

## Magellan™ 1100i

- Motorola DS9808
- Honeywell Genesis
- Motorola LS9208
- Honeywell Orbit
- 2D Handheld Units

## Features

	Magellan™ 1100i	Motorola DS9808
		
<b>Performance</b>		
Multi-Interface	Yes	Yes
User Feedback	Green Spot, LED's, Beeper	LED's and Beeper
Mobile Phone in Hands-free Mode	Yes	No
Mobile Phone in Hand Held	Yes	Yes
Targeting	Yes	Yes
Targeting Activation	Press and Release	Trigger
Depth of Field	0 to 18 cm / 0 to 7 in	0 to 20 cm / 0 to 8.0 in (6.5 in by config) 0 to 26 cm / 0 to 10.5 in (HH mode-SR) 0 to 46 cm / 0 to 18.0 in (HH mode-LR)
Scan Volume	~2 <sup>3</sup> m / ~80 <sup>3</sup> in	~2 <sup>3</sup> m / ~80 <sup>3</sup> in
Decoding	1D, 2D Options	1D, 2D Options
EAS (Checkpoint)	Yes	Yes
External Read Indicator (ERI)	Yes	No
<b>Physical Characteristics</b>		
Weight (Scanner only)	198.4 g / 7.0 oz	340.2 g / 12.0 oz
Weight (Stand only)	187.1 g / 6.6 oz	N/A
Dimensions (Scanner: H x W x L)	8.1 x 7.1 x 8.6 cm / 3.2 x 2.8 x 3.4 in	20.3 x 8.6 x 13.7 cm / 8.0 x 3.4 x 5.4 in
Dimensions (Scanner with Stand)	13.9 x 7.3 x 9.6 cm / 5.5 x 2.9 x 3.8 in	20.3 x 8.6 x 13.7 cm / 8.0 x 3.4 x 5.4 in
<b>Environmental</b>		
Operating Temperature	0 to 40.0 °C / 32 to 104 °F	0 to 40.0 °C / 32 to 104 °F
Humidity	5 - 95% NC	5 - 95% NC
Drop Resistance	Multiple 1.2 m / 3.9 ft drops	Multiple 1.5 m / 4.9 ft drops
Particulate and Water Sealing	IP52	N/A
EMI	Class B	Class B
ESD	25,000 V	15,000 V
<b>Electrical</b>		
Power	4.5 – 14 VDC	5V ± 10%
Operating Current (label read)	<400 mA	450 mA
<b>Factory Warranty</b>		
	2 years	3 years

### Datalogic Advantages:

- Smaller size and footprint (even with the tilting riser stand accessory)
- The wider 4.5 – 14 VDC input power simplifies installation and cabling needs across all supported interfaces
- The Magellan 1100i offers IP52 sealing against dust and liquids
- 'Green Spot' good read indicator provides superior user feedback for a broader set of applications
- The Magellan 1100i's Illumix™ intelligent illumination allows the product to read bar codes from mobile phones or PDAs in either on-counter hands-free mode or handheld scanning modes
- The External Read Indicator (ERI) enables the Magellan 1100i to report good reads to third party EAS and RFID systems creating a more integrated data collection system
- PDF417 reading performance was markedly better during Datalogic Scanning's competitive testing

### Competitor Weaknesses:

- The 'handheld with built-in stand' hybrid design is top heavy, creating an unstable product prone to tipping over, which could lead to more failures. This design is inherently less robust when the scanner is dropped. The Cyclone product was known to have reliability issues due to a very similar design. The DS9808 may be an improved model, it still remains an unproven design in the field.
- The mechanical button underneath the scanner is susceptible to sticking from exposure to liquid spills mixed with dust/debris.

