

SOKKIA™

MEASURING SYSTEMS AND SUPPLIES



SOKKIA CORPORATION

IN THE BEGINNING: THE LIETZ YEARS

Sokkia Corporation had its beginning in 1882, when Adolph Lietz founded a surveying, nautical and mining instrument company in San Francisco. From the beginning, The A. Lietz Company emphasized "Quality, Service and Price." Adolph Lietz was an inventor, and his products became synonymous with unique solutions to measuring needs of the day. By 1916, a complete line of drafting equipment was also being manufactured by Lietz.

After 65 years of continuous operation, Lietz stopped manufacturing instruments and became a distributor of products for other manufacturers. Not long afterward, The A. Lietz Company changed its name to The Lietz Company to reflect the company's broader emphasis. The products patented by Adolph Lietz had been joined by other, equally inventive, products. Together, these products were marketed under the umbrella of The Lietz Company.

ALLIANCE WITH SOKKISHA CO., LTD.

One of the manufacturers whose products were distributed by Lietz beginning in the 1950's was Sokkisha Co., Ltd. Sokkisha was founded in 1920, and the company had quickly grown to become a Japanese pioneer of innovative surveying and measuring products. Sokkisha products offered the high quality Lietz customers had come to expect, and they were popular additions to the Lietz product line from their introduction.

In the 1970's, Lietz became the exclusive distributor of Sokkisha instruments in the United States. Our alliance with Sokkisha prompted Lietz to expand its distribution, from our former area west of the Mississippi River to everywhere in the United States. A nation-wide network of dealers was formed. And in 1978, Lietz moved the company headquarters to the

Kansas City area in order to establish a central proximity to our dealer network. In 1984, Sokkisha acquired Lietz to be its sole marketing, distribution and factory servicing affiliate in the United States. Lietz joined a global network of Sokkisha subsidiaries and agents, helping make Sokkisha the world's largest manufacturer of surveying and measuring instruments.

SOKKISHA'S PROUD TRADITION

The history of Sokkisha is, at the same time, the history of Japanese surveying instruments. Sokkisha was founded in 1920 by a group of 13 people who all shared a common goal: to pioneer the Japanese surveying instruments industry. Among the company's achievements are the development and production of Japan's first automatic level, theodolite and coaxial total station. In 1964, Sokkisha introduced the company's patented magnetically damped compensator for automatic levels, which quickly became the world standard.

In the 1980's, Sokkisha expanded its sales network into the worldwide market. The first subsidiary companies were established in the United States, Australia and The Netherlands to better serve Sokkisha's growing international customer base. Today, twenty-five subsidiaries and representatives, as well as approximately 100 agents, represent the company around the world.

During this time, Sokkisha broadened its range of business. Surveying still remains an important aspect of the company's success. But with its broad experience in developing precision measuring instruments, it was a natural progression for Sokkisha to apply its expertise to the manufacture of industrial measurement instruments, GPS systems, and other related products. This diversity has

contributed to the solid and stable development of the company, and it will help ensure the company's future success as well.

TRANSITION TO SOKKIA

During the early 1990's, Sokkisha embarked on a corporate identity project designed to enhance and broaden the company's global marketing. The result of this project was a new brand name: Sokkia.

The Sokkia name reflected the corporate philosophy of both Sokkisha and Lietz: to remain the world's top provider of quality surveying, measuring, engineering and construction instruments and supplies. The logo reveals meaningful symbolism: The large "O" represents the world and our global orientation. That perfect circle also is representative of the precision found in the products that bear our logo. No cross bar is found on the "A"; this character is similar to the way the numeral "1" is written in many languages. Finally, the blue color was chosen to symbolize sincerity - sincerity of the Sokkia commitment to the highest standards in business relationships and respect for individuals, both inside and outside the company.

On January 1, 1992, Lietz formally changed its company name to Sokkia Corporation. Sokkisha Co., Ltd. and all international Sokkisha subsidiaries also changed their names to Sokkia, so that the entire company now presents a unified global image.

MISSION STATEMENT

In the broadest terms, our mission is to provide advanced measurement solutions that are priced right, work right, and are what the market wants. We're as committed to satisfying each individual customer as we are to satisfying the market as a whole.

CONTACT INFORMATION

Customer Service

Address: 9111 Barton, Overland Park, KS. 66214
Phone: 1-800-4-SOKKIA, Fax: 913-492-0188
Email: sales@sokkia.com

Technical Support

Phone: 1-800-257-2552, Fax: 913-492-7495
Email: support@sokkia.com

Service Center

Address: 9102 Nieman, Overland Park, KS. 66214
Phone: 1-800-255-3913, Fax: 913-492-8562
Email: service@sokkia.com



Sokkia Corporation Web Site: <http://www.sokkia.com>

Updated product information, support FAQ's, training schedules, dealer locator, and contact information are all available via our internet web site. GPS and AGL products can be found on our internet web site, or in our individual supplemental catalogs.

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SURVEYING SOLUTIONS



Dr. Mark Lehner, Director of the Giza Plateau Mapping Project, and Dr. Zahi Hawass, Director of the Giza Pyramids, used their SET3CII Electronic Total Station to map a great deal of new archaeological evidence at the very foot of the Great Pyramid (Giza, Egypt). As part of a multi-year mapping project, Dr. Hawass took up a modern asphalt road to uncover, among other features, a major temple attached to the Pyramid, boat pits where the huge ships of the pharaoh Khufu were buried nearly 5,000 years ago, and a small satellite pyramid that had been entirely unknown until the clearing operation. Pictured is David Goodman and his survey team as they map the area surrounding the Great Pyramid. Photographed by Carl Andrews.



We've heard of walking on water, but surveying on water? Strange but true. Here, Del Maxfield does just that during the shoreline mapping phase of a 128-acre boundary survey on Peabody Pond in Sebago, Maine. By using two tiny islands in the middle of the pond, Del and his crew were able to topographically locate nearly 8,000 feet of very irregular shoreline. They used a boat to move from one station point to the next. The project resulted in a five-lot subdivision, each lot containing approximately 25 acres with 1,600 feet of shore frontage. How can Sokkia's extensive line of measuring equipment and supplies help with your next project?

Choose your next integrated survey solution from the broad line of Sokkia Electronic Total Stations and Electronic Field books. For more than 75 years, Sokkia has been providing solutions to the surveying, mapping and engineering industry. Whether your application is high-accuracy control and boundary work, or detailed design topography, Sokkia's line of survey instruments are designed to maximize ease-of-use and productivity.

Enjoy the benefits of the latest mechanical and electronic technology with the POWERSET and Series 100 Electronic Total Stations. Experience reliability and ease-of-use with the SETBII/SETF/SETE Series Total Stations along with the new waterproof SET5W. Choose from these software and data storage options: integrated SDR software on the POWERSET, a 3000-point-memory data collection on the Series 100/SET5F Total Stations, or the SDR33/31 Electronic Field Books. The SDR software makes data collection, field calculations, stake-out work, and data communications as fast and accurate as possible.

We offer the ultimate flexibility in accuracy, range, and data collection to meet your specific application requirements. Experience unmatched reliability surveying with a Sokkia instrument in the heat or the cold, and now even in the pouring rain. You can feel confident in your Sokkia purchase because it is backed by the best sales, service and technical support teams in the industry. Additionally, our local dealers have been trained to help you choose the appropriate instrument for your application, and help you experience the superior performance you expect right from the start.

ORDERING INFORMATION

- 6300-10 SET1000 POWERSET** Electronic Total Station, complete with dual keyboards, Expert Program Card, SDC5 128K Data Card, 2 BDC35 Batteries, CDC39 Charger, SC141 Carrying Case, WA1 Tribrach, CP7 Compass, tool kit, rain cover, and operation manual.
- 6300-20 SET2000 POWERSET** Electronic Total Station, complete with same equipment as above.
- 6300-30 SET3000 POWERSET** Electronic Total Station, complete with same equipment as above.
- 6300-40 SET4000 POWERSET** Electronic Total Station, complete with same equipment as above.

ACCESSORIES

- 6350-06 SCR2** Card Reader/Writer Assembly
- 6350-24 SDC6** 256K Data Card
- 6350-25 SDC8** 512K Data Card
- 6350-32 Cable** from POWERSET to 25-pin serial port
- 6350-33 Cable** from POWERSET to 9-pin serial port
- 6362-46 Cable** from POWERSET to parallel printer
- 7329-51 OF3A** Solar Filter for POWERSET

For batteries and other accessories, see pages 82-86.
 For prisms and reflective targets, see pages 35-40.
 For tripods, see page 43.
 For communication software, see pages 13-15.



- ◆ The POWERSET Series Total Stations set a new standard for surveying efficiency with an extensive range of on-board surveying software such as: topography, set collection, traverse adjustment, stake-out and roading.
- ◆ Two large, user-friendly displays allow at-a-glance confirmation of large volumes of data. View point number, point name, 3-D coordinate values, mode set, and much more.
- ◆ Ergonomic keyboards with full alphanumeric keys make entering job names, point numbers, coordinate values, and processing survey data as fast and efficient as using Sokkia's SDR Electronic Field Book.
- ◆ Ultra-light body and case, combined with a durable design, give you the freedom to take your POWERSET almost anywhere.



6300-20

NEW PERFORMANCE FEATURES INCREASE ACCURACY AND SPEED

The new miniaturized telescope allows quick, accurate sightings. A unique EDM and optical system enable high-speed, high-accuracy distance measurements to both reflective sheet targets and traditional glass prisms, with guaranteed survey-class precision.

The POWERSET Series combines a large internal memory with memory cards to ensure efficient measurement and storage of data. The water-proof, dust-proof, non-contact memory cards can be used for fast, reliable back-up, transfer and storage of measured data. Memory cards are available in 3 storage capacities: 128K (standard), and 256K or 512K (both optional).

Integrated SDR Electronic Field Book functionality handles surveying jobs with maximum efficiency. Data collection, field calculations, stake-out work, and data communications are fast, accurate and intuitive. [See pages 10-11 for detailed SDR Electronic Field Book functionality.](#)

QUICK SPECS

	SET1000/SET2000	SET3000	SET4000
Telescope			
Magnification	30x	30x	30x
Resolving Power	3"	3"	3"
Minimum Focus	3.3 ft. (1.0m)	3.3 ft. (1.0m)	3.3 ft. (1.0m)
Angle Measurement			
Display Resolution (selectable)	0.5" / 0.1mgon / 0.002mil	1" / 0.2mgon / 0.005mil	5" / 1mgon / 0.02mil
Accuracy (DIN 18723)	1" / 0.2mgon / 0.005mil SET1000: 1" (0.3mgon) SET2000: 2" (0.6mgon)	5" / 1mgon / 0.02mil 3" (1mgon)	10" / 2mgon / 0.05mil 5" (1.5mgon)
Distance Measuring Range (Slope distance, good conditions: no haze, visibility 25 miles (40km), overcast, no heat shimmer)			
Reflective Sheet Target RS90N	390 ft. (120m)	320 ft. (100m)	260 ft. (80m)
Single AP01 Prism	8,800 ft. (2,700m)	8,200 ft. (2,500m)	5,900 ft. (1,800m)
Triple AP01 Prism	11,400 ft. (3,500m)	10,800 ft. (3,300m)	7,800 ft. (2,400m)
Nine AP01 Prisms	13,700 ft. (4,200m)	13,000 ft. (4,000m)	9,500 ft. (2,900m)
Distance Measuring Time (initial/subsequent)			
Fine Mode	4.2 sec. / 2.0 sec.	4.2 sec. / 2.0 sec.	4.2 sec. / 2.0 sec.
Rapid Mode	2.9 sec. / 0.7 sec.	2.9 sec. / 0.7 sec.	2.9 sec. / 0.7 sec.
Tracking Mode	2.9 sec. / 0.5 sec.	2.9 sec. / 0.5 sec.	2.9 sec. / 0.5 sec.

SERIES 100

SOKKIA™

ELECTRONIC TOTAL STATIONS



6400-24

Sokkia's latest mechanical, optical and electronic technologies are embodied in the Series 100 Total Stations—built into an ultra-light body that weighs in at only 11.9 lbs. / 5.4 kg. The basic structural design is the same as found in the POWERSET Series—one of the most sophisticated total stations ever developed.

With Series 100 Total Stations, you can measure distances using Sokkia's innovative reflective sheet targets or conventional glass prisms. Reflective sheet targets are far less expensive than glass prisms and can be quickly and easily set up in locations where glass prisms cannot. Sokkia's variety of reflective sheet targets will extend the boundaries of your survey work.

The Series 100 is operated using soft-function keys, edit keys and alphanumeric keys for easy input of coordinates and codes; the key assignment function enables keyboard customization for even greater efficiency. The 3,000-point internal memory provides convenient and secure data storage.

FEATURES TO HELP YOU GET THE JOB DONE QUICKLY AND EFFICIENTLY

- ◆ The miniaturized telescope allows easy, quick, accurate sightings. Micro-prism reflective sheet targets make surveying easier, faster and enable a more flexible approach.
- ◆ Two large, user-friendly displays allow at-a-glance confirmation of large volumes of data. View point number, point name, 3-D coordinate values, mode set, and much more.
- ◆ The Series 100 offers optimum keyboard flexibility. For example, functions can be assigned to any key position on any page, and unused functions can be temporarily "masked". Powerful softkeys, edit-keys and alphanumeric keys greatly facilitate the input of coordinate values, feature codes and other data.
- ◆ Generous 3,000-point internal memory safely stores data and allows a maximum of twenty-four (24) different files for different jobs. Known point coordinates can be input directly from the keyboard or uploaded by Sokkia COMMS software. Stored data is output in the popular SDR33 format.
- ◆ Perform complex field operations such as traverse adjustment, set collection and roading by connecting an SDR Electronic Field Book.

ORDERING INFORMATION

- 6400-22 SET2100** Electronic Total Station, complete with dual keyboards, 2 BDC35 NiMH Batteries, CDC39 Charger, SC141 Carrying Case, WA1 Tribach, CP7 Compass, tool kit, rain cover, and operation manual.
- 6400-23 SET3100** Electronic Total Station, complete with same equipment as above.
- 6400-24 SET4100** Electronic Total Station, complete with same equipment as above.

ACCESSORIES

- 6361-40 BDC40** NiCd Battery
- 6365-90 RT90C** Reflective Target
- 6365-50 RT50P** Reflective Target Set
- 6350-32 Cable** from SET/NET2 to 25-pin serial port
- 6350-33 Cable** from SET/NET2 to 9-pin serial port
- 6362-46 Cable** from SET/NET2 to parallel printer
- 7329-51 OF3A** Solar Filter for SET100 series

For batteries and other accessories, see pages 82-86.
For prisms and reflective targets, see pages 35-40.
For tripods, see page 43.
For communication software, see pages 13-15.

PRACTICAL, FUNCTIONAL SOFTWARE ENHANCES EFFECTIVE SURVEYING

Each survey function can be operated by powerful, easy-to-use softkeys—without the need to constantly refer to the operator's manual. This allows the Series 100 to save you keystrokes and valuable time. You'll appreciate functionality like:

- ✓ Resection and setting-out (3,000 points in memory)
- ✓ Offset measurement
- ✓ 3-D coordinate measurement
- ✓ Angle repetition
- ✓ Horizontal angle input
- ✓ Azimuth angle setting
- ✓ Missing line measurement
- ✓ Remote elevation measurement

QUICK SPECS

	SET2100	SET3100	SET4100
Telescope			
Magnification	30x	30x	30x
Resolving Power	3"	3"	3"
Minimum Focus	3.3 ft. (1.0m)	3.3 ft. (1.0m)	3.3 ft. (1.0m)
Angle Measurement			
Display Resolution (selectable)	0.5" / 0.1mgon / 0.002mil	1" / 0.2mgon / 0.005mil	1" / 0.2mgon / 0.005mil
Accuracy (DIN 18723)	1" / 0.2mgon / 0.005mil 2" (0.6mgon)	5" / 1mgon / 0.02mil 3" (1mgon)	5" / 1mgon / 0.02mil 5" (1.5mgon)
Distance Measuring Range (Slope distance, good conditions: no haze, visibility 25 miles (40km), overcast, no heat shimmer)			
Reflective Sheet Target RS90N	390 ft. (120m)	320 ft. (100m)	260 ft. (80m)
Single AP01 Prism	8,800 ft. (2,700m)	8,200 ft. (2,500m)	5,900 ft. (1,800m)
Triple AP01 Prism	11,400 ft. (3,500m)	10,800 ft. (3,300m)	7,800 ft. (2,400m)
Nine AP01 Prisms	13,700 ft. (4,200m)	13,000 ft. (4,000m)	9,500 ft. (2,900m)
Distance Measuring Time (initial/subsequent)			
Fine Mode	4.2 sec. / 2.0 sec.	4.2 sec. / 2.0 sec.	4.2 sec. / 2.0 sec.
Rapid Mode	2.9 sec. / 0.7 sec.	2.9 sec. / 0.7 sec.	2.9 sec. / 0.7 sec.
Tracking Mode	2.9 sec. / 0.5 sec.	2.9 sec. / 0.5 sec.	2.9 sec. / 0.5 sec.

ORDERING INFORMATION

- 6400-12 SET2BII** Electronic Total Station, complete with dual keyboards, 2 BDC25A Batteries, CDC27 Quick Charger, EDC19 Charging Adaptor, Carrying Case, WA1 Tribrach, CP7 Compass, tool kit, rain cover, and operation manual.
- 6400-13 SET3BII** Electronic Total Station, complete with same equipment as above.
- 6400-14 SET4BII** Electronic Total Station, complete with same equipment as above.

ACCESSORIES

- 6855-25 CDC29** Double Quick Charger for BDC25
- 6661-02 BDC12** External Battery 6V NiCd
- 6650-02 EDC3** Battery Cable for use with BDC12
- 6350-32 Cable** from SET/NET2 to 25-pin serial port
- 6350-33 Cable** from SET/NET2 to 9-pin serial port
- 6460-01 Power Cable** for SET/NET2 12-6V DC w/clip

For batteries and other accessories, see pages 82-86.
 For prisms, see pages 36-40.
 For tripods, see page 43.
 For communication software, see pages 13-15.

The SET2BII, SET3BII and SET4BII Electronic Total Stations are considered the industry's "workhorse".

The Series BII instruments combine outstanding software and hardware features with an affordable price. Resection, collimation correction, stake-out functions, and more help you meet your daily job requirements.

All Series BII instruments feature extensive two-way communication functions for complete control over instrument operations, permitting the development of customized applications.

For seamless data collection capabilities, add an SDR Electronic Field Book to your SETBII. This powerful combination increases your field functionality with its built-in software functions like set collection, roading and modem communications. [See pages 10-11 for detailed SDR Electronic Field Book functionality.](#)



6400-12

FEATURES YOU CAN COUNT ON FOR FAST, ACCURATE MEASUREMENTS

- ◆ Sokkia's dual-axis compensator automatically applies corrections to both the vertical and horizontal angles, providing high accuracy even if the instrument isn't level.
- ◆ Set-up is fast and on-target, thanks to the automatic horizontal and vertical circle indexing.
- ◆ The fast EDM displays to 0.01 foot in under 2 seconds. Crews working on busy streets are at risk for the shortest possible time.
- ◆ Choose from three measurement modes: Coarse, Fine or Tracking.
- ◆ Coarse measurements are displayed to 0.01 foot (1mm) and are accurate to $\pm (5 \text{ mm} + 5 \text{ ppm})$.
- ◆ Each battery yields 2-1/2 hours of continuous EDM readings from a single charge. That's about 2,600 measurements!
- ◆ Two three-line LCD displays and a user-friendly control panel on each face show measurement and operator information simultaneously.
- ◆ Extensive two-way communication functions allow complete control over instrument operations from an external device.

ON-BOARD SOFTWARE IS SMART ENOUGH TO BE SIMPLE TO USE

Powerful enough to perform many functions that used to be done manually, the on-board programs are easy to use. You'll appreciate functionality like:

- ✓ Resection and setting-out (100 points in memory)
- ✓ Offsets
- ✓ Collimation
- ✓ 3-D coordinate measurement
- ✓ Traverse-style coordinate measurement
- ✓ Missing line measurement
- ✓ Remote elevation measurement

QUICK SPECS

Telescope	SET2BII	SET3BII	SET4BII
Magnification	30x	30x	30x
Resolving Power	3"	3"	3"
Minimum Focus	4.3 ft. (1.3m)	4.3 ft. (1.3m)	4.3 ft. (1.3m)
Angle Measurement			
Display Resolution (selectable)	1" / 0.2mgon 5" / 1mgon	1" / 0.2mgon 5" / 1mgon	5" / 1mgon 10" / 2mgon
Accuracy (DIN 18723)	2" (0.6mgon)	3" (1mgon)	5" (1.5mgon)
Measuring Time	< 0.5 seconds, continuous	< 0.5 seconds, continuous	< 0.5 seconds, continuous
Distance Measuring Range (Slope distance, good conditions: no haze, visibility 25 miles (40km), overcast, no heat shimmer)			
Single AP01 Prism	8,800 ft. (2,700m)	8,200 ft. (2,500m)	4,900 ft. (1,500m)
Triple AP01 Prism	11,400 ft. (3,500m)	10,800 ft. (3,300m)	6,900 ft. (2,100m)
Nine AP01 Prisms	13,700 ft. (4,200m)	13,000 ft. (4,000m)	9,200 ft. (2,800m)
Distance Measuring Time (initial/subsequent)			
Fine Mode	4.9 sec. / 3.2 sec.	4.9 sec. / 3.2 sec.	4.9 sec. / 3.2 sec.
Coarse Mode	1.8 sec. / 0.7 sec.	1.8 sec. / 0.7 sec.	1.8 sec. / 0.7 sec.
Tracking Mode	1.6 sec. / 0.3 sec.	1.6 sec. / 0.3 sec.	1.6 sec. / 0.3 sec.

SET5F/6F AND 6E



6450-25

SET5F/6F

Thanks to Sokkia's extremely portable, lightweight design, changing field positions with the SETF Series takes a minimum of effort. Total carrying weight—including instrument, tribrach, battery, and durable hard case—is under 20 lbs., the lightest in its class.

By offering the ultimate in keyboard flexibility, the SETF Series makes your time in the field as efficient as possible. Any function can be assigned to any key on any screen. Its powerful "softkey" feature lets you assign frequently used functions to designated keys, and eliminate unused functions from the screen entirely. A large display further ensures quick recognition and easy operation.

For recording your data, there's nothing more convenient and secure than the SET5F's built-in memory, which holds 3,000 data points. Preset coordinate points define instrument station, backsight station, known station and setting-out points. All your data, including measured position data, corresponding target numbers, codes and heights, even atmospheric correction values, can be organized under separate job files. The SET6F can store up to 100 coordinate points in memory for staking-out or recalling control points.

Comprehensive on-board software includes:

- ✓ Resection
- ✓ Azimuth angle setting
- ✓ Three-dimensional coordinates
- ✓ Setting out
- ✓ Remote elevation
- ✓ Missing line

SET6E

The SET6E provides 10" measurement readings for both the vertical and horizontal angles, with a distance range of 3,300 ft. Automatic zero indexing for the vertical circle is provided, along with an automatic tilt sensor for reduced error in vertical angles. A back-lit LCD is located on the face left side, and a 6-key control panel facilitates selection of slope distance, horizontal distance, or height difference. Vertical angles can be converted to % of slope, while the horizontal angles can be turned clockwise or counterclockwise.



6450-26



6450-16

ORDERING INFORMATION

- 6450-25 SET5F** Electronic Total Station, complete with dual keyboards, 2 BDC25A Batteries, CDC27 Charger, EDC19 Charging Adapter, Carrying Case, WA1 Tribrach, CP7 Compass, tool kit, rain cover, and operation manual.
- 6450-26 SET6F** Electronic Total Station, complete with keyboard, BDC25A Battery, CDC11 Charger, EDC19 Charging Adapter, Carrying Case, WA2 Tribrach, CP7 Compass, tool kit, rain cover, and operation manual.
- 6450-16 SET6E** Electronic Total Station, complete with same equipment as SET6F except detachable tribrach.

ACCESSORIES

- 6855-25 CDC29** Double Quick Charger for BDC25A
- 6661-02 BDC12** External Battery 6V NiCd
- 6650-02 EDC3** Battery Cable for use with BDC12
- 6350-32 Cable** from SET/NET2 to 25-pin serial port
- 6350-33 Cable** from SET/NET2 to 9-pin serial port
- 6460-01 Power Cable** for SET/NET2 12-6V DC w/clip

For batteries and other accessories, see pages 82-86.

For prisms see pages 36-40.

For tripods, see page 43.

For communication software, see pages 13-15.

QUICK SPECS

Telescope	SET5F	SET6F	SET6E
Magnification	30x	26x	26x
Resolving Power	3"	3.5"	3.5"
Minimum Focus	4.3 ft. (1.3m)	4.3 ft. (1.3m)	4.3 ft. (1.3m)
Angle Measurement			
Display Resolution (selectable)	1" / 0.2mgon 5" / 1mgon	1" / 0.2mgon 5" / 1mgon	10" / 2mgon 20" / 5mgon
Accuracy (DIN 18723)	5" (1.5mgon)	7" / 2.2mgon	7" / 2.2mgon
Distance Measuring Range (Slope distance, good conditions: no haze, visibility 25 miles (40km), overcast, no heat shimmer)			
Single AP01 Prism	4,900 ft. (1,500m)	2,900 ft. (900m)	2,300 ft. (700m)
Triple AP01 Prism	6,500 ft. (2,000m)	3,900 ft. (1,200m)	3,300 ft. (1,000m)
Distance Measuring Time (initial/subsequent)			
Fine Mode	4.7 sec. / 3.2 sec.	4.1 sec. / 3.0 sec.	4.3 sec. / 3.2 sec.
Rapid Mode	1.7 sec.	1.4 sec.	n/a
Tracking Mode	1.4 sec. / 0.3 sec.	1.4 sec. / 0.4 sec.	1.5 sec. / 0.4 sec.

SET5W

ORDERING INFORMATION

6450-35 SET5W Electronic Total Station, complete with dual keyboards, 2 BDC25A Batteries, CDC27 Charger, EDC19 Charging Adapter, Carrying Case, WA1 Tribrach, CP7 Compass, tool kit, rain cover, and operation manual.

ACCESSORIES

6855-25 CDC29 Double Quick Charger for BDC25A
6661-02 BDC12 External Battery 6V NiCd
6650-02 EDC3 Battery Cable for use with BDC12
6350-32 Cable from SET/NET2 to 25-pin serial port
6350-33 Cable from SET/NET2 to 9-pin serial port
6460-01 Power Cable for SET/NET2 12-6V DC w/clip

*For batteries and other accessories, see pages 82-86.
 For prisms see pages 36-40.
 For tripods, see page 43.
 For communication software, see pages 13-15.*

Being fully waterproof, the SET5W operates dependably even where conventional total stations do not, such as in sudden showers, continuous drizzling rain or the high humidity of underground construction sites.

In the hot and humid conditions of an underground construction site, the telescope of the SET5W is highly resistant to being fogged. The SET5W is not purged with nitrogen gas, so maintenance and service work can be carried out with greater ease and at less cost.

- ◆ The SET5W complies with IPX7 of international standard IEC 529 (when waterproof battery BDC25A and connector caps are installed).
- ◆ IPX7 requires that an instrument is protected against the effects of temporary immersion in water. Testing is conducted in a water tank with the instrument kept at a depth of 1m (measured from the bottom of the instrument) for 30 minutes.
- ◆ The water temperature should not differ from that of the instrument by more than 9°F/5°C.



6450-35

THE SET5W KEYS CAN BE EASILY CUSTOMIZED TO YOUR PREFERRED KEY ASSIGNMENTS

- ◆ The SET5W offers optimum keyboard flexibility. Any keyboard layout can be configured. For example, functions can be assigned to any key position on any page, and unused functions can be temporarily "masked".
- ◆ A powerful "softkey" feature facilitates the input of coordinate values, feature codes, etc.

SPACIOUS 3,000-POINT INTERNAL MEMORY

- ◆ The SET5W's internal memory is large—holding a full 3,000 data points—and secure.
- ◆ For optimum convenience, measurements can be performed and recorded at the touch of a key.
- ◆ Up to five (5) separate job files can be created to efficiently organize multiple survey tasks.
- ◆ Forty (40) feature codes (maximum 13 characters each) can be kept in memory for easy recall as needed.

SOPHISTICATED APPLICATION SOFTWARE

- ✓ Missing line measurement
- ✓ Remote elevation measurement
- ✓ Angle repetition
- ✓ Azimuth angle setting
- ✓ Resection
- ✓ Offset measurements
- ✓ 3-D coordinate measurement
- ✓ 3-D setting out

QUICK SPECS

Telescope		SET5W
Magnification	Resolving Power	30x 3"
Minimum Focus		4.3 ft. (1.3m)
Angle Measurement		
Display Resolution (selectable)	Accuracy (DIN 18723)	1" / 0.2mgon 5" / 1mgon 5" (1.5mgon)
Distance Measuring Range (Slope distance, good conditions: no haze, visibility 25 miles (40km), overcast, no heat shimmer)		
Single AP01 Prism	Triple AP01 Prism	4,900 ft. (1,500m) 6,500 ft. (2,000m)
Distance Measuring Time (initial/subsequent)		
Fine Mode	Rapid Mode	Tracking Mode
		4.7 sec. / 3.2 sec. 1.7 sec. 1.4 sec. / 0.3 sec.

SDR33/31

5800-08



SDR Electronic Field Books provide a vital link to between field crews and the office. Data collection and management is fast and simple because the software is designed to make it that way. Measurements and other vital data can be transferred to the office, analyzed, edited, designed, and sent back to the field for error-free stake-out.

With the SDR33/31, you can pick the unit that best fits your data storage requirements and then select the software option with just the right functionality you need.

SDR33 Electronic Field Books are available with 256K, 640K, 1Mb, 2Mb and 4Mb memory capacities.

SDR31 Electronic Field Books are available with 640K and 1Mb memory capacities.

Three versatile software options are available:

- ◆ The **Standard** software is the most affordable, offering basic functionality. It is simple and easy to use, perfect for someone moving up from a calculator type “data collector” or for an experienced user who needs more storage capacity.
- ◆ The **Standard Enhanced** software offers more sophisticated functionality than the **Standard**, but without the advanced functions of the **Expert**.
- ◆ The **Expert** software is the top of the line, designed for power users such as engineers, surveyors and others requiring greater versatility and variety of functions - including powerful roading options.

The SDR® Electronic Field Books® provide high-quality, dependable solutions for your survey data collection needs. SDR software is designed to make data collection and management fast and simple.

The lightweight SDR33 and SDR31 Electronic Field Books are designed for ease of use. Stored data can be recalled and used for calculations in the field or electronically transferred to a serial printer, or a battery-operated field printer for fast generation of hard copies to help eliminate field errors.

ORDERING INFORMATION

- 5800-04 SDR33 256K (Std. SW only)** Electronic Field Book, includes (2) 9V batteries, alkaline battery adapter, (2) lithium batteries, Instrument cable, DE9 PC Cable, Cordura case, Quick Reference Card, Reference Manual and Getting Started Guide, and current software options.
- 5800-05 SDR33 640K** Electronic Field Book, with same equipment as above.
- 5800-06 SDR33 1Mb** Electronic Field Book, with same equipment as above.
- 5800-07 SDR33 2Mb** Electronic Field Book, with same equipment as above.
- 5800-08 SDR33 4Mb** Electronic Field Book, with same equipment as above.
- 5830-05 SDR31 640K** Electronic Field Book, includes 9V battery, Instrument cable, DE9 PC Cable, Cordura case, Reference Manual, and current software options.
- 5830-06 SDR31 1Mb** Electronic Field Book, with same equipment as above.

ACCESSORIES

- 5300-04 Female DE9** to Hirose Adaptor
- 5300-10 SDR Series Tripod Bracket** for No. 7512-52 Tripod
- 5801-05 SDR33 Reference Manual**
- 5802-80 SDR33 800mAh NiCd Battery**
- 5803-12 SDR33 115V Charger** for NiCd Battery
- 5803-30 SDR33 Single Charging/Communications Cradle**
- 5831-20 SDR31 350mAh NiCd Battery**
- 5831-21 SDR31 120V Charger** for NiCd Battery

For other accessories, see pages 82-86.
For communication software, see pages 13-15.

QUICK SPECS

	SDR33	SDR31
Operating Temperature	-4° to +122°F (-20° to +50°C)	+32° to +104°F (0° to +40°C)
Environmental	Wind-driven rain and dust (MilSpec 810D); up to 95% non-condensing humidity; 5 ft. (1.5m) drop to concrete covered with 1/8 in. (3mm) asphalt tile	Non-condensing humidity
Battery Life	9V alkaline batteries—approx. 50 hours Optional NiCd cell—approx. 32 hours	9V alkaline batteries—approx. 20 hours Optional NiCd cell—approx. 24 hours
RAM Backup	Dual lithium cells for approx. 400 hours data preservation when main batteries are depleted or removed	Super Capacitor for approx. 5 minutes data preservation when main battery is depleted or removed
Keyboard	56-key alphanumeric; water- and dust-resistant latex	46-key alphanumeric, water- and dust-resistant latex
Display	Supertwist 8-line x 20-character; backlight; graphics support	Supertwist 8-line x 20-character; backlight; graphics support
Data Capacity	Standard—245K (approx. 2, 048 observations) Expert—640K (approx. 2,033 observations) Expert—1 Mb (approx. 8,502 observations) Expert—2 Mb (approx. 23,256 observations) Expert—4 Mb (approx. 52,743 observations)	n/a Expert—640K (approx. 2,033 observations) Expert—1 Mb (approx. 8,502 observations) n/a n/a
Data Output/Input	RS232C; up to 38,400 baud	RS232C; up to 38,400 baud

On-board software makes your job easier and more accurate. You can streamline your data collection and management with these SDR33/31 software routines:

- ◆ The **Configuration Manager** lets you customize your SDR33/31 by temporarily turning off menus not needed for your job.
- ◆ **Binary Comms** dramatically speeds up the time it takes to transfer data from the SDR33/31. Large jobs that used to take 45 minutes can now be transferred in just 5 minutes!
- ◆ The SDR33/31 supports several **"setting out"** methods of staking out points on lines, arcs and parallel offsets.
- ◆ With the **Taping from Baseline** feature, you can pick up detail by distance and offset from a predefined baseline.
- ◆ The **Slope Staking** function is streamlined and easy.
- ◆ The **Traverse Adjustment** feature can be used with traverse data collected in either **Set Collection** or **Topography**. 3-D traverse data can be collected in any manner, including non-consecutive set-ups. The SDR33/31 can then do some of the thinking for you, like calculating precision and errors of closure, adjust traverse and angle or elevation adjustment.
- ◆ The **Topography** program helps increase data validity by automatically calculating and displaying the difference in observed positions. When a point is observed more than once, you may choose to replace the old observation, store the new observation under a different point number, or average the two observations for a stronger result. Differences are keyed by user-defined tolerance settings.

