SOKKIA

SDR® 8100

Operations Manual

Part Number 750-1-0085 Rev 1

Copyright Notice

Trademark Notice

FCC Notice

The equipment described in this manual has been tested pursuant to Part 15 of the FCC Rules and found to comply with the limits for a Class A digital device for use in commercial business, and industrial environments. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. The equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio and television reception. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, you can try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Relocate the receiver relative to the equipment which it interferes.
- Power the equipment from a different AC receptacle so that this equipment and the interfered equipment are on different branch circuits. If necessary, contact our customer service department or an authorized representative for additional advice.

CE Notice

Warning: This is a Class B product. In domestic environments this product may cause radio interference in which case the user may be required to take adequate measures.

Part# 750-1-0085 Rev 1
01-00004-25

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Chapter 1 Introduction

1.1 What is the SDR® 8100?

Welcome to the SDR® 8100 manual. This text will provide you with in-depth SDR 8100 information.

The SDR 8100 is a sleek, ergonomically designed data collection platform that provides flexible one-handed data capture. This system is ideal for many GPS applications, including topographic stake-out, roading, mapping, and control surveys.

This handy system features an integrated keyboard, touch screen computer and Windows® CE operating system. It is specifically designed to work with a wide range of Sokkia hardware products, including GPS receivers, digital levels and total stations.

With the SDR 8100, the answer for powerful data collection is truly in the palm of your hand.

1.2 Features

- **Easy-to-use.** The controller fits comfortably in one hand and features an easy-to-use operating system and keyboard to make your surveying experience simple and quick.
- **Lightweight Design.** The SDR 8100's lightweight design makes working in the field more convenient.
- **CompactFlash™ Memory.** The SDR 8100 provides a CompactFlash Memory card slot for extra storage within the battery compartment, and for extra protection against the weather.

- **No cables.** The SDR 8100 features an integrated system that is capable of transferring wireless data.

The SDR 8100 features are summarized in Table 1. For a detailed list of features, see Appendix A, **SDR 8100 Specifications**.

Table 1: SDR 8100 Main Features

SDR 8100 Main Features
Rugged shock resistant, water proof, buoyant enclosure
Microsoft® Windows® CE operating system
Touch Screen monitor
40-key keypad, Sokkia specific
16MB ROM / 16MB RAM
1400 mAH Li-Lon rechargeable battery (up to 1 day of use)
Flash Memory
131 MHz Processor
Spread Spectrum integrated radio and antenna (optional)
Backlight for keypad
Infrared interface (IrDA)
*See Appendix A, **SDR 8100 Specifications** for more features.

1.3 Where to Find Information

This manual provides information to enable you to effectively use the SDR 8100. In addition to this manual, several other forms of documentation serve as supporting documents.

- **SDR 8100 Data Sheet**. This lists the basic SDR 8100 specifications.

- **Sokkia Software Manuals**. Refer to your software manuals for detailed information about the software you are using with your SDR 8100.

1.4 Obtaining Technical Support

When contacting customer support, please ensure the following information is available:

- the SDR 8100 serial number
- the SDR 8100 firmware version number
- concise description of the problem

Technical Support is available from the distributor where you purchased it. You also may contact one of the Sokkia subsidiaries listed on the following page.

Canada
Sokkia Corp.
1050 Stacey Court
Mississauga, Ontario
L4W 2X8
Phone +1-905-238-5810
Fax +1-905-238-9383
Web www.sokkia.com

Australia
Sokkia Pty. Ltd.
Rydalmere Metro Centre
Unit 29,38-46 South Street
Rydalmere NSW 2116
Australia
Phone +61-2-9638-0055
Fax +61-2-9638-3933
Web www.sokkia.com.au

U.K.
Sokkia Ltd.
Datum House, Electra Way
Crewe Business Park
Crewe, Cheshire, CW1 6ZT
United Kingdom
Phone +44-1270-25-05-11
Fax +44-1270-25-05-33
Web www.sokkia.co.uk

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Sokkia B.V.
Businesspark De Vaart
Damsluisweg 1, 1332 EA Almere
P.O. Box 1292, 1300 BG Almere
The Netherlands
Phone +31-36-53-22-880
Fax +31-36-53-26-241
Web www.sokkia.nl/home.nsf

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Sokkia Singapore Pte. Ltd.
401 Commonwealth Drive
#06-01 Haw Par Technocentre
Singapore 149598
Phone +65-479-3966
Fax +65-479-4966
Web www.sokkia.com/Worldwide/sg.htm

