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Intermec SF51 Review

Product: SF51
Manufacturer: Intermec
Type: Cordless Industrial CCD Imager
Support: 3 Year warranty through Intermec, Lifetime support from POSGuys

The Intermec SF51 cordless scanner features a rugged design and powerful magnet on the base to secure the scanner to holsters, chargers, or other ferrous materials.

Typical uses and environments:
The cordless design and Bluetooth radio allow the SF51 to work best in areas where being tethered to a device may not be the best option. The relatively aggressive scanner and rugged design lend it to warehouse inventory control or field service work. However, the location of the button prevents the scanner from easily being used in high-volume scanning operations, such as line-busting in retail or shipping/receiving.

Unique Features & Advantages:
Intermec designed the SF51 with a strong magnet in the base, allowing it to stay securely fastened to the included belt strap, or optional chest holster or wrist strap. This prevents it from being misplaced and accidentally crushed by forklifts or other industrial equipment. The magnet is also strong enough to secure the unit itself to any ferrous metal nearby, in case it's easier to hang it to a pallet shelf for a short time, or if you have a cherry picker and want to play a trick on a coworker.

There is an additional optional scanner model that is capable of reading PDF417 barcodes, making the Intermec SF51 a good fit in locations where PDF417 barcodes are used, such as package tracking or law enforcement.

Standard Features:
The Intermec SF51 can come either as a standalone scanner or in a scanning kit, providing the scanner, charging cradle, and optional Bluetooth adapter. Options are available for wrist-mounted or chest mounted holster, as well as a 4-bay charger.

The scanner is dark gray with rubber around the scanning area as well as a thin line of rubber around the scanner itself. A blue LED near the base of the scanner will flash when the SF51 has an active connection with a PC or mobile computer. Plastic around the magnet illuminates green when charging, flashes green during a successful scan, and will flash red three times if the SF51 is not able to send a scan to its host computer.

Drawbacks:
The biggest issue we had while testing our Intermec SF51 was the relatively steep learning curve when configuring the scanner to connect to our test PC. Despite setting our scanner to factory defaults, when attempting to pair it with a host PC, a Bluetooth pass-key was required. The literature and scanning configuration data implied that no pass-key was required, causing confusion for us. Once our scanner connected, we had issues where serial ports were not mapping to it. For anyone unfamiliar with Bluetooth scanner setup, initial configuration would be very daunting.

There was also a secondary issue where our scanner would not switch to HID Keyboard Wedge mode despite a configuration existing for such a mode. This means some form of wedge software is required on the PC or the Serial Keys Accessibility feature must be enabled to allow for data to pass to active text fields.

Performance Testing:

To determine the capabilities of the Intermec SF51, we ran it through a battery of tests designed to determine the optimal focal range, ability to scan dense, wide, damaged, or multicolored barcodes, as well as resistance to light and Bluetooth radio range. Our tests show our Intermec SF51 to be relatively average compared to the rest of the class, but still a solid scanner in its own right.

In testing the optimal focal range, we used a 100% UPC-A barcode and determined the SF51 to have an optimal range from 1.25" to 10" out before scanning became erratic or unsuccessful. Range can be extended for less dense barcodes, however. While this range may be apt for a retail setting, it falls short of most industrial scanners on the market. The smallest density barcode the SF51 could read was 4.9 mil, above average for most scanners but still rather standard. The SF51 could scan wide barcodes of a standard density up to 5.25 inches wide before struggling to get proper reads. A barcode at that length and density contains 45 to 50 characters, generally more than would be expected in an industrial environment.

Light resistance can cause problems for most scanners, especially when trying to read barcodes in full daylight. Fortunately, the SF51's imager is strong enough to read properly with lights nearly touching the barcode, as well as in complete darkness. The aggressive scan engine was also able to scan all of our damaged barcodes, excellent for industrial settings.