- ◆ The **Control Job** feature lets you mark a job which contains control point information. If you try to recall the coordinates of a control point and the point isn't in the current job file, the control job file is accessed for optimum convenience.
- ◆ The **Building Face Survey** feature allows for the coordination of points in a vertical plane using angle-only observations; or, shoot three points to solve an inclined plane. Recessed and protruding points may also be surveyed.
- ◆ **Roading** is accomplished by loading or keying in the horizontal and vertical alignment and template information into the SDR33/31. When you tell it what stationing and offset or coordinate point you wish to set out, the SDR33/31 will give you angles and distances to set out that point in 3-D. Horizontal and vertical offsets and checking of roads under construction may also be easily accomplished with this program.
- ◆ **String Road Setting Out** lets you load design data from a road design package (such as Sokkia SDRdesign Software) and set them out by name of string, station and offset. Superelevation parameters are user-defined. Left and right definitions and calculations are independent of each other.
- ◆ **COGO** features like setting out coordinates, resection and inverse are also included. The SDR33/31 interpolates elevations linearly and allows you to check pipe grades and alignments. Plus, it's easy to subdivide lines and arcs or calculate point projections.

- ◆ The **Leveling** program eliminates transcription and math errors; no more manual note taking. Can be used in manual mode or with an electronic level.
- ◆ **Reciprocal Vertical Calculations** improves the accuracy of your elevations.



5830-06

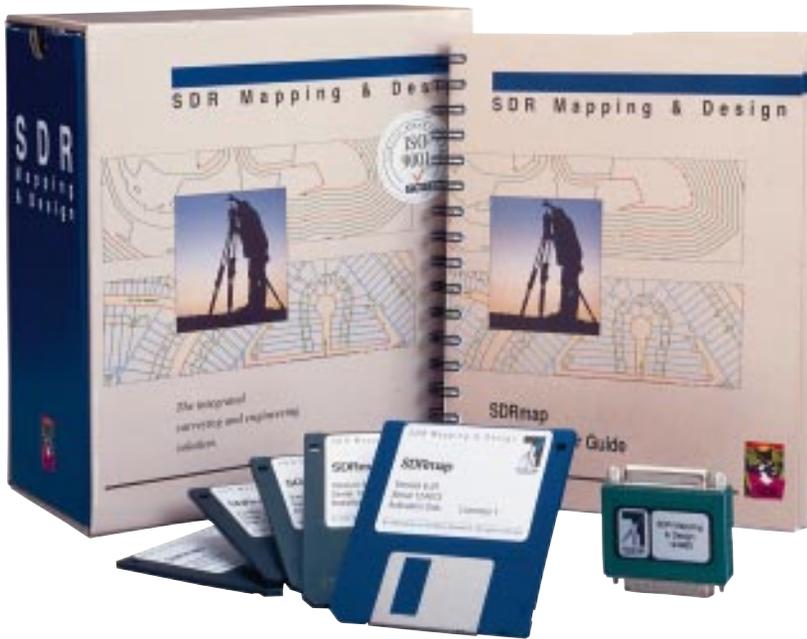
SDR33/31 SOFTWARE FUNCTIONALITY

FUNC		SURV		COGO		ROAD		LEVEL	
Options*	S N E	Options*	S N E	Options*	S N E	Options*	S N E	Options*	S N E
Job	X X X	Topography	X X X	Set Out Coords	X X X	Select Road	X X X	Leveling	X
Instrument	X X X	Traverse Adjustment	X X	Set Out Line	X X X	Set Out Road	X X X	Report/Adjust	X
Job Settings	X X X	Resection	X X X	Set Out Arc	X X	Set Out Road Surface	X X X	Keyboard Input	X
Configure Reading	X X X	Set Collection	X X	Resection	X X X	Road Topo	X X X		
Tolerances	X X X	Set Review	X X	Prof. Positioning**	X	Cross-Section Survey	X X X		
Units	X X X	Building Face Survey	X	Inverse	X X X	Define Road	X X X		
Communications	X X X	Collimation	X X	Areas	X X X	Review Road	X X X		
Date & Time	X X X	Remote Elevation	X X X	Intersections	X X X	Define Template	X X X		
Job Deletion	X X X	Keyboard Input	X X X	Point Projection	X	Review Template	X X X		
Calculator	X X X			Taping From Baseline	X				
Feature Code List	X X X			Transformation	X				
Hardware	X X X			Linear	X				
Upgrade	X X X			Helmert	X				
User Program	X			Keyboard Input	X X X				
Language	X								

* S - Standard; N - Standard Enhanced; E - Expert

** Two versions of the Expert software are available: Expert and Expert with Professional Positioning. The latter version replaces Resection with Professional Positioning and does not include the Level menu options.

The POWERSET Series Electronic Total Stations' (page 5) software has exactly the same functionality as the SDR33/31 software, but does not include the Level menu options.



Sokkia provides one of the most integrated and powerful mapping software suites available today – SDR Mapping and Design software. This comprehensive line of eight interactive, modular programs integrate solid functionality around one common database and graphical interface. It's functionality ranges from field data reduction and automated map generation to coordinate geometry and comprehensive design. SDR Mapping and Design offers superior two-way data

communications with a wide range of SDR Electronic Field Book and instrument data cards providing a complete turnkey solution for the surveyor. The data flow process has never been more efficient.

Sokkia's SDRdesign, SDRcalc and SDRearthwork modules offer the surveyor and engineer powerful design, analysis and reporting tools for roads and other linear facilities, as well as efficient routines for computing site volumes and designing subdivisions. Each design module integrates seamlessly for complete control and ultimate flexibility of design drawings and meaningful reports. Design information can easily be transferred to the field for setting out with an SDR Electronic Field Book or a POWERSET Electronic Total Station.

COMMS Plus is software designed for transmitting data files between a computer and an external device – either a total station or an Electronic Field Book. Features a comprehensive file editor with cut, paste, copy, insert, search and replace, global replace, and renumbering.

COMMS is a Windows-based communication program that transfers files between Sokkia devices and a personal computer with popular import and export conversions.

Binary Comms is a Dos-based communication program that allows fast transfer of SDR jobs, templates, roads, and feature code libraries in a binary format. This software is good for downloading large jobs quickly to a PC.

SOKKIA SOFTWARE FUNCTIONALITY CHART

Upload/Download	Binary Comms	COMMS	COMMS Plus	SDRlink	SDRmap*
SDR	Y	Y	Y	Y	Y
PowerSet	N	Y	Y	Y	Y
Set 100 Series	N	Y	Y	Y1	Y1
Set E Series	N	Y3	Y3	N	N
Set F Series	N	Y1	Y	Y1	Y1
Set BII Series	N	Y3	Y3	Y3	Y3
SCR2	N	Y	Y	Y	Y
Conversions					
ASCII	Y	Y	Y	Y	Y
XYZ Coordinate	N	Y2	N	Y	Y
DXF	N	Y	N	N	Y
ICS	N	Y	N	Y	Y
MOSS	N	Y	N	Y	Y
SDMS	N	Y	N	N	N
Additional Features					
Graphics	N	N	N	Y	Y

* Base module for additional software options. 1 - allows only downloading to PC.

2 - converts only to xyz coordinate files, not from xyz coordinate files. 3 - allows only uploading from PC.

COMMS SOFTWARE

ORDERING INFORMATION

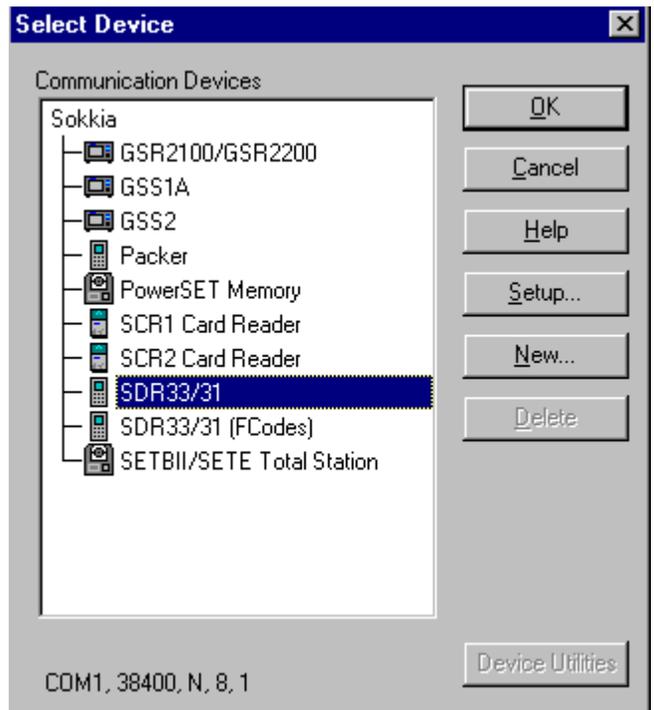
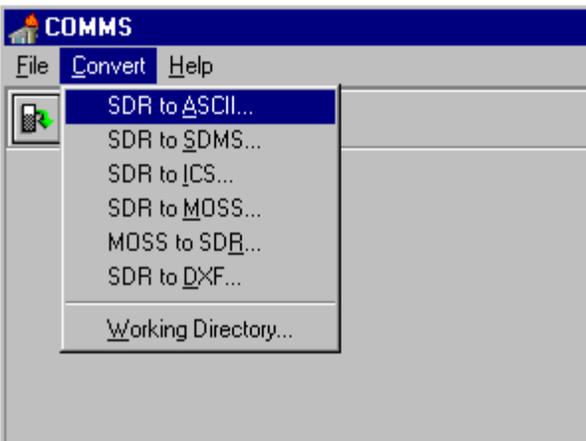
- 5147-11 COMMS Version 1.02** Software, complete with program disks, operation manual, and free software support.
- 5147-10 COMMS Version 1.02** Reference Manual

COMMS OVERVIEW

File transfers are quick and easy with COMMS software. This Windows™-based software converts SDR files into popular file formats (ASCII, DXF, ICS, SDMS, MOSS) that interface with industry-standard CAD software packages. COMMS converts MOSS files into the SDR format as well.

COMMS VERSION 1.02 FEATURES

- ◆ SDR files can be converted to a generic ASCII file. A text file (*.TXT) is generated from the POS record information with the following fields: Point ID, Northing, Easting, Elevation, and Feature Codes. You can select comma-delimited or tab-delimited, or specify a delimited string of up to six characters.
- ◆ Upload and download SDR33/31 job files, roads, templates, and feature code libraries.
- ◆ Upload and download POWERSET SDR format files from the POWERSET memory, or memory card files with a card reader.
- ◆ Upload and download SETC Series Total Stations' memory card data via a DOC26/27 data cable, or via a card reader.
- ◆ Upload coordinates to SETBII/E/F Series Total Stations' internal memory for recalling stake-out or control points.
- ◆ Selectable baud rates range from 300 to 38,400.



COMMS VERSION 1.02 MENU STRUCTURE		
FILE	CONVERT	HELP
Send	SDR to ASCII	Contents
Receive	SDR to SDMS	Search for Help On
Select Device	SDR to ICS	How to Use Help
Exit	SDR to MOSS	About
	MOSS to SDR	
	SDR to DXF	
	Working Directory	

The various supported communication devices include Data Collectors, Total Stations, GPS receivers, and Card Readers.

SDR MAPPING AND DESIGN SOFTWARE

SDR MAPPING AND DESIGN SOFTWARE PROVIDES A COMPLETE SOLUTION FOR SURVEYORS AND CIVIL ENGINEERS.

Sokkia's SDR Mapping and Design Software is an integrated, modular system designed for the mapping, design and construction needs of surveyors. SDRmap is the base module, onto which any combination of modules may be added for flexible, comprehensive functionality. Other modules are: SDRdesign, SDRlan, SDRlink, SDRcalc, SDRcontour, SDRvolumes, SDRprofiles and GPSmap. (The previously separate modules DIGITIZE and MOSSlink are now included in the SDRmap base module.)

Significant enhancements make SDR Mapping and Design Software the most powerful, complete field-to-office-to-field solution for surveyors' needs. The new single-screen design looks like Windows95, making it faster and easier to use.

Features include:

- ◆ All functionality is accessed from a single pull-down menu, so there's no waiting for the graphic screens to load and unload with changing operations.
- ◆ High-resolution (SVGA and VEGA) graphics.
- ◆ Database size is limited only by RAM. Protected memory mode operation gives full extended memory support utilizing the math co-processor.
- ◆ Customize your files with fourteen-character alphanumeric point names and multiple font styles on screens and plots.
- ◆ Compatible with DOS, Windows3.1x, Windows95, and WindowsNT.
- ◆ Store as many as 500,000 points in a single job file.
- ◆ Simplified printing process allows you to toggle between printing and plotting.

- ◆ Enhanced template creation tools.
- ◆ Automated horizontal design allows automated route definition, taking into account pre-defined exclusion zones and pass points to define the alignment corridor.

SDR Mapping and Design Software features automated processing and plotting, coordinate geometry calculations, 3-D ground modeling and profiling, volume computations, comprehensive engineering design, and DXF file compatibility with AutoCAD®.

Individual modules integrate around one common database and graphical interface, making them cost-effective, quick to learn and easy to use. Every day, this comprehensive software system is used worldwide in applications such as:

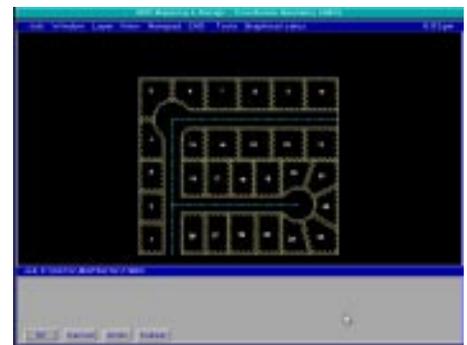
- ◆ Land subdivision
- ◆ Cadastral surveying
- ◆ Mining and earthworks
- ◆ Mapping
- ◆ Highway design
- ◆ Road reconstruction
- ◆ Monitoring surveys
- ◆ Site surveys
- ◆ GPS survey processing
- ◆ Quality assurance
- ◆ Accident investigation and forensic mapping

Development by software specialists, and experienced surveyors and engineers with close links to users, has enabled continual enhancement of the system since its first release in 1984. After a decade of development, SDR Mapping and Design software is very reliable, meeting a wide range of requirements and keeping pace with advances in computer and surveying technology.



SDRmap

Graphic data editing features in SDRmap let you rotate, translate and scale elements. Graphical plot creation gives you a visual reference for your data, and plots are easily and interactively edited with the Plot Editor. Automatic feature code processing allows you to code points in the field, and have SDRmap automatically generate lines, symbols, layers, and text for a completed plot in just one step.



SDRcalc

Comprehensive graphic calculations include lot definition, predetermined areas, lot adjustments, and lot text formatting. Flexible COGO routines give you the control you want, and the automation you need. Road centerline calculations include complete horizontal alignment control with horizontal curve and spiral design.

SOFTWARE FUNCTIONALITY

MODULE	PRIMARY FUNCTION
SDRcalc	Survey Computations
SDRcontour	Surface Modeling
SDRprofile	Vertical Sectioning and Plotting Cross-Sections
SDRvolume	Volume Computations
SDRdesign	Road Design
GPSmap	GPS Data Management

SDR MAPPING AND DESIGN SOFTWARE

ORDERING INFORMATION

- 5130-00 SDRmap** consists of program diskettes, Reference Manual and Getting Started Guide.
- 5150-00 SDRcontour** consists of program diskettes and manual.
- 5155-00 SDRcalc** consists of program diskettes and manual.
- 5165-00 SDRvolumes** consists of program diskettes and manual.
- 5180-00 SDRprofiles** consists of program diskettes and manual.
- 5160-00 SDRdesign** consists of program diskettes and manual.
- 5190-00 GPSMAP** consists of program diskettes and manual.
- 5145-03 COMMS Plus** consists of program diskettes and manual.
- 5140-00 SDRlink** consists of program diskettes and manual.
- 5187-00 SDRmap Kit** consists of SDRmap, SDRcalc and SDRcontour modules.
- 5188-00 SDRdesign Kit** consists of SDRmap, SDRcalc, SDRcontour, SDRprofiles and SDRroading modules.
- 5183-00 SDRearthwork Kit** consists of SDRprofiles and SDRvolumes modules.

Software support is provided for all of the products listed above.

SDR Mapping and Design's ease of use enables you to be more productive from day one, yet it is one of the most sophisticated and powerful survey and engineering software systems available. SDR Mapping and Design has the solution to all of your surveying and engineering tasks.

SDRmap is the base of the system, onto which any combination of modules can be added. Take SDRmap and choose the combination of modules you need for your customized solution. [\(See Software Functionality chart on page 14.\)](#)

TYPICAL SYSTEM CONFIGURATIONS INCLUDE:

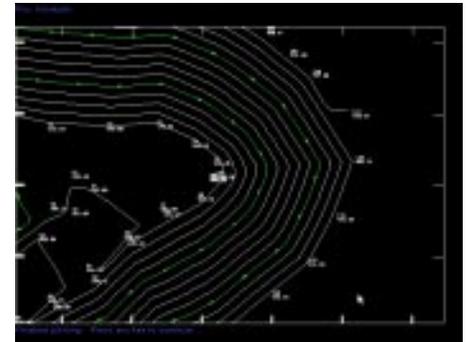
- SDRmap, SDRcalc Cadastral surveys
- SDRmap, SDRcontour, SDRprofiles, SDRvolumes Mining and earthworks quantities
- SDRmap, SDRcontour, Highway design profile, volume, design
- SDRmap, SDRcontour, SDRcalc, SDRprofiles, SDRvolumes, SDRdesign, SDRdigitize Land subdivision and development

SDR Mapping & Design also provides very strong country-specific customization including:

- ◆ Local language
- ◆ Coordinate display order
- ◆ Units of measure
- ◆ Local map projections

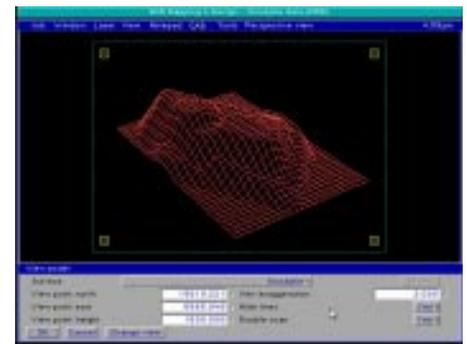
To maximize productivity, it is essential that software works the way you want to work with input and output to your specification. SDR Mapping and Design allows you to define your own:

- ◆ Feature code libraries
- ◆ Grids
- ◆ Plotting formats
- ◆ Symbols
- ◆ Raw data entry formats
- ◆ Reporting formats
- ◆ Plan forms
- ◆ ASCII data transfer
- ◆ Highway design parameters
- ◆ Line types
- ◆ Profile and cross section styles



SDRcontour

Boundary and breakline support for DTM's includes the option of creating them graphically or by processing field-generated feature codes. You can decide the degree of curve smoothing, which gives you the control to create contour plots to your exact specifications. Create major and minor contour lines and labels to meet your job needs.



SDRcontour

View digital terrain models (DTM's) in 3-D with automatic model gridding at user-defined intervals. Change your viewing position by simply pointing to a viewpoint on the graphic screen.

HARDWARE REQUIREMENTS

	Minimum	Optimal
CPU	80386	80486
RAM	4Mb	16Mb
Hard Drive	40Mb	200Mb
Monitor	VGA	SVGA
Parallel Port	Required	Required
Mouse	Required	Required

DT4F

SOKKIA™

ELECTRONIC THEODOLITES



7310-14

Sokkia's DT4F Electronic Digital Theodolite has advanced mechanical features for greater speed, accuracy and convenience. A dual-axis compensator improves accuracy in angle measurement, and a simplified keyboard with multiple-function keys provides access to an extensive range of measurement and calculation functions. Wing clamp and fine motion assemblies for horizontal and vertical motions are helpful for optimum control.

SOFTKEY OPERATION SYSTEM

The four "softkey" function keys simplify operation while reducing menu clutter and error. Just assign any of the numerous functions provided to whichever key you like. You can change functions at any time, or even set up two separate function menus for different jobs.

The large dot-matrix LCD on each face displays 4 lines of 20 characters. The antiglare glass display allows you easy reading.

IMPROVED ACCURACY IN ANGLE READING, THANKS TO THE DUAL-AXIS COMPENSATOR

The dual-axis tilt sensor detects deviation of the standing axis from perpendicular in both X and Y directions. Correction values for horizontal and vertical circle readings are automatically computed and applied. If you don't need the correction values for both angles, the sensor can be turned off, or configured for the vertical angle only. The DT4F's inclination can be checked on the screen, so you don't have to rotate the instrument during leveling.

AUTOMATIC ZERO-INDEXING—HORIZONTAL AND VERTICAL CIRCLES

Simply rotate the alidade to index the horizontal circle and transit the telescope module to index the vertical circle, and then implement your desired measurement function.

The horizontal index value is stored in a short-term (1 week) memory, allowing easy recovery in the event of accidental power loss.

ADD A RED_{LINE} ELECTRONIC DISTANCE METER FOR TOTAL STATION PERFORMANCE

The DT4F is capable of total station performance when combined with a RED_{LINE} EDM. (See pages 18-19 for detailed information.) Both the DT4F and the EDM can be operated from either of the DT4F control panels. Measured and reduced distance data are automatically indicated on the DT4F's front and rear display.

ORDERING INFORMATION

7310-14 DT4F Electronic Theodolite, complete with dual keyboards, BDC25A Battery, CDC11 Charger, EDC19 Adaptor, CP7 Tubular Compass, sunshade, plumb bob, tool kit, and operation manual.

ACCESSORIES

6460-02 BDC25 NiCd Battery
6460-03 EDC19 Charging Adaptor
6460-04 CDC27 Quick Charger
6350-32 Cable from DT4F to 25-pin serial port
6350-33 Cable from DT4F to 9-pin serial port

For batteries and other accessories, see pages 82-86.
 For tripods, see page 43.

INTERFACE PORT AND EXTERNAL POWER PLUG

The interface port permits connection of an SDR Electronic Field Book for automatic data collection. A Sokkia external power supply system can be used via the external power plug. The port and the plug are in the base, allowing the alidade to rotate freely without cable interference.



**7310-14
W/ 6600-05**

QUICK SPECS

		DT4F
Telescope		
Magnification		30x
Resolving Power		3"
Minimum Focus		3 ft. (0.9m)
Angle Measurement		
Display Resolution		5" / 1mgon
Accuracy		5"
Level Sensitivity		
Plate Level		30" / 2mm
Circular Level		10' / 2mm

DT5/5A AND DT6

ORDERING INFORMATION

- 7310-05 DT5** Electronic Theodolite, complete with SE25 Carrying Case, BDC21 Battery Cassette with 4 "AA" batteries, CP7 Tubular Compass, sunshade, plumb bob, tool kit, and operation manual.
- 7310-10 DT5A** Electronic Theodolite, complete with same equipment as above.
- 7310-12 DT6** Electronic Theodolite, complete with same equipment as above.

ACCESSORIES

- 6460-02 BDC25** NiCd Battery
- 6460-03 EDC19** Charging Adaptor
- 6460-04 CDC27** Quick Charger
- 7310-50 TL1** Telescope Level (DT6)

For batteries and other accessories, see pages 82-86.
For tripods, see page 43.



7310-05

DT5/5A ELECTRONIC THEODOLITES

The DT5 and the DT5A are simply the best entry-level instruments you can buy today. They're versatile, dependable electronic theodolites that totally eliminate verniers and micrometers. Horizontal and vertical angles are electronically read and displayed to 5" (DT5) or 10" (DT5A) on 2-line LCD readouts. The automatic vertical circle indexing means you can achieve a level of accuracy not possible with other instruments in this price range. Plus:

- ◆ Optical plummet eliminates the need for plumb bobs.
- ◆ Percentage of slope and vertical angle readings are displayed alternately with the press of a button.
- ◆ Angle readings are monitored by a self-checking microprocessor and displayed in less than 0.5 second.
- ◆ Read horizontal angles clockwise or counter-clockwise; lock them with the hold/release key.
- ◆ 30x telescope with built-in reticle illumination.
- ◆ Get total station capabilities with a mount-on REDline EDM. ([See page 18 for detailed information.](#))

The DT5/5A Electronic Theodolites and the DT6 Electronic Transit are warranted for a period of 1 year against any defect in materials or workmanship.



7310-12

DT6 ELECTRONIC TRANSIT

If you're looking to replace your transit, consider the advantages of the DT6—a quality electronic transit. Contractors and builders who need accuracy and want reading ease will appreciate these features:

- ◆ The 20-second electronic LCD readout eliminates hard-to-read verniers.
- ◆ Fast—get readings in as little as 0.5 seconds.
- ◆ Get percentage of slope (or vertical angle) and a horizontal angle simultaneously.
- ◆ Read angles to the right or the left—your choice.
- ◆ Automatic indexing quickly and accurately positions your vertical circle for measuring vertical angles and using the telescope as a level.
- ◆ 26x telescope with display illumination at the touch of a key.

QUICK SPECS

Telescope	DT5	DT5A	DT6
Magnification	30x	30x	26x
Resolving Power	3"	3"	3.5"
Minimum Focus	3 ft. (0.9m)	3 ft. (0.9m)	3 ft. (0.9m)
Angle Measurement			
Display Resolution	5" / 1mgon	10" / 2mgon	20" / 4mgon
Accuracy	5"	10"	20"
Level Sensitivity			
Plate Level	40" / 2mm	40" / 2mm	60" / 2mm
Circular Level	10' / 2mm	10' / 2mm	10' / 2mm
Telescope Level	n/a	n/a	40" / 2mm (optional)

RED2LV/2L/2A



6800-04 (shown with 6810-01)

ORDERING INFORMATION

- 6800-04** **RED2LV** EDM, complete with SC40 Carrying Case, tool kit, lens cover, atmospheric correction chart and operation manual.
- 6800-03** **RED2L** EDM, complete with same equipment as above.
- 6800-02** **RED2A** EDM, complete with same equipment as above.

ACCESSORIES

- 6810-01** **SF2 Keyboard** (for use with RED2LV, RED2L OR RED2A)
- 6850-01** **BDC11** Internal NiCd Battery
- 6855-01** **CDC11** Charger

For batteries and other accessories, see pages 82-86.
For tripods, see page 43.
See your Sokkia Distributor for telescope and yoke mounting information.

Our Sokkia REDline EDMs have an undisputed reputation for accuracy and durability. Original REDline EDMs are still working hard (and accurately) after more than a decade of snow, mud and who knows what other tortures!

For value and versatility, choose a REDline EDM to suit your measuring range needs. The RED2LV with its wider objective lens provides the longest distance range of all: up to 46,000 ft. with a 15-prism assembly. And the measuring time for the first measurement is only 6 seconds, with tracking measurements taking 0.5 second. Or select from the RED2L, with a measuring range of up to 32,000 ft. with nine prisms, or the RED2A for up to 14,800 ft. with nine prisms.

Connect any REDline EDM to a DT Electronic Digital Theodolite (see pages 16 & 17) for modular total station capabilities. You can measure horizontal distance, vertical height difference, N- and E-

coordinates, and stake-out values. Direct electronic transfer of measurements is automatic from the RED to the digital theodolite.

The RED will also be at home on your optical theodolite, like our TM6 (see page 20). Mounting hardware is available for most popular instruments. Add an SF2 keyboard to calculate horizontal distance and difference in elevation, and you have a complete measurement system.

All REDs share these features:

- ◆ The powerful coaxial telescope with bright, clear optics makes measurements a breeze.
- ◆ Fast target acquisition is possible because of the light level meter, selectable audio tone and automatic attenuation.

- ◆ The alphanumeric display is easy to read.
- ◆ An on-board microprocessor detects and warns of signals temporarily affected by heat shimmer or beam interruption.
- ◆ Get up to 800 measurements from a single, rechargeable battery pack.
- ◆ You control prism constant, ppm correction, vertical/zenith angle, and earth curvature corrections.

The REDline EDMs are warranted for 2 years against any defect in materials or workmanship.

QUICK SPECS

Telescope	RED2LV	RED2L	RED2A
Magnification	15x	11x	11x
Distance Measuring Range (Slope distance, good conditions: no haze, visibility 25 miles (40km), overcast, no heat shimmer)			
Single Prism	23,000 ft. (7,000m)	15,000 ft. (4,600m)	9,500 ft. (2,900m)
Triple Prisms	29,500 ft. (9,000m)	21,000 ft. (6,400m)	12,400 ft. (3,800m)
Nine Prisms	36,100 ft. (11,000m)	32,000 ft. (9,800m)	14,800 ft. (4,500m)
Fifteen Prisms	45,900 ft. (14,000m)	n/a	n/a
Accuracy	±(5mm + 5ppm)	±(5mm + 5ppm)	±(5mm + 3ppm)
Distance Measuring Time			
Measuring Mode	6.0 sec.	6.0 sec.	6.0 sec.
Tracking Mode	0.5 sec.	0.3 sec.	0.3 sec.

MiNi Meter MM100

ORDERING INFORMATION

6600-05 **MM100** Non-Prism EDM (DT4F Telescope Mounting Type), complete with SB135 Balancer, SB150 attachment for SB135, CAT20 Adjusting Target, SC167 Carrying Case, and operation manual.

For batteries and other accessories, see pages 82-86.
For prisms see pages 36-40.



6600-05

SOKKIA'S *MiNi Meter* MM100: A NEW STANDARD FOR COMPACT NON-PRISM DISTANCE MEASUREMENT

LONG DISTANCE MEASUREMENT WITH OR WITHOUT REFLECTORS

Measure distances to 330 ft. (100m) without prisms; with one AP01 prism, you can measure up to 9,800 ft. (3,000m).

LARGE, TWO-LINE LCD

The large display shows ten digits on the upper line and twelve digits on the lower line. When measuring distance, the display shows the measured data and identifies it as slope, horizontal or height distance. The remaining battery level is also displayed when the power is turned on.

CREATE A NON-PRISM TOTAL STATION

In conjunction with Sokkia's DT4F Electronic Theodolite ([page 16](#)), the MM100 makes a non-prism total station that reads and displays angles directly to 5" (1mgon) with 5" (1.5mgon) angle accuracy. The MM100 can be instantly mounted by "hot shoe" direct contact without troublesome cables.

With its streamlined, compact body, the MM100 weighs only 1.2 lbs. (550g). It fits comfortably on a theodolite's telescope for efficient angle and distance measurement.

APPLICATIONS

The MM100 can accommodate a variety of measuring requirements, including:

- ◆ Height measurement (electric power cables, buildings)
- ◆ Surface measurement of building walls
- ◆ Volume measurement (construction site, mining)
- ◆ Structural deformation and displacement of large structures (dams, tunnels, bridges, buildings, etc.)
- ◆ Monitoring movements (landslides, active volcanoes, etc.)
- ◆ Tracking measurement and positioning of moving objects (survey vessels, dredgers, vehicles, construction machinery, etc.)

QUICK SPECS

Telescope	MM100
Magnification	15x
Distance Measuring Range (Slope distance, average conditions: slight haze, visibility 12 miles (20km), sunny periods, weak heat shimmer)	
Without Prism	330 ft. (100m)
One AP01 Prism	9,800 ft. (3,000m)
Accuracy (using the Gray Card (white side) or AP01 prism)	
Fine Mode	±(3mm + 3ppm)
Rapid Mode	±(6mm + 3ppm)
Tracking Mode	±(20mm + 3ppm)
Distance Measuring Time	
Fine Mode	Less than 1.5 sec.
Rapid Mode	Less than 0.3 sec.
Tracking Mode	Less than 0.1 / 0.2 sec. (selectable with parameter)

TM1A AND TM6

Sokkia Digital/Micrometer Theodolites share these convenient features:

- ◆ The automatic vertical circle indexing ensures speed and accuracy on the job.
- ◆ Circle readings are projected from opposite sides of the circle to eliminate eccentricity errors.
- ◆ A circle positioning ring allows fast pre-setting of any horizontal circle reading (TM6).
- ◆ Separate horizontal and vertical windows make readings easy and accurate to reduce confusion.
- ◆ A self-checking optical plummet in the alidade makes set-up fast and easy.
- ◆ Dual collimator finders make aiming faster than ever.

TM1A

The Sokkia TM1A is so well-made and rugged, you can use it every day on your toughest jobs. It's our finest optical theodolite—capable of second-order precision work.

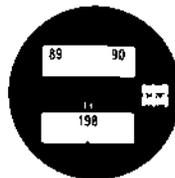
The TM1A reads direct to 1" on both horizontal and vertical circles. Its ultra-fine graduations on glass are carried optically to the reading microscope adjacent to the telescope eyepiece for utmost definition and precision in reading. Plus, horizontal and vertical readings are in different colors to avoid confusion.

TM6

If you don't need one-second accuracy, but still prefer a micrometer/digital readout, choose the Sokkia TM6 Digital Theodolite. It gives you bright, clear optics, and offers the most important precision and convenient features you want, just like the TM1A. In fact, the TM6 offers all the features of the TM1A, but with different accuracies.



7316-06



H: 263° 15' 24"

ORDERING INFORMATION

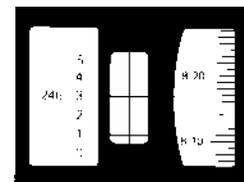
7312-00 TM1A One-Second Theodolite, complete with hermetically sealed SE1 Carrying Case with molded foam inserts, carrying strap, night illumination battery pack, adjusting pins, lens cap, lens brush, sunshade, screwdriver, rain cover, and operation manual.

7316-06 TM6 Six-Second Digital Theodolite, complete with upright hermetically sealed SE2 Carrying Case, carrying handle, trough compass, night illumination battery pack, adjusting pins, lens cap, lens brush, sunshade, screwdriver, rain cover, and operation manual.

For accessories, see pages 82-86.
For tripods, see page 43.



7312-00



H: 246° 38' 16.8"

QUICK SPECS

Telescope	TM1A	TM6
Magnification	30x	30x
Resolving Power	2.5"	3"
Minimum Focus	4.3 ft. (1.3m)	4.3 ft. (1.3m)
Stadia Ratio	1:100	1:100
Horizontal/Vertical Circle Graduation	20'	1°
Micrometer Reading	1"	6"
Estimation	0.1"	2"
Level Vial Sensitivity		
Plate	20" / 2mm	30" / 2mm
Circular	10' / 2mm	10' / 2mm

10C, 115/116, 300/301

ORDERING INFORMATION

- 7321-20 10C** Optical Transit, complete with hermetically sealed SE5 Carrying Case, carrying strap, plumb bob, trough compass, adjusting pins, lens brush, screwdriver, magnifying glass, rain cover, and operation manual.
- 7327-60 Model 115** One Minute Transit (4-screw leveling base), complete with high-visibility SE16 Carrying Case with carrying strap, sunshade, lens cap, plumb bob, magnifier, adjusting pins, screwdriver, rain cover, and operation manual.
- 7328-60 Model 116** One Minute Transit (3-screw leveling base) (not shown), complete with SE17 carrying case and same equipment as Model 115.
- 7368-00 Model 300** Transit-Level (4-screw leveling base), complete with SE38 Carrying Case and same equipment as Model 115.
- 7369-00 Model 301** Transit-Level (3-screw leveling base), complete with same equipment as Model 300.

For tripods, see page 43.

7321-20



10C OPTICAL TRANSIT

The Sokkia 10C offers unequalled durability and accuracy. Backlit glass circles and verniers give this instrument a sharp, easy-to-read index. Attached magnifiers eliminate parallax and give rapid reading of horizontal angles to 20".

MODEL 115/116 ONE MINUTE TRANSITS

"Dependable" and "reliable" are the two descriptions we hear most often about the Model 115 and 116 Transits. These instruments hold adjustment, even under the most challenging conditions.

- ◆ Direct angle reading to 1'
- ◆ 23x telescope rotates a full 360°
- ◆ Upper and lower motions allow pre-setting of any horizontal circle position

MODEL 300/301 TRANSIT-LEVELS

Both of these versatile Sokkia performers act like two instruments in one. First, the Model 300 and 301 function as very competent transits for double centering, extending lines and checking angles. Next, you can convert your transit-level into an accurate level with the simple, positive magnetic mechanism that locks the telescope into the horizontal position.

