

Machine Control Systems



- Dozers
- Motor Graders
- Excavators
- Scrapers
- Compactors
- Asphalt Pavers
- Concrete Pavers
- Trimmers
- Curb and Gutter
- Wheel Loaders

3D-MC Machine Control Systems

3D-MC INDICATE SYSTEM

The Topcon 3D-MC indicate system is a low cost indicate-only system ideal for bulk earthmoving machines such as dozers. The GX-30 or GX-60 color touch-screen control box displays where the machine is on the job site and provides constant cut/fill information. Experience the productivity of GNSS machine control at a much lower initial investment with the Topcon 3D-MC indicate system.

Now your bulk earthmoving equipment can take advantage of GNSS technology to dramatically increase your rough grading productivity. Utilizing the 3D-MC indicate system on your dozers will insure you move the right amount of material the first time.



Features

- Color-coded cut/fill indicator provides instant grade information
- On-grade dead band and scale adjusts to match job tolerances
- Remote, color-selectable light bars for grade indication
- Multiple job views: plan, profile, cross sections

Benefits

- Increase productivity significantly
- Low initial investment - easy upgrade path to fully automatic GNSS system
- Easy-to-use software for all your operators
- Less re-work: material is moved only once
- Reduce staking on the job site



i-33 DOZER INDICATE SYSTEM



Configure the i-33 system with a single GNSS or dual GNSS antennas and install it on different machines that require elevation indication. Installation requires minimal welding on the machine, this makes the i-33 easy to switch between a dozer, scraper, or motor grader.

Finally, an indicate system that allows multiple elevations, slopes and complex designs to be cut continuously – without resetting the machine, laser or waiting for a surveyor to place elevation stakes on site. With Topcon's i-33 system the operator can create multiple elevation/slope designs right in the cab or use 3D models created for your job site. No hassles or waiting – start cutting or digging to the correct elevation. Now you can cut to grade fast and accurate, eliminating re-work the first time you go out.

3D-MC²

TWICE THE SPEED, TWICE THE ACCURACY

Operate at higher speeds with smoother results

From its inception, 3D GNSS technology from Topcon has dramatically increased dozer and motor grader productivity due to its accuracy, maximum up-time, and the ability to allow multiple machines to work from a single base station. Now 3D-MC² takes 3D machine control to a whole new level making your dozer a high-speed finishing tool. Using the familiar Topcon operator interface, 3D-MC² is an easy step up to double your productivity.

3D-MC² will greatly expand the role your dozer plays on a typical job site. Move faster, get to grade in fewer passes, with greater accuracy than any other system. Less machine operating time translates into less fuel and less wear on your equipment.

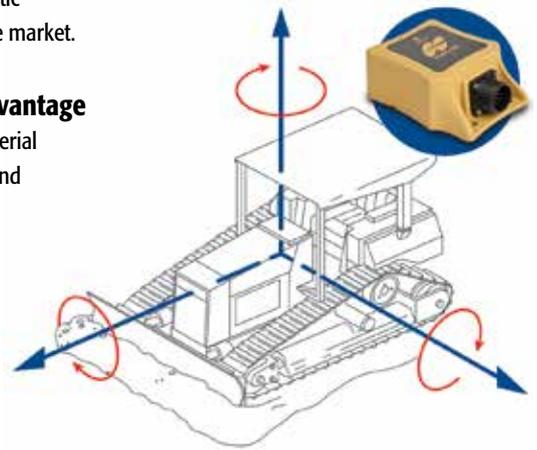


How it works

3D-MC² combines the Topcon GX-60 control box, GNSS antenna, MC-R3 receiver and a revolutionary inertial sensor and pairs them with an advanced control software to provide an overall system 10 times more responsive than previous 3D machine control systems. This configuration measures movement and rotation in all directions to provide the most stable and responsive automatic control system available in the market.

The Topcon 3D-MC² advantage

Now you can move more material at higher speeds, accuracies and with fewer machines. That's the Topcon advantage.



WHAT IS STAKELESS GRADING?



Placing and replacing stakes has been a necessary headache in construction until now. GNSS machine control combines two fantastic technologies, satellite positioning and digital 3D models, so that your machine operators can see themselves moving on the site plan in real-time, with cut/fill information constantly displayed. Giving them much more information faster than stakes can. Now, one grade checker can work the whole site because the machines are independent. Everyone knows exactly where they are, and they have all the job information at their fingertips!

