NCR 7895 Scanner/Scale

Hardware User Guide

BCC5-0000-5509

Issue H

Copyright and Trademark Information

Preface

Audience

This publication is written for store personnel.

> **Note**
> This document is NCR proprietary information and is not to be disclosed or reproduced without consent.

References

- *NCR 7895 Scanner/Scale Site Preparation Guide* (BCC5-0000-5506)
- *NCR 7895 Scanner/Scale Installation Guide* (BCC5-0000-5507)
- *NCR 7895 Scanner/Scale User Guide* (BCC5-0000-5508)
- *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516)
- *NCR 7895 Scanner/Scale Service Guide* (BCC5-0000-5509)
- *NCR 7895 Scanner/Scale Parts Identification Manual* (BCC5-0000-5510)
- *NCR 7895 Scanner/Scale Safety and Regulatory Information* (BCC5-0000-5505)

Safety Requirements

The NCR 7895 Scanner/Scale conforms to all applicable legal requirements. To view the compliance statements see the *NCR 7895 Scanner/Scale Safety and Regulatory Information* (BCC5-0000-5505).

Caution

This product does not contain user serviceable parts. Servicing should only be performed by a qualified service technician.

AC Disconnect

To power down the NCR 7895, disconnect the AC power cord.

Warning

A readily accessible and easily identifiable means of disconnecting power from the NCR 7895 Scanner/Scale must be provided, such as a plug on the power cord, isolating switch, or circuit breaker incorporated in the building wiring.

Warning

Il est impératif d'avoir un moyen pour débrancher l'électricité. Ce moyen d'accès doit être visible et facile a identifier, du genre la prise de courant, le switch d'isolation, ou le disjoncteur incorporé dans l'installation électrique du bâtiment ou de l'immeuble.

Grounding Instructions

The Power Supply used with this product is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify the plug provided – if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the product's plug. **Repair or replace damaged or worn cords immediately.**

Warranty

Warranty terms vary by region and country.

All parts of this product that are subject to normal wear and tear are not included in the warranty. In general, damages due to the following are not covered by the warranty.

- Improper or insufficient maintenance
- Improper use or unauthorized modifications of the product.
- Inadequate location or surroundings. Site installation must conform to guidelines listed in the *NCR 7895 Scanner/Scale Site Preparation Guide* (BCC5-0000-5506) and the *NCR Workstation and Peripheral AC Wiring Guide* (BST0-2115-53).

For detailed warranty arrangements please consult your contract documents.

Table of Contents

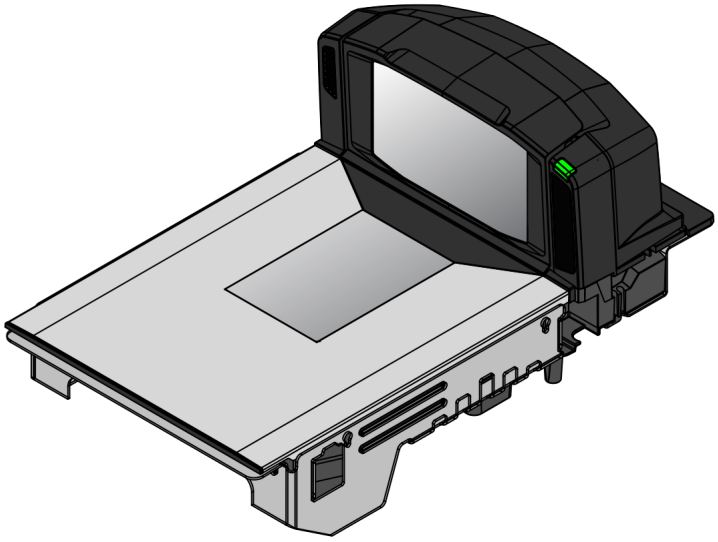
Revision Record

Issue	Date	Remarks
A	Jul 2021	Initial release
B	Oct 2021	• Added the 7895-3111-5000 PID • Added a note on camera behavior in the *Camera Activation Button* and the *Camera Activation Button Presses* sections • Updated software download links
C	Jun 2022	• Added procedures for using 123Scan • Added procedures for configuring the scanner with RS-232 interface • Added procedures for using SMS Package • Updated procedures for using USB Staging Flash Drive
D	Oct 2022	• Updated procedures for Configuring RS-232 Using 123Scan Utility • Added procedures for opening and modifying configuration files • Added procedures for Importing a Configuration File from a Staging Flash Drive • Corrected the calibration weight from 11 kg to 10 kg
E	Jan 2023	Added procedures for NCR CDC Host Interface Configuration

Issue	Date	Remarks
F	Apr 2023	Added the following PIDs: • 7895-1020-0000 • 7895-2020-0000 • 7895-2110-4000 • 7895-2120-1000 • 7895-2120-2000 • 7895-2310-5000 • 7895-3010-0010 • 7895-3020-0000 • 7895-3310-5000 • 7895-2111-1000 • 7895-2111-4000 • 7895-2111-5000 • 7895-3011-0010
G	Oct 2024	Updated links
H	Nov 2024	• Converted to Voyix template • Removed OBF section

NCR 7895 Scanner/Scale Overview

The NCR 7895 Scanner/Scale is a data capture solution that reads 1D, 2D, Digimarc, and mobile bar codes in all orientations. Bar code data is transmitted to a Point-of-Sale (POS) host through USB, RS-232, or RS-485 connection.



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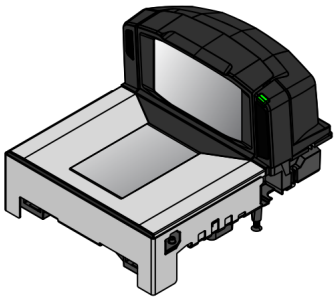
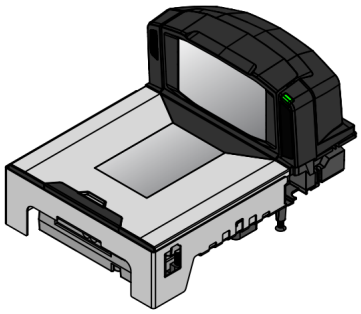
The NCR 7895 is designed to be installed in a retail checkstand cutout, and it supports the following auxiliary devices:

- USB Handheld Scanners
- Checkpoint® Electronic Article Surveillance (EAS)
- Sensormatic® Electronic Article Surveillance (EAS)
- Scale
    - OEM Standard Scale
    - Mettler-Toledo price computing scale for parts of Europe
- Scale Display
    - Single Head Scale Display
    - Dual Head Scale Display
- USB staging flash drive with Type A connector

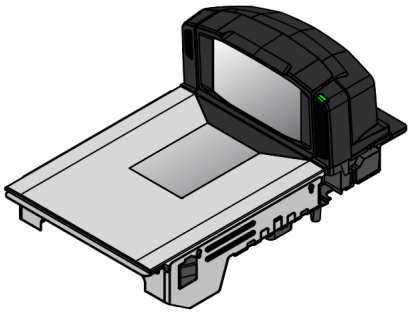
Product IDs



Compact 13.9-inch Scanner



Midsize 15.7-inch Scanner



Full-size 20-inch Scanner

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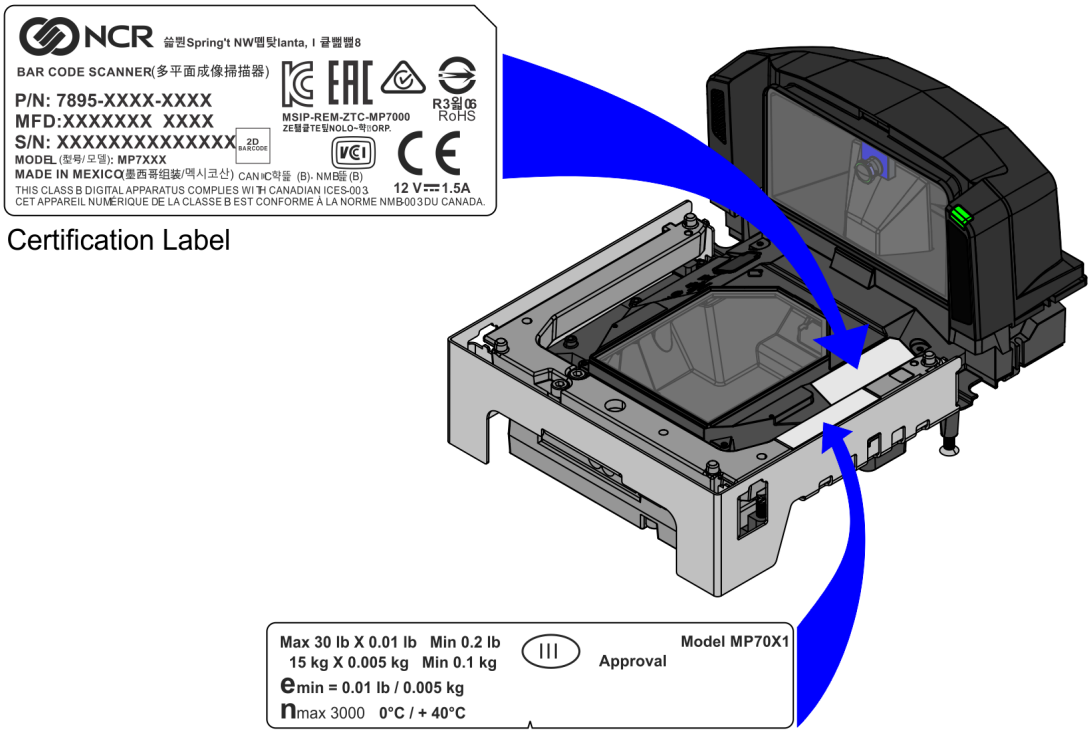
Product ID	Description
Compact, Monochrome Camera	
7895-1010-0000	Bi-Optic Imager - Scanner Only with Non-Sapphire Top Plate (Compact)
7895-1020-0000	Bi-Optic Imager - Scanner Only with Sapphire Top Plate (Compact)
Midsize, Monochrome Camera	
7895-2010-0000	Bi-Optic Imager - Scanner Only with Non-Sapphire Top Plate (Midsize)
7895-2010-2010	Bi-Optic Imager - Scanner Only with Non-Sapphire Top Plate (Midsize) for use with TPP scales (primarily Europe)
7895-2020-0000	Bi-Optic Imager - Scanner Only with Sapphire Top Plate (Midsize)
7895-2110-1000	Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, US Scale Certification (Midsize)
7895-2110-2000	Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, EU Scale Certification (Midsize)
7895-2110-4000	Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, Canada/Mexico Certification (Midsize)
7895-2110-5000	Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, International Scale Certification (Midsize)
7895-2120-1000	Bi-Optic Imager - Scanner/Scale with Sapphire Top Plate, US Scale Certification (Midsize)
7895-2120-2000	Bi-Optic Imager - Scanner/Scale with Sapphire Top Plate, EU Scale Certification (Midsize)

Product ID	Description
7895-2310-5000	Bi-Optic Imager - Scanner/Scale with Switch, Non-Sapphire Top Plate, OIML Scale Certification (Midsize)
Full-size, Monochrome Camera	
7895-3010-0000	Bi-Optic Imager - Scanner Only with Non-Sapphire Top Plate (Full-size)
7895-3010-0010	Bi-Optic Imager - Scanner Only with Non-Sapphire Top Plate, Mid Platter (Full Size)
7895-3020-0000	Bi-Optic Imager - Scanner Only with Sapphire Top Plate (Full Size)
7895-3110-1000	Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, US Scale Certification (Full-size)
7895-3110-2000	Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, EU Scale Certification (Full-size)
7895-3110-4000	Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, Canada Scale Certification (Full-size)
7895-3110-5000	Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, International (OIML) Scale Certification (Full-size)
7895-3310-5000	Bi-Optic Imager - Scanner/Scale with Switch, Non-Sapphire Top Plate, OIML Scale Certification (Full Size)
Midsize, Monochrome and Color Cameras	
7895-2011-0000	Color Bi-Optic Imager - Scanner Only with Non-Sapphire Top Plate (Midsize)
7895-2011-2010	Color Bi-Optic Imager - Scanner Only with Non-Sapphire Top Plate (Midsize) for use with TPP scales (primarily Europe)
7895-2111-1000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, US Scale Certification (Midsize)
7895-2111-1002	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, US Scale Certification (Midsize) for Walmart
7895-2111-2000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, EU Scale Certification (Midsize)
7895-2111-3000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, AUS/NZ Scale Certification (Midsize)

Product ID	Description
7895-2111-4000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, Canada/Mexico Scale Certification (Midsize)
7895-2111-5000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, OIML Scale Certification (Midsize)
Full-size, Monochrome and Color Cameras	
7895-3011-0000	Color Bi-Optic Imager - Scanner Only with Non-Sapphire Top Plate (Full-size)
7895-3011-0010	Color Bi-Optic Imager - Scanner Only with Non-Sapphire Top Plate, Mid Platter (Full Size)
7895-3021-0000	Color Bi-Optic Imager - Scanner Only with Sapphire Top Plate (Full-size)
7895-3111-1000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, US Scale Certification (Full-size)
7895-3111-1002	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, US Scale Certification (Full-size) for Walmart
7895-3111-2000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, EU Scale Certification (Full-size)
7895-3111-3000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, AUS/NZ Scale Certification (Full-size)
7895-3111-4000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, Canada/Mexico Scale Certification (Full-size)
7895-3111-5000	Color Bi-Optic Imager - Scanner/Scale with Non-Sapphire Top Plate, International (OIML) Scale Certification (Full-size)
7895-3121-1000	Color Bi-Optic Imager - Scanner/Scale with Sapphire Top Plate, US Scale Certification (Full-size)
7895-3121-2000	Color Bi-Optic Imager - Scanner/Scale with Sapphire Top Plate, EU Scale Certification (Full-size)