These instruments are perfect for line and grade work and light construction tasks. They're built for years of hard field work.

- ◆ 23x telescope transits a full 360°
- ◆ Extra-strong, specially hardened alloy standards assure a long working life
- ◆ Accurate horizontal circle reads to 5'



7327-60



7368-00
Accuracy 3/16"
at 150 ft.



7369-00
Accuracy 3/16"
at 150 ft.

QUICK SPECS

Telescope	10C	115	116	300	301
Magnification	30x	23x	23x	23x	23x
Resolving Power	3"	4"	4"	4"	4"
Minimum Focus	4.3 ft. (1.3m)	7.6 ft. (2.3m)	7.6 ft. (2.3m)	7.6 ft. (2.3m)	7.6 ft. (2.3m)
Stadia Ratio	1:100	1:100	1:100	1:100	1:100
Horizontal Circle					
Graduation	20'	30'	30'	1°1'	
Vernier Reading	20"	1'1"	5'	5'	
Vertical Circle					
Graduation	30'	30'	30'	1°1'	
Vernier Reading	1'1"	1'5"	5'		
Level Vial Sensitivity					
Telescope	40" / 2mm	60" / 2mm	60" / 2mm	90" / 2mm	90" / 2mm
Plate	90" / 2mm	137" / 2mm	137" / 2mm	137" / 2mm	137" / 2mm
Circular	10' / 2mm	n/a	n/a	n/a	n/a



Built in 1851, Salem Lutheran Church in Blackjack, Missouri wasn't equipped to handle their increased membership. More space was needed for an elevator, choir loft and toddler room, so when Woermann Construction began the expansion project, they wanted to be sure they did the job right. A Sokkia automatic level was the logical choice to get the project done on time, and meet the accuracy requirements of the job. Here, Bob Groner uses a Sokkia Automatic Level to check the height of a wall before pouring concrete; Rich Koenig Jr. helps out by holding the rod.

Sokkia provides a wide array of construction-related instruments and supplies specifically tailored for the job site. With so many instruments to choose from, it's easy to custom-design a system that's configured to meet your specific requirements.

Our waterproof SET5W works reliably under all conditions making it ideal for the construction job site. Sokkia also offers the SET5F, SET6F and SET6E Electronic Total Stations, each offering outstanding value for construction surveying.

The LP30 and LP31 laser level planers offer high accuracy and precision at a reasonable cost. The versatile LP_{MINI} can be used for one person leveling or tricky vertical alignments. Sokkia's LV1 offers the highest level of plumb in its class allowing you to get the job done quickly and accurately. Sokkia's new MM30 is used for simple instantaneous measurements in both indoor and outdoor environments. The MM30 was designed and engineered to permit unassisted distance measurements to the nearest 0.01 ft. by one operator. Sokkia's extensive line of automatic levels is widely used by large and small construction companies throughout the world.

Whatever your measuring needs, Sokkia has just the right instrument to help you meet your budget needs and accuracy requirements.

LP30/31 AND LP_{MINI}

ORDERING INFORMATION

- 7400-30 LP30** Laser Level, complete with LPR30 Detector, BDC38 Battery Case, high-visibility fitted SC143 Carrying Case with shoulder strap, tool kit, rain cover, and operation manual.
- 7400-31 LP31** Laser Level, with same equipment as above.
- 7450-01 LP_{MINI}** Laser Level, with (2) LPRT1 Targets, SC121 Carrying Case and operation manual.
- 7450-02 LP_{MINI}** Laser Level, with same equipment as above, plus LPR4A Detector and LPC3 Rod Clamp.

ACCESSORIES

- 7401-02 LPR30** Detector - LP30, LP31
- 7401-38 BDC38** Alkaline Battery Cassette - LP30, LP31
- 7401-39 BDC39** NiCd Battery Cassette - LP30, LP31
- 7401-49 CDC49A** Charger for BDC39 (110VAC - 7.5Hr)
- 7451-01 LPR4A** Detector for LP_{MINI}
- 7451-05 LPC3** Rod Bracket for LPR4A and LPR30

*For other accessories, see pages 82-86.
For level rods, see pages 44-47.
For tripods, see page 43.*



7400-31

7401-02

LP_{MINI}

The visible laser beam spot increases your on-site productivity. It can be seen even more clearly by using the supplied LPRT1 Beam Detecting Target. At longer distances, the optional LPR4A Beam Detector ensures accurate detection.

Set the LP_{MINI} in the upright position for leveling, or place it on its side for vertical alignment. A right-angle reference beam is also emitted from the top of the rotor to line up the laser-beam plane. Rotating speed of the beam is adjustable from 40 to 120rpm, or it can be fixed in a stationary position.

The LP_{MINI}, including batteries, weighs only 2.6 lbs. (1.2kg), making it very portable and easy to handle.

Designed for easy operation, the LP_{MINI} allows:

- ◆ Quick instrument leveling
- ◆ Set up flexibility
- ◆ Extended operating time of approximately 40 hours



7450-01

LP30

The LP30 measures up to 2,000 feet in diameter, with a horizontal accuracy of $\pm 10''$, making it ideal for all leveling jobs at general civil engineering and construction sites. The LP30's reference beam can be simultaneously picked up by one or more detectors, increasing its flexibility on large projects. It's especially well-suited for setting and adjusting elevations, controlling excavation depths and establishing sub-base levels.

The LP30 beam rotates at 600rpm, creating a stable horizontal plane which allows rapid readings to be taken over long distances.

The self-leveling compensator ensures accuracy and ease of operation. Just rough-level the unit, and the built-in compensator will automatically set the horizontal plane and start the laser beam operation. A flashing lamp provides an out-of-level warning.

Both the LP30 unit and the LPR30 Beam Detector are highly water resistant, providing IPX4 protection against splashing water. If they are caught in a sudden shower, just wipe off the water. The integrated handle provides a positive grip, even when you're wearing gloves. The LP30 weighs 6.1 lbs (2.8kg) with the BDC39 rechargeable battery, and the compact carrying case provides space for two Beam Detectors.

LP31

The LP31 matches the LP30 feature for feature, differing only in the horizontal accuracy and detectable range. The LP31 measures up to 800 feet in diameter and has a horizontal accuracy of $\pm 15''$.

The LP31 weighs a mere 5.4 lbs. (2.5kg) with the BDC38 battery cassette, and the compact carrying case provides space for two Beam Detectors.

All of this combines to make the LP31 a great all-purpose level planer for both indoor and outdoor work.

QUICK SPECS

Beam Emitting	LP30	LP31	LP _{MINI}
Range	1,000 ft. (300m)	400 ft. (120m)	164 ft. (50m)
Rotation Speed	600 rpm	600 rpm	0 rpm, or 40 to 120 rpm (adjustable)
Compensator			
Range	$\pm 10'$	$\pm 10'$	n/a
Leveling Accuracy			
Horizontal Accuracy	$\pm 10''$	$\pm 15''$	$\pm 30''$
Level Vial Sensitivity			
Plate	n/a	n/a	60° / 2mm
Circular	10' / 2mm	10' / 2mm	n/a

LV1



7450-10

ORDERING INFORMATION

7450-10 LV1 Laser Level, complete with BDC38 Battery Case, carrying case, tool kit, rain cover, and operation manual.

ACCESSORIES

- 7401-39** BDC39 NiCd Battery Cassette
- 7401-49** CDC49A Charger for BDC39 (110VAC-7.5Hr)
- 7401-74** EDC74 Adaptor for LP30/31/LV1
- 7401-79** EDC79 AC Adaptor (100-240V AC) for LP30/31/LV1 (requires EDC74)

For tripods, see page 43.

HIGH-PRECISION PLUMB WITH VISIBLE TWIN LASER BEAMS

Sokkia's LV1 offers the highest level of plumb precision in its class: $\pm 5''$ above and $\pm 1'$ below. Since laser beams are directed both up and down, it's easy to locate points vertically above and directly below a given reference point. Also, the small diameter of the visible beam (7mm upward, 2mm downward) facilitates positioning.

PRECISION PENDULUM COMPENSATOR PROVIDES OUTSTANDING RELIABILITY

Since the LV1 is not susceptible to changes in temperature, you can always be sure of making very accurate measurements. Moreover, a dual damping system (air and magnetic) is employed for the compensator, ensuring laser beam stability even on sites subject to frequent vibration.

SIMPLE PUSH-BUTTON OPERATION

To use the LV1, simply mount it, position it approximately on the horizontal using the three leveling screws, and turn the switch on. Once activated, the compensator automatically finds the vertical. If the unit is positioned outside the auto-leveling range, a warning LED blinks and both beams (up & down) flash.

THREE POWER SUPPLY CHOICES FOR LONG, CONTINUOUS OPERATION

The LV1 can operate for up to 80 hours with just four alkaline batteries. A rechargeable battery pack offers 30 hours of continuous use. If you have access to an AC power supply (100V-240V), you can use the AC adaptor. To save power, the LV1 switches off automatically 30 minutes after it is tilted outside the auto-leveling range.

LIGHTWEIGHT, WATER-RESISTANT DESIGN

The LV1 is an all-weather instrument: Rain is no problem, thanks to IPX4 water-resistance which assures protection against splashing from any direction. The unit is highly mobile and its compact, lightweight (5.5 lbs. / 2.5kg) design makes it easy to carry.

QUICK SPECS

Beam Emitting		LV1
Range		Upward: 330 ft. (100m) Downward: 16 ft. (5m)
Compensator		
Range		$\pm 10'$
Plumbing Accuracy		
Upward		$\pm 5''$
Downward		$\pm 1'$
Level Vial Sensitivity		
Circular		10' / 2mm

Mini Meter MM30

ORDERING INFORMATION

6600-30 MM30 Laser Distance Meter, complete with internal NiCd battery, charger, Carrying Case, tool kit, rain cover, and operation manual.

ACCESSORIES

6601-50 CDC60 Charger for MM30 Internal NiCd Battery

6601-51 EDE84 Car Cigarette Lighter Cable for MM30

6601-52 RP1 Protector for MM30

6601-53 DA1 Diagonal Attachment for MM30

6601-54 SS1 Sighting Telescope for MM30



6600-30

GET THE JOB DONE QUICKLY AND ACCURATELY WITH SOKKIA'S NEW *Mini Meter* MM30

Simple, instantaneous, unassisted distance measurement by laser beam. Just aim the *Mini Meter* MM30 at a wall or ceiling, press the button, and the distance is automatically measured to the nearest 0.01 ft. or millimeter.

A red laser beam enables quick visual confirmation of the exact measuring position. The *Mini Meter* MM30 allows you to measure distances up to 100 ft./30m without a target.

The *Mini Meter* MM30 uses the new MRT1 Reflective Target, designed specifically for this instrument. This target should be used to obtain accuracy specifications instead of the RS*N series reflective targets that were designed for the NET2B, POWERSET and Series 100 Total Stations. With the MRT1 target, you can measure distances up to 330 ft. / 100m.

The *Mini Meter* MM30 emits a laser beam which, when aimed at a measuring point, reflects off the measuring point and returns to the instrument for automatic distance measurement in as little as 1 second. Precision is outstanding: $\pm 1/9$ in. (3mm).

The *Mini Meter* MM30 was designed and engineered to permit unassisted distance measurements by one operator. Waterproof construction meets IPX7 design specifications. Use it with confidence in both indoor and outdoor settings. Applications include:

- ◆ Room floor—area and volume
- ◆ Setting-out point selection
- ◆ Line marking in sports stadiums

Depending on the measuring environment, choose from three point-of-origin settings: at the front, center or rear of the unit. A circular level vial is provided for easy horizontal reference. The *Mini Meter* MM30 can be easily mounted on a standard still or video camera tripod for stability.

QUICK SPECS

Beam Emitting	MM30
Light Source	Laser Diode, 650nm, output power less than 1mW
Distance Measuring Range	
Without Reflective Target	0.6 ft. to 100 ft. (0.2m to 30m)
With Reflective Target (MRT1 Target)	66 ft. to 330 ft. (20m to 100m)
Accuracy	
Fine Mode	$\pm (3\text{mm} + 50\text{ppm})$
Distance Measuring Time	
General Measuring	1 sec.

SDL30

SOKKIA™

DIGITAL LEVELS

This low-cost, user-friendly digital level is ideal for construction. Use it instead of traditional automatic levels when doing site preparation work, road cross-sections, or any leveling task requiring data storage for further processing. Advantages include:

- ◆ $\pm 0.8\text{mm}$ standard deviation for 1 km double-run leveling
- ◆ Obtain height and distance with the touch of one key
- ◆ Height range 0 to 4.05m, distance range 1.6m to 80m /266 ft. in normal conditions (100m / 333 ft. in good condition)
- ◆ Minimum resolution 0.1mm
- ◆ Dependable compensator with magnetic damper
- ◆ RS-232C output for data storage and processing
- ◆ Water-resistant complies with IPX4 specifications (water splash from any direction does not harm the instrument)
- ◆ New Lithium-Ion rechargeable battery
- ◆ Low-cost fiberglass bar-code staff
- ◆ Use as conventional automatic level with traditional graduated leveling rod
- ◆ Large carrying handle allows easy transportation

ORDERING INFORMATION

7380-30 **SDL30** Digital Level, complete with rechargeable battery, carrying case, tool kit, rain cover, and operation manual.

For tripods, see page 43.



7380-30

QUICK SPECS

Telescope		SDL30
Image		Erect
Magnification		32x
Resolving Power		3" of arc
Field of View		1° 20'
Minimum Focus		4.9 ft. (1.5m)
Stadia Ratio		1:100
Compensator		
Setting Accuracy		$\pm 0.3"$
Range		$\pm 15'$
Leveling Accuracy — in 1.0 km (1 mile) of double-run leveling		
Standard Deviation		$\pm 0.8\text{mm} / .003\text{ ft.}$
Level Vial — circular		
Sensitivity		10' / 2mm

PL1, B1/B1C, B20/B21

ORDERING INFORMATION

- 7375-50 PL1** Precise Level (metric reading), complete with SE14A Carrying Case, screw-driver, adjusting pins, lens brush, lens cap, dust cover, and operation manual.
- 7375-51 PL1E** Precise Level (inch reading), complete with same equipment as above.
- 7372-50 B1** Precision Automatic Level, 1:100 stadia, complete with hermetically sealed SE8 Case, adjusting pin, screwdriver, lens cap, rain cover, and operation manual.
- 7372-00 B1** Precision Automatic Level, 0.3:100 stadia, with same equipment as 7372-50.
- 7372-55 B1C** Precision Automatic Level, 1:100 stadia with horizontal circle, plumb bob and same equipment as 7372-50.
- 7372-05 B1C** Precision Automatic Level, 0.3:100 stadia with horizontal circle, plumb bob and same equipment as 7372-50.
- 7382-60 B20** Automatic Level, complete with high-visibility fitted SE35 Carrying Case with shoulder strap, plumb bob, tool kit, lens cap, rain cover, and operation manual.
- 7381-60 B21** Automatic Level, with same equipment as 7382-60.

ACCESSORIES

- 7311-06 LA8** Illumination Unit - B20, B21
- 7311-11 LA4** Illumination Unit - B1, B1C
- 7372-14 OM1F** Optical Micrometer - B1, B1C (feet)
- 7372-15 OM1** Optical Micrometer - B1, B1C (metric)
- 7372-20 OM5F** Optical Micrometer - B20, B21 (feet)
- 7372-21 OM5** Optical Micrometer - B20, B21 (metric)
- 7311-06 LA8** Illumination Unit - B20, B21
- 7329-46 EL5** 40x eyepiece - B20

*For other accessories, see pages 82-86.
For level rods, see pages 44-47.
For tripods, see page 43.*



7375-51

PL1 TILTING LEVEL

- ◆ Meets first-order specifications for repeatability of line of sight.
- ◆ Accuracy is ensured by the tubular vial, sensitive to 10 seconds / 2mm.
- ◆ A "coincidence system" makes it easy to center the bubble.
- ◆ The optical parallel plate micrometer reads to .001 in. (0.1mm).
- ◆ Choose either inch-reading or metric.

B20/B21 AUTOMATIC LEVELS

- ◆ Achieve an accuracy of $\pm .004$ ft. in one mile of double-run leveling with the B20; the B21 provides an accuracy of $\pm .006$ ft. You can even improve on those numbers with an optional micrometer!
- ◆ The endless tangent horizontal drive allows fast, precise operation.
- ◆ A collimator-type sight lets you quickly and accurately point the instrument.
- ◆ Horizontal circles are graduated in degrees to 360° .



7372-55

B1/B1C AUTOMATIC LEVELS

- ◆ Achieve an accuracy of $\pm .003$ ft. in 1 mile of double-run leveling ($\pm .002$ ft. with the optional OM1F parallel plate micrometer).
- ◆ Two-speed focusing lets you sight faster than other levels.
- ◆ A collimator-type peepsight ensures quick, accurate pointing.
- ◆ The B1C's horizontal glass circle is read optically through the microscope—direct to $10'$, and by estimation to $1'$. Circle is graduated in degrees to 360° .



7382-60

QUICK SPECS

Telescope	PL1E	B1/B1C	B20	B21
Image	Erect	Erect	Erect	Erect
Magnification	42x	32x	32x or 40x (opt.)	30x
Resolving Power	2" of arc	3"	n/a	n/a
Field of View	1° 10' (2.0 ft. @ 100 ft.)	1° 20' (2.3 ft. @ 100 ft.)	1° 20' (2.3 ft. @ 100 ft.)	1° 20' (2.3 ft. @ 100 ft.)
Minimum Focus	6.6 ft. (2m)	7.5 ft. (2.3m)	1 ft. (0.3m)	1 ft. (0.3m)
Stadia Ratio	1:100	0.3:100 or 1:100	1:100	1:100
Compensator — PL1 (split-image tubular vial); all others (wire-hung; magnetically damped)				
Setting Accuracy	n/a	0.3"	0.3"	0.5"
Range	n/a	$\pm 10'$	$\pm 15'$	$\pm 15'$
Leveling Accuracy (all models)—in 1.0 km (1 mile) of double-run leveling				
Standard Deviation w/ micrometer	± 0.2 mm / .001 ft. .001 in (0.1m)	± 0.8 mm / .003 ft. ± 0.5 mm / .002 ft.	± 1.0 mm / .004 ft. ± 0.8 mm / .003 ft.	± 1.5 mm / .006 ft. ± 1.2 mm / .005 ft.
Level Vial (all models) — circular				
Sensitivity	3.5' / 2mm	10' / 2mm	10' / 2mm	10' / 2mm

C30/C31/C32

AUTOMATIC LEVELS



7384-60
Accuracy: 1/16" at 200 ft.

FAST, ACCURATE AND EASY-TO-USE

Sokkia's C30, C31, and C32 are designed for both indoor and outdoor use. You'll find the following features of particular value:

- ◆ Achieve an accuracy of ± 0.008 ft. in one mile of double-run leveling.
- ◆ A collimator-type sight lets you quickly lock onto the target.
- ◆ Crisp, bright optics are easy to read.
- ◆ Using a spherical-head tripod, setting up the level is fast and easy—even on angled, uneven surfaces. Set the level onto the tripod head, center the circular bubble, and away you go. It also fits flat-head tripods.

- ◆ Four suspension wires and magnetic damping action ensure stability, even under rapidly changing atmospheric conditions, vibration and shock. Extended compensator range of ± 15 minutes.
- ◆ Incorporates an endless horizontal motion drive with two knobs for fast and easy aiming. Operable with the right or left hand. Simply turn the instrument, then use the fine motion to precisely aim the level at the target.
- ◆ Telescope optics are bright and clear. The 1 ft. (30cm) minimum focus distance (from the center of the instrument) makes it easy to use in confined locations.
- ◆ The stadia lines on the reticle allow easy calculations of distance. Simply multiply the distance on the rod between the top and bottom stadia lines by 100.
- ◆ Equipped with an easy-to-use horizontal circle for laying off and measuring angles (direct reading to 1° or 1 gon). The readout window is conveniently located on the instrument base directly below the eyepiece.
- ◆ Reticle adjustment is made with one screw. Circular level vial is adjusted with two screws. Both adjustments are simple and fast with tools provided.

ORDERING INFORMATION

- 7384-60** C30 Automatic Level, complete with high-visibility fitted SE35 Carrying Case with shoulder strap, plumb bob, tool kit, lens cap, rain cover, and operation manual.
- 7384-65** C31 Automatic Level, with same equipment as above.
- 7385-60** C32 Automatic Level, with same equipment as above.

ACCESSORIES

- 7311-47** DE22 Diagonal Eyepiece

For other accessories, see pages 82-86.
For level rods, see pages 44-47.
For tripods, see page 43.



7385-60
Accuracy: 1/16" at 100 ft.

7384-65 (not shown)
Accuracy: 1/16" at 200 ft.

QUICK SPECS

Telescope	C30	C31	C32
Image	Erect	Erect	Erect
Magnification	26x	24x	22x
Field of View	$1^\circ 25'$ (2.5 ft. @ 100 ft.)	$1^\circ 25'$ (2.5 ft. @ 100 ft.)	$1^\circ 25'$ (2.5 ft. @ 100 ft.)
Minimum Focus	1 ft.	1 ft.	1 ft.
Stadia Ratio	1:100	1:100	1:100
Compensator			
Setting Accuracy	0.5"	0.5"	0.5"
Range	$\pm 15'$	$\pm 15'$	$\pm 15'$
Leveling Accuracy (all models)—in 1.0 km (1 mile) of double-run leveling			
Standard Deviation	± 0.008 ft. / 2.0mm	± 0.008 ft. / 2.0mm	± 0.008 ft. / 2.0mm
Level Vial (all models) — circular			
Sensitivity	$10' / 2$ mm	$10' / 2$ mm	$10' / 2$ mm

C41 AND E32

ORDERING INFORMATION

7387-00 **C41** Automatic Level, complete with high-visibility fitted carrying case with shoulder strap, plumb bob, tool kit, lens cap, rain cover, and operation manual.

7385-65 **E32** Automatic Level, with same equipment as above.

For other accessories, see pages 82-86.
For level rods, see pages 44-47.
For tripods, see page 43.



7387-00
Accuracy: 1/4" at 200 ft.

C41 AUTOMATIC LEVEL (20x)

Compact, versatile and sturdy. These features, along with the ones below, make this level the ideal tool for builders.

- ◆ Achieve an accuracy of $\pm .013$ ft. in one mile of double-run leveling.
- ◆ The horizontal circle is easy to use, so you can quickly lay out and measure angles.



7385-65
Accuracy: 1/16" at 100 ft.

E32 AUTOMATIC LEVEL (22x)

A low-cost, tough, precision level that is resistant to exposure to the elements. The E32 allows fast, easy set-up, along with precise collimation and a reliable automatic compensator.

- ◆ Achieve an accuracy of $\pm .008$ ft. in one mile of double-run leveling.
- ◆ The endless tangent horizontal drive allows fast, precise operation—and you can use either your right or left hand!
- ◆ A collimator-type sight lets you quickly lock onto the target.
- ◆ Crisp, bright optics are easy to read; horizontal circle is graduated in degrees to 360°.

QUICK SPECS

Telescope	C41	E32
Image	Erect	Erect
Magnification	20x	22x
Field of View	1° 30' (2.6 ft. @ 100 ft.)	1° 25' (2.5 ft. @ 100 ft.)
Minimum Focus	3 ft.	1 ft.
Stadia Ratio	1:100	1:100
Compensator		
Setting Accuracy	0.5"	0.5"
Range	$\pm 12'$	$\pm 15'$
Leveling Accuracy (all models)—in 1.0km (1 mile) of double-run leveling		
Standard Deviation	$\pm .013$ ft.	$\pm .008$ ft.
Level Vial (all models)—circular		
Sensitivity	10' / 2mm	10' / 2mm

SPECIALIZED APPLICATIONS



Built in 1898 in Scotland, the Discovery was used by Captain R. Scott to explore Antarctica. When launched, it was the strongest ship ever built; still, it was trapped in ice for more than two years during its exploration. Finally brought back to Scotland in 1986, Discovery was the subject of a distortion survey carried out by Warner Land Surveys of Oxford, England, using the NET2 3-D Electronic Total Station.

SOKKIA'S INNOVATIVE SPECIALIZED SYSTEMS INCLUDE INSTRUMENTS DESIGNED TO PERFORM UNUSUAL TASKS IN TUNNELING, ALIGNMENT AND POSITIONING.

NET2B ELECTRONIC TOTAL STATION

The NET2B is an example of Sokkia's leadership in providing solutions to difficult measurement problems. The NET2B system provides 3-D positions to sub-millimeter accuracy, and can be used by just one person. The NET2B measures to reflective targets that can be attached to objects to map the shape and position of the object. Analysis of lines, planes and circles, as well as parabolic, spherical and cylindrical objects, is achieved quickly and accurately with this one-operator system.

PL1S PRECISE TILTING LEVEL

Choose the PL1S for applications that require precise measurement of differences in elevation or when direct measurement is impossible. Being accurate to hundredths or even thousandths of an inch, the PL1S has many specialized applications.

GP1 GYRO STATION

The GP1-3 Gyro Station lets you determine true north with 20" accuracy in approximately twenty minutes. You can obtain azimuth readings within tunnels and other enclosed environments where conventional methods can't be used.

LDT5 ELECTRONIC LASER DIGITAL THEODOLITE

The compact LDT5 Electronic Laser Digital Theodolite combines a 5-second electronic digital theodolite with a laser module for easy set-up in restricted space.

The visible laser makes targeting fast and accurate, making the LDT5 ideal for applications requiring precise setting out and efficient positioning.

You can use the LDT5 to determine tunneling direction and gradient, pipe laying direction and gradient, or to check vertical alignments.

PD3 PERPENDICULAR DETECTOR

The PD3 allows you to achieve absolute vertical alignment in critical situations. The PD3 has telescopes for upward and downward plummeting, allowing you to check perpendicularity in multi-story buildings, elevator shafts, chimneys, and ship-building.

Sokkia's line of specialized instruments can help you get your next specialized job done quickly and accurately.

PL1S AND PD3

ORDERING INFORMATION

7375-52 PL1S Precise Level, complete with SE14A Carrying Case, screw driver, adjusting pins, lens brush, lens cap, dust cover, and operation manual

7900-00 PD3 Perpendicular Detector, complete with SE37 Carrying Case, lens cap, and operation manual.

ACCESSORIES

7536-75 PFA2 Aluminum Tripod for PD3 (Use only this tripod with the PD3.)

For other accessories, see pages 82-86.

For level rods, see pages 44-47.

For tripods, see page 43.



7375-52

PL1S PRECISE TILTING LEVEL

Choose the PL1S for applications that require precise measurement of differences in elevation, or when direct measurement is impossible. Accurate to hundredths or even thousandths of an inch, the PL1S has many special applications:

- ◆ Use it during industrial construction to set and check the pads that machines, turbines, etc. are placed upon
- ◆ Confirm design specifications
- ◆ Check alignment of components or tools for aircraft construction, repair and maintenance
- ◆ Confirm that paper mill rollers are level and in proper alignment with other rollers
- ◆ Precise laboratory measurements
- ◆ Collimated base line of sight references
- ◆ Precise leveling of equipment
- ◆ Measuring flatness of machine ways or beds

The PL1S's combination of a tilting mechanism sensitive to $10'' / 2\text{mm}$, a coincidence-type vial observation system accurate to $0.5''$ or better, and an integral optical micrometer direct-reading to 0.001 in. guarantee precise leveling and accurate measurements.

And it's easy to adjust the optical to the mechanical axis—just rotate the optical wedge until the line of sight is horizontal. You won't find an easier-to-use, more accurate level anywhere.

7900-00



PD3 PERPENDICULAR DETECTOR

If you need to achieve absolute vertical alignment in critical situations, the PD3 is for you. With telescopes for upward and downward plummeting, the PD3 is especially important for:

- ◆ Plummeting transfer of base point to the upper story of the framework of a building
- ◆ Determination of plummeting alignment in underground surveying
- ◆ Setting up a signal target from a triangulation point
- ◆ Determining and checking perpendicularity in multi-story buildings, iron towers, elevator shafts, chimneys, and ship-building

Two telescopes are conveniently positioned one above the other for upward and downward plummeting. The vertical axis of the PD3 and the axes of the telescopes correspond in order to eliminate plummeting errors when rotating the instrument during observation.

The precision plate levels ($20'' / 2\text{mm}$) ensure perpendicularity of the vertical axis. A pair of plate levels positioned at a right angle let you quickly level the PD3 with any two of the three leveling screws.

QUICK SPECS

Telescope	PL1S	PD3
Image	Erect	Inverted
Magnification	42x	20x
Resolving Power	2" of arc	Upper 3", Lower 3.5"
Field of View	1° 10' (2.0 ft. @ 100 ft.)	1° 10' (2.0 ft. @ 100ft.)
Minimum Focus	1 ft. (0.1m)	Upper 4.3 ft. (1.3m), Lower 3.3 ft. (1m)
Stadia Ratio	1:100	n/a
Parallel Plate Micrometer		
Range	±0.125 in.	n/a
Division	.001 in.	n/a
Level Sensitivity		
Circular Level	3.5" / 2mm	n/a
Plate Level	n/a	20" / 2mm

LDT5 AND GP1-3

LDT5 ELECTRONIC LASER DIGITAL THEODOLITE

The compact LDT5 Electronic Laser Digital Theodolite combines a 5-second electronic digital theodolite with a laser module for easy set-up in restricted space.

The visible laser makes targeting fast and accurate, making the LDT5 ideal for applications requiring precise setting out and efficient positioning. And the water-resistant body means you can use this instrument under even the most challenging conditions.

Coaxial telescope and laser optics provide a single line of sight for easiest observation and measurement. It's like two instruments in one! When you don't need the laser beam, the LDT5 functions as a conventional electronic digital theodolite.

The illuminated, two-line LCD display indicates vertical and horizontal angles to 5". The innovative, patent-pending optical system delivers especially clear, bright resolution.

Use the LDT5 to determine tunneling direction and gradient, pipe laying direction and gradient, or to check vertical alignments.



7304-05

GP1-3 GYRO STATION

The GP1-3 Gyro Station lets you determine true north with 20" accuracy in approximately twenty minutes.

Use it to:

- ◆ Obtain azimuth readings within tunnels and other enclosed environments where conventional methods can't be used.
- ◆ Determine directions for roads, railways, power lines and other long, narrow construction projects.

ORDERING INFORMATION

- 7304-05 LDT5** Electronic Laser Digital Theodolite, complete with EDC20 AC/DC Converter, EDC6 Cable, SC89 carrying case, CP7 Tubular Compass, lens cap, plumb bob, vinyl cover, tool kit, and operation manual.
- 7305-03 GP1-3** Gyro Station (with Series 100 Electronic Total Station), inverter, BDC7 Battery, 2 BDC35 NiMH Batteries, CDC39 Charger, SC141 Carrying Case, WA1 Tribrach, CP7 Compass, tool kit, rain cover, and operation manual.

ACCESSORIES

- 7305-52 EDC20 AC/DC Converter** (92-132V AC) for GP1 module

For batteries and other accessories, see pages 82-86.
For prisms see pages 36-40.
For tripods, see page 43.

- ◆ Check navigational devices.
- ◆ Measure anomalies in geomagnetic surveys.
- ◆ Orient radio communication antennae.

A GP1 Gyroscope is combined with a Series 100 Electronic Total Station, making the system fully automatic. An internal clock, CPU with memory and special on-board software eliminate the need for manual calculations. And because all gyro functions are controlled by the external keyboard, the Series 100 remains fully functional. It's like getting two instruments in one!

QUICK SPECS

Telescope		LDT5
Image		Erect
Magnification		30x
Resolving power		3"
Field of View(100 ft.)		1 30' (26 ft.)
Minimum focus		4.3 ft. (1.3m)
Angle Measurement		
Display resolution		5" / 1mgon
Accuracy		5"
Level Sensitivity		
Plate Level		20" / 2mm
Circular Level		10" / 2mm

QUICK SPECS

	GP1-3
Standard deviation of measurements	±20" (0.15 mils)
Running up time	60 sec.
Half period (at middle latitudes)	3'
Minimum interval between divisions	10' / div.

ORDERING INFORMATION

6340-02 NET2B Electronic Total Station, complete with dual keyboards, 2 BDC25A Batteries, CDC27 Charger, EDC19 Charging Adapter, SC46 Carrying Case, WA Tribrach, CP7 Compass, tool kit, sunshade, lens cap, and operation manual.

ACCESSORIES

6855-25 CDC29 Double Quick Charger for BDC25A
6661-02 BDC12 External Battery 6V NiCd
6650-02 EDC3 Battery Cable for use with BDC12
6350-32 Cable from SET/NET2 to 25-pin serial port
6350-33 Cable from SET/NET2 to 9-pin serial port
6460-01 Power Cable for SET/NET2 12-6V DC w/clip

For batteries and other accessories, see pages 82-86.

For prisms and reflective targets, see pages 35-40.

For tripods, see page 43.

For communication software, see pages 13-15.

EASY INSTALLATION ANYWHERE. NO BASELINE OR DATUM POINTS NEEDED

The NET2B uses a unique method for deriving coordinates which differs fundamentally from conventional absolute-coordinate systems. With Sokkia's NET2B, a 3-dimensional coordinate system can be set up with remarkable ease; just place the NET2B in any location suitable for measurement and then measure two random points. No baseline or datum points are required.

OUTSTANDING PRECISION

The NET2B is the first system of its kind to provide accuracy with standard deviation below 0.9mm in measurements of 100m. This phenomenal precision translates to data of unprecedented reliability. Using the optical rotary encoders attached to the NET2B's rotation axes, horizontal and vertical angles both can be measured in increments of 1 second.

AUTOMATIC COMPENSATION OF SYSTEM INCLINATION

The NET2B features important innovations that ensure high accuracy and ease of use, even when used by inexperienced operators.

- ◆ A dual-axis compensation function monitors for any inclination of the NET2B and automatically carries out any needed compensation of the measured angles (horizontal and vertical). This feature ensures easy set-up and accurate measurements.
- ◆ The fine adjustment screws offer a dual-speed function which automatically alters the horizontal and vertical positions of the telescope using two settings: rough and precise. After the approximate position has been determined using the rough speed setting, the precise speed setting is automatically activated to permit accurate sighting.

ON-BOARD FUNCTIONALITY

Besides horizontal and vertical angle measurements, distance measurements (slope, horizontal, and height difference) and 3-D coordinate measurements, the NET2B performs a number of other functions:

- ◆ Resection
- ◆ Instrument station transfer
- ◆ Traverse-style coordinate measurement
- ◆ Setting-out measurement
- ◆ Missing line measurement
- ◆ Remote elevation measurement
- ◆ Coordinate data storage (100 points)



6340-02

VERSATILITY TO ACCOMMODATE ALL TYPES OF MEASUREMENTS

- ◆ Deformation and displacement of all types of structures: tunnels, buildings, etc.
- ◆ Construction supervision and shape measurement of odd-shaped structures such as domes, etc.
- ◆ Dimensional and shape measurements of large-scale parts used in plants, etc.
- ◆ Installation and construction supervision for determining plant siting, etc.
- ◆ Dimensional and shape measurement for construction and repair of ships, aircraft, etc.

REFLECTIVE TARGETS ON CONVENIENT SHEETS

Easy-to-use reflective targets (pg. 35), supplied on convenient adhesive-backed sheets, can be directly fixed to measuring points. For alternate needs, rotary targets and a 2-point target are also available.