- Our teardown of the product revealed 29 mechanical parts, 2 PCBs, 2 scan modules (the laser engine and the imager engine), plus 4 cables (yes that's 37 total parts!) with 12 fasteners. The product is extremely complex to assemble/take apart. More parts and complexity means there's more opportunity for things to go wrong or break.
- The sealing around the trigger appears to be a weak point for moisture and ESD to contact the PCB inside the handle/grip.
- The product doesn't have an auto-detect cell phone reading mode like the Magellan 1100i (note: the current Magellan 1000i and 1400i do not have this feature either). To read cell phone bar codes, the scanner must be programmed so that the illumination in handheld mode is turned off. This option isn't available for the hands-free mode, thus requiring all illuminated bar codes to be read using the trigger in handheld mode. Also note that when the HHR mode illumination is disabled for cell phones, performance on all other regular printed codes in HHR mode will be abysmal.
- The design is much more like a handheld scanner and thus may promote more handheld scanning when hands free scanning may be the better option (faster, ergonomics, etc.). This really depends on the merchandise mix and the POS layout.

**Synopsis:** The DS9808 hybrid scanner is the direct replacement for the Cyclone M2000 laser-based hybrid scanner. The DS9808 uses a very similar design as the Cyclone which was known to be unreliable. It comes in Standard Range (imaging only) and Long Range (imager and laser engine) versions. Both are premium priced. Overall the imaging engine performs very similar to the Magellan 1100i and 1400i. However, the Magellan 1100i is a much more practical and value driven data collection solution which is optimized more for high throughput in on-counter scanning.

## Features

	Magellan™ 1100i	Honeywell Genesis MS7580
		
<b>Performance</b>		
Multi-Interface	Yes	Yes
User Feedback	Green Spot, LED's, Beeper	LED's and Beeper
Mobile Phone in Hands-free Mode	Yes	Yes
Mobile Phone in Hand Held	Yes	Yes
Targeting	Yes	Yes
Targeting Activation	Press and Release	Press Twice (CG)
Depth of Field	0 to 18 cm / 0 to 7 in	0 to 15 cm / 0 to 6 in
Scan Volume	~2 <sup>3</sup> m / ~80 <sup>3</sup> in	~2 <sup>3</sup> m / ~80 <sup>3</sup> in
Decoding	1D, 2D Options	1D, 2D and OCR Options
EAS (Checkpoint)	Yes	Yes (via special model)
External Read Indicator (ERI)	Yes	Yes
<b>Physical Characteristics</b>		
Weight (Scanner only)	198.4 g / 7.0 oz	340.2 g / 12.0 oz
Weight (Stand only)	187.1 g / 6.6 oz	N/A
Dimensions (Scanner: H x W x L)	8.1 x 7.1 x 8.6 cm / 3.2 x 2.8 x 3.4 in	14.9 x 8.3 x 8.1 cm / 5.9 x 3.3 x 3.2 in
Dimensions (Scanner with Stand)	13.9 x 7.3 x 9.6 cm / 5.5 x 2.9 x 3.8 in	N/A
<b>Environmental</b>		
Operating Temperature	0 to 40.0 °C / 32 to 104 °F	0 to 40.0 °C / 32 to 104 °F
Humidity	5 - 95% NC	5 - 95% NC
Drop Resistance	Multiple 1.2 m / 3.9 ft drops	Multiple 1.5 m / 4.9 ft drops
Particulate and Water Sealing	IP52	N/A
EMI	Class B	Class A and B
ESD	25,000 V	15,000 V
<b>Electrical</b>		
Power	4.5 – 14 VDC	5V ± 0.25V 12V ± 0.25V
Operating Current (label read)	<400 mA	<400 mA (typical)
<b>Factory Warranty</b>	2 years	2 years

### Datalogic Advantages:

- Much better ergonomics for handheld use
- The wider 4.5 – 14 VDC input power will simplify installation and cabling needs across all supported interfaces
- The Magellan 1100i offers IP52 sealing against dust and liquids
- The Magellan 1100i EMI Class B certification is not limited by cable length as it is on the Genesis MS7580 providing a more robust data collection system.
- Electrostatic Discharge (ESD) events from everyday occurrences are much less likely to impact performance or scanner reliability of the Magellan 1100i
- The 'Green Spot' good read indicator provides superior user feedback for a broader set of applications
- The Magellan 1100i's Illumix™ intelligent illumination allows the product to read bar codes with minimal flashing across the broadest ambient light conditions and types of indoor lighting
- General scanning performance on the most common items was measured at Datalogic Scanning testing to be over 30% faster
- More integration flexibility with optional mounts and stands

