



# GPS Automated Control



## *Operators Manual*

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# F oreword

TOPCON Positioning Systems, Inc.<sup>™</sup> produces productivity enhancement tools engineered and manufactured by professionals from the agricultural and construction industries. GPS Automated Control represents the latest state of the art technology for controlling earth moving equipment.

This manual has been developed to provide the operator with information necessary to setup and operate the GPS Automated Control System installed on a variety of machines.

Please study this manual carefully. The benefits this product provides can be greatly influenced by your applications knowledge.

All information, illustrations, and applications contained herein are based on the latest available information at the time of publication. TOPCON Positioning Systems, Inc.<sup>™</sup> reserves the right to make product changes at any time without notice.

Comments, suggestions and questions about TOPCON Laser Systems, Inc.<sup>™</sup> products are welcomed. Contact your local TOPCON Positioning Systems, Inc.<sup>™</sup> representative, or a representative at our corporate facility.

Topcon Positioning Systems, Inc.<sup>™</sup>  
5758 W. Positas Blvd.  
Pleasanton, CA 94588  
(925) 460-1300  
(925) 460-1315 FAX



# Warranty

## Topcon Limited Warranty

### Electronic and Mechanical Components

TOPCON warrants that the electronic components manufactured by TOPCON shall be free of defects in materials and workmanship for a period of one year from the date of installation. TOPCON warrants that all valves, hoses, cables and mechanical parts manufactured by TOPCON shall be free of defects in materials and workmanship for a period of 90 days from the date of installation.

### Return and Repair

During the respective warranty periods, any of the above items found defective may be shipped to TOPCON for repair. TOPCON will promptly repair the defective item at no charge, and ship it back to you. Calibration of components, labor and travel expenses incurred for infield removal and replacement of components are not covered under this warranty policy. Damage to components due to negligence, abuse or improper use is NOT covered under this warranty.

### Warranty Disclaimer

The above warranties are in lieu of all other warranties, whether expressed or implied, including all warranties or merchantability, or fitness for a particular purpose. In no event will Topcon Positioning Systems, Inc. or its Representative be liable for lost profits or other consequential damages arising from the purchase or use of TOPCON's System Five Control Box or any performance hereunder or any claims of negligence, even if TOPCON has been advised of the possibility of such damages.

Service assistance can be provided by contacting your local **TOPCON** dealer or by calling the **Corporate Service Center**.

Travel charges will be applied for any on-site service

# Safety Information

It is your responsibility to be completely familiar with the cautions described in this Operator's Manual. These messages advise against the use of specific methods or procedures which can result in personal injury, damage to the equipment, or unsafe operating conditions. Remember, most accidents are caused by failure to observe basic safety precautions.

## General Precautions

1. Read and become familiar with the Equipment manufacturer's operations manual, including safety information before installing or using Topcon Equipment
2. Working around heavy equipment can be dangerous. Always use extreme caution on the job site.
3. DO NOT attach any Topcon Components while the machine is running.
4. DO NOT allow any component of the Topcon system to limit the visibility of the operator.
5. Use Ty-Wraps supplied with the system to keep hoses and wires secured and away from possible wear or pinch points.
6. Use eye protection when welding, cutting or grinding is being done on the machine.

7. Hydraulic lines can be under extreme pressure even when the machine is turned off. When working on or near hydraulic lines protect yourself at all times and wear protective clothing.



#### WARNING

Relieve all pressure in the hydraulic lines before disconnecting or removing any lines, fittings or related components. If injury does occur, seek medical assistance immediately.

8. When using laser control, avoid direct exposure to your eyes.
9. When welding, always use appropriate welding precautions and practices. After welding, all affected areas should be painted with a rust inhibitor.



#### NOTICE

*Disconnect all TOPCON system electrical cables prior to welding on the machine.*



#### WARNING

Do not weld near hydraulic lines or on any equipment when in operation.  
Do not weld to any roll over protection structures.

 NOTICE

*All mounting bracket welds must be secure to prevent the sensor equipment from vibrating excessively or from becoming detached at the weld during operation.*

 NOTICE

*Keep the Carrying Case dry at all times. DO NOT allow moisture to get inside the case. Moisture trapped in the case can adversely affect components.*

*If moisture does enter the Carrying Case, leave it open and allow it to thoroughly dry before storing any components.*

- 10.** To prevent vandalism or theft, do not leave the removable TOPCON components (Control Boxes, Lasers, GPS receivers, and cables) on the machine at night. Remove the components each evening and store appropriately in the Carrying Case.

 **SPECIAL NOTICE**

***For users in the United States regarding UHF or VHF radio modem links.***

*All users must obtain an FCC (Federal Communications Commission) license before operation of the GNSS RTK system.*

- *The Federal Communications Commission is at <http://www.fcc.gov/> . The rules are at [http://www.access.gpo.gov/nara/cfr/waisidx\\_00/47cfr90\\_00.html](http://www.access.gpo.gov/nara/cfr/waisidx_00/47cfr90_00.html)*

*There have been many problems in the past with RTK base radio modems interfering with voice users. The issue finally culminated with the FCC refusing to grant licenses until something was done to ensure that surveyors did not interfere with voice users. The solution was to stop using frequencies in the 469MHz range, to add an identifier to the broadcast message and other measures designed to minimize interference with voice users. The user and his employer are subject to fines of up to \$82,500, confiscation of surveying equipment and legal action, if the rules are ignored.*

*Topcon cannot obtain the license for the user. There are companies to assist with licensing. Two are listed below:*

- *Professional Licensing Consultants Inc.  
P.O. Box 1714  
Rockville, MD 20849-1714*
- *Atlas License Company and Data Services  
1725-A North Shadeland Avenue  
Indianapolis, IN 46219  
317-351-4865 Fax:317-351-4870 800-252-0529  
<http://www.alclds.com/>*