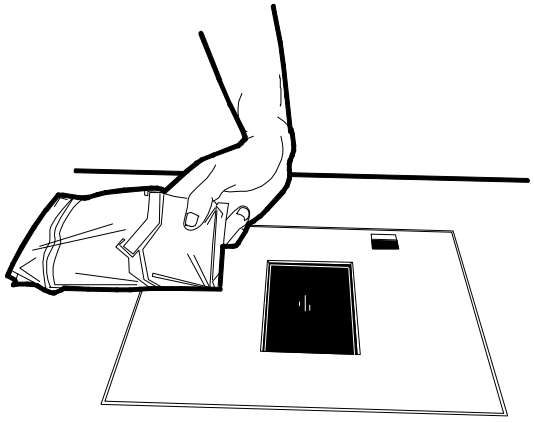
RealScan 7882 Installation and Owner Guide



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497-0419630
Release F
September 5, 2002

Information Products
RSD-Atlanta

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Contents

Revision Record

Date	Pages	Issue	Remarks
11/27/00	All	A	First printing.
02/01/01	All	B	Updated to current product.
03/19/01	All	C	Updated to current product.
04/26/01	12, 13, 32-37	D	Changed parameter default values
02/26/02	7, 16	E	Added USB connection
	23		Updated Plastic Top Plate Installation
09/05/02	All	F	Updated to current product.

Obtaining Additional Information

Other Information Products	
Order Number	**Title**
B005-0000-1305	NCR RealScan 7882 User Guide
B005-0000-1306	NCR RealScan 7882 Repair Guide
BST0-2121-74	NCR Scanner Programming Tags
BD20-1074-A	NCR Scanner / Scale Interface Programmer's Guide

How To Obtain Information Products

Web Sites

- http://inforetail.AtlantaGA.NCR.COM (NCR only)
- http://www.info.NCR.COM (Anyone)

Online Order

- Connect System (NCR only)

Phone Order

- 800-543-2010 (US area)
- 622-3727 (VOICEplus)
- 44-181-242-5350 (International)

Fax Order

- 937-445-6245 (US area)

44 (0) 20 8 242 5355 (International)

E-Mail

- IP136695@exchange.DaytonOH.ncr.COM (US area)
- M0500005@exchange.UnitedKingdom.NCR.COM (International)

Mail Order

- NCR Corporation IPP-Dayton
  1529 Brown St.
  IPP EMD-2
  Dayton, OH 45479
  USA
- NCR Corporation
  915 High Road
  North Finchley
  London N12 0HN United Kingdom

Obtaining Technical Assistance

Technical assistance is available as follows.

- Technical assistance in the United States: 1-800-262-7782
- Technical assistance in other countries: call your local NCR office
- To order parts: 1-800-438-7830

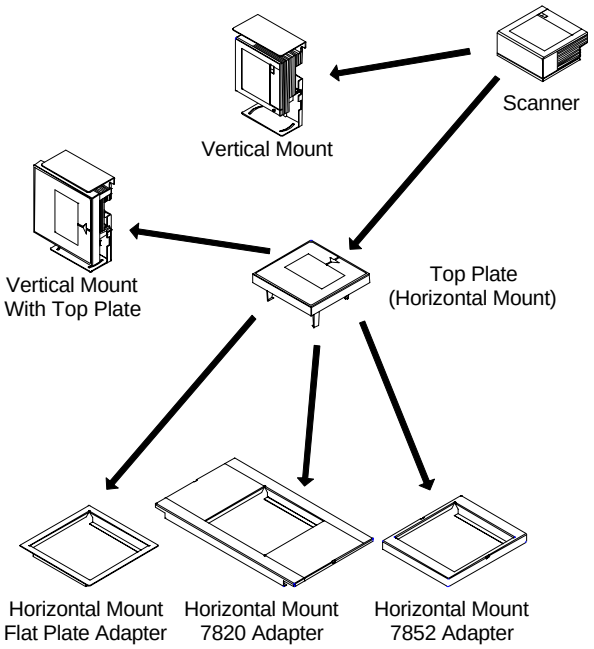
Note: If you find any defective parts during installation of a new scanner, contact the Customer Satisfaction Hotline at one of the following.

- Phone: 1-800-528-8658 (USA)
- Phone: 770-623-7400 (International)
- E-mail: CustomerSat.Retail@NCR.com

RealScan 7882 Mountings

RealScan 7882

The NCR RealScan 7882 is a small, compact laser scanner with many of the same features as the larger scanners. It can be mounted horizontally in a checkstand or vertically above the checkstand. Various mounts are available for the RealScan 7882.



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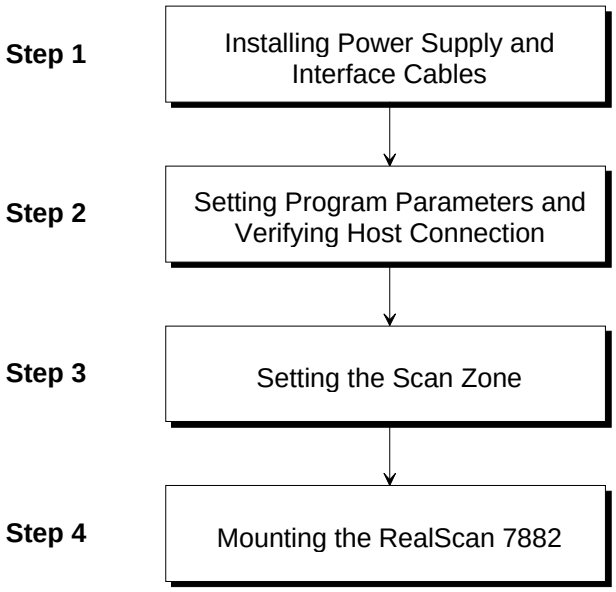
Installation Instructions

When installing a RealScan 7882, it is recommended that you first mount the Power Supply and run all the cables. After connecting the unit to the host terminal, make any necessary programming changes and scan some good tags to verify that the scanner is communicating with the host terminal. After verifying that everything is working correctly, mount the unit in the checkstand. If the RealScan 7882 does not work properly, refer to the *Correcting Scanner Problems* section in this document.

The following flowchart shows the sequence of installation steps. Detailed descriptions of each step follow.



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Step 1 - Installing Power Supply and Interface Cables

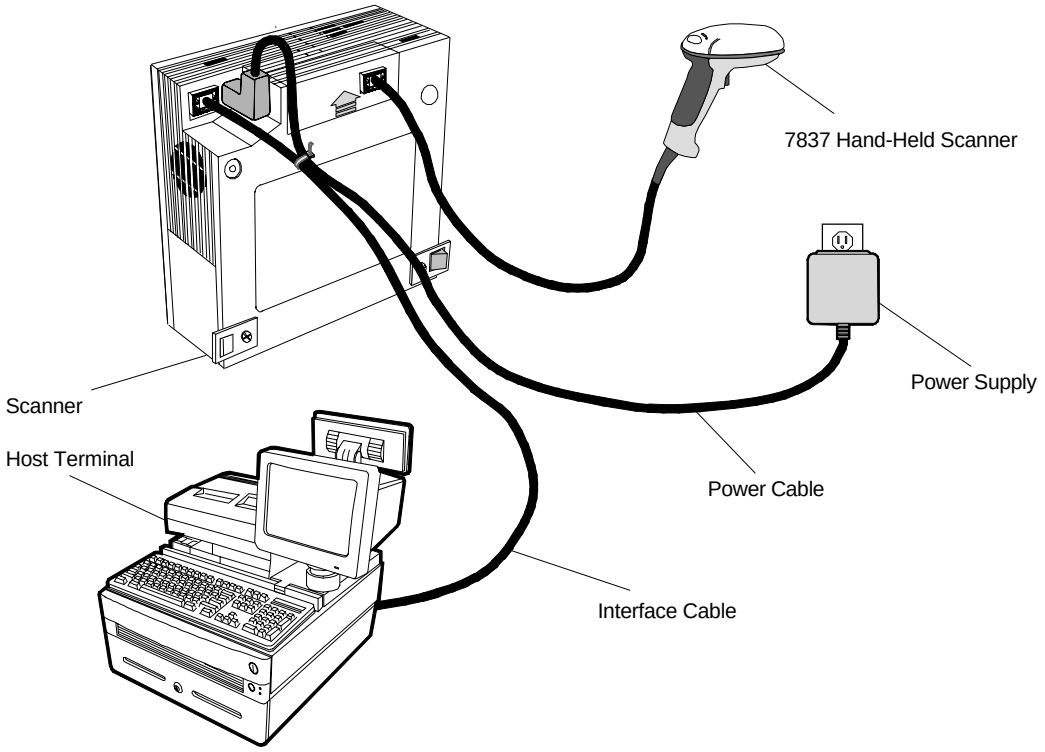
Connecting the Cables to an NCR RealScan 7882

The RealScan 7882 can be powered through a wall adapter Power Supply or directly from the host terminal. The RealScan 7882 automatically detects which power source is being used. In either case, the input voltage to the RealScan 7882 should be +12Vdc. The RealScan 7882 current never exceeds 600mA. How the cables are connected to the RealScan 7882 depend on the type of interface connection being used.

Standard Interface Connection

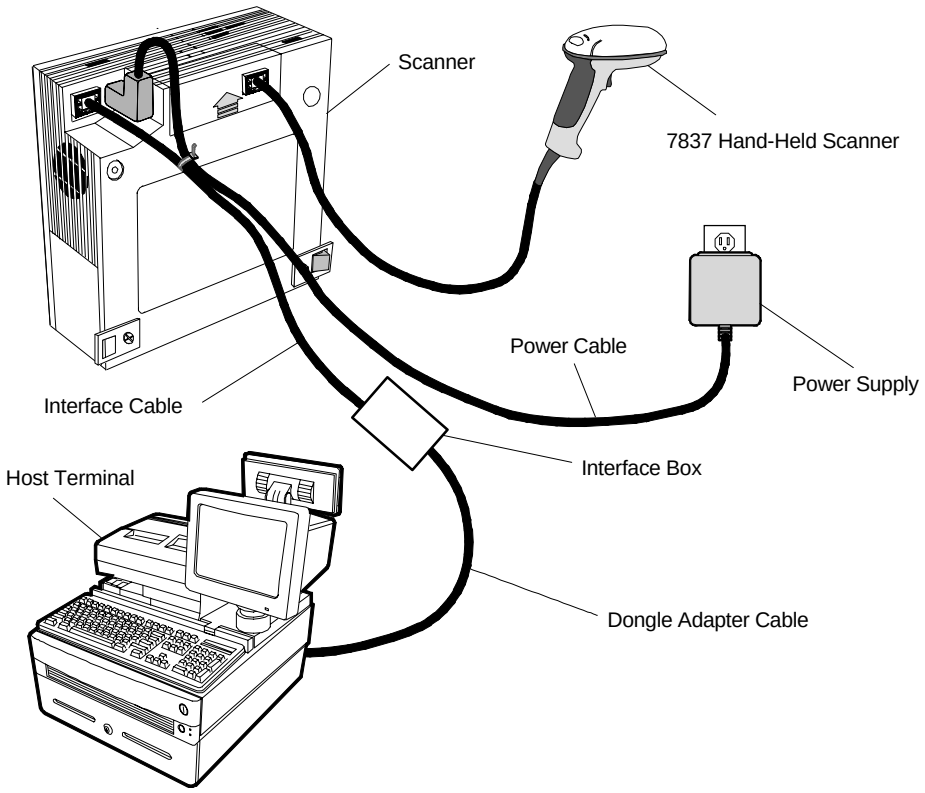
1. Install the Interface Cable between the RealScan 7882 and the host terminal.
2. If using the wall adapter Power Supply, locate it in the checkstand at least 10 inches (25.4 cm) from the RealScan 7882 installed position. Be sure to locate the Power Supply where spilled liquids cannot fall onto it.
3. Fasten a Tie-Wrap around the Power Cable and the Interface Cable to help secure the Power Cable.

Note: If the RealScan 7882 is to receive power from the host terminal, omit steps 2 and 3.



USB Interface Connection

Connecting a RealScan 7882 Scanner to a USB port on a host terminal requires two cables. One end of the Dongle Adapter Cable connects to the host terminal. The other end has an Interface Box that contains a printed circuit board with all the necessary circuitry. The host terminal supplies power for this circuitry. An Interface cable connects the scanner to this box. A Power Supply connects to the scanner.