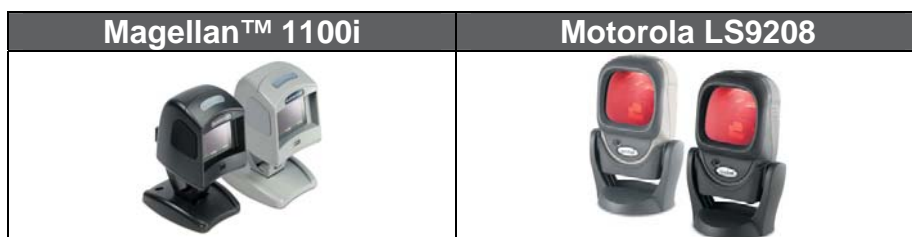
### Competitor Weaknesses:

- The Genesis MS7580 enclosure has very poor ergonomics for handheld use. The outside edges of the product stress the hand and make it difficult to get a secure grip on the product. In addition, using the Code Gate trigger is awkward and puts additional stress on the users' hand especially for longer durations of handheld usage.

- The Genesis MS7580 is available in only a 12V model. (A 5V model was planned but does not appear to be widely available at this time.) This means the most popular 5V interfaces like USB and Keyboard Wedge will require an external power supply. In some applications, an external power source may not be available or may be very difficult to access for installation and maintenance.
- The Datalogic Scanning breakdown of the product revealed the product is constructed using a single, highly complex PCB design. Single board products tend to be much more expensive to service since they require complete PCB replacement or board level repair in the event of a failure.
- The MS7580's illumination can be annoying to the user since it always involves a lot of bright LEDs flashing.
- The scanning performance of the Genesis can be reduced in certain Halogen lighting conditions.
- Checkpoint EAS is only available on specific EAS models.
- Class B EMI is only available when using cables less than 3.0 m / 9.8 ft in length.

**Synopsis:** The Magellan 1100i offers superior scanning performance without compromising the value-added features and installation flexibility. Honeywell will tout their mega-pixel imager, larger processor and VAR software SDK tools, but when it comes to performance and overall value, the Magellan 1100i is superior and does not have the limitations that the Genesis has.

## Features



Performance		
Multi-Interface	Yes	Yes
User Feedback	Green Spot, LED's, Beeper	LED's and Beeper
Mobile Phone in Hands-free Mode	Yes	No
Mobile Phone in Hand Held	Yes	No
Targeting	Yes	Yes
Targeting Activation	Press and Release	Press Twice
Depth of Field	0 to 18 cm / 0 to 7 in	0 to 22.8 cm / 0 to 9.0 in
Scan Volume	~2 <sup>3</sup> m / ~80 <sup>3</sup> in	~2.3 <sup>3</sup> m / ~90 <sup>3</sup> in
Decoding	1D, 2D Options	1D Only
EAS (Checkpoint)	Yes	Yes
External Read Indicator (ERI)	Yes	No
Physical Characteristics		
Weight (Scanner only)	198.4 g / 7.0 oz	289.1 g / 10.2 oz
Weight (Stand only)	187.1 g / 6.6 oz	320.3 g / 11.3 oz
Dimensions (Scanner: H x W x L)	8.1 x 7.1 x 8.6 cm / 3.2 x 2.8 x 3.4 in	13.9 x 8.8 x 7.6 cm / 5.5 x 3.5 x 3.0 in
Dimensions (Scanner with Stand)	13.9 x 7.3 x 9.6 cm / 5.5 x 2.9 x 3.8 in	18.2 x 12.1 x 9.6 cm / 7.2 x 4.8 x 3.8 in
Environmental		
Operating Temperature	0 to 40.0 °C / 32 to 104 °F	0 to 40.0 °C / 32 to 104 °F
Humidity	5 - 95% NC	5 - 95% NC
Drop Resistance	Multiple 1.2 m / 3.9 ft drops	Multiple 1.2 m / 3.9 ft drops
Particulate and Water Sealing	IP52	N/A
EMI	Class B	Class B
ESD	25,000 V	15,000 V
Electrical		
Power	4.5 – 14 VDC	5V
Operating Current (label read)	<400 mA	390 mA
Factory Warranty		
	2 years	2.5 years