Product Labels



Certification Label

Weights and Measures Label

CCP-80041

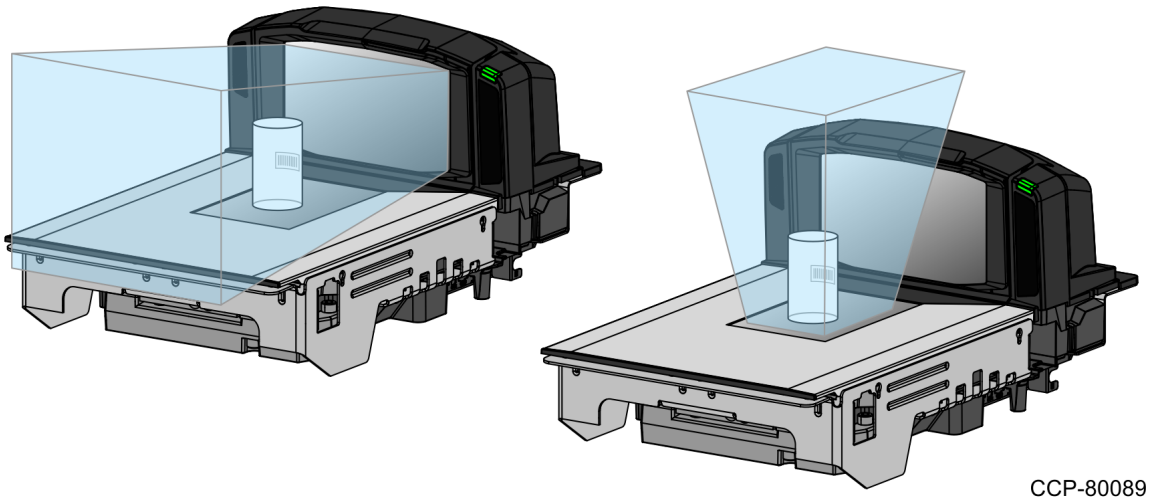
Features and Options

This section identifies features and options of the NCR 7895 Scanner/Scale.

Bi-Optic Scanning

The NCR 7895 Scanner/Scale uses its horizontal and vertical scan windows simultaneously to read 1D, 2D, Digimarc, and mobile bar codes in all orientations.

The NCR 7895 includes an automatic Infrared (IR) wake-up system that reduces power consumption. When any object is presented in the Scan Zone (field of view) of the scan windows, the red illumination LED turns on, but automatically turns off when the object is removed. When the object presented in the Scan Zone includes a bar code, the NCR 7895 scans the bar code. If the bar code is successfully decoded, the illumination LED immediately turns off when the object is removed.



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Color Camera

The color camera can be used as an industry standard UVC camera. However, for enhanced functionality, color camera configurations are best used in conjunction with the Zebra MXC7000-SDK. These enhancements are designed to support new retailer requirements such as loss prevention, item recognition, video surveillance, and more.

When the color camera is installed and connected to a USB host, the Color Camera Connection LED on the right side of the Vertical Scan Window is *On* (green). When the color camera is disconnected from a USB host or installed incorrectly, the LED is *Off*.

Auto-Discrimination

The NCR 7895 Scanner/Scale automatically discriminates and decodes a variety of bar code symbologies. It can recognize the following types of bar codes:

- 1D/2D Symbologies
    - 2 of 5 (Interleaved, Discrete, IATA, Chinese)
    - Bookland EAN
    - Code 128
    - Code 39 (Standard, Full ASCII)
    - Code 93
    - EAN-128
    - EAN-13
    - EAN-8
    - GS1 DataBar (Omnidirectional, Truncated, Stacked)
    - GS1 DataBar Expanded Coupon
    - GS1 DataBar Limited
    - GS1 DataBar Expanded (Regular, Stacked)
    - JAN-8
    - JAN-13
    - MSI/Plessey
    - TLC 39
    - Trioptic Code 39
    - UPC-A
    - UPC-E
    - UPC-E1
    - 2-digit Supplemental
    - 5-digit Supplemental

    - Codabar
    - Pharmacode (Code 32)
- 2D Symbologies
    - Aztec
    - Datamatrix
    - MicroPDF417
    - Micro QR Code
    - PDF417
    - QR Code
    - Han Xin
- Digimarc bar code

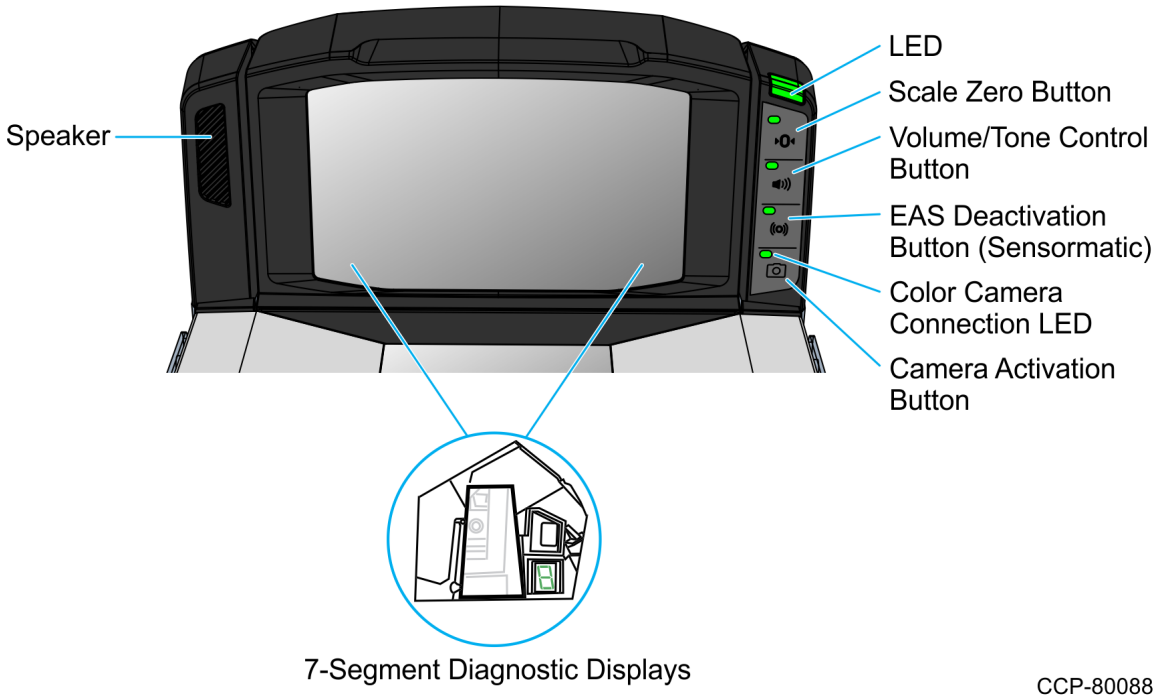
Communications Protocol

Depending on the requirements, the NCR 7895 Scanner/Scale can communicate with the host terminal in several options. These include the following:

- Powered USB connection through the NCR 7895 **POS** port
- Standard USB connection through the NCR 7895 **POS** port and with the use of the 12V DC Power Supply
- RS-232 connection through the NCR 7895 **POS** port and with the use of the 12V DC Power Supply (for future release)

Operator Interface

There is very little interface required between the operator and the NCR 7895 scanner. The scanner sends information to the operator through voice messages, audio tones, diagnostic displays, and LEDs. The operator can also use the control buttons located on the right side of the Vertical Scan Window and can view error and warning codes through the diagnostics displays.

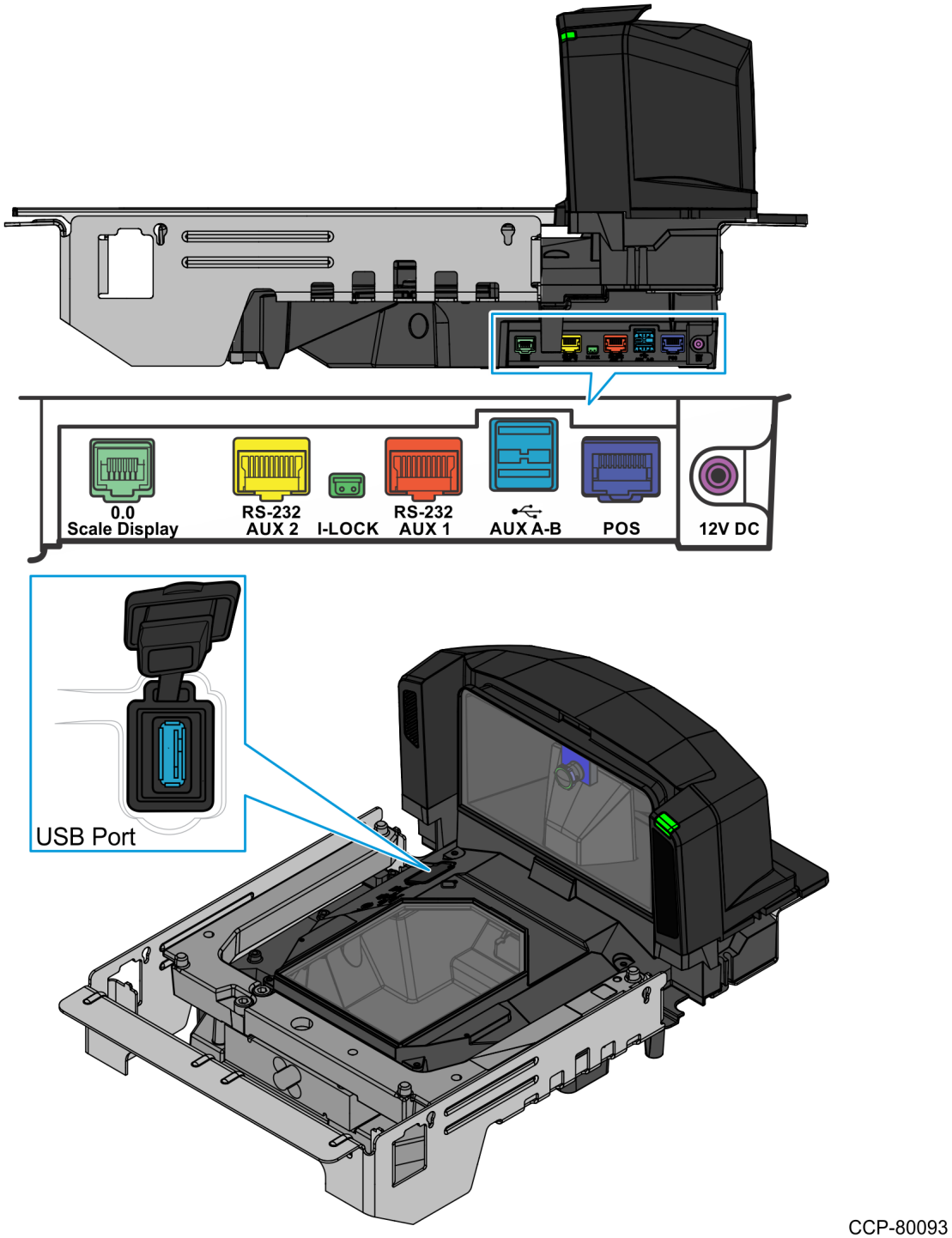


Item	Description
7-Segment Diagnostic Displays	Provides detailed status, troubleshooting information, and scale legal parameters during calibration.
Speaker	Provides audio feedback, such as voice messages and audio tones, for system status and alerts.
LED	Provides visual feedback for system statuses and alerts.
Scale Zero Button and Status LED	Resets the scale to zero and provides scale status.
Volume/Tone Control Button	Controls audible feedback by adjusting the speaker volume and tone.
EAS Deactivation Button (Sensormatic)	Indicates the state of the Sensormatic EAS device and controls manual deactivation.

Item	Description
Color Camera Connection LED	When green, verifies that the NCR 7895 color camera is on. Disconnecting and reconnecting the color camera USB cable causes the scanner to beep and toggle the LED (up to a 10-second delay).
Camera Activation Button	Activates the built-in camera that can be used to take a picture or scan a bank check.

Cable Connections

The NCR 7895 Scanner/Scale has external connectors located at the right side of the unit and an additional USB port under the Top Plate.