3D-MC Machine Control Systems

Millimeter GPS®

A NEW DIMENSION OF PRECISION AND PRODUCTIVITY

Millimeter GPS with LazerZone® transforms GNSS into the perfect tool for fine tolerance work. With Millimeter GPS, gone are the days of lost productivity, using stringlines or running manually over hubs.

Millimeter GPS combines the advantages of a laser (multi-user and high vertical accuracy) with GNSS (multi-user and 3D) into one versatile and easy-to-use system.

Unlike other laser technology, the PZL-1A transmitter creates a 33 ft. high working zone that is 2000 ft. in diameter. Simply add the PZS-1A rover sensor to your existing GNSS system and watch your GNSS vertical accuracy improve to tolerances you never imagined before. Need more coverage? You can link up to four PZL-1A transmitters for four times the range both horizontally and vertically. Unlike using total stations, multiple 3D-MC machines and GNSS rovers run off one transmitter... there is no limit.



Features

- Unique technology combines advantages of laser and GNSS
- Large working range: up to 8,000 ft. horizontal and 132 ft. vertical
- Simply add on to existing Topcon 3D-MC systems
- Control multiple machines and rovers at the same time
- User friendly

Use on

- Motor Graders, Dozers, Asphalt Pavers, Concrete Pavers, Curb and Gutter, and Trimmers

Benefits

- Increased productivity – fewer passes needed to finish grade
- Grade to tighter tolerances and eliminate high-cost material overruns
- Finish grade 24/7 even with minimal satellite coverage



Millimeter GPS® PAVING



Free your paving from the confines of stringlines and other linear references and move production to the fast lane. Millimeter GPS paving brings the flexibility of GNSS to paving and provides fine accuracy for your job site.

The Topcon Millimeter GPS paver system is the world's first GNSS based control system for pavers. The revolutionary LazerZone® technology based, Millimeter GPS, uses GNSS positioning together with a zone laser reference to give you unparalleled freedom and productivity. 3D paver systems from Topcon provide the flexibility to mix-and-match sensors to meet the requirements of every job.

X-33 / X-63 / X-63i

GNSS MACHINE CONTROL FOR EXCAVATORS

Whether working in deep cuts, underwater or on steep slopes, the Topcon excavator systems will eliminate over-excavation and costly material overruns, while speeding up production times.

Excavating has never been easier or faster. The X-33 / X-63 / X-63i systems use 360° tilt sensors to indicate the position of the bucket and state of the art GNSS technology to provide precise position information. The bright, color, touch-screen control box displays bucket position in real time, providing the operator complete control. Select a variety of screen views from plan, profile, cross section or our popular cut/fill “measure tape” indicator. The excavator systems eliminate the need for a grade checker to constantly monitor cuts, increasing both safety and productivity.



Features

- Touch-screen control box displays real time bucket position
- Color coded Cut/Fill indicators for quick grade reference
- All systems can work in 3D and 2D mode – use in all job site applications
- Unlimited bucket pre-sets
- Constant visibility of bucket orientation

Benefits

- Eliminate over excavation and costly material overruns
- Dramatically increase productivity
- Improve crew safety
- Components compatible with your other 3D-MC Topcon systems
- Underwater and blind cuts no longer a problem

Use on

- Excavators and Wheel Loaders



X-33 - EXCAVATOR INDICATE SYSTEM



The Topcon X-33 system consists of two GNSS antennas, four TS-i3 tilt sensors, the MC-i3 GNSS receiver and the GX-30 color, touch screen control box. The GX-30 allows the operator to “see” the exact position of the machine on site and the bucket position at all times. When detailed information is required you can select to visualize plan, profile or sectional view and use the dual grade indicators for elevation control.

3D-MC Machine Control Systems

LPS

ROBOTIC BASED LOCAL POSITIONING GRADE AUTOMATION

GNSS and Millimeter GPS® systems work extremely well when machines are able to track GNSS satellite signals, but what happens when the job site does not have visibility to open sky? Working between buildings or in heavy tree coverage, the Topcon LPS (Local Positioning System) is the ideal system for guiding your machines.

Based on the popular PS robotic total station platform, the LPS offers high accuracy position control over your entire site. The robotic total stations utilize patented X-TRAC technology to track machines. Machine and blade position are updated 20 times per second to meet the tightest job site specs.

