple but Powerful CAD solution

Carlson iCAD is an affordable CAD program that is .dwg file based and designed to fit into your production workflow. Carlson iCAD allows drafters to finish drawings and engineers to review drawings.



Basic Features:

- 2D and 3D CAD package
- Based on .dwg file
- Built on IntelliCAD® 8.3 engine
- Carlson Software drafting and annotation tools
- Perpetual license
- Free tech support
- Open/Save .dwg and .dxf files: Supports 2017 and earlier formats
- Plot: Output to printers and PDF
- Google Earth: Import and Export KML/KMZ
- Civil 3D: Convert Civil 3D custom objects to standard CAD entities
- Xref: Manage external references
- Drawing Utilities: Functions include spell check and purge



Carlson Survey

Surveyors' #1 Software Choice

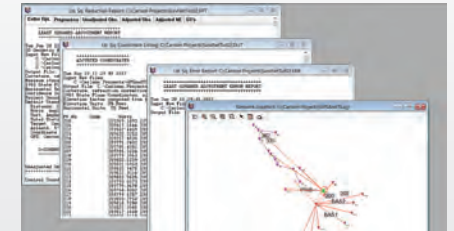
- Get full tool kit - everything from network least squares to surface modeling
- Work seamlessly between office and field
- Establish company-wide design styles
- Create GIS links & exchange Esri® data



Choose your platform - Carlson Survey works on:

- AutoCAD® (sold separately)
- IntelliCAD® (built-in)

Or choose **Carlson Survey OEM** with built-in engine Powered with Autodesk® Technology.

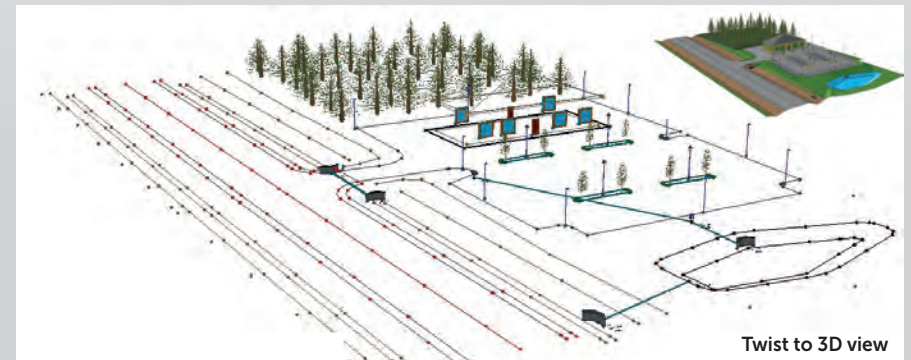


Least Squares Adjustments

Get the Power of Carlson Field-to-Finish

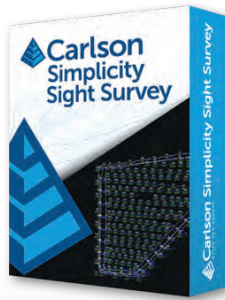
Carlson Survey together with Carlson's popular data collection software options, SurvCE, SurvPC, and Field, provide powerful, effective, and accurate "Field-to-Finish":

- Symbols, points and linework are drawn automatically in Carlson Survey
- Drawings in SurvCE, SurvPC, and Field process perfectly and easily in Carlson Survey



Twist to 3D view

Carlson Simplicity Sight Survey



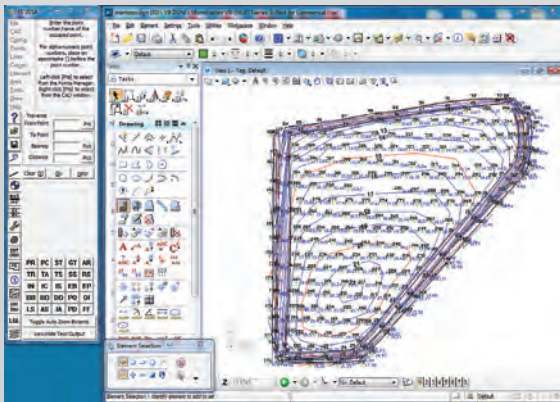
Carlson commands, Microstation® platform

A Windows-based coordinate geometry program, Simplicity provides simplified methods for solving commonly encountered coordinate geometry and construction surveying problems.

Simplicity works with:

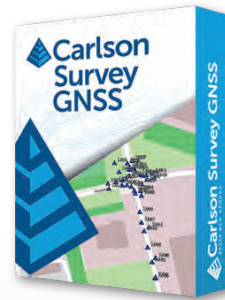
- AutoCAD®
- IntelliCAD®
- Microstation®

It can also run without a CAD application, giving its users ultimate flexibility in a COGO program and offering an economical choice to surveyors needing familiar commands, such as Field-to-Finish, Edit-Process Raw Data, and Network Least Squares.



Field-To-Finish and Contour output in Microstation V8i

Carlson SurveyGNSS

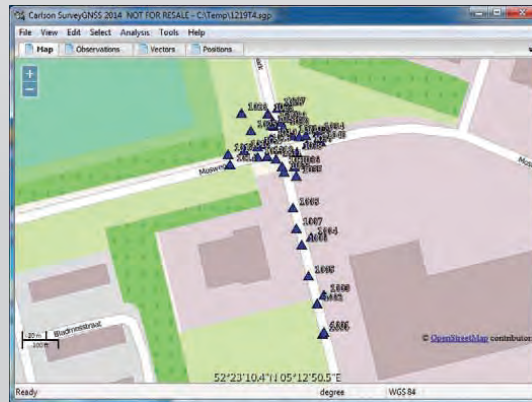


For all your Post-Processing needs

Designed for surveyors and positioning professionals, Carlson SurveyGNSS is a simple, yet powerful post-processing software that achieves high accuracy results for computing quality vectors and resultant positions.

Key features include:

- Import GNSS observations from any GNSS receiver in RINEX and other proprietary formats
- Achieve high accuracy results in areas with limited or no real-time corrections
- Get intuitive user interface with tables, maps and graphs
- Interact efficiently with Carlson SurvCE, SurvPC and Carlson office software
- Do quality control of GNSS data before export to Survey or GIS software



Stop and Go rover points for topo survey

Carlson Point Cloud



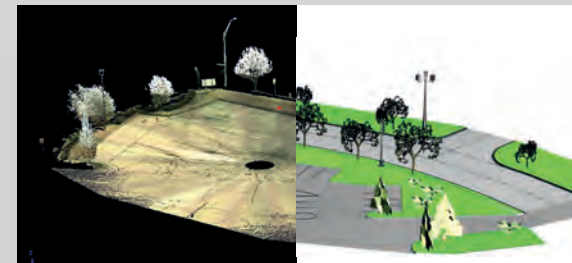
Bring Point Cloud data to the world of CAD

A modular program that provides the ability to go from field scan to finished plat, Carlson Point Cloud delivers powerful automation for large data sets. View and process up to 1 billion points all with Carlson ease-of-use.

Key features include:

- Register scans to local coordinates, filter or decimate the points, and overlay raster images in 3D
- Snap to edges and code descriptions for automated field-to-finish processing of linework and symbols
- Create contours, profiles, sections, and breaklines from within the point cloud

Lastly, all surface models, points, contours, breaklines, grid and profiles can be exported to CAD.