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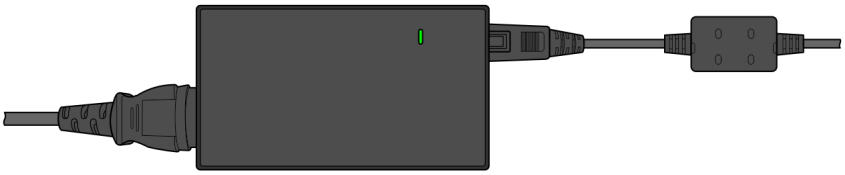
Connector	Description
Scale Display	For connecting a Scale Display
RS-232 Aux 1, RS-232 Aux 2	For connecting peripheral devices Do not connect a POS cable to any of the RS-232 Aux ports.
I-Lock (Checkpoint Interlock)	For connecting to a Checkpoint system
Aux A-B (USB 2.0 Ports)	For connecting auxiliary USB scanners and mass storage device An additional USB port is available in the front, under the platter. All USB ports can be used for the USB staging flash drive.
POS Port	For connecting a POS terminal. Supported interfaces include USB 2.0, RS-232, and RS-485 with approved NCR supplied cables.
12V DC	For connecting an external +12V, 3.33A Power Supply

Power Supply



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An optional Power Supply provides the necessary +12 Vdc voltage required by the NCR 7895 Scanner/Scale if power is not supplied by the host terminal. The AC Power Cord plugs into an electrical outlet and connects to the Power Supply. A low voltage Power Cable is integrated with the Power Supply and connects to the NCR 7895. Several AC Power Cords are available depending on the country installation. A green light at the corner of the power supply indicates that the power supply is receiving proper input voltage.

The Power Supply has the following inputs:

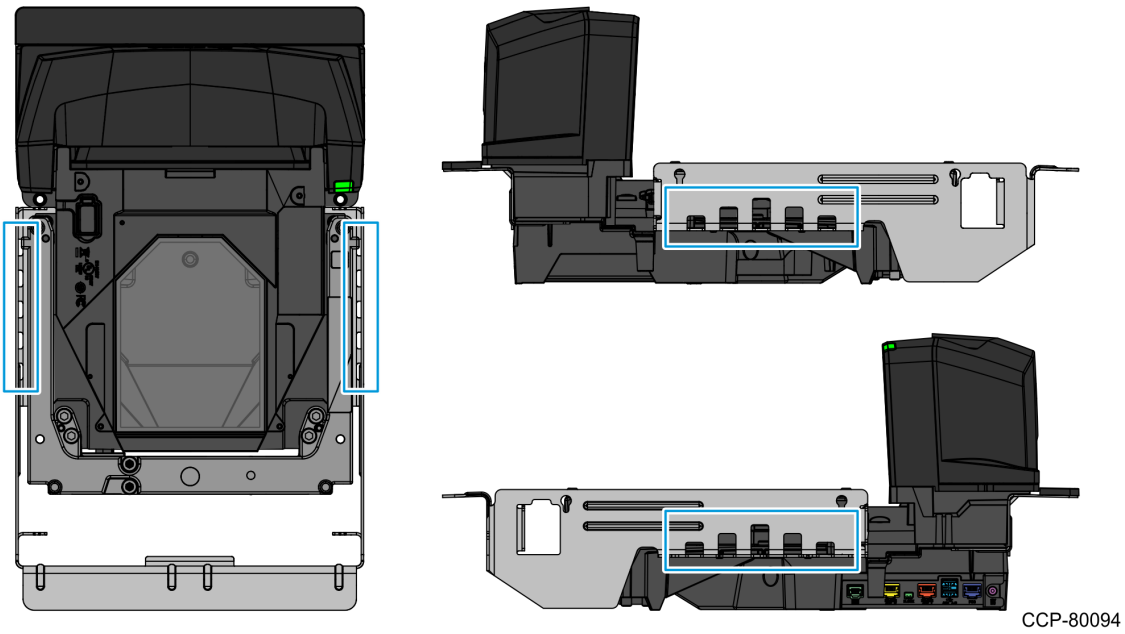
- Voltage: 100 Vac to 240 Vac
- Frequency: 50/60 Hz
- Current: 4.16 A

Note

If using an external power supply, a 115V/230V outlet must be available in the checkstand near the scanner. Some host terminal interface types can power the NCR 7895 without the use of this power supply. Please contact your NCR sales representative for details.

Drainage and Ventilation Holes

The scanner/scale housing is designed to provide adequate space for ventilation and drainage for spills. The following image shows the drainage or ventilation holes, on both sides of the NCR 7895, for possible spills that may occur when scanning or weighing items.



Parameter Programming

The NCR 7895 Scanner/Scale may need to be configured to meet specific installation requirements. The NCR 7895 can be programmed using any of the following options:

- Programming management tools, such as the 123Scan software tool, an SMS Package, and a USB staging flash drive
- Application programming interfaces, such as the Scanner SDK APIs (CoreScanner APIs), OPOS/JPOS APIs, and WMI Interfaces
- Programming bar codes

Note

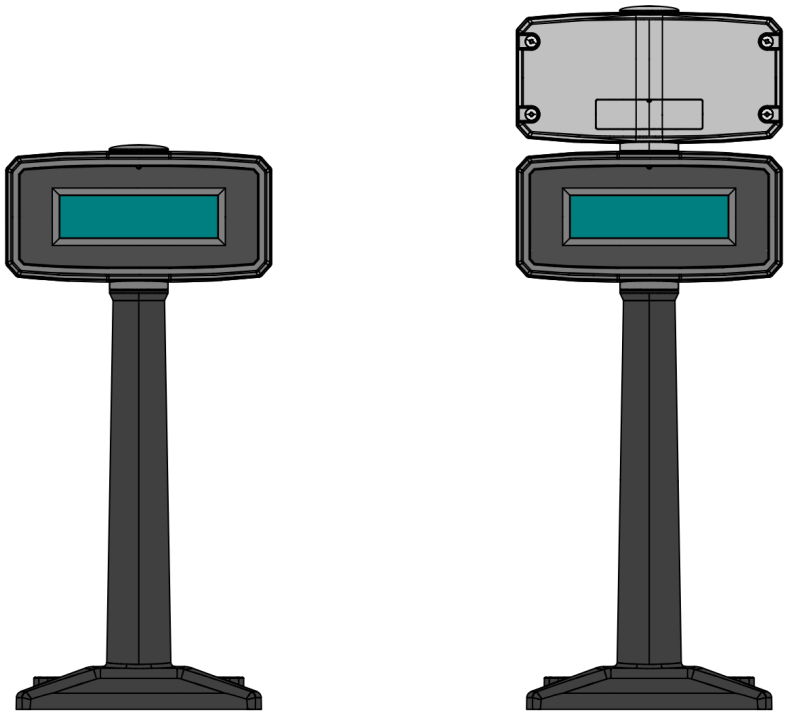
For more information on programming the NCR 7895, refer to "Programming" on page 54.

Scale

The NCR 7895 scale has a maximum static weight of 136 kg (300 lb) and is available for Full-size and Midsize models only. This Single Interval Range Scale has the same increments for the entire weight range (from zero to maximum capacity). The following are the single interval weight capacity and the increment value depending on the unit of weight.

- 0.00 lb to 30.00 lb, at increments of 0.01 lb
- 0.000 kg to 15.000 kg, at increments of 0.005 kg

Scale Display



Single Head Scale Display **Dual Head Scale Display**

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NCR 7895 Scanner/Scale models with a scale have an option for a single head or dual head Scale Display. The single head display can be positioned to provide continuous display of weight values and digital zero balance indication for both the customer and the operator. The dual head display offers more flexibility by allowing the two display heads to rotate independently.

Electronic Article Surveillance (EAS)

The NCR 7895 has integrated EAS options that allow support for the following EAS controllers:

- Sensormatic
  - Sensormatic AMB-9010
  - Sensormatic AMB-9010-IPS
- Checkpoint
  - Checkpoint Interlocked, requires interlock cable: 1432-C893-0030
  - Checkpoint Non-Interlocked

The NCR 7895 and EAS system can operate independently of each other or by using a communication cable to synchronize deactivation with bar code scanning. The deactivation range is mapped suitable to the scanner range, so both can be accomplished almost simultaneously.

Note

Checkpoint and Sensormatic EAS systems require proper installation by representatives from those companies to install, verify, and tune the system for proper EAS operation. These processes are typically done on-site.

EAS Operating Modes and Settings

EAS operating modes function when EAS is enabled at the site and are independent of whether or not EAS equipment is connected. It is the installer's responsibility to match these settings with the installed equipment. Enabling EAS without EAS equipment, or with the wrong equipment installed, displays an EAS error message.

Note

The default mode for EAS is disabled. Disable EAS when this technology is not used or if Checkpoint without interlock is used.

The following are EAS operating modes and EAS preferences for the NCR 7895:

- Sensormatic Auto
- Sensormatic Always Enabled
- Sensormatic Bar Code Interlock
- Sensormatic Bar Code Auto Interlock
- Sensormatic Self Service
- Sensormatic Scan Enable Interlock
- Checkpoint Bar Code Interlock
- Checkpoint Scan Enable Interlock
- Checkpoint Non Bar Code Interlock
- EAS Disable

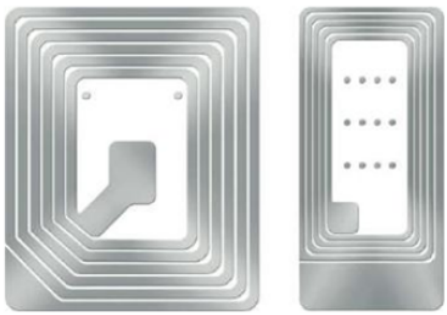
Note

For more information on beeper, warning, and error messages, refer to "Troubleshooting" on page 193. For EAS bar codes, refer to *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516).

Checkpoint Deactivation System

Checkpoint EAS soft tags can be detected and deactivated by a deactivation antenna mounted under the Top Plate. EAS labels should be brought near the antenna to be deactivated.

The following image is an example of a Checkpoint EAS soft tag.



Sensormatic Deactivation System

The Sensormatic controller includes a custom vertical and horizontal, high inductance antenna. The horizontal antenna is installed below the Top Plate, while the vertical antenna is installed behind the Vertical Scan Window. The antenna is affixed to the scanner with screws.

Note

Sensormatic EAS should always be enabled. There is no synchronization with a bar code read in this mode.

Sensormatic EAS Hard Tags

The detection of hard tags alerts users with audible Geiger counter beeps. Environments with a mix of hard and soft tags emit a unique user alert (soft/hard tag beep).

The following image is an example of a Sensormatic EAS hard tag.

Sensormatic EAS Soft Tags (Labels)

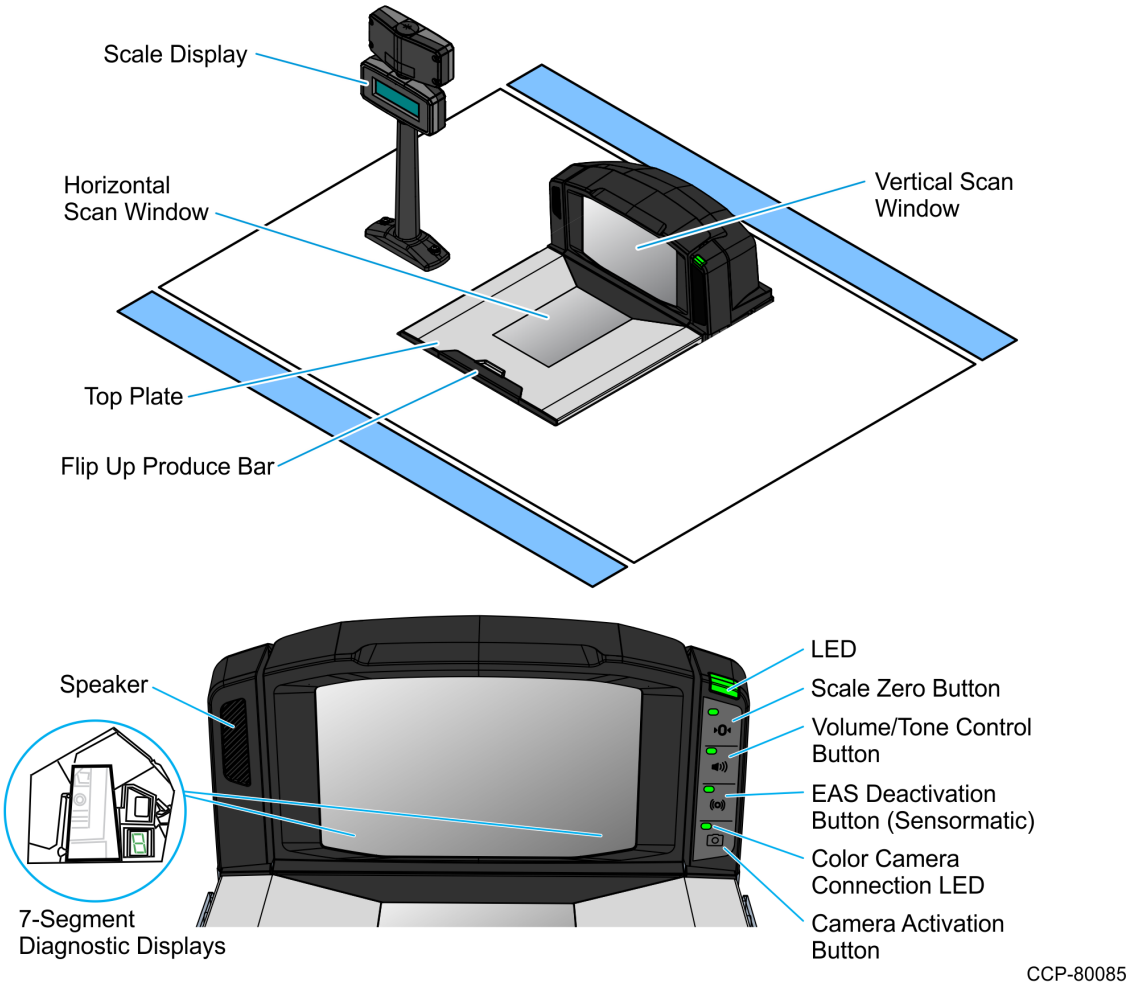
Deactivation of soft tags alerts users with audible Geiger counter beeps. Deactivation of soft tags synchronized with a bar code scan alerts users with audible Geiger counter beeps. Soft tags can be disabled, and they can also be reset using a Sensormatic tag re-setter.