### Datalogic Advantages:

- Much better ergonomics for handheld use
- The wider 4.5 – 14 VDC input power will simplify installation and cabling needs across all supported interfaces.
- IP52 sealing against dust and liquids provides superior reliability and minimizes downtime in harsher applications.
- Electrostatic Discharge (ESD) events from everyday occurrences are much less likely to impact performance or scanner reliability of the Magellan 1100i.
- The 'Green Spot' good read indicator provides superior user feedback for a broader set of application.
- Illumix™ intelligent illumination enables reading of bar codes from mobile phone, PDAs or computer displays.
- More integration flexibility with optional mounts and stands.
- The Magellan 1100i has no moving parts which could decrease reliability.
- The Magellan 1100i uses high quality rubber grips for enhancing the grip for handheld use.
- The Magellan 1100i's targeted scanning mode can scan all bar codes omni-directionally. This is not possible to do with the single laser scan line that is in the LS9208. The LS9208 does not have single-line or targeted scanning modes at all.
- The very ergonomic shape and grip pads of the Magellan 1100i are very conducive to handheld use.
- The Magellan 1100i comes with CheckPoint EAS support for no additional charge.
- The precise imaging scan volume of the Magellan 1100i will not cause misreads due to stray laser scan lines. Small counter spaces and long laser depth-of-fields can cause frequent item misreads.
- Optional value added software (e.g. Productivity Index Reporting) for improving throughput and customer service.
- The Magellan 1100i's centered trigger for targeted scanning is ergonomic for either left or right handed users.
- The Magellan 1100i is 40% smaller, saving valuable revenue producing counter space over the LS9203 / LS9208 footprint.

**Competitor Weaknesses:**

- Very poor ergonomics for handheld use. The large size of the product stresses the hand and makes it difficult to get a secure grip on the product. Using the trigger can be awkward and can stress the users hand especially for longer durations of handheld use.
- Enclosures have no integrated overmold or rubber to enhance already poor ergonomics.
- No support of any 2D bar codes including PDF417.
- Laser scanners have moving parts which can be more unreliable.
- Laser scanners are not capable of scanning bar codes from mobile phone, PDAs or computer displays.
- Small or truncated labels are more difficult to scan.
- The LS9208 single line scanning mode is not comfortable for left handed cashiers. The LS9203 does not support single line scanning at all.
- Both the LS9208 and LS9203 are only available in a 5V model. This makes it difficult and more expensive to support popular 12V interfaces like powered OEM USB (with the locking connector) or Verifone Ruby terminals. In fact, for any 12V interface the LS9208 must use either a Voltage stepping cable (expensive) or an external power supply (inconvenient, creates clutter at the POS).
- Checkpoint EAS is only available on specific EAS models for a premium.

**Synopsis:** The LS9203 and LS9208 both use older laser technology for their scan engine and read only 1D bar codes using a scan pattern made up of 20 lines (5 scan angles and 4 lines per angle). The Magellan 1100i offers superior ergonomics, 1D/2D scanning performance and value added features which make it a much better reader for data collection systems today and well into the future.