Read scan data from many instruments
View and process up to 1 billion points

Carlson Civil Suite The Ultimate Civil Package



Get Fair Price, Full Featured CAD, and Free Support with Carlson Software’s Civil Suite, a powerful bundle made up of: Carlson Survey (see page 4), Carlson Civil, Carlson Hydrology, and Carlson GIS. These four civil-related modular programs, working together, provide the ultimate civil package that dramatically increases productivity while helping users create better designs.

All Carlson office software modules come with perpetual and maintenance licensing with Carlson customers allowed to own the software and to upgrade when they choose. They come with IntelliCAD® built-in, plus run on top of any AutoCAD®, Civil 3D®, or Map® from versions 2010 and up. Carlson has offered free support since the founding of the company. It’s what we’re based on – Carlson works for you!

Fair Price

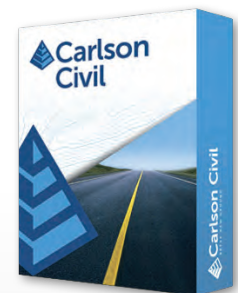


Full Featured CAD

Free Support



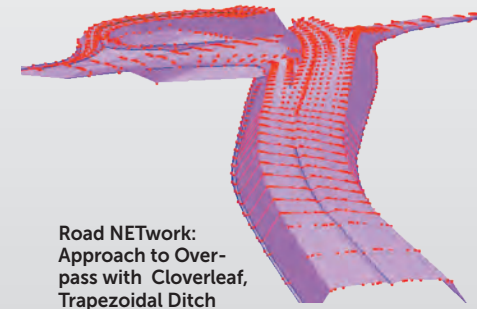
Carlson Civil The ‘Civil’ Choice



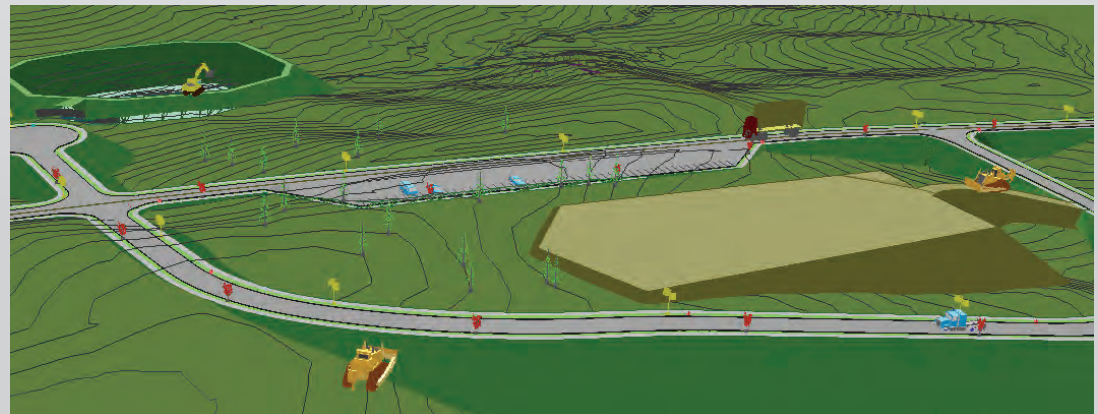
Carlson Civil provides the most robust automation and ease-of-use of any civil design solution available today, and it does dynamic updating without a single custom object. What might take days with other civil software takes just hours, or even minutes, with the powerful, intuitive Carlson Civil:

- **Road NETWORK.** Build all roads, intersections and cul- de-sacs in 2D and 3D with a single click of the “PROCESS” button.
- **Site NETWORK.** Elevate your estimating accuracy with this intuitive layer-based surface generator for easy cut/fill and material quantities calculations.
- **Lot NETWORK.** Quickly define an entire subdivision of lots based on an outer boundary, interior ROWs or Centerlines, and a simple set of user-defined “rules,” then pick “PROCESS” and the lots appear, defined and labeled.

With Carlson’s fully dynamic design environment, its trademark “networking,” changes made to one aspect of design are reflected in all other related aspects. Plus, Carlson Civil users get true 2D, easy-to-use 3D, intersection design, multi-baseline road networks, lot layout, storm and utility analysis and design, plus much, much more.



Road NETWORK:
Approach to Over-
pass with Cloverleaf,
Trapezoidal Ditch



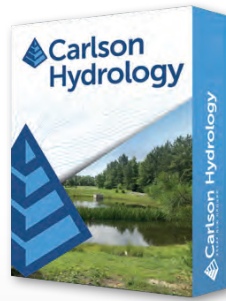
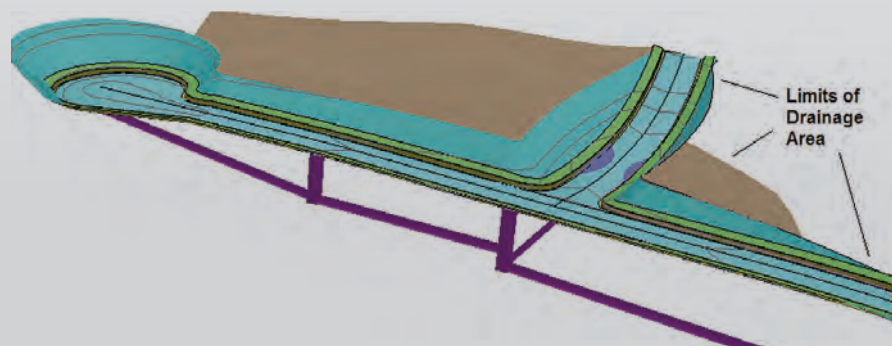
Carlson Hydrology Complete Hydrologic & Hydraulic Solution

Comprehensive, yet easy-to-master, Carlson Hydrology provides the automation to meet your hydrology needs and all in the CAD environment of polylines, text, and layers. Full 3D road and lot design feed directly into flow calculations and drainage design.

Top attributes include:

- Site Drainage-using either Rational or SCS Method
- Runoff Analysis to determine watershed area, time of concentration and peak flow rates
- Storm Drain System design and drafting
- Pond, culvert, channels, and outlet design and sizing
- Extensive libraries on rainfall, inlets, manholes, outlets

Carlson Hydrology provides a system-wide stormwater solution in 3D, offering enhanced 3D options plus a command to run multiple rain events at the same time. The software also provides warnings for collisions, excessive pipe lengths, insufficient cover, lack of slope, excessive flow rates, and more.



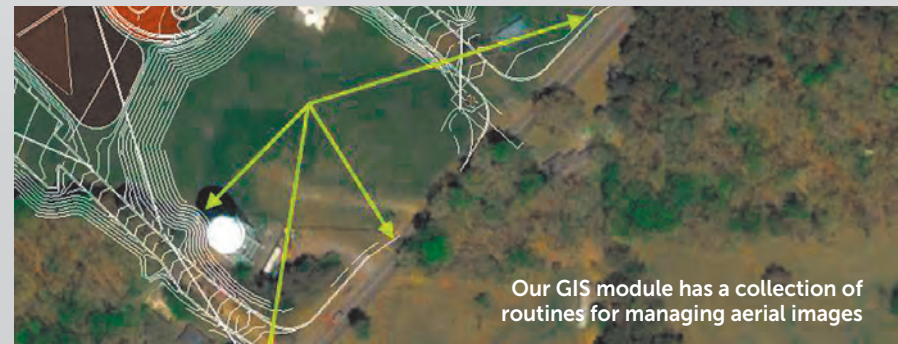
Carlson GIS Put Your Designs on the Map

With tools for data capture and linking, data labeling, import/export of SHP files, polygon topology creation and analysis, and more, Carlson GIS is a true GIS "Swiss Army Knife" for the surveyor or engineer. The routines for managing aerial images enable users to improve the quality of the geographic positioning of their designs.

