Motorola Enterprise Sales Guide

MiniScan Series

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MiniScan Series Overview

The MiniScan family offers customers a simple to use family of bar code capture modules, perfect for applications that require a fixed mount device. They provide the quickest, easiest, and most flexible integration of bar code scanning for all types of applications, including OEM.

The MiniScan family offers high performance scan engines, along with an exit window, decoder, and a variety of interfaces (including USB) in a compact durable housing. **All of the MiniScan products can be easily integrated into OEM devices or used as a stand alone, fixed mount scanner**.

The MiniScan family offers a complete scanning solution for the end user, minimizing the integration effort and speeding up your time to market. Almost all of the MiniScan products have IP54 sealing, a loud integrated beeper, easy programming, and mounting features, all at an affordable price. Just plug it in and you are ready to scan. The rich feature set will offer a tremendous amount of flexibility and convenience for virtually any market or application.

This combination of multifunctional performance, affordability, ease of programming, and world-class design makes the MiniScan truly unique in a market place and an exciting new addition to the product line.

Key Features and Benefits

- For Embedded or Non-Embedded applications
- Quick and easy integration for OEM devices
- Excellent scanning performance on all types of bar codes
- Rugged IP54 sealed housing with integrated beeper (excluding MS 954 & MS 440x)
- RS-232 or multi-interface – USB, TTL-RS-232, Synapse
- Easy programming and configuration
- Flexible mounting options

Fixed Mount Stand Alone Applications

- Manufacturing/Warehousing
- Assembly Lines
- Conveyer Belts
- Security / ID Verification
- Library & Document Tracking
- Backroom Receiving

OEM Applications

- Interactive Kiosks / ATMs
- Health Care/Medical Equipment
- Clinical Diagnostics
- Security / ID Verification
- Robotic Equipment
- Blood Analysis
- Gas Pumps
- Data Storage Systems
- Gaming / Lottery Terminals
- Turn styles

Flexible Scanning Integration

Your OEM customers face incredible challenges in today's marketplace. They must integrate powerful technology for a world of specialized applications while keeping the cost as low as possible. Now, you can help them gain a competitive edge with the powerful, cost-efficient MiniScan Series.

These miniaturized fixed mount scanners provide the fastest, easiest, and most flexible integration of bar code scanning into all types of OEM devices or stand alone fixed mount applications. Your customers can take advantage of high performance scanning technology provided with a decoder and multiple interfaces (including USB and RS-232 in a compact, durable module).

The MiniScan Series may be most enticing to OEMs trying to address emerging kiosk and clinical diagnostics market needs. OEMs seeking cost effective yet high performing solutions for industrial, fixed mount applications are also a key target.

Miniscan Delivers:

- Proven best scanning technology
- Seamless integration with major system components
- Easy migration to innovative, new technologies
- Versatile and flexible solutions for a variety of markets and industries
- Big performance, small size for non-embedded or embedded scanning applications

Feature	Benefit
Quick and easy integration	Reduces development time and cost
Embedded or non-embedded applications	Covers a broad range of needs to fit virtually any market and OEM application
Rugged IP54 sealed housing with integrated beeper (70db) (Not available on MS-954 or MS440x models)	Delivers excellent reliability even in the toughest environments
Compact design	Provides unique flexibility and smooth integration
Plug-N-Play installation	Improves integration and reduces development time
123Scan programming	Reduces end-user installation time thanks to the easy-to-use, point-and-click utility that makes programming parameters, ADF, and preferences a snap
Multiple mounting options	Increases development flexibility
Strong, inexpensive cables	Reduces costs while increasing performance
Multiple user interfaces (RS-232, USB, Synapse)	Provides flexible connectivity regardless of host environment; protects the scanner investment
Omni-directional bar code data capture (MS32xx, MS44xx)	Increases productivity

Target Markets and Applications

Two categories make up the primary target markets for MiniScan: embedded vs. non-embedded fixed mount devices. The target markets for non-embedded (stand alone/external to the equipment) units are the traditional industrial markets. These markets include usage at high throughput locations such as warehouses, product floors, and inspection stations (mfg) that are typically in demanding environments. Therefore, sealing, rugged housing, and high-speed data capture via serial connectivity are important factors for consideration. On the other hand, the target markets for embedded (mounted within the equipment) units are in the OEM market place across a wide variety of vertical markets, including kiosk/retail applications, medical diagnostics, government technology, and video gaming/lottery applications. .

