Carlson

Asia • Pacific

Carlson Software Product Catalog

Carlson Software for Land Development and Mining Professionals

Carlson
Asia • Pacific

Carlson Works for You

Look to Carlson Software for technically advanced software and integrated hardware for the full life cycle of a land development or mining project

From data collection, to office design, to 3D model building, to machine control, Carlson's solutions utilize the same data throughout and are designed to work seamlessly with each other and also work with the most hardware and software solutions available in the marketplace.

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

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

From the President's Desk:

> Carlson Software represents freedom to choose. We don't want to own you. Our talk is of serving you, providing you more choice, more freedom, more software power.

Carlson Software prides itself on being nimble and creative in its software products -- we offer the complete suite of solutions, across the disciplines of data collection, surveying, engineering design and drafting, mine planning and modeling, construction estimation, and machine control. We are a proven solution provider.

Our field products work with the widest variety of survey equipment. Our tech support is free and has been since day one in 1983. Our programming has been consistent, growing, based on in-house development, over a 30-year-plus continuum. We don't have to buy companies to have the solutions. We have them in-house.

We ask only that you review our solutions, try our products and services, and compare them against all others. We are confident that if you make your decision based on product quality and effectiveness, on the time you will save doing your work, on the ease of learning the products, you will choose Carlson Software.

We promise we won't "own" you – we will instead appreciate your business, listen to your input, and try to provide the upgrades and improvements that you need. One of our strongest motivations is, in fact, a sense of responsibility to serve the customers of our marketplace.

Bruce Carlson,
Founder and President

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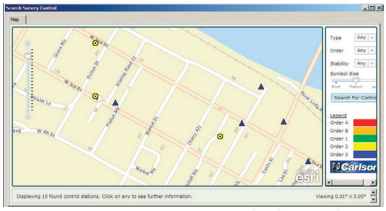
Surveyors' #1 Software Choice

- 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

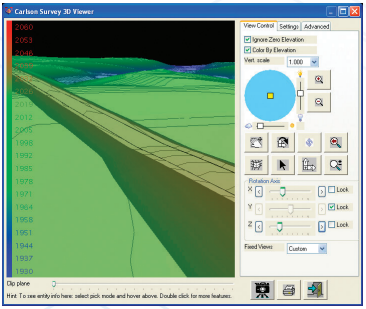


Search Published Control

Choose your platform – Carlson Survey works on:

- AutoCAD® versions 2010 to current
- IntelliCAD® (built-in)

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



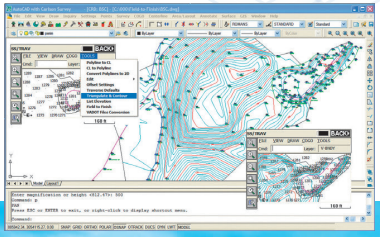
Carlson Survey 3D viewer image

Get the Power of Carlson Field-to-Finish

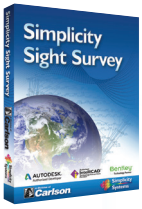
Carlson Survey together with Carlson's popular data collection software options, SurvCE, SurvPC, and Field, provide powerful, effective, and accurate "Field-to-Finish":

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

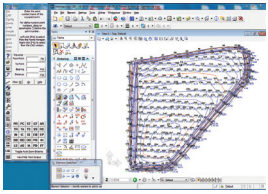
Contour in both Carlson Survey and SurvCE



Twist to 3D view

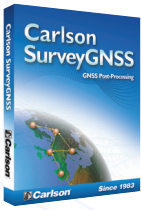


Simplicity Sight Survey

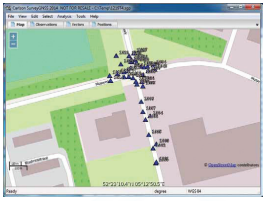


Field-To-Finish and Contour output in Microstation V8i

A Windows-based coordinate geometry program, Simplicity provides simplified methods for solving commonly encountered coordinate geometry and construction surveying problems. 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 to import field-to-finish and other survey data directly to the CAD application or vice versa. Simplicity works with AutoCAD®, IntelliCAD®, and Microstation©, making it ideal for DOTs or for firms working with DOTs. Familiar commands, such as Field-to-Finish, Edit-Process Raw Data, and Network Least Squares, work within Simplicity as they do within Carlson Survey.

