



# LONG-RANGE SCANNING, IMAGING AND ROBOTIC TOTAL STATION



**Topcon's NEW laser scanning alternative, from the World Leader in digital imaging...**

- A ROBOTIC INSTRUMENT AND MUCH MORE
- TWO DIGITAL CAMERAS – WIDE ANGLE AND 30X TELE-ZOOM
- LONG RANGE SCANNING
- INTELLIGENT SCAN FEATURE RECOGNITION
- FULLY ROBOTIC INTERNAL 2.4 GHz RADIO
- 6,500' (2,000M) REFLECTORLESS MEASUREMENT
- REMOTE IMAGE DISPLAY BY TOPSURV AND IMAGEMASTER™

Patents: 5440112, 5786593, 6693703, 6356344, 6473716, 6710885, 6734412, 6803593, 6957493, 6563574, 6859269, 7177016

**The power, accuracy, and speed of a Total Station with the auto-scanning capabilities of a Laser Scanner; Topcon's IS takes material management, as-built design, and structural/environmental monitoring out of the clouds and puts it at your fingertips...**

#### **A new way to scan**

Topcon's IS combines the best of two worlds, advanced imaging and high-accuracy surveying, incorporating real-time field imagery with spatial data. The IS's powerful functionality is controlled using Topcon's exclusive ImageMaster™ software that produces "photography with dimension", a revolutionary and cost effective alternative to laser scanning.

#### **Long Range Scanning**

Nobody can provide the combination of laser scanning and robotic surveying like Topcon with the IS. The world's longest reflectorless (6,500' (2,000m)) robotic instrument now can scan long ranges as well. Mining and monitoring applications can be accomplished with the IS.

#### **Remote Networking**

The IS has WLAN capability and can be controlled remotely via network or internet connection. Imagine sitting in the comfort of your office or vehicle and being able to scan, measure, control, and see what the IS is seeing.

#### **Touch Drive - Turn and select a point on screen**

Simply touch the screen image to drive the cross hairs where you want. For the highest degree of data accuracy, clarity of image is key. That's why Topcon incorporates telescopic zoom with a QVGA LCD. Using the telescope, pinpoint features to be measured or monitored precisely up to 6,500' (2,000m) away.

#### **Continuous Monitoring**

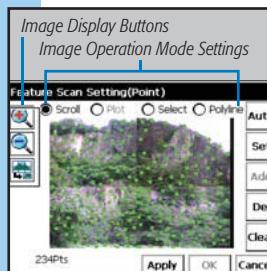
With a WiFi connection, image-based monitoring can be done continuously and remotely. Whether done with mounted prisms or reflectorlessly, this monitoring function complements the everyday use function of our robotic surveying. The IS features Bluetooth® and WiFi wireless technology making continuous monitoring easy.



Whether monitoring a mine, creating volume calculations, creating an area topo, structural/environmental monitoring, or even documenting as builts, Topcon's IS provides a value-priced alternative to laser scanning.



## **The new Topcon Imaging Station, the IS! The world's first long-range robotic scanning instrument.**



#### **Feature Scan**

- Feature Recognition
- On-board software automatically recognizes points that need to be measured
- Intelligent Scanning



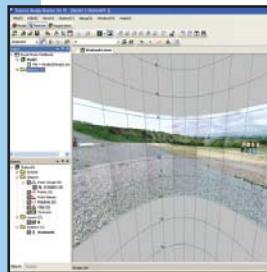
#### **6,500' (2,000m) Reflectorless EDM Technology**

- Most powerful reflectorless EDM available
- Long range power means unsurpassed short range performance
- Pinpoint accuracy with narrow, focused beam



#### **Integrated Radio System**

- 2.4 GHz Interference free Spread Spectrum Radio
- Integrated into side panel of the instrument
- Optional, snap-in radio module RS-1 for the FC-200



#### **Photo Fieldbook**

- A 360° panoramic image from any occupation point
- Document the jobsite with photographs referenced on the horizontal and vertical angle grid

#### **Field Controllers with built-in WiFi**

##### **FC-200**

- Integrated Bluetooth® wireless technology and WiFi
- 520 MHz Intel XScale® processor
- Optional snap-in RS-1 radio module
- Super-bright Windows color touch-screen

##### **FC-2200**

- Built-in Bluetooth® wireless technology and WiFi
- 624 MHz XScale® processor
- 128MB SDRAM, 2GB System Flash
- 5.17 megapixel color camera (4.0 megapixel processed)
- Alphanumeric keyboard, rugged design
- Optional slide-in RS-3 radio module