New Zealand
Sokkia New Zealand
20 Constellation Drive
Mairangi Bay, C.P.O. Box 4464,
Auckland 10
New Zealand
Phone +64-9-479-3064
Fax +64-9-479-3066
Web www.sokkia.com.au

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Sokkia Corporation
16900 W 118th Terrace
P.O Box 726
Olatha, KS 66051-0726
Phone +1-913-492-4900
Phone +1-800-257-2552
Fax +1-913-492-0188
Web www.sokkia.com

Africa
Sokkia RSA Pty. Ltd.
P.O. Box 7998
Centurion, 0046
Republic of South Africa
Phone +27-12-663-7999
Fax +27-12-663-7998
Web www.sokkia.com/Worldwide/sg.htm

Central & South America
Sokkia Central & South America
1200 N.W. 78 Avenue
Suite 109
Miami, FL
USA 33126
Phone +1-305-599-4701
Fax +1-305-599-4703
Web www.sokkia.com/Worldwide/ sa.htm

1.5 Notes, Cautions, and Warnings

Notes, Cautions, and Warnings stress important information regarding the installation, configuration, and operation of the SDR 8100.

✉ **Note:** Notes outline important information of a general nature.

CAUTION
Cautions inform of possible sources of difficulty or situations that may cause damage to the product.

WARNING
Warnings inform of situations that may cause you harm.

1.6 SDR 8100 Usage Caution

CAUTION

General

- This device incorporates circuitry to absorb most static discharges. However, severe static shock may cause inaccurate operation of the unit. Use anti-static precautions where possible.
- This device is a precision instrument. Although it is designed for rugged operating conditions, it performs best when handled with care.
- When the access cover for the SDR 8100 is closed and latched, the enclosure is sealed to provide protection against adverse environmental conditions. To minimize the possibility of damage, always keep the access door closed and latched except when exchanging batteries or replacing your CompactFlash memory card.

Ergonomic Recommendations

To avoid or minimize the risk of ergonomic injury, read the recommendations below.

- Reduce or eliminate repetitive motion
- Reduce or eliminate excessive force
- Perform tasks at correct heights
- Reduce or eliminate direct pressure
- Provide a suitable working environment

1.7 Regulatory Information

The product regulations that the SDR 8100 complies with are as follows:

- Radio Frequency Interference Requirements (RFIR)
- Radio Frequency Interference Requirements (RFIR) - Canada
- CE Marketing and European Union Compliance (MEUC)

Radio Frequency Interference Requirements

This device has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the Federal Communications Commissions Rules and Regulation. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and

can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

However, there is no guarantee that interference will not occur in a particular installation. If the equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- re-orient or relocate the receiving antenna
- increase the separation between the equipment and receiver
- connect the equipment into an outlet on a circuit different from that which the receiver is connected
- consult the dealer or and experienced radio/TV technician for help

Radio Frequency Interference Requirements - Canada

This Class B digital apparatus complies with Industry Canada Standard ICES-003.

CE Marketing and European Union Compliance

Products intended for sale within the European Union are marked with the CE Mark which indicates compliance to applicable Directives and European Normes (EN) as follows. Amendments to these Directives or ENs are included:

Applicable Directives:

- Electromagnetic Compatibility Directive 89/336/EEC
- Low Voltage Directive 73/23/EEC

Applicable Standards:

- EN 55022:1998, Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment
- EN 55024:1998; Information Technology equipment - Immunity characteristics - Limits and methods of measurement
- IEC 1000-4-2:1995; Electromagnetic compatibility (EMC); Part 4:Testing and measurement techniques; Section 4.2:Electrostatic discharge immunity test
- IEC 1000-4-3:1997; Electromagnetic Compatibility (EMC); Part 4:Testing and measurement techniques; Section 3. Radiated, radio frequency, electromagnetic field immunity test
- IEC 1000-4-4:1995; Electromagnetic compatibility (EMC); Part 4: Testing and measurement techniques; Section 4:Testing electrical fast transient,/Burst immunity
- IEC1000-4-5:1995; Electromagnetic compatibility (EMC), Part 4: Testing and measurement techniques; Section 5: Surge Immunity
- IEC 1000-4-6:1996; Electromagnetic compatibility (EMC), Part 4:Testing and measurement techniques; Section 6: Immunity to conducted disturbances, induced by radio frequency fields
- IEC 1000-4-11:1994; Electromagnetic compatibility (EMC), Part 4: Testing and measurement techniques; Section 11: Voltage Dips, Short Interruptions, and Voltage Variations
- EN 60 950 + A1+A2+A3+A4+A11 - Safety of Information Technology Equipment Including Electrical Business Equipment

Chapter 2 General Components

The following sections introduce the general SDR 8100 physical components.