QUICK SPECS

Telescope	NET2B
Magnification	30x
Resolving Power	3"
Minimum Focus	6.6 ft. (2m)
Angle Measurement	
Display Resolution (selectable)	1" / 0.2mgon (5" / 1mgon)
Accuracy (DIN 18723)	2" (0.6mgon)
Distance Measuring Range (Slope distance, good conditions: no haze, visibility 25 miles (40km), overcast, no heat shimmer)	
RS90N (90mm Reflective Sheet Target)	6.6 ft. to 328 ft. (2m to 100m)
CPS12 Prism	164 ft. to 3,280 ft. (50m to 1,000m)
Distance Measuring Time (initial/subsequent)	
Fine Mode	6.5 sec. / 4.7 sec.
Coarse Mode	5.0 sec. / 3.3 sec.

SUPPLIES AND ACCESSORIES

SOKKIA REFLECTIVE TARGETS

The NET2B, POWERSET and Series 100 Electronic Total Stations incorporate a new innovative optical system. The central portion of the objective lens acts as the light emitter and the surrounding portion acts as the light receiver. This design allows these instruments to meet EDM accuracy specifications using traditional glass prisms or our reflective sheet targets. While other Sokkia instruments may get a return signal from reflective targets, the EDM accuracy can be guaranteed only when measuring to glass advanced prism systems.

The reflective sheet targets allow for a wide variety of measurement possibilities since they can be directly attached to most surfaces. This allows measurement of the shape and position of objects in situations where the use of traditional glass prisms would not be practical.

SOKKIA ADVANCED PRISM SYSTEM

For the user that wants maximum distance and accuracy when using Sokkia Electronic Total Stations and add on EDM. The Advanced Prism System was designed by the same engineers that designed Sokkia Electronic Total Stations. All distance specifications for Sokkia products are referenced to Advanced Prism System components. The Advanced Prism System includes prisms, adaptors, mounts, targets and tribrach adaptors.

- ◆ Manufactured to the highest standards and specifications
- ◆ -40mm offset reduces aiming and distance errors
- ◆ Threaded mounting system securely attaches prism to mount
- ◆ Complete prism and target system including tribrach adaptors
- ◆ Hermetically sealed prism cannisters
- ◆ Stainless steel fittings
- ◆ -30mm offset adapter available

SOKKIA 0mm/-30mm POLYCARBONATE PRISM SYSTEM

While designed for optimum performance with Sokkia products, the Polycarbonate Prisms are an excellent choice for use with any brand of electronic distance measuring equipment. 0mm/-30mm prisms offer the same distance performance with Sokkia products as Advanced Prism, but at a lower cost. There are single and triple mounts, and assemblies.

- ◆ User selectable 0mm or -30mm offset in the same mount
- ◆ Hermetically sealed prism cannister
- ◆ Lightweight, yet durable
- ◆ Stainless-steel fittings
- ◆ Variety of mounts and targets available

SOKKIA ALUMINUM AND LEXAN™ PRISMS AND MOUNTS

Offered in the traditional slide in style of mount, aluminum and Lexan™ can be used with all types of total stations and electronic distance meters. They are suitable as replacement prisms for mounts already in use. Single and triple assemblies and mounts are offered as well prisms in cannisters only.

- ◆ Aluminum mounts are sturdy, yet lightweight and suitable for the most demanding customer
- ◆ Lexan™ mounts offer a considerable savings in weight without a reduction in durability
- ◆ Slide-in cannisters are secured with a thread locking knob
- ◆ Mounts will attach to any prism pole with a 5/8" x 11" thread
- ◆ The tops of mounts threaded to accept target poles

REFLECTIVE SHEET TARGETS

ORDERING INFORMATION

- 6344-02 RT1A** Precise NET2B Target (Not Shown)
- 6344-03 2RT310** NET2B Offset Target (Not Shown)
- 6344-04 CPS12** Precision NET2B Prism (Not Shown)
- 6344-05 RT50M** Magnetic NET2B Target
- 6344-12 RT90M** Rotary Target
- 6344-13 RT30G10** Rotary Target
- 6344-14 RT50G10** Rotary Target
- 6344-15 RT90G10** Rotary Target
- 6345-00 RS00** Target 230 x 230mm (1ea.) (Not Shown)
- 6345-05 RS05T** Targets 5 x 5mm (400 ea.)
- 6345-10 RS10N** Targets 10 x 10mm (400 ea.)
- 6345-11 RS10T** Targets 10 x 10mm (400 ea.)
- 6345-15 RS15N** Targets 15 x 15mm (196 ea.)
- 6345-16 RS15T** Targets 15 x 15mm (196 ea.)
- 6345-20 RS20N** Targets 20 x 20 mm (100 ea.)
- 6345-21 RS20T** Targets 20 x 20 mm (100 ea.)
- 6345-30 RS30N** Targets 30 x 30mm (49 ea.)
- 6345-31 RS30T** Targets 30 x 30mm (49 ea.)
- 6345-50 RS50N** Targets 50 x 50mm (16 ea.)
- 6345-70 RS70N** Targets 70 x 70mm (9 ea.)
- 6345-90 RS90N** Targets 90 x 90mm (4 ea.)
- 6346-05 RC50** Reflective Target (73mm x 73mm) (Not Shown)
- 6346-10 RC100** Reflective Target (100mm x 100mm) (Not Shown)
- 6365-50 RT50P** Reflective Target Set
- 6365-52 2RT500** Reflective Target Set
- 6365-53 RF3** Reflective Staff
- 6365-90 RT90C** Reflective Target (fits AP41/44)

* Prism constant of all reflective targets and sheets is 0mm.



6344-13/6344-14/6344-15



6365-52

6365-53

6344-12

Easy-to-use reflective targets, supplied on convenient adhesive-backed sheets, can be directly fixed to measuring points. For alternate needs, rotary targets and a 2-point target are also available.

RS SERIES REFLECTIVE SHEETS

6345-05 through 6345-90 RS* N/T

0.4 mm thick, self-adhesive sheets that adhere at a touch to almost any dry surface. RS*N has normal (0.5mm) reticle lines; RS*T has bold (0.3mm) reticle lines.

DETACHABLE ROTARY TARGET

6365-90 RT90C

360° rotating sheet target. The RT90C can be mounted on a tribrach with the AP41 Adapter, or mounted directly to prism pole AP61.

PIN-POLE TARGET

6365-50 RT50P (30 x 30mm)

360° degree rotating sheet target. The RT50P can be connected to narrow pin poles.

MAGNETIC ROTARY TARGETS

6344-05 RT50M (50 X 50mm)

6344-12 RT90M (90 X 90mm)

Incorporating a powerful magnet base, these can be mounted on a steel surface in seconds. Full 360° rotation.

GRIP ANCHOR TARGETS

6344-13 RT30G10 (30 X 30mm)

6344-14 RT50G10 (50 X 50mm)

6344-15 RT90G10 (90 X 90mm)

Fully rotatable targets with 10mm dia. male screws. They can be mounted in M10 female bolt holes.

TWO-POINT TARGET

6365-52 2RT500

For the measurement of hidden points. The distance between the two targets is 500mm, and the total length can be extended by adding poles. The measuring range is the same as for a 50 x 50mm sheet target.

REFLECTIVE STAFF

6365-53 RF3

A leveling staff with a special reflective surface. Very quick to sight, for horizontal angle and horizontal distance applications. It can also be used as a normal leveling staff for reading heights.



6365-50

ADVANCED PRISMS

A HIGH-PRECISION PRISM AND TARGET SYSTEM

Improved accuracy. Faster sighting. Increased Range.

Now you can have a prism system that matches the precision of your Sokkia instrument — one that will improve the accuracy of any automated system!

Here are just a few of the ways in which the Sokkia Advanced Prism System is significantly more accurate than -30mm offset systems:

- ◆ **Improved angle reading** with the -40mm offset. This relocates the prism pivot point and minimizes the angular error caused when the prism is not pointed perfectly at the instrument; the errors are particularly present in close-range sighting. Both horizontal and vertical angle accuracy are improved.
- ◆ **Longer, more accurate distances.** New design and improved coatings eliminate polarization and back scattering. The return beam converges to maintain signal strength at long distances.
- ◆ **Faster sighting, more accurate aiming.** New, non-tilting metal targets remain fixed in the vertical plane and provide optimum accuracy of alignment between prism center, prism mount and target center; targets are high-visibility black and fluorescent yellow.
- ◆ **Create a nine prism assembly** from three triples (with an adaptor) to achieve longer distances.
- ◆ **Improved durability.** Patented O-ring prism sealing plus tough coatings assure high reflectivity.

Recommended prism systems for total station instruments and azimuth base-mounted EDM's.

ORDER EACH ITEM SEPARATELY

SYSTEM A SINGLE PRISM, TILTING

1 ea. **No. 7261-34** AP11 Single Tilting Mount
1 ea. **No. 7261-35** AP01 -40mm Prism* (Single Tilting Mount and 1 Prism also available together as **No. 7261-32**)

1 ea. **No. 7261-42** AP11T Target
1 ea. **No. 7261-50** AP41 Optical Plummet Adaptor w/ 60" vial
1 ea. **No. 7311-34** WA1 Tribrach

SYSTEM B TRIPLE PRISM, STATIONARY

1 ea. **No. 7260-33** AP31 Triple Stationary Mount
3 ea. **No. 7261-35** AP01 -40mm Prism* (Triple Stationary Mount and 3 Prisms also available together as **No. 7260-31**)

1 ea. **No. 7260-41** AP31T Target
1 ea. **No. 7261-50** AP41 Optical Plummet Adaptor w/ 60" vial
1 ea. **No. 7311-34** WA1 Tribrach

SYSTEM C TRIPLE PRISM, TILTING

1 ea. **No. 7261-33** AP32 Triple Tilting Mount
3 ea. **No. 7261-35** AP01 -40mm Prism* (Triple Tilting Mount and 3 Prisms also available together as **No. 7261-31**)

1 ea. **No. 7261-42** AP32T Target
1 ea. **No. 7261-50** AP41 Optical Plummet Adaptor w/ 60" vial
1 ea. **No. 7311-34** WA1 Tribrach

SYSTEM D NINE PRISM, STATIONARY

3 ea. **No. 7260-33** AP31 Triple Stationary Mount
9 ea. **No. 7261-35** AP01 -40mm Prism* (Triple Stationary Mount and 3 Prisms also available together as **No. 7260-31**, 3 sets required)

1 ea. **No. 7260-46** AP43 Manifold
7 ea. **No. 7261-50** AP41 Optical Plummet Adaptor w/ 60" vial
1 ea. **No. 7311-34** WA1 Tribrach



SYSTEM A



SYSTEM B



SYSTEM C



SYSTEM D

ORDERING INFORMATION

COMPLETE ASSEMBLIES

Complete with mount, prisms, lens cap

- No. 7260-31** **AP31A Triple Non-Tilting Prism Assembly**
- No. 7261-31** **AP32A Triple Tilting Prism Assembly**
- No. 7261-32** **AP11A Single Tilting Prism Assembly**

TARGETS

- No. 7260-41** **AP31T Target for No. 7260-33 AP31**; attaches to top of mount with clamp screw
- No. 7261-39** **AP51 Target for Yoke-Mounted EDM**; adjustable to match distance between optical axes of theodolite and EDM; accepts single-, triple- and nine-prism assemblies; target extensions (No. 7261-43 AP51ET) available for long distance shots
- No. 7261-41** **AP32T Target for AP32**; attaches to yoke in slide-in slot; clamp screws secure and center target
- No. 7261-42** **AP11T Target for AP11**; attaches to yoke in slide-in slot; clamp screws secure and center target
- No. 7261-43** **AP51ET Oversize Target** (Requires No. 7261-39 AP51)

MOUNTS AND PRISMS

- No. 7260-33** **AP31 Triple Stationary Mount** with fourth mounting hole to properly position a single prism; also has peep sight for aiming
- No. 7261-33** **AP32 Triple Tilting Mount** with fourth mounting hole to properly position a single prism; also has peep sight for aiming
- No. 7261-34** **AP11 Single Tilting Mount**; has collimator-type sight for fast aiming
- No. 7261-35** **AP01 -40mm Prism**
- No. 7261-37** **AP12 Double Yoke Mount with Vial**; tilting portion completely surrounded by yoke for versatility; bayonet mount on top and bottom; level vial on mount eliminates need for vial on prism pole
- No. 7261-40** **AP13 Target and Mount**; for telescope-mounted EDM

* -30mm Prism **No. 7266-35** can be used. Do not mix offsets in mounts.

ACCESSORIES

No. 7260-36 Replacement Bayonet Adaptor for AP31

No. 7260-46 AP43 Nine Prism Adaptor — requires three No. 7260-33 triple mounts

No. 7261-36 AP01S -30mm Adaptor adapts AP Prisms to -30mm offset

No. 7261-44 AP30P Sighting Pole for AP31, AP32, AP11, AP12

No. 7261-48 Graduated Precise Prism Pole

No. 7261-50 AP41 Optical Plummet Tribra­ch Adaptor; accepts all mount and target assemblies; has 60" level vial for accurate leveling and centering; adjustable to match height of optical axis above tribra­ch; use with No. 7311-34

No. 7261-51 AP44 Tribra­ch Adaptor; like No. 7261-50 but no optical plummet; use with No. 7311-35

No. 7266-36 Lens Cap

No. 7311-34 WA1 Tribra­ch

No. 7311-35 WOA1 Optical Plummet Tribra­ch

No. 8078-96 Prism Pole Tripod

No. 7270-48 Ungra­duated Prism Pole

No. 8078-50 Prism Pole Point

No. 8078-51 Topo Shoe for Prism Pole



SYSTEM E



SYSTEM F



SYSTEM G



SYSTEM H

MOUNTING SYSTEMS HAVE BEEN IMPROVED

- ◆ Faster leveling and plumbing; new instrument height adaptors combine optical plummets with a tubular vial so that prism and target height can be perfectly and quickly matched to the instrument height and accurately positioned over reference point.
- ◆ Adjustment of optical plummets can be easily checked.

Recommended prism systems for yoke-mounted EDM's.

ORDER EACH ITEM SEPARATELY

**SYSTEM E
SINGLE PRISM, TILTING**

- 1 ea. **No. 7261-34** AP11 Single Tilting Mount
- 1 ea. **No. 7261-35** AP01 -40mm Prism* (Single Tilting Mount and 1 Prism also available together as **No. 7261-32**)
- 1 ea. **No. 7261-39** AP51 Target
- 1 ea. **No. 7261-50**, AP41 Optical Plummet Adaptor w/ 60" vial
- 1 ea. **No. 7311-34** WA1 Tribra­ch

**SYSTEM F
TRIPLE PRISM, STATIONARY**

- 1 ea. **No. 7260-33** AP31 Triple Stationary Mount
- 3 ea. **No. 7261-35** AP01 -40mm Prism* (Triple Stationary Mount and 3 Prisms also available together as **No. 7260-31**)
- 1 ea. **No. 7261-39** AP51 Target,
- 1 ea. **No. 7261-50** AP41 Optical Plummet Adaptor
- 1 ea. **No. 7311-34** WA1 Tribra­ch

**SYSTEM G
TRIPLE PRISM, TILTING**

- 1 ea. **No. 7261-33** AP32 Triple Tilting Mount
- 3 ea. **No. 7261-35** AP01 -40mm Prism* (Triple Tilting Mount and 3 Prisms also available together as **No. 7261-31**)
- 1 ea. **No. 7261-39** AP51 Target
- 1 ea. **No. 7261-50** AP41 Optical Plummet Adaptor w/ 60" vial
- 1 ea. **No. 7311-34** WA1 Tribra­ch

- ◆ Polycarbonate plastic mounts are lightweight and durable.
- ◆ Stainless steel fittings eliminate corrosion for longer life of moving parts.
- ◆ Bayonet mounting system for quick set-up when using compatible accessories; a 5/8 x 11 female thread is provided, making mounts usable with all components.
- ◆ Versatile and flexible; a wide variety of mounts and targets are available for use with total stations and yoke- and telescope-mount EDMs.

NINE PRISM, STATIONARY

(Not Illustrated)
3 ea. **No. 7260-33** AP31 Triple Stationary Mount
9 ea. **No. 7261-35** AP01 -40mm Prism* (Triple Stationary Mount and 3 Prisms also available together as **No. 7260-31**, 3 sets required) (also available for Nine Prism Stationary System)
1 ea. **No. 7260-46** AP43 Manifold, 1 ea. 7261-39 AP51 Target, 1 ea. **No. 7261-43** AP51ET Target Extension, 1 ea. **No. 7261-50** AP41 Optical Plummet Adaptor w/ 60" vial, 1 ea. **No. 7311-34** WA1 Tribra­ch

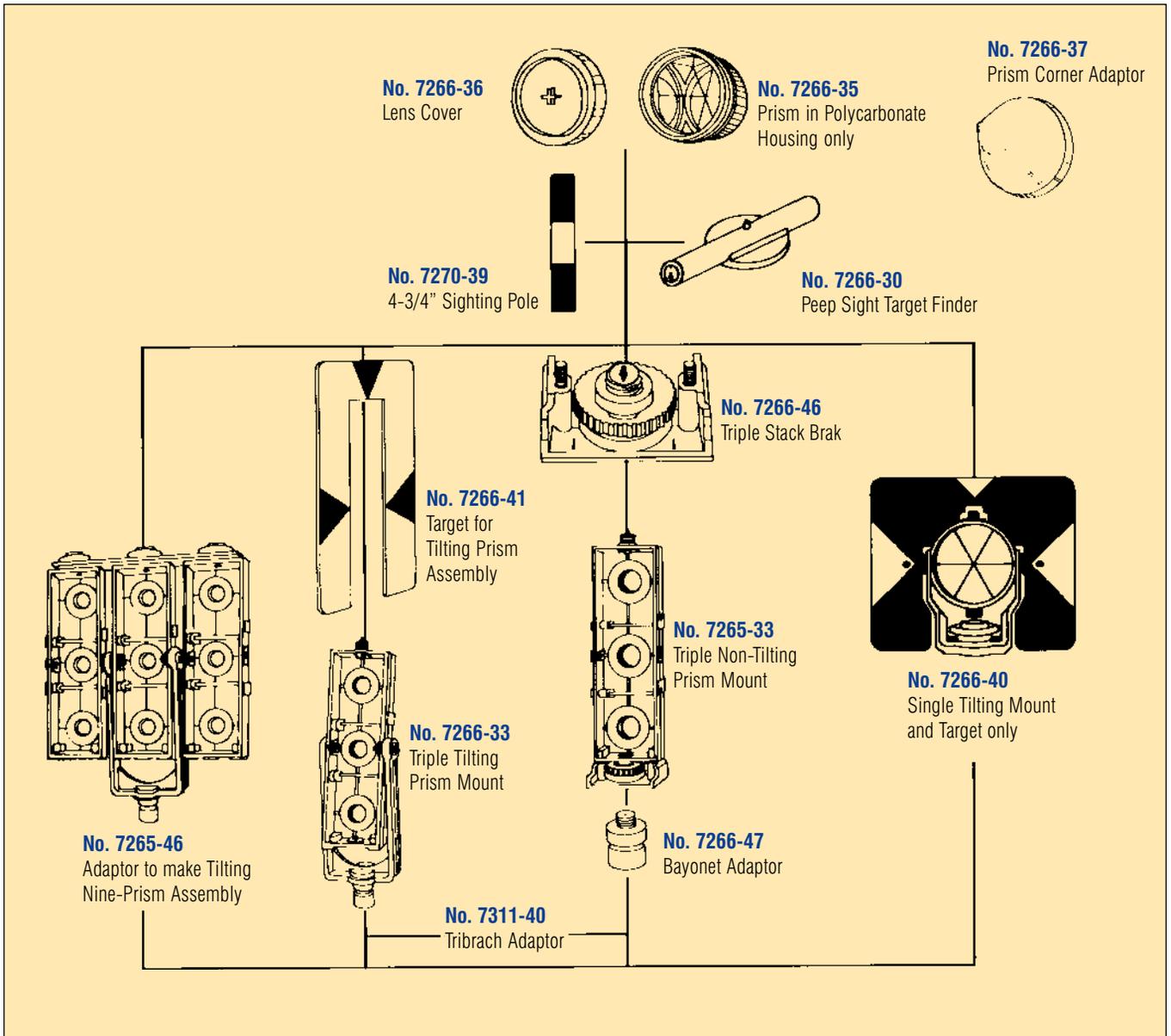
RECOMMENDED PRISM SYSTEM FOR TELESCOPE-MOUNTED EDM SYSTEM

SYSTEM H

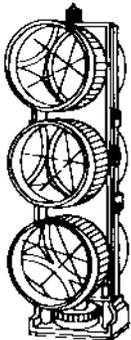
- 1 ea. **No. 7261-40** AP13 Target and Mount
- 1 ea. **No. 7261-35** AP01 -40mm Prism*
- 1 ea. **No. 7261-50** AP41 Optical Plummet Adaptor w/ 60" vial
- 1 ea. **No. 7311-34** WA Tribra­ch; use Yoke-Mounted System for Multiple Prisms. When using optical plummet tribra­chs, substitute the following components: **No. 7261-51** (AP44) for **No. 7261-50** (AP41), **No. 7311-35** (WOA1) for **No. 7311-34** (WA1).

* -30mm Prism No. 7266-35 can be used. Do not mix offsets in mounts.

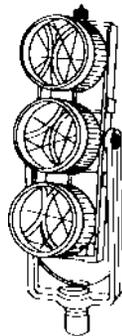
POLYCARBONATE PRISMS



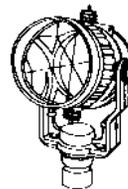
RECOMMENDED SYSTEMS SOLD COMPLETE



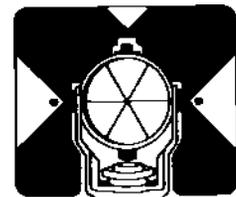
No. 7265-31
Triple Non-Tilting Prism Assembly with lens cover



No. 7266-31
Triple Tilting Prism Assembly with lens cover



No. 7266-32
Single Tilting Prism Assembly with lens cover



No. 7266-38
Single Tilting Prism with permanent target and mount

POLYCARBONATE PRISMS

ORDERING INFORMATION

- No. 7265-31** Triple Non-Tilting Prism Assembly
- No. 7265-33** Triple Non-Tilting Prism Mount Only
- No. 7266-31** Triple Tilting Prism Assembly
- No. 7266-32** Single Tilting Prism Assembly
- No. 7266-33** Triple Tilting Prism Mount Only
- No. 7266-34** Single Tilting Prism Mount Only
- No. 7266-35** Prism in Polycarbonate Housing Only
- No. 7266-38** Single Tilting Prism Assembly with attached target
- No. 7266-40** Single Tilting Prism Mount Only with attached target
- No. 7266-48** Economy Prism Assembly w/ target and bayonet base

ACCESSORIES

- No. 7266-30** Peep Sight Target Finder for triple and single prism assemblies; used for aiming prism at instrument
- No. 7265-46** Adaptor To Make Tilting Nine-Prism Assembly; joins one triple tilting assembly and two non-tilting assemblies (not included)
- No. 7266-46** Triple Stack Brak (not shown) for stacking triple non-tilting prism assemblies
- No. 7260-36** Bayonet Adaptor (not shown) for triple non-tilting prism assemblies
- No. 7266-36** Lens Cover (shown with No. 7266-35) for triple and single prism assemblies; fits on back of prism assembly when not in use
- No. 7266-37** Prism Corner Adaptor; fits No. 7266-35 prism, 0 offset
- No. 7270-39** 4-3/4 inch Sighting Pole (not shown)
- No. 7266-41** Target (not shown) for triple tilting prism assembly
- No. 7311-40** Tribach Adaptor (not shown) for Retro Prism with bayonet base



7265-31



7266-31



7266-46

(Shown with 7266-33, 7265-33, 7311-38 and 7311-35)



7266-35



7266-38



7266-32



7266-48



7266-37

Complete your measuring system with these versatile polycarbonate prisms that withstand shock better and weigh less than prisms in metal cans:

- ◆ Precision-ground from one solid piece of optical glass
- ◆ Stainless steel fittings for long wear
- ◆ Can be mounted for either 0 or -30mm offset
- ◆ Rubber O-ring completely seals prism against moisture and contamination
- ◆ Face diameter 2-5/16 in.
- ◆ Target and prism configuration ideal for total station instruments with coaxial telescope and EDM optical systems

Triple tilting prisms rotate 360°; the desired position is held by a friction clamp. Triple tilting and non-tilting prisms are stacked vertically to help prevent parallax when pointing.

Single tilting prisms rotate 240°, with a friction clamp to hold the prism in the desired position. Two holes drilled in the yoke facilitate plumbing alignment of the single prism.

A target is available for the triple tilting assembly; a lens cap is included with all prisms in cans and complete assemblies.

ALUMINUM AND LEXAN PRISMS

ALUMINUM PRISMS

- ◆ Durable and lightweight — single unit weighs only 2 lbs.; triple unit weighs 4.5 lbs.
- ◆ Precision-ground to ± 2 arc seconds from one solid piece of optical glass
- ◆ Detachable mounting frames in International Orange for high visibility
- ◆ Offset is -30mm; face diameter 2-7/8 in. (73mm)
- ◆ Triple prism mount sides are threaded for multiple prisms; base and sides drilled with 5/8 x 11 thread; top has 5/8 x 11 stud and lock nut for additional units
- ◆ 4-3/4 in. sighting pole included with each assembly



No. 7269-34 Single Prism Tilting Mount Only

No. 7270-31 Triple Prism Assembly with lens covers

No. 7270-32 Single Prism Assembly with lens cover

No. 7270-33 Triple Prism Mount Only

No. 7270-34 Single Prism Mount Only

No. 7270-35 Round Prism in Can Only; can diameter 3 in.

No. 7270-36 Plastic Lens Cover

No. 7270-37 Retainer Screw

No. 7270-38 Lock Nut

No. 7270-39 4-3/4 in. Sighting Pole

RETROPRISM SIGHTING TARGET No. 7270-29

Adjustable height target with 5/8 x 11 mounting stud. Black anodized aluminum with white and orange-glo target for easy visibility. For use with add-on EDM. (See pages 18-19)

RETROPRISM MOUNTING STUD No. 7270-43

Double male end 5/8 x 11 stud with knurled center; allows installation of prism assemblies on 5/8 x 11 range poles.

LEXAN® RETROPRISMS

- ◆ Extremely lightweight; single unit weighs 1 lb. 3 ozs.; triple unit weighs 3 lbs.
- ◆ Same features as aluminum prisms

Important! To avoid distance errors, use Lexan prisms in Lexan cans and Lexan frames only.

No. 7267-31 Triple Prism Assembly with mount and sighting pole

No. 7267-32 Single Prism Assembly with mount and sighting pole

No. 7267-33 Triple Mount Only
No. 7267-34 Single Mount Only
No. 7267-35 Retroprism Only In Lexan can; diameter 3 in.



7267-31

7270-51



7268-32

7267-35



RETROPRISM CARRYING CASES

Cordura case with full zipper for easy access and storage of prisms; padded inside to protect against shock. Exterior is International Orange. Complete with sturdy carrying strap.

No. 7270-50 Case for Polycarbonate Prisms; 18-1/2 (L) x 6-1/2 (W) x 4-1/2 (D) in.

No. 7270-51 Case for Triple Prism; 12 (L) x 7 (W) x 4 (D) in.

No. 7270-52 Case for Single Prism; 7 (L) x 7 (W) x 4 (D) in.

PEANUT™ RETROPRISM No. 7268-32

- ◆ 1 in. diameter; weighs less than 5 oz.
- ◆ -30mm or 0 offset
- ◆ 5/8 x 11 female thread
- ◆ Complete with carrying pouch and accessories
- ◆ Target and level vial included

PRISM AND RANGE POLES

HEAVY-DUTY TELESCOPING PRISM POLE

No. 7270-44

- ◆ Aluminum tubing with brass fittings; outside diameter 1-1/4 in.
- ◆ Male 5/8 x 11 prism mounting stud; locking disc secures prism
- ◆ Replaceable level vial (No. 8071-91) and point (No. 8078-50)
- ◆ Adjustable height—54 to 100 in.
- ◆ Graduated in both decimal feet and metric



PRISM POLE EXTENSION

No. 7270-45

- ◆ Allows a prism to be mounted about a foot from the ground
- ◆ In areas of dense vegetation, only a small amount needs to be cleared
- ◆ Less displacement of prism from point on the ground if pole is not plumb; helpful for stake-out work



7270-45

PRISM POLE TRIPOD OR BIPOD

No. 8078-96 Tripod
No. 8078-97 Bipod

- ◆ Easy-to-use, fully adjustable tripod or bipod for No. 7270-44 and other Prism Poles
- ◆ Spring-action leg clamps work with one hand for rapid setup

NYLON CASE (Not Shown)

No. 8078-46

- ◆ Three-pocket case fits Range Poles No. 8078-48, No. 8078-42, No. 8079-48

8-FOOT DURALINE RANGE POLE

No. 8078-48 with three-pocket nylon case

- ◆ Alternating 12-in. color sections bonded onto aircraft aluminum tubing resist marring and chipping
- ◆ Pole consists of two 1-1/8 in. diameter, 4 ft. sections with 5/8 x 11 threaded joints for quick assembly

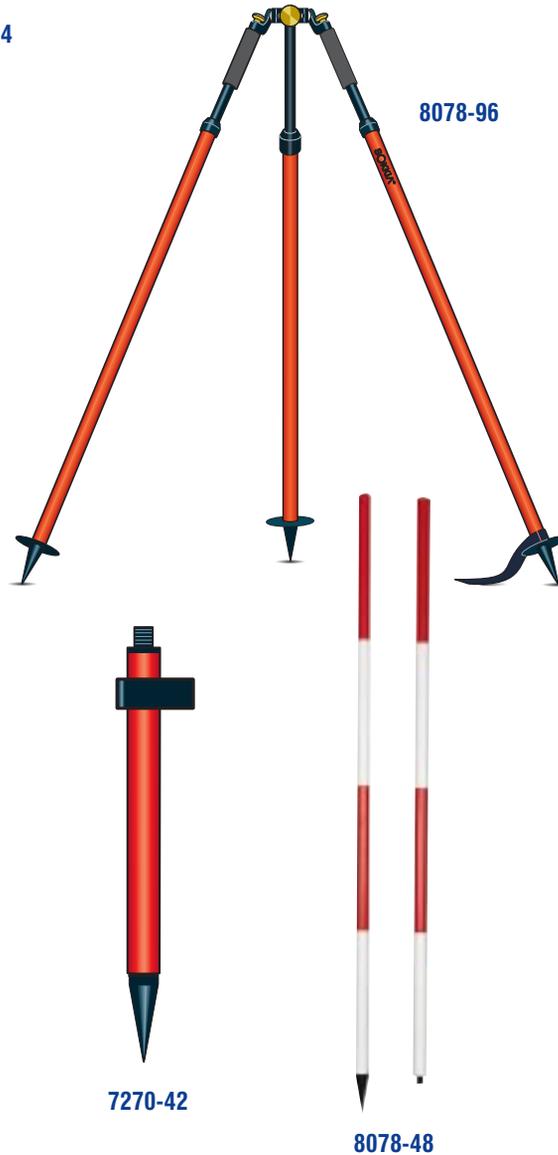
No. 8078-49 4 ft. Section for above
No. 8078-50 Replacement Point

3M DURALINE RANGE POLE (Not Shown)

No. 8078-42 with three-pocket nylon case

- ◆ Same construction as 8-ft. Duraline Pole; two 1.5m sections
- ◆ Alternating 500mm International Orange and white color sections

No. 8078-43 1.5m Section for above
No. 8078-50 Replacement Point
No. 8078-51 Topo Shoe



8-FOOT FIBERGLASS RANGE POLE (Not Shown)

No. 8079-48 with three-pocket nylon case

- ◆ Constructed from nonconductive fiberglass material coated with epoxy resin; tested at 100kV per foot for 5 minutes
- ◆ High-visibility International Orange and white markings won't chip or wear off
- ◆ Lightweight and compact; consists of two 4-ft., 1-1/8-in. diameter sections weighing approximately 2 lbs. each

No. 8079-49 4-ft. Section for above
No. 8122-90 Replacement Points

STAKE-OUT POLE

No. 7270-42

- ◆ Ideal for use with SDR Electronic Field Book stake-out program (See pages 10-11)
- ◆ Short length increases accuracy and reduces field time
- ◆ Set stakes while kneeling to make measurements
- ◆ Level is protected by metal housing; point is replaceable
- ◆ Prism sold separately

RANGE POLE TRIPOD

No. 8078-95

- ◆ Heavy-duty; made with metal center castings and shoes with spurs
- ◆ Adjustable rustproof steel legs for uneven ground



TRAVERSE SETS AND TRIBRACHS

WOA1 TRIBRACH LEVELING BASE WITH OPTICAL PLUMMET
No. 7311-35

For precise plumbing of Sokkia instruments and accessories. Tribachs accept Sokkia EDM systems, electronic and optical theodolites, as well as equipment and accessories. Base plate has standard 5/8 x 11 threads and circular level vial with a sensitivity of 10"/2 mm. Range of optical plummet: 1.5 to 50 ft. (0.5 to 15 m). Push-pull slide focus.

WA1 TRIBRACH LEVELING BASE
No. 7311-34

Same as No. 7311-35, except without optical plummet.

TRIBRACH ADAPTOR
No. 7311-37

Adapts from 5/8 x 11 thread to Sokkia or other brand tribrach. Allows installation of Sokkia prisms or other 5/8 x 11 female-thread accessories into tribrach.

TRIBRACH ADAPTOR WITH ROTATABLE CENTER
No. 7311-38

Allows easy installation of instruments and accessories.

No. 7311-39 Replacement Center only, 34 mm O.D. (not shown)

TRIBRACH ADAPTOR
No. 7311-40

Accepts prisms with 24.8 mm bayonet-type base.

ROTATABLE TRIBRACH ADAPTOR
No. 7311-42

5/8 x 11 male thread for attaching prisms and targets. Threaded portion attached to rotating plate for easy aiming. Plate has knurled edge and friction-stop.



7311-38



7311-40



7311-42



7312-42

TRAVERSE EQUIPMENT For precise triangulation surveys, day or night.

TG1 TRAVERSE SET
No. 7312-46

Optical plummet rotates with target for accurate centering over point.

Includes 2 each:

- ◆ 7311-34 WA1 Tribrach
- ◆ 7312-39 LA2 Illumination Units (not shown)
- ◆ 7312-41 TG1SP Rotatable Target with Optical Plummet.

Includes carrying case; components also available separately

TG2 TRAVERSE SET
No. 7312-45

Includes 2 each:

- ◆ 7311-35 WOA1 Optical Plummet Tribrach
- ◆ 7311-37 Tribrach Adaptor
- ◆ 7312-39 LA2 Illumination Unit (not shown)
- ◆ 7312-40 TG2SP Rotatable Sighting Target mounted on a base

Includes carrying case; components also available separately

TGLP LARGE TARGET
No. 7312-42

8-1/4 x 11-3/4 in. Attaches to a regular target (No. 7312-40 or No. 7312-41) to provide increased sighting range.

TRIPODS

SOKKIA WIDE-FRAME WOOD TRIPODS

- ◆ Our best tripod — all North American maple with metal hardware; no plastic
- ◆ Self-adjusting hinges — no loosening or tightening
- ◆ Durable nylon bushings for smooth operation
- ◆ Tripod shoes with large spurs; hardened steel replaceable tips
- ◆ Durable bright yellow finish
- ◆ Carrying handle

	Height Open	Height Closed	Type of Head	Weight
No. 7512-52	72 in.	45-3/4 in.	5/8 x 11 Flat	14.5 lbs.
No. 7512-72	72 in.	46 in.	5/8 x 11 Flat	15 lbs.

