

2005 Data Collector Hardware Survey

MANUFACTURER	Two Technologies	Two Technologies	Two Technologies	Two Technologies	Two Technologies	DAP Technologies
AFTER-MARKET REMANUFACTURER	Carlson Software	Carlson Software	Carlson Software	MicroSurvey Software Inc.	MicroSurvey Software Inc.	Sokkia
PRODUCT NAME OR MODEL NUMBER	Carlson Explorer	Carlson Explorer II	Carlson Explorer 600+	MicroSurvey Tracker Standard	MicroSurvey Tracker IP-65	Microflex CE5320
SUGGESTED RETAIL PRICE (MSRP) (in U.S. Dollars)	\$1795 (w/ Carlson SurvCE)	\$2295 (w/Carlson SurvCE)	\$2995 (w/Carlson SurvCE)	\$1995 [5]	\$2495 [5]	Contact Sokkia
Tech. Support (see notes page 5)	A	A	A	B [4]	B [4]	A (800/255-3913)
Warranty (hardware only) (months)	24	24	24	24	24	12
Money-back guarantee (months)	N/A	N/A	N/A	15 days	15 days	1
SOFTWARE COMPATIBILITY						
- # of compatible Data Collection programs/vendors						N/A
- If proprietary OS, is there currently surveying/GPS data collection or mapping software available for this OS/hardware?						
PROGRAM/DATA STORAGE						
- Primary (fastest or program) storage type	SDRAM	SDRAM	SDRAM	SDRAM	SDRAM	SRAM
- Primary storage size (may specify a range in megabytes)	64 MB	64 MB	128 MB	64 MB	64 MB	16 MB
- Secondary (slower or data) storage type	Compact Flash	Compact Flash	Compact Flash	Built-in Compact Flash	Built-in Compact Flash	NAND
- Secondary storage size (may specify a range in megabytes)	128 MB to 2 GB	256 MB to 2 GB	512 MB to 2 GB	128 MB - optional 256 MB	256 MB	16 MB - 1 GB
- Additional storage types (specify type(s) and size(s))	Open PC card slot	Open PC card slot	Open PC card slot	Compact Flash slot	Compact Flash slot	PCMCIA Type II
- Does program size affect data storage capacity?	Yes	Yes	Yes	Yes	Yes	No
- Is entire data storage usable as a single file?	Yes	Yes	Yes	Yes	Yes	Yes
- Can data be recovered if unit rendered inoperable?	Yes	Yes	Yes	Yes	Yes	Yes
- Is data retained during complete power loss?	Yes	Yes	Yes	Yes	Yes	Yes
- If yes, for how long (specify in months)?						
HARDWARE						
- Operating System?	CE.net 4.2	CE.net 4.2	CE.net 4.2	CE.NET 4.2	CE.NET 4.2	Win CE v3.0
- Processor type?	Intel X scale	Intel X scale	Intel PXA270 Xscale	Intel X Scale	Intel X Scale	Intel Strong Arm
- Processor speed? (in MHz)	400 MHz	400 MHz	624 MHz	400	400	190 MHz
- Software upgradable by user or by manufacturer?	User	User	User	Yes	Yes	Both
- Weight (including batteries)? (in pounds)	822 g/29 o	822 g/29 o	822 g/29 o	822 g/29 o	822 g/29 o	0.9 kg/1.9 lbs
- Sound speaker? (Y/N/Optional)				Yes		
- Microphone? (Y/N/Optional)				No		
- Cable-free connection to data collector? (Type, e.g. Bluetooth, 900 MHz, Radio, IR)	Optional Bluetooth/WiFi	Optional Bluetooth/WiFi	[3]	Bluetooth ready	Bluetooth ready	IRDA, Bluetooth capable
- Cable-free connection to office computer? (Type, e.g. Bluetooth, 900 MHz, Radio, IR)	Optional Bluetooth/WiFi	Optional Bluetooth/WiFi	[3]	Bluetooth ready	Bluetooth ready	IRDA, Bluetooth capable
USER INTERFACE						
- Display type (LCD, TFT, etc.)	[1]	[1]	[1]	QVGA-TFT	QVGA-TFT	LCD
- Display size?	320 x 240	320 x 240	320 x 240	320 x 240	320 x 240	320 x 240
- Is display B&W, grayscale, or color?	Color	Color	Color	Color	Color	Grayscale
- Is display touch-sensitive?	Yes	Yes	Yes	Yes	Yes	Yes
- Numeric keypad?	Yes	Yes	Yes	Yes	Yes	Yes
- Alphanumeric keypad?	Yes	Yes	Yes	Yes	Yes	Yes