2.1 SDR 8100 Front View

The following is an illustration of the SDR 8100 showing some of the main features located on the front of the handheld.

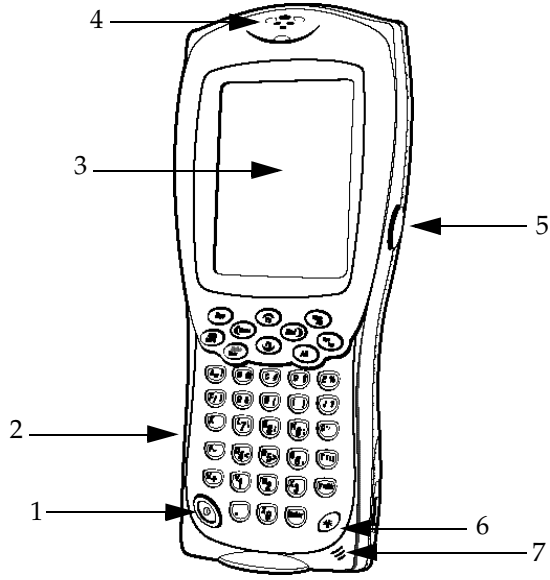

Figure 1: SDR 8100 Front View

#	Description	#	Description
1	Power Button	5	Read Key (2)
2	Keyboard	6	Backlight Button
3	Touch Screen	7	Microphone
4	Speaker		

To use the Windows CE interface and SDR 8100 keyboard, see Chapter 4, **Operating the SDR 8100**.

2.2 SDR 8100 Back View

The following is an illustration of the SDR 8100 showing some of the main features located on the back of the handheld

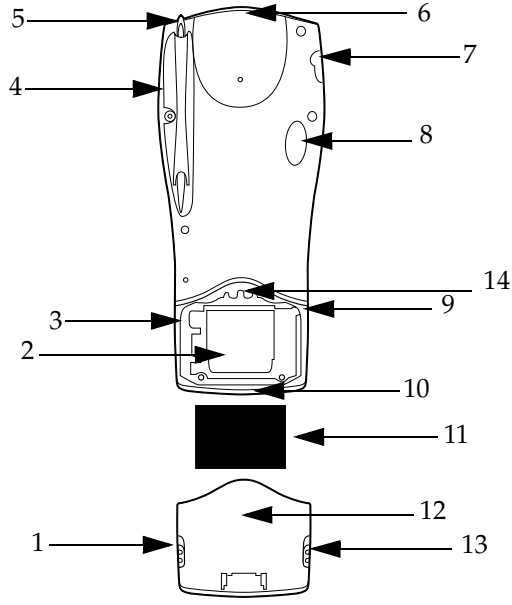

Figure 2: SDR 8100 Back View

#	Description	#	Description
1	Battery Door Latch	8	Infrared Port
2	Battery Compartment	9	Reset Button
3	Battery Latch	10	RS-232 Serial Port
4	Stylus Compartment	11	1400 Li-Ion Battery
5	Stylus	12	Battery Door
6	15-Pin Serial Port	13	Battery Door Latch
7	Headset Port	14	CompactFlash Slot

To learn more about battery usage, see Section 3.2, *Batteries*, on Page 16.

2.3 Keyboard

The 40-key keypad uses an alphanumeric keypad that includes the 26-character alphabet (A-Z), numbers (0-9), and assorted characters. The keypad is color-coded to indicate which modifier key to press to produce a particular character or action.