Interface Cable

1416-C734-0040 Interface Cable

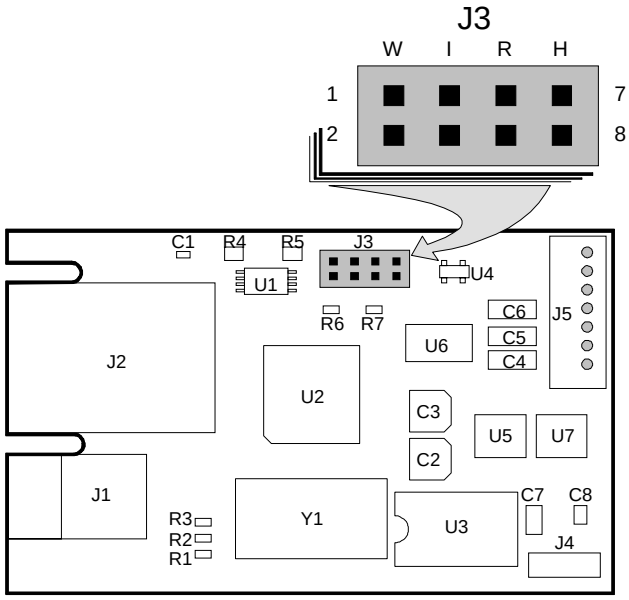
Dongle Adapter Cables

1416-C731-0004 Latching, Double USB

J3 in the Interface Box on the end of the Dongle Adapter Cable contains a shunt that must be correctly installed for the host terminal. The cable is shipped from the factory with the shunt on pins 3 and 4. The following four positions are available.

- Pins 1 & 2 – Wedge
- Pins 3 & 4 – IBM
- Pins 5 & 6 – RS-232
- Pins 7 & 8 – HID

The cover on the Interface Box latches together along one side. Carefully pry open the latched edge to open the Interface Box. Check the shunt position on J3 and change as needed. Close the Interface Box cover.



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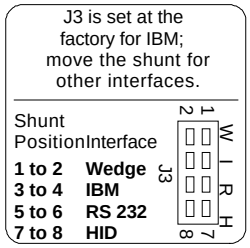
The following label is attached to the outside of the Interface Box. It identifies the various interface settings.



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Auxiliary RS-232 Port

The Auxiliary RS-232 Port provides a connection for an RS-232 device such as a RealScan 7837 Hand-Held Scanner. The following table gives wiring information about the connector.

Auxiliary RS-232 Port	
Pin Number	**Signal Name**
1	+5 Vdc
2	NC
3	GND
4	TXD
5	RXD
6	+ 12 Vdc
7	CTS
8	RTS
9	Frame
10	Frame

NCR RealScan 7835/7836

- 1416-C313-0040 – Interface Cable
- 1416-C397-0010 – Extension Cable

NCR RealScan 7837

- 1416-C445-0025 – Interface Cable
- 1416-C397-0010 – Extension Cable

The NCR 7882 auxiliary RS-232 port hardware is limited to the following fixed parameters.

Baud Rate	4800 (9600 before SN 40-36009427)
Parity	Odd
Stop Bits	1
Number of Data Bits	7
Hardware Handshaking	None
Terminator Character	CRLF
UPC-A Prefix Character	d
UPC-E Prefix Character	d
EAN 8 Prefix Character	d
EAN 13 Prefix Character	d
Code 128 Prefix Character	f
Code 39 Prefix Character	a
Interleaved 2 of 5 Prefix Character	b

Note: ASCII data cannot be sent from the auxiliary RS-232 port when the RealScan 7882 is set for OCIA Short format. In this case, the RealScan 7882 generates an error beep.

When a 7836 is attached to a RealScan 7882, the 7836 requires the following programming.

- Reset to serial (default values) – Label ZA
- Enable code ID (default values) – Label FB

Step 2 - Setting Program Parameters and Verifying Host Connection

Now you need to turn on the NCR RealScan 7882. After making any necessary program changes, scan a few tags to verify that the RealScan 7882 is communicating with the host terminal.

Turning on the RealScan 7882

The RealScan 7882 does not have an On/Off switch. Use the circuit breaker switch in the checkstand that supplies power to the unit as the On/Off switch. Put this switch in the On position.

Programming the Communication Parameters

Caution: Some host terminals can corrupt the RealScan 7882 program if they are running and are connected to the RealScan 7882 while you are making program changes. Either turn off the host terminal or disconnect the interface cable before scanning any programming tags.

If the Interface Cable is provided as a kit rather than being included with the RealScan 7882, you can set the communication parameters by scanning the bar code on the label on the cable package. Standard defaults are set for most RS-232 or OCIA cables. If the cable is for a specific host terminal, all the necessary parameters required for that host terminal are set. The bar code label on the Interface Cable package must be the first bar code scanned after applying power to the RealScan 7882.

If the Interface Cable came with the RealScan 7882, the communication parameters are probably correct and you should not need to make any changes to these parameters. However, if the RealScan 7882 does not communicate with the host terminal, scan the appropriate tag from the following set of communication protocol tags.

Note: When scanning bar codes on the following pages, be sure to completely cover all bar codes except the one you are scanning.

OCIA Single Cable
NCR 2127, 2154, 2155, 2156, 2157, 2760, 7050, 7051, 7052, 7053, 7054, 7450, 7070

RS-232
NCR 2170, 7452, 7445
ICL 9518/200, 9520/150,
MicroBilt MB-8010 Checkreader,
9-Pin D Shell, 6-Pin Modular

IBM Format
IBM 4683/4 with Port 17,
4694 Models 244/245 Port 9A,
4694 Models 001,004,024 Port 9E,
4693, 4682/3/4 Port 5B

OCIA Short Format
NCR 2113, 2126, 7058

OCIA Long Format
NCR 1255, 2151, 2152, 2552, 2557, 2950

RS-232 Beetle
SNI Beetle 3L

RS-232 Gilbarco
Gilbarco Controller

RS-232 Ruby
Verifone Ruby (4M)

RS-232 Wayne
Wayne Controller

Programming Defaults

Scanning the **Default** programming tag sets most program parameters to factory defined values as shown in the following chart. However, some parameters do not have default values so they are not changed, they stay as they are programmed.

01 Communications Protocol	
Protocol	No default value – remains as programmed
11 Good Read Tone	
Tone On/Off	On
Tone Frequency	Choice 6 of 8 Levels
Tone Length	Choice 3 of 16 Levels
Tone Volume	Choice 4 of 8 Levels
Not-On-File Volume	Choice 2 of 8 Levels
12 Timers	
Lockout Time	750 Milliseconds
Restart Lockout Timer	Off
Active Time	15 Minutes
13 Bar Codes – 1	
UPC/EAN	Enable
Version D	Disable
Extend UPC-A To EAN-13	Disable
Extend UPC-E To UPC-A	Disable
Periodical Codes	Disable
Periodical Code Extension	2-Digit & 5-Digit
Send Data	Data As Decoded
14 Bar Codes – 2	
Code 39	Disable
Minimum Characters Allowed	8
Full ASCII	Disable
Check Digit Present	Disable
Transmit Check Digit	Disable
Allow 1- or 2-Character Tags	Disable
15 Bar Codes – 3	
Interleaved 2 of 5	Disable
Bar Code Length	Range Check
Value 1	08
Value 2	16
Check Digit Present	Disable
Transmit Check Digit	Disable
17 Bar Codes – 4	
Code 128	Disable
Minimum Data Characters	3
UCC 128	Disable

16 Label Identifiers

Identifier Type	Unique Prefix
Common Byte 1	5D
Common Byte 2	42
Bar Code Type	No Default value – remains as programmed

	UPC-A	UPC-E	EAN-8	EAN-13	Code 39	Code 128	I 2 of 5
Common Byte	0	0	0	0	2	2	2
Unique Identifier	41 Hex	45 Hex	46 Hex	46 Hex	31 Hex	33 Hex	32 Hex

20 RS-232 Parameters – 1

Baud Rate	9600
Parity	Odd
Stop Bits & Character Length	1 Stop Bit, 7-Bit Character
Handshake	RTS High Wait For CTS

21 RS-232 Parameters – 2

BCC Options	Disable
Interface Control	None
Check Digit	Enable UPC-A, Enable EAN-8, Enable EAN-13, Disable UPC-E

22 RS-232 Prefix Byte

Prefix Byte	Disable
ASCII Code	02

23 RS-232 Terminator Byte

Terminator Byte	Enable
ASCII Code	03

24 RS-232 Communications Options

Message Delay	10 Milliseconds
Normal Or Eavesdrop Mode	Normal Mode

21 Miscellaneous Parameters

IBM Tone Control	Enable
IBM Rexmit Control	3 Times
IBM Tag Data Format	Hex

Programming for USB Connection

The NCR RealScan 7882 must be properly programmed when using the USB Dongle connection to the host terminal. This programming depends on the type of host terminal being used.

RS-232 Communications

The RealScan 7882 must be programmed for RS-232 communications protocol and some of the RS-232 parameters must be set to specific values. Other parameters may be set as required by the host terminal. Set the required program parameters by scanning the following sequence of programming tags. These must be the first tags scanned after supplying power to the unit.

1. **Default** – sets all parameters to standard default values.
2. **Programming Mode** – puts scanner in base programming state.
3. **Hex 1**, **Hex 0**, **Hex E**, **Hex 0** – sets the required RS-232 programming parameters.
   - RS-232 communications protocol
   - 9600 baud
   - Odd parity
   - 1 stop bit, 7-bit character
4. Change any other parameters as required by the host terminal.
5. **Save and Reset** – saves the program just entered and resets the scanner.

The host terminal software may now be configured to use the communication port assigned by the IO Network driver when the Dongle Adapter Cable was plugged into the USB port.

IBM Communications

The host terminal should assign the port and associate the scanner with the application when the USB connection is made. When programming a RealScan 7872 for IBM USB communications, all parameters are set to the standard default values, and the communications protocol is set to IBM USB. This is accomplished by scanning the following sequence of programming tags. These must be the first tags scanned after supplying power to the unit.

1. **Default** - sets all parameters to standard default values.
2. **Programming Mode** tag - puts scanner in base programming state.
3. **Hex 1**, **Hex 0**, **Hex D** - sets the communication protocol to IBM USB.
4. **Hex 4**, **Hex 8**, **Hex 5** – turns off configuration message processing.
5. Change any other parameters as required by the host terminal.
6. **Save and Reset** - saves the program just entered and resets the scanner.

Making Other Program Changes

If you still need to make program changes after setting the communication parameters, you can enter information directly from the Programming Worksheets. The Programming Worksheets, located at the back of this book, identify all the available program parameters. Each worksheet relates to a specific programming mode. Most programming options have defaults, identified by a heavy box, that are determined at the factory. Scanning the **Default** tag as the first tag after applying power to the RealScan 7882 sets the parameters to these values.

Changing the RealScan 7882 program is accomplished by scanning the proper sequence of programming tags. Following are three major steps for making program changes.

1. Enter the Base Programming State by scanning the **Programming Mode** tag as the first tag after applying power to the RealScan 7882.
2. Select a Programming Worksheet and enter its parameter data by scanning the appropriate Hex tags.
3. Save the program by scanning the **Save and Reset** tag.

Note: In most instances the factory determined defaults are the correct parameter setting. However, if you do need to make changes, it is recommended that you first set all parameters to default values, then make any necessary changes to the appropriate parameters.

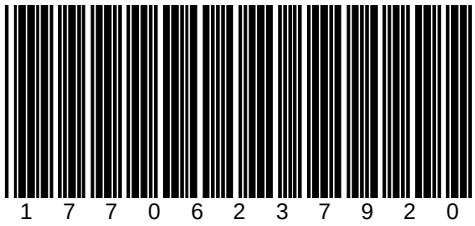
Scan Sample Tags

Now you should scan some sample tags to verify that the RealScan 7882 is communicating with the host terminal. Following are four good tags that you can use. After verifying that the RealScan 7882 is communicating properly with the host terminal, continue with the installation.

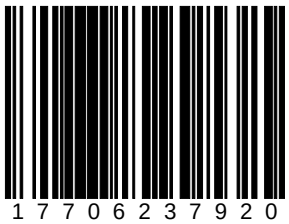
Note: For maximum performance, full size labels must be used. The *UPC Symbol Specification Manual* gives the exact size requirements for UPC labels. If the bar height is less than specified, more precise presentation to the scanner is required, reducing productivity.