- QWERTY keypad entry?	No	No	No	No	No	No
- Capable of softkey operations?	Yes, proprietary	Yes, proprietary	Yes, proprietary	Yes	Yes	Yes
BATTERY						
- Type (Lithium, NiCad, NiMH, etc.)	NiMH or AA batteries	NiMH or AA batteries	NiMH or AA batteries	NiMH or AA batteries	NiMH or AA batteries	Lithium-ion
- Operating Life, hrs. (under normal usage)	1400 mAh	1400 mAh	1400 mAh	1400 mAh	1400 mAh	1350 mAh
- Battery backup? (Y/N/Optional) If Y or O, type?	8 hours	8 hours	8 hours	8+ hours	8+ hours	20+ hours
- External battery? (Y/N/Optional) If Y or O, type?	No	No	No	No	No	Yes
- Will it power external devices?	No	No	No	No	No	No
- AC charger? (Y/N/Optional)	Yes	Yes	Yes	No	No	Yes
- DC charger? (Y/N/Optional)	Yes	Yes	Yes	Yes	Yes	Yes
- Battery capacity in Ah or Mah?	Optional	Optional	Optional	Optional	Optional	Optional
DURABILITY						
- Operating temperature range, °F	-20 to 50°C	-20 to 50°C	-20 to 50°C	[6]	[6]	[6]
- Drop shock resistance (drop test, ft.)	Not classified	IP65	IP65	Not classified	Not classified	2 m/6.6 ft
- Dustproof, water-resistant or waterproof? (specify IPXX classification)	Not classified	IP65	IP65	Not classified	IP65	[8]
- Mandatory conformance? (specify FCC, CSA, CE, C-TICK, other)	FCC Class A	FCC Class A	FCC Class A	FCC Class A , CE	FCC Class A , CE	Class B 21, IEC 60825
- Environmental case?		Yes	Yes	Yes, soft case included	Yes, soft case included	N/A
CONNECTIVITY						
- Serial Connector #1 (RS-232, etc.)	Standard 9 pin serial		Standard 9 pin serial	9-Pin RS-232	9-Pin RS-232	RS-232 C Lemo
- Serial Connector #2 (RS-232, etc.)	N/A	N/A		No	No	RS-232 C Lemo
- Lowest/Highest Baud Rate? (in thousands of bits)	N/A	N/A	N/A	1200 - 115200	1200 - 115200	1200 - 115200
- Ethernet port? (Yes if 10 Base-T, Other for other cable types)	No	No	No	No	No	Yes, optional
- Internal modem? (Y/N/Optional)				No		Optional
- Other ports (IR, Parallel, PC Card, etc.)	PC card	PC card	USB, PC card	Compact Flash	Compact Flash	IR / PCMCIA
- Internet browsing capable?	Yes	Yes	Yes	Yes	Yes	Yes [9]
- E-mail capable?	Yes	Yes	Yes	Yes	Yes	Yes [9]
OPTIONAL ACCESSORIES						
- Accessory 1 Name & Description	[2]	[2]	[2]	DC adapter	DC adapter	
- Accessory 2 Name & Description				[7]	[7]	
SPECIAL FEATURES (OTHER THAN COVERED ABOVE)						
- Feature 1 Name & Description						
- Feature 2 Name & Description						
- Feature 3 Name & Description						z

N/A=Not Applicable
Numbers in brackets refer to notes (see page 5).

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MANUFACTURER	Juniper Systems Inc.	Two Technologies	HP	Thales Navigation	Thales Navigation	Topcon
AFTER-MARKET REMANUFACTURER	Sokkia	Sokkia	Sokkia			
PRODUCT NAME OR MODEL NUMBER	Allegro CX	JETT ce	iPAQ hx2100	MobileMapper CE	MobileMapper Pro Package	FC 100 128MB
SUGGESTED RETAIL PRICE (MSRP) (in U.S. Dollars)	Contact Sokkia	Contact Sokkia	Contact Sokkia	\$2195	\$1750	Contact Topcon dealer
Tech. Support (see notes page 5)	A (800/255-3913)	A (800/255-3913)	A (800/255-3913)	Phone and E-mail	Phone and E-mail	866/4-TOPCON
Warranty (hardware only) (months)	12	24	12	12	12	12
Money-back guarantee (months)	1	1	1			N/A
SOFTWARE COMPATIBILITY						
- # of compatible Data Collection programs/vendors	N/A	N/A	N/A	Open platform, Win CE	MobileMapper Office	Yes, CE.NET
- If proprietary OS, is there currently surveying/GPS data collection or mapping software available for this OS/hardware?						