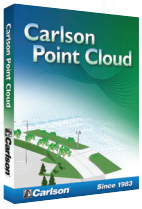


Survey GNSS

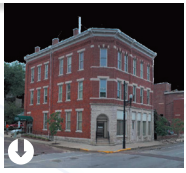


Stop and Go rover points for topo survey

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. It supplies a second-generation post-processing engine, which accepts data in enhanced RINEX 3.x formats. New constellation and more reference networks are another enhancement in SurveyGNSS 2016. Observations from the Chinese Beidou and European Union Galileo join GPS and GLONASS. SurveyGNSS works with Carlson SurvCE and SurvPC data collection software and with Carlson's office design software, utilizing an intuitive user interface.



Point Cloud

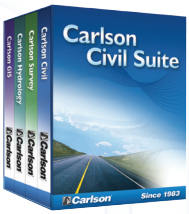


Read scan data from many instruments

View and process up to 1 billion points

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. Register scans to local coordinates, filter or decimate the points, overlay raster images in 3D, snap to edges and code the descriptions for automated field-to finish processing of linework and symbols and create contours, profiles, sections, and breaklines with Point Cloud. And then all surface models, points, contours, breaklines, grid and profiles can be exported to CAD.

Carlson Civil Suite: The Ultimate Civil Package



Get Fair Price, Full 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!

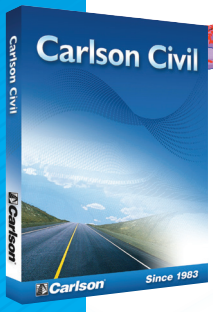
Fair Price **Full CAD** **Free Support**

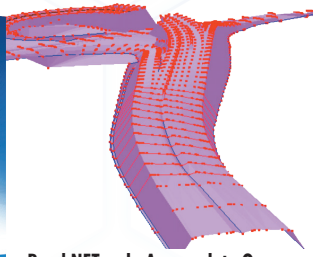
Carlson Civil: The 'Civil' Choice

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. Get 3D intersection design, multi-baseline road networks, lot layout, storm and utility analysis and design, plus much, much more.

Get Powerful Automation

What might take days with other civil software takes just hours, or even minutes, with the powerful, intuitive Carlson Civil:





Road NETwork: Approach to Overpass with Cloverleaf, Trapezoidal Ditch

Road NETwork. Build all roads, intersections and cul-de-sacs in 2D and 3D with a single click of the "PROCESS" button.

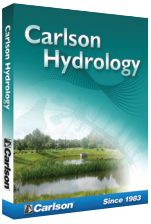
Site NETwork. Elevate your estimating accuracy with this intuitive layer-based surface generator for easy cut/fill and material quantities calculations.

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, plus the ability to view an aerial image draped onto a surface in both the Carlson 3D Viewer and Surface 3D Flyover.

Carlson Hydrology:

Complete Hydrologic & Hydraulic Solution

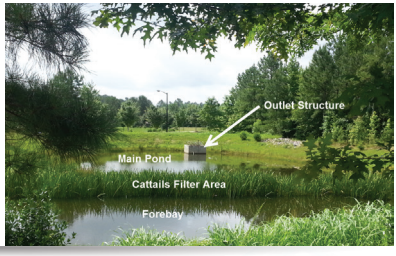


Comprehensive, yet easy-to-master, Carlson Hydrology provides the automation to meet your hydrology needs and all in the CAD environment of polylines, text, and layers. Full 3D road and lot design feed directly into flow calculations and drainage design.