7512-52

SOKKIA WIDE-FRAME ALUMINUM TRIPODS

- ◆ Anodized finish in high-visibility International Orange and silver
- ◆ Sling strap for easy hand- or shoulder-carrying
- ◆ Extra-long shoes with large spurs for greater anchoring power
- ◆ Hardened steel, replaceable tripod shoe tips
- ◆ Quality and value built-in

	Height Open	Height Closed	Type of Head	Weight
No. 7533-75	66-1/2 in.	40 in.	3-1/2 x 8 Flat	11.5 lbs.
No. 7534-75	66-1/2 in.	40 in.	5/8 x 11 Domed	11.5 lbs.
No. 7536-75	66-1/2 in.	40 in.	5/8 x 11 Flat	11.5 lbs.
No. 7536-76	66-1/2 in.	40 in.	1-3/8 x 13 Flat	11.5 lbs.

7536-75

7512-62

7534-95

CONTRACTORS' WIDE-FRAME ALUMINUM TRIPODS

- ◆ All hardware is high-visibility International Orange
- ◆ Cloth sling-strap for comfort
- ◆ Hardened steel, replaceable tripod shoe tips

	Height Open	Height Closed	Type of Head	Weight
No. 7534-85	66-1/2 in.	40 in.	5/8 x 11 Domed	11.5 lbs.
No. 7534-95*	66-1/2 in.	40 in.	5/8 x 11 Domed	11.5 lbs.
No. 7536-85	66-1/2 in.	40 in.	5/8 x 11 Flat	11.5 lbs.
No. 7536-95*	66-1/2 in.	40 in.	5/8 x 11 Flat	11.5 lbs.

* Quick Release Clamps

SOKKIA EZ CLAMP TRIPOD

- ◆ Unique clamping system is designed for fast set-up; just move the locking lever to the “locked” position—no turning or twisting clamp screws!
- ◆ Flexible leg hinges mean the legs can be raised so that the tripod shoe is at the same level as the tripod head
- ◆ Parts and replacement assemblies can easily be replaced with conventional tools

	Height Open	Height Closed	Type of Head	Weight
No. 7512-62	72 in.	46 in.	5/8 x 11 Flat	15 lbs.

7534-85

SK LEVELING RODS



Read heights quickly from the back of the rod with the new height-measuring graduations.

Easy-slide sections are protected from wear.

Our 25 ft. SK Leveling Rods, the original oval fiberglass rods, have features you'll appreciate for their durability and ease of use. In addition to added face protection and a height-measuring gauge, we changed the top of the rod for easier attachment of a mini-prism.

Our face protection system means that you don't have to worry about face wear under the most difficult conditions. And the sections slide more easily, too.

The back sides of the 14-1/2 and 25 ft. SK Leveling Rods have an easy-to-use height-measuring gauge. Simply pull sections out starting with the innermost section, until the top of the rod touches the surface you want to measure to. Then, read the height on the back side of the rod. Height measuring graduations match the graduations on the front side of the rod. Use this feature to measure the height of tunnels, underpasses, ceilings, etc. Attach a laser detector and you have an easy-to-use elevation rod. We've kept the alternating red and white stadia markings for clear visibility.

On the top section is a 5/8 x 11 female threaded hole suitable for attaching a mini-prism. Use the height-measuring gauge as a fast way to determine H.I. The 25 ft. length of the SK Rod gets you above obstacles, making those difficult shots easy.

Forget about adaptor kits to make the rod sections easy to pull out. Our sections protrude for easy use without additional parts.

Sokkia SK Rods are supplied with a carrying case and have easy-to-replace sections.

ORDERING INFORMATION

	Number of Sections	Length	Graduations
No. 8073-33	3	11 ft.	ft./in./8ths
No. 8073-35	4	14-1/2 ft.	ft./in./8ths
No. 8073-37	7	25 ft.	ft./in./8ths
No. 8073-43	3	11 ft.	ft./10ths/100ths
No. 8073-45	4	14-1/2 ft.	ft./10ths/100ths
No. 8073-47	7	25 ft.	ft./10ths/100ths
No. 8073-49	9	32 ft.	ft./10ths/100ths; with attached footplate
No. 8073-57	7	7 m	Meters/decimeters/1/2 centimeters
No. 8073-67	7	25 ft.	ft./10ths/100ths/metric

No. 8073-60 Double Male Adaptor for attaching mini-prism to top of 25 ft. rod

All Sokkia/SK Leveling Rods supplied with case.

Weight: 14-1/2 ft. rods approx. 2-1/2 lbs.; 25 ft. or 7m rods approx. 5 lbs. each; 32 ft. rods approx. 9 lbs.

U.S. Patent No. 4,318,228.

QUALITY YOU CAN COUNT ON

- ◆ Unique patented oval shape permits equal size graduations full-length and prevents rod from rolling; easier to hold
- ◆ Numerals and graduations are epoxy-protected for maximum wear-resistance and sized for maximum readability
- ◆ Lower sections cushioned with glides to prevent wear (25 ft. only)
- ◆ Linear accuracy exceeds 1 in 4,000
- ◆ Made from strong, corrosion-proof fiberglass that's lightweight and easy to carry; won't warp or swell
- ◆ 25 ft. rod retracts to 5-1/2 ft. for easy storage
- ◆ 14-1/2 and 25 ft. rods have new height measuring gauge on back side (except No. 8073-67)
- ◆ 5/8 x 11 female threaded hole on top for mini-prism (14-1/2 and 25 ft. rods)

Our patented SK Rods are famous for their accuracy and dependability; they're simply the best value available today. Their unique oval shape offers better stability than other rods, and all graduations are sized for maximum readability. You can count on the quality of the "original oval leveling rods;" Sokkia/SK's are simply the best value available today!



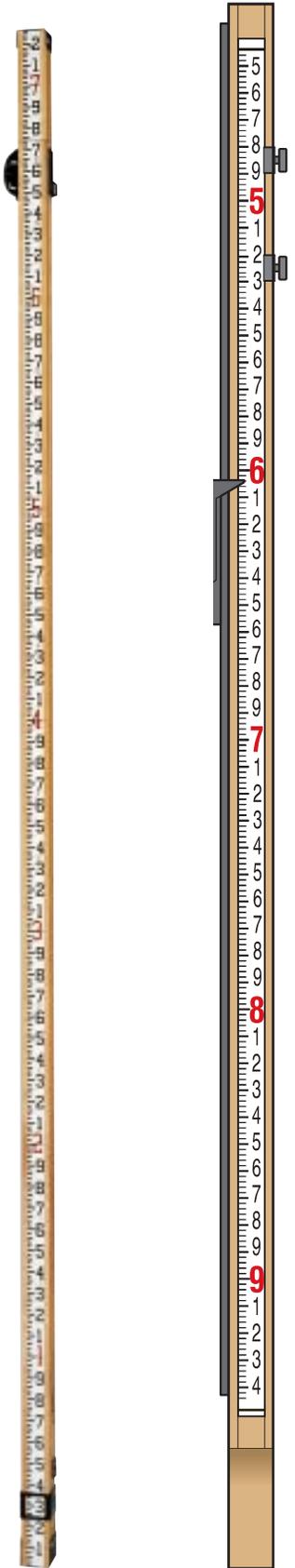
Mount an LPR30 Beam Detector on an SK Rod. (See page 23 for information about Electronic [Laser] Levels.)

REPLACEMENT SECTIONS*, BUTTON SETS AND CASES

Section	8073-33	8073-35	8073-37	8073-43	8073-45	8073-47	8073-49	8073-57	8073-67
0 - 4 ft. Bottom	8073-351	8073-351	8073-371	8073-451	8073-451	8073-471	8073-491	8073-571	8073-671
4 - 7-1/2 ft. Second	8073-352	8073-352	8073-372	8073-452	8073-452	8073-472	8073-492	8073-572	8073-672
7-1/2 - 11 ft. Third	8073-333	8073-353	8073-373	8073-433	8073-453	8073-473	8073-493	8073-573	8073-673
11 - 14-1/2 ft. Fourth	—	8073-354	8073-374	—	8073-454	8073-474	8073-494	8073-574	8073-674
14-1/2 - 18 ft. Fifth	—	—	8073-375	—	—	8073-475	8073-495	8073-575	8073-675
18 - 21-1/2 ft. Sixth	—	—	8073-376	—	—	8073-476	8073-496	8073-576	8073-676
21-1/2 - 25 ft. Seventh	—	—	8073-377	—	—	8073-477	8073-497	8073-577	8073-677
25 - 28-1/2 ft. Eighth	—	—	—	—	—	—	8073-498	—	—
28-1/2 - 32 ft. Ninth	—	—	—	—	—	—	8073-499	—	—
Button Set	8073-26	8073-46	8073-69	8073-26	8073-46	8073-69	8073-70	8073-69	8073-69
Case	8073-29	8073-59	8073-68	8073-29	8073-59	8073-68	8073-71	8073-68	8073-68

*Rod sections come complete with button.

LEVELING RODS

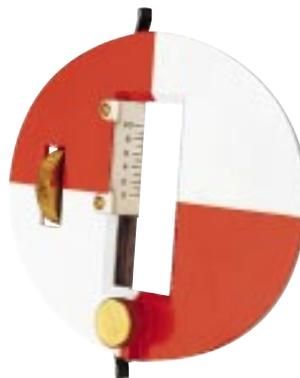


8071-23

8076-00



8071-53



8061-28

STANDARD SERIES PHILADELPHIA ROD

No. 8071-23 7 ft. Rod; extends to 13 ft. (Rod only); weight 6-1/2 lbs.

- ◆ Accurate and built for long life
- ◆ Face is steel, with graduations and numbers bonded to surface
- ◆ No corrosion or chipping
- ◆ Graduated in feet/tenths/hundredths; with vernier readings to thousandths of a foot

No. 8071-25 Set of Replacement Faces for No. 8071-23

TARGETS FOR PHILADELPHIA ROD

No. 8061-28 Micrometer Target with vernier; fits all Philadelphia Rods; reads ± 0.001 ft.

No. 8061-38 Micrometer Target (metric) with vernier; fits all Philadelphia Rods; reads to 1mm

STANDARD SERIES SAN FRANCISCO RODS

No. 8071-53 4-1/2 ft. Rod, extending to 12 ft.; weight 6-1/2 lbs.

No. 8071-63 5-1/2 ft. Rod, extending to 15 ft.; weight 7 lbs.

- ◆ Lightweight and easy to handle; 3 sections
- ◆ Positive-action snap locks and clamps for dependable accuracy
- ◆ Graduations and numbers bonded to steel faces resist corrosion or chipping; divisions to feet/tenths/hundredths

No. 8071-55 Replacement Face for No. 8071-53

No. 8071-65 Replacement Face for No. 8071-63

DIRECT ELEVATION ROD

No. 8076-00 Direct Elevation Rod; weight 5-1/2 lbs.

- ◆ Simplified computations; greatly reduced possibility of error
- ◆ Non-glare white ribbon face can be locked in any position
- ◆ Two 5-ft. sections of hardwood
- ◆ Face section carries a 10-ft. endless metal ribbon graduated in feet/tenths/hundredths

No. 8076-05 Replacement Ribbon
No. 8076-06 Rod Carrying Case

LEVEL RODS

BUILDERS' MINI RODS

- No. 8075-47** 6-1/2 ft. Mini Rod in ft./in./8ths
- No. 8075-48** 6-1/2 ft. Mini Rod in ft./10ths/100ths
- No. 8075-50** 9-1/2 ft. Mini Rod in ft./in./8ths
- No. 8075-51** 9-1/2 ft. Mini Rod in ft./10ths/100ths

- ◆ Unfolds to 6-1/2 or 9-1/2 ft. leveling rod
- ◆ Printed graduations on both sides are embedded below surface and sealed with reflective yellow finish
- ◆ Lightweight and economical
- ◆ Graduated in feet/tenths/hundredths or feet/inches/eighths

FLEXIBLE LEVEL ROD FACES

- No. 8075-31** 16-1/2 ft. long, 1-1/2 in. wide; graduated to 100ths
- No. 8075-40** 12-1/2 ft. long, 1-1/2 in. wide; graduated in ft./in./8ths
- No. 8075-46** 5m long, 38mm wide; graduated in m/dm/cm

- ◆ Special vinyl with peel-off backing
- ◆ Adhesive bonds firmly to rod



8075-50



8075-31



8075-46



8071-90

8071-26

ROD LEVEL

No. 8071-90

- ◆ Determines quickly and accurately if level rod is perpendicular
- ◆ Vial is securely mounted in a metal head
- ◆ Head is adjustable so that a true level can be maintained at all times
- ◆ Vial housing bracket is bright red for easy location in brush and grass

No. 8071-91 Replacement Vial

CARRYING CASES FOR LEVEL RODS

No. 8071-26 Fits No. 8051-23, No. 8051-33, No. 8061-12, No. 8061-23 and No. 8071-23 Philadelphia Rods (page 45)

No. 8071-56 Fits No. 8061-53, No. 8061-57 and No. 8071-53 San Francisco Rods (page 45)

No. 8071-66 Fits No. 8061-63 and No. 8071-63 San Francisco Rods (page 45)

- ◆ Greatly prolong life and assure greater accuracy through unmarred faces
- ◆ Heavy-duty nylon

LEVEL RODS/MEASURING POLES

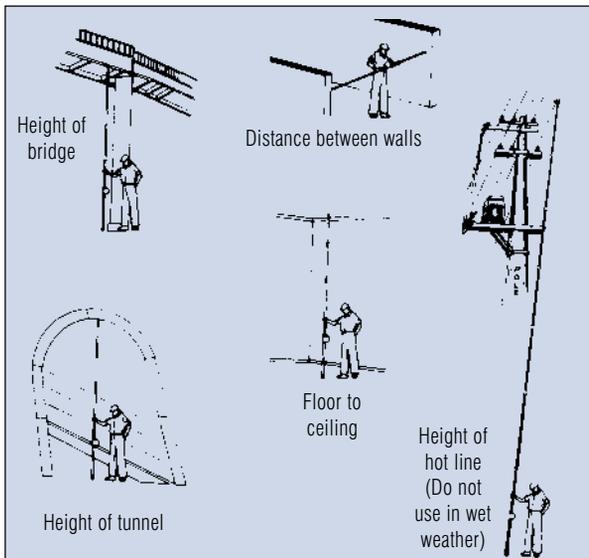
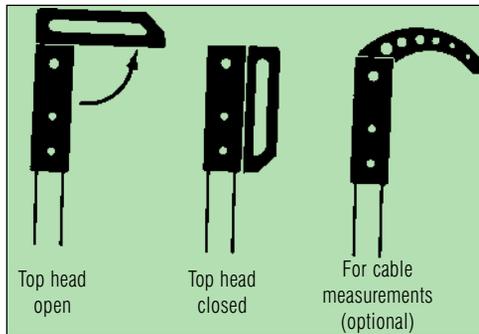


8073-76

HOW TO USE

Extend the pole until the black line appears above the green joint section, then read the graduations and numbers.

8073-76



8072-53

INVAR RODS

No. 8072-52 2m Invar Leveling Staff

No. 8072-53 3m Invar Leveling Staff

- ◆ Highly accurate leveling rods for use with Sokkia PL1 Precise Level (metric), B1 or B20 (with metric micrometer)
- ◆ Graduated to 1cm on Invar steel
- ◆ Yellow face and black figures protected by clear polyester for long life and clarity
- ◆ Wood carrying case and turning plate are recommended to ensure long rod life and optimum accuracy

No. 8072-62 Wood Carrying Case for 2m staff

No. 8072-63 Wood Carrying Case for 3m staff

No. 8072-65 Struts for 3m rod

No. 8072-66 Turning Plate

SOKKIA/SK DIGITAL MEASURING POLES

No. 8073-76 Graduated in ft./in./8ths

No. 8073-86 Graduated in ft./10ths/100ths

No. 8073-96 Graduated in m/dm/cm

- ◆ Enables one person to make measurements in those difficult spots that always used to require a second person, a ladder or a hook at the end of a pole
- ◆ Exact measurements of up to 26 ft. or 8m are conveniently read on the enclosed, sealed digital readout
- ◆ Rugged fiberglass construction with excellent tensile strength
- ◆ Easily withstands severe temperature and humidity variations
- ◆ Compact (only 4 ft. 8 in. closed) and lightweight (less than 5 lbs.) for easy carrying
- ◆ Smooth telescoping movement with friction clamps for no-slip extension
- ◆ Top section is foam-filled to prevent moisture from entering
- ◆ Increased spring tension gives rapid, non-stick measuring tape rewinding action
- ◆ Dielectric strength of 100kV per foot for 5 minutes
- ◆ Complete with shoulder strap and carrying case

SPECIFICATIONS

ACCURACY:	Linear accuracy exceeds 1 in 2,000
STORED LENGTH:	4 ft. 8 in.
MAXIMUM MEASURING RANGE:	26 ft. or 8m
WEIGHT:	4 lbs. 12 oz.

ENGINEER'S FIELD BOOKS

SOKKIA™

TRANSIT AND ECONOMY FIELD BOOKS

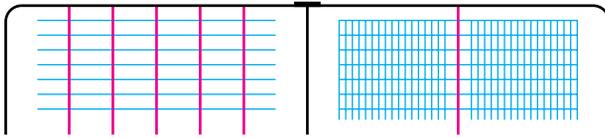
No. 8152-00 Transit Field Book

No. 8152-05 Economy Field Book; heavy paper cover, spiral bound, 36 pages

No. 8152-10 Economy Field Book; heavy paper cover, saddle stitched (stapled), 32 pages

No. 8152-80 Duplicating Transit Book

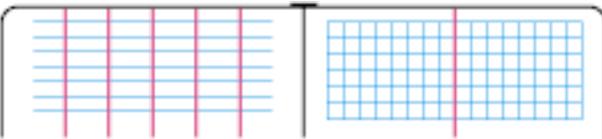
- ◆ 80 pages — 50% cotton rag content paper
- ◆ Weatherproof, durable
- ◆ Left and right pages register
- ◆ Formulae for solving right angles, curves
- ◆ Tables for minutes in decimals of a degree; inches in decimals of a foot



Left page: blue horizontal lines, red vertical lines.
Right page: 8 vertical and 4 horizontal blue lines, red vertical center line.
Size: 4-1/2 x 7-1/4 in.

MINING TRANSIT BOOK

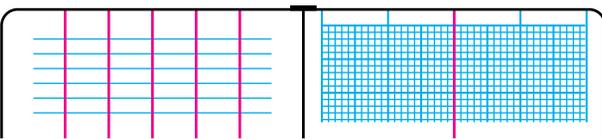
No. 8152-20



Left page: blue horizontal lines, red vertical lines.
Right page: 8 x 8 blue lines, red vertical center line.
Size: 4-1/2 x 7-1/4 in.

ENGINEER'S FIELD BOOK

No. 8152-30

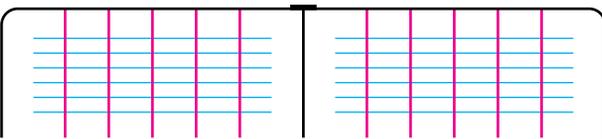


Left page: blue horizontal lines, red vertical lines.
Right page: 10 x 10 blue lines; red vertical center line; inch lines heavy.
Size: 4-1/2 x 7-1/4 in.

LEVEL BOOK

No. 8152-50 4 x 6-1/2 in.

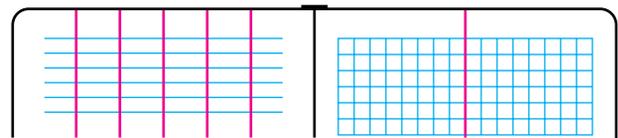
No. 8152-55 4-1/2 x 7-1/4 in.



Both pages: blue horizontal lines, red vertical lines.
6 vertical columns.

FIELD BOOK

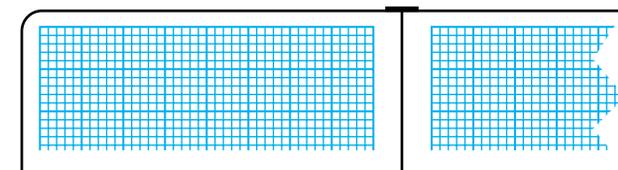
No. 8152-60



Left page: blue horizontal lines, red vertical lines.
Right page: 4 x 4 blue lines, red vertical center line.
Size: 4-1/2 x 7-1/4 in.

CROSS-SECTION BOOK

No. 8152-75



Both pages: 10 x 10 blue lines with inch lines slightly heavier.
Size: 6-1/2 x 8-1/2 in.



8152-50

LOOSE-LEAF FIELD BOOK SHEETS

Printed with waterproof blue and red inks on a fine-quality 50% rag ledger paper specially treated to give "high wet strength." This paper retains its strength and working surface when dried after having been subjected to extreme weather conditions. All sheets are universally punched to fit all standard 6- and 3-ring binders.

Single sheets:

4-1/2 x 7-1/4 in.; ruled on both sides and used consecutively; banded 50 singles per pack, 12 pkgs. per carton

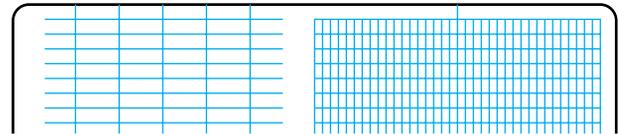
Double sheets:

4-1/2 x 7-1/4 in.; left- and right-hand pages of each record are joined; banded 50 per pack, 12 pkgs. per carton

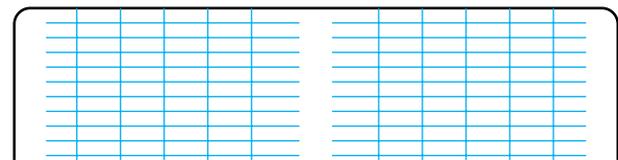
No.	Type	Style	Ruled Like Field Book
No. 8153-00	Transit Field	Single	8152-00
No. 8153-02	Transit Field	Double	8152-00
No. 8153-20	Mining Transit	Single	8152-20
No. 8153-30	Engineer's Field	Single	8152-30
No. 8153-32	Engineer's Field	Double	8152-30
No. 8153-50	Level	Single	8152-55
No. 8153-52	Level	Double	8152-55

RITE-IN-THE-RAIN® WEATHERPROOF FIELD BOOKS AND SHEETS

Made with an amazing paper created especially for writing field notes in wet weather. It's actually possible to write clear, readable notes during the heaviest downpour.



8154-00



8154-05

No. 8154-00 Mfrs. No. 300.

80 leaves ruled 8 vertical lines to the inch; page size: 4-5/8 x 7 in.; bound in vivid yellow polyethylene cover

No. 8154-05 Mfrs. No. 310.

80 leaves ruled with 6 vertical columns each page; page size: 4-5/8 x 7 in.; bound in vivid yellow polyethylene cover

No. 8154-10 Mfrs. No. 302.

Same as No. 8154-00, except 100 loose-leaf sheet pack*

No. 8154-15 Mfrs. No. 312.

Same as No. 8154-05, except 100 loose-leaf sheet pack*

* Standard 6-hole punching: 3/4, 3/4, 2, 3/4, 3/4 in.; sheet size: 4-5/8 x 7 in.

HIGH-VISIBILITY YELLOW BUCKRAM BINDERS

No. 8153-70 50-page capacity.

Size: 5-3/8 x 7-3/4 in. with 1/2-in. rings.

No. 8153-75 100-page capacity.

Size: 5-3/8 x 7-3/4 in. with 3/4-in. rings

Yellow buckram-covered stiff board construction, lined with black paper. Six-ring style with two metal boosters — spacing 3/4, 3/4, 2, 3/4, 3/4 in. Designed to hold loose-leaf sheets. Sturdy sheet lifter.



8153-70

HIGH-VISIBILITY YELLOW POLYETHYLENE BINDERS

No. 8153-78 50-page capacity.

Size: 5-3/4 x 7-3/4 in. with 1/2-in. rings.

No. 8153-79 100-page capacity.

Size: 5-1/2 x 7-3/4 in. with 3/4-in. rings.

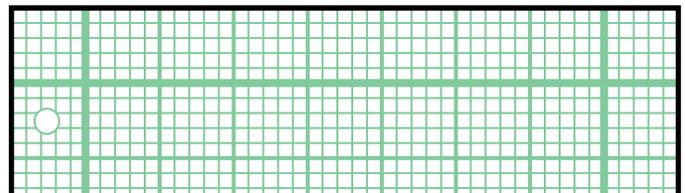
55-gauge, one-piece cover; resists dirt, grease and mud, and withstands heat, cold, snow, etc. Durable one-piece hinges; sturdy sheet lifter.



8153-79

ENGINEER'S COMPUTATION PADS

No. 1616-60



Green-tint 16 sub. writing paper with margin lines, 3-hole punched. Cross-section grid on reverse side. Five squares per inch with inch lines in blue. 50 sheets per pad; individually wrapped. Size: 8-1/2 x 11 in.

BAROMETERS/ALTIMETERS

ELECTRONIC DIGITAL BAROMETER/ALTIMETER No. 8001-75

- ◆ Durable — no mechanical drive train to be damaged
- ◆ Quick and easy to use — no dials to move or needle to set
- ◆ Large, clear LCD with no interpolation required
- ◆ Barometer and altimeter with English/metric readouts in one unit
- ◆ Temperature compensated
- ◆ Measures atmospheric pressure to within .015 in. Hg
- ◆ Extremely low sensitivity to shock, vibration, acceleration, and changes in orientation or temperature
- ◆ Complete with operation manual and carrying case

OPERATING MODES

Barometer: Pressure in mb, inches Hg, mm Hg (torr), psia, kPa, inches H₂O

Differential Barometer: Pressure change in mb, inches Hg, mm Hg (torr), psia, kPa, inches H₂O

Altitude and Altimeter Setting: Altitude in feet or meters computed from known altimeter setting; altimeter setting in inches Hg or mb computed from known altitude

Temperature-Compensated Altitude: Altitude in feet or meters computed from entered ambient air temperature

Differential Altitude: Altitude change in feet or meters using an entered ambient air temperature

Calibration: Enter a permanently stored offset correction to the calibrated pressure reading

ENGLISH MODEL BAROMETER/ALTIMETER No. 8001-70

- ◆ Reads 0 to 15,000 ft. of altitude in 100-foot divisions
- ◆ Reads barometric pressure in inches of mercury (to 0.1 in.)
- ◆ Reads barometric pressure in millibars (to 5 mb) on inner scale
- ◆ 2-3/4-in. diameter plated brass case
- ◆ With leather case

METRIC MODEL (Not Shown) No. 8001-72

- ◆ Reads 0 to 4,500 m of altitude in 20-meter divisions
- ◆ Reads barometric pressure in millibars (to 2mb)
- ◆ Reads barometric pressure in millimeters of mercury (to 2mm) on inner scale

ALTIPLUS BAROMETER/ALTIMETERS

No. 8001-90 ALTIplus A2 Altimeter/Barometer

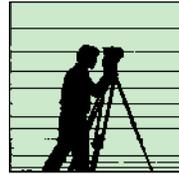
No. 8001-95 ALTIplus K2 Altimeter/Barometer

ALTIplus A2/K2

- ◆ Altitude in feet or meters
- ◆ Pressure in hPa or inches of mercury
- ◆ Absolute pressure
- ◆ Sturdy shockproof case
- ◆ Two easy-to-use function keys
- ◆ Lightweight and compact
- ◆ Supplied with carrying case and neck lanyard

Additional Features ALTIplus K2

- ◆ Barometric pressure trend
- ◆ Speed of climb
- ◆ Chronograph



Surveying

EDM Barometric Data
Reconnaissance Mapping
Elevation
Forestry



Geosciences

Mining
Geology
Hydrology
Speleology
Seismology



Recreation

Mountaineering
Hunting
Fishing
Exploration



8001-90



8001-75



8001-70

QUICK SPECS:

	Model A2	Model K2
Altitude Resolution	10 ft. / 5m	3 ft. / 1m
Pressure	0.01 inHg / 1 hPa	0.01 inHg / 1 hPa
Altitude Range	-1,000 ft. to +19,600 ft. -305m to +6000m	-1,000 ft. to +30,000 ft. -305m to +10,000m
Weight w/o Battery	3.2 oz	3.2 oz
Operating Temperature	-14° to +122°F (-30° to +50°C)	-14° to +122°F (-30° to +50°C)

BULZ-I™ HAND LEVELS — 1X

No. 8040-00 5-in. length; extends to 7 in.

No. 8040-05 Same as above, but with stadia lines — ratio 1:20

No. 8040-20 7-in. length; extends to 10 in.

No. 8040-25 Same as No. 8040-20, but with stadia lines — ratio 1:20

- ◆ Each part can be easily replaced in the field, including bubble housing
- ◆ Draw-out eyepiece extends overall length for greater accuracy
- ◆ Brass construction
- ◆ Bubble reflected by first surface mirror for maximum illumination
- ◆ No springs; adjustable with positive 2-screw motion
- ◆ Inner works mounted on removable slide for easy cleaning and maintenance
- ◆ With belt-loop case

HAND LEVEL — 1X

No. 8043-50

- ◆ Fixed eyepiece; internally mounted bubble assembly and adjustable reflector
- ◆ Hexagonal objective cap prevents rolling
- ◆ 6-in. length with durable finish
- ◆ With padded belt-loop case

SQUARE-TYPE HAND LEVEL — 1X

No. 8045-20

- ◆ May be used as a bench level
- ◆ 5-1/4 in. length with fixed eyepiece
- ◆ With case

MAGNIFYING HAND LEVEL — 2X

No. 8043-70

- ◆ Similar to No. 8043-50 above
- ◆ 1 in. diameter tube is 6 in. in length; extends to 7-3/4 in.
- ◆ With padded belt-loop case

MAGNIFYING HAND LEVEL — 5X

No. 8042-60

- ◆ Provides accuracy at greater distances than regular-type hand levels
- ◆ Objective lens and eyepiece slide for easy focusing
- ◆ Stadia lines with 1:100 ratio
- ◆ Metal construction with durable finish
- ◆ 7-1/2 in. length
- ◆ With padded belt-loop case

HEAVY-DUTY HAND LEVEL — 1X

No. 8041-00

- ◆ 1:20 stadia ratio
- ◆ 5-3/4 in.; extends to 7-1/4 in.
- ◆ All-brass construction with textured, baked-on black finish
- ◆ Easy to adjust
- ◆ With padded belt-loop case

HEAVY-DUTY HAND LEVEL — 2X

No. 8041-10

- ◆ All-brass construction with yellow enamel finish
- ◆ Bubble enclosed in level tube for maximum durability
- ◆ 5-5/8 in.; extends to 6-3/4 in.
- ◆ Resists dirt and moisture
- ◆ With padded belt-loop case



8040-00



8043-50



8043-70



8045-20



8042-60



8041-10



8041-00

ABNEY LEVELS/ RIGHT ANGLE PRISMS

PENTAPRISM No. 8047-85

- ◆ Two prisms for line of sight to the right and left
- ◆ Clear optical glass between prisms for viewing straight ahead
- ◆ Fully enclosed; self-storing
- ◆ Includes compact, self-contained plumb bob with cord
- ◆ Metal construction
- ◆ Complete with leather belt-loop case

DOUBLE RIGHT-ANGLE PRISM No. 8047-80

- ◆ Compact and precise — easy determination of right-angle points or rectilinear points between two targets
- ◆ Two large, precision-made pentagonal prisms firmly secured together for proper alignment
- ◆ Protective metal cover rotates to expose prism
- ◆ Complete with leather belt-loop case

RIGHT-ANGLE PRISM No. 8047-81

- ◆ Small and lightweight
- ◆ Single 90° prism for conveniently and quickly setting-off right angles
- ◆ Complete with leather case

ABNEY LEVEL WITH CLINOMETER LEVEL

No. 8047-10
No. 8047-15 Same as No. 8047-10; but with percent-of-grade scale from 0-100%

- ◆ Tube is 5-1/8 in. long
- ◆ 1-1/8 in. radius arc graduated in degrees (0-90°) in both directions; vernier reading to 10'
- ◆ Slope scale 1:1 to 1:10
- ◆ With padded belt-loop case

TOPOGRAPHIC ABNEY LEVEL No. 8047-45

- ◆ Equipped with two interchangeable arcs which offer:
 - ✓ Chainage correction
 - ✓ Degrees (0-60°) in both directions
 - ✓ Percent of grade
- ◆ Index has friction movement for fine adjustment
- ◆ 6-3/8 in. aluminum level tube extends to 7-3/8 in.
- ◆ Non-glare finish
- ◆ With padded belt-loop case

5X MAGNIFYING LEVEL WITH STADIA

- No. 8047-55**
- ◆ With 1:100 stadia
 - ◆ 7-3/4 in. barrel extends to 8-5/8 in.
 - ◆ 1-11/16 in. radius arc graduated in degrees (0-90°) in both directions; vernier reading to 10'
 - ◆ Percent scale (0-100%) in both directions
 - ◆ Easy-slide focusing motions for objective and eyepiece
 - ◆ 1 x 3-3/4 in. flat base for measuring existing grades
 - ◆ Durable enamel finish
 - ◆ With padded belt-loop case



8047-10



8047-45



8047-55



8047-85



8047-80



8047-81

COMPASSES WITH TRANSITING TELESCOPES

No. 8026-30 Compass in quadrants 0-90°

No. 8026-35 Compass graduated 0-360°

- ◆ Fills the need for a small, lightweight transit
- ◆ 12x telescope with erect image; length 4-3/4 in.; minimum focus 4 ft.; stadia ratio 1:100
- ◆ Vertical circle graduated in degrees; 50°- 0°- 50° (top and bottom)
- ◆ Horizontal circle graduated in degrees, with vernier reading to 5'
- ◆ Compass graduated to degrees in quadrants 0-90°, or 0-360°; declination adjustment
- ◆ Complete with case, shoulder strap; weight 3.5 lbs.