PROGRAM/DATA STORAGE						
- Primary (fastest or program) storage type	SRAM	Internal CF	SDRAM	[18]	SD card	Compact Flash
- Primary storage size (may specify a range in megabytes)	256 MB	64 MB	64 MB	4 GB	Up to 128 MB	128 MB
- Secondary (slower or data) storage type	Compact Flash	Compact Flash	Flash ROM (non-volatile)			Compact Flash
- Secondary storage size (may specify a range in megabytes)	128 MB - 1 GB	128 MB - 1 GB	64 MB			1 GB
- Additional storage types (specify type(s) and size(s))	PCMCIA Type I and II		CF Type II or SD	USB memory stick		SD slot/1 GB
- Does program size affect data storage capacity?	Yes	Yes	Yes	No	No	No
- Is entire data storage usable as a single file?	Yes	Yes	Yes	Yes	Yes	No
- Can data be recovered if unit rendered inoperable?	Yes, if stored to CF	Yes, if stored to CF	No	Yes	Yes	Yes
- Is data retained during complete power loss?	Yes, if stored to CF	Yes	Yes [16]	Yes	Yes	Yes
- If yes, for how long (specify in months)?				Indefinitely	Indefinitely	Non-volatile memory
HARDWARE						
- Operating System?	Win CE.NET v4.2	Win CE.NET v4.2	Win Mobile 2003	Win CE .NET	Proprietary	CE.NET
- Processor type?	Intel X-Scale	Intel X-Scale	Intel PXA270	ARM9		Intel PXA255 X Scale
- Processor speed? (in MHz)	400 MHz	200 MHz	312 MHz	180 MIPS		400 MHz
- Software upgradable by user or by manufacturer?	Both	Both	Both	Both	Both	Yes
- Weight (including batteries)? (in pounds)	0.836 kg/1.84 lbs	0.822 kg/1.81 lbs	5.8 oz./164.4 g	[19]	0.22/0.48	580 g
- Sound speaker? (Y/N/Optional)	Yes	Yes	Yes	Yes	Yes	Yes
- Microphone? (Y/N/Optional)	Yes	Yes	Yes	Yes	No	Yes
- Cable-free connection to data collector? (Type, e.g. Bluetooth, 900 MHz, Radio, IR)	IRDA and Bluetooth	Bluetooth ready	Bluetooth	Bluetooth	No	Bluetooth
- Cable-free connection to office computer? (Type, e.g. Bluetooth, 900 MHz, Radio, IR)	IRDA and Bluetooth	Bluetooth ready	Bluetooth	Bluetooth	No	Bluetooth
USER INTERFACE						
- Display type (LCD, TFT, etc.)	LCD	TFT	TFT	TFT	Transflective LCD	Color TFT Transflective
- Display size?	320 x 240	320 x 240	240 x 320	320 x 240	[28]	240 x 320
- Is display B&W, grayscale, or color?	Grayscale or color	Color	Color	Color	Color	Color
- Is display touch-sensitive?	Yes	Yes	Yes	Yes	No	Yes
- Numeric keypad?	Yes	Yes	No	Yes	Yes, soft keypad	Yes [35]
- Alphanumeric keypad?	Yes	Yes	No	Yes	Yes, soft keypad	Yes [35]
- QWERTY keypad entry?	No	No	Yes, soft keyboard	No	No	No
- Capable of softkey operations?	Yes	No	No	Yes	Yes	Yes
BATTERY						
- Type (Lithium, NiCad, NiMH, etc.)	NiMH	NiMH or alkaline (AA)	Lithium-ion	Lithium	Lithium	Lithium-ion
- Operating Life, hrs. (under normal usage)	3800 mAh	1400 mAh	920 mAh	3900 mAh	2 AA	2200 mAh
- Battery backup? (Y/N/Optional) If Y or O, type?	[10]	8+ hours	12 hours	8 hrs	[29]	[36]
- External battery? (Y/N/Optional) If Y or O, type?	Yes, internal Lithium	Yes	Optional		Yes, internal dry cell	Yes, internal
- Will it power external devices?	No	No	No	Optional Lithium	Yes, AC/DC adapters	[37]
- AC charger? (Y/N/Optional)	Yes	Yes	Yes, output 5 VDC	Yes [20]	Yes, external antennas	No
- DC charger? (Y/N/Optional)	Yes	Yes	Yes	Yes	Yes	Yes
- Battery capacity in Ah or Mah?	Optional	Optional	Yes	Optional	Optional	Optional
DURABILITY						
- Operating temperature range, °F	[11]	[14]	[17]	[21]	[30]	-20 to 50°C
- Drop shock resistance (drop test, ft.)	MIL-STD 810F			[22]	[22]	1.5 m repetitively
- Dustproof, water-resistant or waterproof? (specify IPXX classification)	IP67	[15]		IPX 7	IPX 7 (submersible)	IP66