Fixed Mount Non-Embedded Applications

Conveyer Belts

Security / ID Verification

- **Assembly Lines**
- **Library & Document Tracking**
- **Point of Sale**
- **Backroom Receiving**
- **Manufacturing & Warehousing**
  There are significant opportunities for growth through a low-cost, easy-to-use, fixed mount scanner product line for applications such as:

Manufacturing	Warehousing & Distribution
Materials flow & product assembly	Shipping & receiving
Process control & monitoring	Parts & inventory management
Equipment calibration	

OEM/Fixed Mount Embedded Applications

Many customers have expressed a strong desire for an omni-directional engine that offers good performance and is quick and easy to integrate. The MS-320x will provide the best in self-scanning applications by making it easy and intuitive for consumers to scan a bar code at the point of activity. The small form factor of the MS-320x optimizes the ergonomic design of fixed mount OEM devices such as kiosks, ATMs, lottery terminals, and vending machines. With the benefits of omni-directional scanning in the small size of the MiniScan housing, we expect to be in a good position to offer omni-directional capability over other linear 1D readers at a modest increase in price.

Examples of Kiosk Applications

- Audio/video sampling devices (e.g. Video Listening Station) at music stores that are able to read U.P.C./ EAN labels on CDs/DVDs so consumers can listen or sample
- "Price Checkers" at retailers and grocers that provide pricing/promotional information
- Gas dispensers at discount retailers (e.g. Sam's Club) that are able to redeem coupon receipts providing "members" with additional discounts on fuel

Clinical Diagnostic Market

One of the more prominent market segments to come out of the Healthcare Vertical for embedded fixed mount scanners is the Clinical Diagnostic Market. The primary application in this market is the fluid analyzer market. Traditionally, this market has relied on 1D bar codes to track fluid samples and reagent packs for testing. This is now transitioning to PDF417, especially on the reagent side of the business. Many key manufacturers of fluid analyzers have developed new systems that utilize PDF417.

The PDF417 label on the reagent now carries the calibration and configuration controls, not the host system. As a result, the automated system eliminates errors during setup, no longer requiring an operator's intervention. This also speeds up the test cycle, which allows testing clinics to serve their customers better.

Government

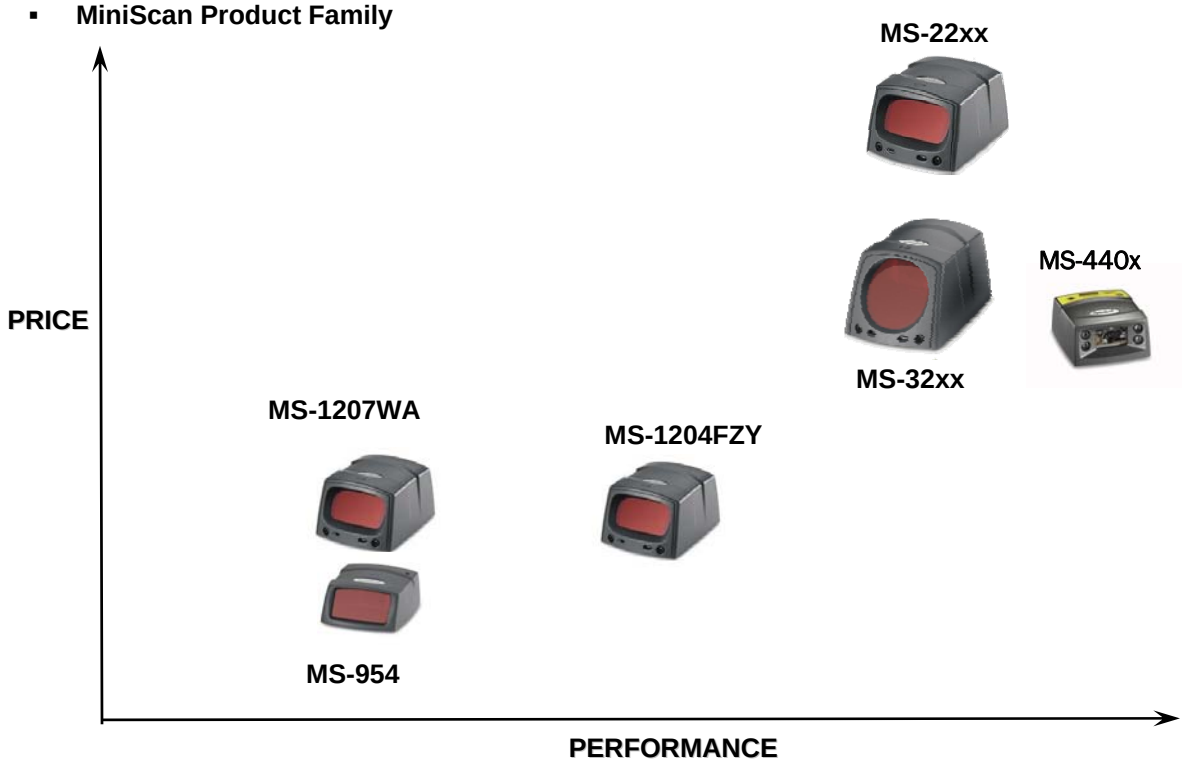
Many companies have deployed systems at Federal, State, and Local governments that have invested in PDF417 technology to enhance the safety, security, and service of its customers. Driver's licenses, airline tickets, luggage tags, vehicle registrations, tax forms, and other records will/do carry PDF417 bar codes to prevent fraud, especially at airports and other sensitive areas/processes.