UPC-A

Code 39



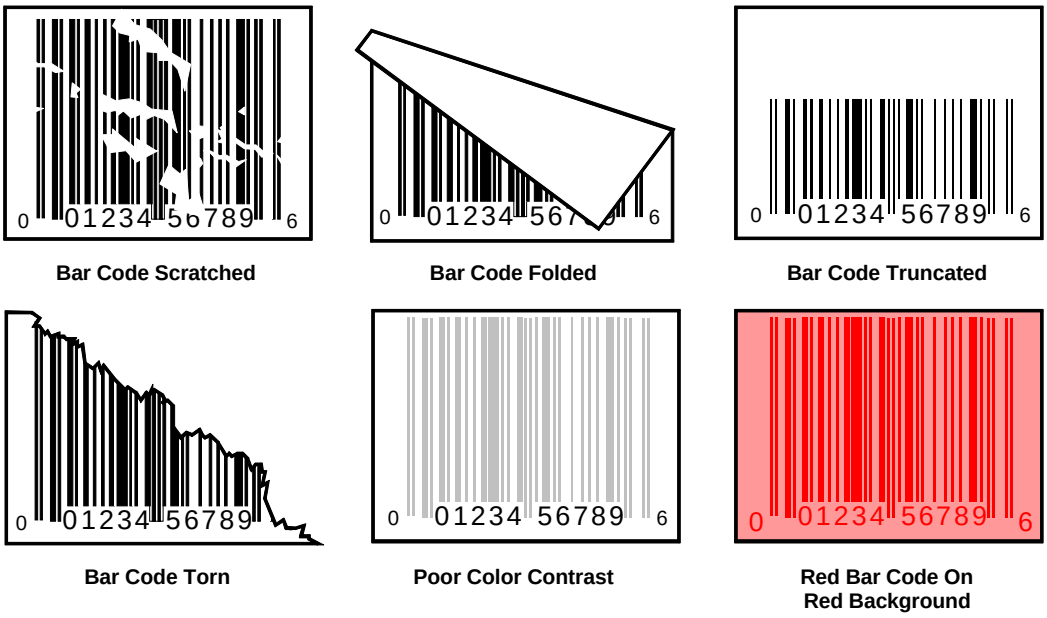
Code 128



Interleaved 2 of 5

Determining Label Quality

Many labels in a typical retail environment are unreadable. The following illustration shows some of the common problems. Vendors and printers regularly supply products to the market with bar codes that are over-printed, under-printed, or truncated. Some labels have missing margins. Others may be printed around the corners of packages, or on media not likely to remain flat when picked up.



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The readability of a label depends on variables such as size, placement, color, paper type, ink viscosity, and package coatings. The middle of a printing run can yield erroneous labels due to the many variants involved. In particular, poor color contrast and marginal print quality can make a label hard to read.

UPC bar code requirements are identified in the **UPC Symbol Specification Manual** that is published by the Uniform Code Council, Inc. Contact the following for a copy of this document.

Uniform Code Council, Inc.
8163 Old Yankee Road, Suit J
Dayton, OH 45458
Phone: 513-435-3870

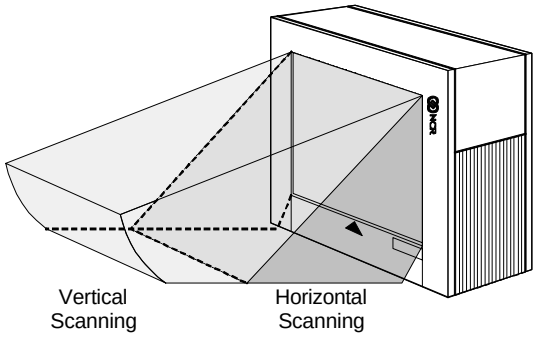
Contact the following for information on Code 39 or "3 of 9" bar code labels.

AIM – USA
634 Alpha Dr.
Pittsburgh, PA 15238-2802
Phone: 412-963-8588

EAN bar code requirements are identified in **General Specification for Article Symbol Marking**, Copyright EAN-1977.

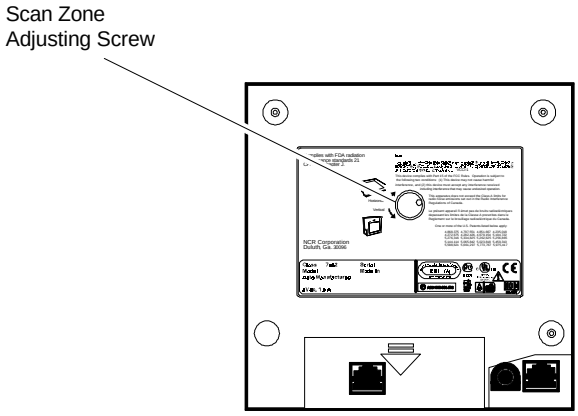
Step 3 - Setting RealScan 7882 Scan Zone

The scan zone on a NCR RealScan 7882 Scanner can be set to horizontal or vertical. Changing the scan zone changes the angle of the scan lines coming from the scanner.



16011

You change the scan zone by turning the screw on the bottom of the cabinet. Be sure to turn the screw all the way in one direction or the other, do not leave it turned part way.



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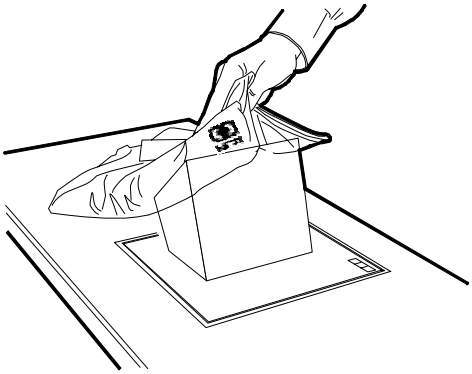
When selecting the scan zone, you must also consider how you are mounting the scanner, horizontally or vertically. This permits you to optimize the performance for your particular installation. Following are four common installations that identify the installation type and the scan zone setting. They are given in order of scanning efficiency with the first being the most efficient, and the last being the least.

Horizontal - Pass-by Scanning

This installation provides the most efficient way to scan items. It is typically used in checkouts where speed is extremely important. In this installation, the operator slides items from the input area on the checkstand, across the scanner, and to the output area on the checkstand.



Typical Installation -
Hyper/Super Market

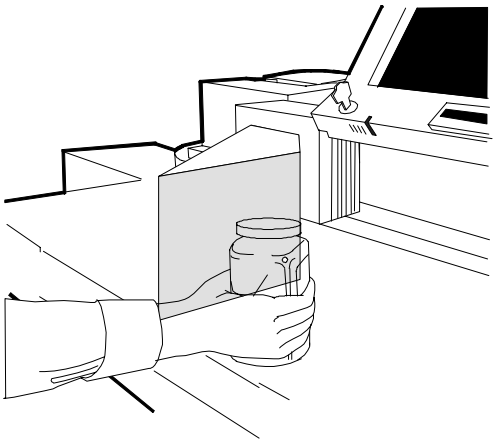
Scan Zone - Horizontal

Installation - Horizontal

16012

Vertical - Pass-by Scanning

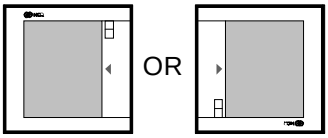
This installation is used where the checkstand is not large enough to mount the scanner horizontally, but pass-by scanning is needed. In this installation, the operator slides items from the input area on the checkstand, past the scanner, and to the output area on the checkstand.



Typical Installation -
Drug Stores
Super Market in Europe
With Operator Seated

Scan Zone - Horizontal

Installation - Vertical



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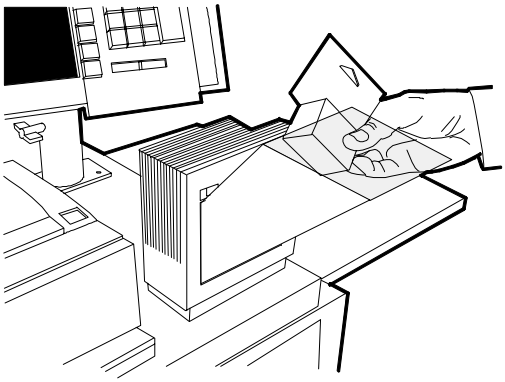
Vertical - Presentation Scanning from Top

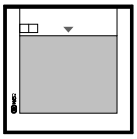
This installation is used on small checkout counters that do not have enough room for pass-by scanning. Here the operator picks up the item, presents it toward the top of the scanner, and then bags the item all in one motion.



Typical Installation - Specialty Store

Scan Zone - Vertical

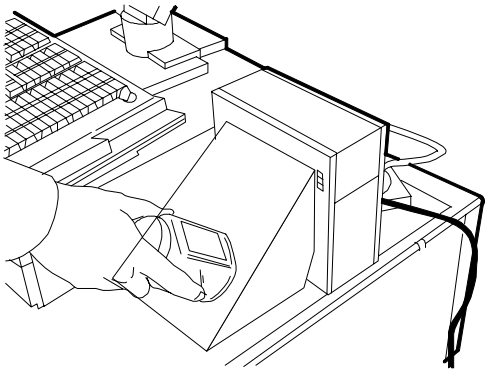
Installation - Vertical



16014

Vertical - Presentation Scanning from Bottom

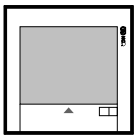
This installation is used on very small checkout counters. In this installation the operator picks up the item, presents it toward the bottom of the scanner, and then bags the item all in one motion.



Typical Installation - Convenient Store

Scan Zone - Vertical

Installation - Vertical



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Step 4 - Mounting the RealScan 7882

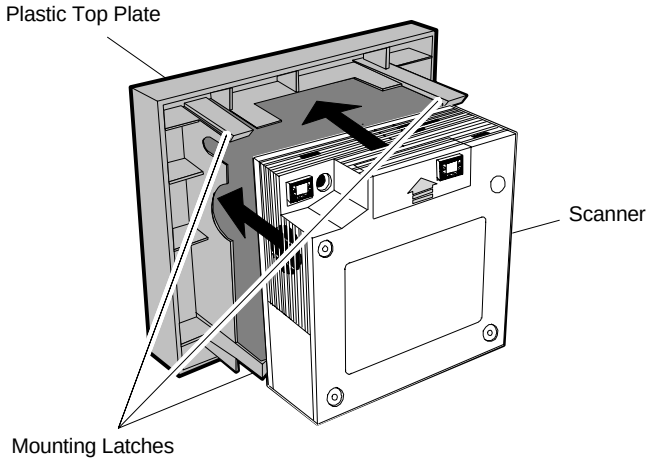
Rubber Feet

The NCR RealScan 7882 Scanner is supplied with rubber feet that can be attached to the sides of the cabinet. This permits the scanner to sit on the checkstand in a vertical position without being mounted to the Vertical Mounting Bracket. There are round recesses in each side of the cabinet that accept the rubber feet. Remove the paper backing from the rubber feet and stick them to the cabinet in the round recesses.

Plastic Top Plate

Your installation may use a Plastic Top Plate. Make sure no rubber feet are attached to the cabinet.

1. Properly align the scanner with the Plastic Top Plate.
2. Fasten the scanner to the Top Plate making sure that all four latches are securely latched around the scanner.



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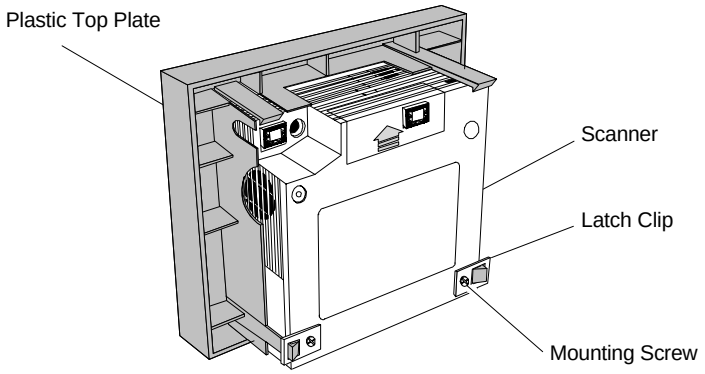
3. Install two Latch Clips – **horizontal installation only**. These clips secure the RealScan 7882 to the Plastic Top Plate in case something falls on the assembled unit.