- Mandatory conformance? (specify FCC, CSA, CE, C-TICK, other)	[12]	FCC Class A	FCC Class B	FCC, CE, Bluetooth	[31]	FCC
- Environmental case?		No	Optional	Not required	Not required	No
CONNECTIVITY						
- Serial Connector #1 (RS-232, etc.)	RS-232, Sealed 9-pin D	RS-232 9 Pin	RS-232	USB	RS-232	RS 232c (D-sub 9 pin)
- Serial Connector #2 (RS-232, etc.)	RS-232, Sealed 9-pin D	RS-232		RS-232		
- Lowest/Highest Baud Rate? (in thousands of bits)	1200 - 115200	1200 - 115200	1200 - 115200	1.2/115	115.2	1115200
- Ethernet port? (Yes if 10 Base-T, Other for other cable types)	Other	No	No	No	No	
- Internal modem? (Y/N/Optional)	Optional	Optional		No	No	
- Other ports (IR, Parallel, PC Card, etc.)	IR, USB, Bluetooth		IR, CF Type II, SD	SD card, Bluetooth		[38]
- Internet browsing capable?	Yes [13]	Yes [13]	Yes	Yes, through Bluetooth	No	Yes [39]
- E-mail capable?	Yes [13]	Yes [13]	Yes	Yes, through Bluetooth	No	Yes [39]
OPTIONAL ACCESSORIES						
- Accessory 1 Name & Description	USB power dock			[23]	External GPS antenna	
- Accessory 2 Name & Description				[24]	Vehicle mounting hardware	
SPECIAL FEATURES (OTHER THAN COVERED ABOVE)						
- Feature 1 Name & Description				[25]	[32]	SD memory slot
- Feature 2 Name & Description				[26]	[33]	
- Feature 3 Name & Description				[27]	[34]	z

N/A=Not Applicable
Numbers in brackets refer to notes (see page 5).

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MANUFACTURER	Topcon	Topcon	Trimble	Trimble	Trimble	Trimble
AFTER-MARKET REMANUFACTURER						
PRODUCT NAME OR MODEL NUMBER	FC 100 256 MB	FC 2000 128 MB	Trimble TSC2	Trimble CU	Trimble ACU	Geodimeter Control Unit
SUGGESTED RETAIL PRICE (MSRP) (in U.S. Dollars)	Contact Topcon dealer	Contact Topcon dealer	Contact distributor	Contact distributor	Contact distributor	Contact distributor
Tech. Support (see notes page 5)	866/4-TOPCON	866/4-TOPCON	A	A	A	A
Warranty (hardware only) (months)	12	12	12	12	12	12
Money-back guarantee (months)	N/A	N/A				
SOFTWARE COMPATIBILITY						
- # of compatible Data Collection programs/vendors	CE.NET	CE.NET	Yes, non-proprietary	Yes, non-proprietary	Yes, non-proprietary	Proprietary
- If proprietary OS, is there currently surveying/GPS data collection or mapping software available for this OS/hardware?						
PROGRAM/DATA STORAGE						
- Primary (fastest or program) storage type	Compact Flash	Compact Flash	SDRAM	SDRAM	SDRAM	EPROM/RAM
- Primary storage size (may specify a range in megabytes)	256 MB	128 MB	128 MB	64 MB	64MB	31 to 326 KB
- Secondary (slower or data) storage type	Compact Flash	Compact Flash	NAND Flash	NAND Flash	[61]	N/A
- Secondary storage size (may specify a range in megabytes)	1 GB	1 GB	512 MB	256 MB	128 MB	N/A
- Additional storage types (specify type(s) and size(s))	SD slot 1 GB		Yes	Yes		N/A
- Does program size affect data storage capacity?	No	No	Yes	Yes	Yes	No
- Is entire data storage usable as a single file?	No	No	Yes	Yes	Yes	Yes
- Can data be recovered if unit rendered inoperable?	Yes	Yes	Yes	No	Yes	Yes
- Is data retained during complete power loss?	Yes	Yes	Yes	Yes	Yes	Yes
- If yes, for how long (specify in months)?	Non-volatile memory	Non-volatile memory			1200	N/A
HARDWARE						
- Operating System?	CE.NET	CE.NET	[41]	Win CE.Net 4.2	CE.NET 4.0	Proprietary
- Processor type?	Intel PXA 255 X scale	Intel PXA 255 Xscale	[42]	[54]	Intel StrongARM CPU	N/A
- Processor speed? (in MHz)	400 MHz	400 MHz	520 MHz	400 MHz	206 MHz	N/A