## Features

	Magellan™ 1100i	Orbit MS7120 / MS7180

Performance		
Multi-Interface	Yes	No
User Feedback	Green Spot, LED's, Beeper	LED's and Beeper
Mobile Phone in Hands-free Mode	Yes	No
Mobile Phone in Hand Held	Yes	No
Targeting	Yes	Optional Code Gate
Targeting Activation	Press and Release	Press Twice
Depth of Field	0 to 18 cm / 0 to 7 in	0 to 20.3 cm / 0 to 8 in
Scan Volume	~2 <sup>3</sup> m / ~80 <sup>3</sup> in	~2.3 <sup>3</sup> m / ~90 <sup>3</sup> in
Decoding	1D, 2D Options	1D Only
EAS (Checkpoint)	Yes	No
External Read Indicator (ERI)	Yes	No
Physical Characteristics		
Weight (Scanner only)	198.4 g / 7.0 oz	400.0 g / 14.1oz
Weight (Stand only)	187.1 g / 6.6 oz	N/A
Dimensions (Scanner: H x W x L)	8.1 x 7.1 x 8.6 cm / 3.2 x 2.8 x 3.4 in	14.9 x 10.1 x 10.4 cm / 5.9 x 4.0 x 4.1 in
Dimensions (Scanner with Stand)	13.9 x 7.3 x 9.6 cm / 5.5 x 2.9 x 3.8 in	N/A
Environmental		
Operating Temperature	0 to 40.0 °C / 32 to 104 °F	0 to 40.0 °C / 32 to 104 °F
Humidity	5 - 95% NC	5 - 95% NC
Drop Resistance	Multiple 1.2 m / 3.9 ft drops	Multiple 1.2 m / 3.9 ft drops
Particulate and Water Sealing	IP52	N/A
EMI	Class B	Class B
ESD	25,000 V	15,000 V
Electrical		
Power	4.5 – 14 VDC	5V
Operating Current (label read)	<400 mA	220 mA
Factory Warranty		
	2 years	3 years

### Datalogic Advantages:

- Much better ergonomics for handheld use.
- The wider 4.5 – 14 VDC input power will simplify installation and cabling needs across all supported interfaces.
- IP52 sealing against dust and liquids provides superior reliability and minimizes downtime in harsher applications.
- Electrostatic Discharge (ESD) events from everyday occurrences are much less likely to impact performance or scanner reliability of the Magellan 1100i.
- The 'Green Spot' good read indicator provides superior user feedback for a broader set of applications.
- Illumix™ intelligent illumination enables reading of bar codes from mobile phone, PDAs or computer displays.
- More integration flexibility with optional mounts and stands.
- The Magellan 1100i has no moving parts for improved reliability.
- The Magellan 1100i's targeted scanning mode can scan all bar codes omnidirectionally. This is not possible to do with the single laser scan line that is in the Orbit CG. The standard Orbit scanner does not have single-line or targeted scanning modes at all.
- The very ergonomic shape and grip pads of the Magellan 1100i are very conducive to handheld use.
- The Magellan 1100i comes with CheckPoint EAS support inside every unit.
- The precise imaging scan volume of the Magellan 1100i will not cause misreads due to stray laser scan lines. Small counter spaces and stray laser scan lines can cause frequent item misreads.
- Optional value added software (e.g. Productivity Index Reporting) provide additional data to managers for improving throughput and customer service.
- The Magellan 1100i footprint is 30% smaller, saving valuable revenue producing counter space over the Orbit footprint.

**Competitor Weaknesses:**

- No support of any 2D bar codes including PDF417.
- Laser scanners have moving parts which can be more unreliable.
- Laser scanners are not capable of scanning bar codes from mobile phone, PDAs or computer displays.
- Very poor ergonomics for handheld usage. The large size of the product stresses the hand and makes it difficult to get a secure grip on the product. Using the trigger can be awkward and can stress the user's hand, especially for longer durations of handheld use.
- Enclosures have no integrated overmold or rubber to enhance already poor ergonomics.
- Small or truncated labels are more difficult to scan.
- No single multi-interface unit is available.
- Requires a serial to USB converter cable to support USB interfaces.
- Checkpoint EAS or external read indication is not available.