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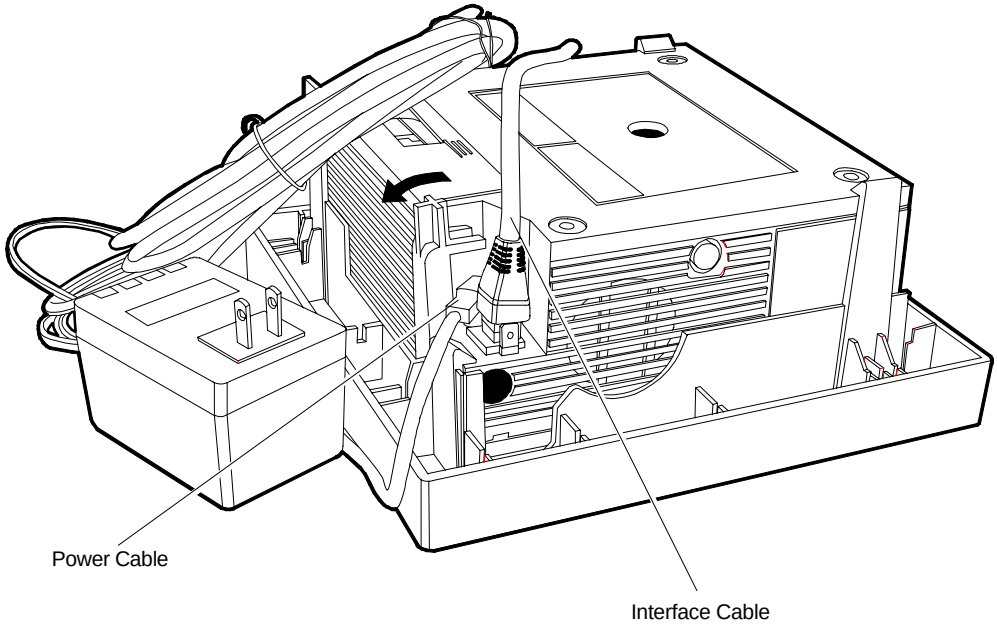
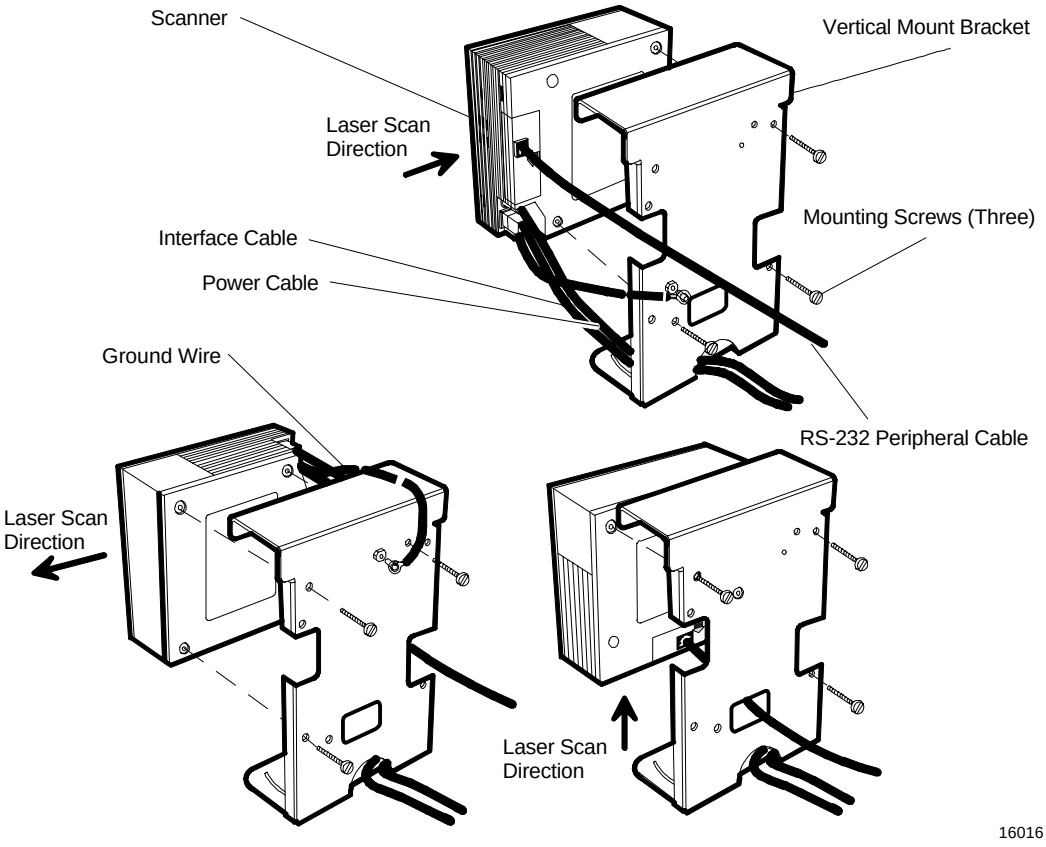
4. Connect Power Cable and Interface Cable.



19769

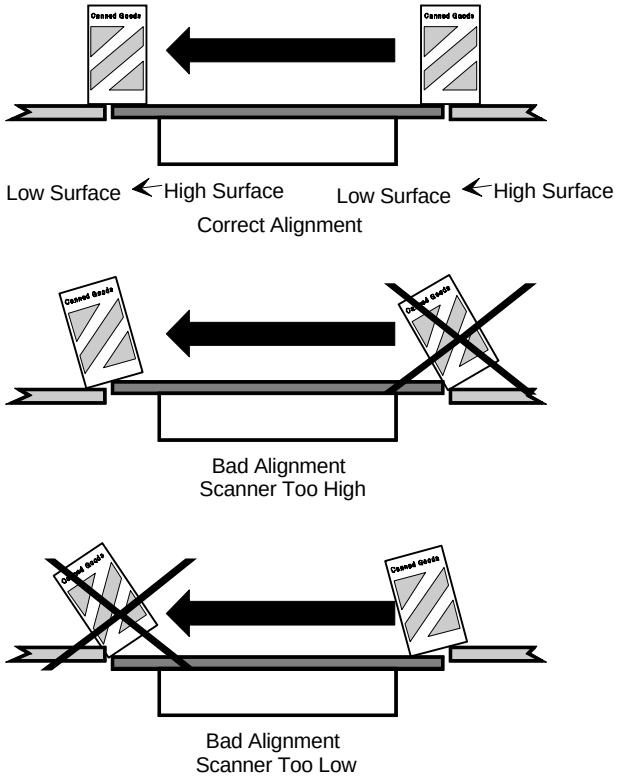
- Connect the Power Cable – right angle connector. Be sure the connector is positioned against the plastic extension on the Top Plate.
- Carefully push the plastic extension away from the RealScan 7882 as shown in the illustration.
- Connect the Interface Cable – push it down until it latches.

Vertical Mounting Bracket



Checkstand Cutout

1. Put the RealScan 7882 into the hole in the checkstand. Diagrams in *NCR RealScan 7882 Specifications* show the various dimensions of the hole.
2. Align the RealScan 7882 to the Checkstand. The leading edge of the Top Plate must be flush or up to 1/16 in. (0.15 cm) below the top of the checkstand. The trailing edge of the Top Plate must be flush or up to 1/16 in. (0.15 cm) above the top of the checkstand.



14231

Checkpoint Cable

If you are installing a RealScan 7882 Scanner with the Checkpoint feature on a Vertical Mounting Bracket, route the Checkpoint Cable along side the Interface Cable.

Note: If the installation includes the Checkpoint feature, a representative from Checkpoint must connect the Checkpoint Cable to the Checkpoint equipment after you install the RealScan 7882.

Cable Clamps

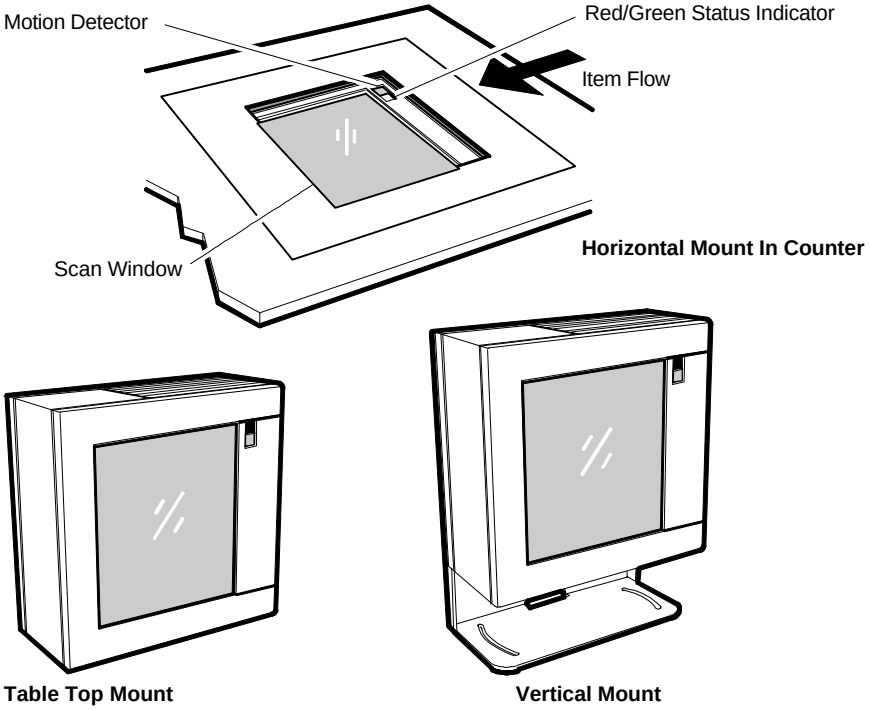
The RealScan 7882 is supplied with two Cable Clamps (006-0687102). Install these clamps under the checkstand as needed to support the cables and keep them out of the operator's way.

Operating the Scanner

The NCR RealScan 7882 is a fixed position device that is not handled or moved by the operator during operation. It is maintained and serviced by trained service personnel only. The operator has no access to any laser module components.

The RealScan 7882 does not have a power switch. However, you turn it on and off by using the circuit breaker switch, located in the checkstand, that supplies power to the unit. Be sure this switch is in the On position.

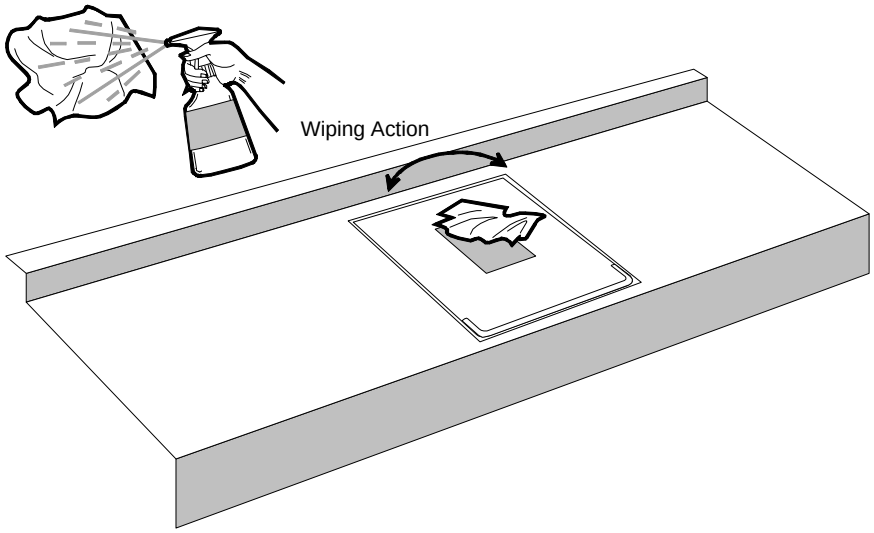
The Red Indicator is on when the RealScan 7882 is ready. When the scanner reads a bar code, the Red Indicator turns off and the Green Indicator turns on. Nothing happens if the bar code is not read. The correct way to do pass-by scanning is to just slide the item past the scan window without lifting the item. With presentation scanning, you lift the item, move it straight toward the scan window, then bring the item back away from the scanner.



11959

Cleaning the Scanner

Keeping the scan windows clean helps keep the read rate exceptionally high. During normal operation the scan windows get dirty, and if you permit the dirt to accumulate, performance degrades to the point where the scanner cannot read bar codes. Use a soft cloth to clean the scan windows, using a common, non-abrasive, liquid window cleaner. Be sure to spray the cleaner onto the cloth, not directly onto the scanner.



15937

Correcting Scanner Problems

When the RealScan 7882 is first turned on, several diagnostic tests are run to check the status of various components. If a failure occurs, a series of beeps and flashes of the Green Status Indicator identify it. The number of beeps (flashes) identifies the problem. The problem indication is repeated continuously with a 3-second pause between each indication series. Following the first problem indication, the beeps are turned off and only the Green Status Indicator flashes to identify the problem.

If the diagnostics identify a problem, you must have the scanner repaired. Refer to *Obtaining Technical Assistance* at the front of this document. Although several conditions can be identified, following are the most common.

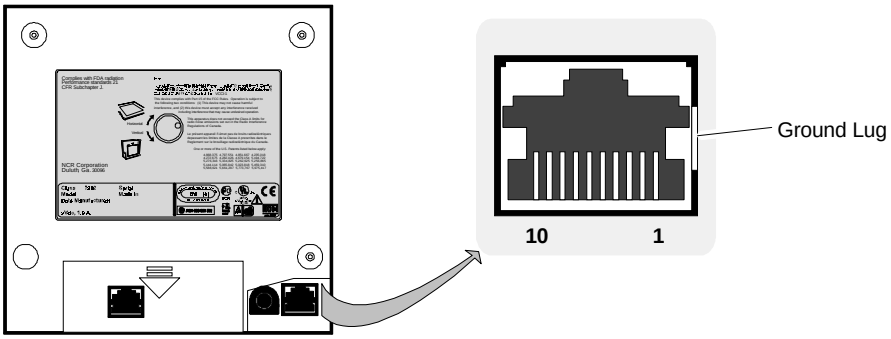
Green Status Indicator	Tones	Problem	Suspect Component
2 Flashes	2 Beeps	RAM – Write / Read failure	Printed Circuit Board
5 Flashes	5 Beeps	Motor running too slow	• Motor • Printed Circuit Board
6 Flashes	6 Beeps	EEPROM failure – cannot load contents into memory	Printed Circuit Board
12 Flashes	12 Beeps	ROM sum check failure	Printed Circuit Board

There are other conditions that are not identified by the diagnostics when you turn on the RealScan 7882. The following chart identifies some of the more common problems.