- Software upgradable by user or by manufacturer?	Yes	Yes	User	User	User	Both
- Weight (including batteries)? (in pounds)	580 g	800	0.95 kg/2.1 lb	0.4 kg/0.88 lb	590 g/1.3 lbs	170 g/0.4 lbs
- Sound speaker? (Y/N/Optional)	Yes	Yes	Yes	Yes	Yes	Yes
- Microphone? (Y/N/Optional)	Yes	Yes	Yes	No	Yes	No
- Cable-free connection to data collector? (Type, e.g. Bluetooth, 900 MHz, Radio, IR)	Bluetooth	Bluetooth	[43]	[43]	[62]	N/A
- Cable-free connection to office computer? (Type, e.g. Bluetooth, 900 MHz, Radio, IR)	Bluetooth	Bluetooth	[44]	Bluetooth		N/A
USER INTERFACE						
- Display type (LCD, TFT, etc.)	TFT Transflective type	TFT Transflective Type	TFT	TFT	Illuminated TFT-LCD	LCD
- Display size?	240 x 320	240 x 320	320 x 240	320 x 240	320 x 240	[66]
- Is display B&W, grayscale, or color?	Color	Color	Color	Color	Color	B&W
- Is display touch-sensitive?	Yes [35]	Yes	Yes	Yes	Yes	No
- Numeric keypad?	Yes [35]	Yes	Yes	Yes	Yes	Yes
- Alphanumeric keypad?	No	Yes	Yes	Yes	Yes	Yes
- QWERTY keypad entry?	No	No	Yes [45]	Yes [45]	Yes [45]	No
- Capable of softkey operations?	Yes	Yes	Yes [45]	Yes [45]	Yes [45]	Yes
BATTERY						
- Type (Lithium, NiCad, NiMH, etc.)	Lithium-ion	Lithium-ion	[46]	N/A [55]	NiMH rechargeable	N/A [55]
- Operating Life, hrs. (under normal usage)	2200 mAh	2200 mAh	6600 mAh	N/A [55]	Varies [63]	N/A [55]
- Battery backup? (Y/N/Optional) If Y or O, type?	[36]	[40]	30 hours	N/A [55]	Varies [63]	N/A [55]
- External battery? (Y/N/Optional) If Y or O, type?	Yes, internal	Yes, internal	No	N/A [55]	Optional	Yes
- Will it power external devices?	[37]	Optional	No	Yes	Yes [63]	Optional
- AC charger? (Y/N/Optional)	No	No	No	No	No	No
- DC charger? (Y/N/Optional)	Yes	Yes	Yes	Yes	Yes	Optional
- Battery capacity in Ah or Mah?	Optional	Optional	Optional	No	No	
DURABILITY						
- Operating temperature range, °F	-20 to 50°C	-20 to 50°C	[47]	[56]	[64]	[64]
- Drop shock resistance (drop test, ft.)	1.5 m repetitively	1.5 m repetitively	[48]	[57]	0.9 m (3 ft)	[67]
- Dustproof, water-resistant or waterproof? (specify IPXX classification)	IP66	IP66	IP67	IP55	IP X4	Water-resistant
- Mandatory conformance? (specify FCC, CSA, CE, C-TICK, other)	FCC	FCC	[49]	[58]	[65]	FCC, CE
- Environmental case?	No	No	No [50]	No [50]	No [50]	Yes
CONNECTIVITY						
- Serial Connector #1 (RS-232, etc.)	RS 232C (D-sub 9 pin)	RS-232C (D-sub 9 pin)	9-pin RS232	[59]	RS-232 Hirose 4 pin	RS-232 Hirose 4 pin
- Serial Connector #2 (RS-232, etc.)		RS-232C (6 pin)	USB		RS-232 Dsub 26 pin	N/A
- Lowest/Highest Baud Rate? (in thousands of bits)	1115200	1115200	115K	115K	Max 1 Megabit/sec	300-19,200
- Ethernet port? (Yes if 10 Base-T, Other for other cable types)			No	No	Yes	N/A
- Internal modem? (Y/N/Optional)	No	No	No	No	No	No
- Other ports (IR, Parallel, PC Card, etc.)	[38]	[38]	[51]	USB 1.1	N/A	[68]
- Internet browsing capable?	Yes [39]	Yes [39]	Yes	Yes	Yes	No
- E-mail capable?	Yes [39]	Yes [39]	Yes	Yes	Yes	No
OPTIONAL ACCESSORIES						
- Accessory 1 Name & Description			Controller pouch	Docking station	Multipoint adaptors	Contact distributor
- Accessory 2 Name & Description			Accessory caps	[60]	Touch screen stylus	
SPECIAL FEATURES (OTHER THAN COVERED ABOVE)						
- Feature 1 Name & Description	SD memory slot		[52]	Contact distributor	Contact distributor	Contact distributor
- Feature 2 Name & Description			[53]			
- Feature 3 Name & Description						z

N/A=Not Applicable
Numbers in brackets refer to notes (see page 5).