A big issue we ran into with the SF51 occurred during the radio range testing. While we were able to get the unit about 130 feet before it could no longer find the host PC, once back in range the scanner would not reconnect. This caused problems involving open communications ports and attempts to disconnect and reconnect the scanner, ultimately losing 5 minutes to resetting the serial connections. Pairing also is ended when the SF51 is plugged into a charging cradle.

A breakdown of the Intermec SF51 BT capabilities is listed in table and graph form below.
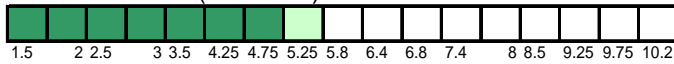
Scanner Performance Testing

Scan Range (Depth of Field)

1"   5"   10"   15"   19"
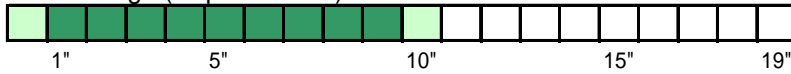
Average retail scan range
but lacking for industrial environments

Wide Barcodes (In Inches)

1.5 2 2.5 3 3.5 4.25 4.75 5.25 5.8 6.4 6.8 7.4   8 8.5 9.25 9.75 10.2

Scans well above standard
retail/light industrial sizes

High Density Barcodes (In Mil)

2.1 3.8 5.8 7.1 8.8 11 12 14 16 17 22 27 32 37 42 48 53 58 68 84

Standard range for retail
and industrial barcode density

Signal Range (Meters)

0   15   30   45   60
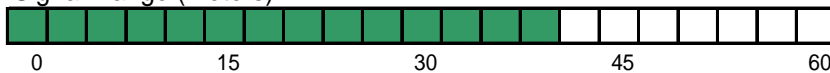
The SF51 was able to scan at a range
of 40 meters, or about 131 feet.

Poor Quality Barcodes*

1 2 3 4 5 6 7 8 9 10

Could read every damaged
barcode. Excellent for light industrial use

Resistance to Light

Complete Darkness   Retail Lighting Cloudy   Direct Sunlight
          Indoor   Outdoor
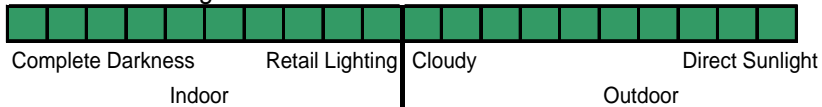
Full light immunity, excellent for all
lighting environments

1D Results

Highest Density Barcode Scanned	4.9mil	Good
Widest Barcode Scanned	120.65 mm	Average
Shortest Barcode Scanned	38 mm	Good
Range Ideal Conditions (Standard 100% UPC-A)	1.25 inches – 10 inches	Average
Scratched Barcode	3 of 3	Good
Worn Barcode	3 of 3	Good
Warped Barcode	2 of 2	Good
Curved Barcode	2 of 2	Good
Multiple Barcodes in close proximity	Relatively accurate, but dependent on distribution of barcodes relative to thickness of beam	Average
Scan through plastic layers	6 Layers	Good
Multicolored Barcodes Successfully Scanned	Blue, Red, Orange, Green, Black on Brown	Good
Multicolored Barcodes Not Scanned	Yellow, gray	Average
Simulated Sunlight Test	Fully light immune	Excellent

Conclusion:

The Intermec SF51 is a solid industrial scanner with some very interesting features to help it stand out from the rest of the pack. However, the high price and steep learning curve prevent it from really separating itself from the cordless industrial class.

To Purchase this product, go to the Intermec SF51 page.

To see our complete line of barcode scanners, visit our Barcode Scanners section.

For Additional Reviews, visit our Product Reviews page.

Additional Products from Intermec	Ideal Setting	Description
Intermec SF51	Industrial, Low Volume mobile retail, field service work	Small form factor and unique securing mechanism make the SF51 ideal for mobile scanning in rugged environments.
Intermec SR61	Industrial, medium to high volume mobile retail/inventory management, field service work	Traditional ergonomic design allows the SR61 to scan in higher volume environments more easily.

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