With Carlson GIS' powerful GIS automation, users can input, edit, label, inspect, and report GIS data to entities via simple tools, in addition to obtaining topographic and planimetric features from county databases.

Other attributes include ability to:

- Import images and terrain from both Google Earth and Esri®
- Perform preliminary engineering and hydrologic studies, and planning analysis
- Drape images on 3D surfaces and view in 3D
- Handle large image areas and adjust the resolution
- Import GIS layers as linework with GIS data with Web Feature Service (WFS)
- Use Web Map Service (WMS) to place images from Carlson Image Server or user-specified server



Carlson Takeoff Suite

Carlson Takeoff is a cut/fill volumes and data prep (for layout or machine control) solution that can estimate jobs using paper plan digitizing, PDFs, or electronic CAD files. It is available in two configurations--Takeoff OEM (comes with AutoCAD engine built-in) and the Takeoff Suite, comprised of Carlson Construction, CADnet, Trench, and GeoTech (see following).

Carlson Takeoff is the only estimating software that works in the .dwg environment natively, which gives its users a distinct “CAD Advantage” when estimating from an engineer’s electronic files.

The Takeoff OEM has all of the same ingredients as the Takeoff Suite, which works on AutoCAD sold separately, or with IntelliCAD built-in. The Takeoff Suite’s four modules are all fully integrated with Carlson Civil and Hydrology to meet the variety of customers’ needs.



Carlson Construction

For Estimating & 3D Modeling

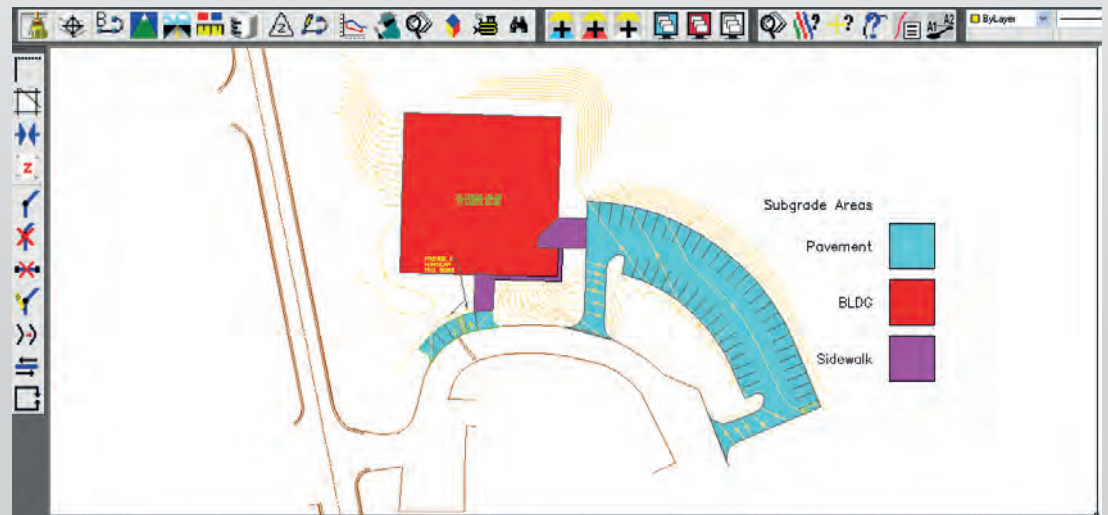
Carlson Construction is an integrated cut/fill takeoff and 3D surface modeling software solution designed for site and road construction from CAD files. It offers powerful section and 3D viewing tools for elevating 2D designs to 3D model files.



Core Abilities:

- Cut/Fill Estimating
- Output 3D Machine Control Files (Carlson Grade, Trimble, CAT-Accugrade, Leica, and Topcon)
- Output Construction Staking files for site, roadway, and building columns and offsets
- As-Built Mapping

Carlson Construction’s Material Quantities Reports give estimators the volume, area, length and/or count for items such as asphalt, gravel, curb, or any “subgrade” or “select fill” that’s defined. For construction data prep, Carlson Construction creates surfaces from points and contours and can easily move lines from the “wrong” elevation and slope to the correct elevation and slope.



Subgrade Color Map

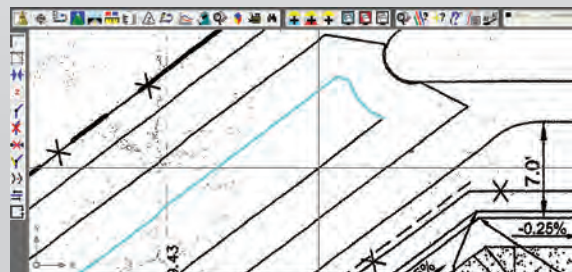
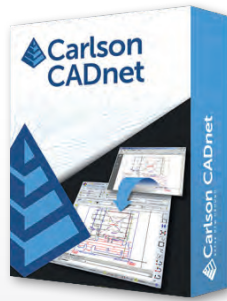
Carlson CADnet

Create CAD from PDF, BIM, and more

Carlson CADnet allows users to create CAD from non-CAD documents such as PDFs, raster images, and paper plans. CAD text can also be generated from raster images with CADnet's built-in Optical Character Recognition (OCR).

With Carlson CADnet, users can access a full set of digitizing routines for: Points, Polylines, Areas, Contours, Profiles, Sections, End-Areas.

CADnet gives users the ability to import BIM models (doors, windows, walls, roofs, etc.) and bring them into CAD as CAD entities; plus, CADnet includes a routine to export surfaces into BIM.



PDF Auto Trace

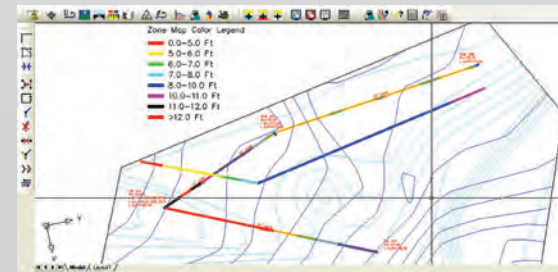
Carlson Trench

For Trench Quantities & Modeling

Carlson Trench is for calculations related to installing pipes, sewers, or utility lines. The software calculates the volume of the trench cut, the volume of backfill (excluding pipe size), and the linear footage of pipe broken down by the pipe material, size, and/or depth.

Core capabilities in Carlson Trench include:

- Calculates trench excavation and backfill quantities
- Draws trench network in plan view, profile and 3D
- Automatically adjusts trench design based on pipe size
- Produces Trench Reports including Manhole Depth Summary, Pipe Length By Size, Stations Depth Summary, Structure Details, etc.

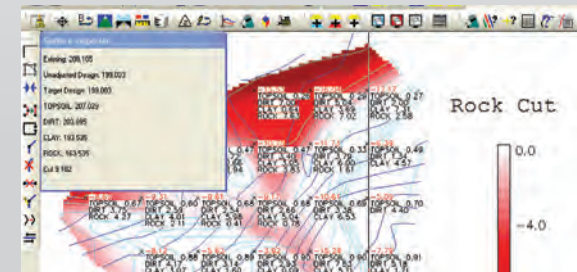


Trench Depth Zone Map

Carlson GeoTech

Know your Strata Cut

Designed for geotechnicians, civil engineers, and construction professionals, Carlson GeoTech provides the ability to import borehole data for analyzing subsurface conditions and materials. It models all core samples, producing a detailed, easy-to-read report for drill logs, cross sections, and plan view. This information is fully integrated with Carlson Civil, for determining site stability and suitability, and also Carlson Construction, for accurate strata takeoff estimation.