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MANUFACTURER	Tripod Data Systems	Tripod Data Systems	Tripod Data Systems	Tripod Data Systems	XYZworks
AFTER-MARKET REMANUFACTURER	Trimble	Trimble			
PRODUCT NAME OR MODEL NUMBER	Trimble Recon	Trimble Ranger	Ranger 200C	Ranger 300X/500X	XYZworks Fieldbook
SUGGESTED RETAIL PRICE (MSRP) (in U.S. Dollars)	Contact Trimble reseller	Contact Trimble reseller	\$2199 - \$2999	\$2749-\$5099 [103]	\$1350 [112]
Tech. Support (see notes page 5)	B	B	A	A	A
Warranty (hardware only) (months)	12	12	12	12	24
Money-back guarantee (months)			1	1	1
SOFTWARE COMPATIBILITY					
- # of compatible Data Collection programs/vendors	[69]	[82]			Yes, Windows CE 4.2
- If proprietary OS, is there currently surveying/GPS data collection or mapping software available for this OS/hardware?					
PROGRAM/DATA STORAGE					
- Primary (fastest or program) storage type	SDRAM	SDRAM	SDRAM	SDRAM	RAM
- Primary storage size (may specify a range in megabytes)	64 MB	128 MB	64MB	64 or 128 MB	64MB, 128MB optional
- Secondary (slower or data) storage type	NAND Flash	Non-volatile flash	Flash Disk	Flash	Flash Card
- Secondary storage size (may specify a range in megabytes)	64 or 128 MB	512 MB	[90]	256 or 512MB	64 MB
- Additional storage types (specify type(s) and size(s))	[70]	[83]		CF and SD	Compact Flash Slot
- Does program size affect data storage capacity?	Yes	Yes	Yes	Yes	Yes
- Is entire data storage usable as a single file?	Yes	Yes	Yes	Yes	Yes
- Can data be recovered if unit rendered inoperable?	Yes	Yes	Yes	Yes	Yes [113]
- Is data retained during complete power loss?	Yes	Yes	Yes	Yes	Yes [113]
- If yes, for how long (specify in months)?	1200	1200	1200	1200	Unlimited
HARDWARE					
- Operating System?	[69]	[82]	[91]	[104]	Win CE 4.2
- Processor type?	[71]	[84]	Intel StrongARM	Intel XScale	Intel Xscale
- Processor speed? (in MHz)	200 or 400 MHz	516 MHz	206 MHz	312 or 520 MHz	[114]
- Software upgradable by user or by manufacturer?	User upgradeable	User upgradeable	User	User	Yes
- Weight (including batteries)? (in pounds)	0.49 kg/1.06 lbs	0.95 kg/2.1 lbs	2.2 lbs	.952 kg/2.1 lbs	28 o
- Sound speaker? (Y/N/Optional)	Yes	Yes	Yes	Yes	Yes
- Microphone? (Y/N/Optional)	No	Yes	Yes	Yes	No
- Cable-free connection to data collector? (Type, e.g. Bluetooth, 900 MHz, Radio, IR)	Bluetooth	Bluetooth	Bluetooth [92]	Bluetooth, 802.11b	Optional Bluetooth
- Cable-free connection to office computer? (Type, e.g. Bluetooth, 900 MHz, Radio, IR)	Bluetooth	[85]	IR	Bluetooth, 802.11b	Optional Bluetooth
USER INTERFACE					
- Display type (LCD, TFT, etc.)	TFT	TFT	TFT reflective	TFT	TFT
- Display size?	[72]	[72]	320 x 240	320 x 240	320 x 240
- Is display B&W, grayscale, or color?	Color	Color	Color	Color	Color, sunlight viewable
- Is display touch-sensitive?	Yes	Yes	Yes	Yes	Yes
- Numeric keypad?	Virtual	Yes	Yes	Yes	Yes
- Alphanumeric keypad?	Virtual	Yes	Yes	Yes	Yes
- QWERTY keypad entry?	Virtual	Virtual	No	No	No
- Capable of softkey operations?	Yes	Yes	Yes	Yes	Yes
BATTERY					
- Type (Lithium, NiCad, NiMH, etc.)	NiMH rechargeable	Li-ion rechargeable	NiMH rechargeable	Li-ion	NiMH
- Operating Life, hrs. (under normal usage)	3800 mAh	6600 mAh	3800 mAh	6600	1400 mAh
- Battery backup? (Y/N/Optional) If Y or O, type?	15 hours	30 hours	35 [93]	30	24 hours
- External battery? (Y/N/Optional) If Y or O, type?	No	No	No [94]	No	Yes, Lithium
- Will it power external devices?	No	No	Optional [95]	No	[115]
- AC charger? (Y/N/Optional)	No	No	Yes [96]	No	Yes
