IS
IMAGING STATION

TOPCON

IS IMAGING STATION

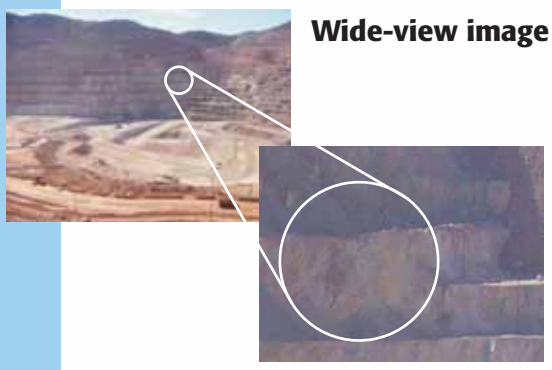
CAPTURE REALITY

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
- SCAN WITH LIVE IMAGING
- INTELLIGENT SCAN FEATURE RECOGNITION
- FULLY ROBOTIC INTERNAL 2.4GHZ RADIO
- 6,500' (2000M) REFLECTORLESS MEASUREMENT
- REMOTE IMAGE DISPLAY BY TOPSURV AND IMAGEMASTER

It's time.

Effectively capture the only-required 3D data by digital image



Wide-view image

Telescopic-view image

"Touch Drive" to handle the instrument

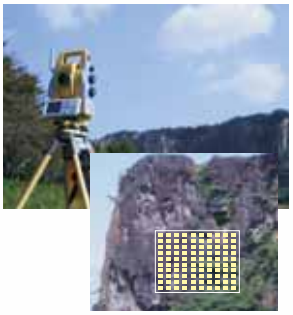
Touching the object on the image causes the instrument to rotate to the tapped object. The telescopic-view image provides zoom display with the same view angle of telescope. The Touch Drive also enables pinpoint measurement that allows the accurate collimation just like looking in the telescope.

Two Built-in Digital Cameras -Wide Angle and Tele-Zoom

You can view the surrounding area and roughly zoom to the object with the wide angle camera and use the tele-zoom for the precise collimation. The images are stored in the internal memory as well as being displayed on the screen.

"Feature Scan" to assist area measurement

This method automatically extracts features (corners) from the image of a specified area. Together with the Grid Scan and Touch Drive functions, it improves practicality of your work.



"Grid Scan", the high speed scan

The high speed measurement Grid Scan obtains 3D data by automatic scanning at a specified pitch within a specified area. With the Topcon's image analyzing software, a 3D model can be created from the data.

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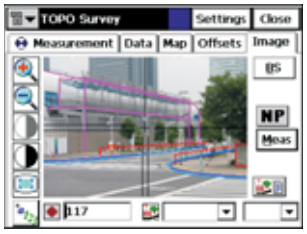
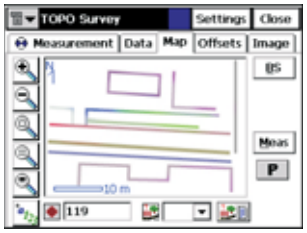
TopSURV brings revolution in job site - SYNC of Image and Observation data

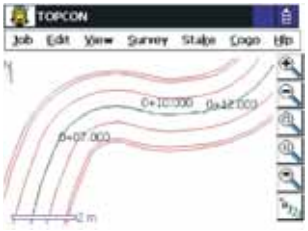


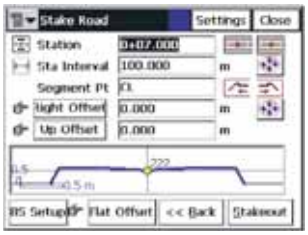


What you see is what you observe

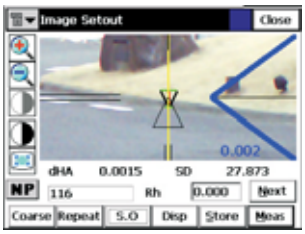
[Observation]
The line like road or side ditch and observation points like a utility pole will be displayed together after observation. You can instantly check where you observed on the spot.

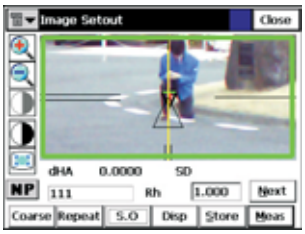
Just one push will switch the display to a two-dimensional map and show the positional relation between observed points.



