

# Data Collectors - Spectra Precision® Ranger®



The field-proven Spectra Precision® Ranger™ Data Collector delivers military-grade durability with the features surveyors depend on. It meets rigorous MIL-STD-810F military standard for drops, vibration, humidity and extreme temperatures, and with an IP67 rating, it's impervious to water and dust, keeping your data safe. The Ranger features Survey Pro and Windows Mobile 5.0, with the capability to run the mobile version of all your favorite programs including Excel and Outlook. Integrated wireless capabilities let you connect to field equipment without bulky cables. Plus, with CF and SD slots, you can add multiple accessories and increase data storage. The Ranger comes in three models; the powerful 500X, the economical 300X, and the simple NX. The powerful 500X and the economical 300X provide you options without limiting any features. The 500X also includes the 2.4 GHz robotic radio. The Ranger NX is a 300X without the expansion slots and is our most affordable model.

## STANDARD FEATURES

- Microsoft Windows Mobile 5.0
- 53 tactile key alphanumeric keypad, 8 position spider key
- Touch-screen
- Battery life of 30 hours under normal operating conditions
- Complete recharge in 4.5 hrs (80% in 2 hrs)
- Battery charge status LED indicator
- Notification LED
- Rugged polycarbonate shell
- Integrated speaker and microphone

## PHYSICAL

### Size

266 mm × 131 mm × 48 mm  
(10.5 in x 5.2 in x 1.9 in)

### Weight

0.95 kg (2.1 lb) including battery  
1.09 kg (2.4 lb) including battery and optional internal radio

## ELECTRICAL

### Processor

Intel PXA 270 XScale CPU

### Expansion

1x Type I and 1x Type II CompactFlash slots<sup>2</sup>  
1x Secure Digital (SDIO) slot<sup>2</sup>

### Display

Color, illuminated TFT, daylight-readable touch-screen displayed at 320 × 240 pixels

### Power

Li-Ion rechargeable pack, 6600 mAh

<sup>2</sup> Not applicable to Ranger NX model.

## I/O

### Ports

9-pin serial port RS-232 (115 Kbps)  
USB client and host  
DC power port

## STANDARD SOFTWARE

Internet Explorer  
File Explorer  
Word Mobile  
Power Point Mobile  
Excel Mobile  
Outlook Mobile  
Windows Media® Player Mobile  
Microsoft ActiveSync® technology  
Microsoft Transcriber (handwriting recognition)  
Pictures, Picture&Videos, Calendar, Contacts, Tasks and Notes  
Online help

## STANDARD ACCESSORIES

Rechargeable Lithium-Ion battery module  
International AC re-charger (100V–240V)  
Standard CF-Cap  
USB data cable  
Hand strap  
Stylus pen  
Stylus pen lanyard  
2 screen protectors  
Nylon carry case

## MODELS OVERVIEW

### PROCESSOR/SPEED

	500X	300X	NX
Intel XScale	520 MHz	312 MHz	312 MHz

### MEMORY

	500X	300X	NX
SDRAM	128 MB	64 MB	64 MB
Data storage (On-board Flash)	512 MB	256 MB	128 MB

### WIRELESS

	500X	300X	NX
Integrated Bluetooth	Standard	Standard	N/A
Integrated 802.11g	Optional	N/A	N/A

### FEATURES

	500X	300X	NX
2.4 GHz robotic radio Module	Optional	N/A	N/A

## ENVIRONMENT

### Operating Temperature

–30 °C to 60 °C (–22 °F to 140 °F)

### Storage Temperature

–40 °C to 70 °C (–40 °F to 158 °F)

### Humidity

100% condensing, MIL-STD-810F, Method 507.4

### Water

IP67, sealed against accidental immersion (1 m for 30 min.)