Problem	Status Indicators	Tone	Possible Cause	Corrective Action
Scanner does not operate	Red Off Green Off	Off	No power to the unit	• Check the electrical outlet for proper power • Verify that AC Power Cord is properly connected
Scanner is quiet	Red & Green flashing continuously	Off	Sleep mode	• Pass anything in front of the motion detector
Scanner reads only two labels	Red flashing Green Off	Off	Communications is IBM 468x and scanner is off-line	• Verify that IBM host is turned on • Verify that IBM host is recognizing the RealScan 7882 • Verify that the interface cable is properly connected
Scanner reads only two labels	Red On Green Off	Off	RealScan 7882 is not communicating with the host	• Check for expected communication protocol • Check host terminal for proper operation • Check interface cable connections
Scanner does not read any labels	Red flashing rapidly	Off	Scanner has been disabled by the host terminal	• Terminal should enable scanner later in the transaction
Scanner does not read any labels	Red On Green Off	Off	Internal failure	• Remove power from RealScan 7882 and then supply again • Have scanner repaired

Interface Information

Interface Connector



Pin	OCIA	IBM	RS-232	WEDGE
1	RDATARTN	NC	+12Vdc (IN) OR DSR (IN)	NC
2	RDATA/	NC	DTR (OUT)	KBCLK/
3	SDATA/	NC	TXD (OUT)	NC
4	CLKOUT/	NC	RTS (OUT)	NC
5	CLKIN/	NC	CTS (IN)	NC
6	TERMRTN	NC	RXD (IN)	NC
7	NC	TMPWR	NC	PCCLK/
8	NC	TRA	NC	PCDATA/
9	NC	TRB	NC	
10	GND	GND	GND	

19013

Most Common Interface Cables

- 1416-C011-0040 OCIA Single Cable
- 1416-C019-0040 RS-232 to PC
- 1416-C020-0040 IBM port 17
- 1416-C070-0040 IBM port 9A/9E
- 1416-C142-0040 IBM port 5B
- 1416-C653-0040 RS-232 powered from NCR7448/7451 POS
- 1416-C676-0030 PS/2 Keyboard wedge

Communications Protocol

The Communications Protocol function identifies the communications protocol the RealScan 7882 is using. Scan the **Diagnostics Mode** and **Hex 3** programming tags (must be first tags scanned after applying power). Three beeps sound after scanning the **Hex 3** tag, identifying the programming tag. Next, the Status Indicator flashes green and a series of beeps sound that identify the communications protocol. Use the following table to determine the communication protocol.

Tone	Communication Protocol
1 Beep (Short high pitched)	OCIA NCR Short / Datachecker
1 Beep	OCIA NCR Long
2 Beeps	OCIA Non-NCR
3 Beeps	IBM 468x (4A)
4 Beeps	IBM 468x (4B)
6 Beeps	RS-232
7 Beeps	OCIA Single-Cable
10 Beeps	Keyboard Wedge
11 Beeps	Casio / OCIA Non-NCR

Scan the **Hex 3** tag to repeat; remove power to end.

Programming Worksheet

1 0 COMMUNICATIONS PROTOCOL

Protocol

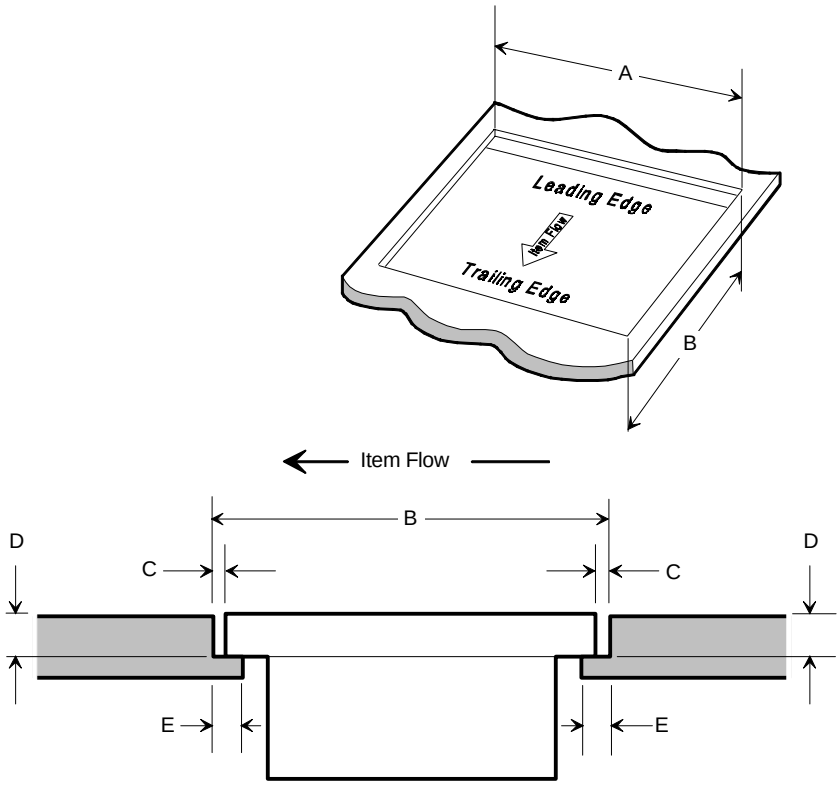
0	1	3	4	5
OCIA NCR Short (Datachecker)	OCIA NCR Long	IBM Slot Scanner	IBM Hand-Held Bar Code Reader	RS-232

6	A	B
OCIA Single Cable	Keyboard Wedge	IBM 1520 Bar Code Reader

19020A

NCR RealScan 7882 Specifications

Checkstand Hole – RealScan 7882 Horizontal Mount

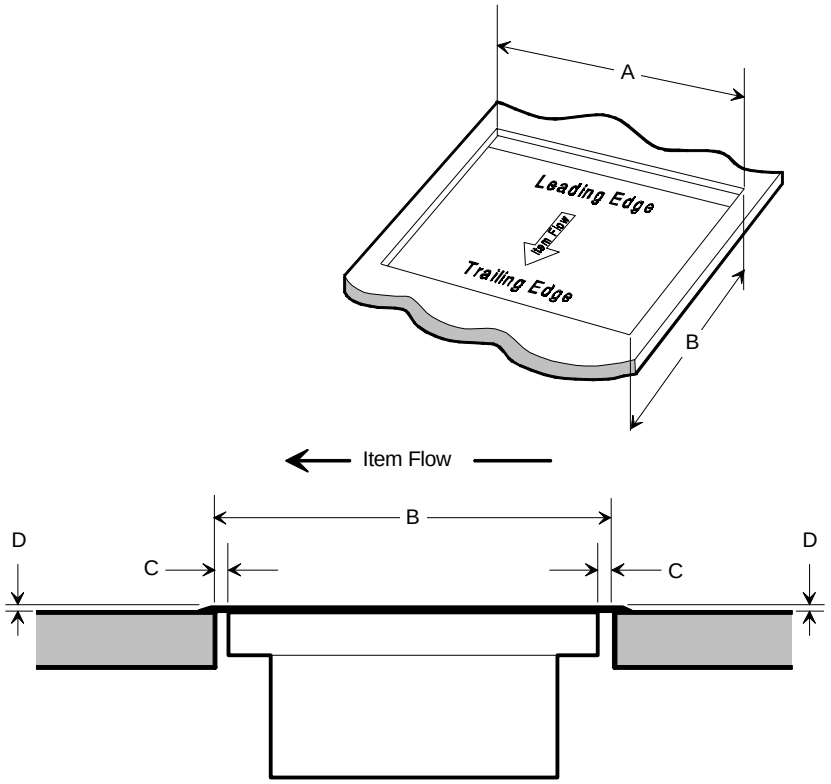


SIDE VIEW

Features	A	B	C	D	E
F062	8 5/8 in. 21.91 cm	8 5/8 in. 21.91 cm	1/16 in. 0.16 cm	1 1/16 in. 2.70 cm	1/2 in. 1.27 cm
K011 (7852 Mount)	9 5/8 in. 24.45 cm	11 5/16 in. 28.73 cm	1/16 in. 0.16 cm	1 1/16 in. 2.70 cm	1/2 in. 1.27 cm
K010 (7820 Mount)	20 1/8 in. 51.12 cm	11 5/8 in. 29.53 cm	1/16 in. 0.16 cm	13/32 in. 1.03 cm	7/16 in. 1.11 cm

11981

Checkstand Hole – RealScan 7882 Flat Mount



SIDE VIEW

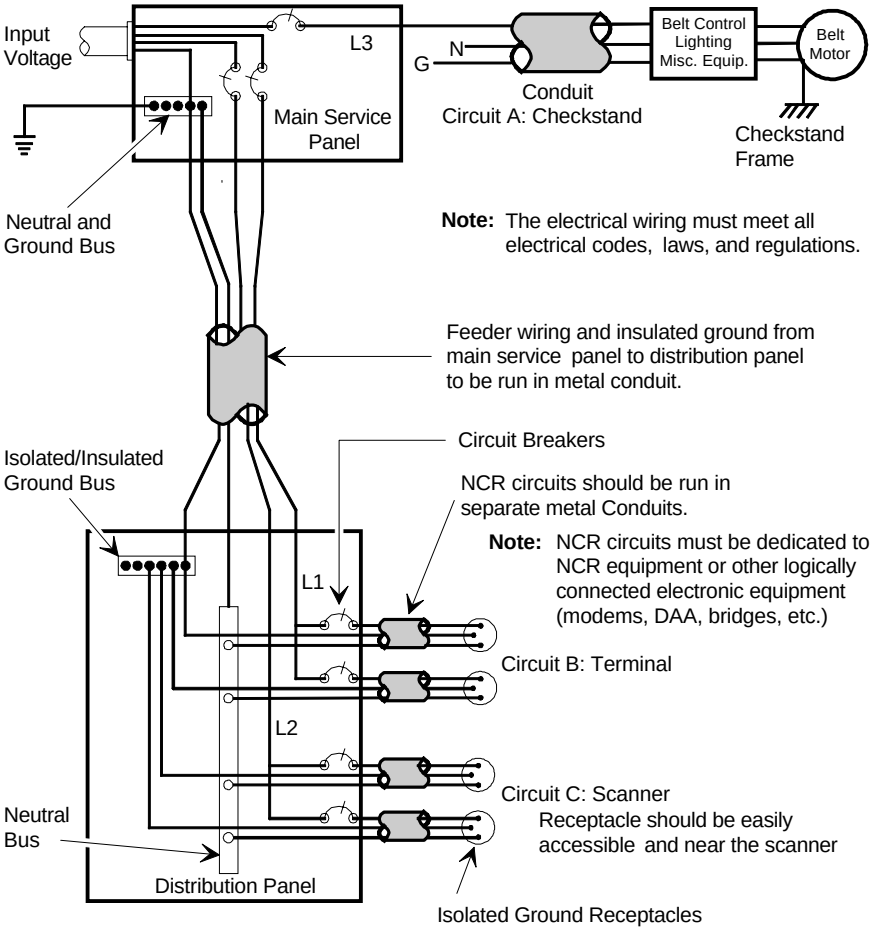
Features	A	B	C	D
K012	8 3/4 in. 22.22 cm	8 3/4 in. 22.22 cm	1/16 in. 0.16 cm	1/16 in. 0.16 cm

11993

Ventilation Requirements

The RealScan 7882 Scanner / Scale is designed to operate without an exhaust fan in the checkstand; however, there must be adequate convection air flow. The ambient temperature inside the checkstand cannot be higher than 104° F (40° C). Also, the ambient temperature inside the checkstand cannot be higher than 12.6° F (7° C) above the ambient temperature outside the checkstand. For example, if the ambient temperature outside the checkstand is 76° F (24.4° C), the ambient temperature inside the checkstand cannot be greater than 88.6° F (31.4° C). If the checkstand contains other heat producing equipment, you may need to use forced air to keep the temperature within the specified range. However, air coming into or leaving the checkstand **MUST NOT** enter or exit past the RealScan 7882 Scanner / Scale.

Electrical Wiring



Installation Type	Input Voltage	L1, L2	Circuit Breakers
U.S., Canada, & Japan	100Vac to 120Vac	100Vac to 120Vac	Standard single-pole; value determined by type of device branch and by electrical code.
International	220Vac to 240Vac	220Vac to 240Vac	
European	220Vac	220Vac	European double-pole.

