



Introduction

Product Overview

The MS5145 Eclipse™ is a single-line, hand-held laser scanner. Equipped with Honeywell's patented CodeGate® technology, Eclipse can be used in a wide variety of applications. CodeGate technology allows the user to easily target the desired bar code and complete the data transmission with a simple press of a button. This combination makes Eclipse a perfect selection for menu scanning, point-of-sale, document processing and inventory control.

With state-of-the-art scanning technology embedded inside, the MS5145 Eclipse has a longer working range and a wider scan field than a typical CCD. The width of the scan line grows as the scanner moves further away from bar codes. In addition, the laser beam pulses, making lining up bar codes easy and when the scanner senses a bar code (CodeSense® Mode), the laser beam automatically switches to scan mode and activates CodeGate to ensure high-speed scanning and accuracy.

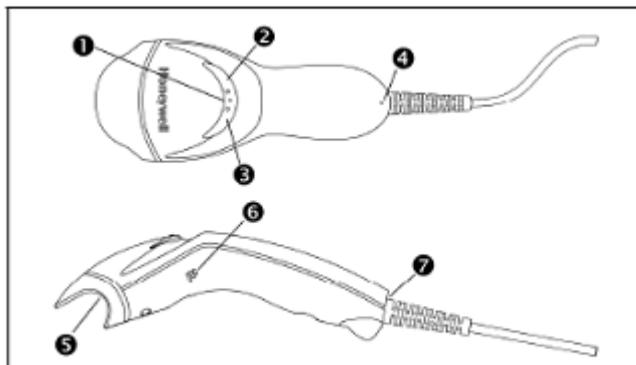
Many standard features are included such as: user configurable Flash ROM, PowerLink user-replaceable cables, MetroSet®2 and MetroSelect® configuration, and data editing (parsing).

Model Number	Interface
MS5145 – 00	Laser Emulation
MS5145 – 11	RS485 , RS232-TXD, RXD, RTS, CTS
MS5145 – 14	RS232 - TXD, RXD, RTS, CTS, DTR, DSR
MS5145 – 38	TTL RS232 Low Speed USB, Keyboard Emulation or Serial Emulation*
MS5145 – 40	Full Speed USB
MS5145 – 41	RS232/Light Pen Emulation
MS5145 – 47	Keyboard Wedge, Stand Alone Keyboard and TTL RS232 Transmit/Receive

* Configurable for Keyboard Emulation Mode or Serial Emulation Mode. The default setting is Keyboard Emulation Mode.

◆ Applicable for IBM® Host applications. Applicable for IBM® Host applications.

MS5145 Components



Item No.	Description
1	Mode Select Button/CodeGate Button (see page 13)
2	Red LED (see page 15)
3	Green LED (see page 15)
4	Pin Hole for Cable Release (see page 6)
5	Red Output Window (Laser Aperture)
6	Speaker (see page 14)
7	10-Pin RJ45, Female Socket (see page 31)

Figure 1. Scanner Components

Maintenance

Smudges and dirt on the unit's window can interfere with the unit's performance. If the window requires cleaning, use only a mild glass cleaner containing no ammonia. When cleaning the window, spray the cleaner onto a lint free, non-abrasive cleaning cloth then gently wipe the window clean.

If the unit's case requires cleaning, use a mild cleaning agent that does not contain strong oxidizing chemicals. Strong cleaning agents may discolor or damage the unit's exterior.

Cable Installation and Removal

Installation

1. Insert the cable's modular connector into the socket on the scanner.
2. Pull gently on the cable strain relief to ensure the cable is installed.

Note: If the PowerLink cable is not fully latched, the unit can power intermittently.

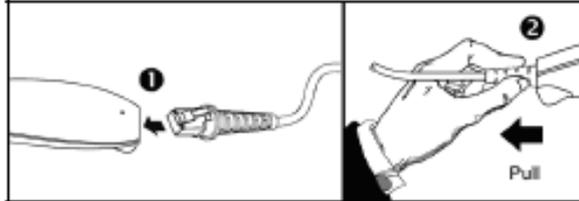


Figure 3.