Strata Cut Map

Carlson Precision 3D Topo

Bridge the gap
between drones and CAD

Designed for use by surveyors, civil engineers, and contractors, Precision 3D Topo allows users to import survey data, points, polylines, surfaces, point clouds, both traditional LIDAR and aerial drone survey data, and more from a wide variety of programs and entities to create usable 3D surfaces.

- Importing Point Cloud data from Lidar and Aerial Drone mapping.
- Merge and edit point clouds to create surface models.
- Import survey data to further refine surface models.
- Powerful surface Editing tools to perfect surface models. Including Google Maps photographic background, automated Google surface creation.
- Easy surface volume tools directly from point clouds or surfaces.
- Advanced Texturing and Presentation Tools
- Import / Export all data as LandXML, DXF, and Surface Models as TIN, TN3, and TTM.

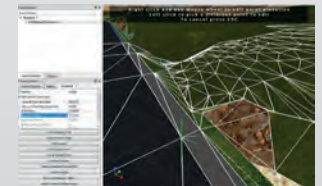
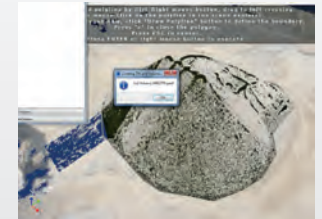
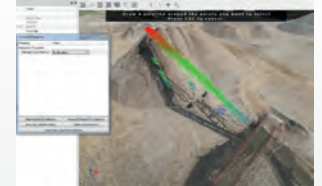


Import Point Cloud data from Lidar and Aerial Drone mapping.

- Import up to 50 point cloud files at once
- Bare earth classification filter .las, .laz, .ply, .xyz, .pts, .e57, .pcd files
- Remove outliers
- Apply thinning factor
- Automatically merge clouds.

Once the point clouds are loaded use the powerful editing tools.

- Point Cloud point selector tool for crop, delete, with the ability to create a totally new cloud from a the selection.
- Save point cloud to LAS/LAZ version 1.2, 1.3 and 1.4 including coordinate projection WKT.
- Merge multiple point clouds together.
- Crop point cloud to smaller area.
- Delete point cloud points.
- Crop/delete points using polygons.
- Remove trees, vegetation, cars, building using bareground filter.
- and much more....



Carlson Photo Capture

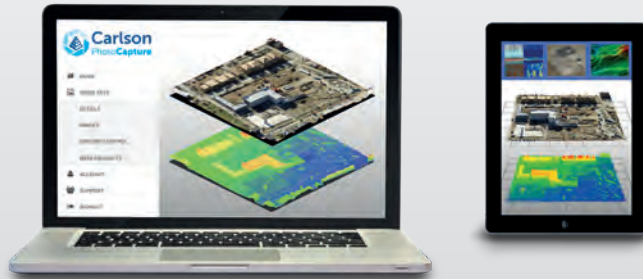
Surveyors, Meet the Newest Tool in Your Kit

Aerial surveying is rapidly becoming a vital part of any surveyor's tool-kit. Thousands of people use drone site flyovers every day to help boost efficiency and lower costs.

With Carlson Photo Capture processing, you can use flyover data to:

- Instantly generate interactive 3D maps of sites
- Capture highly accurate 3D site data from any camera
- Share site maps with customers -anywhere, anytime!
- Save man-hours in the field

Our proprietary technology helps you track and share every metric about your site from anywhere in the world



Powerful Features:

- View and edit your 3D map the minute it's done uploading
- Capture the full 3D layout of your land from any camera angle
- Composite an accurate map from multiple flyovers
- Turns pixels into accurate 3D models of your worksite
- Set control points to fine-tune the accuracy of your survey data
- Get topographic elevations of landscape features with just a click
- Show your 3D job site to customers and employees with our web app
- Instantly calculate the mass of any feature to learn how big your project is
- Get precise location-based data no matter what state you're in

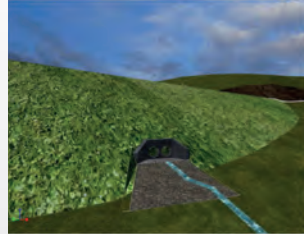


Carlson Precision 3D Hydro

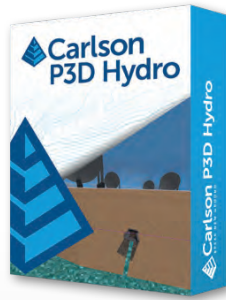
Utilize the Newest Technology for Dynamic Design

A smart, new software, with game-like ease of use, providing users tools for rigorous, precise engineering in 3D.

- Dynamic CAD automated plan and profile CAD design documentation
- Speed design with revolutionary drag and drop options for selecting headwalls and endwalls
- Delineate drainage and ponding areas
- Calculate runoff from surface models
- Size culverts and place at low points
- Fit headwalls from Headwall Library using solid modeling
- Grade surfaces for both upstream and downstream designs
- Move culverts and headwalls to new locations with full dtm restoration
- Choose from multiple barrel options
- Integrate easily into Carlson Civil Suite, AutoCAD and Microstation



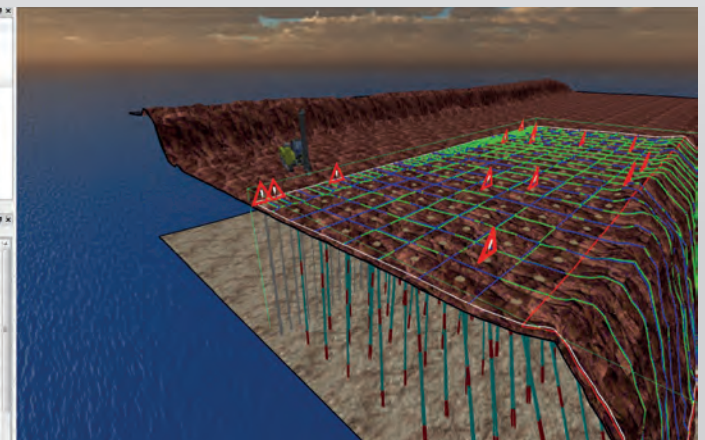
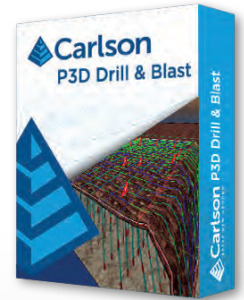
As it is multithreaded, P3D performance will increase with core count. In addition, because P3D is 64 bit, it will use all available RAM to support large models. The use of advanced 3D shaders will also increase performance when used with graphic cards that process these faster.