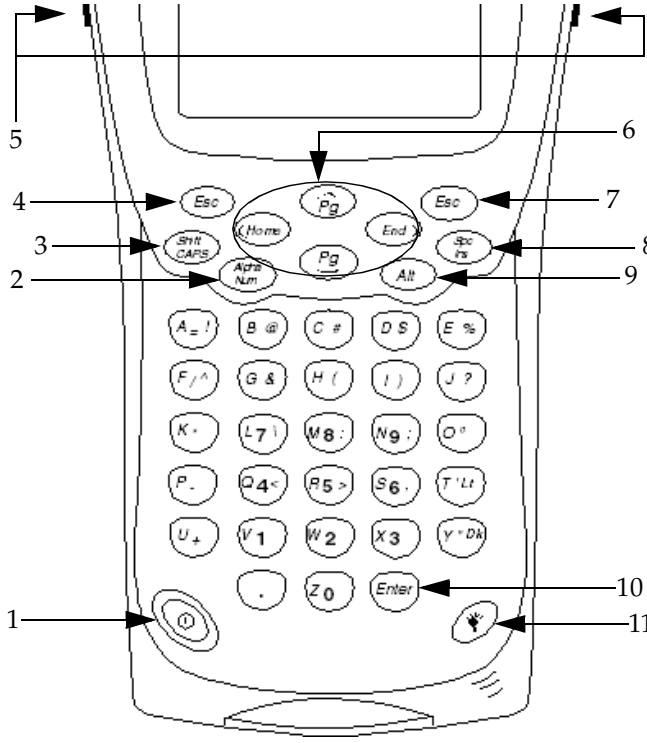

Figure 3: SDR 8100 Keypad

#	Description	#	Description
1	Power Key	7	Backspace/Delete Key
2	Alpha-Numeric Keys	8	Space/Insert Key
3	Shift/Caps Key	9	Alt Key
4	Escape Key	10	Enter Key
5	Read Keys (2)	11	Backlight Key
6	Cursor Keys		

2.4 Windows CE Interface

The SDR 8100 incorporates the latest version of the Windows CE operating system.

Windows CE is a real-time embedded operating system for the pocket PC. Windows CE features customary Windows compatibility and advanced application services to provide you with a variety of tools.

For more information about Windows CE features, see Appendix A, **SDR 8100 Specifications**.

2.5 Synchronization Cable

The following cable can be used to charge your primary battery.

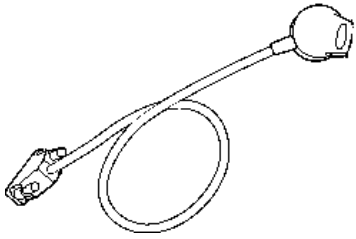

Figure 4: Synchronization Cable

To understand how to use the cable listed above, see Section 3.2.2.1, *Charge battery using the synchronization cable*, on Page 18.

2.6 Serial Charging Cable

The following cable can be used to charge your primary battery.

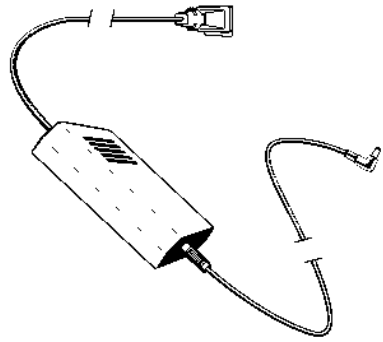

Figure 5: Serial Charging Cable

To see an illustration of how this cable works, see Figure 8, *Charge Battery Using Synchronization Cable,* on Page 18.

2.7 SDR 8100 Cradle (Optional)

The SDR 8100 Cradle can be used to charge your batteries and, through the controller, can communicate with your PC and Receiver.

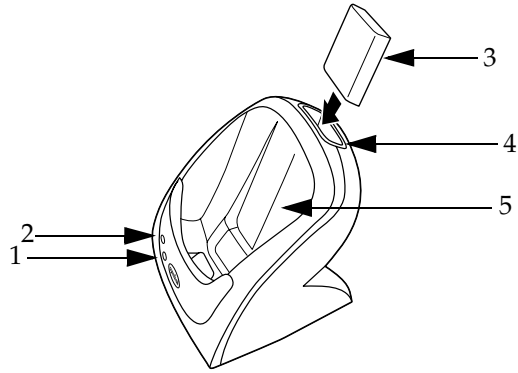

Figure 6: SDR Cradle

#	Description	#	Description
1	Primary Battery LED	4	Secondary Battery Port
2	Secondary Battery LED	5	SDR 8100 Port
3	Secondary Battery		

For more information about the SDR 8100 Cradle, see Section 3.2.2, *Charge battery*, on Page 17.

Chapter 3 Setting-up the Controller

3.1 Install Sokkia Software

To install Sokkia software on to your SDR 8100, follow these steps:

1. With the ActiveSync software installed and running, connect your data collector to the PC. For more information about ActiveSync, refer to your Windows CE materials.

2. Insert the Sokkia Complete Product CD into your computer's CD-ROM drive.

⌧ **Note:** If the Sokkia Complete Product CD menu does not automatically appear when you insert the CD, use Windows Explorer to access your computer's CD-ROM drive and locate the setup.exe file. Double-click the ***setup.exe*** file to open the menu. Click the **<Install>** button. You will be prompted for installation on the data collector's default directory.

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3. Click **<Yes>** to continue. The necessary files are then transferred to the **File Explorer | Program Files** folder on the data collector. After a few minutes, you will be prompted to check your data collector screen to confirm the program was installed successfully.