Gaming

The current trend in lotteries is to present the customer with a computerized lottery ticket printed with 1D or 2D bar codes (typically PDF417). The bar code is an encryption of information used by the lottery systems to validate winnings and minimize fraud. Each location is usually equipped with a validation terminal that includes a fixed mount scanner. Similarly, video game terminals – often installed at convenience stores, restaurants, and bars – offer play of a multitude of games, including video poker, Each establishment has validation terminals issued by the lottery system equipped with embedded or stand alone scanners to verify valid game winners. The main requirement is for a compact, low cost, high-speed 1D/2D (PDF417) scanner that often requires protection against possible food and beverage spillage.

Technical Product Overview

- **MiniScan Product Family**



MS-954

- Small compact durable design
- 1.02 H x 1.9 W x 2.13 L (inches)/ 25.4 H x 48.26 W x 54.10 L (mm)
- Good 1D performance
- 45” working range
- Ideal for medical instruments, clinical diagnostics, kiosks and mfg applications
- MS-954 is a very small but powerful fixed mount laser scanner based on the SE-955 scan engine. The Symbol MS-954 is a compact, durable, fixed mount laser bar code scanner for premium linear scanning on all types of 1D bar codes, including poorly printed and low contrast symbols. The Symbol MS-954 offers a configurable scan angle of 47° and 35° for OEM devices requiring a flexible, expanded working range.

MS-440x

- Omni-directional data capture
- Reads all 1D & 2D bar codes
- Small compact design
- Smart dual-focus system offers the greatest decode range for maximum application flexibility
- The flexible and compact Symbol MS-4400 MiniScan Imager delivers high performance 1D and 2D bar code and image capture wherever an extremely small footprint is required. One of the smallest charged couple device (CCD) imaging products available today, the Symbol MS-4400 is designed to fit in tight spaces — a check-in kiosk at an airport gate, point-of-sale (POS) areas with very limited counter space, within manufacturing cells where space is at a premium, inside clinical diagnostic equipment, as a standalone device, and more. Ready to mount, this small plug-and-play device can integrate quickly and easily into your existing environment.

MS-440xDPM

- Designed with Advanced Decode Algorithms to read Direct Parts Marked (DPM) bar codes (bar codes that are etched, embossed, etc)
- Dual focus provides wider range of small DPM codes
- Small compact design
- Built-in illumination and beeper
- This versatile model of Symbol's MS-440x MiniScan imager is designed to capture those difficult to read "Direct Parts Marked" bar codes. DPM codes provide manufacturing applications with the solution for durability and simplified parts marking. Plastic parts can be injection molded with their bar code identification. In medical applications, instruments that must endure the rigors of auto clave cleaning can now have their identifying bar codes laser etched into the metal surface. The MS-440xDPM provides the solution for capturing these low contrast codes as well as all other standard 1D and 2D printed bar codes. All of this has been achieved at a new, lower industry price point.

MS-12xxFZY

- The MS-12xx incorporates fuzzy logic for premium scanning performance on all types of 1D codes, including poorly printed and low contrast bar codes.
- Working range from contact to over 60"
- Wide operating temperature from -22º to 140ºF (-30º to 55ºC)
- Mfg and warehousing applications
- MS-12xxFZY features a compact design to deliver superior performance and durability in a form factor that easily integrates into OEM devices, or as a stand alone fixed mount scanner.
- The MS-12xxFZY scan modules are ideal for embedded applications such as medical instruments, diagnostic equipment, vending machines, and gaming. When used as a non-embedded fixed mount scanner, the MS-12xxFZY modules are ideal for mfg, warehouse and shipping, conveyer belts, library, document tracking, and countless other applications that need reliable unattended scanning.

- Symbol's MS-12xxFZY series provides the easiest and most flexible integration of bar code scanning into your host device. Symbol combines compact, durable construction with proven scanning technology to deliver the MS-12xxFzy, a reliable stand alone or embedded scanner.