Carlson P3D Drill&Blast

A Dynamic Software with Real-Time 3D Editing and Instant Feedback

- Import surface files from sources such as XYZ, XML, Carlson's TIN or point cloud scans to begin the design;
- Create blasthole patterns with many options such as square or staggered for both mine benching or construction design;
- Real-time feedback showing distances from end walls or high-wall face;
- Edit single holes, entire rows or columns for azimuth, dip angle, depth;
- Set a tolerance for highwall face distance to ensure a safe distance. Color coded warnings show if part of the hole is too close, or too far from the face;
- Simulate blasthole loading with different materials and densities. Report and calculate the volumes for the entire design, including presplitting holes;
- Color and hatch the blastholes based on highwall proximity or loading decks to compare to the surfaces;
- Export final blasthole pattern to Excel or CSV and Carlson Machine Control DRL for GNSS guided drilling;



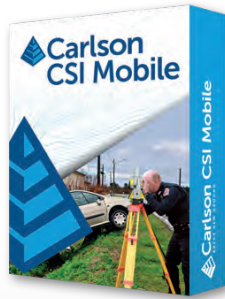
CSI Mobile & CSI Office

Designed by and for Law Enforcement Professionals

Carlson CSI Mobile is easy-to-learn and -use crash/crime scene software that utilizes the top data collection technology of Carlson Software, which has been adapted by police professionals for law enforcement's specific needs.

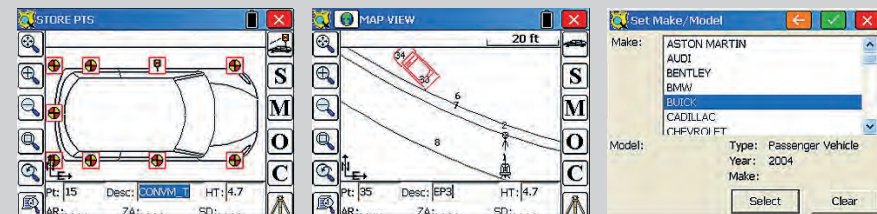
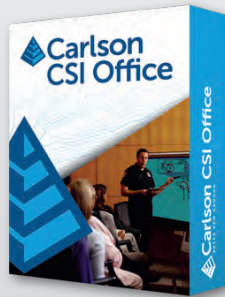
Top attributes:

- Clear crash scenes faster
- Work in all kinds of weather
- Find commands conveniently all in one menu
- Access extensive and up-to-date vehicle library
- Easily generate required PDF reports



Reconstruct traffic accidents... Measure and map crime scenes...

CSI Office, which is made for city and county police departments, State Police, and consulting firms engaged in accident reconstruction, provides powerful forensic diagramming capabilities to measure and map crime scenes and traffic accidents. Together with CSI Mobile, accident and crime scenes can be investigated and reconstructed accurately in the field then analyzed and mapped in the office.



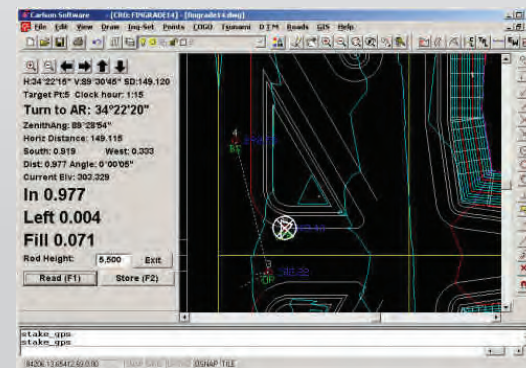
Carlson Field

Full Data Collection Inside CAD

Carlson Field enables real-time surveying in CAD on ruggedized PC/laptop computers. Users can not only collect data in the field, they can accomplish any basic COGO operation and also any high-level CAD operation. It is also possible to stakeout building corners, lot corners or any CAD feature by "snapping" to the CAD entity—without creating point numbers.

- Runs RTK GPS and conventional/robotic total stations
- Collects and stores points directly in the AutoCAD .dwg format
- Ability to place text on your drawing and contour in the field to verify that you have taken enough points
- Cut/Fill automatically displayed for staked points with elevation or along any TIN or Grid terrain model
- Plots linework. Field-to-finish is completed in the field!

Field is also designed for GIS work. It allows the collection of data associated with valves, manholes, power poles and other standard GIS elements. It works with affordable, sub-meter accuracy GPS systems from various manufacturers.



GPS Stakeout mode.



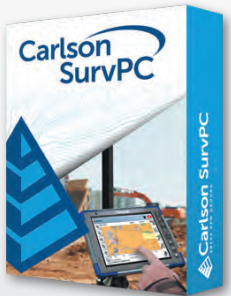
The large buttons on all Carlson Field dialog boxes designed for touchscreen computers

Carlson SurvCE / SurvPC

The data collection software for the professional surveyor



With SurvCE (for Windows Mobile) and SurvPC (for Windows) you are using the most flexible software on the market to get your work done in the most efficient and productive way.



Almost every surveying instrument from the following manufacturers is supported: Altus, Ashtech, Carlson, Geomax, Leica, Pentax, Sokkia, Spectra-Precision, Stonex,

Topcon and many more...

Carlson SurvCE and **SurvPC** are combining advanced functionality, ease-of-use, and sheer capability with excellent service and technical support to make it surveyors' first choice in data collection software.

This complete data collection system for Real Time (RTK) GPS and total stations with in-field coordinate geometry supports the widest range of popular and new release RTK GPS and conventional/robotic total stations.

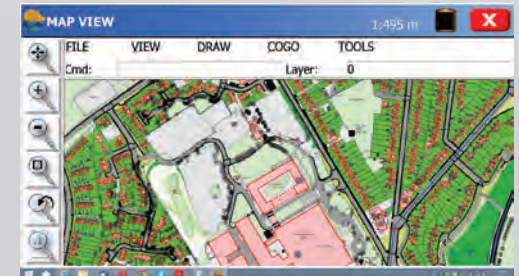
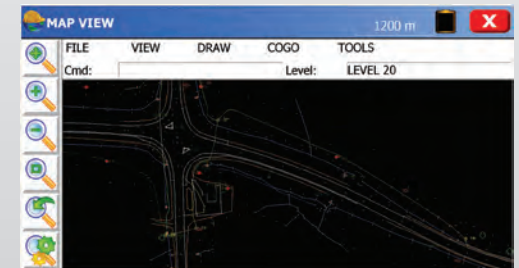
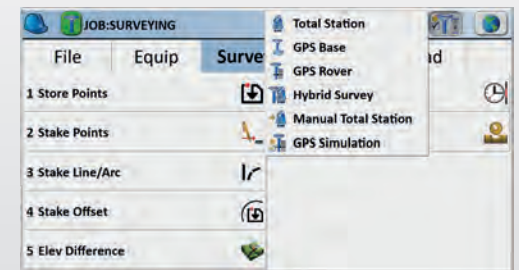
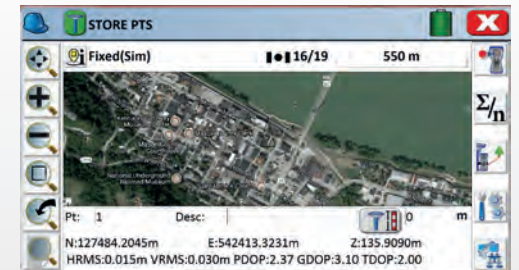
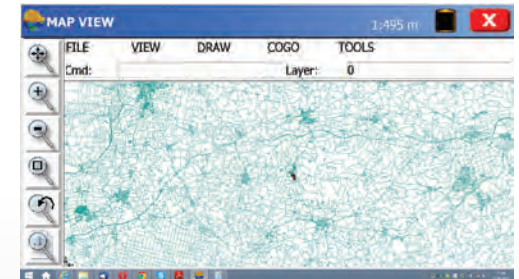
These powerful features help you do more, do it accurately and in less time:

- **Powerful Roading:** favored by U.S. DOTs and heavy highway contractors around the world
- **Advanced functionality** for staking intersections and culde-sacs using Carlson Road Network Files
- **Highly graphical** and intuitive **user interface** - the software prompts you so no detail is missed
- **Strong GIS features** for accurate data capture, including attribute data, that allows seamless links to Esri®
- **True versatility:** SurvCE and SurvPC run on most all GPS and total station equipment models in service today
- **Optimal Field-to-Finish:** no need to spend extra hours in the office to make drawings
- **Easy data exchange** due to rich support of CAD file formats and .dwg, .dgn, .shp
- **More field capabilities** with quick and easy volume calculation and ability to generate points from polylines
- **Cut/Fill stakeout** using surface files

Take Your Pick

Get the world's most flexible & powerful data collection software:

- SurvCE for handheld data collectors
- SurvPC for rugged PCs



NEW in version 6 Hybrid+



BRx6+*



CR+*

Work with the pioneering data collection software

The powerful features are helping you to work faster and more efficiently:

- **Store points** with many features as coding (incl. auto line creation), symbols, offsets, interval measurement (time, distance, slope [GNSS])
- **Stake out** points, lines as well as axis, cross profiles, DTMs
- Area **calculations** and **divisions** .
- **Volume calculation** by perimeter boundary and with dem as reference surface or fixed elevation base.
- **DTMs:** Generate using imported Points, incl. Breaklines and contours
- **Field-to-Finish:** create the complete plan during the recording of survey points.
- **Simple data exchange** with comprehensive Support of data formats including DXF, DWG, Shape, XML, DGN, ASCII, DTM; individual configurable Import/Export-Assistant
- **Quick Switch** between base, rover and total station.
- **Easy feature code list** administration on site incl. layers, symbols and GIS attributes
- **Create points** out of graphical elements (snap end point of a line, center of a line, center of a circle etc.)
- **Freehand drawing** in map window
- **COGO** features inverse, area calculation, point projection, offset...
- **Other features** including transformation, free station, resection
- **GNSS:** decoding of RTCM-messages for easy measuring in the correct coordinate system
- **GNSS:** support of inertial systems (IMU)
- **Camera integration:** assign pictures to points or lines
- **Quick search** uses internal GPS of data collector for prism location.
- **Usage of** data collector **integrated compass** for easy stake out .
- **One touch** icons for easy coding

- **Scan feature** for robotic total stations
- **Optimized memory management** allows usage of bigger graphic files (DXF, DWG...)
- **Easy-select** target feature
- **Export directly** in the **KML** format for a fast control in GoogleEarth.

New features in Carlson SurvCE / SurvPC 6.0:

- **Google, Open Street Maps** and **ESRI** Layers are available
- **New Icons** in the top bar allow to use enhanced search routines (TS/RTS)
- **Hybrid+** allows to use any supported Total Station and GPS at the same time. **Hybrid+** is used at the following functions:
 - **Follow me:** TS turns continuously in the direction of the prism
 - **Smart Lock:** TS detects when you are slowing down take a measurement and automatically locks on the prism
 - **Smart Staking:** GPS is used for staking out, when getting closer it is automatically switching to the TS
 - **Backup Tracking:** GPS position is automatically shown when TS is not tracking
 - **Combine IMU in GPS with TS.** You can store/stake out a point when the pole is not tilted
- **Voice prompting:** Keep your eyes on the environment - You are audibly guided and informed.
- **New TS features** as “Ignore Backsight Location” during searches, “Continuous reflectorless measurements” and “Automated backsight check”
- **Tolerance Band for GPS** shows if one tolerance is exceeded and the point shouldn't be used
- **Output NMEA** to a virtual port on the data collector allows to share positions easily with other software on your tablet. **SurvPC** now supports creating a **virtual serial port**.

SurvPC with ESRI®

Get the ability to work natively in Esri

“This is an industry first. The new capability of SurvPC enables surveyors to work in the ArcGIS® system, yet with the interface they are familiar with. In the case of Esri® maps, SurvPC displays the map as saved in Arc and accesses the entire geodatabase. Features and attributes collected in the field are stored back to the geodatabase and displayed graphically with the correct symbols and linetypes.”

Bruce Carlson

Closing the gap

There has always been a large gap between land surveyors and GIS Data professionals. Shape files were for a long time the only link between these professions. Now through **Carlson SurvPC** it is possible for the land surveyor, through a familiar interface, to work with Esri® data without conversions or data loss.

The Esri® map is surprisingly sharp and clearly displayed in the field, including built-in zoom resolution, ‘freeze / thaw’. This also applies to MicroStation® drawings. In both cases, there is no conversion, you work in the original map, and you can identify each feature, modify or expand through conventional snap selection. Land surveyors have access to the available Esri® maps of municipalities and water boards, utilities, state or national government, and SurvPC will automatically retrieve all map related attributes. There is no specific preparation necessary - the built-in Esri® engine reads and writes Esri® mxd documents allowing SurvPC to collect data and edit

data directly into Esri® format. This makes it possible for surveyors and consultants to perform work in a uniform way for a variety of customers who make use of Esri® products, in an efficient manner.

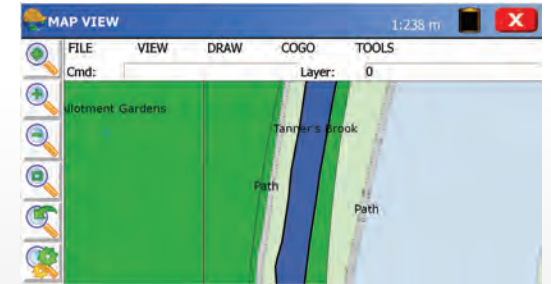
Total freedom in hardware choice

It has never been easier to create your own configuration of software and hardware. Carlson SurvPC supports a wide range of instruments; RTK GNSS receivers, Total Stations, rangefinders or even a Sonar for hydrographic surveys.

Choose your own platform; a robust tablet for the field or a powerful laptop for the office.

User Interface

Carlson SurvPC is designed for field use under all conditions. Simple interfaces and a large virtual keyboard, has made entering data even easier.



Carlson Listen-Listen

Cloud connect your base/rover

Carlson Listen-Listen is a cloud-based, low latency, high performance service. Carlson Listen-Listen utilizes an internet connection at the base and rover, thus eliminating traditional UHF radio limiting factors.

- Available to Carlson SurvCE/PC customers using Carlson's BRx6 GNSS receiver as a base station
- Multiple rovers can simultaneously connect to a base using Carlson Listen-Listen
- Hosted through Amazon Web Services for unlimited processing power, speed and bandwidth
- The system eliminates base line length restrictions encountered when using UHF radios

Carlson Listen-Listen is available by subscription and is easy to use and configure. The internet connection can be provided by fixed line broadband, a WiFi or MiFi dongle, or a gprs modem in the GNSS unit or data collector. A fixed or static IP address sims is not required.



Atlas

GNSS Global Correction Service

Atlas is Carlson's innovative correction service for RTK-capable GNSS receivers. Using approximately 200 reference stations worldwide, Atlas produces its correction signals via L-Band satellites distributing coverage from 75°N to 75°S ensuring Earth's landmass is covered.

Industry-Leading Capabilities:

- Positioning Accuracy: Atlas provides positioning accuracies down to 2 cm RMS in certain applications
- Positioning Sustainability: Cutting-edge position quality maintenance in the absence of correction signals
- Convergence Time: Industry-leading convergence times of 10 - 40 minutes

Atlas is available through subscription to Carlson SurvCE/PC customers using Carlson's BRx6 GNSS receiver. Additionally, through Carlson SurvCE's vast library of compatible drivers, any third-party GNSS receiver utilizing an Athena™ engine can also use Atlas.