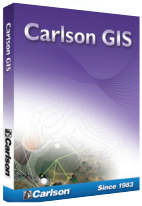
Top attributes include:

- Site Drainage—using either Rational or SCS Method
- Runoff Analysis to determine watershed area, time of concentration & peak flow rates
- Storm Drain System design & drafting
- Pond, culvert, channels, and outlet design & 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

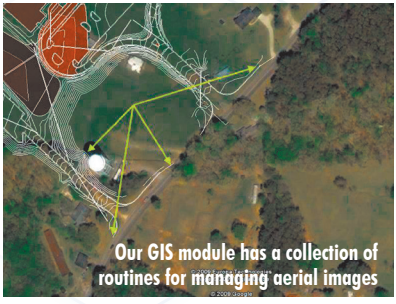


With tools for data capture and linking, data labeling, import/export of SHP files, polygon topology creation and analysis, and more, Carlson GIS is a true GIS "Swiss Army Knife" for the surveyor or engineer. The routines for managing aerial images enables users to improve the quality of the geographic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

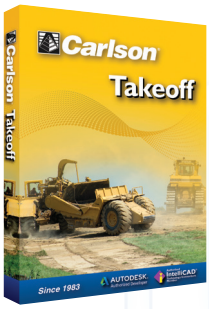
With Carlson GIS' powerful GIS automation, users can input, edit, label, inspect, and report GIS data to entities via simple tools, in addition to obtaining topographic and planimetric features from county databases.

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



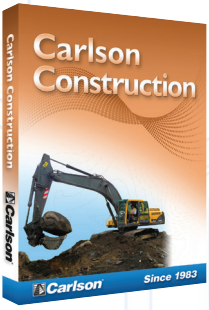
Carlson Takeoff is a cut/fill volumes and data prep (for layout or machine control) solution that can estimate jobs using paper plan digitizing, PDFs, or electronic CAD files. It is available in two configurations--Takeoff OEM (comes with AutoCAD® engine built-in) and the Takeoff Suite, comprised of 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 Data Prep, 3D Modeling & Mapping Needs



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

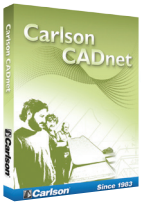
Core Abilities:

- 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. Includes powerful tools for designing and modeling different aspects of road design, from new construction to road widening and repaving. Plus, Carlson Construction can create surfaces from points and contours and easily move lines from the "wrong" elevation and slope to the correct elevation and slope.

Carlson CADnet

Create CAD from Non-CAD/Bring BIM into CAD & Carlson into BIM



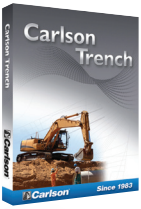
Carlson CADnet allows users to create CAD from non-CAD documents such as PDFs, raster images, and paper plans. CAD text can also be generated from raster images with CADnet's built-in Optical Character Recognition (OCR).

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

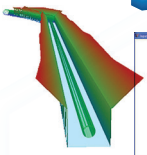
CADnet gives users the ability to import BIM models (doors, windows, walls, roofs, etc.) and bring them into CAD as CAD entities; plus, CADnet includes a routine to export surfaces into BIM.

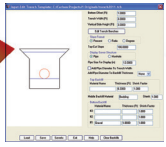
Carlson Trench

Software to Optimize Design & Minimize Cut



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.



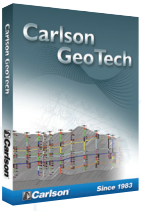


Core capabilities in Carlson Trench include:

- Calculates trench excavation and backfill quantities
- Creates trench network of structures and pipe lines
- 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.

Carlson GeoTech

Get Accurate Drillhole Data for Optimal Subsurface Analysis



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.

Additional Capabilities:

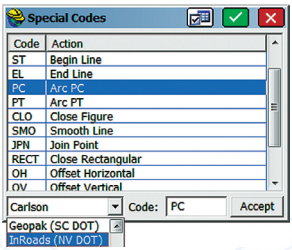
- Input and edit drillhole log data with strata elevation, depth and attribute data
- Label drillholes
- Draw Geologic Columns, Fence Diagrams and Isopach Maps for strata thickness, elevation or attributes
- Draw Strata Surfaces
- Draw Strata Depth Contours and Cut Color Maps
- Annotate plan view drillhole location maps

Carlson SurvCE

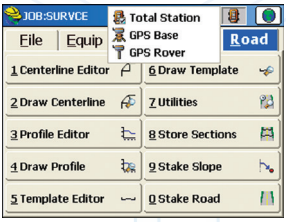
Work With The First Choice In Data Collection Software

Carlson SurvCE's powerful features help you do more, do it accurately & in less time:

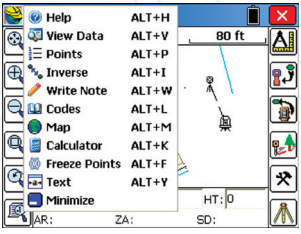
- **Powerful Roading:** favored by U.S. DOTs and heavy highway contractors around the world
- **Advanced functionality** for staking intersections and cul-de-sacs using Carlson Road Network Files
- **Highly graphical and intuitive** user interface – the software prompts you so no detail is missed
- **Strong GIS features** for accurate data capture, including attribute data, that allows seamless links to Esri®
- **True versatility:** SurvCE runs 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



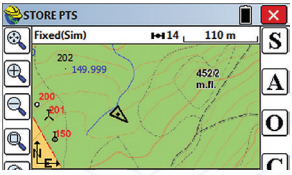
Feature Coding – Add numerous coding styles & functions



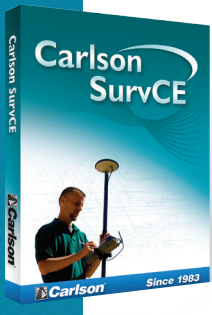
Tab-Based MENU Structure – All commands are visible in each menu



Hot List lets users jump to routines



Load Esri Maps, Input- Edit GIS Attributes, in SurvCE



Take Your Choice

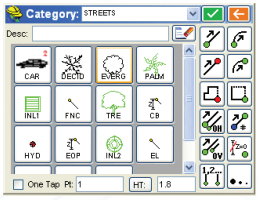
Get the world's most flexible & powerful data collection software:

- **SurvCE for handheld data collectors**
- **SurvPC for rugged PCs**

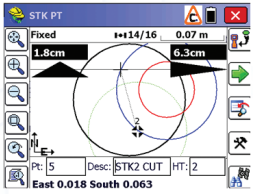
Carlson SurvCE

TOP 10 features in SurvCE5

1. **"One Touch" points feature selection.**



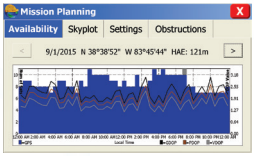
2. **Graphical Stakeout Interface** based on motion. Two-step stakeout procedure for navigation and proximity provide a new and original stakeout method that increases productivity and ease-of-use. The new guidance symbols combine well with the e-bubble and other sensor icons to provide intuitive real time information that takes the operator to the point quickly and accurately.



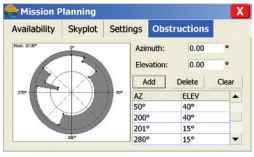
3. **Easy-select target feature.** Allows user to preconfigure rod heights and targets and switch between them intuitively and easily from all live survey screens.

4. **New GNSS mission planning** feature computes satellite availability, this includes:

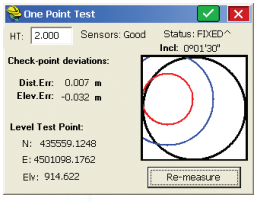
   a. Graphics for number of satellites and DOP curves



   b. User defined list for obstructions masking.



5. **SurvCE LDL (Live Digital Leveling)** Full management for IMU sensors in GNSS units. New features perform accurate and reliable measurements by reducing and compensating for errors due to vertical positioning of the pole.

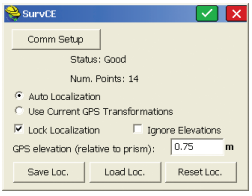


6. **New GNSS antenna library.** Fully compatible with NGS-NOAA catalog and now supporting all NGS Absolute and Relative Antennas calibration.

7. **Improved memory management** to allow bigger user files (dxf-dwg, tin, geoids…).

8. **Edit Centerline** now has the ability to add curves and spirals by fitting the existing Pls.

9. **GPS-Search Improvements for motorized Total Stations**--search is quicker and more effective. Provides new distance setting from prism to GPS for better matching and a new more handy icon to perform the search.



10. **Extended Point-List** format to allow longer points IDs and descriptions with its new binary format that expands the point information.