MS-1207WA

- 60° scan angle to accommodate wide bar codes at close range
- Working range from contact to over 25"
- Ideal for high-volume, near-contact scanning
- Mfg and warehousing applications, kiosks, gas pumps, medical equipment
- The MS-12xx Wide Angle Scanner features a broad 60° scan angle to accommodate large 1D bar codes within extremely close range. The MS-12xxWA is ideal for high-volume, near-contact scanning settings, such as Kiosks, ATM's, assembly lines, warehouse and shipping applications, and many other applications that require superior 1D scanning performance in a complete package.

MS-22xx

- Raster pattern optimized for aggressive performance on 2D bar codes
- Reads PDF417, Micro PDF, GS1 DataBar (formerly RSS), and composite codes
- High speed performance on even poorly printed 1D bar codes
- 640 scans per second
- Perfect for high-speed scanning locations, such as conveyor belts / Mfg and warehousing applications / Age Verification / Security ID

- The MS-22xx offers a high-speed “Smart” raster pattern optimized for 2D applications and poorly printed 1D bar codes. The high scan rate ensures fast and reliable data on all 1D and 2D codes, such as PDF417, MicroPDF, GS1 DataBar, and composite codes, while delivering excellent accuracy even with poorly printed bar codes. This product is perfect for fixed mount applications that require high speed scanning, such as conveyer belts, mfg and warehouse applications, gas pumps, security / ID verification and any other automated data entry device that require small size and great performance.

- The MS-22xx is a fully integrated, one-piece system, which because of its advanced design, supports reliable continuous operation even in the most demanding environments. In addition, the MS-22xx features on-board decoding and host interface processing. All of this with a list price of only $575, it’s the best value high-speed fixed mount on the market today!

Feature	Benefit
▪ High speed scan rate - 640 scans per second	▪ Optimized for aggressive performance on PDF417 applications and poorly printed 1D bar codes. The high scan rate ensures fast and reliable data on all 1D, PDF417, Micro-PDF, GS1 DataBar, and composite codes.
▪ "Smart" raster pattern ▪	▪ Automatically tailors the pattern to the height of the PDF417 symbol for maximum speed and efficiency
▪ Compact rugged, durable housing with exit window, mounting, integrated beeper, LEDs, decoder and a variety of interfaces including RS-232, USB and Synapse	▪ Gives you plug-and-play installation to reduce your development time and speed up your time to market
▪ Sealed to IP54 standards; protects against water and dust	▪ Ensures reliable performance in rough conditions
▪ Automatic, Software controlled, or Manual triggering	▪ Flexible control of unattended or hands free applications
▪ Price	▪ Most cost effective industrial 2D laser scanner on the market today
▪ Integrated beeper	▪ Ability to drive internal or external beeper
▪ Flexibility	▪ Multiple triggering methods, scan mode options, and mounting options
▪ Easy to program	▪ Quick and easy communication between scanner and host – Advanced features and functionality

MS-32xx

- Compact high-speed omni-directional scanner for aggressive 1D performance
- Reads GS1 DataBar, Composite, PDF41,7, and all standard 1D codes
- 640 scans per second
- 11” working range on 100% UPC
- 4 scan patterns: Cyclone, Raster, Single Line, and Semi-Omni for truncated codes
- Ideal for kiosks, ATMs, listening stations, vending machines, POS, and more
- The MS-32xx high speed Omni-Directional scan pattern provides the best in self-scanning applications by making it easy and intuitive for consumers to scan a bar code at the point of activity. The omni-directional scan pattern reads bar codes quickly and accurately, minimizing the need for precise positioning of linear bar codes. Additionally, the MS-32xx provides an easy and cost-effective means to modify your existing OEM devices with high-performance 1D and PDF417 bar codes. The smart dual-focus system offers the greatest decode range for maximum application, flexibility, and functionality. It provides the perfect solution for any application where you need fast, accurate scanning in locations such as kiosks, ATM’S, listening stations, lottery machines, vending machines and more.

Ergonomics and Housing Design

Housing Design

- The MiniScan family design is based on extensive worldwide research from working with customers, distributors, value add resellers, and focus groups from all geographies. The MiniScan's three different form factors are a direct result from this vast amount of research performed. We came to the obvious conclusion that one form factor could not meet the demands of the various industries and applications. Therefore, we designed these housings with specific industries and applications in mind.