20254

Programming Worksheets

1 0 COMMUNICATIONS PROTOCOL

Protocol

0	1	2	3	4	5
OCIA NCR Short (Datachecker)	OCIA NCR Long	OCIA Non-NCR Dual Cable	IBM Slot Scanner	IBM Hand-Held Bar Code Reader	RS-232

6	A	B
OCIA Single Cable	Keyboard Wedge	IBM 1520 Bar Code Reader

19020A

1 1 GOOD READ TONE

A Tone On/Off

0	1
Off	On

B Tone Frequency (Hertz) — B

When entering Tone Frequency, the adjustment can be incremented upward by scanning the **Hex B** tag. Each time you scan the **Hex B** tag, the tone frequency increases one unit. Scan the **End** tag or a valid Hex tag to end this mode.

C Tone Length (Milliseconds) — C

When entering Tone Length, the adjustment can be incremented upward by scanning the **Hex C** tag. Each time you scan the **Hex C** tag, the tone length increases one unit. Scan the **End** tag or a valid Hex tag to end this mode.

D Tone Volume — D

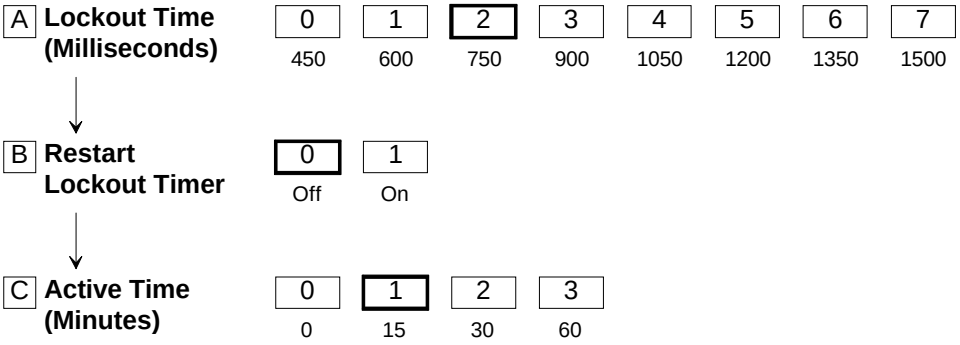
When entering Tone Volume, the adjustment can be incremented upward by scanning the **Hex D** tag. Each time you scan the **Hex D** tag, the tone volume increases one unit. Scan the **End** tag or a valid Hex tag to end this mode.

E Not On File Tone Volume — E

When entering Not On File Tone Volume, the adjustment can be incremented upward by scanning the **Hex E** tag. Each time you scan the **Hex E** tag, the tone volume increases one unit. Scan the **End** tag or a valid Hex tag to end this mode.

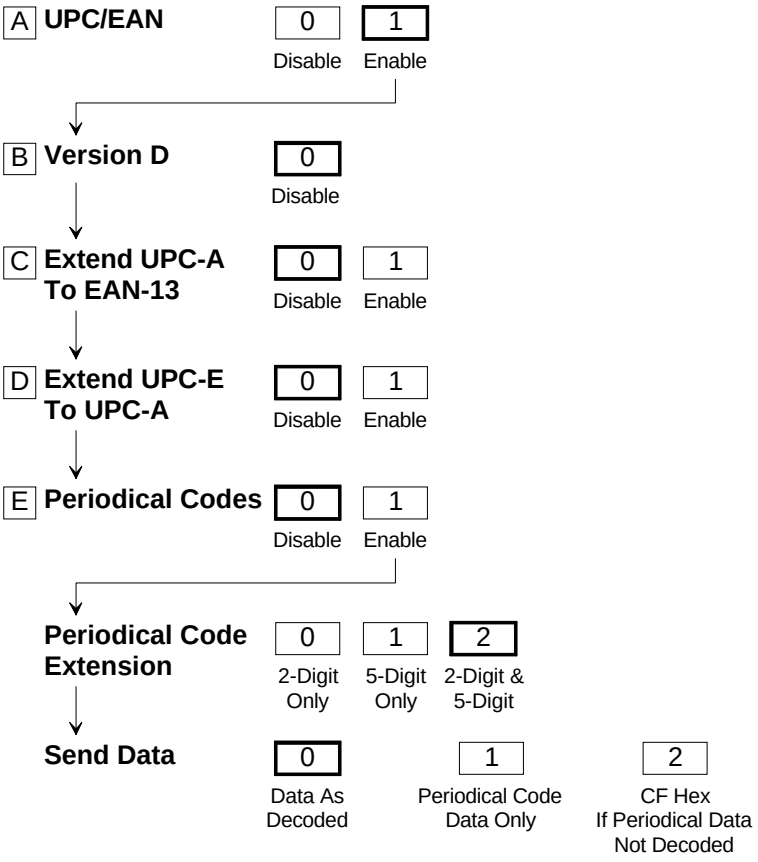
19021A

1 2 TIMERS



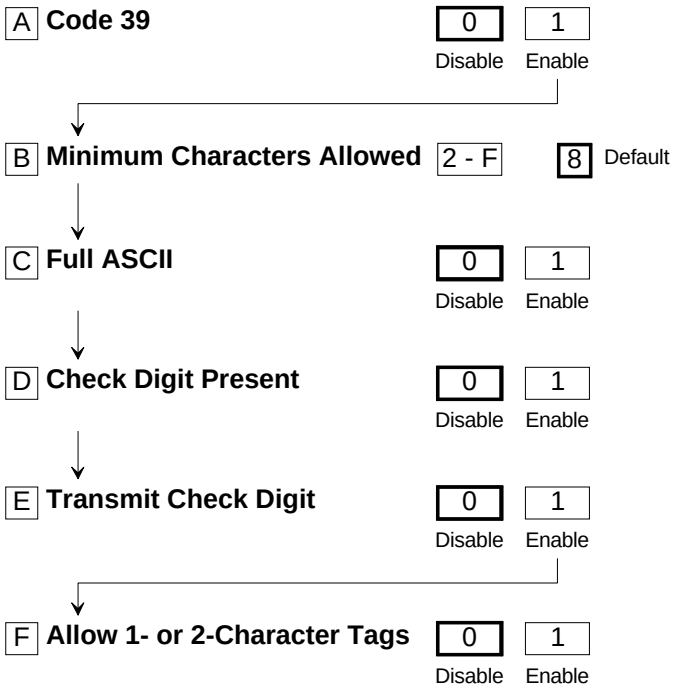
19022A

1 3 BAR CODES - 1



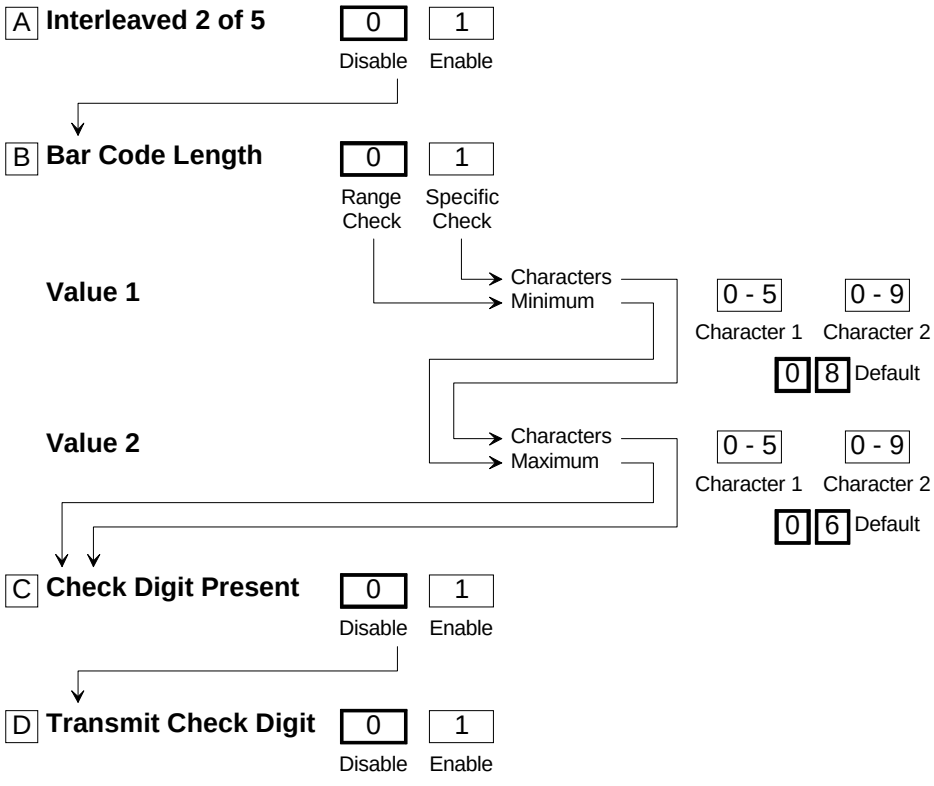
19023A

1 4 BAR CODES - 2



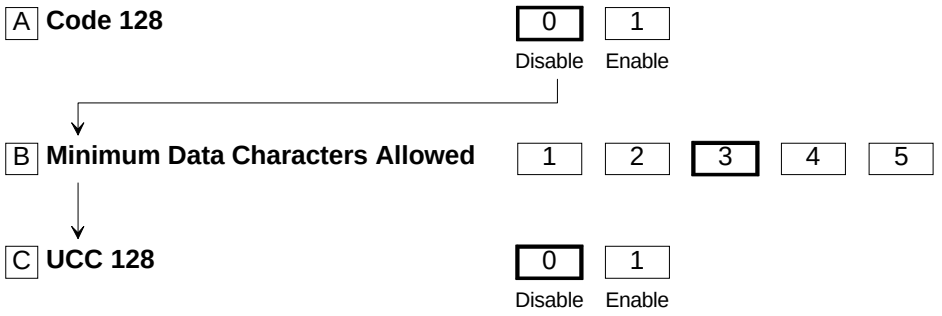
19024A

1 5 BAR CODES - 3



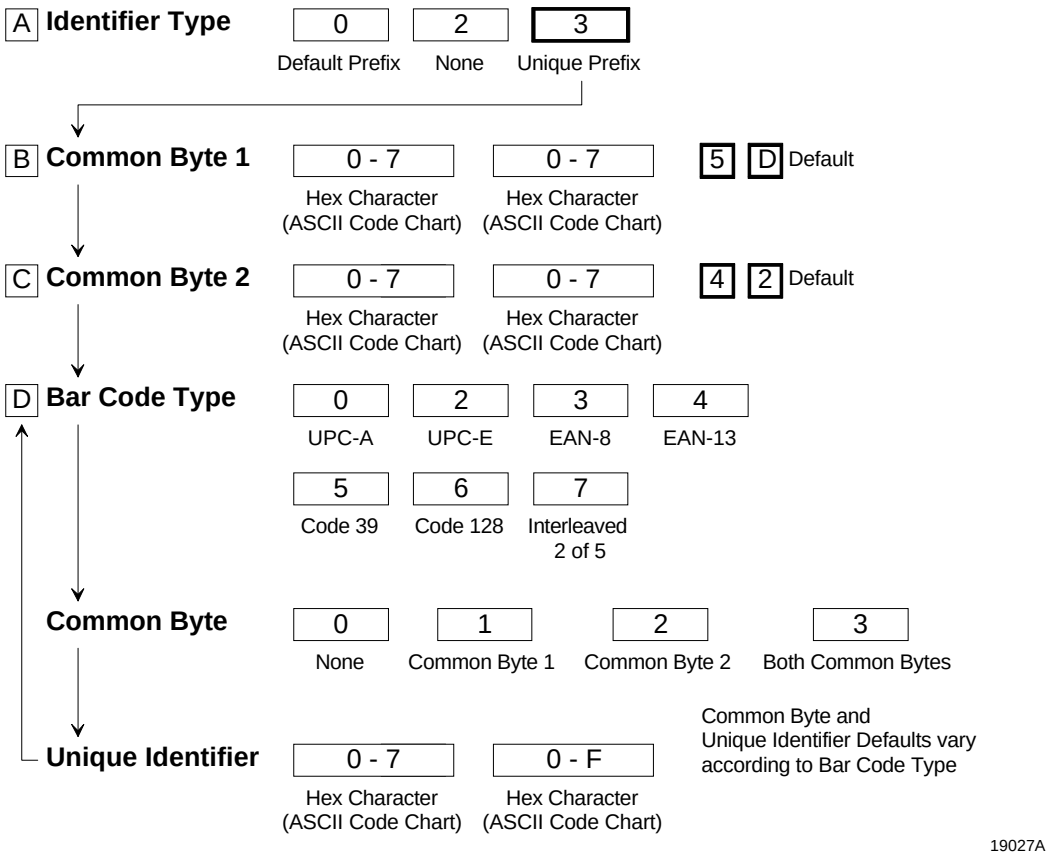
19025A

1 7 BAR CODES - 4



19026A

1 6 LABEL IDENTIFIERS



19027A

2 0 RS-232 PARAMETERS - 1

A Baud Rate

0	1	2	3	4	5	6
300	600	1200	2400	4800	9600	19200

B Parity

0	1	4
Odd	Even	None

C Stop Bits and Character Length

0	1	2	3
1 Stop Bit 7-Bit Character	1 Stop Bit 8-Bit Character	2 Stop Bits 7-Bit Character	2 Stop Bits 8-Bit Character

C Handshake

0	1	2
RTS Low CTS Ignored	RTS High CTS Ignored	Raise RTS Wait for CTS

3	4	5
Raise RTS Ignore CTS	RTS Low Wait for CTS	RTS High Wait for CTS

19028A

2 1 RS-232 PARAMETERS - 2

A BCC Options

0	1
Disable	Enable

B Interface Control

0	1	2	3	5
Odd	ACK/NAK	XOn/XOff	ACK/NAK & XOn/XOff	Special ACK/NAK

C Check Digit

0	1	2	3
Disable UPC-A Disable EAN-8 Disable EAN-13 Disable UPC-E	Enable UPC-A Enable EAN-8 Enable EAN-13 Disable UPC-E	Disable UPC-A Disable EAN-8 Disable EAN-13 Enable UPC-E	Enable UPC-A Enable EAN-8 Enable EAN-13 Enable UPC-E

Note: Check Digit parameter also applies to UPC-E when using OCIA communications.