Carlson SurvPC

First-Ever Cross-Platform Field Solution

Get all the functionality of SurvCE (and more) on a full Windows® PC with Carlson SurvPC. This means:

- Increased hardware capability
- Increased virtual memory, which equals increased ability to work with large sets of data
- Increased screen size & more convenient touch screen usage

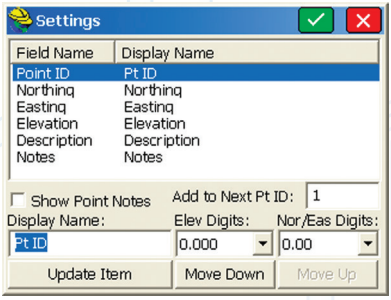
SurvPC advantages include:

- Bigger screen display
- Bigger buttons (on touchscreen computers)
- More graphic power
- More processing power
- Full Windows PC compatibility
- File formats same as Carlson Office software (.fld vs. .fcl files for field-to-finish)
- Compatible symbol libraries
- Ability to import Microstation .dgn files
- Import and export AutoCAD .dwg files
- Aerial photo overlays
- Output to Excel

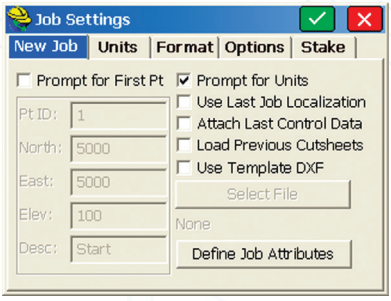
All New! SurvPC provides 1st Cross-Platform Field Solution

Get the ability to work natively in Esri®, .dgn® & .dwg with no conversion & take your maps to the field no matter what the source

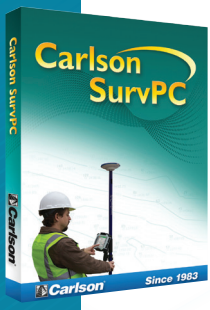
- Intuitively use Esri Maps to perform all survey functions with no downtime learning new software
- If ArcMap10, ArcView or equivalent reside on the same PC, SurvPC 'finds' the Esri engine and reads and writes Esri MXD files automatically, or
- SurvPC can be purchased with the Esri OEM engine built inside
- Stake out, identify or draw to any existing feature by conventional 'snap' selection in Esri, .dgn or .dwg
- Create new points in Esri, .dgn or .dwg with symbols and formats native to the map
- Use SurvPC to recognize .dgn drawing 'levels' and cell structure of entities; new points created are stored graphically in the pre-defined cell format and new linework also writes directly to the .dgn file



Advanced point ID controls



Job Settings – Customize layers, colors, cutsheets, datums, units, descriptions and much more



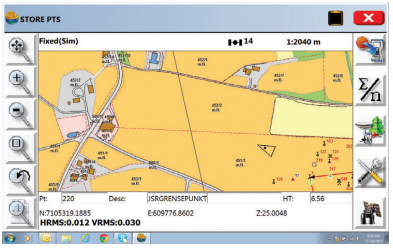
Closing the gap

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.

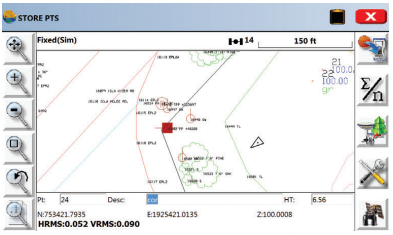
Total freedom in hardware choice

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.



SurvPC functioning in an Esri Map Document



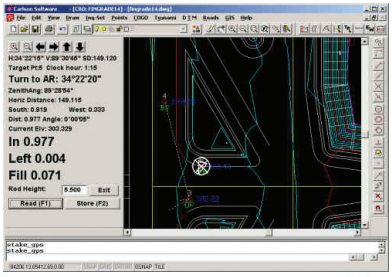
Load DGN files directly - "snap" to lines and points to stakeout DOT projects

Carlson Field

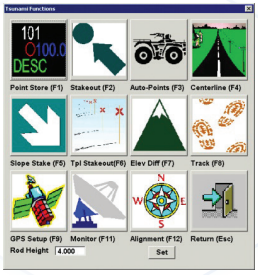
Full Data Collection Inside CAD

Carlson Field enables real-time surveying in CAD on small, ruggedized PC/laptop computers. Users can see what they are collecting, zoom in and out, or pan over, plus accomplish any basic COGO operation and also any high-level CAD operation. Also possible to stakeout building corners, lot corners or any CAD feature by "snapping" to the CAD entity—without creating point numbers.