Removal

Disconnect the power supply from the PowerLink cable and turn off power to the host system before removing the cable from the scanner.

1. Locate the small 'pin-hole' on the front side of the scanner near the end of the handle.
2. Bend an ordinary paperclip into the shape shown.
3. Insert the paperclip (or other small metallic pin) into the small 'pin-hole'. There will be a faint 'click' when the connector's lock releases.
4. Pull gently on the cable's strain-relief to remove the cable.

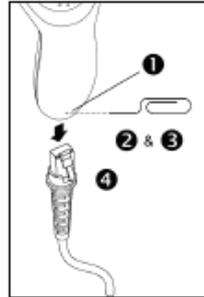


Figure 4.



Installation

RS232, Light Pen or Laser Emulation

1. Turn off the host system.
2. Plug the male, 10-pin RJ45 end of the PowerLink cable into the 10-pin socket on the MS5145.
3. Connect the 9-pin female end of the PowerLink cable to the appropriate communication port on the host device.
4. Plug the external power supply into the power jack on the PowerLink cable.
5. Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the equipment.
6. Connect AC power to the transformer.
7. Turn on the host system.

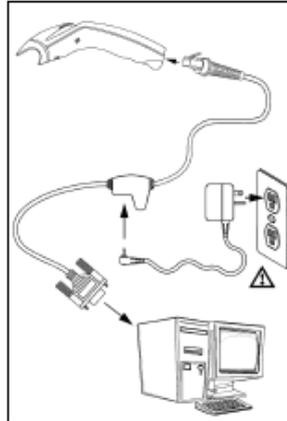


Figure 5. RS232, Light Pen, or Laser Emulation

Installation Notes

Plugging the scanner into the serial port of the PC does not guarantee that scanned information will appear at the PC. A software driver and correct configuration settings are also required for proper communications to occur.

Powering the MS5145 directly from the host device can sometimes cause interference with the operation of the scanner or the computer. Not all computers supply the same current. For this reason, using an external power supply is recommended. For additional information, contact a customer service representative.

All MS5145-00 scanners leave the factory with the Laser Emulation Mode enabled. If recall defaults is scanned while re-configuring the scanner the Laser Emulation Mode will no longer be enabled. Refer to the MS5145-00 Laser Emulation Mode section of the MetroSelect Single-Line Configuration Guide for information on enabling the Laser Emulation Mode.

 See caution on page 5.

Keyboard Wedge

1. Turn off the host system.
2. Plug the male, 10-pin RJ45 end of the PowerLink cable into the 10-pin socket on the MS5145.
3. Disconnect the keyboard from the host/PC.
4. Connect the Y ends of the PowerLink cable to the keyboard and the host's keyboard port. If necessary, use the supplied adapter cable to make the connections.
5. Plug the external power supply into the power jack on the Power Link cable.
6. Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the equipment
7. Connect AC power to the transformer.
8. Turn on the host system.

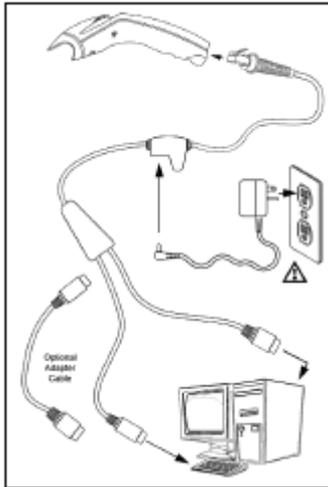


Figure 7. Keyboard Wedge

Installation Note

Powering the MS5145-47 directly from the computer can sometimes cause interference with the operation of the scanner or the computer. Not all computers supply the same current through the keyboard port, explaining why a scanner may work on one computer and not another. Contact a customer service representative if an external power supply is required.

 See caution on page 5.

