3D-MC
AUTOMATIC Stakeless Grading
In the past machine control was mainly used for finish grading. The largest phase of a project, rough grading, required stakes and lath to be placed over the entire jobsite to show the operator where to cut and fill the dirt to get to grade. With Topcon’s 3Di GPS+ these stakes are a thing of the past. The GX-60 color touch screen control box displays where the machine is on the jobsite and cut or fill distance to grade. Best of all the operator gets this information anywhere on the site, not just at the stakes. Want to make sure the project starts on time, Topcon’s 3Di, indicate GPS+ system can even be used for marking clearing limits, saving days waiting for a survey crew to make it to your jobsite.

3Di is a low cost indicate only system ideal for bulk moving earthwork machines such as dozers, pull or self loading scrapers and compactors. Instead of traditional load counts or guessing at grades, with 3Di you have control over all your export and import jobs insuring you move the material to the right place the first time.

**Features**

- Real time cut/fill color map reduces push/haul lengths
- Simple, color coded “scrolling tape” cut/fill tape provides instant grade info
- Adjustable green on-grade dead band and scale factors to match job tolerances
- Remote color selectable light bars for grade indication
- Multiple job views: plan, profile, cross sections

**Benefits**

- Increase dirt moving productivity by 30-50% or more
- Low initial investment—easy upgrade path to fully automatic GPS+ system.
- Easy to use software for all your operators
- Less rework, material is moved only once
- Reduce staking on a jobsite by 50-90%

**For use on:**

- Self Loading and Pull Scrapers, Large Bulldozers, Compactors
It’s time to experience GPS+ grade control on an excavator. Whether working in deep cuts, under water or on steep slopes, the X63 system will eliminate over-excavation and costly material overruns. The GX-60 displays machine position in real time providing the operator complete control of the bucket at all times. Operators can select a variety of screen selections from plan, profile, cross section or our popular cut/fill “scrolling tape” indicator. And it gets better. The X63 system significantly reduces the need for a grade checker to constantly monitor cuts, which increases crew efficiency.

Grading and excavating have never been easier or faster. The X63 uses 360° tilt sensors to measure the angles between the bucket, stick, boom and cab and our state of the art GPS+ technology to provide precise position information to the operator. Additional tilt sensors can be added for second booms or tilt buckets. Our GX-60 touch sensitive control box uses a bright color display to show the operator how to get and keep the bucket on grade.

The X63 can even keep your excavator productive when waiting for a 3D model or a change order to an existing one. Complex designs can be manually entered directly in the GX-60 control box to allow complete flexibility in the field. Need to excavate utilities or footings, simply connect the LS-B10W laser receiver and set up one of your existing lasers and you now have a constant benchmark anywhere you move on the site!

### Features
- GX-60 touch sensitive control box displays real time bucket position
- Color coded Cut/Fill indicators for quick grade reference
- Operator selectable screen views: plan, profile, cross section and grade indicators
- X63 works in 3D and 2D mode – use in all jobsite applications
- Store up to six different buckets

### Benefits
- Eliminate over excavation and costly material overruns
- Dramatically increase productivity-operator in control
- Improve crew efficiency
- Components compatible with other grading equipment
- Underwater & blind excavation no longer a problem

### For use on:
- Excavators
Since Topcon introduced the World’s First fully automatic 3D-GPS+ machine control system, grading has changed forever. For road building, site work, golf courses, or any other complex surface grading requirements, Topcon’s 3D-GPS+ will put more money to your bottom line – where it counts. With the reality of nearly eliminating grade stakes, providing unmatched material control capability, and the simplest user interface in the industry, you are sure to integrate Topcon 3D technology successfully into your business.

By utilizing all of the GPS constellations in the sky, you will experience the most uptime in production, with accuracy second to none. And in addition to GPS+ operation, the Topcon system allows the greatest versatility of any system on the market – GPS+, sonic, slope or laser. You choose the sensor and the best combination to get the job done.

To top things off, we make sure the investment you make today will work for you in the future. Topcon’s building block design allows you to add new sensors or technologies to your system such as mmGPS and Networks as they become available without having to buy a whole new system.

It’s time to simplify grading and increase profits. It’s time for Topcon 3D-GPS+.

Features

• Rugged GX-60 control box displays blade position and distance to design
• Real-time cut/fill mapping—move material only once
• Multiple job views: plan, profile, cross sections
• Works with single base station and GPS network (GSM, GPRS, and CDMA)
• Backwards compatible with existing Topcon MC systems

Benefits

• Increase grading productivity by 30-60% or more
• Reduce staking on jobsite by up to 90%
• Control materials to your advantage
• Complete projects on time or ahead of schedule
• Complex surfaces are easy to grade

For use on:

• Bulldozers, Motor Graders, Pull Scrapers, Compactors, Trenchers, Box blades
AUTOMATIC GRADE CONTROL SYSTEM
A NEW DIMENSION OF PRECISION AND PRODUCTIVITY

In the past GPS was great for rough grading, but when it came time to finish you had to turn off your GPS controlled machine and manually run off hubs or set string line. Or you might set up an expensive total station to control only one machine at a time. With Millimeter GPS+™ those days of lost productivity and lower profits are gone.

Millimeter GPS+ combines the advantages of laser (multi-user & high accuracy), GPS (multi-user & long range) and robots (high accuracy & elevation change) into one versatile and easy to use system. The patented technology improves grading accuracy up to 300% over existing 3D-GPS machine systems.