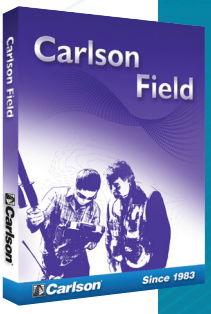
- **Plot all field** data collected in the .dwg/.dxf format
- Plot points, add text, check contours, **all in the field**
- **Use digital photos** when collecting data
- **Collect feature attributes** into the GIS database
- **Work with depth sounders and laser range finders** in addition to GPS receivers and both conventional and robotic total stations.



GPS Stakeout mode.



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



Surveyor2

MINI2

The world's most reliable data collector is now even better!

Powered with Carlson 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

LARGER, BRIGHTER DISPLAY SCREEN
Higher resolution, easier to read colour display with scratch-resistant glass

EVEN MORE RUGGED
IP68 water & dustproof; shock resistant

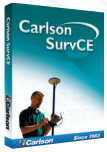
EASIER TO USE
Still under 1kg and now with a QWERTY keyboard for faster data entry

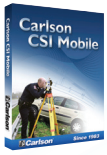
MORE OPTIONS
- Integrated camera
- 3G modem
- GNSS receiver

Carlson 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
- 3.6"w x 7.25"h x 1.5" deep
- Weighs just 1.3 lbs
- 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





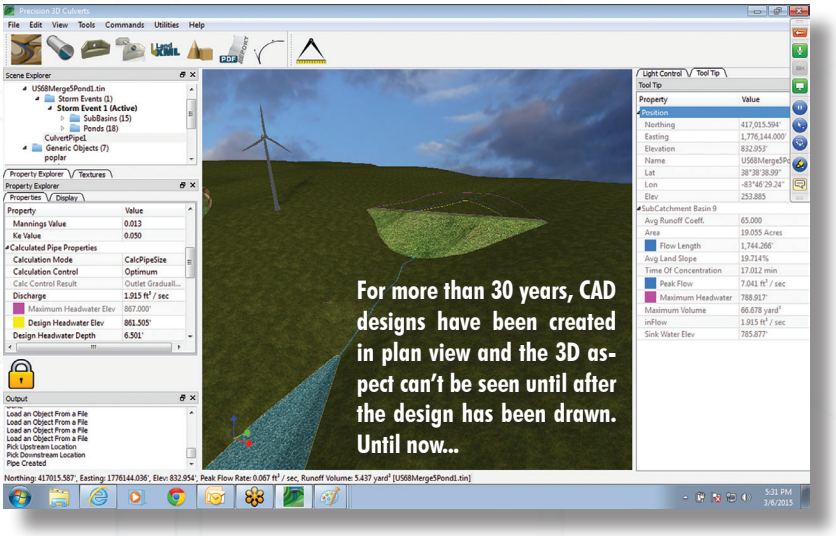
The **Carlson MINI2** comes with either **Carlson SurvCE**, the world's most popular data collection software… or, for accident and crime reconstruction, **Carlson CSI Mobile**.

Remarkably easy-to-use topo editing platform

Utilize the Newest Technology for Dynamic Design

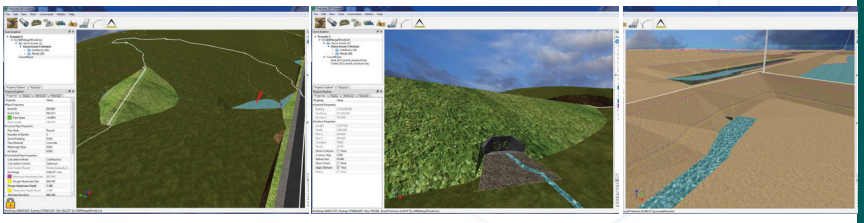
Carlson Precision 3D is much more than just a visualization tool. Engineers get instant and precise feedback — complete with accurate points and coordinates — to their drag-and-drop changes to the on-screen design:

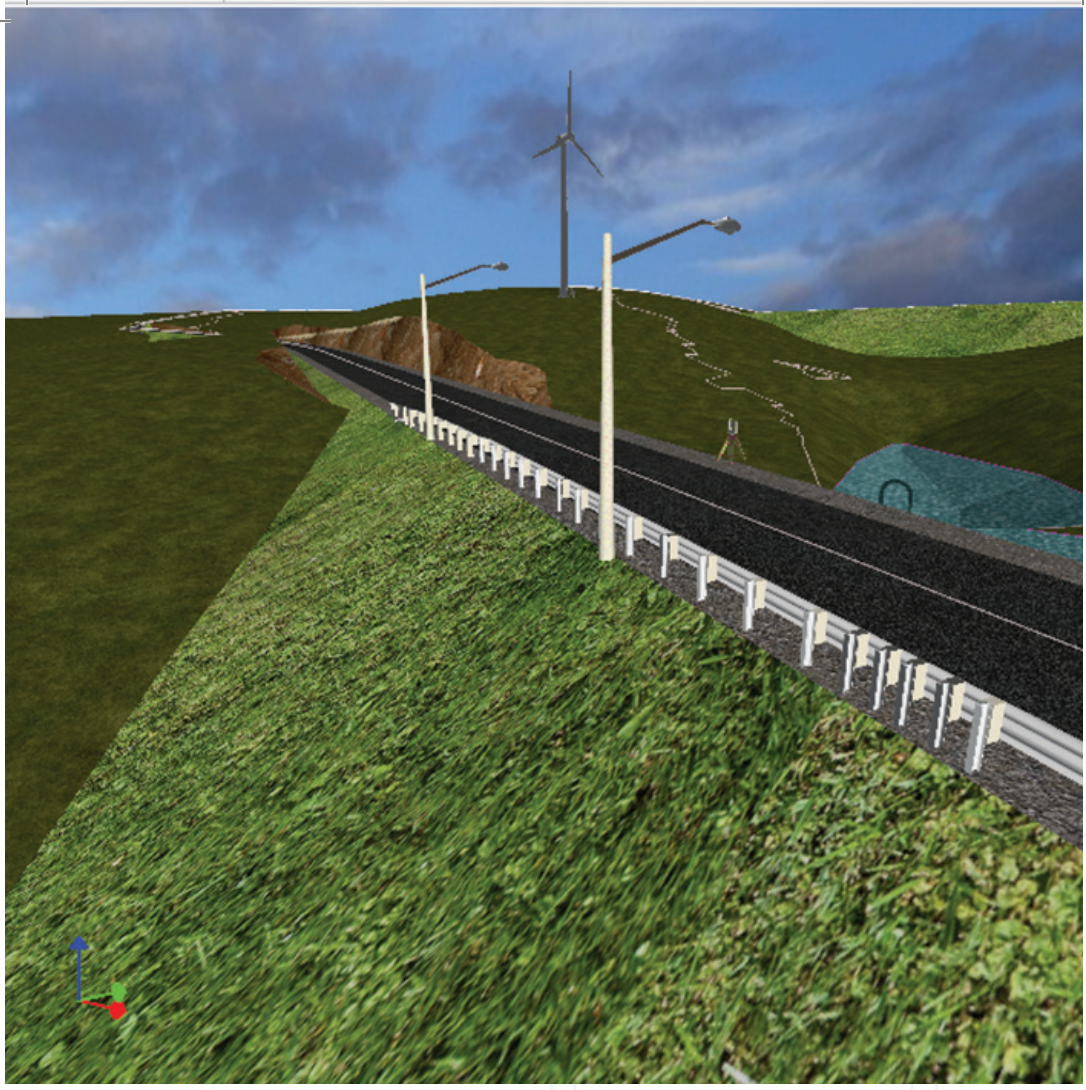
- Design & Edit Topo Models in 3D
- Drag & Drop with Precision
- Create Deliverables



Add the Culverts module to Precision 3D for additional functionality, including the abilities to:

- Analyze storm events using SCS and rational methods
- Create and automatically size pipes with just 3 clicks
- Dynamically visualize pond volumes as you edit pipes
- Add headwalls and properly entrench them in the ground
- Edit pipes after they've been placed
- Insert and animate 3D objects





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