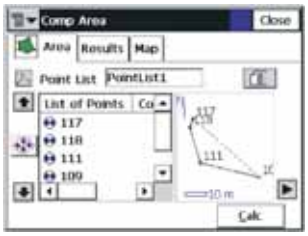


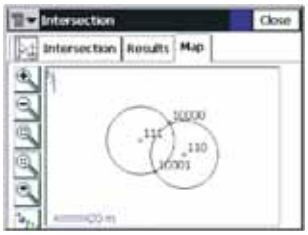
[Road]
TopSURV OnBoard has the 3D Road functions, too. After you input the road design data like H.Alignment, V.Alignment, X section templates, you just specify the station no and/or offset value, IS guides you to the direction and distance to the desired point. Even automatic rotation is available once you press "S.O(stake out)" key.
(road1.bmp, road2.bmp)





[Stake Out]
The stakeout points will be displayed on the image to help you understand the point along with the picture of actual job site. Automatically it turns to the direction of the desired point, once you press "S.O(stake out)" key.





[CoGo]
Strong Cogo functions like Inverse, Intersection, Inverse Pt to Line, Area calculation, Calculator, etc, will help you to get the calculated points or values even in the field.
(Cogo_Area1.bmp, intersect_01.bmp)

One-man Survey System - Quick-lock and IR communication technology

The IS can be the one-man survey system when combined with the data collector and RC-3 system, the third generation of Topcon's World's first Quick-lock technology. By just pressing the button, the RC-3 quickly reacquires the IS again anywhere it is headed for. The IS one-man system ensures the stress-free, efficient survey.

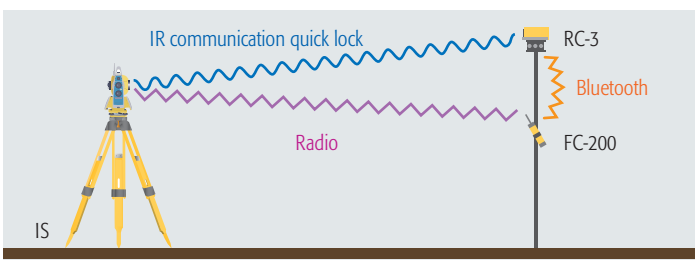
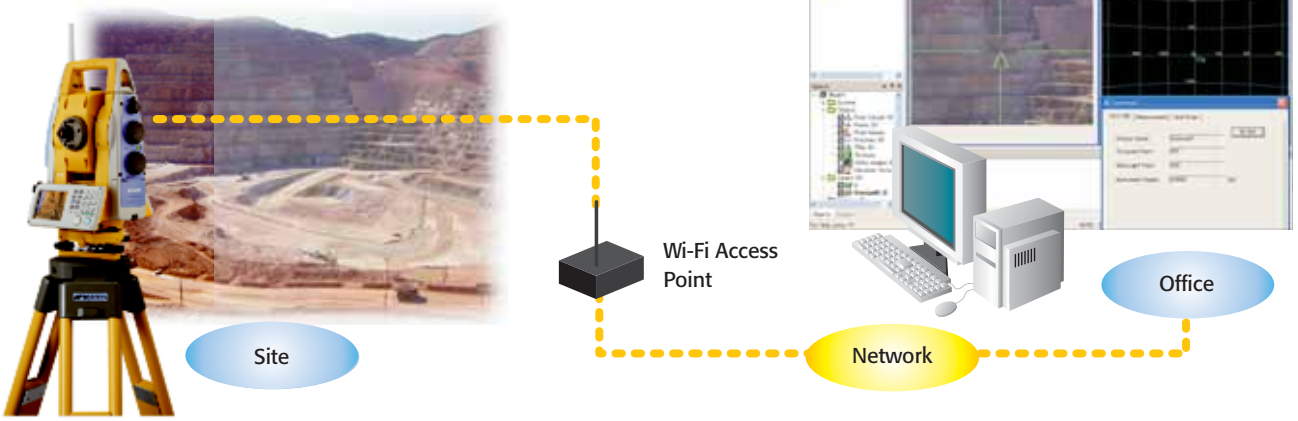


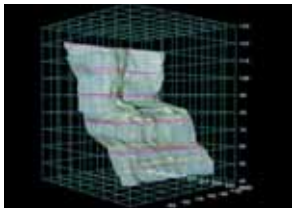
Image One-man Survey System

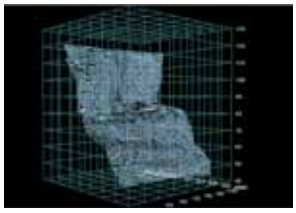
Data Processing Master
The application software “ImageMaster” series

Remote Operation of IS

ImageMaster provides image and scan control of the IS through WiFi connection using the Lan card. Remote operation is at your fingertips.