3.1.1 Confirming the installation

On the data collector, tap the **<Start>** button and select **Programs**. You should see the program you installed as one of the program options.

3.1.2 Starting the software program

You can start the program by selecting **Start | File Explorer | Programs | (*Name of Program*)**.

To use the Sokkia software, refer to your Sokkia Software Manuals.

3.2 Batteries

The SDR 8100 comes with one 1400 Lithium Ion (Li-Ion) battery. This powerful battery can power the controller for one working day. To use the SDR 8100, you must have a charged 1400 rechargeable Lithium Ion battery installed.

CAUTION
If all power from the battery within the SDR 8100 has been used, your controller will stop working. If the power supply is not replaced within 80 hours, you may lose memory stored on the controller.

You will have to recharge the battery from time to time. With the SDR 8100 it is possible to use your controller while the battery is charging. For a detailed list of battery specifications, see Appendix A, **SDR 8100 Specifications**.

The following sections discuss how to install and recharge your batteries.

3.2.1 Install battery

The following illustration shows how to install a battery into the SDR 8100.

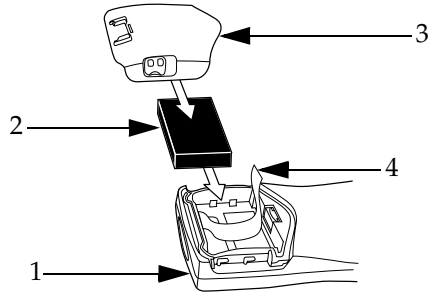

Figure 7: Inserting Battery into the SDR 8100

#	Description	#	Description
1	Controller	3	Battery Cover
2	Battery	4	Tether

The following steps will guide you through the battery installation process.

1. Slide the latches on the battery door up and lift the battery door away from the SDR 8100.

2. Insert the Li-Ion battery in the battery compartment with the tether positioned below the battery. The battery should snap into place.

3. Replace the battery cover, pressing down firmly along the top edge while sliding the latches into the locked position.

3.2.2 Charge battery

Your batteries should be fully charged after 2.5 hours to get a minimum of 20 hours of power in the field. There are two ways to charge your batteries:

- Charge your battery using the Synchronization Cable (see Section 3.2.2.1, *Charge battery using the synchronization cable*, on Page 18)

- Charge your battery using the optional cradle (see Section 3.2.2.2, *Charge battery using the optional cradle*, on Page 19)

✉ **Note:** Newly purchased Li-Ion batteries must be charged before they can be used.

3.2.2.1 Charge battery using the synchronization cable

This illustration shows how to charge your primary battery using the SDR 8100 synchronization cable and power cable.

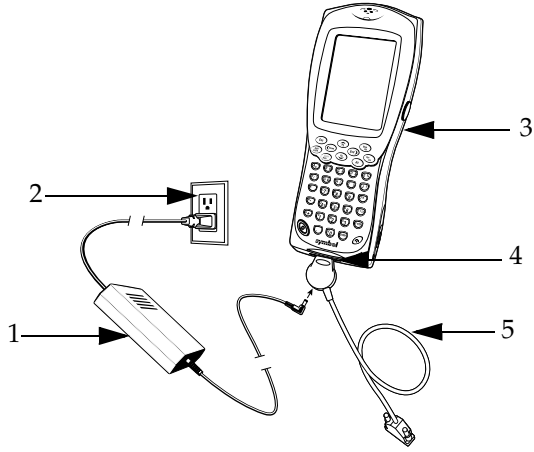

Figure 8: Charge Battery Using Synchronization Cable

#	Description	#	Description
1	Power Cable	4	RS-232 Serial Port
2	Power Outlet	5	Synchronization Cable
3	SDR 8100		

Follow these instructions to charge your primary battery using the SDR 8100 synchronization cable and power cable.

1. Insert the synchronization cable into the RS-232 serial port on the bottom of the data collector.

2. Plug one end of the power cable into a wall outlet and the other end into the port on the synchronization cable.

3.2.2.2 Charge battery using the optional cradle

If you purchase a cradle, you may use it to charge your battery. The cradle can charge your battery in two ways: while it is in the controller, or by itself.