TRIPOD (Not Shown)

No. 8026-33

- ◆ Suitable for use with No. 8026-30 and No. 8026-35 surveying compasses
- ◆ Tubular aluminum extension legs—21 in. closed; extends to 53 in.
- ◆ Tripod head threaded for compass base; converts to 1/4 x 20 thread
- ◆ With case and sling strap; weight 2 lbs.
- ◆ Protective cap is used as a plummet for pocket transits, rangefinders and cameras

GEOLOGICAL COMPASSES

No. 8022-05

- ◆ Aluminum case 4-1/2 in. square with folding sights
- ◆ Raised compass ring graduated to degrees, with adjustment for setting declination
- ◆ Three-inch needle has jeweled center
- ◆ Beveled ring on compass box graduated to degrees and numbered in quadrants; with knurled edge
- ◆ Pendulum clinometer graduated to degrees; 90° in each direction
- ◆ Edges of base graduated as protractor; inches and eighths; inches and tenths
- ◆ Circular level
- ◆ Ball and socket joint fits [No. 8022-54 Jacob Staff, page 55](#)
- ◆ Complete with carrying case with shoulder strap

FORESTRY COMPASS

No. 8022-55

- ◆ Similar to No. 8022-05, but without square base and revolving beveled ring on compass box
- ◆ Complete with ball and socket joint in leather carrying case with shoulder strap
- ◆ Ball and socket fits [No. 8022-54 Jacob Staff, page 55](#)



8026-35



8022-05



8022-55

ACCESSORIES FOR COMPASSES

No. 8022-01 Leather Case with shoulder strap for No. 8022-05 and No. 8022-55

No. 8022-52 Ball and Socket Joint for No. 8022-05 or No. 8022-55; for use with [Jacob Staff No. 8022-54, page 55](#)

COMPASSES AND CLINOMETERS



8024-42



8024-30



8025-10



8025-75



8025-30



8025-00

COMPASSES

No. 8024-30 Round Lens with Four-Fold Magnification; triangular and round holes for control marking; arrows indicate direction of travel; four-second damping

No. 8024-42 Gear-Operated Declination Adjustment System; graduated 0-360° with two-degree intervals; parallax error can be eliminated by means of arrangement of luminous points and color lines; five-second damping

No. 8024-43 Same as No. 8024-42, except dial graduated in quadrants

- ◆ Quality, professional compasses
- ◆ Accuracy of 10' (1/6 °)
- ◆ Temperature-resistant liquid
- ◆ Shockproof housing for durability
- ◆ Needle pivoted on polished sapphire with non-wear bearing assembly
- ◆ Factory balanced against magnetic inclination
- ◆ No projecting or adjustable parts for one-handed, easy operation
- ◆ Available in standard, reverse and quadrant scales of graduation

IMPROVED MODELS

No. 8025-10 0-360° in plastic housing

No. 8025-30 0-360° with reciprocal scale in metal housing with case

No. 8025-31 same as No. 8025-30, except includes built-in illumination

No. 8025-35 same as No. 8025-30, except includes adjustable declination

No. 8025-40 quad 0-90° in metal housing with case

No. 8025-45 same as No. 8025-40, except but includes adjustable declination

- ◆ Absolutely watertight
- ◆ ABS plastic screen for improved clarity

TWIN PRECISION COMPASS/CLINOMETERS

No. 8025-00 Twin 360R/90L

Compass/Clinometer (degrees)

No. 8025-05 Twin 360R/PCL

Compass/Clinometer (degrees/percentages)

- ◆ Two instruments in one—precision compass and clinometer combination
- ◆ Built-in prismatic sighting for fast field use
- ◆ Resists corrosion, water and impact
- ◆ Use for directional indications and slope/height measurements with an accuracy of $\pm 0.25^\circ$
- ◆ Compass graduations 0-360°
- ◆ Choose clinometer scale in either degrees or degrees/percentages

CLINOMETERS

No. 8025-75 0 \pm 90° scale on the left, 0 \pm 150% scale on right; reads directly to 1/6 of one degree or 1/5 of one percent; with skylon case

No. 8025-90 Similar to No. 8025-75 except 0 \pm 90° scale on the left and scale for direct reading of height of objects on the right; right scale reads directly to $\pm 200'$ at 66 ft.; with skylon case

- ◆ Perform a number of leveling and measuring jobs
- ◆ Use as a hand level, builder's level, optical plummet and slope indicator
- ◆ Measures vertical angles, computes height, determines slope angles and levels for rough surveying
- ◆ Damping liquid immerses all moving parts inside a sturdy, hermetically sealed container for shock-free, smooth movement
- ◆ Liquid will not freeze or evaporate, even under extreme conditions
- ◆ Scale card supported by jewel-bearing assembly
- ◆ Nothing to adjust for easy, one-hand operation

No. 8025-03 Rubber compass cover fits No. 8025-30, -40, -75, -90

POCKET TRANSITS, ACCESSORIES AND EPHEMERIS

POCKET TRANSITS

No. 8026-51 Instrument with circle 0-360° with case; damped

No. 8026-56 Instrument with circle in quadrants with case; damped

Precision combination instruments that will perform practically all surveying functions and are widely used for preliminary surveys. 2-1/8-in. damped needle with a jeweled pivot. Vertical circle graduated 0-90° both directions, with a vernier arm reading to 10'. Velvet-lined belt-loop leather case included.

Pocket Transit



Ball & Socket Head

8026-22



8026-25



8022-54



8022-56

LEATHER CASES

No. 8026-60 With belt loop

No. 8026-61 With sling strap and belt loop

BALL AND SOCKET HEAD

No. 8026-22 Complete with belt-loop carrying case.

No. 8026-23 Ball and Socket Head Only

Includes removable thimble. Head can be used with either No. 8022-54 Jacob Staff or [No. 8026-33 tripod](#) (pg. 53).

JACOB STAFF THIMBLE

No. 8026-25

JACOB STAFF

No. 8022-54

Five ft. long. Hardwood with metal shoe and tapered head to fit thimble in ball and socket head.

TELESCOPING JACOB STAFF

No. 8022-56

Tubular aluminum adjusts in four steps from 21 to 64 in. Upper end is tapered with 1/4 x 20 thread for attachment directly to ball and socket head. Also fits Rangefinders and most cameras. In canvas carrying case.



8026-56

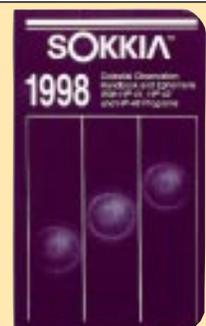
SOKKIA CELESTIAL OBSERVATION HANDBOOK AND EPHEMERIS

No. 1111-97 For year 1997

No. 1111-98 For year 1998

Used with accurate timepieces and hand-held calculators, this handbook can be used to yield highly accurate azimuths with relative ease.

- ◆ Modern method of calculation
- ◆ HP-41, HP-42 and HP-48 programs included with user instructions
- ◆ Accuracy unsurpassed
- ◆ Complete Ephemeris tables
- ◆ Full explanation through examples
- ◆ Uniform calculation procedures for all observations
- ◆ GHA and declination tabulation to one-tenth arc-second



MAGNIFIERS AND THERMOMETERS



8170-00



8173-07



8170-28



8006-00



8170-24

MAGNIFIERS

No. 8170-00 Bausch & Lomb Pocket-Size Magnifier with swing leather case; two-inch double convex lens; 2x; accurately ground and polished

FOLDING MAGNIFIERS WITH DURABLE PLASTIC CASE/FRAME

No. 8170-20 Single lens, 1 in.; 5x
No. 8170-24 Single lens, 1-1/2 in.; 4x
No. 8170-28 Double lens, 1-1/4 in.; 4x and 8x

BAUSCH & LOMB HIGHLY CORRECTED POCKET MAGNIFIERS

Plastic mount with polished metal swing case

CODDINGTON — WIDE FIELD; SINGLE LENS CONSTRUCTION

No. 8172-10 1 in. focus; 10x
No. 8172-14 1-3/4 in. focus; 14x
No. 8172-20 1/2 in. focus; 20x

HASTINGS TRIPLET — HIGHLY CORRECTED FOR SPHERICAL AND CHROMATIC ABERRATION

No. 8173-07 1-1/2 in. focus; 7x
No. 8173-10 1 in. focus; 10x
No. 8173-14 1-3/4 in. focus; 14x
No. 8173-20 1/2 in. focus; 20x

BI-THERM THERMOMETERS

No. 8006-50 1" dial; -40° to 160°F
No. 8006-51 1" dial; -40° to 50°C
No. 8006-60 1" dial; 0° to 220°F
No. 8006-72 2" dial; 50° to 550°F

As accurate as mercury thermometers, but without the need for safety precautions to avoid potential toxicity; measures temperature via a bi-metallic coil attached to an indicator needle.

THERMOMETERS

No. 8006-00 Max.-Min. Thermometer;

tenite case; magnet reset; mercury filled; range -40° to +120°F in 2° increments; nonrefillable

No. 8006-10 Pocket Thermometer;

plastic case; 5-1/2 in. long; mercury filled; range -40° to +120°F in 2° increments; nonrefillable

No. 8006-12 Same as No. 8006-10, except refillable metal case

No. 8006-13 Open Face Armor Case Thermometer;

refillable metal case; 5-1/2 in. long; mercury filled; range: -40° to +120°F in 2° increments

No. 8006-15 Glass Refill for No.

8006-12 metal case-style pocket thermometer and No. 8006-13 open face armor case thermometer

No. 8006-11 Pocket Thermometer;

plastic case; 5-1/2 in. long; mercury filled; range -40° to +50°C in 1° increments; nonrefillable

8006-14 Pocket Thermometer;

Same as No. 8006-11, except refillable metal case

8006-16 Glass refill for No. 8006-14

No. 8006-20 Same as No. 8006-10

except range: 0° to +220°F; nonrefillable

No. 8006-31 Sling Psychrometer

(not shown); 6-7/8 in. mercury-filled thermometer, recessed and protected by black plastic tube-type case; outside of case acts as handle while operating; white-on-black scale markings; range +20 to +120°F in 1° increments

No. 8006-36 Replacement Thermometer

for sling psychrometer

No. 8006-32 Asphalt Testing Thermometer

(not shown); stainless steel case; mercury filled; range: +50 to +450°F in 5° increments; return to factory for refill



8006-15

8006-13

8006-10

8006-12



8006-50



8006-72

PLUMB BOBS

- No. 8122-10 10oz.
- No. 8122-12 12oz.
- No. 8122-14 14oz.
- No. 8122-16 16oz.
- No. 8122-18 18oz.
- No. 8122-24 24oz.
- No. 8122-32 32oz.

- ◆ Machined from solid brass rod for perfect balance
- ◆ Screw caps and hardened steel points with standard threads
- ◆ Storage space for extra point inside cap
- ◆ Made to U.S. Government specifications

No. 8122-90 **Extra Point** (fits all plumb bobs listed above)
 No. 8122-93 **Extra Cap** (fits all plumb bobs listed above)

PLUMB BOB CORD

- No. 8124-13 **White linen**; 25 yd. hank
- No. 8124-37 **Fluorescent Red nylon**; 50 yd. spool
- No. 8124-23 **Orange linen**; 25 yd. hank
- No. 8124-38 **Fluorescent Yellow Nylon**; 50 yd. spool

Made with the finest quality braided cord.

LEATHER SCABBARD FOR POCKET TAPE AND PLUMB BOB

No. 8123-65

- ◆ Rugged leather with stitched and riveted pockets
- ◆ Holds tape or Gammon Reel and 16- or 18-oz. plumb bob
- ◆ Accommodates Web Belt No. 8123-50, pictured on page 61

LEATHER SCABBARDS

- No. 8123-15 For bobs 10-14 oz.
- No. 8123-25 For bobs 16-18 oz.
- No. 8123-35 For bobs 24-32 oz.

- ◆ Extra-heavy stitched and riveted pocket
- ◆ Accommodates [Web Belt No. 8123-50](#), pictured on page 61

PLUMB BOB TARGETS

“QUIK-STIK”

- No. 8126-40 Paper back peels off instantly; sticks to any surface; 2 x 3-1/2 in. package of 25
- No. 8126-45 5-1/4 x 12 7/8 in. fits exactly around one qt. oil can; pkg. of 10

PLASTIC

- No. 8126-20 Notched for attaching to line; 2-1/2 x 4 in.

TRANSLUCENT PLASTIC

- No. 8126-25 Laminated with special “see-through” design for brilliant illumination; 2-1/4 x 4 in.; notched for attaching to line

PAPER

- No. 8126-30 2 x 3-1/2 in. size; pkg. of 100

GAMMON REEL

- No. 8124-48 12-ft. **Black & Orange Gammon Reel**
- No. 8124-49 12-ft. **Gammon Reel**
- No. 8124-50 7-ft. **Gammon Reel**
- No. 8124-51 24-yd. **Nylon Refill, Red-Orange**
- No. 8124-52 24-yd. **Nylon Refill, Glo Yellow**
- No. 8124-53 24-yd. **Nylon Refill, White**
- No. 8124-54 24-yd. **Nylon Refill, Glo Red**

- ◆ Handy, retracting plumb bob cord reel means no more winding and no more broken or muddy string
- ◆ With 72 lb.-test nylon string; weighs 1-1/2 oz.

TALLY REGISTER

No. 8792-00

Four-digit capacity with quick return to zero.



8792-00



8124-38



8122-10



8123-65



8123-15



8126-45



8126-25



8126-20



8126-40



8126-30



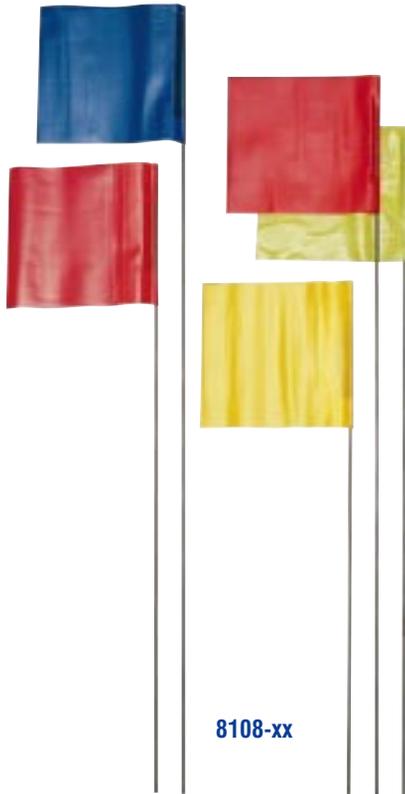
8124-48



8124-50

FIELD ACCESSORIES

SOKKIA™



8108-xx



8110-xx



8112-xx



8110-10



8136-40



8129-10



8130-52



8129-13

STAKE FLAGS

	Length	Flag Size
No. 8108-XX	21 in.	2-1/2 x 3-1/2 in.
No. 8109-XX	30 in.	2-1/2 x 3-1/2 in.
No. 8113-XX	36 in.	4 x 5 in.

Specify color: -00 Pink Glo, -01 Orange Glo, -02 Blue, -03 Yellow

- ◆ Bright vinyl flags securely attached to stiff steel wire stakes
- ◆ Packed 100 to bundle; 10 bundles per box

LEAD-FREE PLASTIC/FLUORESCENT FLAGGING TAPE

No. 8110-XX 300 ft. roll
Specify color: -00 Red, -01 Orange, -02 Blue, -03 Yellow, -04 White
No. 8112-XX Fluorescent; 150-ft. roll
Specify color: -00 Glo Red, -01 Glo Orange, -03 Glo Yellow, -04 Glo Pink

- ◆ Colorfast and rainproof
- ◆ Contains no toxic lead
- ◆ Rolls are 13/16 in. wide
- ◆ Packed 1 dozen to a box

FLAGGING TAPE DISPENSER

- ◆ The convenient way to cut flagging tape strips of any length
- ◆ Lightweight, rustproof; fits on belt or waistband

SMALL ANGLE MAGNETIC PROTRACTOR (Not Shown)

- ◆ Full view MONO-VIAL®
- ◆ Dial graduated to 5°
- ◆ Magnetic base
- ◆ Durable Polycast® construction

MAGNETIC POLYCAST® PROTRACTOR (Not Shown)

- ◆ Magnetic base and back
- ◆ Easy reading dial
- ◆ Durable Polycast® construction
- ◆ Transfer angles to within 1°

UNITEK™ CARPENTER'S LEVEL (Not Shown)

- ◆ Settable level vial to determine existing angle or to set new angles
- ◆ Quality, lightweight metal construction with non-slip grip
- ◆ Replaceable level vials
- ◆ Center vial is viewable from top side of level
- ◆ 24 in. long

LINE LEVEL

- ◆ Instantly establishes an exact horizontal line
- ◆ Hooks hold level to line and allow it to be moved along the line easily
- ◆ 3 in. long

BULL'S EYE CIRCULAR LEVELING VIAL

- ◆ Use for checking level of machinery, tools, instruments
- ◆ Ideal for checking crucial tolerances in tight spots
- ◆ Plastic housing mounted on metal base

SURVEYOR'S UMBRELLA

No. 8136-40
No. 8136-41 Same as above, but made of water-resistant vinyl; solid color

- ◆ Blue and yellow heavy-drill fabric; 63 in. spread
- ◆ Cuts heat and glare for more accurate readings
- ◆ 8 ft., 2-section pole with baked aluminum enamel finish

VARI-PITCH™ LINE LEVEL

- ◆ Measures inches of pitch per foot
- ◆ Multi view
- ◆ Lightweight
- ◆ V-groove for pipe or conduit work
- ◆ Pocket clip

AERVOE® SPRAY MARKING PAINT/CHALK

- ◆ The ideal marking paint for pavement, grass, gravel, and soil
- ◆ Non-clogging; sprays upside down
- ◆ Environmentally safe; no lead or fluorocarbon propellant
- ◆ 17-oz. can contains paint/chalk for over 1,500-ft. line coverage

A.P.W.A. UTILITY PAINT COLORS

- No. 8134-47 **201 Red** (street lighting, electrical)
- No. 8134-48 **204 Blue** (water)
- No. 8134-49 **204 Green** (drain and sewer)
- No. 8134-50 **205 Orange** (communication)
- No. 8134-51 **202 Yellow** (gas and oil)
- No. 8134-52 **207 White** (regular)
- No. 8134-55 **117 Clear** Acrylic Coating
- No. 8134-57 **206 Black**

SPRAY CHALK COLORS

- No. 8134-32 **214 Blue**
- No. 8134-33 **215 White**
- No. 8134-34 **216 Red**
- No. 8134-35 **218 Yellow**

STRIPE PAINT COLORS

- No. 8134-36 **710 White**
- No. 8134-37 **720 Yellow**
- No. 8134-38 **730 Red**

GLO PAINT COLORS (not inverted)

- No. 8134-39 **180 Glo Red**
- No. 8134-40 **182 Glo Orange**
- No. 8134-41 **184 Glo Green**

INVERTA CAP PAINT COLORS

- No. 8134-44 **270 Glo Red**
- No. 8134-45 **272 Glo Orange**
- No. 8134-46 **200 Clear**
- No. 8134-60 **229 Glo Pink**

FLUORESCENT PAINT COLORS

- No. 8134-53 **220 Fluorescent Red**
- No. 8134-54 **222 Fluorescent Orange**
- No. 8134-56 **224 Fluorescent Green**

SPRAY PAINT APPLICATOR

No. 8134-59

- ◆ Easy, one-hand operation with finger-trigger actuator
- ◆ Handy belt clip
- ◆ Durable plastic construction
- ◆ No mess, clean-up or storage problems

32-IN. SPRAY PAINT APPLICATOR

No. 8134-58

- ◆ No more stooping over to apply marking paint
- ◆ Accepts can of Aervoe spray paint
- ◆ With finger-trigger applicator

DIXON REDIMARK® MARKER

No. 8134-71 **Black**

No. 8134-72 **Red**

- ◆ Tight-seal, no-roll cap makes marker last longer; stores on base when not in use; supplied with pocket clip
- ◆ Chisel point is ideal for marking on wood, metal, glass, plastic or paper
- ◆ Aluminum body gives 30% more volume

IDEAL® MARK MARKING PEN

No. 8135-01 **Ideal Mark w/ Replaceable Bullet Tip**

No. 8135-03 **Replacement Tip, Bullet Style**

No. 8135-04 **Replacement Tip, Chisel Style**

- ◆ Industrial-grade marker for surveying and construction layout
- ◆ Valve action with indelible black ink
- ◆ Replaceable tip
- ◆ Metal cap with pocket clip

IDEAL MARK 2® MARKING PEN

No. 8135-05 **Ideal Mark 2®**

- ◆ Heavy marker for surveying and construction layout
- ◆ Tough acrylic tip
- ◆ Indelible black ink

LUMBER CRAYONS

No. 8134-61 **Carbon Black**

No. 8134-62 **Yellow**

No. 8134-63 **Red**

No. 8134-64 **Fluorescent Pink**

No. 8134-65 **Blue**

- ◆ For marking steel, concrete, stone, lumber — almost any surface
- ◆ 4-1/2 in. long, 1/2 in. diameter
- ◆ Packed 12 per box

WOOD CRAYON HOLDER

No. 8134-68

- ◆ Select hardwood; duralumin thread prevents slipping
- ◆ Protects hands and saves crayons; 4-7/8 in. long

ALUMINUM CRAYON HOLDER

No. 8134-69

- ◆ All-metal construction
- ◆ Crayon held securely by positive locking system
- ◆ Fits pocket or tool pouch

CARPENTER'S PENCIL

No. 8134-75

- ◆ Flat design prevents rolling
- ◆ Easy to sharpen with pocket knife
- ◆ Writes smoothly on surfaces without lead breakage
- ◆ Packaged 2 per card

CARBIDE POINT SCRIBER AND HEAVY DUTY SCRIBERS

No. 8130-50 **Carbide Point Scriber**

No. 8130-53 **Premium Scribe**

No. 8130-54 **Giant Scribe**

- ◆ Replaceable carbide steel tip for precise, permanent markings on concrete, rock and steel—or any hard surface
- ◆ Durable all-metal construction
- ◆ Includes pocket clip and plastic cap



FIELD ACCESSORIES

NAIL MARKERS

No. 8115-01 With 1/4-in. hole

No. 8115-02 With 1/8-in. hole

One-inch squares made of plastic-impregnated nylon; you can't rip or tear them. Fluorescent orange color makes spotting stake tacks or P-K nails quick and easy. Approximately 70 count per package.

SURVEYOR'S FLAT SHINERS

No. 8134-30

Tin; 2-1/4 in. diameter with center punch and crimped edges. Especially valuable for indicating semi-permanent points with spikes or nails. Three-pound carton (approximately 250 count).

SURVEYOR'S RAISED SHINERS

No. 8134-31

Same as above, except 1-5/16 in. diameter with raised, 1-1/8 in. center. One-pound carton (approximately 260 count).

LEAD WIRE

No. 8132-20

3/8 in. diameter; 15 in. long. For lead and tack reference points. Fits hole cut by No. 8130-89 Concrete Drill.

IMPRINTED SMALL SURVEY TAGS

No. 8140-10

Tags can be imprinted with LS, RCE, PE, RE, or RLS plus up to 5 digits (example: RLS 12345). 3/4 in. overall diameter with 7/64 in. hole diameter. 22-gauge brass. Per 100.

IMPRINTED LARGE SURVEY TAGS

May be imprinted with LS, RCE, PE, RE, or RLS plus up to six digits (example: RCE234567).

No. 8140-20

- ◆ 1-7/32 in. overall diameter 18-gauge (.040 in.) brass with 1/8 in. hole diameter. Per 100.

No. 8140-30

- ◆ 1-1/4 in. overall diameter 18-gauge (.040 in.) brass with 3/8 in. hole diameter. For use with a 60 penny nail. Per 100.

No. 8140-40

- ◆ 1-1/4 in. overall diameter 18-gauge (.040 in.) brass with 9/16 in. hole diameter. For use with our No. 8132-62 or 8132-64 Monument Spikes. Per 100.

No. 8140-50

- ◆ 1-1/2 in. overall diameter; 14-gauge (.065 in.) 2024 aluminum with 1-1/32 in. hole diameter. For use with a 60 penny nail. Per 100.

STAKE TACKS

No. 8132-70

Steel; 3/4 in. long; bright finish. With indentation in head to guide plumb bob point. Approximately 725.

MASONRY "P-K" NAILS

No. 8132-51 3/4 x 1/8 in.

No. 8132-52 1 x 5/32 in.

No. 8132-53 1-1/4 x 3/16 in.

No. 8132-54 1-1/2 x 1/4 in.

No. 8132-55 2 x 1/4 in.

No. 8132-56 2-1/2 x 1/4 in.

Parker-Kalon ("P-K") hardened masonry nails, zinc-plated to resist rust and increase visibility. Packaged in boxes of 100.

MONUMENT SPIKES

No. 8132-62 6 in. long

No. 8132-64 8 in. long

Large monument spike, 3/8 in. square shank, galvanized with chisel point and button head. Makes ideal bench mark or turning point.

FLAT SURVEY MARKERS

No. 8134-00 1-3/8 in. top diameter

No. 8134-06 2-1/2 in. top diameter

No. 8134-03 2 in. top diameter

No. 8134-08 3 in. top diameter

Cast from solid brass. Ribbed shank prevents turning or loosening. The 1/8-in. thick top has a non-glare matte finish. Shank area 0.4 sq. in.; shank length 2 in. Standard pack 96 per carton.

DOMED SURVEY MARKERS

No. 8134-10 1-3/8 in. top diameter

No. 8134-16 2-1/2 in. top diameter

No. 8134-13 2 in. top diameter

No. 8134-18 3 in. top diameter

Solid brass with curved heads. Ribbed shank prevents turning or loosening. Shank area 0.4 square in.; shank length 2 in. Standard pack 96 per carton. 8134 Series markers can be furnished with linear or circular letters, numerals or characters on special order. Minimum order: 500 markers.

CROWN SURVEY MARKERS

No. 8134-80 18 in. long

No. 8134-81 24 in. long

No. 8134-82 30 in. long

No. 8134-83 36 in. long

Steel core with thick copper covering in a permanent weld. Shanks have 5/8 in. diameters; bronze heads have 1-1/2 in. diameters. Excellent visibility; strong and easy to drive. Large bronze head is ideal for center-punching the exact point of reference with additional space for stamping legend. Markers respond to magnetic locators. Sold individually, standard pack 10 per carton.

ADAPTOR FOR CROWN SURVEY MARKERS

No. 8134-88

Provides extra-large, 4 in. bronze surface for stamping identification. Fits flush with the marker. Four triangular points prevent turning.

STAKE BAGS

- ◆ **No. 8181-30 White canvas;** 16 x 12 x 6 in.
- ◆ **No. 8181-35 Orange cordura;** 18 x 12 x 6 in.

- ◆ Heavy-duty with adjustable, 1-1/2 in. web shoulder strap
- ◆ Three pockets 8 in. deep across front; pockets across each end measure 6 x 7 in.

8181-35



LEATHER TOOL POUCH

No. 8181-15

- ◆ Features 8 x 7 in. pouch for field books, etc., plus 6 x 4 in. pouch for spikes, nails, etc.
- ◆ Storage slots for crayons, markers, concrete drill or other tools plus leather loop for hammer, axe or steel tape
- ◆ A 12-foot pocket tape may also be clipped over leather loop



8181-15
w/ 8123-50

WEB BELT

No. 8123-50

- ◆ Adjusts to fit waist 29-46 in.
- ◆ Strong, snap-on buckle assembly; can be used for carrying scabbards or tool pouch

SURVEYOR'S 7-POCKET TOOL POUCH

No. 8181-16

- ◆ Specially designed, all-leather pouch for the working surveyor
- ◆ Seven stitched-and-riveted, formed pockets hold everything from plumb bob, folding rule and stake tacks to full-size field book 6 (W) x 8 (L) in.; slides onto the No. 8123-50 Web Belt (above)

ESTWING® PRY BAR

No. 8130-82

- ◆ Forged tool steel T-beam construction
- ◆ Two polished hammer faces
- ◆ 18 in. long; weight 1 pound

MACHETE

- ◆ **No. 8130-00 Machete**
- ◆ **No. 8130-01 Leather Sheath** with belt loop
- ◆ **No. 8130-02 Canvas Sheath**

- ◆ Plastic handle; 22 in. polished steel blade



8181-16

BUSH HOOK

- ◆ **No. 8130-10 Bush Hook**
- ◆ **No. 8130-11 Replacement Handle**

- ◆ 3-pound, 11-in. red-painted steel blade with 36 in. hickory handle

SANDVIK® BUSH AXE

- ◆ **No. 8130-15 Bush Axe**
- ◆ **No. 8130-16 Replacement Handle**
- ◆ **No. 8130-17 Replacement Blade**

- ◆ Quickly slices through 3- or 4-in. brush and saplings; 28 in. hickory handle; 7-1/4 in. Swedish steel blade

DITCH BANK BLADE

- ◆ **No. 8130-08 Ditch Bank Blade**
- ◆ **No. 8130-09 Replacement Handle**

- ◆ The ideal tool for clearing thick underbrush
- ◆ Tough 16 in. blade; ground, heat-treated and sharpened on both sides

ESTWING® HAND AXE

No. 8130-35

- ◆ Forged one-piece head/handle of finest tool steel
- ◆ Nylon/vinyl cushion grip will never loosen; 13-1/2 in. length, 24 ounces
- ◆ Complete with embossed leather sheath



8130-82



8130-00



8130-10



8130-15



8130-08



8130-35

HAND TOOLS

SOKKIA™

AXE WITH LEATHER SHEATH

No. 8130-19

- ◆ Hardened steel blade holds a keen edge
- ◆ Sturdy hickory handle

ESTWING® BROAD HATCHET

No. 8130-45

- ◆ Forged one-piece head/handle of finest tool steel; full mirror polish
- ◆ Nylon-vinyl cushion grip; 17-in. length, 28 ounces

ESTWING® PICK HAMMER

No. 8130-22 Pick Hammer

No. 8130-23 Leather Sheath

- ◆ Forged one-piece head/handle of finest tool steel, perfectly tempered — won't become "chewed up" with long use
- ◆ Nylon-vinyl deep cushion grip absorbs all shocks and will not wear out
- ◆ 22 oz.

ESTWING® SINGLE JACK SLEDGE

No. 8130-60

- ◆ Forged one-piece doubleface head/handle of finest tool steel; 16-in. length, 4 lbs.
- ◆ Exclusive, durable nylon-vinyl cushion grip

DRILL HAMMER

No. 8130-18

- ◆ Hardened steel head for long, hard use
- ◆ Strong hickory handle securely mounted; weight 4 lbs.



8130-18

8130-65



8130-80



8130-85



8130-89



8130-98

CRESCENT® T22 TOOLZALL PRO

No. 8130-25

- ◆ Made from highest-quality stainless steel
- ◆ Contains 12 commonly used tools—including screwdrivers, pliers and knife
- ◆ Manufacturer's limited lifetime warranty
- ◆ Replacement tools available
- ◆ Belt pouch



8130-25

ESTWING® STRAIGHT CLAW HAMMER

No. 8130-65

- ◆ Forged one-piece head/handle of finest tool steel; 1 pound
- ◆ Exclusive nylon-vinyl deep cushion grip absorbs all shock; lasts indefinitely

GAD

No. 8130-80

- ◆ Rectangular; tempered tool steel; 3/4 x 1-3/4 x 18 in.
 - ◆ Use to start pilot holes in hard-packed dirt or asphalt
- NOT SUITABLE FOR BREAKING CONCRETE PAVEMENT OR ROCK*

ESTWING® ROCK/CONCRETE CHISEL

No. 8130-85

- ◆ Unsurpassed temper; molded vinyl cushion grip; 1/2 x 12 in.

CONCRETE DRILL

No. 8130-89

- ◆ Heat-treated, tempered carbon steel; 10 x 5/8 in.
- ◆ Heavy handle eliminates sting; fast-cutting "V" edge

ESTWING® SAFETY GOGGLES

No. 8130-98

- ◆ Soft, comfortable vinyl frame fits over eyeglasses
- ◆ Ventilated to prevent fogging; full downward vision
- ◆ Meet all Federal Specifications

ALWAYS WEAR SAFETY GOGGLES WHEN USING STRIKING TOOLS BECAUSE THEY MAY CHIP AND CAUSE EYE INJURY

MAGNETIC LOCATORS



8026-90

GA72CD LOCATOR

No. 8026-90 Schonstedt GA72Cd Locator with carrying case

- ◆ Digital readout and expanding bar graph displays signal strength and polarity
- ◆ Analog output for data logger entry
- ◆ Environmentally friendly lithium batteries
- ◆ Three-year manufacturer's warranty

GA-52Cx HELIFLUX MAGNETIC LOCATOR

No. 8026-82 Schonstedt GA-52Cx Heliflux Magnetic Locator with carrying case

No. 8026-83C Earphones for GA-52Cx, GA72Cd and MAC51Bx

- ◆ Most widely used professional locator
- ◆ Unsurpassed detection range
- ◆ Four individual sensitivity settings
- ◆ Piezoelectric loudspeaker
- ◆ Rugged no-roll cover
- ◆ Five-year manufacturer's warranty



8026-82



8026-85

MAC-51Bx

No. 8026-85 Schonstedt MAC-51Bx Locator with fitted carrying case

No. 8026-86 Inductive Cable Clamp for MAC-51Bx

No. 8026-88 MT2 Transmitter for MAC-51Bx

- ◆ Schonstedt's MAC-51Bx is a unique transmitter-receiver locator system with fingertip selection of cable and magnetic locator functions
- ◆ In addition to the cable locator function, the dual-function receiver has all the capabilities of the field-proven GA-52Cx magnetic locator
- ◆ Cable locator function locates underground telephone, utility and CATV cables using the transmitter-receiver; a trace signal, inductively coupled or directly connected to the cable, is detected with the receiver; a sharp null in the receiver's audio output indicates the location of the cable
- ◆ Designed for field use, the MAC-51Bx comes in a custom carrying case that also houses the transmitter
- ◆ The solid-state electronics, rugged receiver and carrying case are engineered to give you years of trouble-free field service — no fragile meters to replace or calibrate.

RANGEFINDERS

RANGING® RANGEFINDERS

- ◆ Easy to use coincidence type rangefinders for fast measurement over difficult terrain or to inaccessible points
- ◆ Six models from 50 to 1000 yards or 46 to 1000m maximum range
- ◆ Dual calibration to measure in both yards and meters
- ◆ Quick, easy re-calibration
- ◆ Lightweight, compact size
- ◆ Rugged construction



8031-50

ORDERING INFORMATION

- 8031-30 1000 Rangematic
- 8031-50 Lytespeed 400
- 8031-51 Mini50
- 8031-52 Sure Shot 60
- 8031-53 TLR75
- 8031-54 Ranging 200
- 8031-55 Ranging 400

ACCESSORIES

- 8031-57 Case for Mini50
- 8031-58 Case for Sure Shot 60 and TLR75
- 8031-59 Case for Ranging 200
- 8031-60 Case for Ranging 400 and 1000 Rangematic



8031-51



8031-55



8031-53



8031-54

SOKKIA LENS-DISPLACING TYPE RANGEFINDERS

No. 8026-15 Mfr. No. SD5F, 500mm (19.7 in.) base line reading to feet

No. 8026-16 Mfr. No. SD5D, 500mm (19.7 in.) base line reading to meters

- ◆ Sokkia lens displacement system means greater accuracy and longer life
- ◆ Use of pentagonal prism and annular support prevents vertical parallax and maintains accuracy, even under extremes of heat and vibration
- ◆ Telescope provides a bright, wide viewing field with high magnification
- ◆ Complementary colors of yellow and blue used in viewing field facilitate accurate measurement
- ◆ Lightweight; threaded base for easy mounting on camera tripod
- ◆ Furnished with soft vinyl case



8026-15

QUICK SPECS

	8031-30	8031-50	8031-51	8031-52	8031-53	8031-54	8031-55
Description	1000 Rangematic	Lytespeed 400	Mini50	Sure Shot 60	TLR75	Ranging 200	Ranging 400
Magnification	6x	4x	1x	1x	1x	3x	3x
Min. / Max. Distances	50-1000 yds., 46-1000m	16-400 yds., 16-365m	15-50 yds., 15-50m	10.5-60 yds., 10.5-60m	10-75 yds., 10-75m	16-200 yds., 15-180m	20-400 yds., 20-400m
Accuracy	±2 yds.@100 yds., ±9m@300m	±1 yd.	±1 yd.@50 yds., ±1m@50m	±1 yds.@40 yds., ±0.9m@45.7m	±1 yd.@50 yds., ±0.9m@45.7m	±1.5 yds.@100 yds., ±2m@100m	±2 yds.@100 yds., ±18m@400m

HIGH-LEVEL WARNING SCOPE

No. 8136-00 High-Level Warning Scope

No. 8136-02 Replacement Sign Only

The finest portable telescoping stand for traffic safety use. Drawn aluminum tubing, die-cast aluminum and zinc parts, extruded plastics, die-cast plastics, stamped and machined parts, nylon and vinyl, baked enamels, chrome and zinc plating. Four legs for unequal stability. Three 18 x 18 in. fluorescent red vinyl-coated flags with stiffeners. The warning sign is 24 x 24 in. and made of vinyl-coated fabric with metal braces; it rolls up for easy storage. Complete unit extends to an overall height of approximately 9 ft. 2 in. and consists of warning scope assembly, flag yoke with three flags, three flag staffs, and roll-up sign.