**Synopsis:** The Orbit scanner is one of Honeywell/Metrologic's older presentation scanners. It uses laser technology for the scan engine and reads only 1D bar codes with a scan pattern made up of 20 lines. It can be picked up to scan bulky items but is extremely cumbersome. The Magellan 1100i delivers superior ergonomics, future proof imaging performance and features capable of providing more value and flexibility.

## Special Competitive Section: Competing Against 2D Full-Array General Purpose Handhelds

### Symbol DS6700, HHP 4600g, Metrologic MS1690 Focus

As imaging technology matures, full 2D handheld scanners come down in price and 2D bar codes (such as PDF417) migrate into retail point-of-sale applications. The Magellan 1100i scanner will be competing against all of these scanners more and more. Today's full 2D handheld scanners are generally more expensive than the 1100i (after being equipped with hands-free stands) and compromise 1D label performance in favor of point-and-shoot omnidirectional 2D label scanning. The greater the variety and quantity of 2D bar codes in any given application, the more appealing these scanners will be. The Magellan 1100i scanner is optimized to read 1D/2D bar codes in retail environments on the counter. It will excel in applications where 1D bar codes are more prevalent than 2D codes.

#### Datalogic Advantages:

- The Magellan 1100i is optimized to scan both 1D and 2D bar codes totally hands free. Full array 2D imaging scanners have been optimized more for handheld scanning than on-counter presentation scanning. Throughput testing consistently shows 2D handheld scanners to be significantly slower than any of Datalogic Scanning's presentation scanners including the Magellan 1100i when reading 1D labels. In addition, to use the handheld scanners in a hands free situation, the 2D scanners must be put into a bulky stand which add cost and require more valuable space at the point-of-service.
- Scan volume optimized for either 'sweep' or 'presentation' style scanning. Full 2D imaging scanners will struggle to read bar codes when they are 'swept' in front of them. This forces cashiers to change their scanning technique to match the scanner and ultimately slows cashier productivity. In fact, 'motion tolerance' is a big problem for 2D handheld scanners but not the case for the Magellan 1100i.
- The Magellan 1100i is ready for hands free use out of the box. Full 2D handhelds have to be programmed for hands free stand mode. In addition to this extra programming, many of the label detection methods used for 'stand mode' by the 2D handhelds are very slow. These scanners are designed to be triggered and aren't optimized for hands free use.
- The Magellan 1100i is compatible with Datalogic Scanning's value added software featuring Host Diagnostics, Host Download and optional Productivity Index Reporting (PIR) for improving throughput and customer satisfaction.
- The Magellan 1100i has a variety of mounting options that can be fix-mounted. All of the 2D handheld hands free stands do not allow the scanner to be locked into the stand for a fixed scanning application.
- The Magellan 1100i's footprint is much smaller, saving valuable revenue producing counter space over any of the 2D handheld hands-free stands.
- The Magellan 1100i's targeted scanning mode makes it easy to single out a bar code from a pick list or other groups of co-located bar codes. Full 2D handheld targeting can be tricky; for example the Focus aiming bar is difficult to see and to position correctly on a pick list.

#### 2D Handheld Advantages and How to Compete:

- Datalogic Scanning designed the Magellan 1100i to be picked up for handheld use however some customers may prefer handheld ergonomics, particularly if they have a significant portion of larger or awkward sized items. In this case a Datalogic handheld scanner may be a better option.
- Most of the 2D handheld scanners will have a longer depth-of-field (DOF) on UPC/EAN/JAN labels. This can actually be a problem in small POS environments causing the cashier to constantly have to position the scan volume to avoid unintentional item scans. Most cashiers scan items very close to the scanner rather than farther out in the scan volume when scanning hands free. The Magellan 1100i's precise scan volume has been optimized for small to medium POS applications.
- Handhelds are typically rated for higher (5ft or 6ft) drop specifications. The Magellan 1100i is rated for multiple 1.2 m / 4 ft drops to concrete which is sufficient for its intended use on-counter.
- In some areas, these products have a five year warranty. The Magellan 1100i can be sold with an extended warranty contract or a Datalogic handheld with the same warranty period can be used.

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