Stand-Alone Keyboard

1. Turn off the host system.
2. Connect the 10-pin RJ45 male connector into the jack on the Eclipse. There will be a 'click' when the connection is made.
3. Connect the L-shaped plug of the power supply into the power jack on the PowerLink cable.
4. Make sure the AC input requirements of the power supply match the AC outlet. Connect the power supply into an AC outlet. The outlet should be near the equipment and easily accessible.
5. Connect the PowerLink cable to the keyboard port on the host system.
6. Turn on the host system.

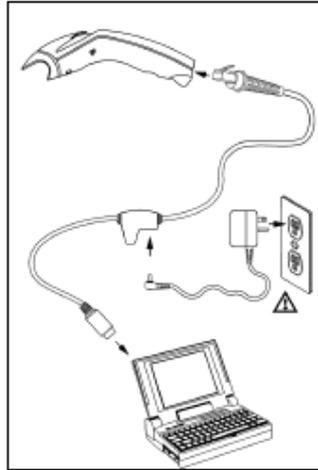


Figure 8. Stand-Alone Keyboard

Installation Note

Powering the MS5145-47 directly from the computer can sometimes cause interference with the operation of the scanner or the computer. Not all computers supply the same current through the keyboard port, explaining why a scanner may work on one computer and not another. Contact a customer service representative if an external power supply is required.

 See caution on page 5.

**USB: Low Speed USB (-38)
Full Speed USB (-40)**

1. Turn off the host system.
2. Connect the 10-pin RJ45 male connector of the USB cable into the jack on the Eclipse. There will be a 'click' when the connection is made.
3. Connect the other end of the USB cable to the host USB port.
4. Turn on the host system.

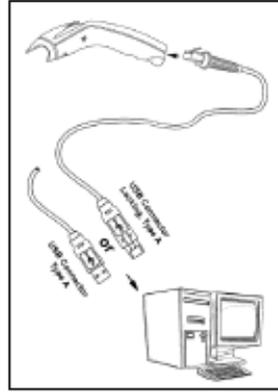


Figure 9. USB

Installation Notes

As a default, the MS5145-38 leaves the factory with USB Keyboard Emulation Mode enabled.

For information on configuring the MS5145-38 for USB Serial Emulation Mode, please refer to the USB section of the MetroSelect Single-Line Configuration Guide..

Plugging the scanner into a port on the host system does not guarantee that scanned information will be communicated properly to the host system. All Eclipse's are shipped already configured with a set of factory defaults. Please refer to the MetroSelect Single-Line Configuration Guide or MetroSet2's help files for instructions on changing the scanner's factory default configuration. The scanner and host system must use the same communication protocols.



See caution on page 5.