The following image is an example of a Sensormatic EAS soft tag.

Operation

The NCR 7895 Scanner/Scale requires very little attention during operation. It is designed to reduce the amount of bar code orientation prior to scanning an item.

System Controls

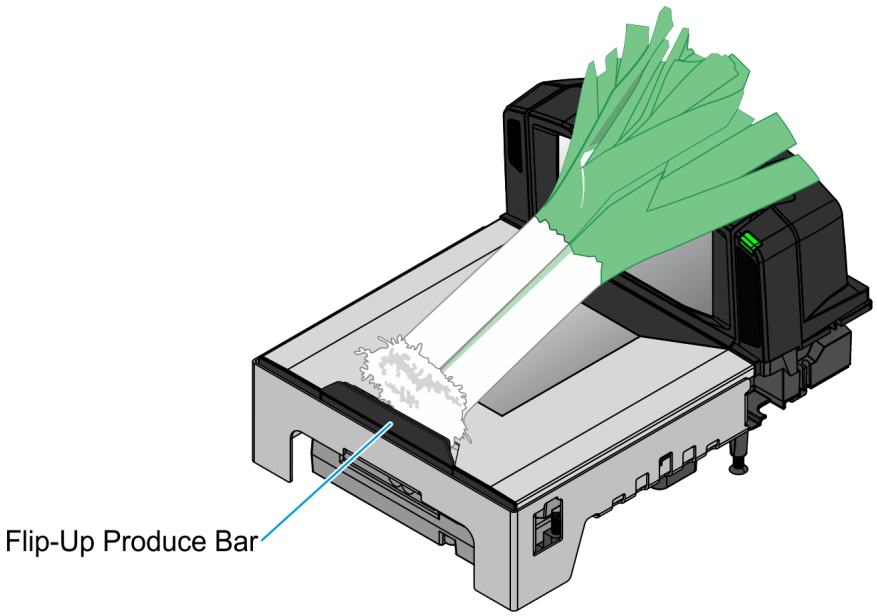


Top Plate

The Top Plate contains the Horizontal Scan Window Glass, which is the imaging window for processing bar code data. Items being scanned are passed from the checkstand, across the Top Plate, and back onto the checkstand. The checkstand construction permits the items to be slid along the surface without lifting the product. The Top Plate also provides a surface for placing items when weighing them.

Occasionally, dirt and debris can collect under the Top Plate. The Top Plate can be easily removed to clean these obstructions.

Flip-Up Produce Bar



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The Flip-Up Produce Bar helps weigh very long or round items by preventing the items from falling off the scale and by ensuring accurate weighing.

Note

The Flip-Up Produce Bar is included in all midsize units with scale.

Vertical and Horizontal Scan Windows

The NCR 7895 reads 1D, 2D, Digimarc, and mobile bar codes in all orientations. It also scans difficult symbols, such as truncated, poor contrast, and damaged bar codes.

The Vertical Scan Window is mounted in the tower cabinet that rises above the checkstand surface. The vertical window is chemically tempered, and can sustain normal product impact. In case of abusive impact outside of normal usage, this window is laminated with anti splinter film to ensure the any glass shard remains intact to the window assembly.

The Horizontal Scan Window is flush-mounted in the stainless steel Top Plate. The horizontal window is a clear, scratch-proof sapphire built for long term reliability and clarity. The flush-mounted Horizontal Scan Window permits users to slide a product across the Top Plate without lifting the product.

Scale Display

The Scale Display is used with scale units to display weight and scale status information. Its cable connects to the Scale Display connector at the right side of the NCR 7895. The display is also used to display error codes that indicate specific scale failures. During scale calibration, certain messages are displayed on the scale display to guide through the calibration procedure.

Both single head and dual head displays show gross weight in pounds, or kilograms, or both, depending on location.

7-Segment Diagnostic Displays

The 7-Segment Diagnostic Displays provide error and warning codes, scale legal parameters, and lead through help during scale calibration. It is visible inside the Vertical Scan Window.

The 7-segment display scrolls letter and number messages one character at a time. When a message is completed, the display pauses for two seconds and then repeatedly shows the same message until the issue is resolved or the process is completed.

- If the message is an error or a warning, it is repeatedly shown until the issue is resolved.
- If the message is related to scale calibration, it is repeatedly shown until calibration is completed.
- If the message is related to the CAL/PAR display, it is repeatedly shown until the inspector or tester releases the **Scale Zero** button.

Note

When there are no issues, a dash is displayed to show that the 7-segment display is operational. For more information on error codes and other messages, refer to "Troubleshooting" on page 193.

Status Indicator LED

The LED is located on the right side of the NCR 7895 and provides visual feedback for system status and alerts. The LED provides the following feedback:

- **Green**—the unit is operating normally.
- **Blinking Red or Blinking Green**—indicates a warning. The unit continues to operate with possible performance degradation.
- **Solid Red**—indicates a fault. The unit does not operate correctly unless the error is resolved.

Note

For more information on LED indications, refer to "Troubleshooting" on page 193.

Scale Zero Button and Status LED

The Scale Zero button is active only if the NCR 7895 contains a scale. This button resets the scale to zero within legal limits according to local Weights and Measures regulations. The Scale Status LED can be *Solid Green*, *Flashing Green*, or *Off*.

The allowable zeroing weight limit is configurable. For more information, refer to the *Maximum Scale Zeroing Weight Limit* parameter in the *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516).

Note

For more information on Scale Status LED indications, refer to **"Troubleshooting"** on page 193.

Volume/Tone Control Button

The Volume/Tone Control Button allows users to select settings for audible system indications. Users can control the audible feedback in the following situations:

- Decoding
- Completion of a request (for example, successful decode of a bar code and Sensormatic beep)
- Error conditions
- Processing a request that takes an extended amount of time (for example, scanning a sequence of parameter bar codes). This audible indication informs users that the scanner is working and not malfunctioning.

Note

If the decode tone is set to *Off*, the Volume/Tone Control button on the NCR 7895 is not operational. To enable the Volume/Tone Control Button, set a tone option other than the *Off* tone. For more information, refer to the beeper and tone settings in the *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516).

Adjusting Volume and Tone

To adjust volume and tone, do the following:

- To sound the current scanner beep volume level, press and release the **Volume/Tone Control** button.
- To change the scanner decode volume, press and release the **Volume/Tone Control** button twice within two seconds.
- To change to another tone, press and hold **Volume/Tone Control** button for three seconds .

Each volume or tone change produces an audible beep when the new setting is complete. Volume and tone wrap from high to low.

Note

For more information on Beeper and LED indications, refer to "Troubleshooting" on page 193.

EAS Deactivation Button

The EAS Deactivation Button indicates the state of the Sensormatic EAS device. The LED is yellow/amber and can be *Solid On*, *Flashing*, or *Off*.

Note

For more information on EAS Deactivation indications, refer to "Troubleshooting" on page 193.

Color Camera Connection LED

When the color camera is installed and connected to a USB host, the Color Camera Connection LED on the right side of the Vertical Scan Window is *On* (green). When the color camera is disconnected from a USB host or installed incorrectly, the LED is *Off*.

Note

For more information on Beeper and LED indications, refer to "Troubleshooting" on page 193.

Camera Activation Button

The Camera Activation Button activates the built-in camera that can be used to take a picture or scan a bank check. These features are only available when the Camera Activation Button is enabled (parameter # 1716) and the interface is USB Symbol Native API (SNAPI). When both of these conditions are met, the Camera Activation LED illuminates.

Note

The ability to use the data from the camera may depend on the POS or system using the device.

To access the NCR 7895 programmable parameters, refer to the *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516).

Capturing an Image

1. Press and release the **Camera Activation** button.
2. Within two seconds, place an item on the horizontal glass closest to the Vertical Scan Window. The camera then captures the image, and the scanner emits a camera shutter sound.

   Note

   During the two-second time frame, the scanner emits a periodic click.

Both time duration and camera location are programmable features.

- Camera Button Delay Time (parameter # 1717) offers delays in increments of 100 ms.
- Image Capture Camera Selection (parameter # 1715) offers a camera location in the tower (default) or Top Plate.

Scanning a Bank Check

1. Press, hold, and release the **Camera Activation** button for more than 0.5 seconds.
2. Within 10 seconds, slide the check across the Top Plate. The camera then scans the bank check, and the scanner beeps to indicate a successful scan.

> **Note**
> If the scan is unsuccessful, the scanner beeps four times.

Soft Reset Buttons

A soft reset of the NCR 7895 can be initiated by pressing the **Scale Zero** button and the **EAS Deactivation** button simultaneously for more than eight seconds. The scanner then emits a beeping sound for two seconds and then resets the system.

Operating Procedures

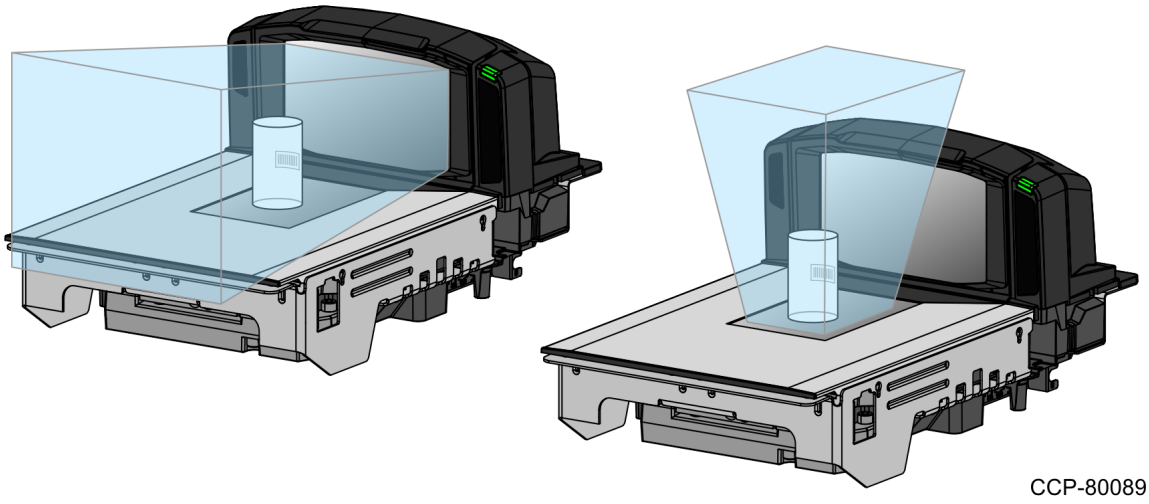
The NCR 7895 is extremely easy to operate. However, there are certain functions and procedures that the operator needs to understand in order to be proficient at operating the NCR 7895.

Turning the Scanner ON and OFF

The NCR 7895 does not have an ON/OFF switch. If powered by the +12 Vdc external power supply, turn on power by applying AC power to the external power supply and turn off power by removing power from the AC power supply. For host terminal powered installations, turn on power by turning on the host terminal and turn off power by turning off the host terminal.

Scanning Items

The active field of view (FOV) or Scan Zone is the area where the scanner can read a bar code label. The following illustration shows the active Scan Zone. Items are typically passed right-to-left or left-to-right through the Scan Zone.

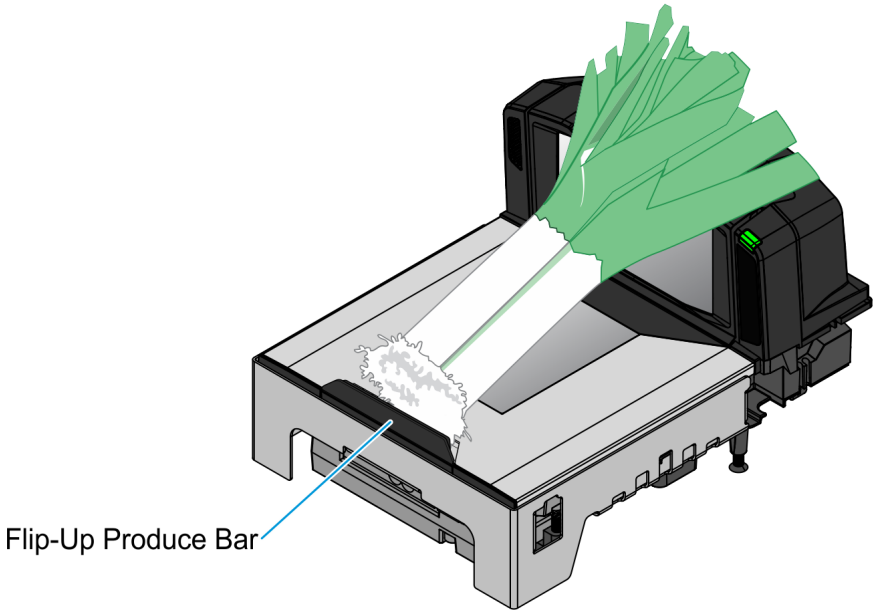


To scan items, follow these steps:

1. Verify that the scanner is ready.
2. Pass the item through the Scan Zone by sliding the item from the checkstand, across the Top Plate, and back onto the checkstand. The scanner beeps (if programmed) and the Green LED flashes momentarily to indicate a successful scan.