19029A

2 2 RS-232 RREFIX BYTE

A Prefix Byte

0	1
Disable	Enable

B ASCII Code

0 - 7	0 - F	0 2 Default
Hex Character (ASCII Code Chart)	Hex Character (ASCII Code Chart)	

19030A

2 3 RS-232 TERMINATOR BYTE

A **Terminator Byte** — 0 Disable; **1 Enable**

↓

B **ASCII Code** — 0 - 7 Hex Character (ASCII Code Chart); 0 - F Hex Character (ASCII Code Chart); 0 3 Default

19031A

2 4 RS-232 COMMUNICATIONS OPTIONS

Message Delay — 0 No Delay; **1 10ms Delay**; 2 50ms Delay

Normal or Eavesdrop Mode — **6 Normal**; 7 Eavesdrop

19032B

3 2 MISCELLANEOUS PARAMETERS

IBM Tone Control (Good Read Tone Control) — 3 Disable; **4 Enable**

IBM Rexmit Control — **7 3 Times**; 8 Forever

IBM Tag Data Format — **E Hex**; F ASCII

19033B

ASCII Code Chart

ASCII Code Chart															
00	NULL	**10**	DLE	**20**	SP	**30**	0	**40**	@	**50**	P	**60**		**70**	p
01	SOH	**11**	DC1	**21**	!	**31**	1	**41**	A	**51**	Q	**61**	a	**71**	q
02	STX	**12**	DC2	**22**	"	**32**	2	**42**	B	**52**	R	**62**	b	**72**	r
03	ETX	**13**	DC3	**23**	#	**33**	3	**43**	C	**53**	S	**63**	c	**73**	s
04	EOT	**14**	DC4	**24**	$	**34**	4	**44**	D	**54**	T	**64**	d	**74**	t
05	ENQ	**15**	NAK	**25**	%	**35**	5	**45**	E	**55**	U	**65**	e	**75**	u
06	ACK	**16**	SYN	**26**	&	**36**	6	**46**	F	**56**	V	**66**	f	**76**	v
07	BEL	**17**	ETB	**27**	'	**37**	7	**47**	G	**57**	W	**67**	g	**77**	w
08	BS	**18**	CAN	**28**	(	**38**	8	**48**	H	**58**	X	**68**	h	**78**	x
09	HT	**19**	EM	**29**	)	**39**	9	**49**	I	**59**	Y	**69**	i	**79**	y
0A	LF	**1A**	SUB	**2A**	*	**3A**	:	**4A**	J	**5A**	Z	**6A**	j	**7A**	z
0B	VT	**1B**	ESC	**2B**	+	**3B**	;	**4B**	K	**5B**	[	**6B**	k	**7B**	{
0C	FF	**1C**	FS	**2C**	,	**3C**	<	**4C**	L	**5C**	\	**6C**	l	**7C**	|
0D	CR	**1D**	GS	**2D**	-	**3D**	=	**4D**	M	**5D**	]	**6D**	m	**7D**	}
0E	S0	**1E**	RS	**2E**	.	**3E**	>	**4E**	N	**5E**	^	**6E**	n	**7E**	~
0F	S1	**1F**	US	**2F**	/	**3F**	?	**4F**	O	**5F**	_	**6F**	o	**7F**	DEL

R0040

Regulatory Information

Federal Communications Commission (FCC) Radio Frequency Interference Statement

Note: This equipment has been tested and found to comply with the 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 is required to correct the interference at his own expense.

Information to User: This equipment must be installed and used in strict accordance with the manufacturer's instructions. However, there is no guarantee that interference to radio communications will not occur in a particular commercial installation. If this equipment does cause interference, which can be determined by turning the equipment off and on, the user is encouraged to consult an NCR service representative immediately.

Caution: NCR is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by NCR. Such unauthorized modifications, substitutions, or attachments may void the user's authority to operate the equipment. The correction of interference caused by such unauthorized modifications, substitutions, or attachments is the responsibility of the user.

Voluntary Control Council for Interference (VCCI) Radio Frequency Interference Statement

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

16105

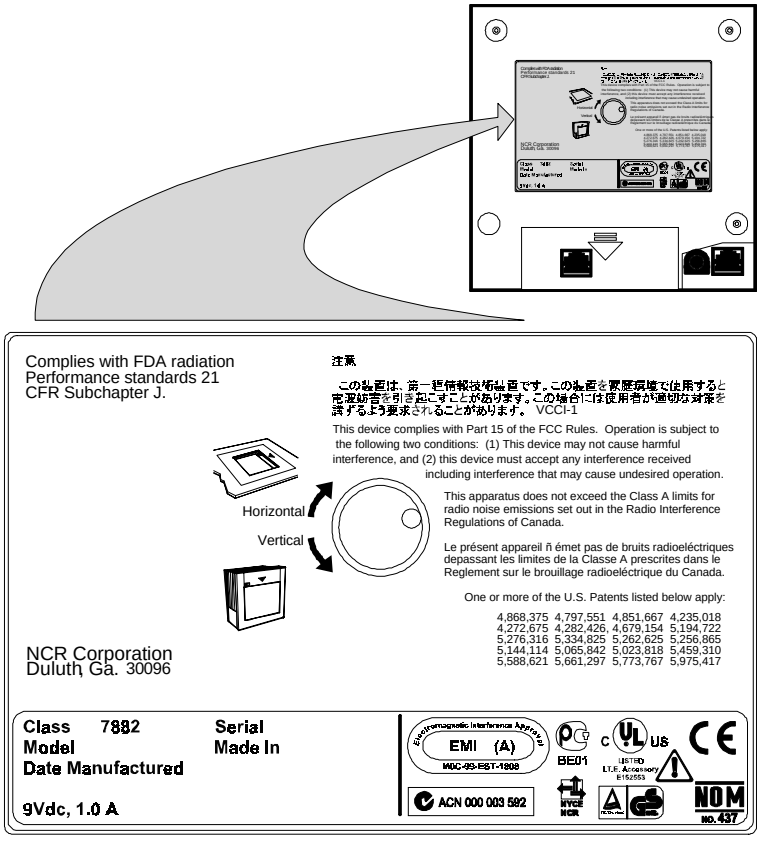
Canadian Department of Communications Radio Frequency Interference Statement

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communication.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectriques édicté par Ministère des Communications du Canada.

Identification Labels

The Identification Labels are molded into the bottom of the cabinet. They provide necessary information about the unit: power requirements, radio interference information, and applicable NCR patents.



18548

CE Mark Applicability

This product conforms to the requirements of the following European Union (EU) New Approach Directives.

- 89/336/EECEMC
- 73/23/EECLow Voltage

Declaration of Conformity

We, **NCR Corporation**, Retail Solutions Division Atlanta, 2651 Satellite Boulevard, Duluth, Georgia, 30096-5810, U.S.A., declare under our sole responsibility that the product **NCR RealScan 7882 Bar Code Scanner** to which this declaration relates is in conformity with the following standard or other normative document following the provisions of the noted Directives.

EU Directive	Harmonized Standard(s)
89/336/EEC (EMC)	EN 55022: 1994 + A1 (1995) + A2 (1997) EN 50082-1, Part 1 (1992) IEC 801-2: 1984, Severity Level 3 IEC 801-3: 1984, Severity Level 2 IEC 801-4: 1988, Severity Level 2
72/23/EEC (Low Voltage)	EN 60950: 1992 A1, A2, A3, A4, and A11 EN 60825-1: 1993+A1+A2

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Duluth, GA 30096-5810
U.S.A.

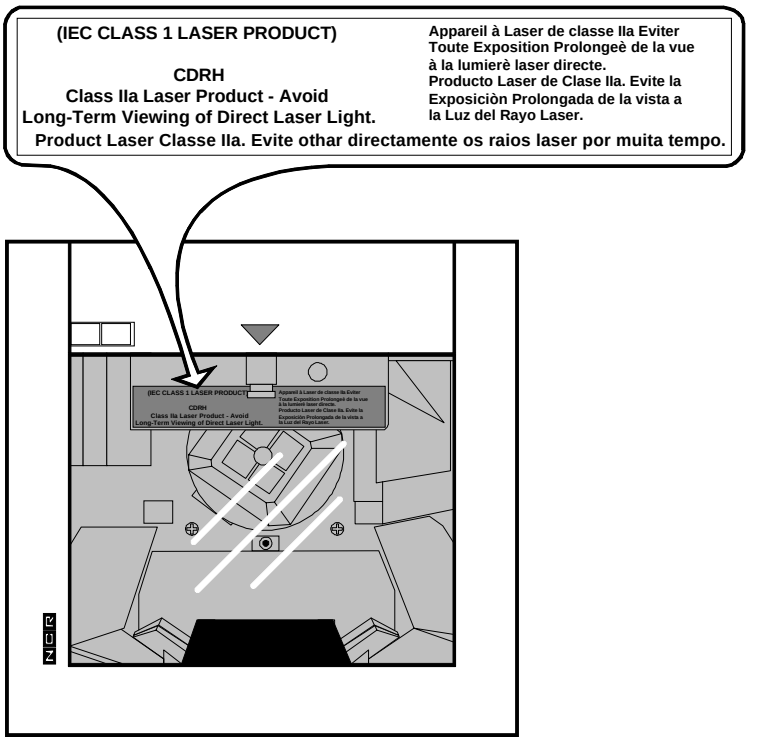
European Contact
EU Patent Attorney
NCR Limited
206 Marylebone Road
London NW1 6LY
England

Laser Safety

The NCR RealScan 7882 is not intended for long-term viewing of the direct laser light. However, the unit is safe if used as it was intended.

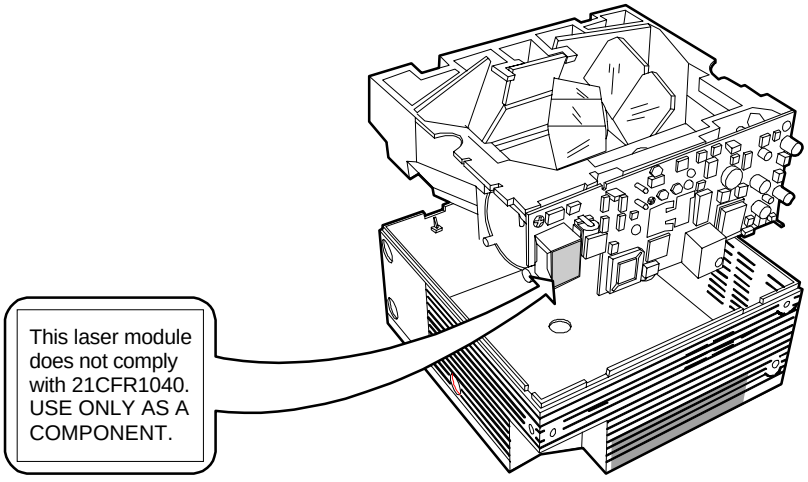
Note: The NCR RealScan 7882 is a **CDRH Class IIa** and **IEC Class 1 Laser Product**

Laser Safety Label



18546

Laser Module Label



18547

Laser Power

The NCR RealScan 7882 meets the following laser power requirements.

- Class 1 EN 60825-1: 1994 (Europäische Norm)
- Class 1 IEC 825-1: 1993 (International Electrotechnical Commission)
- Class IIA CDRH (Center for Devices and Radiological Health) FDA, U.S.A.