MIL-STD-810F, Method 512.4, Procedure I

### Sand & Dust

IP67, MIL-STD-810F, Method 510.3, Procedures I & II

### Drop

MIL-STD-810F, Method 516.5, Procedure IV 48" onto concrete, 26 drops at room temperature (all faces, edges, corners, one drop each)  
6 additional drops at –30 °C (–22 °F)  
6 additional drops at 60 °C (140 °F)

### Vibration

MIL-STD-810F, Method 514.5, Procedure I, Figs. 5 & 17

### Altitude

4,572 m (15,000 ft) at 23 °C (73 °F)

MIL-STD-810F, Method 500.4, Procedures I, II & III

# Data Collectors - Spectra Precision® Nomad®



The Spectra Precision® Nomad® Data Collector, packed with functionality, is an extremely powerful and full-featured rugged data collector. Start with an 806 MHz processor, a long-life 5200 mAh lithiumion battery and integrated wireless capabilities like GPS, WiFi 802.11g, and Bluetooth. Then, the Spectra Precision Nomad adds 128 MB RAM and 1 full GB non-volatile Flash storage to manage all the data you can collect. The Nomad features a high-resolution, sunlight-visible full VGA display that shows graphics and maps in crisp detail plus a backlit numeric keypad. The Nomad is available in a range of solutions from the powerful 800X, the camera based 800LC, the traditional 800LD and the economical 800B, each packed with features and benefits to suit your specific needs.

MODEL OVERVIEW	800X	800LC	800LD	800B
<b>PROCESSOR/SPEED</b>				
Marvell PXA320 XScale	806 MHz	806 MHz	806 MHz	806 MHz
<b>MEMORY</b>				
DDR SDRAM	128 MB	128 MB	128 MB	128 MB
Data storage (On-board Flash)	2 GB	1 GB	1 GB	512 MB
<b>FEATURES</b>				
Integrated Card Slots	SD/CF	D	SD/USB	SD/CF
Integrated Bluetooth	X	X	X	X
Integrated GPS, Navigational Grade	X	X	X	
Integrated WiFi 802.11g	X	X	X	
Integrated WWAN	X			
Integrated Camera		X		

## STANDARD FEATURES

- Windows Mobile 6 (Classic edition)
- Numeric keypad with backlight
- Marvell 806 MHz XScale processor
- 128 MB DDR SDRAM
- 1 GB nonvolatile Flash storage (800LD)  
2 GB nonvolatile Flash storage (800X)
- Full VGA display, sunlight-readable color TFT
- Touch-screen
- Rugged submersible design
- Integrated speaker and microphone
- Integrated Bluetooth 2.0
- Secure Digital (SDIO) slot
- Notification LEDs
- 15-hour battery life with active use (default settings)

## PHYSICAL

### Size

17.6 cm x 10.0 cm x 5.0 cm  
(6.92 in x 3.92 in x 1.96 in)

### Weight

0.596 kg (21 oz) with rechargeable Lithium-Ion battery module

## ELECTRICAL

### Processor

806 MHz Marvell PXA320 XScale CPU

### Display

480x640 pixel (full VGA) 16 bit color TFT with LED backlight, Sunlight readable color TFT display

### Batteries

Internal 5200 mAh Lithium-Ion, rechargeable battery module, 15 hours battery life with active use (default settings)

## ENVIRONMENT

### Operating Temperature

-30 °C to 60 °C (-22 °F to 140 °F)

### Storage Temperature

-40 °C to 70 °C (-40 °F to 158 °F)

### Humidity

MIL-STD-810F, Method 507.4

### Water

IPX7, sealed against accidental immersion (1 m for 30 minutes)  
MIL-STD-810F, Method 512.4, Procedure I

## I/O

Standard 9-pin male D-shell RS-232 serial port (115 kbps)  
Mini USB-Guest port  
DC power port

## STANDARD SOFTWARE

Microsoft® Windows Mobile® 6 software programs including:

- Internet Explorer Mobile
- File Explorer
- Word Mobile
- Excel Mobile
- PowerPoint Mobile
- Outlook Mobile
- Microsoft Windows Media Player
- Microsoft ActiveSync
- Microsoft Pictures & Videos
- Calendar, Contacts, Notes, Tasks, Calculator
- Online Help

## STANDARD ACCESSORIES

Rechargeable Lithium-Ion battery module  
International AC re-charger (100V-240V)  
Standard CF-Cap  
USB data cable  
Hand strap  
Stylus pen  
Stylus pen lanyard  
2 screen protectors  
Nylon carry case