Follow these instructions to charge your battery (while it is inside the SDR 8100) in the optional cradle:

1. Plug the cradle into a wall outlet.

2. Insert the SDR 8100 (with battery installed) into the cradle.

3. The Primary Battery LED glows red to indicate charging, then green when the battery is fully charged.

If you choose to purchase a backup battery, or to charge your battery while it is not installed in the SDR 8100, follow these instructions to charge your battery with the optional cradle:

1. Insert the battery into the secondary battery port with contacts facing down and toward the back of the cradle.

2. Press the battery into the slot until it is firmly seated.

3. The Secondary Battery LED will glow red to indicate charging, then green when the battery is fully charged.

✉ **Note:** It may take up to one minute for the Battery LEDs to glow red.

See Figure 6, *SDR Cradle*, on Page 14 for an illustration of the SDR 8100 Cradle.

3.3 CompactFlash Card

The SDR 8100 has a slot for a standard CompactFlash card, which includes a locking mechanism to prevent the card from coming loose if the SDR 8100 is dropped. Insert the CompactFlash card carefully to make sure it engages this locking mechanism.

3.3.1 Install CompactFlash card

The following illustration shows how to install a CompactFlash card into your SDR 8100.

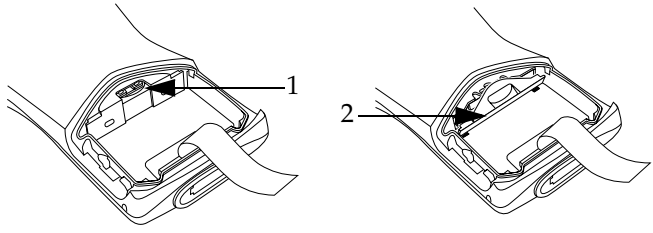

Figure 9: Opening CompactFlash Card Compartment

#	Description	#	Description
1	Compartment Closed	2	Compartment Opened

Follow these instructions to install a CompactFlash card in your SDR 8100:

1. Open the battery door and remove the battery.

2. Remove the flash card cover at the top of the battery compartment.

3. Insert the flash card into the compartment with the pins facing forward, and front face down. The two metal tabs on the locking mechanism will prevent you from pushing the card all of the way in.

CAUTION

If the CompactFlash Card does not slide easily into slot, do not try to force it to fit. Remove the card, face the pins towards the entrance of the slot, and try again. If it still does not fit, check that nothing is blocking the entrance of the compartment. If there is a blockage, please contact Sokkia Technical Support (see Section 1.4, *Obtaining Technical Support*, on Page 3).

4. To fit the card into place, push down and in at the same time so that the lip of the CompactFlash card slips under the tabs of the locking mechanism.

5. Replace the flash card cover by inserting the bottom first, then clicking the top into place.

✉ **Note:** After you insert or remove a CompactFlash card, you must replace the flash card cover for the card to function.

6. Reinsert the battery and battery door.

7. Perform a soft reset (see Section 4.3.1, *Soft reset*, on Page 25).

3.3.2 Remove CompactFlash card

The following illustration shows how to remove a CompactFlash card from your SDR 8100.

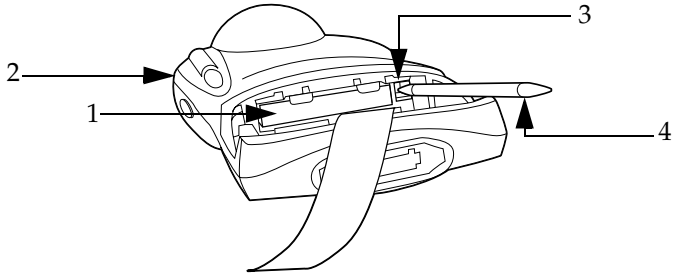

Figure 10: Flash Card Compartment

#	Description	#	Description
1	Flash Card Compartment	3	Flash Card Release Button
2	SDR 8100 (Back View)	4	Stylus

Follow these instructions to remove the CompactFlash card from the SDR 8100:

1. Open the battery door and remove the battery and flash card cover (see Figure 9, *Opening CompactFlash Card Compartment*, on Page 20).

2. Use the stylus to press the flash card release button inside the flash card compartment (see Figure 10, *Flash Card Compartment*, on Page 22).

3.4 Power/Memory Settings

Adjusting certain settings on your data collector can optimize the performance of your SDR 8100 in the field. From your Window CE operating system, you can adjust memory settings, power settings and other systems settings. To see your adjustable settings tap **Settings** | **System** from the **Start** menu.

For more information about configuring your Windows CE settings, refer to your *Windows CE* documentation or visit Microsoft on the internet at ***www.microsoft.com***.

The following sections give tips to prolong the life of your controller and speed up its performance.

3.4.1 Allocate memory

To provide more space on the controller for your survey information, allocate more memory for storage. Experiment with the memory allocation to find a setting that is suitable for your needs.