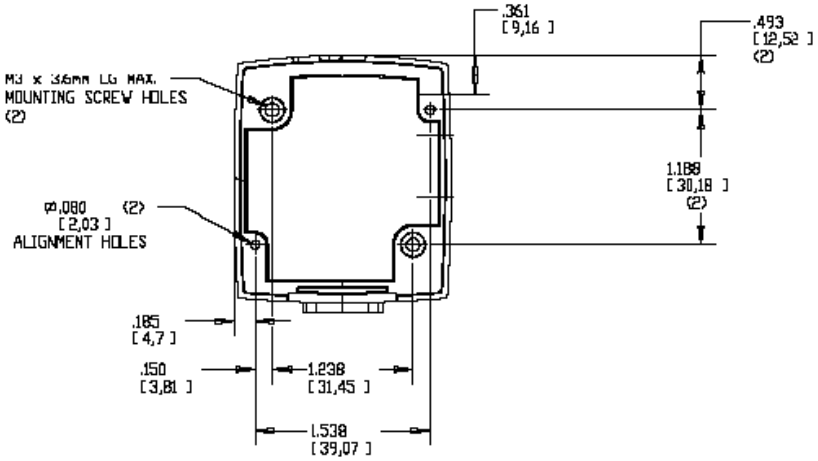
- Our development team paid careful attention to the important aspects of the shape, look, and durability, while considering customer feedback and application needs. Accordingly, the MiniScan housing is a lightweight, compact, and durable design.

Recessed Exit Window

- The MiniScan's deeply recessed Exit Window helps to prevent accidental scratches in case items pass too close to it.

Mounting Holes

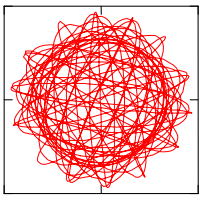
- Every version of the MiniScan offers mounting holes on the bottom side of the housing. , All of the configurations are mountable in any orientation. There is an optional mounting bracket that is available for all MiniScan's, except the MS-954 & the MS-440x. The mounting bracket will provide quick and easy mechanical integrations, while also offering the customer the ability to change the angle of the scanner while it is mounted. Dimension drawings are available in the Integration Guides.



Scan Patterns

There are several different scan patterns to choose from to provide optimized scanning for your application needs. Depending on which model you have, the MiniScan scanner can emit one of seven laser patterns:

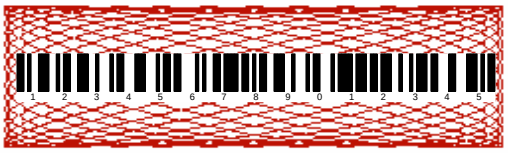
1. **Omni-Directional (Cyclone) Scan Pattern: (MS-320x, MS-220x)**
   The "Cyclone" pattern is a high speed rotating omni-directional scan pattern that provides very aggressive performance on 1D bar codes because there are virtually no "holes" in the pattern. This ensures fast throughput at the point of activity. Additionally, the ability to read 1D symbols in 360° of rotation eliminates the need to orient the bar code in the field of view.



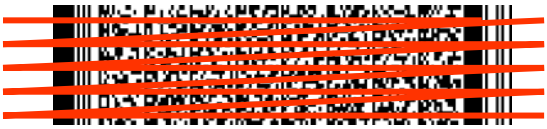
2. **Slab Raster: (MS-22xx, MS-32xx)**
   The single scan line appears as a "mini" raster and scans multiple areas of 1D codes to swiftly and accurately capture data on poorly printed and damaged bar codes. This feature is suitable for many 1D bar code applications where the scan line position is critical. This mode may be optimal for many OEM applications that use embedded scanners, conveyer belts, test equipment, fluid analyzers, etc. The single line is ideal for 1D bar codes only.

3. **True Single Scan Line: (MS-120x, MS-954)**

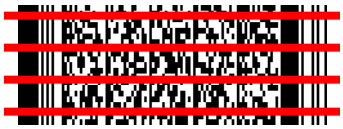
4. **Semi-omni-directional Scan Pattern: (MS-220x, MS320x)**
   The semi-omni-directional scan pattern is a combination of the omni-directional and raster scan patterns. This unique pattern is specifically designed for aggressive performance on extremely truncated 1D bar codes. The bar code must be presented horizontally with no more than 20° tilt.



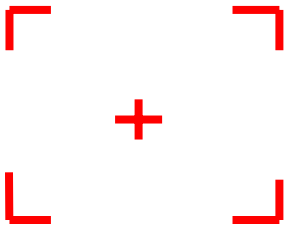
5. **Smart Raster** (MS-220x, MS-320x)
   A linear pattern that opens to a raster pattern when a PDF symbol is detected. When scanning 1D bar codes, the scanner remains in the single line mode. This provides improved scanning performance on 1D symbols when compared to a standard single line scanner because it scans several different areas of the symbol for more efficient coverage. This provides optimal performance on 1D, PDF417, GS1 DataBar, and Composite codes. This mode is best suited for the scanning of ID cards, packages, etc.