> **Note**
>
> If the scan is unsuccessful, try to orient the label and scan the item again. If this does not work after two more tries, manually enter information for the item, and then continue to scan.

Weighing Items



CCP-80084

Long items may be weighed by laying them on the Flip-Up Produce Bar to prevent them from falling off the scale.

Note

The Flip-Up Produce Bar is included in all midsize units with scale.

To weigh items, follow these steps:

1. Ensure all items are removed from the Top Plate, and the Top Plate is in place.
2. Verify that the Scale Display reads 0.00 kg (0.000 lb).

   Note

   If 0.000 kg (0.00 lb) is not displayed, reset the scale by touching the **Scale Zero** button.

3. Place an item at the center of the Top Plate. Make sure that item fits fully on the Top Plate (or on the tower and Flip-Up Produce Bar for longer items) and does not overhang.

The following are possible responses after weighing an item:

- If enabled through programming, the scanner emits a tone to indicate transmission of a stable, non-zero weight.
- If weighing does not occur, press **CLEAR** on the POS and try entering the weighed item's PLU number again.
- If an error code displays or the scanner emits an error beep, remove the item from the Top Plate, remove the Top Plate, and clean any debris under the Top Plate. Replace the Top Plate, and then press the **Scale Zero** button to reset the scale. When the Scale Display reads 0.000 kg (0.00 lb), weigh the item again.

Note

For more information, refer to "Scale Warning Codes" on page 211.

Cleaning Procedures

The NCR 7895 should be kept in good operating condition by performing the following routine maintenance. Keeping the Scan Windows clean helps keep the read rate exceptionally high. During normal operation the Horizontal Scan Window gets dirty. As dirt accumulates, performance degrades to the point where the scanner cannot read bar codes. The Horizontal Scan Window should be cleaned at least once a day.

Note

Before cleaning the NCR 7895, ensure that it is turned *Off*. Do not spray or pour any liquids onto the NCR 7895. Moisten a soft cloth with lukewarm water and then wipe the components.

Scanner Body

Clean the scanner body using the following.

- Soft cloth dampened by lukewarm water and mild soap.
- Soft, dry cloth to wipe the surface dry.

Vertical Scan Window

Clean the Vertical Scan Window with a soft cloth damped with lukewarm water.

Top Plate and Horizontal Scan Window

1. Remove the Top Plate and clean the Horizontal Scan Window glass using a soft cloth moistened with lukewarm water.
2. Clean the cover that is under the Top Plate (and the window in it) by wiping the surfaces with the moistened cloth.

   Note

   Do not scrub the clear plastic cover excessively or use excessive force during the cleaning process. Be sure to remove any debris that may be accumulated on this plastic cover.

3. Re-install the Top Plate.

Programming

The NCR 7895 Scanner/Scale can be programmed using any of the following options:

- Programming management tools
  - **123Scan software tool**—programs scanner parameters, upgrades firmware, displays scanned bar code data, scanning statistics, battery health, asset data and prints reports. For more information, refer to "123Scan Software Tool" on the next page.

    Note

    If an NCR 7895 scans a programming 2D bar code generated by 123Scan, it only programs the NCR 7895. If an auxiliary scanner is used with the NCR 7895, the auxiliary scanner must be programmed separately to be configured.

  - **Scanner Management Service (SMS) Package**—a file used together with the SMS agent to manage a scanner remotely by programming parameters and updating firmware. For more information, refer to "Scanner Management Service Package" on page 103.
  - **USB staging flash drive**—sets up the scanner, performs scanner cloning, collects scanner data. For more information, refer to "USB Staging Flash Drive" on page 128.
- Application programming interfaces
  - Scanner SDK APIs (CoreScanner APIs)
  - Scanner OPOS/JPOS APIs
  - WMI Interfaces
- Programming bar codes

  Note

  For parameter bar codes necessary to configure the NCR 7895, refer to *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516).

123Scan Software Tool

123Scan is a software tool for customizing scanner operation. Intuitive enough for first time users, the 123Scan wizard guides users through a streamlined setup process. Settings are saved in a configuration file that can be printed as a single programming bar code for scanning, emailed to a smart phone for scanning from its screen, or downloaded to the scanner using a USB cable.

Through 123Scan, users can perform the following:

- Configure a scanner using a wizard
    - Program the following scanner settings:
        - Beeper tone / volume settings
        - Enable / disable symbologies
        - Communication settings
    - Modify data before transmission to a host using Advanced Data Formatting (ADF) by scanning one bar code per trigger pull
- Load parameter settings to a scanner through the following options:
    - Bar code scanning
        - Scan a paper bar code
        - Scan a bar code from a PC screen
        - Scan a bar code from a smart phone screen
    - Download over a USB cable
        - Load settings to one scanner
        - Stage up to 10 scanners simultaneously
- Validate scanner setup
    - View scanned data within the utility's Data View screen
    - Capture an image and save to a PC within the utility's Data View screen
    - Review settings using the Parameter Report
    - Clone settings from an already deployed scanner

- Upgrade scanner firmware
    - Load settings to one scanner
    - Stage up to 10 scanners simultaneously with a power USB hub
- View statistics such as the following:
    - Asset tracking information
    - Time and usage information
    - Bar codes scanned by symbology
    - Communication diagnostics
- Generate the following reports:
    - Bar code Report—programming bar code, included parameter settings, and supported scanner models
    - Parameter Report—list of parameters programmed within a configuration file
    - Activity Report—list of activities performed on a scanner or scanners
    - Inventory Report—list of scanner asset tracking information
    - Validation Report—printout of scanned data
    - Statistics Report—list of all statistics retrieved from the scanner

Requirements

The following are required to use the 123Scan utility:

- Host computer running Windows OS
- Scanner
- USB cable to connect the scanner to a Windows host computer
- Zebra CoreScanner Driver
    - Included in the 123Scan installation package
    - Supported operating systems:
        - Windows 7 (32-bit and 64-bit)
        - Windows 10 (32-bit and 64-bit)
- Zebra Bioptic Color Camera SDK for Windows
    - Supported operating systems:
        - Windows 7 (32-bit and 64-bit)
        - Windows 10 (32-bit and 64-bit)
    - Download link: http://www.zebra.com/us/en/support-downloads/software/developer-tools/bioptic-color-camera-sdk-for-windows.html

Installing NCR 123Scan

Note

It is recommended to install the latest version of the NCR 123Scan utility.

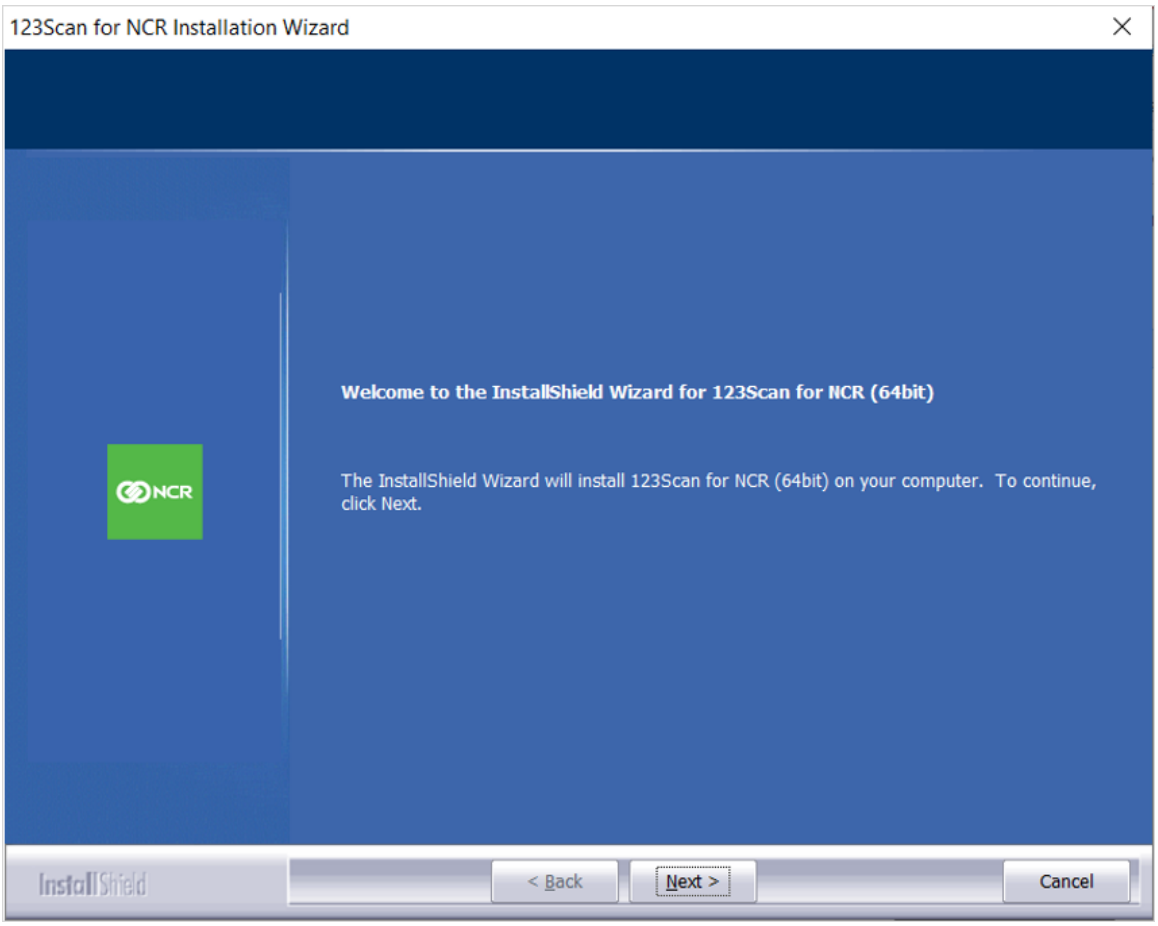
Installation procedures for the 123Scan utility depend on the NCR 7895 model. For more information, refer to the following:

- "Installing on NCR 7895 Monochrome Models" on the next page
- "Installing on NCR 7895 Color Models" on page 61

Installing on NCR 7895 Monochrome Models

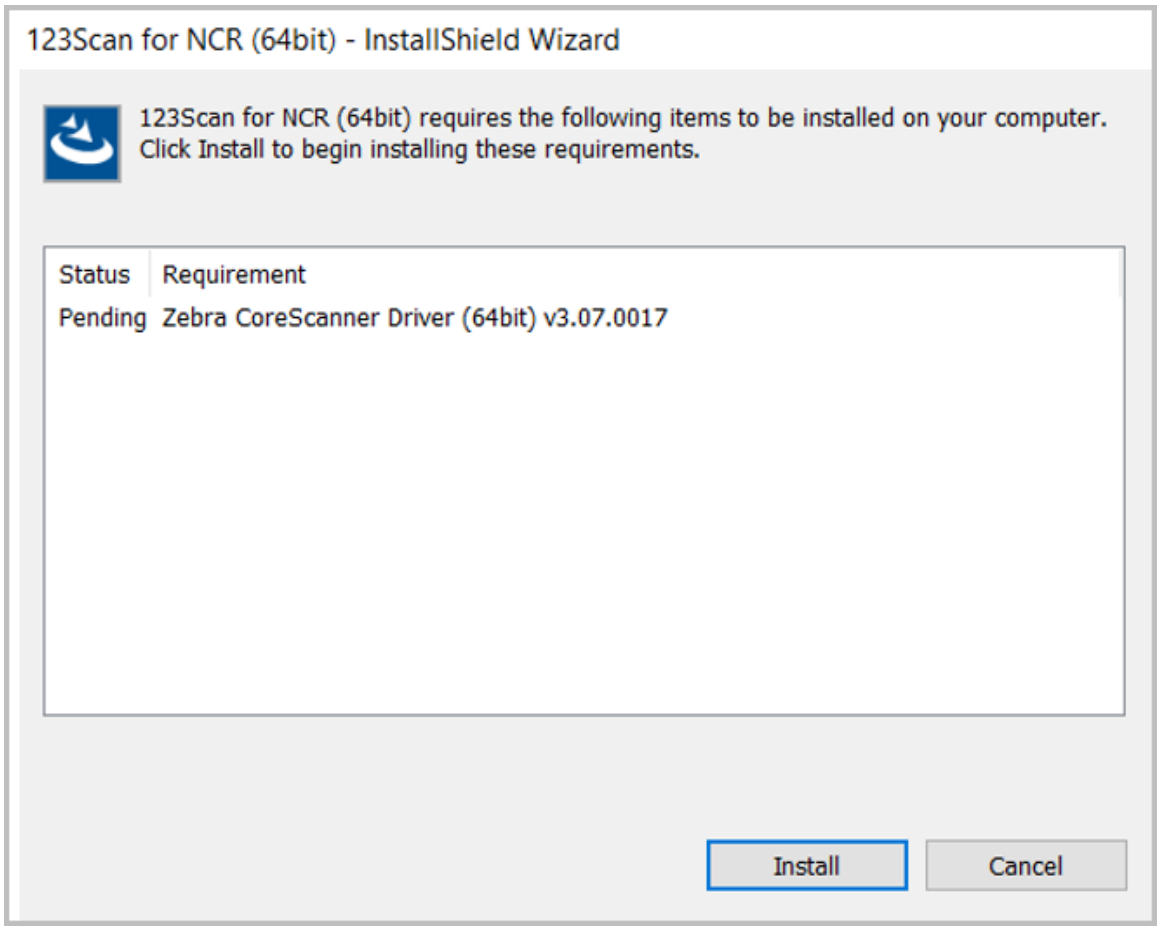
To install the NCR 123Scan utility for NCR 7895 Monochrome models, follow these steps:

1. Download the **123Scan Configuration Utility** from https://www5.ncr.com/support/text/Peripherals/7895Utility.htm.
2. Double–click the `123Scan_for_NCR_(64bit)_vx.xx.xxxx.exe` file to run the installer. The application displays the Welcome screen.