Switching existing GNSS systems to LPS is simple, put up the total station on a control point, place a 360° prism on the vibration pole, add a radio in the cab and you're ready to go. The robotic total station locates the 360° prism and sends the X, Y, Z position of the cutting edge to the machine via radio link. Obstructions to the sky no longer hinder your work or slow you down. Whatever the conditions are at the job, LPS can help you get it done fast and accurate.

Features

- Topcon X-TRAC prism tracking technology
- Long-range 2.4GHz interference free radio communications
- GX-60 control box runs LPS, GNSS and all 3D controls
- Visual graphic on display for acquiring lost beam

Benefits

- Insures all your job sites have 3D control 24/7
- High accuracy for tight tolerance projects
- Simple and fast conversion between LPS and GNSS
- Same robotic total station used as layout/grade checking tool

Use on

- Dozers, Motor Graders and Pavers



TOPCON TIERRA™



Tierra™ is a tool for gathering remote machine location, operating hours and machine information. The Tierra solution allows managers to make more informed decisions, and eliminates slow, inaccurate, and labor intensive data gathering regimens. Tierra goes well beyond gathering large amounts of raw machine data. Tierra sifts through all that data and provides immediate alerts and useful reports, which allow managers to focus on the things that are actionable, with minimal effort required to uncover those important pieces of information. Tierra is designed to alert you when situations are less than ideal, allowing you to take immediate steps to improve the situation.

Software

CONSTRUCTION SOFTWARE SOLUTIONS

MAGNET™

MAGNET Enterprise is a web browser environment that runs with individual windows, or widgets, which allow complete configuration of how you like to work, so that you have what you need, where and when you need it. All it takes is a web browser to communicate, collaborate, and exchange data.

MAGNET Field Site is data collection software for construction measurement and layout activities.

MAGNET Office Site is the best software solution for contractors when combined with construction hardware sales, providing a complete solution of job site measurement and design functionality that is guaranteed to increase productivity. The compatibility with MAGNET Enterprise and cloud exchange places MAGNET Office Site above the competition, while at an aggressively lower price than the competition.



POCKET 3D

Combine GNSS and Pocket 3D software from Topcon to arm your crew with the perfect tool to take control of all your construction job sites. Pocket 3D will literally change the way you manage your sites. With this solution, one grade checker can verify grade information of multiple machines over the entire job site, even transfer job files directly from rover to machine. If you choose to place stakes, you'll save valuable time and money doing it yourself.

With Pocket 3D grade management system, you can quickly verify bid quantities before any dirt is moved, measure stockpile volumes, or check job site progress to stay on schedule. Mount a Topcon GNSS Pocket 3D system on a pickup or 4 wheeler and drive around the site to easily create topo surfaces. Pocket 3D compares the topo surface to the finished design, or previous file, to give you instant cut/fill volumes.

From initial localization to final as-built, Pocket 3D grade management improves your workflow. Regardless the size of the project, Pocket 3D will make you more competitive by finishing jobs faster and more efficiently.



NETWORK READY



Most users rely on their own base stations for the necessary correction signal that makes GNSS so amazingly accurate. With networks spreading rapidly, you can dial in through your built-in cell modem, and spare the expense of purchasing and maintaining your own base station. Topcon machine control systems are designed to run from either base stations or network signals, so you have the freedom of choice.

SITELINK3D



Connect your world

Sitelink3D is the complete site communication system providing data control, machine tracking and a reporting system in one solution.

Manage all your job sites wherever you are

See all your equipment on all your job sites in real time. Stay connected from your laptop, office desktop or even with your mobile devices.

Sitelink3D Enterprise

Sitelink3D Enterprise is a module for planning, schedules, setting up tasks for machines and get reports—all in real-time. It is accessed through the standard Sitelink3D.net web portal, a powerful and intuitive interface between your job sites and offices.

Before a project starts you can setup a complete plan and schedule for the different production phases. Assign a task area, machines, specify production and quantity data, and add dependencies. Sitelink3D Enterprise creates Gantt charts for quick and easy review of your job site.

Assign more machines, dependencies, required survey time, and more for every task on the project. Earthmoving machines and field crews equipped with Topcon 3D-MC machine control or survey equipment can automatically receive their assigned tasks, speeding up workflow and eliminating possible data errors.

Topcon TotalCare

This online resource comes with real live people ready to help. Get expert training from Topcon University's large collection of online materials, and expert help directly from Topcon Technical Support.

Access software and firmware updates, current publications, and guidance from the experts at Topcon all right from your computer or mobile device.

Please visit the TotalCare website to learn more. topcontotalcare.com



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