6. **Always Raster: (MS-220x, MS-320x)**
   The scan pattern automatically opens to a pre-determined height and rate when triggered or operated in the continuous mode. These features make this scanner an ideal 1D scanner in applications where the position of the code may not be consistent. The raster pattern can easily cover a large vertical area making scanning an easier task in attended or unattended applications.



7. **Aiming Pattern (MS-440x)**
   This aim pattern is designed to provide a clear "+" mark to enable easy targeting of bar codes for capture. Customers can choose the "Picklist" mode when reading from a menu in order to ensure that only the bar code under the center mark will be captured. Additionally, the brackets of this pattern provide a box for intuitive image or signature capturing.



Trigger Options:

The customer may select among different trigger modes that make the MiniScan adaptable to the host interface and application requirements:

Level Trigger (MS-954 MS-120x, MS-220x, MS-320x, MS-440x)
The laser is enabled and decode processing begins when the trigger line is activated. Decode processing continues until a good decode occurs, the trigger is released, or the Laser-On time expires. The laser is disabled once decode processing is complete. The next decode attempt will not occur until the trigger line is released and then reactivated.

Pulse Trigger (MS-954, MS-120x, MS-220x, MS-320x)
The laser is enabled and decode processing begins when the trigger line is activated. Laser remains on and decode processing continues regardless of trigger line until a good decode occurs or until the Laser-On time expires. The laser is disabled once decode processing is complete. The next decode attempt will not occur until the trigger line is released and then reactivated.

Continuous Trigger (MS-954, MS-120x, MS-220x, MS-320x)
The laser is enabled continuously and decode processing is continuously active. In this mode, the scanner can be configured to scan and transmit a bar code, and then not decode the same bar code for a set period of time (time between same bar codes) and/or not decode ANY bar code for a period of time (time between different codes). Consult the integration guide for these programming configurations. This allows the user to tailor the application to the rate at which the bar codes are presented. This mode provides the fastest operation of the Miniscan and is intended for applications that are high speed. These would include conveyor systems, automated processing equipment, OEM applications, etc.

Host Trigger (MS-954, MS-120x, MS-220x, MS-320x, MS-440x)
The laser is enabled and decode processing begins in response to an SSI Start Decode message from the host. Refer to the MiniScan Integration Guide for more information. Decode processing continues until a good decode occurs, an SSI Stop Decode message is received, or the Laser-On time expires. The laser is disabled once decode processing is complete. The next decode attempt will not occur until the next Start Decode message is received.

External Trigger (MS-954, MS-120x, MS-220x, MS-320x, MS-440x)
To activate this trigger a software command from the host system or a hardware signal from an external device is necessary. In some unattended applications, it is necessary to have full control of the laser scanner. This trigger mode allows the user to control the laser from an external host system like a PLC, PC, photo sensor, switch closure, etc. This makes the MiniScan ideal for manufacturing environments, robotic systems, automated kiosks, process controls, and conveyor systems.

Presentation Trigger (MS-440x)
In this mode, the MS44xx will automatically trigger itself when it sees a change of scene. If motion is detected, then the system will turn on its illumination as needed and acquire the bar code. Additionally, since this product uses imager technology, it can capture all types of bar codes omni-directionally – adding to the users' productivity. Note: This mode requires adequate illumination for the system to see the image. It will not operate in a dark or dimly lit environment.

Programming Options

Developer's Kit: (optional)
A new software developer's CD is also available to develop your own applications. The Developer's Kit offers many user-friendly features to help customers develop their own applications around the MiniScan product family using Windows 98, 2000, and XP platforms. The developer's software enables users to benefit from Symbol's Simple Serial Interface (SSI) protocol.

The software CD contains an SSI ActiveX component that will greatly simplify most scan engine applications. It also contains a DLL (with source) for developers that may want to customize the functionality provided or port that functionality to another OS or platform. Best of all, it is accompanied by working demo applications (with source), which show how to implement common tasks using the DK.

The CD includes a Simple Serial Interface Developer's Guide to facilitate communication and rapid development in your host device.

The Simple Serial Interface (SSI) provides a cost effective, highly integrated, flexible protocol for Original Equipment Manufacturers that are designed for bar code scanning applications.

The SSI protocol provides a communication link (both hardware handshaking and command protocol) between Symbol's decoded engine s and a serial host. The specification for SSI is from the perspective of both the decoder and the host.

123Scan allows you to customize your Symbol scanners' setup and generate Advanced Data Formatting (ADF) Rules*. Scanners are programmable via PC download or by scanning a sheet of bar codes generated by the utility (not for the MS440x). Scanner programming is saved in a setup file that can be distributed electronically (e-mail & floppy). Bar code sheets can be copied and faxed.

F.A.Q.