Scanner Operation

Modes of Operation

CodeGate®, Out-of-Stand

CodeGate activates when removed from the stand

Bar code data is transmitted when the button is pressed

Manual Activation Mode*, Out-of-Stand

Button activates laser

Bar code data is scanned and transmitted while button is held down

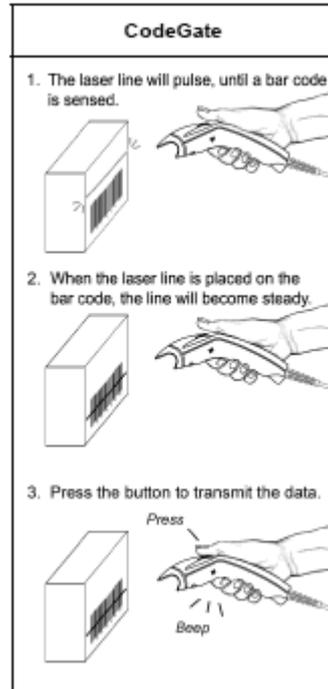


Figure 10. CodeGate Enabled

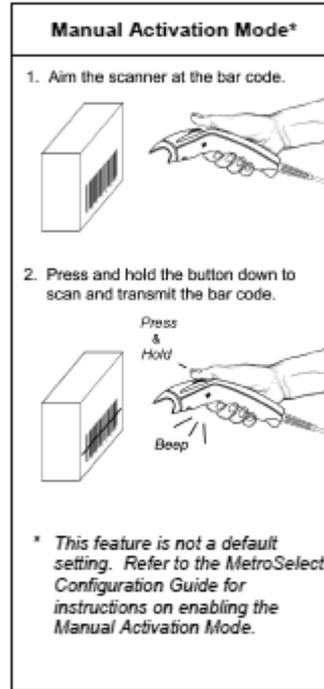


Figure 11. Manual Activation Mode

Depth of Field by Bar Code Element Width

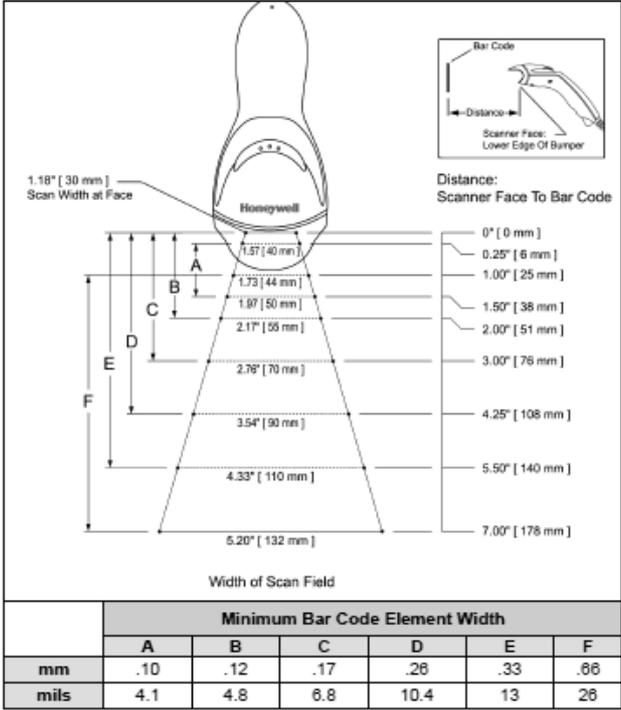


Figure 13. Depth of Field by Bar Code Element Width

Symptoms	Possible Causes	Solution
The unit powers up, but does not scan and/or beep.	The unit is trying to scan a particular symbology that is not enabled.	UPC/EAN, Code 39, interleaved 2 of 5, Code 93, Code 128 and Codabar are enabled by default. Verify the type of bar code being read has been selected.
The unit powers up, but does not scan and/or beep.	The bar code being scanned does not satisfy the configured criteria for character length lock or minimum length.	Verify the bar code being scanned falls into the configured criteria. The scanner defaults to a minimum of three-character bar code.
<i>TTL RS232 & Serial Emulation USB Interfaces</i>		
The unit scans a bar code, but locks up after the first scan and the red LED stays on.	The unit is configured to support some form of host handshaking but is not receiving the signal.	If the unit is setup to support ACK/NAK, RTS/CTS, XON/XOFF or D/E, verify that the host cable and host are supporting the handshaking properly.
The unit scans, but the data transmitted to the host is incorrect.	The unit's data format does not match the host system's requirements.	Verify the unit's data format matches that required by the host. Make sure that the unit is connected to the proper host port.
The unit beeps at some bar codes but NOT for others of the same bar code symbology.	The bar code may have been printed incorrectly.	Check if it is a check digit/ character/or border problem.
	The unit is not configured correctly for the type of bar code being scanned.	
	The minimum symbol length setting does not work with the bar code.	Check if the correct minimum symbol length is set.
<i>Keyboard Wedge Interface</i>		
The unit scans the bar code but there is no data.	The unit's configuration is not correct.	Make sure the scanner is configured for the appropriate mode.

Troubleshooting Guide

The following guide is for reference purposes only. Contact a customer service representative (see page 45) to preserve the limited warranty terms.