- DC charger? (Y/N/Optional)	Yes	Yes	Yes	Optional	Yes
- Battery capacity in Ah or Mah?	Optional	Optional	Optional	Optional	No
DURABILITY					
- Operating temperature range, °F	[73]	[73]	[97]	[105]	[116]
- Drop shock resistance (drop test, ft.)	[74]	[86]	[98]	[98]	4 ft
- Dustproof, water-resistant or waterproof? (specify IPXX classification)	IP67	IP67	IP67	IP67	mil spec 810
- Mandatory conformance? (specify FCC, CSA, CE, C-TICK, other)	[75]	[87]	[99]	[99]	[117]
- Environmental case?	No	No	No [50]	No [50]	No, not necessary
CONNECTIVITY					
- Serial Connector #1 (RS-232, etc.)	DE9 RS-232	DE9 RS-232	9-pin RS-232	9-pin RS-232	RS-232 9 pin
- Serial Connector #2 (RS-232, etc.)			26-pin [100]		RS-232
- Lowest/Highest Baud Rate? (in thousands of bits)	115K	115K	115K	115K	1200-119200
- Ethernet port? (Yes if 10 Base-T, Other for other cable types)	No	No	Yes	No	No
- Internal modem? (Y/N/Optional)	[76]	[76]	No	Optional	No
- Other ports (IR, Parallel, PC Card, etc.)	[77]	[77]	IrDA Type 1	USB	Compact Flash
- Internet browsing capable?	Yes	Yes	Yes	Yes	Yes
- E-mail capable?	Yes	Yes	Yes	Yes	Yes
OPTIONAL ACCESSORIES					
- Accessory 1 Name & Description	[78]	[78]	Multiport adapter	[107]	[118]
- Accessory 2 Name & Description	Extended CF-cap	Range pole bracket	Touch screen stylus	[108]	220V charger
SPECIAL FEATURES (OTHER THAN COVERED ABOVE)					
- Feature 1 Name & Description	[79]	[88]	[101]	[109]	[119]
- Feature 2 Name & Description	[80]	[80]	[102]	[110]	2 year warranty
- Feature 3 Name & Description	[81]	[89]		[111]	[120]

N/A=Not Applicable
Numbers in brackets refer to notes (see page 5).

2005 Data Collector Hardware Survey Notes

Technical support options:

- A Unlimited free technical support.
- B Technical support available by a subscription.
- C Technical support available on a per-call basis.

POB does not assume responsibility for any errors or omissions that may be contained within the survey.

1. QVGA-TFT color touch screen.
2. Many available call for details.
3. Bluetooth and WiFi both standard.
4. 90 days free from date of registration.
5. Pricing includes MicroSurvey FieldGenius 2006 (includes Basic, Total Station, Robotic, Roading and GPS support).
6. -20°C/-4°F to 50°C/122°F.
7. Instrument brackets/cables.
8. IP67 and MIL-STD-810E.
9. With optional ethernet cradle.
10. 12 - 20 application dependent.
11. -30 to 54°C / -22 to 130°F.
12. FCC Class A, CE Mark, Bluetooth.
13. With optional modem.
14. -20 to +50°C / -4 to +122°F.
15. Dustproof / Water Resistant.
16. If stored to Flash ROM, CF or SD.
17. 0 to +40°C / +32 to +104°F.
18. SD card, Non-volatile system memory.
19. 0.48kg/1.05 lb with battery.
20. USB memory, external antenna.
21. -10°C to 60°C (14°F to 140°F).
22. 1.5 m (4.9ft) drop to concrete.
23. MobileMapper Beacon, Bluetooth enabled DGPS beacon receiver.
24. Power cable with cigarette lighter adapter.
25. 14-Channel GPS receiver, sub-meter accuracy.
26. Removable SD card memory for data storage.
27. Software SDK available for system integrators.
28. 5.6 cm H x 3.9 cm W (2.2 in H x 1.6 in W); 120 x 160 pixels.
29. 8 (with backlight); 16 (without backlight).
30. -10°C to 60°C (14°F to 140°F).
31. Immunity (EN 55022 Class B); Susceptibility (EN 50082-1); FCC and CE certified.
32. 12-Channel GPS receiver, sub-meter accuracy with post processing.
33. Complete GIS data logging capability including editing GIS files in the field.
34. Full navigation capability including background map display.
35. Large format virtual keyboard.
36. 30+ hours backlight on.