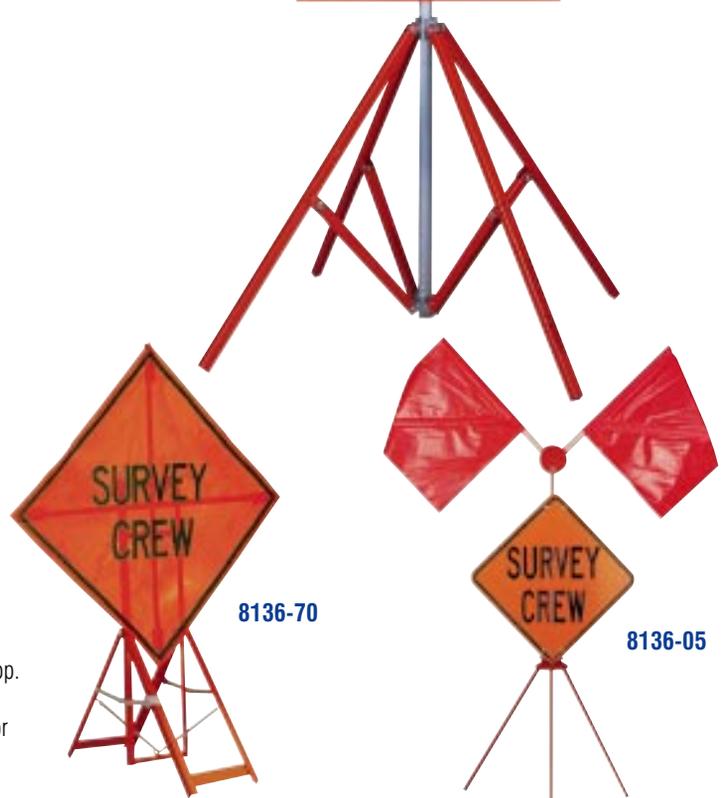
8136-00

JUMBO TRI-FOLD TRIPOD WARNING SIGN

No. 8136-05 Jumbo Tri-fold Tripod Warning Sign

No. 8136-08 Extra 18 x 18 in. sign

Designed to withstand high winds, this device stands almost 5 ft. high at the flag tips; when folded up, it will fit under a car seat. Will accept two 18 x 18 signs so legend may be read from two directions. Signs are made of zinc-coated steel with Federal Orange baked enamel finish. Complete with two 18 x 18 in. fluorescent red plastic flags and one 18 x 18 in. sign.



8136-70

8136-05

NYLON MESH WARNING SIGN

No. 8136-70 36 x 36 in. Mesh Warning Sign with base

No. 8136-71 36 x 36 in. Mesh Warning Sign only

No. 8136-80 48 x 48 in. Mesh Warning Sign with base

No. 8136-81 48 x 48 in. Mesh Warning Sign only

Double layers of nylon mesh provide increased visibility with reduced wind resistance; won't stretch out of shape. Mounts easily in a storable "A" frame stand that's compact yet very stable. Steel clips grip sign securely; built-in holders for two warning flags. Six-inch letter height. Two sizes available.

SWING-TYPE WARNING SIGN

No. 8136-10 Swing-type warning sign with frame

No. 8136-11 Replacement sign only

Sturdy frame of structural angle iron 1 x 1 x 1/8 in.; equipped with two "S" hooks for hanging sign within frame. Two flag holders welded to frame top. 24 x 24 in. sign finished in Federal Orange baked enamel; two 18 x 18 in. fluorescent red plastic flags on 24-in. long wood handles. Frame folds flat for storage.



8136-10

Replacement parts for Safety Signs are available by special order.

*REQUIREMENTS FOR WORK AREA SAFETY SIGNS VARY FROM STATE TO STATE.
PLEASE CONSULT YOUR LOCAL AUTHORITIES FOR DETAILS.*

SAFETY EQUIPMENT



8136-20

SAFETY VEST

- No. 8136-20 Small (32-36)
- No. 8136-22 Medium (36-40)
- No. 8136-24 Large (42-44)
- No. 8136-26 Extra Large
- No. 8136-27 XX-Large

- ◆ Bright red-orange for high visibility; can be worn over coat or jacket
- ◆ 13 handy compartments; durable 50/50 poly/cotton blend

SAFETY CAP

- No. 8136-30 Yellow
- No. 8136-31 White
- No. 8136-33 Replacement Suspension
- No. 8136-34 Winter Liner

- ◆ High-density polymer for excellent protection against severe impact
- ◆ Molded in one piece with no metal; protects against corrosive materials
- ◆ Meets ANSI Z89. 1-1969 (Class A) — Federal Spec. GGG-H-142g
- ◆ Fits sizes 6-3/8 through 8; weight 11 ounces



8136-30



8130-94

8130-95

FIRST AID KITS

- No. 8130-94 Vehicle First Aid Kit; 8 (W) x 5 (H) x 2-3/4 (D) in.
- No. 8130-95 Emergency First Aid Kit; 9-1/2 (W) x 9-1/2 (H) x 2-1/2 (D) in.
- No. 8130-96 Vehicle First Aid Kit Refill
- No. 8130-97 Emergency First Aid Kit Refill

- ◆ Compact, convenient
- ◆ Purchase replacement items at your local store
- ◆ Includes waterproof case, carrying handle, mounting bracket



8136-12

TRAFFIC CONES

- No. 8136-12 12-in. size
- No. 8136-18 18-in. size
- No. 8136-19 28-in. size

- ◆ High-intensity fluorescent red-orange
- ◆ Polyvinyl chloride (PVC) for strength, durability
- ◆ Weighted base for good stability



8136-28

HI-VIZ SAFETY VEST

- No. 8136-28
- No. 8136-29 High-Viz Safety Vest with vertical reflective stripes (*not shown*)

- ◆ Fade-resistant, strong, cool nylon mesh won't crack
- ◆ Resistant to oils, gasoline, chemicals; fire retardant; reversible
- ◆ Velcro closure; one size fits all

HAND WARNING FLAG

- No. 8136-07

- ◆ 18 x 18 in. fluorescent red vinyl flag
- ◆ 24 in. wood handle with stiff stays



8136-07

SOKKIA/ESLON™ NYLON-COATED STEEL TAPES

The full measure of accuracy and dependability; Sokkia/Eslon measuring tapes are long-wearing and highly accurate. They're made tough to stand up to repeated use in wet or dry conditions. You can count on Sokkia/Eslon tapes for a reliable measurement every time.

Tapes come in open-reel frames (except No. 8651-42, No. 8652-22, and No. 8652-72, which come in closed cases).



ORDERING INFORMATION

NYLON-COATED STEEL TAPES

Tape No.	Length	Refill No.
8651-42	50 ft. case	8651-62
8651-44	100 ft. reel	8651-64
8651-45	165 ft. reel	8651-65
8651-46	200 ft. reel	8651-66

Ft./in./8ths; graduated from end of hook

8652-14	100 ft. reel	8652-34
8652-16	200 ft. reel	8652-36

Ft./10ths/ 100ths; graduated from end of hook

8652-22	50 ft. case	8652-62
8652-44	100 ft. reel	8652-64
8652-45	165 ft. reel	8652-65
8652-46	200 ft. reel	8652-66

Ft./10ths/100ths; zero offset from end of tape

8652-72	50 ft. case	8652-82
8652-74	100 ft. reel	8652-84
8652-75	165 ft. reel	8652-85
8652-76	200 ft. reel	8652-86

Ft./10ths/100ths; graduated from end of tape

8653-44	30m reel	8653-64
8653-46	60m reel	8653-66

M/cm/mm; zero offset from end of tape

8653-74	30m reel	8653-84
8653-76	60m reel	8653-86

M/cm/mm; graduated from end of tape

ORDERING INFORMATION

RAPID REEL™ 200-FT. NYLON-COATED STEEL TAPES

Wind three times faster than a standard reel!

Tape No.	Length	Refill No.
8651-56	200 ft. Reel	8651-66

Ft./in./18ths; graduated from end of hook

8652-56	200 ft. reel	8652-66
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Ft./10ths/100ths; zero offset from end of tape

8652-96	200 ft. reel	8652-66
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Ft./10ths/100ths; graduated from end of tape

FEATURES

- ◆ Durability: Last 3 times longer than uncoated steel tapes; resist corrosion
- ◆ Easy to read graduations: markings permeate white nylon coating and are permanently protected with another wear-resistant nylon coating
- ◆ Strength: Crack-resistant steel core for unusual flexibility
- ◆ Easy to clean: wipe clean with a damp cloth

ESLON TAPES

SOKKIA/ESLON™ FIBERGLASS TAPES

- ◆ Provide the highest strength and the lowest elongation
- ◆ Polyvinyl chloride (PVC) coating and imprinting ensures long use
- ◆ Made from nonconducting materials
- ◆ Stains, dirt, dust and mildew wipe clean with soap and water

WARRANTY

Sokkia/Esilon tapes are covered by a full one-year warranty. If your Sokkia/Esilon tape breaks, or if it is defective, Sokkia Corporation will replace it, at no charge, for up to one full year from the original date of purchase. This warranty also covers defective or broken tape reels and cases. Details supplied with tapes.

FIBERGLASS UTILITY TAPES (1/4 in. wide)

- ◆ Especially good for topographic surveys
- ◆ Extremely light, yet totally slip- and tear-proof
- ◆ Not supplied with reel

ORDERING INFORMATION	
FIBERGLASS UTILITY TAPES	
1/4 in. wide	Length/Graduations
No. 8450-10	100 ft. — In.
No. 8450-20	200 ft. — In.
No. 8450-30	300 ft. — In.
No. 8450-11	100 ft. — 10th
No. 8450-21	200 ft. — 10ths
No. 8450-31	300 ft. — 10ths
No. 8450-22	50 m — 5 cm
No. 8450-32	100 m — 5 cm

FIBERGLASS OPEN-REEL TAPE

Lightweight case is virtually shatterproof. The special handle design makes fast work of reeling. Width 1/2 in., with folding metal end hook.

	Length	Tape Refill No.
No. 8451-42	50 ft.	8451-62
No. 8451-44	100 ft.	8451-64
No. 8451-45	165 ft.	8451-65
No. 8451-46	200 ft.	8451-66
No. 8451-48	300 ft.	8451-68

Printed one side; graduated in ft./in./8ths

No. 8452-42	50 ft.	8452-62
No. 8452-44	100 ft.	8452-64
No. 8452-45	165 ft.	8452-65
No. 8452-46	200 ft.	8452-66
No. 8452-48	300 ft.	8452-68

Printed one side; graduated in ft./10ths/100ths

No. 8453-42	15 m	8453-62
No. 8453-44	30 m	8453-64
No. 8453-45	50 m	8453-65
No. 8453-46	60 m	8453-66
No. 8453-48	90 m	8453-68

Printed one side; graduated in m/cm/2mm

	Length	Tape Refill No.
No. 8454-42	50 ft./15m	8454-62
No. 8454-44	100 ft./30m	8454-64
No. 8454-45	165 ft./50m	8454-65
No. 8454-46	200 ft./60m	8454-66
No. 8454-48	300 ft./100m	8454-68

Printed both sides; one side graduated in ft./in./8ths — other side m/cm/2mm

No. 8455-42	50 ft./15m	8455-62
No. 8455-44	100 ft./30m	8455-64
No. 8455-45	165 ft./50m	8455-65
No. 8455-46	200 ft./60m	8455-66
No. 8455-48	300 ft./30m	8455-68

Printed both sides; one side graduated in ft./10ths/100ths — other side m/cm/2mm

No. 8456-42	50 ft.	8456-62
No. 8456-44	100 ft.	8456-64
No. 8456-45	165 ft.	8456-65
No. 8456-46	200 ft.	8456-66
No. 8456-48	300 ft.	8456-68

Printed both sides; one side graduated in ft./in./8ths — other side ft./10ths/100ths

8451-74



FIBERGLASS APPRAISER'S TAPES

- ◆ Long-lasting — even after daily abuse
- ◆ Special hook-end helps assure accuracy
- ◆ Inexpensive
- ◆ Open reel

	Length	Tape Refill No.
No. 8451-74	100 ft.	8451-84

Printed one side; graduated in ft./in./8ths

No. 8452-74	100 ft.	8452-84
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Printed one side; graduated in ft./10ths/100ths

No. 8456-74	100 ft.	8456-84
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Printed both sides; one side graduated in ft./in./8ths — other in ft./10ths/100ths

ESLON TAPES

REPLACEMENT REELS FOR FIBERGLASS TAPES

Lightweight, shatterproof plastic reel with convenient, built-in carrying handle. For fiberglass tapes only.

Reel No.	Length	Reel Type
8457-42	50 ft. / 15m	open reel
8457-44	100 ft. / 30m	open reel
8457-45	165 ft. / 50m	open reel
8457-46	200 ft. / 60m	open reel
8457-48	300 ft. / 100m	open reel

(Replacement reels and cases for Sokkia/Esilon nylon-coated steel tapes available upon request.)

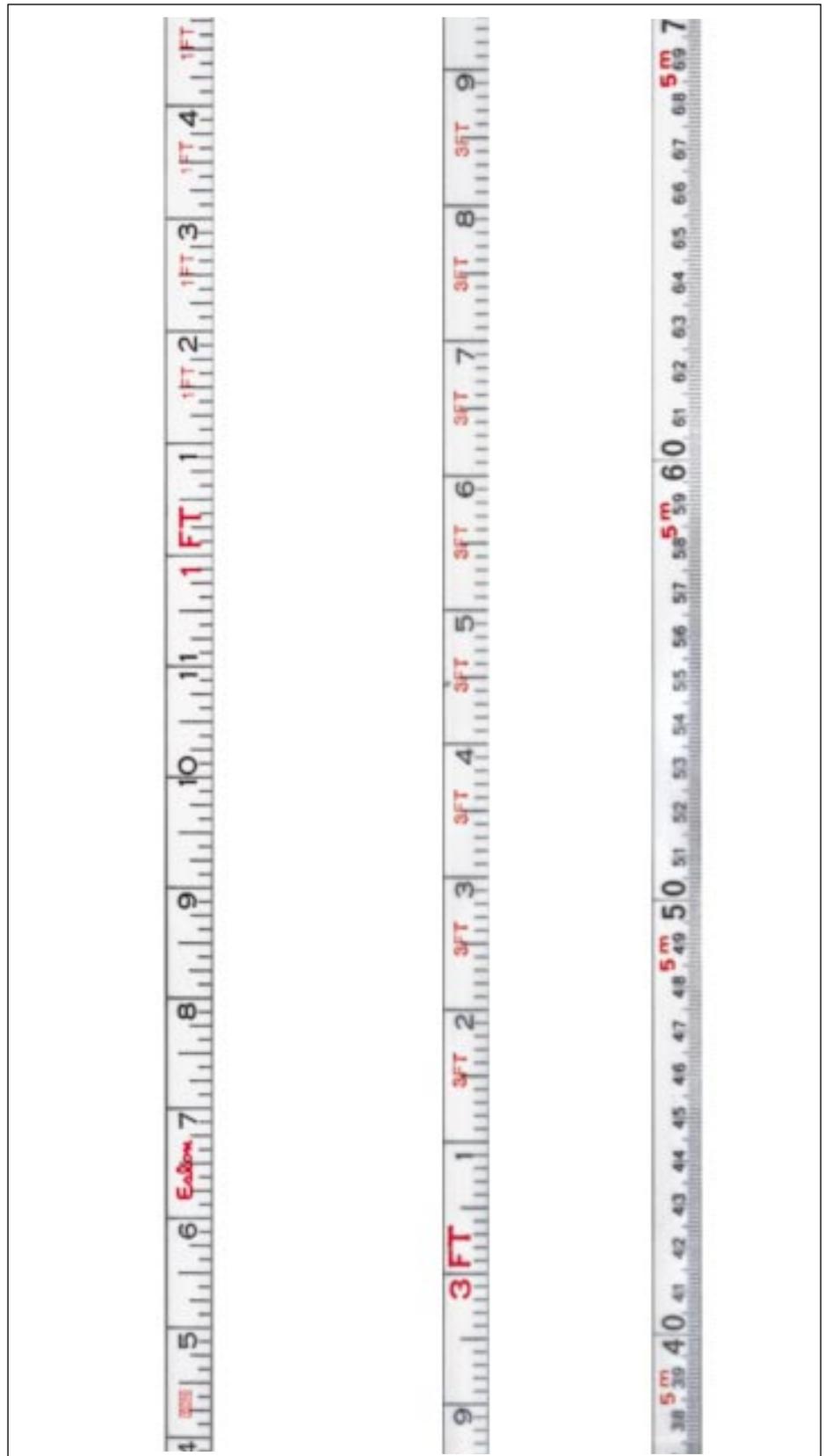


8452-74

Appraiser's Hook End Style

8453-44

Zero point starts from the inside edge of hook-ring



8651-44

English (ft. / in.)

8652-44

Engineer's (ft. / 10ths)

8653-44

Metric (decimal mark)

LUFKIN TAPES

SOKKIA™

LUFKIN POWER TAPES

LUFKIN TAPE ACCESSORIES

LEATHER THONGS

No. 1204-83

- ◆ Furnished with all Lufkin chain tapes and other tapes
- ◆ 36 in. (914mm) long and 1/4 in. (6mm wide)
- ◆ Chrome tanned and sturdy
- ◆ Sold in pairs

TAPE CLAMP HANDLE

No. 1204-89

- ◆ Used for quickly and positively gripping a steel tape at any point
- ◆ Applies light or heavy tension
- ◆ Clamp is applied and removed by simply operating the handle
- ◆ Made of chrome-plated zinc alloy

TAPE TENSION HANDLES

No. 1204-93 Tape Tension Handle 30 lbs. (15kg.)

No. 1204-94 Tape Tension Handle 50 lbs. (25 kg.)

- ◆ Applies exact tension at which a steel tape is standard
- ◆ Each has dual graduations: pounds to 1/2 pounds, kilograms to 250 grams

TAPE RING & FINGER

No. 1204-87 Tape Ring

No. 1204-82 Tape Finger

- ◆ Replacement tape ring or finger for 1/4 inch tapes only
- ◆ Chrome-plated steel

REPAIR KITS

No. 1204-60 Deluxe Repair Kit

No. 1204-62 Punch Block Only

No. 1204-63 Rivets only, long

No. 1204-64 Rivet set

A sturdy, practical kit for splicing steel tapes of all kinds, widths and weights. Contains punch and riveting block with piercing punch; cutting snips; riveting hammer; steel tape repair pieces of various kinds, widths, weights and markings (including Chrome Clad, Nubian, with and without rings); rivet set; tweezers; extra piercing punch; one lot of solid steel rivets. All in compact, roll up, heavy fabric case.

No. 1204-70 Tape Repair Kit

No. 1204-73 Extra eyelets, long

Contains punch and eyeletting tool; supply of long and short eyelets; assortment of ungraduated steel tape pieces. In vinyl case.

LUFKIN MEZURALL® TAPES

No. 1201-01 10' Mezurall Tape, ft./in./16ths

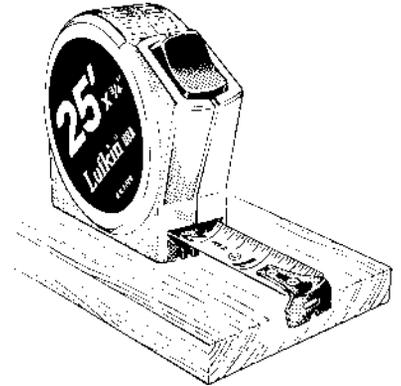
No. 1201-02 10' / 3m Mezurall Tape, ft./in./16ths/metric

No. 1201-03 12' Mezurall Tape, ft./in./16ths

No. 1201-04 12' Mezurall Tape, Chrome-clad blade graduated to 10ths of in.

No. 1221-56 12' Mezurall Tape, ft, in, 16th/ft, 10ths, 100ths

- ◆ Chrome plated case
- ◆ Spring return yellow 1/2" blade
- ◆ Belt Clip



SERIES 1000/2000 POWER RETURN TAPES

- ◆ Ergonomically designed case
- ◆ Bright yellow blade
- ◆ Convenient toggle lock
- ◆ Cushioned blade return
- ◆ Removable belt clip

Tape No.	Refill No.	Blade Width and Length	Graduations
Series 2000 in Chrome Plated Case			
1201-12	1203-55	3/4" x 12'	ft./in./16ths, ft./10ths/100ths
1201-22	1203-63	3/4" x 25'	ft./in./16ths, ft./10ths/100ths
1201-26		3/4" x 26'/8m	ft./in./16ths/metric
1201-33	1201-14	1' x 33'	ft./in./16ths, ft./10ths/100ths
Series 1000 Tapes in Black Case			
1201-25		1" x 25'	ft./in./16ths, ft./10ths/100ths
1201-32	1203-55	3/4" x 12'	ft./in./16ths, ft./10ths/100ths
Series HV1000 Tapes in Blaze Orange Case			
1201-13	1201-27	1" x 25'/7.5m	ft./10ths/100ths/metric
1201-15		25mm x 8m	metric
1201-21		1" x 25'	ft./10ths/100ths
1201-28		1" x 25'	ft./in./16ths, ft./10ths/100ths
1219-15		1" x 26'/8m	ft./in./8ths/metric
1219-16		1" x 33'/10m	ft./10ths/100ths/metric

EL SERIES MEASURING TAPES

No. 1201-61 50' Measuring Tape in case, ft./in./16ths

No. 1201-62 50' (15m) Measuring Tape in case, ft./in./16ths/metric

No. 1201-63 50' Measuring Tape in case, ft./in./16ths, ft./10ths/100ths

- ◆ Most compact 50' tape available
- ◆ Widest blade of any 50' tape: one inch
- ◆ Ribbed ABS case for better grip
- ◆ Hi-Viz Colors

LUFKIN HEAVY-DUTY POWER TAPES

No. 1201-30 25' Heavy-Duty Power Tape, ft, in, 16ths/ ft, 10ths, 100ths

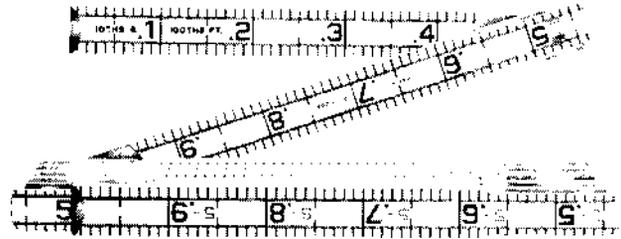
No. 1201-31 25' Heavy-Duty Power Tape, ft./in./16ths

No. 1201-29 26' (8m) Heavy-Duty Power Tape, ft./in./16ths/metric

- ◆ New non-slip, Hi-Viz Case
- ◆ Blade is 17% thicker than regular power tape blades
- ◆ Quad hook has four rivets

FOLDING WOOD RULES - RED END® SERIES

- ◆ Recognized as the finest, most accurate folding rules available.
- ◆ Boxwood finish wood sections are 25% thicker than regular wood rules; withstands daily usage
- ◆ Bold red and black markings contrast sharply against white or natural finish backgrounds
- ◆ Decimal points on engineer's scale prevent reading errors.
- ◆ Dual graduation styles, inch/decimal feet, inch/metric, decimal feet/metric.



Tape No.	Length	Graduations
1202-45	6 ft.	ft./10ths/100ths and ft./in./16ths ft.
1202-46	6 ft. / 2m	ft./10ths/100ths and metric
1206-47	6 ft. / 2m	ft./in./16ths ft. and metric
1205-75	6 ft.	ft./10ths/100ths and ft./in./16ths ft., Heavy Duty
1205-76	6 ft. / 2m	ft./10ths/100ths/metric, Heavy Duty

TAPE REELS

- ◆ Nickel-plated reels
- ◆ Open design aids in drying and keeps dirt from building up
- ◆ Long, easy-action folding handle locks in any position
- ◆ Large center drums for fast winding
- ◆ Easy tape attachment

Tape No.	Length and Width
1201-35	100 ft. / 30m x 1/4 inch
1201-36	200 ft. / 50m x 1/4 inch
1201-37	300 ft. / 100m x 1/4 inch
1201-40	100 ft. / 30m x 1/4 inch
1201-50	100 ft. / 30m x 1/4 or 5/16 inch
1201-52	200 ft. / 50m x 1/4 or 5/16 inch
1201-53	300 ft. / 100m x 1/4 or 5/16 inch

LUFKIN CASE TAPES- LUFKIN HI LINE TAPES

- ◆ 5/8" wide woven Dacron fabric tape
- ◆ Non-conductive when clean and dry
- ◆ Easy-to-read bold black and red marking against white background
- ◆ In sturdy metal case with folding winding handle
- ◆ First 9" reinforced with long wearing plastic

Tape No.	Refill No.	Length	Graduations
1204-15	1204-16	50 ft.	ft./10ths/and 1/2 10ths
1204-25*	1204-26	100 ft.	ft./10ths/and 1/2 10ths
1204-35	1204-36	50 ft.	ft./10ths/and 1/2 10ths
1204-45*	1204-46	100 ft.	ft./10ths/and 1/2 10ths
1204-10	1204-11	50 ft.	ft./in./ and 1/2 inches
1204-20*	1204-21	100 ft.	ft./in./ and 1/2 inches
1204-30	1204-31	50 ft.	ft./in./ and 1/2 inches
1204-40*	1204-41	100 ft.	ft./in./ and 1/2 inches

* These tapes are provided with a folding hook on ring end.

LUFKIN CHAIN-STYLE TAPES

- ◆ Ideal for engineers and surveyors; precisely measure route surveys, highways and railways, mining and other survey work
- ◆ Heavy-gauge thick steel blade
- ◆ Raised markings against a hard chrome or black background
- ◆ Protected by abrasion-resistant coating to provide long life under adverse conditions
- ◆ Heavy-gauge riveted end clips attach to reel or tension device
- ◆ Tapes include two leather thongs and a correction scale (Celsius for Metric tapes, Fahrenheit for English tapes)
- ◆ Order reels separately, if required

Tape No.	Reel No.	Length	Graduations*
Pioneer Nubian® (Black) 1/4 inch			
1220-10	1201-50	100 ft.	Add, feet
1220-20	1201-52	200 ft.	Add, feet
1220-30	1201-53	300 ft.	Add, feet
Pioneer Chrome Clad 1/4 inch or 8mm			
1220-15	1201-50	100 ft.	Add, feet
1220-25	1201-52	200 ft.	Add, feet
1220-35	1201-53	300 ft.	Add, feet
Pioneer Chrome Clad 8mm			
1220-16	Included	30m	Add, metric
1220-17	Included	50m	Add, metric
1220-55	1201-52	50m	Add, metric
Super Hi Way Nubian® (Black) 5/16 inch or 8 mm			
1221-02	1201-50	20m	Add, metric
1221-03	1201-50	30m	Add, metric
1221-05	1201-52	50m	Add, metric
1221-10	1201-50	100 ft.	Add, feet
1221-20	1201-53	200 ft.	Add, feet
1221-30	1201-52	300 ft.	Add, feet
Super Hi Way Chrome Clad 5/16 inch			
1221-15	1201-52	100 ft.	Add, feet
1221-25	1201-50	200 ft.	Add, feet
1221-35	1201-53	300 ft.	Add, feet

*Note on Graduation styles:

Add style feet: Tapes have blank space at each end. Extra foot before zero is graduated in 10ths and 100ths from right to left. Balance is marked every foot except last foot of each 100' length, which is in 100ths of feet.

Add style metric: Tapes have a blank space at each end. The decimeter before zero is graduated in millimeters from right to left. Balance is marked every decimeter and meter.

LUFKIN TAPES

SOKKIA™

LUFKIN POCKET TAPES

ARCHITECT'S POCKET SCALE

No. 1203-64 Architect's Pocket Scale, Automatic Return

No. 1205-00 Architect's Pocket Scale, Manual Return

- ◆ Yellow-clad 1/4 in. x 6 ft. blade with jet black markings
- ◆ 1/4 and 1/8 in. to foot scales

EXECUTIVE® TAPES

No. 1205-10 1/4" x 6' Executive Pocket Tape, ft, in, 16ths

No. 1205-12 1/4" x 6' / 2m Executive Pocket Tape, ft, in, 16ths/metric

No. 1205-20 1/4" x 8' Executive Pocket Tape, ft, in, 16ths

No. 1205-32 1/4" x 6' Executive Diameter Tape, ft, in, 16ths

- ◆ Polished chrome case
- ◆ Yellow-clad 1/4 in. blade with black graduations
- ◆ Spring return

PEE WEE® TAPE

No. 1205-11 1/4" x 10' Pee Wee Tape, ft./in./16ths

- ◆ Like Executive tape but in matte black case

LUFKIN STEEL TAPES IN CASE

No. 1202-10 50' Home Shop Tape, ft, in, 8ths

No. 1202-60 100' Home Shop Tape, ft, in, 8ths

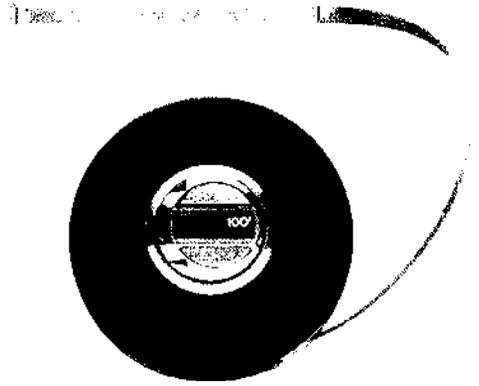
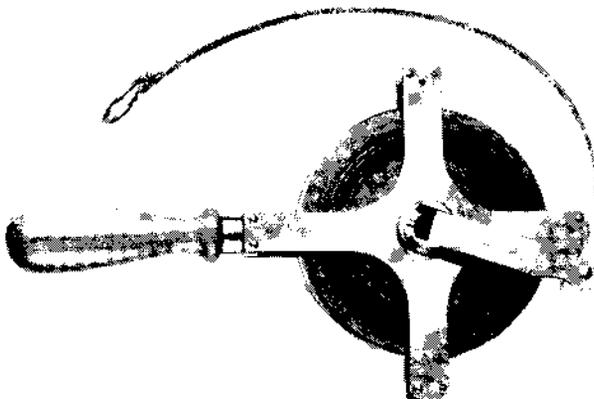
- ◆ Vinyl-covered steel case with yellow-clad 3/8" thick blade
- ◆ Folding hook ring

HI-VIZ UNIVERSAL LIGHTWEIGHT TAPES

No. 1202-00 50' Hi Viz Universal Tape, ft, in, 8ths

No. 1202-50 100' Hi Viz Universal Tape, ft, in, 8ths

- ◆ High-impact blaze orange polystyrene case
- ◆ Yellow-clad 3/8" wide steel blade
- ◆ Folding hook ring



ANCHOR CHROME-CLAD TAPES

- ◆ Rugged vinyl-covered steel case
- ◆ Chrome-clad 3/8" wide blade
- ◆ Ring end

Tape No.	Refill No.	Length	Graduations
1203-15	1203-16	100 ft.	ft./10ths/100ths
1203-17	1203-18	100 ft. / 30m	ft./10ths/100ths/metric

BANNER TAPES

- ◆ Professional quality
- ◆ Rugged vinyl clad steel case
- ◆ Yellow clad 3/8 in. wide steel blade
- ◆ Folding hook end

Tape No.	Refill No.	Length	Graduations
1203-30	1203-31	50 ft.	ft./in./8ths
1203-34	1203-37	50 ft. / 15m	ft./in./8ths/metric
1203-35	1203-36	50 ft.	ft./10ths/100ths
1203-40	1204-41	100 ft.	ft./in./8ths
1203-45	1203-46	100 ft.	ft./10ths/100ths
1203-47	1203-48	100 ft. / 30m	ft./in./8ths/metric

LUFKIN PEERLESS CHROME-CLAD® LONG STEEL TAPES

- ◆ For engineers and surveyors who prefer a fully graduated tape on a four-arm reel; 1/4 in. (6mm) wide and .016 in. thick
- ◆ A pair of 580 finger rings and a 579 engineer's conversion rule are furnished with tape or replacement refill
- ◆ Graduations start at beginning of tape

Tape No	Refill No.	Length	Graduations
1206-10	1206-11	100 ft.	ft./in./8ths
1206-15	1206-16	100 ft.	ft./10ths/100ths
1206-20	1206-21	200 ft.	ft./in./8ths
1206-25	1206-26	200 ft.	ft./10ths/100ths
1226-15	1226-16	30m	metric
1226-25	1226-26	50m	metric
1227-10	1227-11	100 ft. / 30m	ft./in./8ths/metric
1227-15	1227-16	100 ft. / 30m	ft./10ths/100ths/metric
1227-20	1227-21	164 ft. / 50m	ft./in./8ths/metric
1227-25	1227-26	164 ft. / 50m	ft./10ths/100ths/metric

LUFKIN PEERLESS YELLOW-CLAD STEEL TAPES

- ◆ Same features as Chrome-Clad® tapes shown on page 72, except blade is yellow finish

Tape No.	Refill No.	Length	Graduations
1216-10	1216-11	100 ft.	ft./in./8ths
1216-15	1216-16	100 ft.	ft./10ths/100ths
1216-20	1216-21	200 ft.	ft./in./8ths
1216-25	1216-26	200 ft.	ft./10ths/100ths
1216-30	1216-31	300 ft.	ft./in./8ths
1216-35	1216-36	300 ft.	ft./10ths/100ths

LUFKIN WESTERN® CHROME-CLAD® LONG STEEL TAPES

- ◆ Fully graduated engineers'/surveyors' tape with blank space at both ends
- ◆ 1/4 in. (6mm) wide and .019 in. thick blade
- ◆ Riveted clips for holding thongs
- ◆ A pair of 580T thongs and 579 engineer's conversion rule are furnished with each tape or replacement refill

Tape No.	Length	Graduations
1206-55	100 ft.	ft./10ths/100ths

LUFKIN WESTERN® YELLOW-CLAD STEEL TAPE

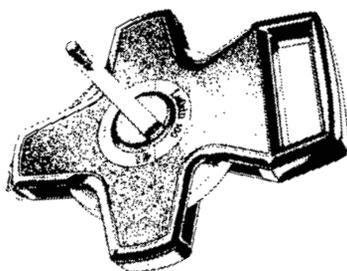
- ◆ Same features as Chrome-Clad® tapes shown above except blade is yellow finish

Tape No.	Refill No.	Length	Graduations
1206-65	None	100 ft.	ft./10ths/100ths

LUFKIN HI-VIZ ATLAS® NY-CLAD® STEEL TAPES

- ◆ Nominal thickness .022 in. Nylon-Clad steel tape has wear resistant nylon
- ◆ Easy-to-read 1/2 in. (13mm) wide yellow blade in blaze orange case
- ◆ Lightweight open reel is easy to handle and rewind

Tape No.	Refill No.	Length	Graduations
1218-10	1218-11	100 ft.	ft./in./8ths
1218-15	1218-16	100 ft.	ft./10ths/100ths
1218-20	1218-21	200 ft.	ft./in./8ths
1218-25	1218-26	200 ft.	ft./10ths/100ths
1218-40	1218-41	30m	metric
1218-50	1218-51	50m	metric
1218-55	1218-56	50m	ft./10ths/100ths/metric



2020-00

WALK CHAIN

No. 2020-00 Walk Chain, complete with 4,500-ft. spool of line

No. 2020-05 Replacement Line 9,000 ft.; orange

No. 2020-06 Replacement Line 9,000 ft.; white

- ◆ Easy, one-person distance measurement
- ◆ Just tie line to tree or other object and walk away
- ◆ Distance traveled is continuously shown on meter
- ◆ At end of measurement, simply clip the biodegradable line which is easily replaced
- ◆ Meter records up to 99,999 feet; easily reset at the touch of a button
- ◆ High-impact plastic housing; weight 1-1/4 pounds
- ◆ Accuracy of measurement $\pm 0.2\%$



2852-XX

VULCAN BABBITT CHAIN TAPES

No. 2852-64 100 ft. long

No. 2852-66 200 ft. long

No. 2852-68 300 ft. long

Heavy-duty babbitt chain tapes. Feet, graduations and figures stamped in babbitt metal bosses and bonded to the tape. Extra foot of graduation before zero is graduated to 10ths only. Nickel-plated. 5/16 x 0.016 in.