To access memory settings, tap **Settings** | **System** from the **Start** menu and choose the **Memory** tab. Adjust the slider bar as necessary to allocate memory.

3.4.2 Conserve battery power

The SDR 8100 has the ability to suspend operation after a fixed period of time to save the life of its battery. After the controller exhausts its battery, it can retain its memory for 80 hours.

Follow these steps to ensure the maximum amount of surveying time from your data collector in the field:

- Ensure your data collector is fullly charged before proceeding to the field (see Section 3.2.2, *Charge battery*, on Page 17).
- Turn off the backlight, unless it is absolutely necessary. If available, set the backlight to power down automatically when the data collector is idle (see Section 4.2, *Use Backlight*, on Page 25).
- Consider removing CompactFlash or other memory cards if you do not need their services (see Section 3.3.2, *Remove CompactFlash card*, on Page 22).
- If possible, set your data collector to automatically sleep when it is idle. You can also shorten the interval before the

data collector powers down. This will not interfere with SDR 8100 surveying processes. The software will pick up where it left off when you return to use your data collector. To modify your controller's power settings, tap **Settings** | **Power** from the **Start** menu and choose the **Power off** tab. Select your settings from the list box.

Chapter 4 Operating the SDR 8100

The following sections cover a variety of operations you need to know to use the SDR 8100.

4.1 Power On and Off

Press the Power key to turn your SDR 8100 off and on.

✉ **Note:** The SDR 8100 will by default turn off after three minutes standing idle. You can change this idle time in the ***Settings*** window. See Section 3.4, *Power/Memory Settings*, on Page 22 for more information.

4.2 Use Backlight

To turn the backlight on or off, press the white light bulb key located at bottom of the controller.

To adjust the Backlight contrast, press <**Alt**> **+** <**y**> to increase (darken) the contrast. Press <**Alt**> **+** <**t**> to decrease (lighten) the contrast.

4.3 Reset Controller

There are two ways to reset the controller: a soft reset and a hard reset.

4.3.1 Soft reset

A soft reset will save all of your stored records and then restart the data collector.

There are two ways to perform a soft reset:

- Press <**Page Up**> + <**Page Down**> + <**Backlight Key**> on your keyboard simultaneously.

- From the **Start** menu on your touch screen, select **Reboot**.

WARNING
A soft reset will not save any data that has not been previously saved on the controller. DO NOT perform a Soft Reset if the data collector is suspended. Press the Power button to wake the data collector. If the data collector does not power on, perform a Soft Reset.

4.3.2 Hard reset

A hard reset will erase all of your stored records and restart your SDR 8100.

To perform a hard reset, remove the battery cover and use the stylus to press the <**Reset**> button while you hold down the <**Alt**> key. When you next power on the SDR 8100, the controller will restore its factory default settings (see the Reset button location in Figure 2, *SDR 8100 Back View*, on Page 10).

4.4 Shortcut Keys

Shortcut keys can be used to quickly pull up menus. Your software operations manual will list the shortcut keys relevant to its program. To access a shortcut key on the SDR 8100 you must press the <**Alt**> + <***desired letter***> on your keyboard. Your software manual will have a list of shortcut keys to work with.

4.5 Access Keypad Symbols

You will notice on your keypad that symbols are in three different colors: yellow, white, and black. This section describes how to access the different colored symbols on your keypad.

Yellow ..... Numeric symbols. Press the <**Alpha/Num**> key to toggle between yellow and white symbols. By default, the yellow symbols are activated.

White ..... Alphabetic and miscellaneous symbols. Press the <**Alpha/Num**> key to toggle between Alpha and Numeric keys.

Black..... Miscellaneous symbols. Press <**Alt**> to access the black symbols.

4.6 On-Screen Operations

You may use your stylus on the touch screen to move between programs, windows, and fields. You can also maneuver through operations using the keypad. The following sections show the operations you can use on your keypad to move through programs, windows, and fields.

4.6.1 Toggle from field to field

Press the cursor keys to toggle left, right, up and down between fields on your touch screen. You may also press the <**Enter**> button to drop to the next field on the screen.

4.6.2 Toggle from page to page

Press <**Alt**> **+** <**CAPS**> to access the page up, page down, home, and end commands located on your cursor keys.

4.6.3 Enter a blank space in a field

Press the <**Ins/Spc**> key. The white symbols must be activated to access this key.

4.6.4 Insert a space between characters in a field

Use your cursor keys to toggle over to the characters which need a space between them. Press the <**Spc/Ins**> key to insert a blank space between characters.