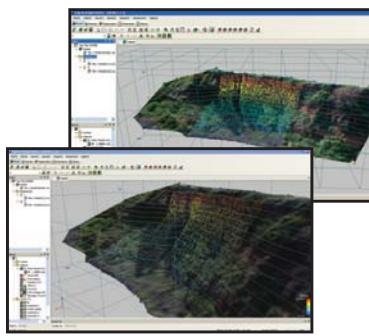
**Does more than a robotic instrument! Does more than a laser scanner!**  
**The Topcon IS combines the power of both a laser scanner and a robotic instrument**  
**into one superior long-range, imaging robotic system.**



**ImageMaster™ Software**

ImageMaster provides image and scan control of the IS through WiFi connection providing remote operation from the comfort of your vehicle or even an offsite location. Images are gathered using two digital cameras and stream video up to 10 fps.

- TIN
- Texture Mapping
- Volumes/Contours



**How it Works**

Topcon's IS features dual digital imaging CMOS cameras providing a color, real-time image on the touch sensitive LCD display. To define a scan area, simply tap the image display, or for uniform measurement of an area, select the grid feature. The IS "locks" these points to their exact position on the image, even when the instrument is rotated. Once all points to be measured are chosen, the IS performs a reflectorless measurement of each point.

**The IS and accessories fit into one case.**

Includes:

- Imaging Station
- Carrying Case
- (3) Batteries BT-65Q
- (2) Chargers BC-30
- Tribrach
- USB Cable
- On-board TopSURV
- ImageMaster IS
- CDs Support Material
- (2) Carrying Straps
- Sun and Rain Shields



## The Leader in Positioning Technology...

Topcon offers positioning products that deliver unparalleled site-wide performance and integration. Topcon's history of technological advances and our reputation for superior reliability means there's no other company positioned to provide you with a better "Total Positioning Solution."

From survey to inspection, Topcon dealers throughout the world provide innovative technology that gives surveyors, civil engineers, contractors, equipment owners, and operators the competitive edge by addressing such critical issues as increasing profits, quality craftsmanship, improving productivity, lowering operating costs, and enhancing jobsite safety.

Full positioning integration field-to-finish: That's the goal of Topcon. When it's time for you to step up to the next level, it's time to turn to Topcon.

## The Leader in Customer Satisfaction...

To ensure that your Topcon product maintains peak performance, your local Topcon dealer offers factory trained and certified service technicians. If service isn't available in your area, our factory offers a repair and return policy second to none.

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Specifications subject to change without notice

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## SPECIFICATIONS

**IS** IMAGING  
STATION

### ANGLE MEASUREMENT

Method	Absolute Reading
Minimum Reading	1"/5" (0.1/0.5gon)
Accuracy	1", 3" (0.3mgon)
Tilt Correction	Dual Axis
Compensating Range	±6' (1.8m)

### DISTANCE MEASUREMENT

Prism Mode	
1 prism	9,840' (3,000m)
3 prism	13,120' (4,000m)
9 prism	16,400' (5,000m)
Accuracy	
Fine	±(2mm+2ppmxD*) m.s.e.
Non-Prism Mode	4.9' - 820' (1.5m - 250m)
NP Accuracy	
Fine	±(5mm) m.s.e.
Non-Prism Long Mode	16.4' - 6,500' (5.0m - 2,000m)
NP Long Mode Accuracy	±(10mm+10ppmxD*) m.s.e.

### IMAGING

Cameras	(2) 1.3mp
Image speed	1 - 10fps
Scanning	Max 20 pts/sec

### USER INTERFACE

OS	Microsoft Windows® CE.NET 4.2
Processor	Intel® PXA255 400Mhz
Screen	Full Color Touch-screen

## Recommended Systems

### Robotic Package

- Topcon IS
- On-board TopSURV
- Robotic Kit FC-200 or FC-2200
- ImageMaster IS Version

**Applications:** Topographic Land Surveys, Boundary Surveys, Construction Layout, Scanning from on-board TopSURV, Scanning from WiFi connected ImageMaster running on a PC

### Scanning Package

- Topcon IS
- On-board TopSURV
- ImageMaster Standard Version

**Applications:** Long-range Scanning: quarry, mining, construction site, landfills  
Mid-range Scanning: bridge, embankments, dams, levy, monitoring  
Short-range Scanning: interior of buildings, lot as-builts

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