Note

If no Zebra CoreScanner driver is installed in the system or the pre-installed CoreScanner driver version is not the latest version included in 123Scan installation package, the setup wizard prompts to install the latest Zebra CoreScanner Driver.



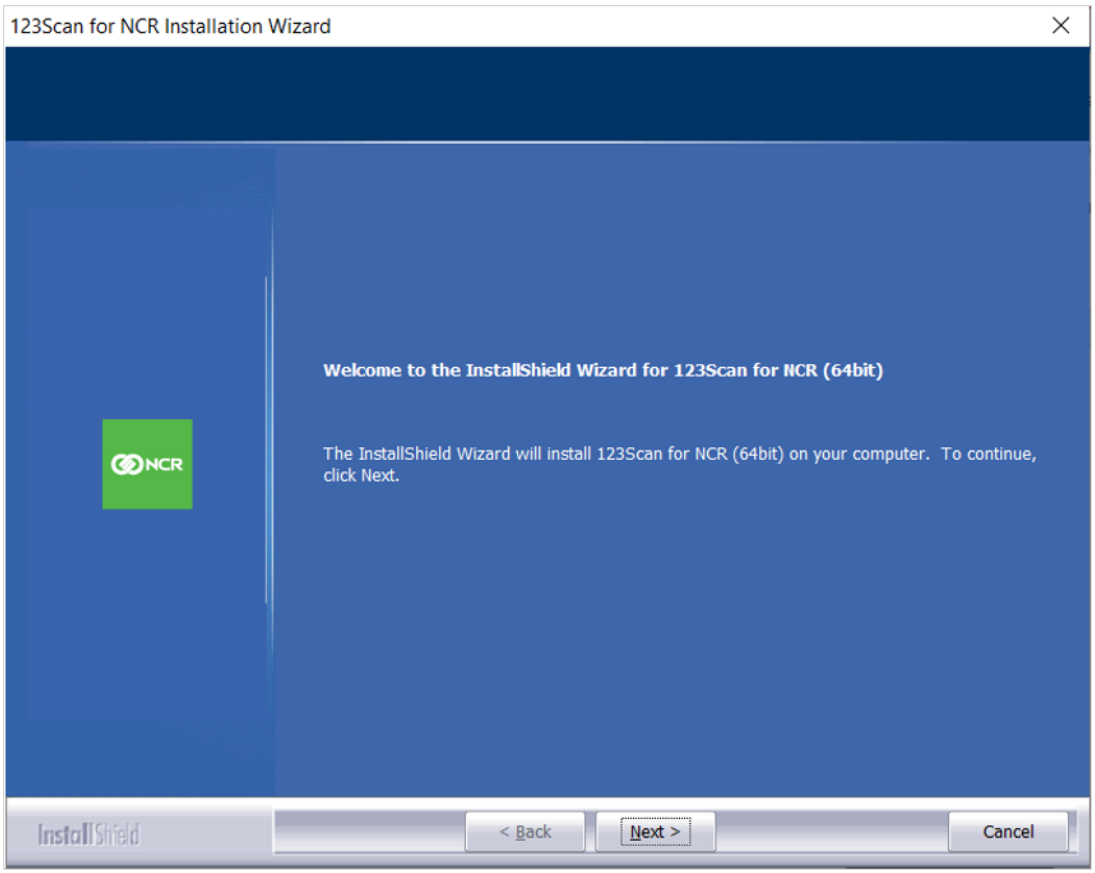
- Select **Install** to start installing the CoreScanner driver. After installing the driver, the application displays the Welcome screen.

3. On the Welcome screen, select **Next**. The application displays the End User License Agreement.
4. Select **Yes** to accept the agreement, and then follow the onscreen instructions.
5. When the installation is complete, select **Finish**. The application closes the installation window.
6. Reboot the computer or POS terminal.

Installing on NCR 7895 Color Models

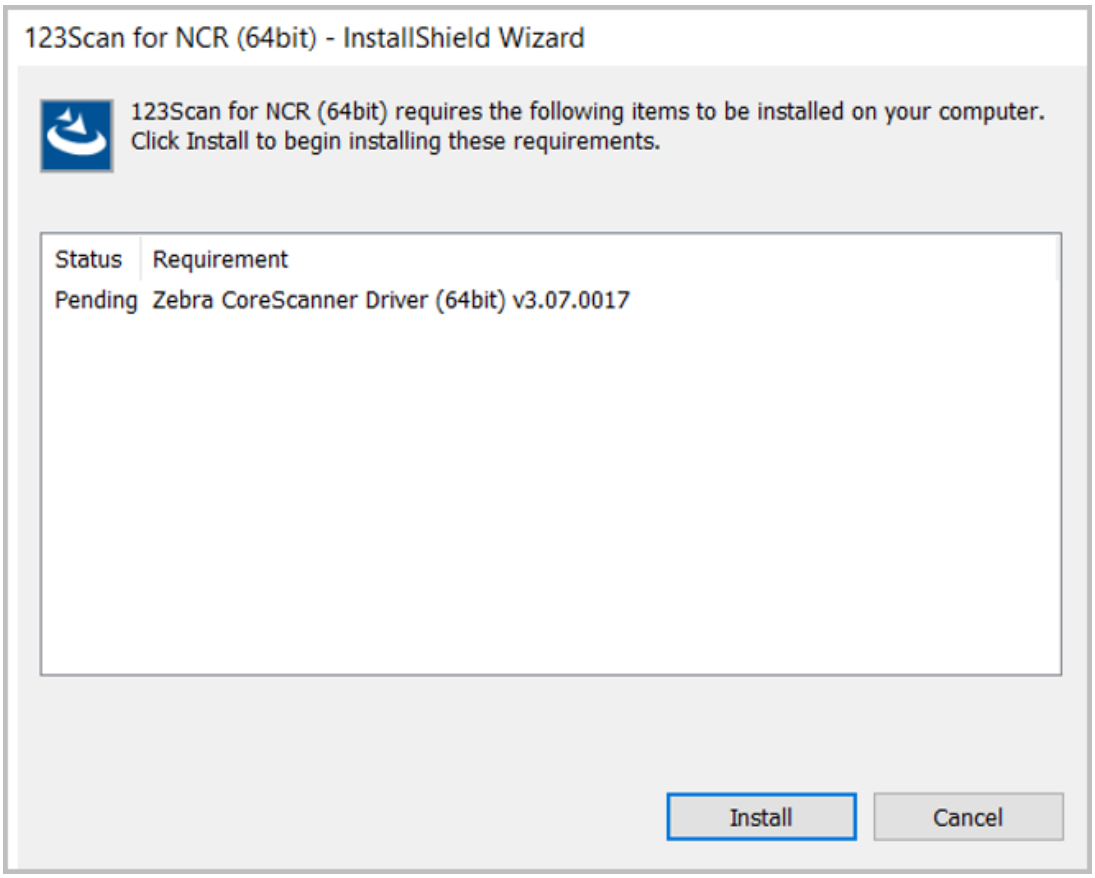
To install the NCR 123Scan utility for NCR 7895 Color models, follow these steps:

1. Download and install the **123Scan Configuration Utility**.
    a. Download the **123Scan Configuration Utility** from https://www5.ncr.com/support/text/Peripherals/7895Utility.htm.
    b. Double–click the `123Scan_for_NCR_(64bit)_vx.xx.xxxx.exe` file to run the installer. The application displays the Welcome screen.



Note

If no Zebra CoreScanner driver is installed in the system or the pre-installed CoreScanner driver version is not the latest version included in 123Scan installation package, the setup wizard prompts to install the latest Zebra CoreScanner Driver.



- Select **Install** to start installing the CoreScanner driver. After installing the driver, the application displays the Welcome screen.

c. Select **Next**. The application displays the End User License Agreement.

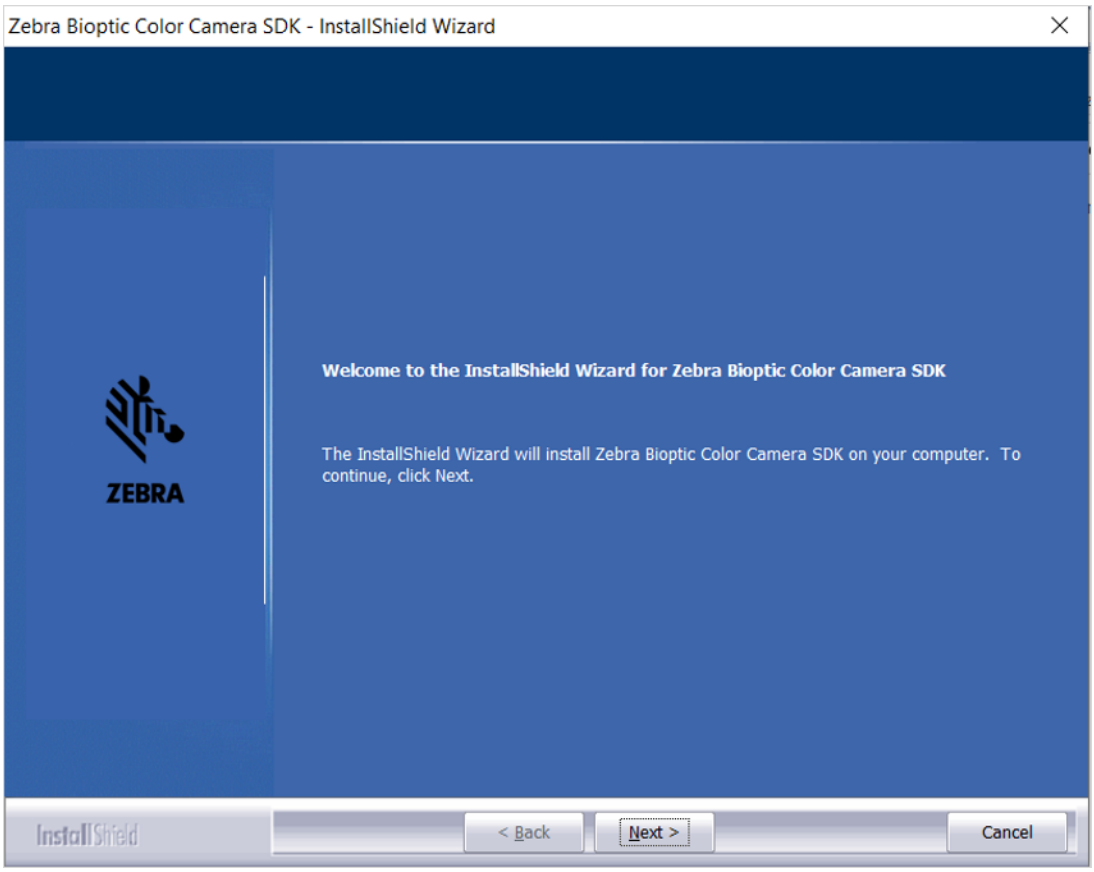
d. Select **Yes** to accept the agreement, and then follow the onscreen instructions.

e. Select **Finish**. The installation is complete and the application closes the installation window.

2. Download and install the **Bioptic Color Camera SDK**.

   a. Download the **Bioptic Color Camera SDK** from https://www.zebra.com/us/en/support-downloads/software/developer-tools/bioptic-color-camera-sdk-for-windows.html.

   b. Double–click the `Zebra_Bioptic_Color_Camera_SDK_vx.xx.xxx.exe` file to run the installer. The application displays the Welcome screen.



c. Select **Next**. The application displays the End User License Agreement.

d. Select **Yes** to accept the agreement, and then follow the onscreen instructions.

e. When the installation is complete, select **Finish**. The application closes the installation window.