Unlike other laser technology on the market today, the PZL-1 transmitter sends out a wall of light 34’ tall and up to 2000’ in diameter. Simply place the PZS-MC machine control sensor or PZS-1 rover sensor within the “LazerZone” wall of light and watch your GPS positional accuracy shrink down to numbers you never imagined before. Working on a bigger job and need more coverage, you can link up to four PZL-1 transmitters for a total of 8000’ horizontally or 146’ vertically. To improve your productivity even more, you can run multiple machines and grade checking systems off one transmitter, there is no limit!

Whether you are ready for high accuracy GPS+ today or need it for an upcoming job in the future all Topcon 3D-GPS+ machine control systems are mmGPS compatible.

Features
• Patented technology combines advantages of laser and GPS
• Large working range: up to 8000’ horizontal & 136’ vertical
• Works with existing Topcon GPS+ systems
• Control multiple machines and rovers at the same time
• Crews comfortable with laser technology

Benefits
• Up to 300% more accurate than standard GPS
• Increased productivity - fewer passes needed to reach finish grade
• Lower investment – one system works for rough & finish grade
• Grade to tighter tolerances and eliminate high cost material overruns
• Finish grade 24/7 even with low GPS accuracy

For use on:
• Motor graders, Bulldozers, Milling machines, Profilers and Asphalt pavers
GPS+ and MMGPS+ systems work extremely well when machines are capable of receiving GPS satellite signals, but what happens when the jobsite does not have visibility to open sky? Working inside of a building or in heavy tree coverage can limit the performance of a 3D-GPS control machine. In these situations Topcon’s LPS-900 (Local Positioning System) is the ideal system for guiding your machines.

Based on our popular 900/9000 robotic total station platform, the LPS-900 offers high accuracy position control over your entire site. Topcon’s new robotic total stations utilize the patented XTrak technology to track machines at speeds up to 35 MPH. Machine and blade position is updated 20 times per second, providing the amount of corrections needed to meet the tightest jobsite specs. The update rate combined with the accuracy of the robotic total station makes difficult and complex sites easy to grade.

Configuring dozers and graders to LPS-900 is simple. Place a 360° prism on the vibration pole and a RS-2 radio in the cab and you’re ready to go to work. The robotic total station locates the 360° prism and sends the X, Y, Z position of the cutting edge to the machine. The current position is compared to the design surface in the rugged GX-60 computer and the machine automatically adjusts to the correct grade. Obstructions to the sky no longer hinder your work or slow you down. Whatever the conditions are at the job, Topcon LPS-900 can help you get it done fast and accurately.

**Features**
- Topcon Xtrak prism tracking technology
- 20Hz update rate
- Long range 2.4Ghz interference free radio communications
- GX-60 control box runs LPS, GPS and all 3D controls
- Visual graphic on display for acquiring lost beam

**Benefits**
- Insures all your jobsites have 3D control 24/7
- High accuracy for tight tolerance projects
- Simple & fast conversion between LPS and GPS
- Same robot used with Pocket 3D as layout/grade checking tool
- Manual user input for model changes in the field

**For use on:**
- Bulldozers and Motor Graders
Pocket 3D

CONSTRUCTION GPS GRADE CHECKING & STAKE SYSTEM

Combine Topcon’s GPS+ and Pocket 3D software to arm your crew with the perfect tool to take better control of all your construction jobsites. Pocket 3D will literally change the way you check grade, stake, and excavate your projects. With this system, one grade checker can provide grade information to multiple machines over the entire jobsite. And forget about waiting for the surveyor to come to the jobsite to replace lost or knocked down stakes, you save valuable time and money doing it on your own. Pocket 3D can stake out points, layout pads, lot corners, road stakes, and daylight lines.

With Topcon’s Grade Management System you can quickly verify bid quantities before any dirt is moved, measure stock pile volumes, or check job progress to keep you on schedule. Mount a Topcon GPS+ Pocket 3D system on a pickup or 4 wheeler and drive the site to easily create As-Built surfaces. Pocket 3D compares the topoed surface to the finish design or previous file to give you instant cut & fill volumes. And say goodbye to manual tie-outs, because relocating manholes or water valves is a breeze.

Pocket 3D is a low cost, yet powerful way to get your company started with GPS+ technology and will help your grading crews quickly adapt when adding GPS+ to your equipment. Whether your projects are big or small, sitework or highways, Pocket 3D will make you more competitive by finishing jobs faster and more efficiently.

Features
• Industry’s easiest user interface
• Same file format for Pocket 3D and 3D Machines
• Stakeout pads, roads/curbs, top and toe of slopes & daylight lines,
• Topo surfaces and calculate quantities
• Compatible with all Topcon GPS+ and Robotic Systems

Benefits
• Real time cut/fill info anywhere, not just at stakes
• Reduce survey costs by setting stakes/checking grade in-house
• Bid verification-estimate more accurately
• Rough stake a project for scrapers and dozers –start jobs faster
• Calculate quantities of dirt moved – get paid for work completed

For use on:
• Topcon GPS and Robotic measurement systems
The world’s most recognized manufacturers count on Topcon every day. You can too…

Topcon has provided integrated solutions for over a decade, longer than any other positioning equipment manufacturer. In fact, we supply more equipment manufacturers with positioning control solutions than anyone else. That’s because we understand the job site of today and are already preparing new technology for the integrated job site of the future. Real time information sharing, machine metrics, and asset management are all part of the Topcon job site of today and for tomorrow. Productivity, efficiency, and more to your bottom line is where Topcon products add value for your operation.