Symptoms	Possible Causes	Solution
<i>All Interfaces</i>		
The unit has no LEDs, beep or laser.	No power is being supplied to the unit.	Check the transformer, the outlet and power strip. Make sure the cable is plugged into the unit.
	No power is being supplied to the unit from host.	Some host systems cannot supply enough current to power the Eclipse. A power supply may be needed.
At power up the unit beeps two times and alternately flashes the LEDs.	There is a ROM failure.	A flash ROM upgrade is required.
At power up the unit beeps three times	There is a non-volatile RAM failure.	Contact a customer service representative.
At power up there is a continuous razz tone.	There has been a diagnostic failure.	
At power up there is a razz tone and the green LED flashes.	There is a VLD failure.	
At power up there is a razz tone and both LEDs flash.	There is a scanning mechanism failure.	
The unit scans, Communicates and beeps twice.	The same symbol timeout is set	Adjust the same symbol timeout for a longer time.
The unit powers up, but does not beep.	The beeper may be disabled or no tone has been selected.	Enable beeper and select a tone.

Symptoms	Possible Causes	Solution
The unit scans but the data is not correct.	The unit's configuration is not correct.	Make sure that the proper PC type AT, PS2 or XT is selected. Verify the correct country code and data format is selected. Adjust the inter-character delay symptom.
The unit is transmitting each character twice.	The unit's configuration is not correct.	Increase the interscan code delay setting. Adjust whether the F0 break is transmitted. It may be necessary to try this in both settings.
Alpha characters show as lower case.	The computer is in <i>Caps Lock</i> mode.	Enable the <i>Caps Lock</i> detect feature of the scanner to detect whether the PC is operating in <i>Caps Lock</i> .
Everything works except for a couple of characters.	These characters may not be supported by that country's key look up table.	Try operating the scanner in Alt mode
RS232 Interface		
The unit powers-up OK and scans OK but does not communicate properly to the host.	The com port at the host is not working or not configured properly.	Check to make sure the baud rate and parity of the scanner and the port match and that the configuration is looking for "RS232" data.
	The cable is not connected to the proper com port.	Check to make sure the unit is connected to the correct com port on the host device.
The host is receiving data but the data does not look correct.	The scanner and host may not be configured for the same interface parameters.	Check the scanner and the host are configured for the same interface parameters.
Characters are being dropped.	Inter-character delay needs to be added to the transmitted output.	Add some inter-character delay to the transmitted output by using the MetroSelect Single-Line Configuration Guide.

Regulatory Compliance

Safety

ITE Equipment

IEC 60950-1, EN 60950-1

Laser

Laser Class 1: IEC 60825-1:1993+A1+A2,
EN 60825-1:1994+A1+A2



Caution

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure. Under no circumstances should the customer attempt to service the laser scanner. Never attempt to look at the laser beam, even if the scanner appears to be nonfunctional. Never open the scanner in an attempt to look into the device. Doing so could result in hazardous laser light exposure. The use of optical instruments with the laser equipment will increase eye hazard.

Atención

La modificación de los procedimientos, o la utilización de controles o ajustes distintos de los especificados aquí, pueden provocar una luz de láser peligrosa. Bajo ninguna circunstancia el usuario deberá realizar el mantenimiento del láser del escáner. Ni intentar mirar al haz del láser incluso cuando este no esté operativo. Tampoco deberá abrir el escáner para examinar el aparato. El hacerlo puede conllevar una exposición peligrosa a la luz de láser. El uso de instrumentos ópticos con el equipo láser puede incrementar el riesgo para la vista.

Attention

L'emploi de commandes, réglages ou procédés autres que ceux décrits ici peut entraîner de graves irradiations. Le client ne doit en aucun cas essayer d'entretenir lui-même le scanner ou le laser. Ne regardez jamais directement le rayon laser, même si vous croyez que le scanner est inactif. N'ouvrez jamais le scanner pour regarder dans l'appareil. Ce faisant, vous vous exposez à une rayonnement laser qui est dangereux. L'emploi d'appareils optiques avec cet équipement laser augmente le risque d'endommagement de la vision.