3. Reboot the computer or POS terminal.

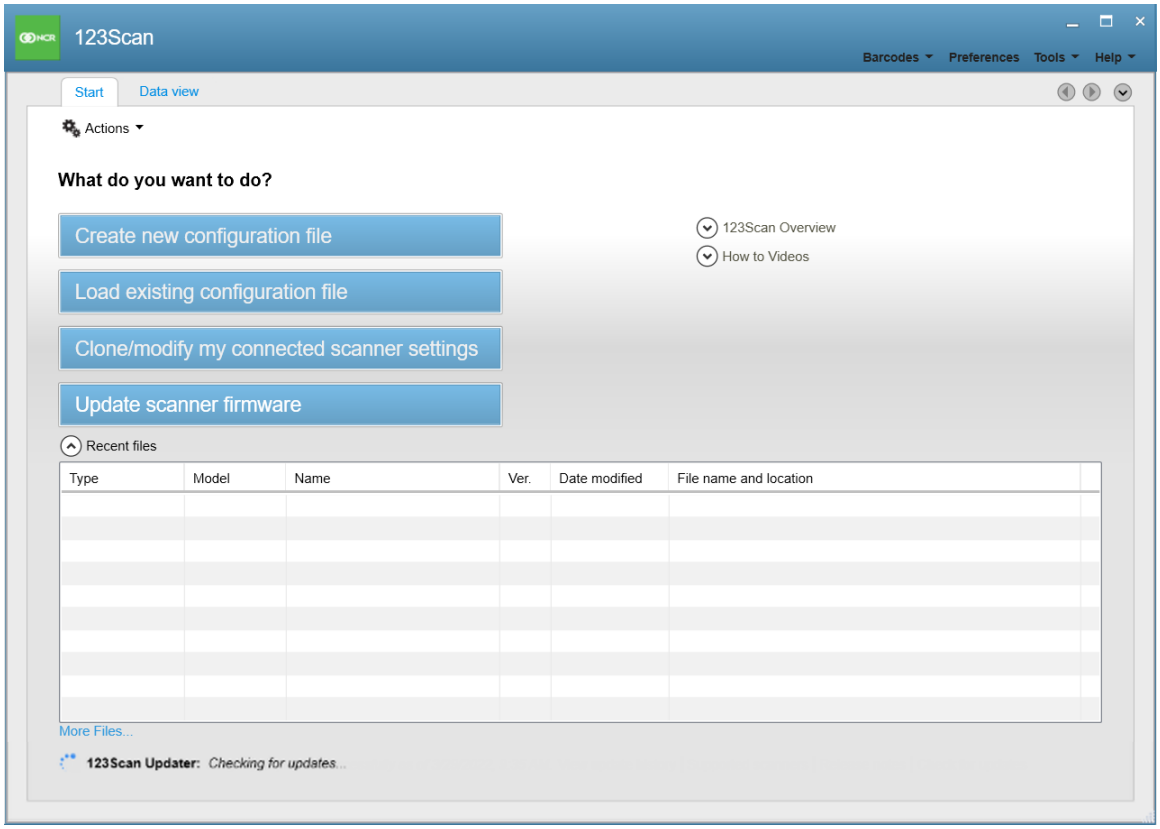
Launching NCR 123Scan

To launch the NCR 123Scan utility, follow these steps:

1. Launch the 123Scan utility by doing any of the following:
    - From the Windows taskbar of the computer or POS terminal, select **Start→Zebra Scanner→ 123Scan for NCR - Configuration Utility**.
    - From the Desktop, double–click the **123Scan for NCR** shortcut icon.

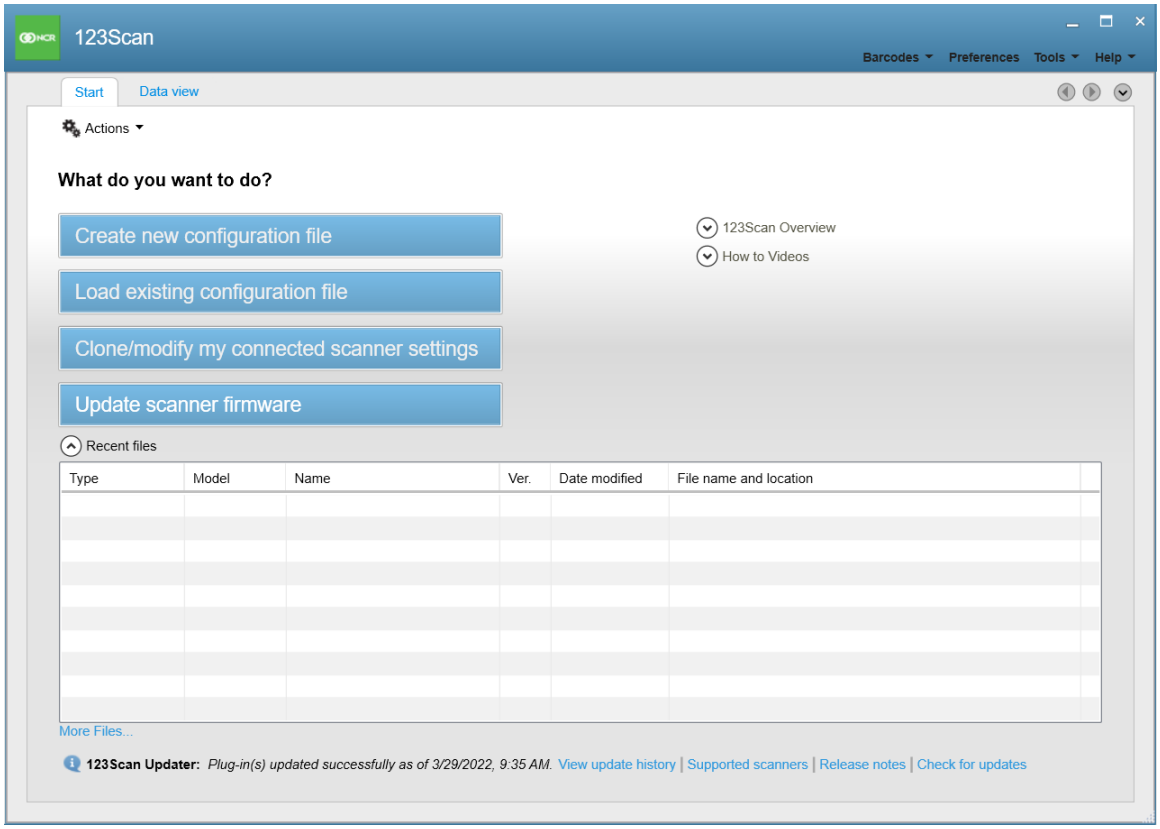
    The application displays the Start tab of the main window and automatically checks for the latest firmware plug-ins updates online.

> **Note**
>
> The application displays the 123Scan Updater status at the bottom of the main window.

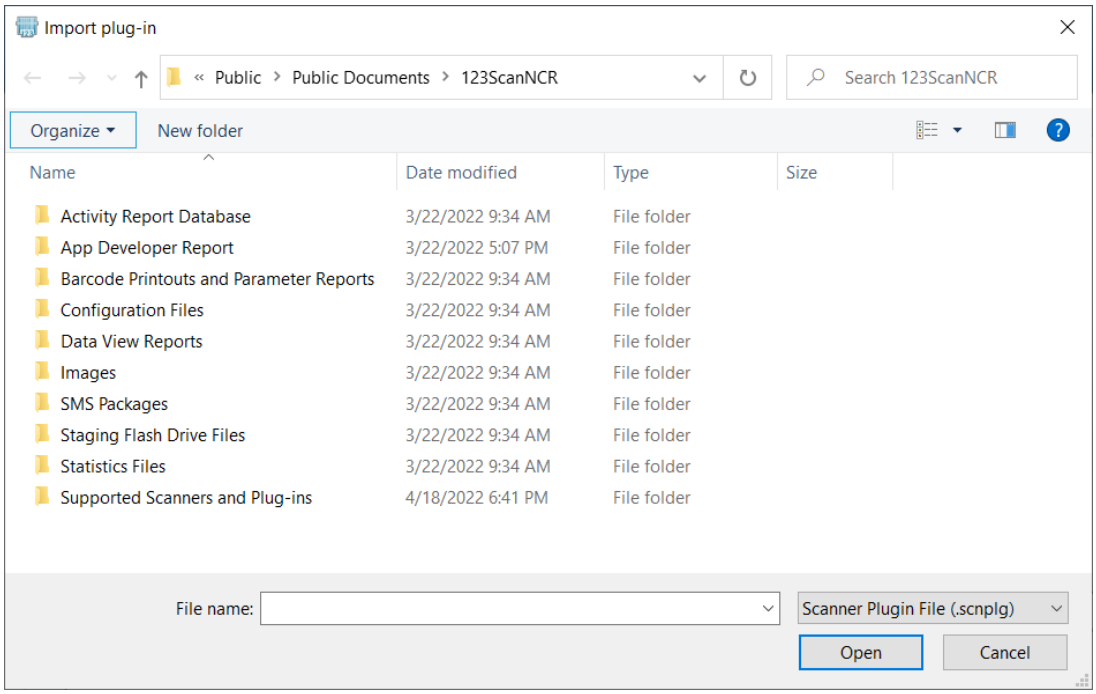


Note

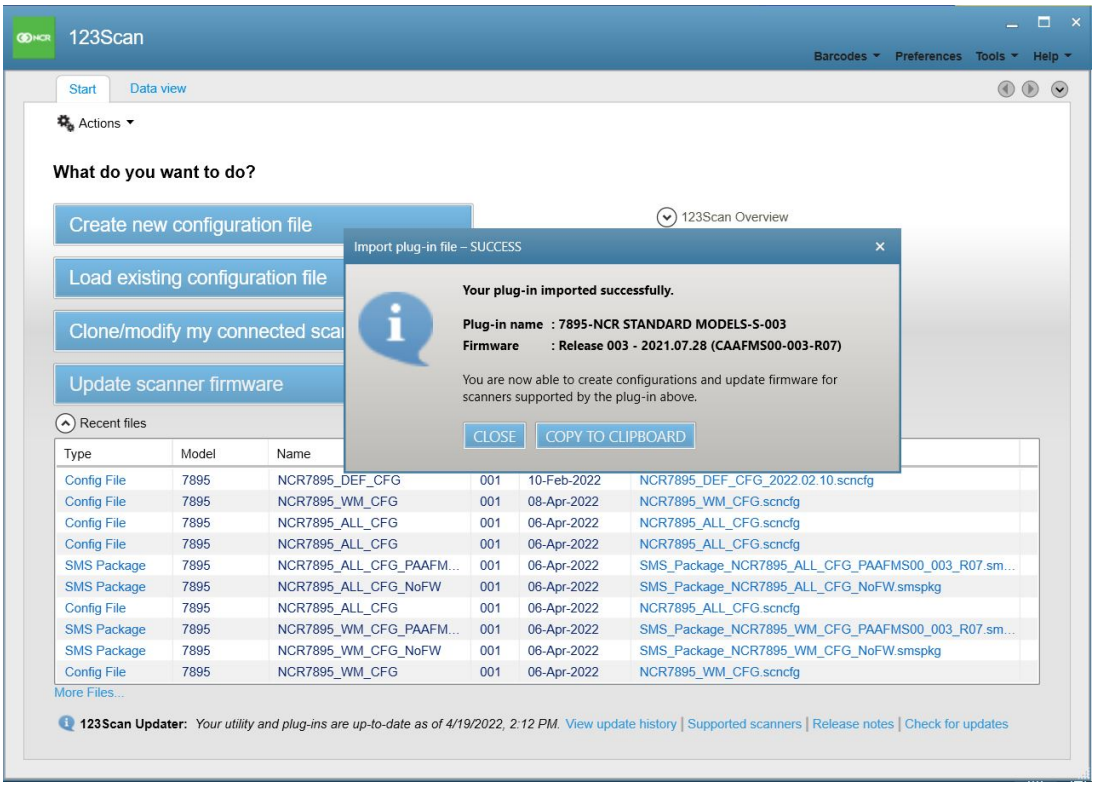
If updates are available, the application downloads and installs the updates to the scanner. The application displays the 123Scan Updater status at the bottom of the main window.



2. If additional plug-ins are required, do the following:
    a. From the upper-right section of the main window, select **Tools→ Import plug-in into 123Scan**. The application displays the Import plug-in window.



b. Browse for the scanner plugin file (`.scnplg`), and then select **Open**. The application installs the updates to the scanner and displays a notification after it successfully imports the plug-in.



Note

Select **Close** to close the notification.

Setting Up the Scanner

To set up the scanner with 123Scan utility, follow these steps:

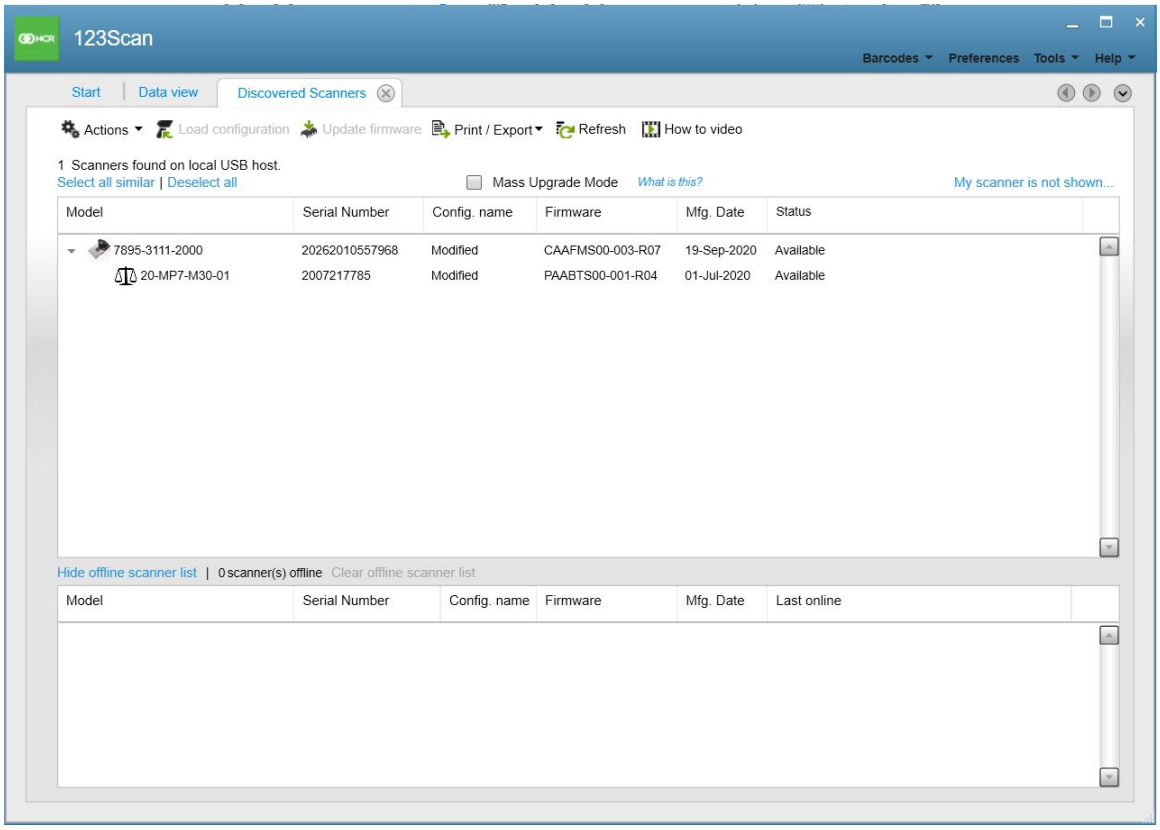
1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

   Note

   If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.