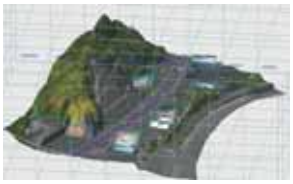






Effective Data Processing

Images, 3D data or stereo image data can be handled in various ways. The IS has full of useful functions such as creation of TIN, texture mapping, cross-section measurement or data output.



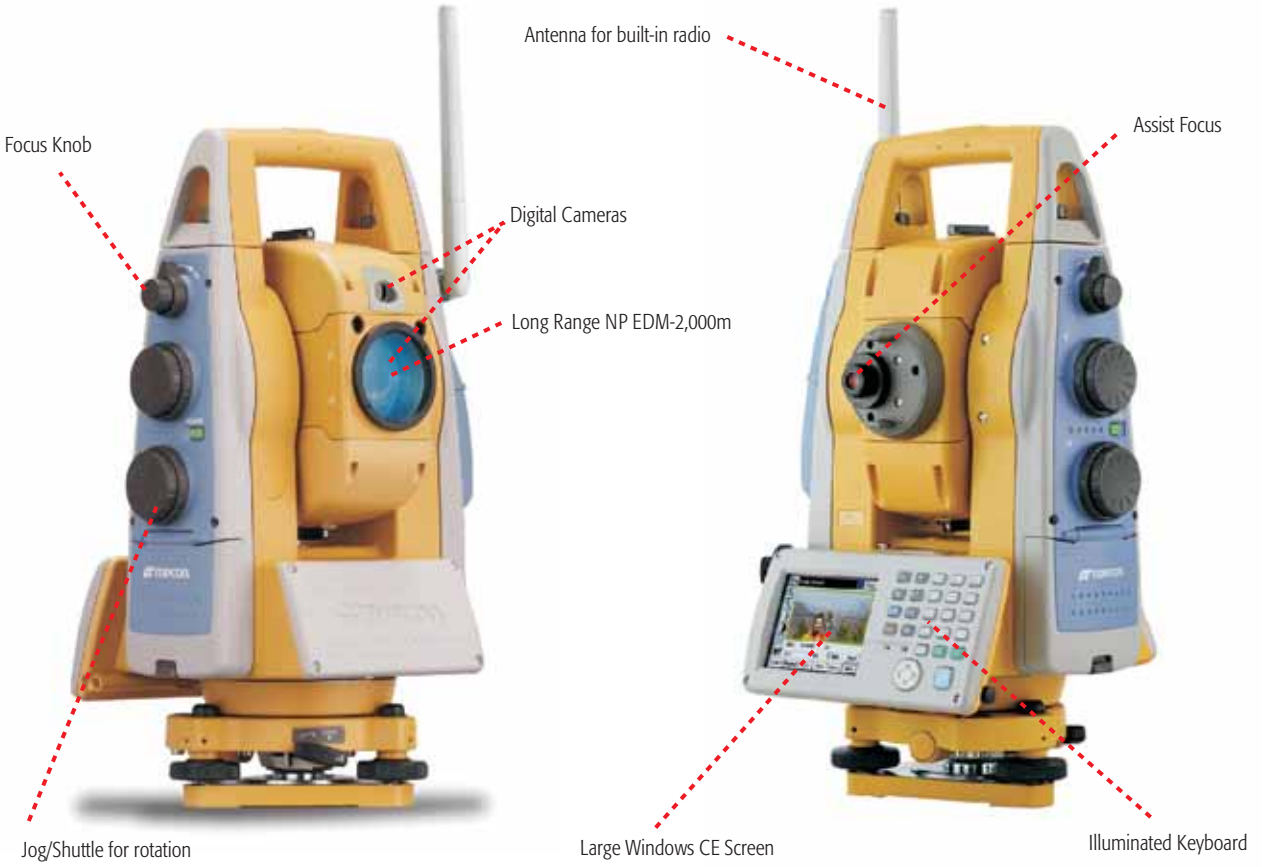
3D Measurement by Images

The IS can create a 3D model by automatically measuring the DSM (Digital Surface Model) from stereo images.
The 3D-data process like contour lines or cross-section view can also be done easily with the IS.