GNSS Global Correction Service

Carlson BRx6+

The BRx6 is Carlson's multi-GNSS, multi-frequency, smart antenna

GNSS Technology

The BRx6+ updates the Athena™ GNSS RTK engine with triple-frequency tracking on multiple satellite constellations for robust GNSS RTK with Real Time Networks and local base stations. Users will experience fast initialization to Fixed RTK, as well as stable and repeatable performance in varied conditions. The BRx6+ also has integrated Atlas L-Band for Precise Point Positioning with a subscription. The lightweight BRx6+ receiver may be used as a Base or Rover on demand.

Wireless Communications

The BRx6+ has updated to a 4G Penta-Band LTE cellular modem in addition to an integrated UHF transceiver, Wi-Fi and Bluetooth for modern wireless capabilities. Carlson's Listen-Listen service allows Base/Rover operation via the cellular modem for better correction transmission ranges. In addition, SurvCE/SurvPC provides the option to utilize the cellular modem or Wi-Fi in the hand-held computer via the SurvCE Data Collector Internet feature.

SurvCE/SurvPC

Carlson's SurvCE/SurvPC is combined with the BRx6+ on either the Surveyor 2 field computer or RT3 Windows tablet for a full field solution. SurvCE/SurvPC has full BRx6+ configuration, system status and data logging via Bluetooth. For improved Quality Control

and efficiency, SurvCE/SurvPC features an intuitive Live Digital Level with an auto record option when the BRx6+ is level. With SurvCE/SurvPC, users leverage Carlson's expert team to expand features for quality and productivity.

The BRx6+ smart antenna expands GNSS capabilities for premium GNSS RTK performance with triple-frequency tracking and measurement on multiple satellite constellations.

Key Features

- GPS, GLONASS, BeiDou, Galileo, QZSS
- Atlas® L-Band
- Hot-Swap Lithium-Ion Battery
- 4G Penta Band LTE Modem
- On-board Web UI
- Wi-Fi 802.11 b/g/n
- Bluetooth 2.1 + EDR
- 8 GB Internal Memory



Carlson RT3

Rugged Tablet

The Carlson RT3 is designed for surveying, stake out, construction layout and GIS mapping and is bundled with Carlson SurvPC – the Windows-based data collection program – with the option of running with the Esri® OEM program for use in the field. Or use in the office with any Carlson office software.

Performance

- Powerful Windows 10 for office-to-field use
- Plenty of memory - 4 GB RAM & up to 128 GB flash storage

Expandable Battery

- All-day battery runs 8-10 hours for minimal downtime
- Optional expansion provides additional 4-5 hours
- Operates in extreme temperatures from -20°C to 50°C (-4 F to 122 F)

Ready for Anything

- Long-range Bluetooth® Smart Ready, Wi-Fi®, USB connectivity,
- 4G LTE (GEO CELL)
- High-performance GNSS receiver and 8 MP rear, 2 MP front camera (GEO & GEO CELL)

Juniper RUGGED™

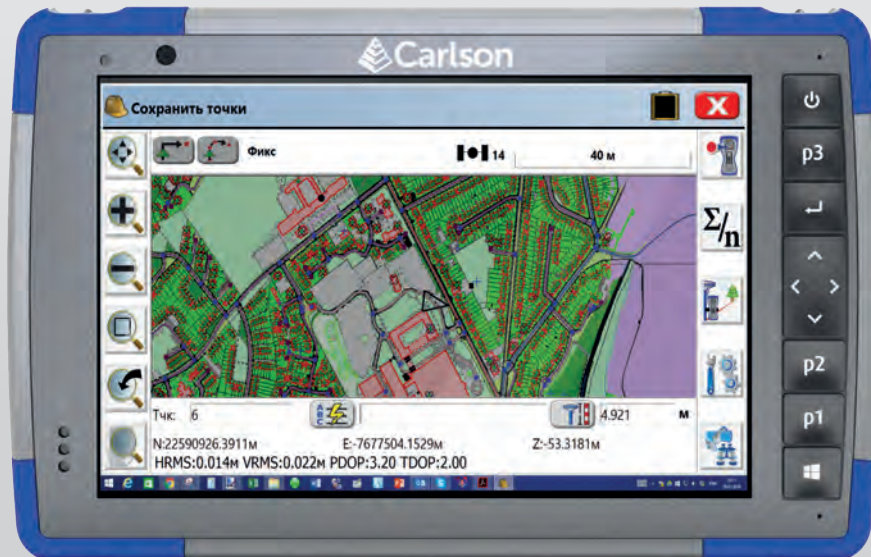
- Maximum protection for your data
- Dustproof & waterproof (IP68 rating)
- Designed to MIL-STD-810G for ultra-ruggedness
- 2-year warranty

ILLUMIVIEW™ High-Visibility Display

- Large, 7-inch display for easy viewing
- IllumiView technology provides extraordinary visibility
- Optically-bonded capacitive touch screen for needle-sharp imagery
- Chemically-strengthened Dragontrail™ glass for excellent impact and scratch resistance

Available models

- Standard
- GEO
- GEO CELL



Surveyor2

The world's most reliable data collector!

Powered with SurvCE

FASTER PROCESSOR

More on-board storage space
- now 8GB; and 1.0 GHz processor

LONG-RANGE BLUETOOTH

Up to 450m paired with class I device

EXTENDED BATTERY LIFE

Up to 20 hours

LARGE, BRIGHT DISPLAY SCREEN

Higher resolution, easier to read colour display with scratch-resistant glass

COMPLETELY RUGGEDIZED

IP68 water & dustproof; shock resistant

EASY TO USE

Now with a QWERTY keyboard for faster data entry

MORE OPTIONS

- Integrated camera
- 3G modem
- GNSS receiver



MINI2

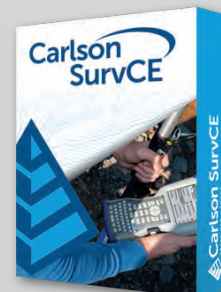
Designed to boost productivity and speed, with extra-bright screen, long-lasting battery, and improved GPS technology to perform better in natural surroundings

- Extra large 800x450 TFT display for easy viewing of survey data
- Fast 1.0 GHz processor
- Scratch-resistant, touch-screen display, highly readable in both low light and glaring sunshine
- 91 x 184 x 38 mm
- Weighs just 590g
- Dustproof and waterproof rating of IP68
- Meets MIL-STD-810G standard
- Options include an integrated 3G modem, 5 mega-pixel camera, or GPS/GNSS module



The **Carlson MINI2** comes with either **Carlson SurvCE**, the world's most popular data collection software...

or, for accident and crime reconstruction, **Carlson CSI Mobile**.



Carlson CR2+ and CR5+

Advanced Technology

The advanced positioning of STReAM 360, X-motion hybrid drives and accXess EDM Technology incorporated in Carlson's super reliable CR2+ and CR5+ robotic total stations provides the most efficient way to survey. Leading edge technologies minimize the time needed to complete any type of survey task.

STReAM360: Fully Robotic

Scout: Scans the entire working area within seconds to quickly find the target.

TRack: Continuously track targets. Once locked onto, the instrument remains accurately aimed on the moving target.

AiM: The telescope is accurately aimed at any prism, without need to look through the telescope.

Measurements are performed automatically with consistently high and repeatable dependability.