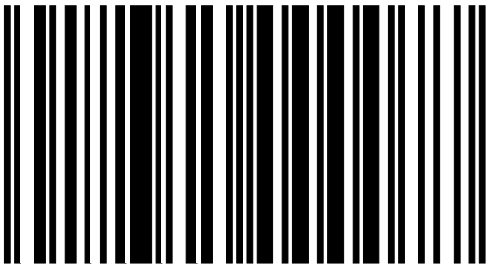
Following is the radiant energy of the laser light as applied to each of the specified requirements.

Maximum Radiant Power (CDRH Calculation)	2.7 Microwatts
Maximum Radiant Power (EN 60825-1 / IEC Calculation)	0.82 Milliwatts
Accessible Emission Limit (CDRH Calculation)	3.9 Microwatts
Accessible Emission Limit (EN 60825-1 / IEC 825-1 Calculation)	0.80 Milliwatts

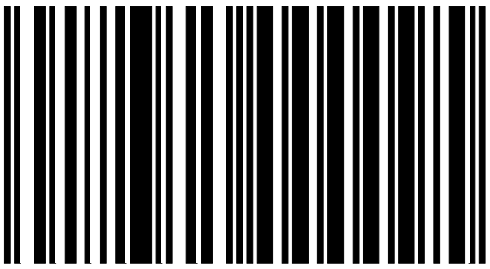
Warning – Use of controls or adjustments or performance of procedures other than specified herein may result in hazardous radiation exposure.

Programming Tags

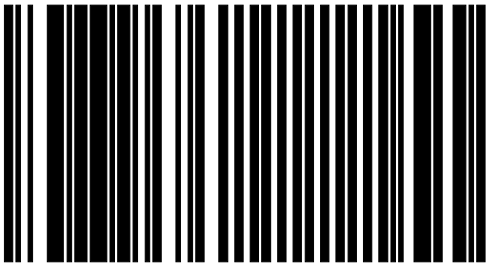
Volume Adjustment



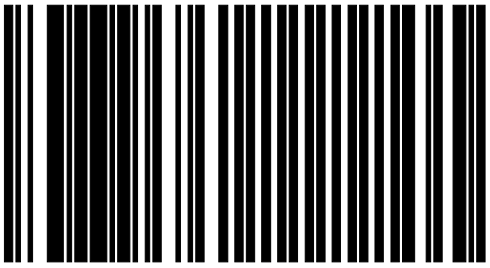
Reset



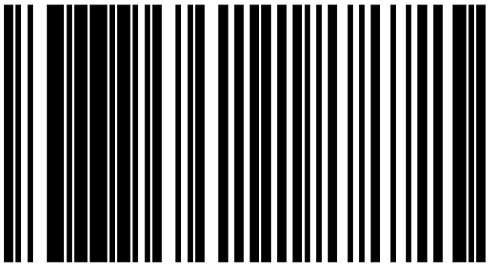
Default



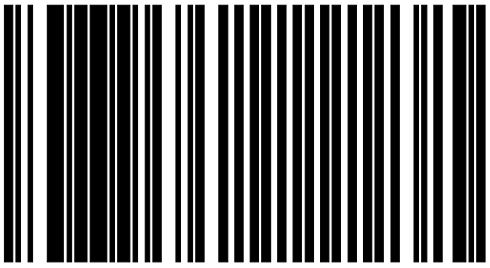
Programming Mode



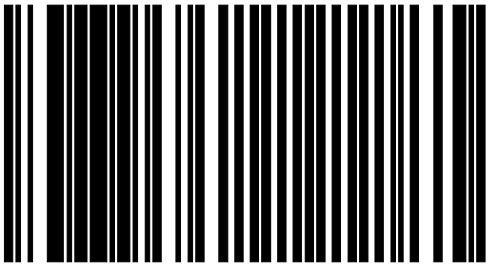
End



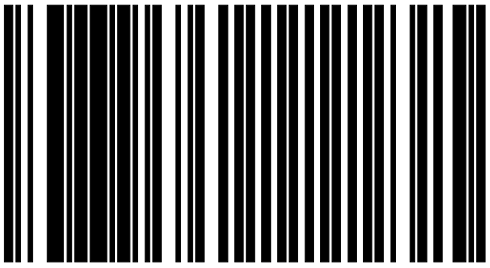
Save and Reset



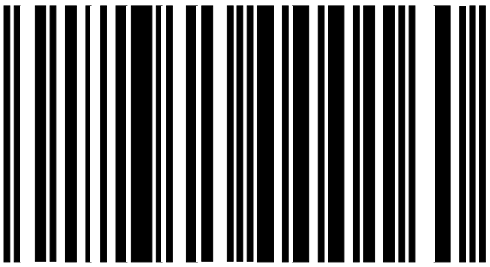
Abort



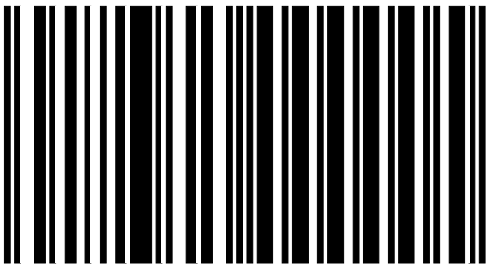
Diagnostic Mode



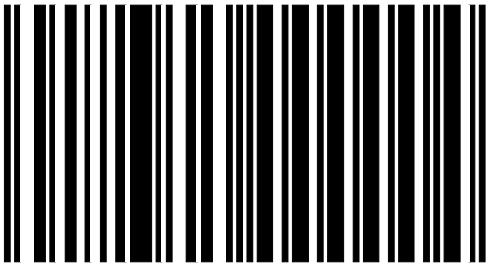
RS-232 Temporary Service Mode



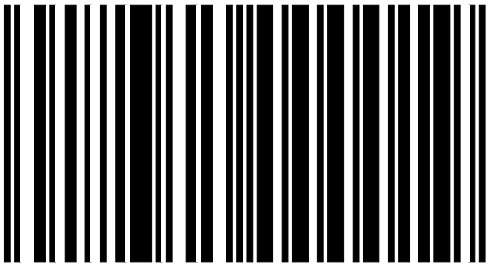
Mode 1



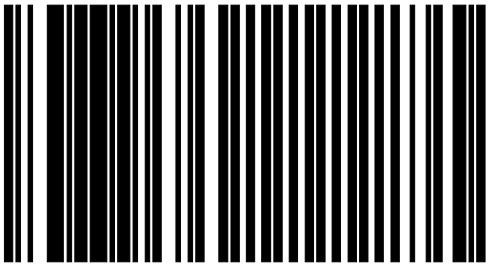
Mode 2



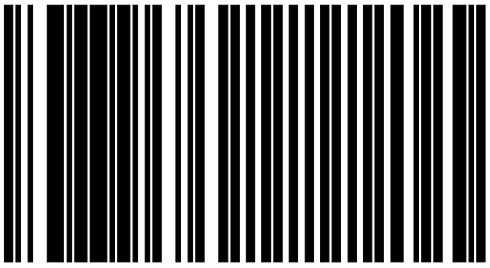
Reset Tallies



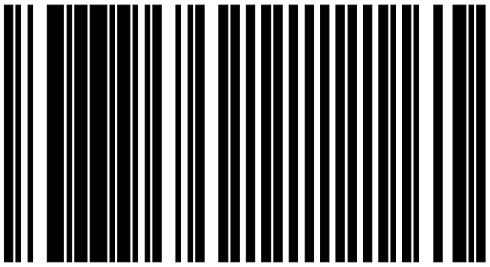
Hex 0



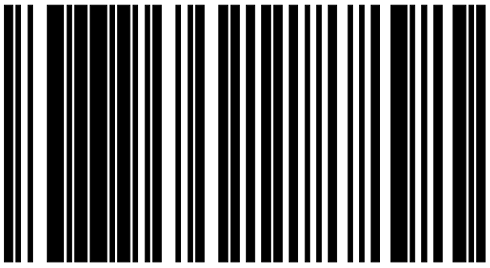
Hex 1



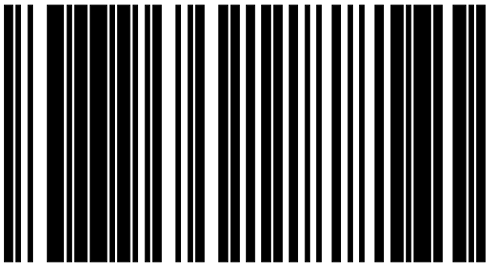
Hex 2



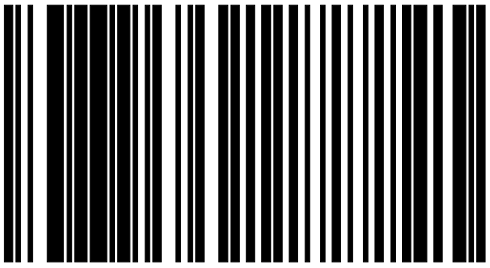
Hex 3



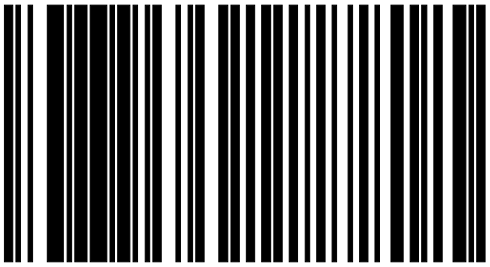
Hex 4



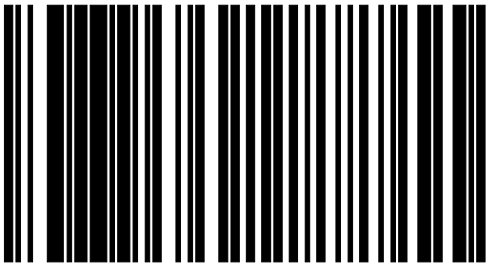
Hex 5



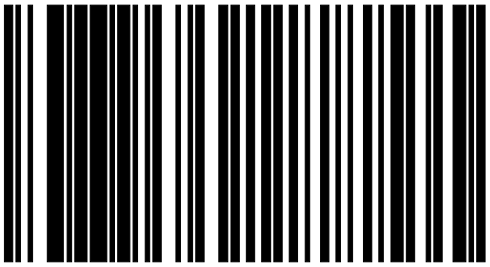
Hex 6



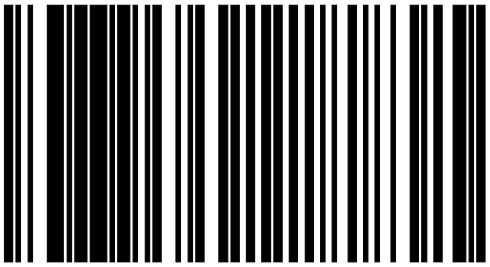
Hex 7



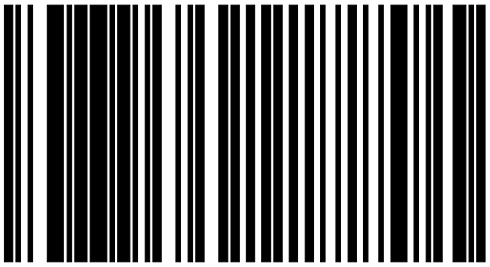
Hex 8



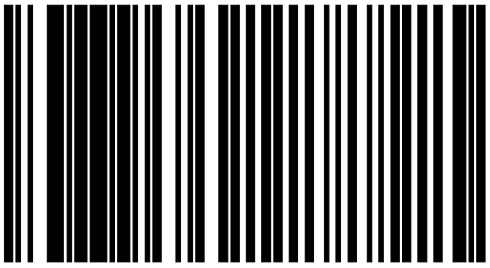
Hex 9



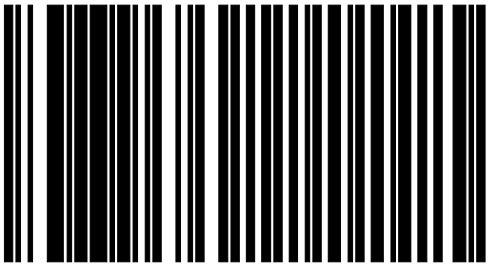
Hex A



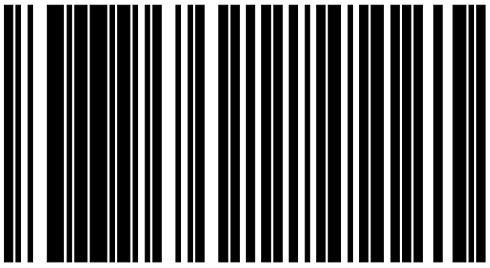
Hex B



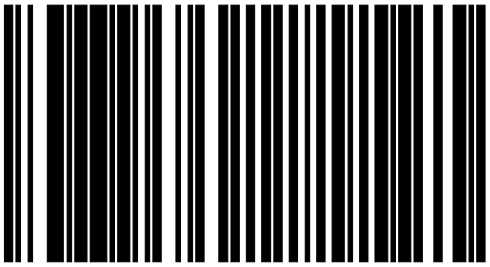
Hex C



Hex D



Hex E



Hex F