

**SOKKIA**

# DT220·DT520 DT520A·DT620

Electronic Digital Theodolites

## *SOKKIA's Breakthrough Technology Delivers Astonishing Operating Time – 220\* Hours!*

Featuring cutting-edge power-saving technology, an advanced angle measurement system and industry-leading dust & water protection, the SOKKIA Digital Theodolites offer unprecedented reliability and versatility in construction and engineering applications.

\* DT620 model



# DT220 · DT520 · DT520A · DT620

## Electronic Digital Theodolites

### The World's Longest Operating Time

- SOKKIA's innovative technology achieves the world's longest operating time\* – 220 hours with the 7"-DT620 model.
- The DT520A operates up to 200 hours - the longest among 5" models\*.
- At 7 hours/day, the DT620/DT520A can operate for more than 31/28 respective days without changing batteries.

\* As of January 1, 2009

### Advanced Angle Measurement System

- The DT series theodolites are equipped with market-proven absolute encoders. Advanced coding and digital processing technologies provide long-term reliability in any work-site conditions.
- 2"-DT220 incorporates IACS (Independent Angle Calibration System) to further enhance measurement reliability.
- 5"-DT520A and 7"-DT620 employ newly developed IACS-SD\* technology that provides high accuracy with the power-efficient single-detection system.

\* IACS with Single Detection



### Quick, User-friendly Operation

- Start measurement as soon as you turn on the power without the need for 0-indexing.
- Easy-to-read LCD display has 20% larger digits than former models.
- The MENU key facilitates all instrument settings including angle units, resolutions, measurement modes, tilt compensation and so on.



### Dual-axis Compensation (DT220 · DT520)

- DT220/DT520 models automatically compensate both Vertical and Horizontal angles by monitoring instrument tilt in X & Y directions.

### Right-angle Beeps

- Beeps at each of the four right-angle directions to assist squaring.

### Industry's Highest\* Dust- and Water-Protection

- All models comply with the rigorous IP66 standard, offering superior protection against powder-type dust and sudden showers.

\* Among existing electronic theodolites, as of January 1, 2009

### RS-232C Port

- Measurement data can be output to external devices via RS-232C data port\*.

\* Except DT620 model

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75-1, HASUNUMA-CHO, ITABASHI-KU, TOKYO, 174-8580 JAPAN

### Specifications

	DT220	DT520	DT520A	DT620
<b>Telescope</b>				
Length	165 mm (6.5 in.)		160 mm (6.3 in.)	
Objective aperture	45 mm (1.8 in.)		35 mm (1.4 in.)	
Magnification	30 x		26 x	
Image	Erect			
Resolving power	3"		3.5"	
Field of view	1°30' (26 m/1,000 m)			
Minimum focus	0.9 m (3.0 ft.) from telescope center			
Stadia	Multiplication constant: 100, Additive constant: 0			
Reticle illumination	Built-in. Bright / Dim, selectable		—	
<b>Angle measurement</b>				
Absolute rotary encoder scanning				
Display unit	Degree / Gon / Mil, selectable			
Display resolutions (selectable)	1" / 5", 0.2 / 1 mgon, 0.005 / 0.02 mil		5" / 10" 1 / 2 mgon 0.02 / 0.05 mil	
Accuracy (ISO 17123-3:2001)	2" / 0.6 mgon 0.01 mil	5" / 1.5 mgon / 0.025 mil		7" / 2.2 mgon 0.035 mil
Measuring mode	H	Clockwise, Counterclockwise, selectable. Hold, 0-set, available		
	V	Zenith 0 / Horizontal 0 / Horizontal 0±, Slope in %/‰, selectable		
Automatic dual-axis compensator	Dual-axis liquid tilt sensor Working range ±3' (±55mgon)		—	
<b>General</b>				
Display	LCD, 8 digits x 2 lines with backlight			
Keyboard	6 keys			
Control panel location	On both faces		On single face	
Interface	RS-232C, baud rate 1,200 bps		—	
Right-angle beeps	Provided			
Sensitivity of levels	Plate level	30"/2 mm	40"/2 mm	60"/2 mm
	Circular level	10"/2 mm		
Optical plummet	Image: Erect, Magnification: 3 x, Minimum focus: 0.3 m (1 ft.)			
Tribrach	Detachable		Fixed	
Operating temperature	-20 to +50°C (-4 to +122°F)			
Dust and water protection	IP66 (IEC 60529:2001)			
Instrument height	236 mm (9.3 in.) from tribrach bottom			
Size with handle	W165 x D165 x H341 mm (W6.5 x D6.5 x H13.4 in.)			
Weight with handle	4.4 kg (9.6 lb.)	4.3 kg (9.5 lb.)	4.2 kg (9.3 lb.)	3.9 kg (8.6 lb.)
<b>Power supply</b>				
Battery	LR14(C) batteries x 2			
Operating time w/alkaline batteries at 25°C (77°F)	Approx. 130 hours		Approx. 200 hours	Approx. 220 hours
Automatic power cut off	5/10/15/30 minutes after operation / none, selectable			

### Standard accessories

- LR14 (C) alkaline batteries (x2) • Lens cap • Lens hood • Plumb bob • Tool kit
- Operator's manual • Carrying case • Shoulder strap

### Optional accessories:

- CP7 Tubular compass
- DE25 Diagonal eyepiece
- EL6 30x eyepiece for DT620
- ACE5 Auto-collimation eyepiece
- LAP1 Laser plummet module
- LSE1 Laser sighting eyepiece
- OF1 Solar filter