### Drop

MIL-STD-810F, Method 516.5, Procedure IV;  
26 drops from 1.22 m (4 ft) onto plywood over concrete

6 additional drops at -30 °C (-22 °F)  
6 additional drops at +60 °C (+140 °F)

### Sand and dust

IP6X, MIL-STD-810F, Method 510.3, Procedures I & II

### Vibration

MIL-STD-810F, Method 514.5, Procedure I

### Altitude

MIL-STD-810F, Method 500.4, Procedures I, II and III;  
4572 m (15,000 ft) at +23 °C (+73 °F)

# Data Collectors - Spectra Precision® Recon®



The Spectra Precision® Recon® Data Collector delivers maximum performance and reliability in a lightweight, extremely rugged design that's easy to carry. The waterproof Recon weighs just 490 gm (17 oz), meets military specifications for drops, vibration, and both high and low temperature operation, and runs Windows Mobile 6. The Recon offers industry-standard COM ports and a sunlight-readable color TFT display, so it works wherever and whenever you need it. If portability, data security, and maximum operating time are crucial to your work, you can count on the Recon. Its innovative design provides customization options to suit your different applications. Two CompactFlash (CF) slots and embedded Bluetooth wireless capabilities add to the versatility of the Recon data collector.

## STANDARD FEATURES

- Windows Mobile 6
- 400 MHz Intel PXA255 XScale processor
- 64 MB high-speed SDRAM
- 256 MB nonvolatile Flash storage (NX: 128 MB)
- Sunlight-readable color TFT display
- Touch-screen
- Rugged waterproof design
- Integrated speaker and microphone
- 15 hours of continuous room-temperature operation with default settings
- Integrated Bluetooth

## PHYSICAL

### Size

16.5 cm x 9.5 cm x 4.5 cm (6.50 in x 3.75 in 1.75 in)

### Weight

490 g (17 oz) w/PowerBoot Module

## ELECTRICAL

### Processor

Intel PXA255 XScale CPU

### Expansion

1x Type I and 1x Type II CompactFlash slots

### Display

240 x 320 pixel (1/4 VGA) color TFT with LED front light

### Power

NiMH rechargeable pack 4000 mAh

## I/O

### Ports

Standard 9-pin male D-shell RS-232 serial port (115 kbps)  
USB client  
DC power port

## STANDARD SOFTWARE

Word Mobile  
Excel Mobile  
Outlook Mobile  
Contacts  
PowerPoint Mobile  
Calculator  
Internet Explorer Mobile  
Calendar  
Windows Media Player  
Online help  
Microsoft ActiveSync  
Notes  
Terminal services client  
Tasks  
Microsoft Pictures and Videos

## STANDARD ACCESSORIES

AC charger  
USB cable  
Standard CF-Cap  
Stylus Lanyard  
Screen protectors  
Hand strap  
Stylus  
PowerBoot Module  
Nylon carry case

## MODELS OVERVIEW

### PROCESSOR/SPEED

	400X	NX
Processor/Speed	400 MHz	400 MHz
Memory	64 MB	64 MB
SDRAM	64 MB	64 MB
Data storage (On-board Flash)	256 MB	128 MB
Wireless	Standard	Standard

### MEMORY

### WIRELESS

## ENVIRONMENT

### Operating temperature

-30 °C to 60 °C (-22 °F to 140 °F)

### Storage Temperature

-40 °C to 70 °C (-40 °F to 158 °F)

### Humidity

MIL-STD-810F, Method 507.4

### Water

IP67, sealed against accidental immersion (1 m for 30 min.)

MIL-STD-810F, Method 512.4, Procedure I

### Sand and dust

IP67, MIL-STD-810F, Method 510.4, Procedures I

### Drop

MIL-STD-810F, Method 516.5, Procedure IV  
26 drops from 1.22 m (4 ft) onto plywood over concrete  
6 additional drops at -30 °C (-22 °F)  
6 additional drops at 60 °C (140 °F)

### Vibration

MIL-STD-810F, Method 514.5, Procedure I (Fig. 17) & II

### Altitude

15,000 ft at 23 °C (73 °F)  
MIL-STD-810F, Method 500.4, Procedures I, II & III