1. **Why is the MiniScan the easiest and most flexible scan module on the Market?**
   No other product on the market packs all of these key features in a compact durable size specifically designed for embedded as well as stand alone applications:
   - High performance scanning
   - Rugged durable housing
   - IP54 sealing (except the MS-954 & MS-440x)
   - Integrated beeper (except the MS-954)
   - Serial & USB interfaces

2. **What technology enables the five scan patterns of the MS320x?**
   The innovative, state of the art SE-3223 scan engine uses two scan motors, called Taut Band Elements (TBE), that enable the MS-320x and the MS-220x to produce 5 different scan patterns.

   Each TBE is comprised of a magnet mounted on a small mirror, which in turn is mounted on a steel armature. A coil is mounted behind the magnet. When a signal is sent through the coil, it attracts and repels the magnet, resulting with the mirror moving back and forth to create the scan pattern. When the frequency of the coil is changed – as a result of pressing the button at the top of the scanner – the scan pattern changes from single line, to PDF raster, to omni-directional, and so on. To find out more about the SE-3223 and other Symbol Scan engines, visit the OEM area on the Symbol web site.

3. **What is Advanced Data Formatting (ADF) capability?**
   Advanced Data Formatting (ADF) is a means of customizing or editing the data scanned by the scanner before transmitting it to your host device. Scanned data can be edited to suit your particular requirement. To implement ADF, a series of bar codes can be scanned to create rules that apply to the scanned data.

4. **Do all MiniScan scanners have Advanced Data Formatting (ADF) capability?**
   Yes, all of the MiniScan scanners have ADF capability.

5. **What is the benefit of Flash Memory?**
   Flash Memory facilitates post-purchase upgrades, changing default settings, or customizing the device for specific applications.

6. **Do the MiniScan scanners have Flash Memory?**
   Yes, all of the MiniScan family has Flash Memory, allowing you to rest assured that the scanner will meet your current and future bar code data capture needs.

7. **What applications are best suited for the MS-220x scanners?**
   Industrial applications, such as manufacturing and warehousing OEM applications, are best suited for the MS-220x scanners (clinical diagnostics, for example). Its high-speed, single line enables it to be best suited for slow speed conveyors, where bar codes must be scanned while moving past the device.

8. **What MiniScan is best at reading the new 2D bar codes found in pharmacy or office automation?**
   The MS-440x's imager engine offers omni-directional reading of ALL 1D and 2D bar codes like Datamatrix, QR, Aztec, and even specialty codes like Postal and Maxicode.

9. **Which MiniScan is best suited for badly printed or low contrast 1D bar codes?**
   The MS-1204FZY's decoder is based on Fuzzy Logic and can handle poorly printed and even damaged bar codes. This product offers the highest decode performance available. If size is an issue, then the MS-954 offers fuzzy-like performance in the smallest-sized MiniScan housing.

10. **In which applications and vertical markets are Direct Parts Marked (DPM) bar codes found?**
    DPM bar codes were designed to survive the rigors of the manufacturing vertical market where bar codes must endure various chemicals, large temperature ranges, and severe wear. By etching the code upon metal parts, even engines can be permanently marked and read. In the Healthcare markets, instruments can be coded knowing that these will survive the cleaning processes like autoclaves and harsh antiseptic cleaning agents. However, DPM can be implemented using other techniques. Chemical etching and dot peening bar codes into surfaces allows bar codes to survive these harsh environments.

11. **Which MiniScan is best for capturing these DPM codes?**
    The MS-440xDPM is designed to capture these and all other standard codes. It has been designed to accept plastic parts with injection molded bar codes and metal parts with peened Datamatrix codes. Additionally, its two-positioned focus can be set for 5inch (125mm) focus, ideal for capturing paper bar codes. This gives the user the versatility of multiple applications in the point of capture.

12. **What accessories are available for MiniScan?**
    Accessories include:
    - Fixed mount stand
    - External trigger and beeper
    - Object sensor – photo trigger
    - External mounting bracket
    - Note: Accessories vary by model.

13. **Do the MiniScan products comply with agency approvals for RoHS and WEEE?**
    Yes, the entire MiniScan family, including all accessories, are RoHS and WEEE compliant as applicable.