ROLATAPES

SOKKIA™



MODEL 200

No. 8310-00 Mfr. No. 200; Safety Glo Red
No. 8310-01 Mfr. No. 200; Black

For measuring indoors and outdoors on hard surfaces; built-in totalizer and recessed scale record feet and inches at normal walking speed. Click indicates each two feet measured; loud bell indicates each 100 feet. 7-1/2 in. diameter. Weight 3-1/2 pounds. 34 in. retractable handle. Carrying case.

MODEL 110/112 MEASURE METER™

No. 8310-10 Mfr. No. 110, calibrated in ft./10ths
No. 8310-11 Mfr. No. 112, calibrated in ft./in.

Precision counter records feet and inches, up to 10,000 feet without resetting; to subtract from total, simply back it up. 40 in. handle contracts to 24 in. Weight 3-1/2 pounds. Hard rubber calibrated dual wheels.

MODEL 400

No. 8310-40 Mfr. No. 400
No. 8310-41 Carrying case for Model 400, Model 415
No. 8310-42 Mfr. No. 400D, same as Model 400, but with dual counters — one to record short runs, the other to accumulate totals

For longer distances; precisely records up to 100,000 feet over uneven and irregular terrain without resetting. Wire spoke wheel. Counter records to feet with accurate estimation to inches. Wheel circumference 4 feet, diameter 15-1/2 in. Weight 9 pounds. Handle folds for storage. Automatic brake prevents backtracking. Orange color.

MODEL 415

No. 8310-20 Mfr. No. 415
No. 8310-22 Mfr. No. 415D, same as Model 415, but with dual counters — one to record short runs, the other to accumulate totals
No. 8310-24 Mfr. No. 415-M (metric); records up to 100,000m
No. 8310-41 Carrying case for Model 400, Model 415

4-foot circumference solid-plated steel disc wheel calibrated to 1/2 in. on one side, 1/2 of one-tenth foot on the other. Automatically records up to 100,000 feet without resetting. Provides reliable outdoor measuring under most terrain conditions. Automatic brake prevents accidental backtracking. Handle folds for easy storage. Weight 6-1/2 pounds. Orange color.

MODEL 623

No. 8310-62 Mfr. No. 623
No. 8310-63 Carrying case for Model 623
No. 8310-64 Mfr. No. 623-M (metric); records up to 100,000 m

Identical in construction to Model 400, except wheel circumference 6 feet, and diameter 23 in. Measure cross-country and acreage. Precision totalizer accurately records up to 100,000 feet without resetting over rough or uneven terrain.

Rolatape® Measuring Wheels are warranted for two full years against defects in materials or workmanship.

MEASURING WHEELS

MODEL 12 MEASURE MASTER — MARK II™

No. 8310-14 Mfr. No. MM12M
No. 8310-15 Mfr. No. 12,
 calibrated in ft./in.
No. 8310-16 Mfr. No. 10,
 calibrated in ft./10ths

Push-button counter records up to 1,000 feet and automatically resets to zero. 38 in. tubular handle contracts to 21 in. Counter mechanism is easy to read. Wheel circumference 1 foot; diameter 4 in. Weighs less than 2 pounds.

MODEL 30/50 MEASURE MASTER™

No. 8310-05 Mfr. No. 30; 38 in. handle retracts to 19 in.
No. 8310-07 Mfr. No. 50, same as Model 30 except, circumference 5 ft., diameter 19 in., weight 5 lbs.; handle not retractable; recommended for outdoor work.
No. 8310-09 Mfr. No. MM30M, same as Model 30, except circumference 1m, diameter 0.317m; records 1,000m in m and dm.

Suitable for both indoor and outdoor work. Wheel circumference 3 feet; diameter 11-1/4 in. Weight 3-1/4 pounds. Orange color. Counter records feet and inches up to 1,000 feet without resetting.

MODEL 34 ENDURO™

No. 8310-04 Mfr. No. MM34M
 (Meters)
No. 8310-06 Mfr. No. 34 (Feet)

For heavy-duty, high-precision measuring over demanding terrain. Saves time and money in measuring for bidding, estimating and layout. 3-foot circumference, chrome-plated wheel is precision calibrated to capture measurements in feet—up to 100,000—without resetting. 28 in. enamel-finish handle is detachable for easy transport and storage.

MODEL 45 MEASURE MASTER™

No. 8310-17 Mfr. No. 45,
 calibrated in ft. and in.
No. 8310-18 Mfr. No. 45T,
 calibrated in ft. and 10ths
No. 8310-21 Mfr. No. MM45M

Has precision counter with push-button for resetting to zero; records in feet and inches — up to 1,000 feet. Forward movement adds; reverse movement subtracts. Handle extends from 20 in. to 38 in. 4 in. wheel diameter; dual wheels. Weighs only 3 pounds.

FIELDMASTER 6.6

No. 8310-19 Fieldmaster 6.6

Perfect for acreage and agricultural field measuring. Constructed of sturdy tubular steel, the wheel provides durable, accurate performance over rugged terrain and through all kinds of weather. The precision counter mechanism is protected by a fully sealed housing and automatically records up to 1,000 wheel revolutions without resetting.

The Fieldmaster 6.6 is scientifically balanced for easy operation, and a specially shaped handle gives the operator a sense of balance and the straight-line control needed for field measuring. With a wheel circumference of 6.6 feet, a diameter of 25 in. and a weight of 4-1/2 pounds, the Fieldmaster 6.6 is ideal for surveyors, contractors, engineers and realtors.



8310-15

8310-05



8310-19



8310-17

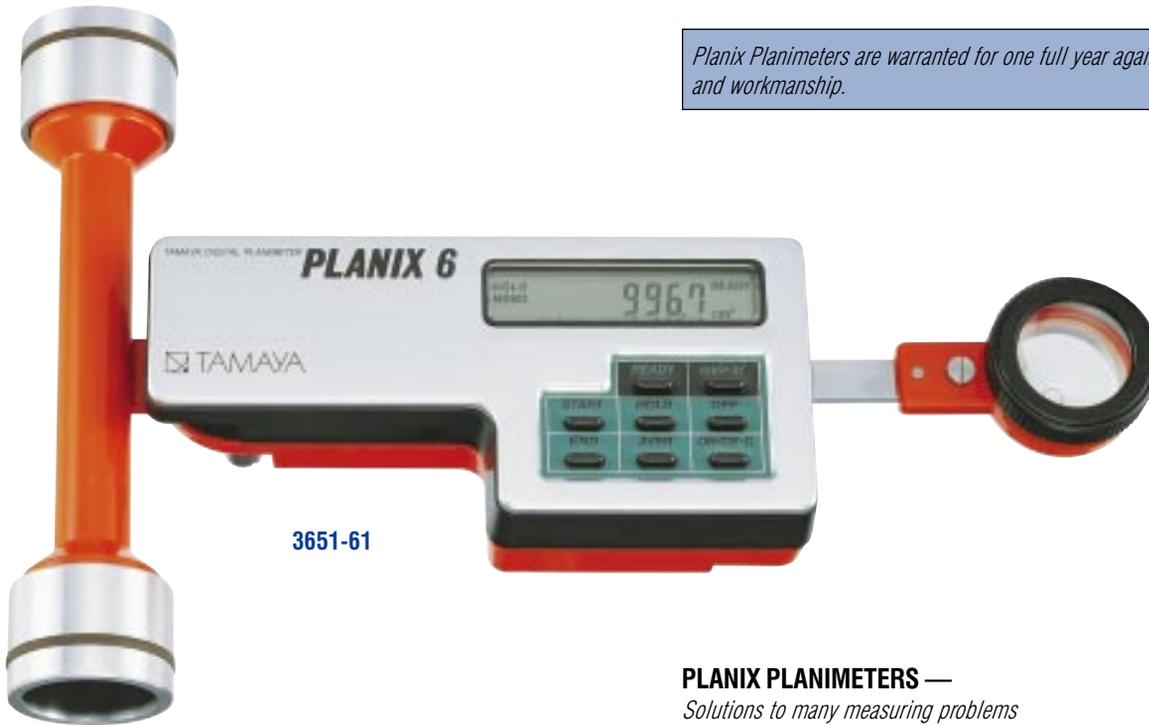


8310-06

Measure as you walk, with the totals recorded automatically.

PLANIX PLANIMETERS

Planix Planimeters are warranted for one full year against defects in materials and workmanship.



3651-61

PLANIX PLANIMETERS —

Solutions to many measuring problems

Planix Planimeters have many applications besides surveying and engineering. They're indispensable wherever you must determine the area of an irregular-shaped space:

PLANIX 5 AND PLANIX 6

- ◆ Quickly and accurately compute area of any shape
- ◆ 8-digit, LCD readout
- ◆ Cordless operation for ease of use
- ◆ Rechargeable NiCd batteries for up to 30 hours of continuous measurement
- ◆ Multiple measurement averaging
- ◆ Electronic zero reset
- ◆ No arm setting
- ◆ One-year Sokkia Warranty

- ◆ Agricultural planning
- ◆ Aircraft design
- ◆ Architectural planning
- ◆ Biological research
- ◆ Cartography
- ◆ Civil engineering
- ◆ Irrigation engineering
- ◆ Forest management
- ◆ Map making
- ◆ Mechanical engineering
- ◆ Medical research
- ◆ Surveying
- ◆ Physics
- ◆ Real estate appraisal
- ◆ Ship and yacht design
- ◆ Tax appraisal



3651-51

ORDERING INFORMATION

No. 3651-51 Planix 5 Polar Planimeter 14 in. or 356 mm diameter measuring range. Polar arm length 8-1/4 in. Accuracy better than $\pm 0.2\%$. Weight 2 pounds. Complete with A/C charger, batteries and carrying case.

No. 3651-61 Planix 6 Roller Planimeter 11.8 in. or 300mm diameter measuring range with unlimited length. Accuracy better than $\pm 0.2\%$. Weight 2 pounds. Complete with A/C charger, batteries and carrying case.

PLANIX PLANIMETERS



3651-70

ORDERING INFORMATION

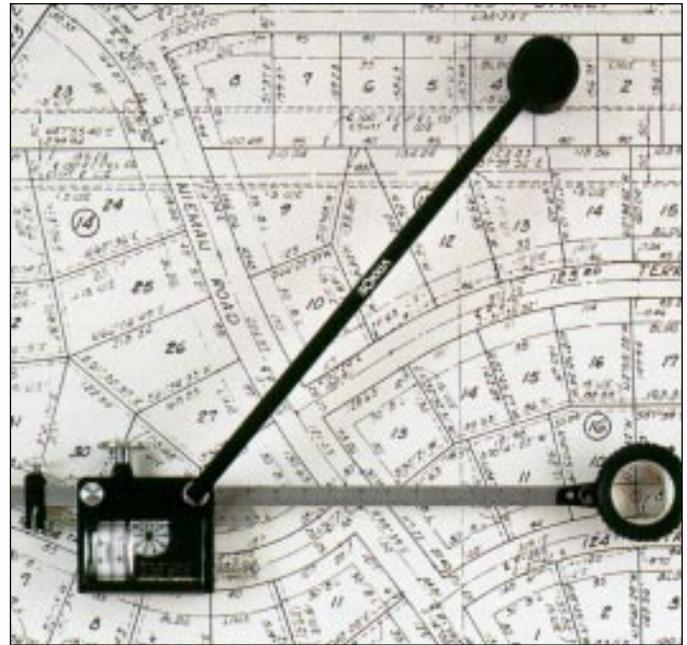
No. 3651-70 Planix 7 Roller Planimeter

Accurately measures large areas (118 x 11.8 in. or 300 x 30cm). Weight 2 pounds. Complete with A/C charger, batteries, and carrying case.

No. 3651-80 Planix 8 Polar Planimeter Provides highest accuracy for measurement of plane areas (14 in. or 356mm diameter). Length of polar arm 9 in. Weight 2 pounds. Complete with A/C charger, batteries, and carrying case.

PLANIX 7 AND PLANIX 8

- ◆ Accuracy better than $\pm 0.2\%$
- ◆ Enter scale from plan or drawing for measurement of area
- ◆ Different X and Y scales can be entered
- ◆ Quickly and accurately compute area of any shape
- ◆ 8-digit, LCD readout
- ◆ Cordless operation for ease of use
- ◆ Rechargeable NiCd batteries for up to 30 hours of continuous measurement
- ◆ Multiple measurement averaging
- ◆ Electronic zero reset
- ◆ No arm setting
- ◆ One-year Sokkia warranty



3651-30

COMPENSATING POLAR PLANIMETER

No. 3651-30

- ◆ Instant zero return on recording dial, measuring wheel and vernier by fingertip control
- ◆ Measuring wheel and registering dial are protected from dust and read through a magnifying cover
- ◆ Adjustable tracer arm allows this planimeter to be set in any scale, English or metric
- ◆ Complete with case and instructions



3651-80

Measuring Ranges	Pole Outside	Pole Inside
Circle (Maximum Diameter):	9-7/8 in. or 25cm	23-5/8 in. or 60cm
Square (Maximum Length of Side):	8 in. or 20cm	19 in. or 48cm

SUPER PLANIX α PLANIMETER



SUPER PLANIX α AREA/LINE METER

The Super Planix α brings digitizer functionality to the Planix line of quality planimeters. Like our other planimeters, the Super Planix α lets you quickly and accurately measure areas; but it also lets you measure line length, coordinates, angles, arc and circle radii, and other shapes.

You'll appreciate the easy one-hand use of the Super PLANIX α's tracer arm and operation keys as you perform these and other measuring functions:

- ◆ area by point plot and/or stream method
- ◆ lines by point plot or stream method
- ◆ coordinate measurement based on user-defined coordinates
- ◆ radii of arcs and circles
- ◆ angle measurement

And because the tracer arm can be moved in either a clockwise or counter-clockwise direction, left-handed operators will find the Super PLANIX α as easy to use as right-handed operators.

Measurements are displayed on a clear, 2-line LCD display. You can adjust instrument coordinates to drawing coordinates for accurate data, and you can even cancel the measurement point during operation. The bright tracer lens is bright enough to make measuring most materials easy. And because the Super PLANIX α measures and displays in either metric or English, you've got the flexibility to collect data in the most convenient form.

You don't need a computer to use the advanced measuring features of the Super PLANIX α. With the appropriate computer hardware configuration and cables, the Super PLANIX α's built-in RS232C interface sends any measured data to your supplied software. Simply push the ENTER key and the measurement is transferred to your computer.

Choose the model with the built-in thermal printer for an immediate hard copy of measured data. Or, if you don't need that feature, there's a model without a printer. Whichever model you choose, simple mathematical calculations can be performed directly on the keyboard.

QUICK SPECS

Measuring Range	14 in. x 325 ft. (380 mm x 100 m)
Measuring Accuracy	+ 0.1% (100 x 100 mm area measurement)
Display	LCD; 16 digits on 2 lines
Minimum Line Reading	0.05 mm
Power	Internal NiCd or AC adaptor
Battery Life	40 hrs. use
Charging Time	15 hrs. charging
Dimensions	13.5" (L) x 6.1" (W) x 1.7" (H)

ORDERING INFORMATION

No. 3651-95 Super PLANIX α Area Line Meter with AC Charger/Adaptor, fitted carrying case, and operation manual.

No. 3651-96 Super PLANIX α Area Line Meter with built-in thermal printer and same equipment as above.

ACCESSORIES

No. 3651-97 RS232C Serial Interface Cable; connects Super PLANIX α to serial port of computer (requires user-supplied software).



3651-95

SUPER PLANIX β AREA LINE METER

The Super Planix β can simultaneously measure length and area quickly and accurately. Unlike conventional planimeters, the Super Planix β uses two rotary encoders instead of an integrating wheel. It digitizes and measures using actual coordinates.



3651-92

ORDERING INFORMATION

No. 3651-92 Super PLANIX β Area Line Meter with AC Charger/Adaptor, fitted carrying case and operation manual.

ACCESSORIES

No. 3651-97 RS232C Serial Interface Cable; connects Super PLANIX β to serial port of computer (requires user-supplied software).

No. 3651-98 Super PLANIX β Thermal Printer

The Super PLANIX β incorporates built-in functionality for intuitive operation:

- ◆ Measures area and length of lines on straight line figures without the need for tedious tracing
- ◆ Two rotary encoders replace integrating wheel for greater accuracy and longer life
- ◆ Optional RS-232 interface for computer compatibility with user-supplied software
- ◆ Optional thermal printer
- ◆ Different X and Y scales may be entered for area measurement
- ◆ Point mode for measurement of straight lines without tracing
- ◆ Stream mode for measurement of curved lines
- ◆ Measuring range 14 in. x 325 ft.
- ◆ Accuracy ±0.1% (100 x 100mm area measurement)
- ◆ Area and line measurement in one operation
- ◆ Display hold and cumulative measurement
- ◆ Metric and English units (selectable)
- ◆ Four-function calculator
- ◆ Averaging of multiple measurements for greater accuracy
- ◆ Operates up to 40 hours from internal NiCd battery or with supplied AC adapter/charger
- ◆ Supplied with fitted carrying case

QUICK SPECS

Measuring Range	14 in. x 325 ft. (380mm x 100m)
Measuring Accuracy	±0.1% (100 x 100mm area measurement)
Display	LCD; 16 digits on 2 lines
Minimum Line Reading	0.05mm
Power	Internal NiCd or AC adaptor
Battery Life	40 hrs. use
Charging Time	15 hrs. charging
Dimensions	13.5" (L) x 6.1" (W) x 1.7" (H)



**3651-92
W/ 3651-98**

STEREOSCOPES



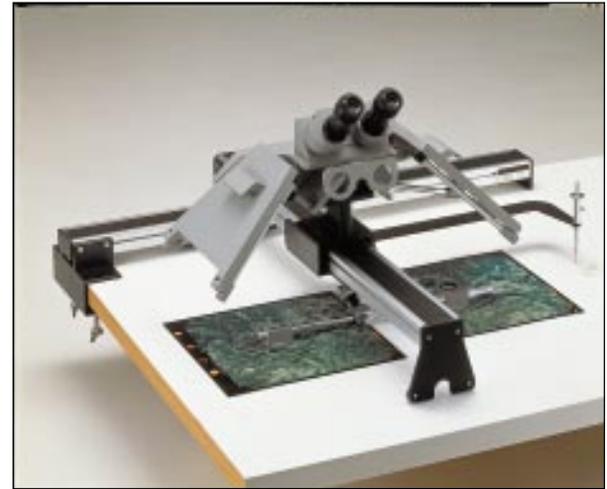
8185-00

MS27 MIRROR STEREOSCOPE

This fine Sokkia instrument is unmatched for precision and ease of use in viewing and interpreting aerial photographs. Elevations are seen with startling clarity in three dimensions; and the instrument can be used for long periods of time without eye strain. The distance between centers of stereo pairs (optical path) is 27cm and the field of view is 18 x 24cm for viewing 24 x 24cm photographs. The 3x binoculars supplied as standard equipment provide a bright, distortion-free optical system. 8x eyepieces are also available. A convenient feature of the Sokkia MS27 Mirror Stereoscope with the 3x binoculars is the ease of adjustment for varying inter-pupillary distances; there is no need to reorient photographs. This is an important asset when a number of persons are viewing the same photographs.

Use the LA3 Illumination Unit/Stereometer Parallax Measuring Bar to accurately measure heights of buildings, mountains and all other landmarks appearing on aerial photographs. Readings are easy and accurate with the dial indicator. Three color-coded targets on the glass plates make the MS27 easy to use.

The TRA2 Track Attachment permits work to be carried out over a much wider area and is particularly useful when working with multiple or continuous photographs, since the whole area of the photographs can be examined without interruption. In addition, the Track Attachment permits the instrument to be used to draw contours and to function as a sketchmaster for making maps from photographs by means of parallel translation. The Track Attachment allows the simultaneous displacement of stereoscope and stereometer parallax measuring bar both vertically and laterally. The Track Attachment cannot be used in combination with the LA3 Illumination Unit.



8185-10

ORDERING INFORMATION

No.	Mfr. No.	Description
No. 8185-00	MS27	Mirror Stereoscope complete with Swing-in 1.5x Magnifier, 3x Binoculars, Stereometer Parallax Measuring Bar and Carrying Case
No. 8185-02	MS27WO	Mirror Stereoscope with Swing-in 1.5x Magnifier and Carrying Case
No. 8185-03	LA3	Illumination Unit complete with Stereometer Parallax Measuring Bar wired for illumination; fluorescent lamp and shade to illuminate work area and 110-120-volt power pack are provided
No. 8185-05	BN3	3x Binoculars provide distortion-free optical system with magnification; field of view is 70mm
No. 8185-07	PB1	Parallax Measuring Bar, length 39.5cm; range 50mm. Minimum graduation 0.05 mm; estimation .01mm
No. 8185-08	GLSM	Replacement Glass Plate for Parallax Measuring Bars
No. 8185-10 No. 8185-19	TRA2 BN8A	Track Attachment supplied in wood case 8x Eyepiece Set converts 3x binoculars to 8x

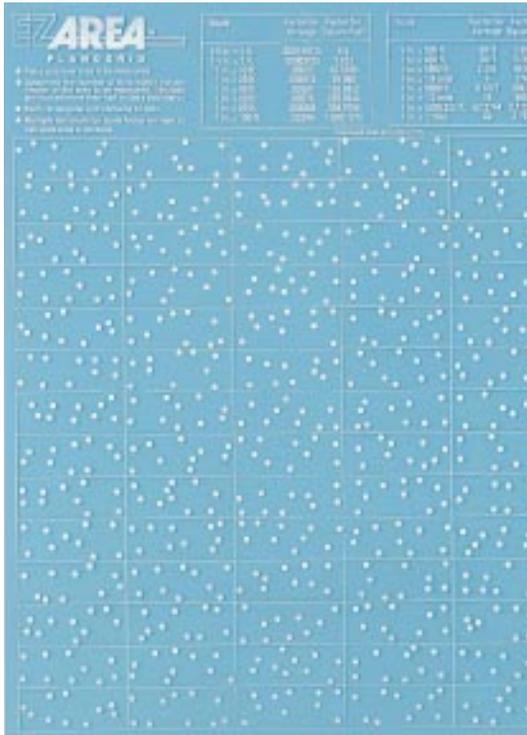
QUICK SPECS

Swing-in Magnifier:	1.5x
Magnification of Binoculars:	3x
Field of view of Binoculars:	70mm
Field of view of Stereoscope:	18 x 24cm
Interpupillary Adjustment Range:	55-75mm
Stereometer Parallax-Measuring Bar minimum graduation:	.05mm
Estimation:	.01mm
Measuring Range:	50mm
Weight of equipment:	8.8 lbs. (4 kg)

NOTE:

The Illuminated Stereometer Parallax Measuring Bar supplied with the No. 8185-03 is not interchangeable with No. 8185-07. The No. 8185-07 will not be supplied nor charged for if the No. 8185-00 and No. 8185-03 are ordered together.

THE No. 8185-03 ILLUMINATION UNIT AND No. 8185-10 TRA2 TRACK ATTACHMENT ARE NOT DESIGNED TO BE ATTACHED SIMULTANEOUSLY TO THE MS27 MIRROR STEREOSCOPE.



3654-01

EZ AREA PLANOGRID

No. 3654-01

The fast way to calculate any area with irregular borders.

- ◆ 95% accuracy!
- ◆ Graphic measuring tool for calculation of acreage or square footage of nominal scale plans, sketches, maps or drawings
- ◆ Easy to use — conversion factors for commonly used scales supplied
- ◆ Useful for:
 - ✓ Engineers and draftsmen
 - ✓ Appraisers
 - ✓ Realtors
 - ✓ Attorneys
 - ✓ Contractors
 - ✓ Land developers
 - ✓ Surveyors — for cadastral, topographic or planimetric maps

MS16 SMALL MIRROR STEREOSCOPE

No. 8187-00

- ◆ Fine-quality optical instrument with optical path extended 6-1/4 in. (16cm) by mirrors
- ◆ Provides a wide field of view; ideally suited to stereo photos
- ◆ Field of view: 100 x 100mm. Magnification: 1.5x
- ◆ Legs fold for compact storage; complete with case
- ◆ Instrument weight: 1.6 lbs.; case weight: 1.6 lbs.



8187-00

POCKET STEREOSCOPE

No. 8179-50 2x (PS2A)

No. 8179-51 4x (PS4A)

- ◆ Interpupillary range from 55mm to 75mm
- ◆ Field of view: 125 x 125mm; optical path: 50mm
- ◆ Pocket case included

HEIGHT FINDER ATTACHMENT

No. 8179-55 PB2 Height Finder Attachment

No. 8178-58 Extra Glass Plate for above

- ◆ A stereometer parallax measuring bar for use with pocket stereoscope to determine relative heights of objects of terrain
- ◆ Bar 28cm long — maximum range 25mm, minimum graduation 0.02, estimation to 0.1mm
- ◆ Bar comes with clips for attachment to pocket stereoscope
- ◆ For use with No. 8179-50/50 Pocket Stereoscope (above)
- ◆ Case included; weight of unit in case 2-1/4 pounds



**8179-50
W/ 8179-55**

POWER SUPPLIES

INSTRUMENT	ON-BOARD BATTERY	STOCK NO.	CHARGING ADAPTER	STOCK NO.
NET2B	BDC25-NiCd	6460-02	EDC19	6460-03
SET2/3/4BII	BDC25-NiCd	6460-02	EDC19	6460-03
Series 100	BDC35-NiMH BDC40-NiCd	6361-35 6361-40	N/A N/A	
POWERSET	BDC35-NiMH BDC40-NiCd	6361-35 6361-40	N/A N/A	
SET5W	BDC25A-NiCd		EDC19	6460-03
SET6E	BDC25-NiCd	6460-02	EDC19	6460-03
SET5F/6F	BDC25-NiCd	6460-02	EDC19	6460-03
SDR31	350mAh NiCd	5831-20	N/A	
SDR33	Alkaline Battery Tray 600mAh NiCd 800mAh NiCd 1/3N Lithiums (pair)	5802-00 5802-60 5802-80 5802-13	N/A N/A N/A N/A	
RED2A/L/LV	BDC11-NiCd	6850-01	N/A	
DT4F	BDC21-Alkaline BDC25-NiCd	6850-21 6460-02	N/A EDC19	6460-03
DT5/5A	BDC21-Alkaline BDC25-NiCd	6850-21 6460-02	N/A EDC19	6460-03
DT6	BDC21-Alkaline BDC25-NiCd	6850-21 6460-02	N/A EDC19	6460-03
LP30/31	BDC38-Alkaline BDC39-NiCd	7401-38 7401-39	N/A N/A	
LP_{MINI}	4 - Alkaline Batteries		N/A	
LV1	BDC38-Alkaline BDC39-NiCd	7401-38 7401-39	N/A N/A	

BATTERY NAME	STOCK NO.	TYPE	CHARGING ADAPTOR	CHARGER
BDC11	6850-01	NiCd	N/A	CDC11 (12 Hr.-120 VAC) CDC27 (1 Hr.-120 VAC) CDC32 (1 Hr. 12 VDC)
BDC12	6661-02	NiCd	N/A	CDC14A (12 Hr.-120 VAC)
BDC21-Battery Cassette	6850-21	Alkaline	N/A	N/A
BDC25	Replaced by BDC25A	NiCd	EDC19 6460-03	CDC11 (12 Hr.-120 VAC) CDC27 (1 Hr.-120 VAC) CDC32 (1 Hr. 12 VDC)
BDC25A	6460-02	NiCd	EDC19 6460-03	CDC11 (12 Hr.-120 VAC) CDC27 (1 Hr.-120 VAC) CDC32 (1 Hr. 12 VDC)
BDC35	6361-35	NiMH	N/A	CDC39 (1 Hr.-120 VAC) CDC41 (1 Hr. 12 VDC)
BDC38-Battery Cassette	7401-38	Alkaline	N/A	N/A
BDC39	7401-39	NiCd	N/A	CDC49A (7.5 Hr.-120 VAC)
BDC40	6361-40	NiCd	N/A	CDC39 (1 Hr.-120 VAC) CDC41 (1 Hr. 12 VDC)
CHARGER	STOCK NO.	BATTERY NAME	BATTERY TYPE	
CDC11 (12 Hr.-120 VAC)	6850-01	BDC11	NiCd	
CDC14A (12 Hr.-120 VAC)	6850-01	BDC12	NiCd	
CDC27 (1 Hr.-120 VAC)	6460-04	BDC11 BDC25 BDC25A	NiCd NiCd NiCd	
CDC32 (1 Hr. 12 VDC)	6855-20	BDC11 BDC25 BDC25A	NiCd NiCd NiCd	
CDC39 (1 Hr.-120 VAC)	6360-39	BDC35 BDC40	NiMH NiCd	
CDC41 (1 Hr. 12 VDC)	6360-41	BDC35 BDC40	NiMH NiCd	
CDC49A	7401-49	BDC39	NiCd	

CABLES

DATA COMMUNICATIONS CABLES	
STOCK NO.	DESCRIPTION
3651-97	Super PLANIX RS232 Interface Cable
5300-04	Female DE9 PC Cable with Hirose Adaptor
5303-02	SDR2/2X Smart Cable
5303-04	SDR2/2X Instrument Cable
5306-11	SDR-Leica Data Adaptor - Short Cable to Leica "Y" Batt
5306-12	SDR-Leica Data Cable-Short Cable to Leica Data Port
5306-13	SDR-Leica T1000 (early) Data Cable
5306-20	SDR-Pentax PTS-10 Cable
5306-40	SDR-Topcon Interface Cable
5306-50	SDR-Geodimeter 400/500-Series Interface Cable
5306-51	SDR-Geodimeter 600-Series Interface Cable
5306-66	SDR-Nikon DTM-A Cable
5808-04	SDR33 Flashing Cable
5810-01	SDR33 Instrument Cable
5831-04	SDR31 Flashing Cable
5831-05	SDR31 230V Flashing Cable
5831-10	SDR31 Instrument Cable
6150-09	DOC30 DB25 Interface Cable
6350-12	DOC23 25-Pin Cable for SCR1/2
6350-32	DOC26 Cable from SET/NET2B to 25-pin serial port
6350-33	DOC27 Cable from SET/NET2B to 9-pin serial port
6362-46	DOC46 Cable, connects POWERSET, SET*100 Series to a parallel printer
6611-02	DOC16 Cable to interface yoke mount (DT4F to RED2A/2L/LV EDMs)
6811-01	DOC9 Cable for data transmission (DT4F to RED2A/2L/LV)
BATTERY AND POWER CABLES	
STOCK NO.	DESCRIPTION
6150-43	CDC43 Charger w/EDC34 Cable for BDC37
6460-01	Power Cable for SET/DT2 12-6V DC w/clip
6650-02	EDC3 Battery Cable for use with 6661-02 (BDC12 External Battery 6V NiCd)
6650-05	Battery Cable (use w/BDC11A)
6672-04	SB131, SB27 Telescope Adaptor, Battery Cable
6855-28	EDC34 Power Cable for CDC29
6860-03	EDC5 Cable for External Battery w/clips
6860-05	EDC4 External Power Cable w/cigarette lighter Adapter
7050-62	Cable for 7050-61 Power Pack
7060-01	Auxiliary Power Cable w/clips

ACCESSORIES					
STOCK NO.		DT4F	DT5	DT6 DT5A	RED2A RED2L RED2LV
7170-09	SB99 EDM Yoke Mounting Brackets. Required for yoke mounting an EDM on DT4F, DT5, DT5A, DT6	X	X	X	
6810-01	SF2 Keyboard for RED2A/2L/LV				X
6865-01	SY4 Yoke Mount for RED2A/2L/LV				X
SCR2 CARD READER AND ACCESSORIES					
STOCK NO.	DESCRIPTION				
6350-06	SCR2 Card Reader/Writer Assembly				
6350-09	SCR2 Card Reader/Writer (only)				
6350-11	EDC21A Power Supply for SCR1/2				
6350-12	DOC23 25-pin Cable for SCR1/2				
6350-21	SDC3 32K Data Card				
6350-22	SDC4 64K Data Card				
6350-23	SDC5 128K Data Card				
6350-24	SDC6 256K Data Card				
6350-25	SDC8 512K Data Card				

OPTICAL ACCESSORIES

TOTAL STATION, THEODOLITE, TRANSIT ACCESSORIES MATRIX				
ITEM	TM1A	TM6	TM20H	10C/BT20
Illuminator	7311-12	7311-12	7311-12	—
Zenith Eyepiece Prism	7311-26	7311-25	7311-21	7311-29
Zenith Eyepiece Darkener Cap	7311-30	7311-30	7311-30	7311-30
Eyepiece Prism Set	7329-35	7329-35	7329-35	7329-31
Eyepiece Darkener Cap	7329-43	7329-43	7329-43	7329-43
Circular Compass	—	7311-17	7311-17	—
Eyepiece Filter Cap	7329-45	7329-45	7329-45	7329-45

AUTO LEVEL ACCESSORIES MATRIX				
ITEM	B1/B1C	B20	B21	C SERIES
Diagonal Eyepiece	—	7311-09	7311-47	7311-47
Optical Micrometer, feet	7372-14	7372-20	7372-20	—
Optical Micrometer, metric	7372-15	7372-21	7372-21	—
Reticle Illumination	7311-11	7311-06	7311-06	—
40x Eyepiece	—	7329-46	—	—
Auto Collimating Eyepiece	—	7311-32	—	—

OPTICAL ACCESSORIES MATRIX						
ITEM	SET2B/3BII	SET4BII	SET5F/6F/6E	DT4F	DT5/5A	DT6
Solar Filter - OF1 (45mm)	—	7329-47	7329-47	—	—	—
Solar Filter - OF1A Flip-Up (45mm)	—	7329-49	7329-47	—	—	—
Solar Filter - OF2 (50mm)	7329-48	—	—	—	—	—
Solar Filter - OF2A Flip-Up (50mm)	7329-50	—	—	—	—	—
Zenith Eyepiece Prism - DE17	—	—	—	7311-45	7311-45	—
Zenith Eyepiece Prism - DE18	7311-18	7311-18	—	—	—	—
Zenith Eyepiece Prism - DE21	—	—	7311-46	—	—	7311-46
MA04 Solar Filter for Zenith Prism	—	—	—	7311-30	7311-30	7311-30
EP3 Diagonal Eyepiece Prism with darkener. Not for solar observation with total stations.	7329-41	7329-41	7329-41	7329-41	7329-41	7329-41
ACE1 Auto Collimating Eyepiece	—	—	—	7311-32	7311-32	7311-32
ACE3 Auto Collimating Eyepiece	7311-04	—	—	—	—	—

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