Achtung

Die Verwendung anderer als der hier beschriebenen Steuerungen, Einstellungen oder Verfahren kann eine gefährliche Laserstrahlung hervorrufen. Der Kunde sollte unter keinen Umständen versuchen, den Laser-Scanner selbst zu warten. Sehen Sie niemals in den Laserstrahl, selbst wenn Sie glauben, daß der Scanner nicht aktiv ist. Öffnen Sie niemals den Scanner, um in das Gerät hineinzusehen.

Wenn Sie dies tun, können Sie sich einer gefährlichen Laserstrahlung aussetzen. Der Einsatz optischer Geräte mit dieser Laserausrüstung erhöht das Risiko einer Sehschädigung.

⚠ Attenzione

L'utilizzo di sistemi di controllo, di regolazioni o di procedimenti diversi da quelli descritti nel presente Manuale può provocare delle esposizioni a raggi laser rischiose. Il cliente non deve assolutamente tentare di riparare egli stesso lo scanner laser. Non guardate mai il raggio laser, anche se credete che lo scanner non sia attivo. Non aprite mai lo scanner per guardare dentro l'apparecchio. Facendolo potete esporvi ad una esposizione laser rischiosa. L'uso di apparecchi ottici, equipaggiati con raggi laser, aumenta il rischio di danni alla vista..

EMC

Emissions

FCC Part 15, ICES-003, CISPR 22, EN 55022

Immunity

CISPR 24, EN 55024

Note: Immunity performance is not guaranteed for scanner cables greater than 3 meters in length when fully extended. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Class A Devices

The following is applicable when the scanner cable is greater in length than 3 meters (9.8 feet) when fully extended:

Les instructions ci-dessous s'appliquent aux cables de scanner dépassant 3 mètres (9.8 pieds) de long en extension maximale:

Folgendes trifft zu, wenn das Scannerkabel länger als 3 Meter ist:

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense. Any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Notice

This Class A digital apparatus complies with Canadian ICES-003.

Remarque

Cet appareil numérique de classe A est conforme à la norme canadienne NMB-003.

European Standard

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Funkstöreigenschaften nach EN55022:1998

Warnung!

Dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen. In diesem Fall kann vom Betreiber verlangt werden, angemessene Massnahmen durchzuführen.

Standard Europeo

Attenzione

Questo e' un prodotto di classe A. Se usato in vicinanza di residenze private potrebbe causare interferenze radio che potrebbero richiedere all'utilizzatore opportune misure.

Attention

Ce produit est de classe "A". Dans un environnement domestique, ce produit peut être la cause d'interférences radio. Dans ce cas l'utiliseteur peut être amené à prendre les mesures adéquates.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Class B Devices

The following is applicable when the scanner cable is less than 3 meters (9.8 feet) in length when fully extended:

Les instructions ci-dessous s'appliquent aux cables de scanner ne dépassant pas 3 mètres (9.8 pieds) de long en extension maximale:

Folgendes trifft zu, wenn das Scannerkabel kürzer als 3 Meter ist:

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna

Increase the separation between the equipment and receiver

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected

Consult the dealer or an experienced radio/TV technician for help

Notice

This Class B digital apparatus complies with Canadian ICES-003.

Remarque

Cet appareil numérique de classe B est conforme à la norme canadienne NMB-003.



Patents

This Honeywell product may be covered by, but not limited to, one or more of the following US Patents:

U.S. Patent No.;

5,216,232; 5,260,553; 5,340,971; 5,424,525; 5,484,992;
5,525,789; 5,528,024; 5,616,908; 5,627,359; 5,661,292;
5,777,315; 5,789,730; 5,789,731; 5,811,780; 5,828,048;
5,925,870; 6,029,894; 6,209,789; 6,227,450; 6,283,375;
6,347,743;
6,607,133; 6,619,549; 6,874,689; 6,975,456; 6,976,632;
7,017,813; 7,044,383;
7,124,950; 7,156,310;

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Other worldwide patents pending.