MiniScan Configurations

MS-954-I000R	List Price - $275
RoHS Part Number	**Description**
RS 232	
25-13227-02R	9 Pin female - straight connector with trigger jack
25-13228-02R	9 Pin female - straight connector with trigger jack & beeper
25-58918-01R	9 pin female - straight connector - no beeper or trigger jack
25-63736-01R	Disables Handshaking
Power Supply	
50-14000-008R	110V - USA
50-14000-009R	220V - Europe
50-14000-010R	100V - APAC
Optional Accessories	
25-04950-01R	External push button trigger & cable (must use with trigger jack cable)
25-13176-01R	Photo sensor trigger & cable (must use with trigger jack cable)
MS-1204FZY-I000R	List Price - $295
MS-2204-I000R	List Price - $545
MS-2204VHD-I000R	List Price - $545
MS-3204-I000R	List Price - $405
MS-3204-E000R	List Price - $405
RoHS Part Number	**Description**
RS 232	
25-13227-02R	9 Pin female - straight connector with trigger jack
25-13228-02R	9 Pin female - straight connector with trigger jack & beeper
25-58918-01R	9 pin female - straight connector - no beeper or trigger jack
25-62736-01R	Disables Handshaking
Power Supply	
50-14000-008R	110V - USA
50-14000-009R	220V - Europe
50-14000-010R	100V - APAC
Optional Accessories	
20-60136-01R	Fixed mount stand
25-04950-01R	External push button trigger & cable (must use with trigger jack cable)
25-13176-01R	Photo sensor trigger & cable (must use with trigger jack cable)
KT-65578-01R	Adjustable Mounting Bracket
Cable Adapters	
50-12100-377	Adapter Connectors for 9 pin Male to 25 Pin - RS232: 25 Pin (Female TxD @ 3)
50-12100-378	Adapter Connectors for 9 pin Male to 25 Pin - RS232: 25 Pin (Female TxD @ 2)
50-12100-379	Adapter Connectors for 9 pin Male to 25 Pin - RS232: 25 Pin (Male TxD @ 3)
50-12100-380	Adapter Connectors for 9 pin Male to 25 Pin - RS232: 25 Pin (Male TxD @ 2)

MiniScan Configurations - Continued

MS-1207FZY-I000R	List Price - $295
MS-1207WA-I000R	List Price - $295
MS-2207-I000R	List Price - $575
MS-2207VHD-I000R	List Price - $575
MS-3207-I000R	List Price - $415
Note: All cables are 6' straight unless otherwise indicated	
RoHS Part Number	**Description**
RS 232	
25-13227-02R	9 Pin female - straight connector with trigger jack
25-13228-02R	9 Pin female - straight connector with trigger jack & beeper
25-58918-01R	9 pin female - straight connector - no beeper or trigger jack
25-62186-01R	TTL to True RS 232 cable
USB	
25-58925-01R	Straight connector with trigger jack and beeper
25-58926-01R	Straight connector no trigger jack and beeper
25-58926-02R	18" straight low profile connector
Synapse	
25-58921-01R	Synapse cable adapter
Power Supply	
50-14000-008R	110V - USA
50-14000-009R	220V - Europe
50-14000-010R	100V - APAC
Optional Accessories	
20-60136-01R	Fixed mount stand
25-04950-01R	External push button trigger & cable (must use with trigger jack cable)
25-13176-01R	Photo sensor trigger & cable (must use with trigger jack cable)
KT-65578-01R	Adjustable Mounting Bracket
MS-4404-I000R	List Price - $405
MS-4404DPM-I000R	List Price - $720
MS-4404HD-I000R	List Price - $405
RoHS Part Number	**Description**
RS232	
25-13227-02R	9 Pin female - straight connector with trigger jack
25-13228-02R	9 Pin female - straight connector with trigger jack & beeper
25-58918-01R	9 pin female - straight connector - no beeper or trigger jack
25-62736-01R	Disables Handshaking
Power Supply	
50-14000-008R	110V - USA
50-14000-009R	220V - Europe
50-14000-010R	100V - APAC
Optional Accessories	
25-04950-01R	External push button trigger & cable (must use with trigger jack cable)

MiniScan Configurations - Continued

MS-4407-I000R	List Price - $415
MS-4407HD-I000R	List Price - $720
MS-4407DPM-I000R	List Price - $415
RoHS Part Number	**Description**
RS 232	
25-13227-02R	9 Pin female - straight connector with trigger jack
25-13228-02R	9 Pin female - straight connector with trigger jack & beeper
25-58918-01R	9 pin female - straight connector - no beeper or trigger jack
25-63736-01R	Disables Handshaking
USB	
25-58925-01R	Straight connector with trigger jack and beeper
25-58926-01R	Straight connector no trigger jack and beeper
25-58926-02R	18" straight low profile connector
Power Supply	
50-14000-008R	110V - USA
50-14000-009R	220V - Europe
50-14000-010R	100V - APAC
Optional Accessories	
25-04950-01R	External push button trigger & cable (must use with trigger jack cable)
25-13176-01R	Photo sensor trigger & cable (must use with trigger jack cable)
KT-65578-01R	Adjustable Mounting Bracket