37. Optional 12-volt plug.
38. USB type B mini ver1.1.
39. Bluetooth connection.
40. 20 normal usage light on.
41. Win Mobile for Pocket PC.
42. Intel PXA 270 XScale CPU.
43. Bluetooth, Internal 2.4GHz radio.
44. Bluetooth, Integrated wireless LAN 802.11b.
45. Available using touch screen.
46. Lithium-ion, rechargeable.
47. -30°C to +60°C (-22°F to +140°F).
48. 26 drops from 1.22m (4.0ft).
49. FCC class B, CSA, CE, C-tick.
50. Rugged unit - not needed.
51. 1x Type I CF card slot, 1x Type II CF card slot, 1x SD card slot.
52. Optional Internal 2.4GHz radio.
53. Integrated Wireless LAN 802.11b.
54. Intel PXA 225 ARM-Xscale.
55. Requires external power to operate.
56. -30°C to +55°C (-22°F to +131°F).
57. 5 drops from 0.9m (3.0ft).
58. FCC, CE, C-tick, CSA
59. Hirose 6-pin on docking station or holder.
60. Robotic holder/GPS holder.
61. Internal Flash (non-volatile).
62. Bluetooth internal. Bluetooth type approvals and regulations are country specific.
63. Uses external battery of device during field operation.
64. -20°C to +55°C (-4°F to 131°F).
65. FCC, CSA, CE, C-tick, Bluetooth.
66. 20 characters x 4 lines.
67. Withstands 1.5 m (5 ft).
68. Hot shoe to optical device.
69. Windows Mobile 2003 software for Pocket PCs.
70. 1 x CompactFlash Type I, 1 x CompactFlash Type II card slots.
71. Intel PXA250 X-Scale.
72. 240 x 320 P (1/4 VGA).
73. -30°C to +60°C (-22°F to +140°F).
74. 1.22 m (4 ft) for 26 drops.
75. FCC, CSA, CE, C-tick
76. Optional via CF slot.
77. USB slave, 2 x CF card slots.
78. 12V vehicle charging cable.
79. Rugged and waterproof with all day battery for reliable field operation.
80. Microsoft Windows Mobile 2003 software for Pocket PCs maximizes your choice of software.
81. Expandable with two CompactFlash slots.
82. Windows Mobile 2003 software for Pocket PCs (second edition).
83. 1 x CompactFlash Type I, 1 x CompactFlash Type II, 1 x Secure Digital (SD) card slots.
84. Intel PXA270 X-Scale.
85. Bluetooth, 802.11b wireless LAN.
86. 1.22 m (4 ft) for 26 drops.
87. FCC, CSA, CE, C-tick, type approval for Bluetooth and Wireless LAN radios in U.S. and EU.
88. Ultra-rugged design with full alphanumeric keyboard for fast and efficient data entry.
89. Built-in bluetooth and wireless LAN for cable free connectivity.
90. 32, 128 or 512MB.
91. Windows CE .NET, CE 3.0.
92. Bluetooth communications limited to other Rangers and Trimble 5800 GPS receiver.
93. 35 hours under normal conditions, 8 hours with frontlight on, 3 hours recharge time.
94. No backup needed as files are stored in non-volatile memory.
95. With appropriate cabling a variety of power sources can be used to operate or recharge internal battery.
96. Users have to provide their own custom adapter; contact tech. support for info.
97. -25 to 60°C (-13 to 140°F).
98. 1.22 m (4 ft) for 38 drops.
99. FCC class B, CSA, CE, C-Tick.
100. With adapter: Ethernet 10-BaseT, USB client, power in/out, audio in/out.
101. Languages supported: English, Spanish, German, French, Portuguese, Chinese (simplified), Japanese, Korean.
102. Electromagnetic compatibility (EMC) Certified to EN55022; electrostatic discharge certified to EN61000.
103. Depending on optional hardware configurations and software configurations.
104. Windows Mobile for Pocket PC 2003.
105. -30 to 60°C (-22 to 140°F).
106. Extended and mid-size caps.
107. Vehicle charging cable.
108. Extended and mid-size caps.
109. Optional hardware configurations.
110. CF device support, GPS, GPRS, etc.
111. User replaceable batteries.
112. Bundle including Fieldworks for \$1995. Information and free demo at www.xyz-works.com.
113. Backup to non-volatile flash.
114. 200Mhz, 400 Mhz optional.
115. Also operates with AA batteries.
116. -10 to 50°C (13 to 122°F).
117. FCC, CSA, CE pending.
118. 128 MB RAM and 400 Mhz for \$200.
119. Full 45-key keyboard.
120. Includes charger and serial cable for Activesync to desktop.