Quick Reference Chart of Image Master series

functions		for IS	Pro	Std
Input data	GPT-7000i "Field Orientation" On-Board Software (STD Mode)	—	●	—
	GPT-7000i "Field Orientation" On-Board Software (Easy Mode)	—	●	—
	Images of Digital Camera	—	●	●
	Topcon "Field Scan" File	—	●	●
	3D data file (DXF, CSV)	●	●	●
Output data	3D data file (DXF, CSV, VRML)	●	●	●
	Ortho-image Files (bmp,jpg)	—	●	●
IS Remote access		●	●	●
Orientation		—	●	●
3D Visualizaion		●	●	●
Stereo Image Measurement		—	●	—
Survey Tools	Polyline, TIN, Contour Line, Cross Section, Texture Mapping"	—	●	●
	* The ImageMaster For IS can create TIN (no editing) and map texture if the data is aquired from the IS			
SetUp	Camera calibration	—	●	●
	Coordinate Transformation	—	●	●

The Ultimate All-IN-ONE TS-All in your hands from Robotic to Imaging, Measurement and Scanning TS



Assist Focus

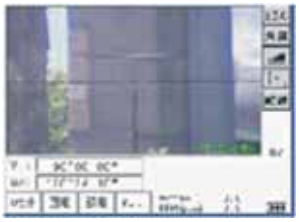
The Assist Focus provides clear vision although you still need focus adjustment for telescopic-view image.

Steep Slope Measurement with Image

The IS will no longer force you an unnatural body posture when you measure the points at a steep angle. The image will help you collimate the target without looking in the eyepiece.

Super Long Range NP - 2,000m

The IS reaches a white surface object at 2,000m away. In practical terms, it reaches the darker surface like rock or concrete at about 500 or 800m away.



Reliable Observation

There is always a possibility of error when you look through the telescope. No need to worry about parallax error if you have the image on board.

Application Software

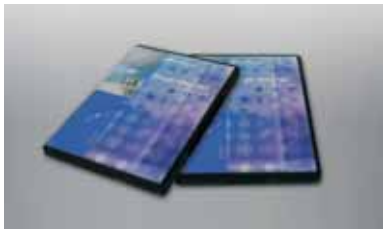


Image Master Suites (Options)

Image Master Pro

Complete version of Image Master Suites. In addition to all the functions of Image Master Std/Lite, strong 3D Photogrammetry measurement by digital cameras is supported.

Image Master STD

Upgrade version of Image Master for IS. Survey tools like Contour Line, Cross Section, Area, Volume calculations are supported.

Standard Accessories

- IS
- TopSURV OnBoard for IS
- Image Master for IS
- Battery Pack BT-65Q
- Dual Battery Charger BC-30D

SPECIFICATIONS

IS IMAGING STATION

	IS201	IS203	IS205
TELESCOPE			
Length		165mm	
Objective Lens		45mm(EDM 50mm)	
Magnification		30X	
Image		Erect	
Field of View		1°30′	
Resolving Power		3″	
Minimum Focus		1.4m	
ANGLE MEASUREMENT			
Method		Absolute Reading	
Minimum Reading	0.5″/1″ (0.1/0.5mgon)	1″/5″ (0.2/1mgon)	1″/5″ (0.2/1mgon)
Accuracy	1″ (0.3mgon)	3″ (1mgon)	5″ (1.5mgon)
Tilt Correction		Dual Axis	
Compensating Range		6′	
DISTANCE MEASUREMENT			
Prism Mode			
1 prism		3,000m	
3 prisms		4,000m	
9 prisms		5,000m	
Accuracy			
Fine 0.2mm/1mm		(2mm+2ppmxD*)m.s.e.	
Non-Prism Mode		1.5m - 250m	
NP Accuracy			
Fine 0.2mm/1mm		(5mm)m.s.e.	
Non-Prism Long Mode		5.0m - 2,000m	
NP Long Mode Accuracy			
Fine 1mm		(10mm+10ppmxD*)m.s.e.	
IMAGING			
Cameras		(2) 1.3M pixel	
Image Speed		1 - 10fps	
Scanning		Max. 20 pts/sec	
USER INTERFACE			
OS		Microsoft Windows CE.NET 4.2	
Processor		Intel PXA255 400MHz	
Screen		3.5 inch TFT Full Color Touch-screen	
Memory		128 MB/RAM 2 MB Flash Rom 1 GB micro SD Card	
Wireless LAN		IEEE 802.11b/g	

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