4.6.5 Capitalization

You have the ability to capitalize a single letter or a string of letters as shown below:

<Shift> ..... Capitalize a letter

<Alt> + <CAPS> ..... Capitalize a string of letters (CAPS LOCK).

4.6.6 Escape out of an application or screen

To escape out of an application or screen press the <**Esc**> key on your keyboard.

Appendix A SDR 8100 Specifications

SDR 8100 SPECIFICATIONS	
Physical	
Size (HxWxL)	21.8 cm x 9.4 cm x 4.6 cm (8.6 in x 3.72 in x 1.84 in)
Weight	13.7 oz (0.8 lbs)
Description of Controller	Comfortable hand-fit hold, rubber molding to protect from blowing dust and rain, rugged, cable-free, lightweight
Environmental	
Operating Temperature (w/o batteries)	-20°C to +50°C (-4°F to +122°F)
Storage Temperature	-25°C to +50°C (-13°F to +122°F)
Resistance Characteristics (with access door closed)	Wind-Blown Rain, Dust Immunity, Sealing: IP54
Humidity	5% to 95% RH non-condensing
Shock	Thermal: -25°C to 65°C (-13°F to 149°F) 2.5 hours, 3 cycles Physical: 1.2 m drop (4 ft drop)
Vibration	Sine: 5 Hz to 2,000 Hz, 4g (peak) Random: 20 Hz to 2,000 Hz, 6 Grms
Electro-Static Discharge	8 kVdc (air), 4 kVdc (contact)
Altitude	Sea level to 2,930 m (8,000 ft)
Batteries	
Model	Sokkia
Capacity	1400 mAH
Chemistry	Li-Ion
Voltage	3.7 V
Operating Time (20°C)	8 hours
Charge Time	>2.5 hours (using Sokkia charger)

SDR 8100 SPECIFICATIONS	
Data Communications	
Radio (optional)	Spectrum24®
Output Power	U.S.: 500mW International: 100mW
Data Rate	1 Mbps, 2 Mbps and 11 Mpbs
Spreading Technique	Frequency hopping/direct sequence (11 Mbps)
Antenna	Internal
Range	Open space: up to 1,000 ft./303 m Typical: 180 ft. to 250 ft./54.5 to 76 m
Frequency Range	Country dependent, typically 2.4 to 2.5 GHz
Signals Supported	TX, RX, GND, RTS/CTS, Power input
Display	
Number of Colors	TF monochrome
Resolution	190 dpi
Display Type	High contrast, anti-reflective monochrome LCD display, 1/4 VGA resolution (240 x 320 pixels)
Performance	
Operating System	Windows Powered Pocket PC
Processor	MIPS R4000 32 bit RISC Processor
Memory	CompactFlash™ (CF) SDRAM: 16 MB ROM: 16 MB
Infrared Port	IrDA V1.0 115Kbps
COM Ports	
COM1/COM6	ActiveSync port/ Power peripheral port
COM2	PCMCIA/CF serial card port
COM3	IRComm
COM4	Raw IR
COM5	15-Pin serial port

SDR 8100 SPECIFICATIONS	
Regulatory Requirements	
Product Safety	UL1950/CSA C22.2 No. 950 (min); EN60950; IEC950
EMC Testing	FFC Part 15, Class A; EN55022, Class B; EN50082-1, 3 V/m; EN61000-4-2 ESD +/-8KV Air +/-4KV Contact; EN61000-4-3, Radiated Immunity 3 V/M; EN6000-4-4 EFT Burst Immunity +/-

Glossary

Bi-directional - In two directions (backwards and forwards).

Byte - A sequential series of bits comprised of one character and handled. A byte is typically comprised of eight bits, and represents either one alphabetic or other character, two decimal digits, or eight binary bits.

Contrast - The difference in reflectance between the black and white areas of a symbol.

Data Collection System - A system that consists of input devices located at points where data are created. Once captured, the data may be immediately transmitted to a central location, usually in or near a computer room for automatic recording. Or the data may be transmitted to a storage medium, such as a tape, disk, or semiconductor memory for later transfer to a host computer application program.

Diffuse Reflection - The component of reflected light which emanates in all directions from the reflecting surface.

LED - Light emitting diode. A semiconductor that produces light at a frequency determined by its chemical composition. The light source commonly used in wand readers.

PCMCIA - Personal Computer Memory Card International Association.

Radio Frequency - Non-optical automatic identification devices that use radio waves to transmit data.

RF - Radio Frequency.

Resolution - The narrowest element dimension which can be distinguished by a particular reading device or printed with a particular device or method.

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