All features can be enabled or disabled using the Multi-Code Method.

A feature marked with a tilde (~) requires the Multi-Code Method.

1. Power-up the scanner.
2. Scan the *enter/exit configuration mode* bar code (3 beeps)
3. Scan the bar code for the desired feature (1 beep).
Multiple features can be enabled/disabled before scanning the *enter/exit configuration mode* bar code.
4. Scan the *enter/exit configuration mode* bar code (3 beeps) and save the new configuration. To abort a configuration change, power off the scanner before scanning the *enter/exit* code.

³999999 Enter / Exit Configuration Mode



³999998

Recall Defaults



³846600

Enable Factory Defaults



Scan this barcode followed by recall Defaults code to enable and load Factory Defaults.

Suffix

Enable CR Suffix

³116613



The scanner transmits a carriage return after each bar code.

Disable CR Suffix

³116603



Enable LF Suffix

The scanner transmits a line feed after each barcode .

Disable when Keyboard wedge defaults are loaded

³116612



Disable LF Suffix

³116602



Enable Tab Suffix

The scanner will transmit a TAB (ASCII 09H) after the each barcode.

³116610



³116600

Disable Tab Suffix



Additional Decode Features

Minimum Symbol Length – Single-line default is 3 digit, Combine this code with the proper code bytes (on page 16–1), to specify the minimum number of characters in all non-UPC/EAN bar codes.

³901800



Symbol Length Lock – Combine this code with the proper code bytes, to lock the bar code's length into place.

³901900



The features that use this code byte for Configuration require that the scanner be in configuration mode. The Enter/Exit Configuration Mode bar code must be scanned before starting the configuration cycle.

Example:User configurable Minimum Characters can then be saved in to the scanner by scanning the appropriate code byte character barcodes.

To Program Minimum Symbol Length to one

1. Enter/Exit Configuration Mode (3 beeps)
2. Configurable Prefix (1 beep)
3. Code Byte 0 (1 beep)
4. Code Byte 1 (2 beeps)
5. Enter/Exit Configuration Mode (3 beeps)

Code Bytes 0–9



³0

Code Byte 0



³1

Code Byte 1



¹2

Code Byte 2



¹3

Code Byte 3



¹4

Code Byte 4



¹5

Code Byte 5



¹6

Code Byte 6



¹7

Code Byte 7



¹8

Code Byte 8



¹9

Code Byte 9

Trigger

CodeGate Active Out of Stand(Manual Mode- Default)

³118713



CodeGate Inactive Out of Stand(Automatic/ continuous laser on)

³118703



Interfaces

Enable USB Interface



Enable USB Serial Emulation Mode



Enable RS232 Interface



Load Keyboard Wedge Defaults



Enable Keyboard Wedge Emulation



Country/scan code Table Select

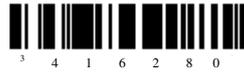
USA Keyboard

³416260



³416280

Switzerland Keyboard



Spain Keyboard

³416250



Italy Keyboard

³416240



German Keyboard

³416230



France Keyboard

³416220



UK Keyboard

³416210



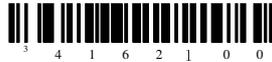
Belgium Keyboard

³416200



Japan Keyboard

³4162100



IBM 4700 Financial Keyboard

³416270



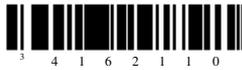
Sweden/Finland Keyboard

³416290



Slovenian Keyboard

³4162110



Keyboard/System Type

AT Keyboard – Includes IBM PS/2 and compatible models
50,55,60,80

³216215



XT Keyboard - Special Firmware in Voyager.

³216205



PS/2 Keyboard – Includes IBM PC and compatible model
30,70,8556

³216225



Enable Terminal Keyboard Emulation

³216235



For any further configuration can download the
Metro select configuration guide from the below link.
http://www.honeywellaidc.com/Site.aspx/ap/en/product_center/product_support/?category=5 &product=296