X-MOTION™ Hybrid Drives

The CR2+ and CR5+ incorporate highly innovative X-motion hybrid drives, promoting up to 20% automation performance compared to conventional drives. It follows your targets at 90 km/h at 100m distances.

accXess™ EDM Technology

accXess EDM Technology provides leading reflectorless measurements up to 1000 m.

The extra small laser footprint and the sophisticated signal-processing technology, ensure maximum accuracy - regardless of the distance or conditions.



Void Scanner

Laser-based cavity monitoring system



The affordable Carlson Void Scanner is a survey and inspection tool designed for use in extreme environments to work quickly, safely, and accurately. The specialized and ruggedized Void Scanner uses time-of-flight laser measurement to map the shape, position, and spatial location of cavities quickly, giving site managers the information needed to plan more profitable projects, improve operational efficiency, and, importantly, ensure high standards of safety in potentially hazardous locations.

Applications for mining and civil engineering

Void Scanner solves a wide range of underground surveying challenges at a low cost, including the following:

- Gallery, void, and stope surveying
- Ore pass monitoring
- Mine design management
- End-of-shift extraction volume scanning
- Compliance, environmental, and safety management
- Underground blast planning
- Drive surveys
- Pre- and post-excavation mapping
- Storage silo volume measurement
- Project profitability/feasibility planning

Rodded Boretrak® and Cabled Boretrak®

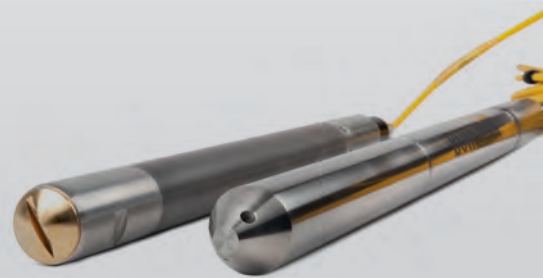
The Boretrak measurement system measures borehole deviation in a wide range of applications, including quarrying, mining, geotechnical, and engineering works.

Cabled Boretrak

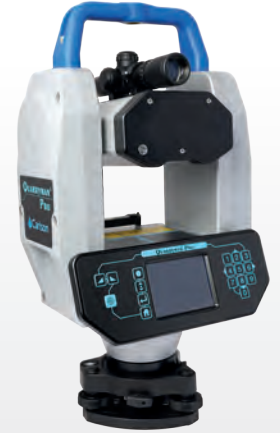
Compact, lightweight, rugged, and highly portable, Cabled Boretrak enables users to work quickly and move across large sites, covering vast areas, without the need to transport bulky surveying equipment.

Rodded Boretrak

The Rodded Boretrak system uses specially designed rods to deploy the probe as opposed to using a compass. This method offers accurate measurement for uphole deployments and areas that contain ferrous material, whether next to cabling or metalwork, or where there is magnetic interference.



Quarryman® Pro



The Carlson Quarryman Pro is the 3D laser-scanning system of choice for quarries around the world. It is intuitive to use, portable and rugged, and carefully designed and tested to make it robust enough to operate in the toughest environments.

Improves safety. Increases profitability. Made for the demanding quarry environment.

- Safe, long-range reflectorless surveying for blast planning, stockpile measurement, and whole site mapping
- Easily operated by one person, with very little training needed to use the system or the associated intuitive software
- Durable and reliable in tough environments - certified water and dust resistance with operating capabilities from -20 °C to +45 °C
- Light and portable for easy, one-man operation that can quickly be moved around and between sites by operators
- Scans entire rock faces in minutes as it measures and records thousands of data points, which can be sent directly to a USB drive

For further information on the best Carlson application to meet your needs or for support, please contact Carlson at lasermeasurement@carlsonsw.com.

Merlin

Vessel-Based Laser Scanner

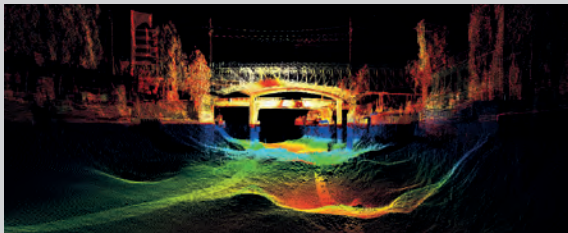
Merlin is the marine Li-DAR (Light Detection and Ranging) system developed specifically for cost-effective and safer coastal, offshore and inland waterway surveying. Extremely robust, portable, and well-engineered, Merlin provides eye-safe, long-range laser scanning that enables the capture, processing, and analysis of geospatial point cloud data quickly and accurately.



Safer, faster, more efficient surveying with Merlin

Seamless integration with existing echosounder technology enables the fast and effective acquisition of time-tagged survey data above and below the water simultaneously.

- Speeds up project timescales,
- Minimizes the amount of time crew spend in potentially hazardous areas, and
- Reduces the surveying costs associated with complex vessel-based surveying assignments.



C-ALS®

Cavity Auto-scanning Laser System

The Carlson C-ALS laser system provides safe, quick, and reliable mapping capabilities for inaccessible underground cavities. Deployable via boreholes on cable or rods, via a boom, or on a zip-wire, the C-ALS system can be used from the surface to provide a detailed visual record of the subsurface environment in a wide range of applications. These include underground and open-cast mining, construction, subsidence investigations, and subterranean excavations.

C-ALS supports successful projects

The Carlson C-ALS system enables laser scanning of air-filled voids to create geo-referenced 3D models of subsurface conditions as a cost-effective, comprehensive, and accurate alternative to systematic drilling, enabling users to:

- Protect worker safety
- Report to project stakeholders in greater detail
- Cost out planned works accurately
- Devise more efficient work programs
- Move new projects forward faster
- Design and engineer solutions based on accurate data
- Minimize disruption, drilling, and disturbance in populated areas



Carlson ILM

Industrial Laser Module



Pencil-beam Industrial Laser Modules (ILM) provide users with contactless measurements between the sensor and a passive target (stationary or moving).

Designed for stand-alone operation or for system integration

ILMs use time-of-flight technology to calculate range. The laser sensor can then use the range to trigger external devices, such as cameras or warning systems. Typical uses are altimetry, security and road traffic applications.

- Custom OEM solutions for manufacturers and system integrators
- Vehicle detection and triggering
- Easy integration in ANPR systems

For further information on the best Carlson application to meet your needs or for support, please contact Carlson at lasermeasurement@carlsonsw.com.

By Surveyors, For Surveyors
Carlson Works for You



www.carlsonsw.com



The Complete Workflow

Offering powerful software, with comprehensive yet easy-to-use features, backed by dedicated customer service, Carlson is used world-wide by professionals in land surveying, civil engineering, construction, machine control, mining, crash/crime investigation, and agriculture.

Carlson Software Inc

33 East Second Street | Maysville, KY 41056, USA | 800-942-2540 (Sales) | 800-989-5028 (Support)

Carlson EMEA UK

Halifax House/Unit 2 | Tockwith, York, N.Yorkshire YO26 7QP | United Kingdom | +44 (0) 1904 736736
lasermeasurement@carlsonsw.com

Carlson EMEA

Markerkant 1338 | 1314 AN Almere | The Netherlands | +31 (0) 36 750 1781 | emea@carlsonsw.com

Carlson Software Inc. - Laser Measurement Devices

11 Rosemount Ave., Unit 100 | Ottawa ON, K1Y 4R8 | 606-564-5028 (p) | mhwa@carlsonsw.com

Carlson Software Australia

43 Stubbs St, Kensington Vic 3031 | +61 390210861 | apac@carlsonsw.com