3. Verify that the application detects the NCR 7895 scanner by selecting **Action→ View USB Scaners** on the upper-right section of the Start tab. The application displays the list of detected scanners.



Note

If the scanner is not detected, do the following:

- Ensure that the NCR 7895 scanner uses a USB communication cable to connect to a computer or POS terminal.
- Ensure that the USB communication cable is not defective. If defective, replace the cable.
- Ensure that the scanner is not defective by checking its ports and hardware components.

Programming the Scanner Using 123Scan

Through 123Scan utility, parameter settings can be programmed or configured into the scanner using any of the following options:

- "Programming Using a USB Communication Cable" below
- "Programming Using 123Scan Configuration Bar Codes" on page 73

Programming Using a USB Communication Cable

To configure parameter settings of the scanner using 123Scan and a USB communication cable, follow these steps:

1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

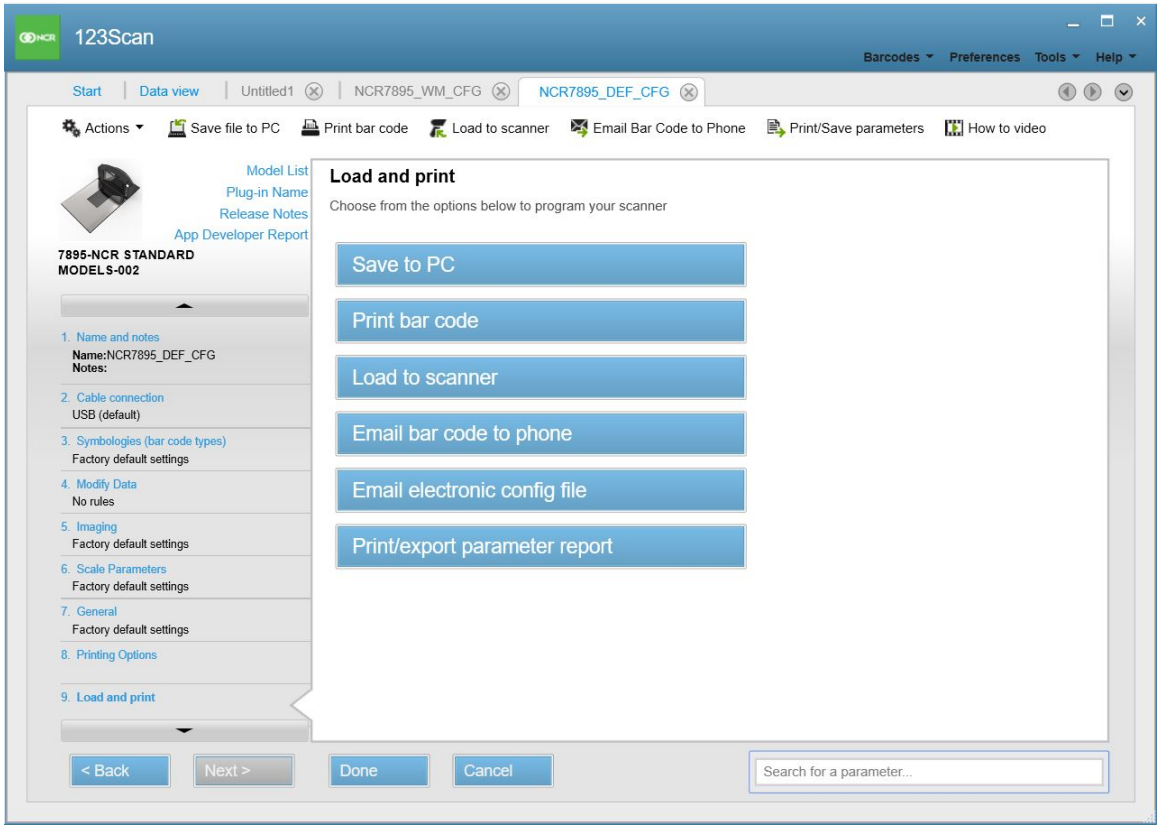
   Note
   If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.
3. From the Start tab of the 123Scan main window, select one of the following options.

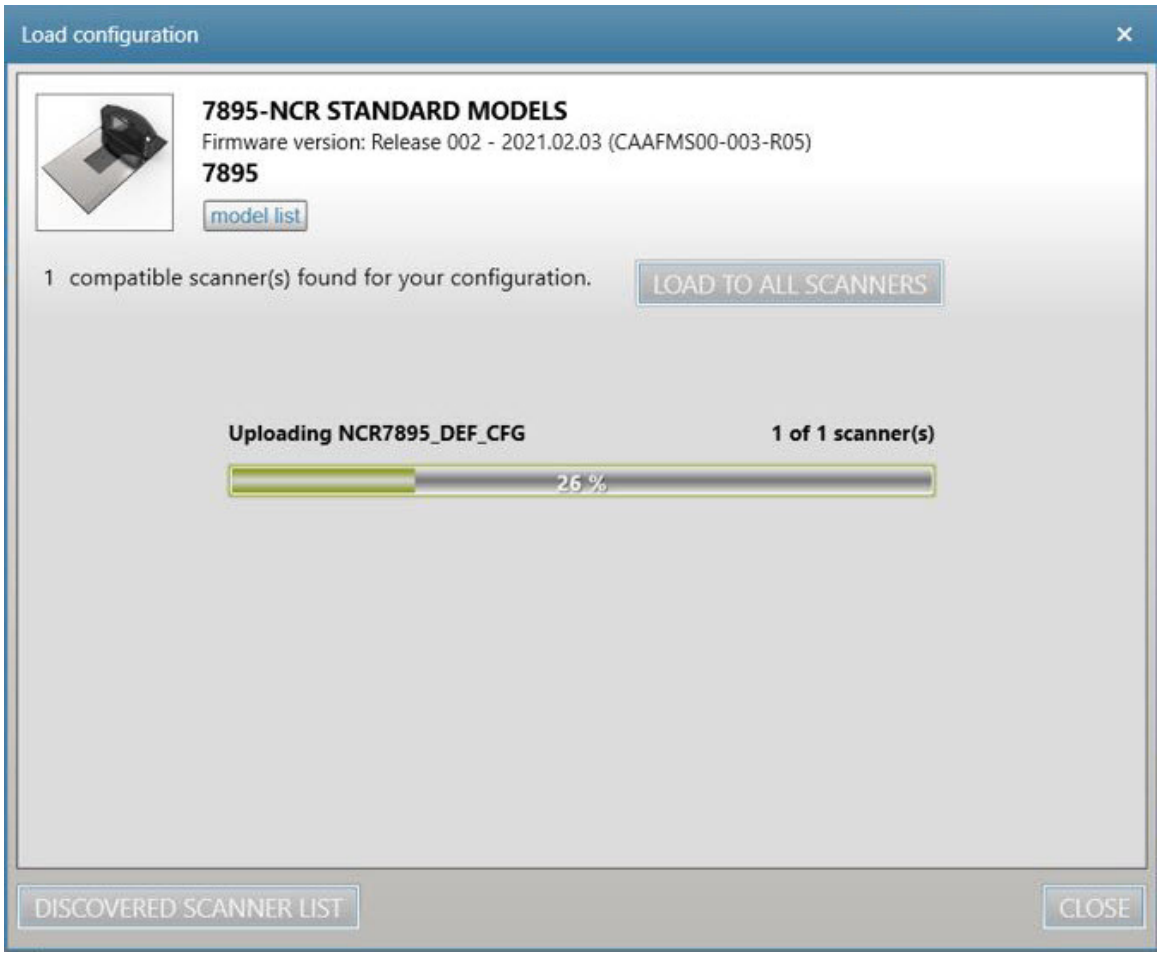
Option	Description	Referene
Create new configuration file	Creates a new configuration file for the connected scanner. **Note** For the connection option, select **My scanner is connected via USB cable**.	For more information, refer to "Creating a Configuration File" on page 77.
Load existing configuration file	Configures the connected scanner based on an existing configuration file.	For more information, refer to "Loading an Existing Configuration File to a Scanner" on page 92.

Option	Description	Referene
Clone/modify my connected scanner settings	Modifies the current configuration of the connected scanner.	For more information, refer to "Cloning/Modifying Settings of Connected Scanner" on page 98.

4. On the left pane of the 123Scan Configuration Wizard, select **Load and print**. The application displays the Load and print options.



5. From the Load and print options, select **Load to scanner**. The application starts loading the configuration to the selected scanner and the scanner LED starts flashing red.



When the application has completed loading the configuration to the scanner, the scanner LED returns to solid green.

Note

Some parameter updates, such as EAS and Scale parameters, require a scanner reboot to apply the changes to the scanner. To reboot the scanner, do any of the following:

- Disconnect and then reconnect power to the scanner.
- Simultaneously press the Scale and EAS buttons for 5 to 10 seconds until the scanner produces a long beep. After the scanner reboots, it produces three incrementing beeps.

Programming Using 123Scan Configuration Bar Codes

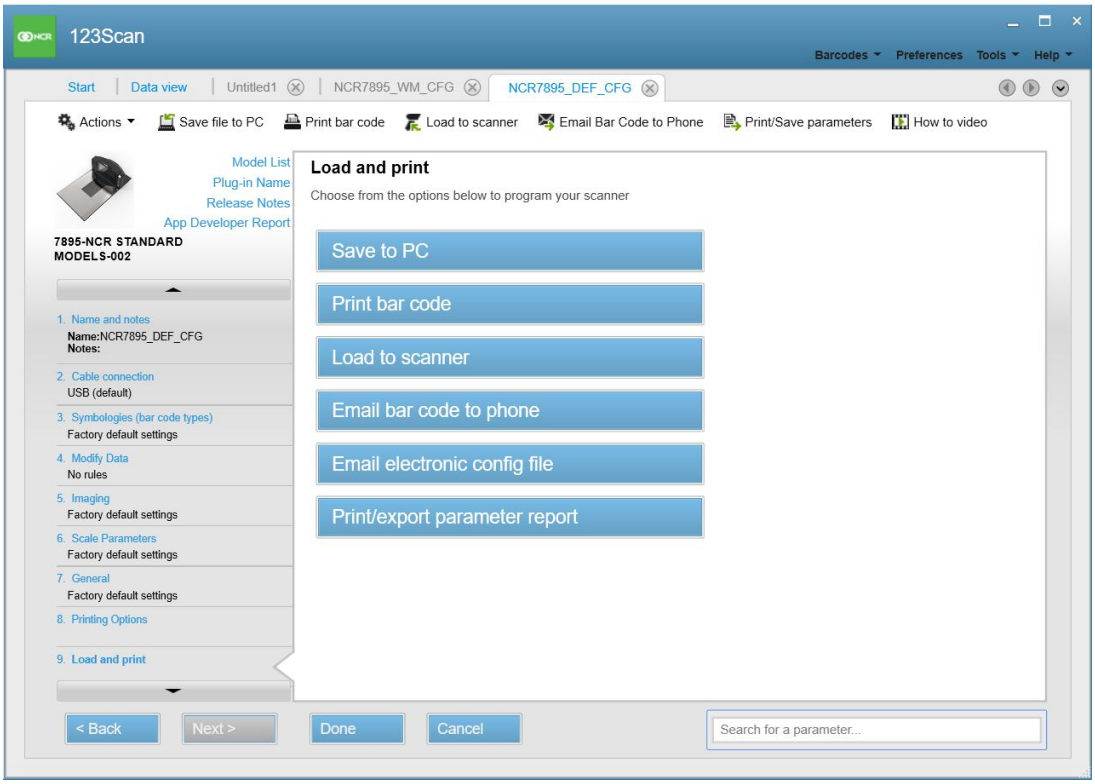
NCR 123Scan provides an option to generate a configuration bar code that contains multiple scanner parameter settings. This bar code can be scanned to load new or updated parameter settings to the scanner.

> **Note**
> Depending on the number and type of parameters updated or modified, the NCR 123Scan utility may generate one or more configuration bar codes.

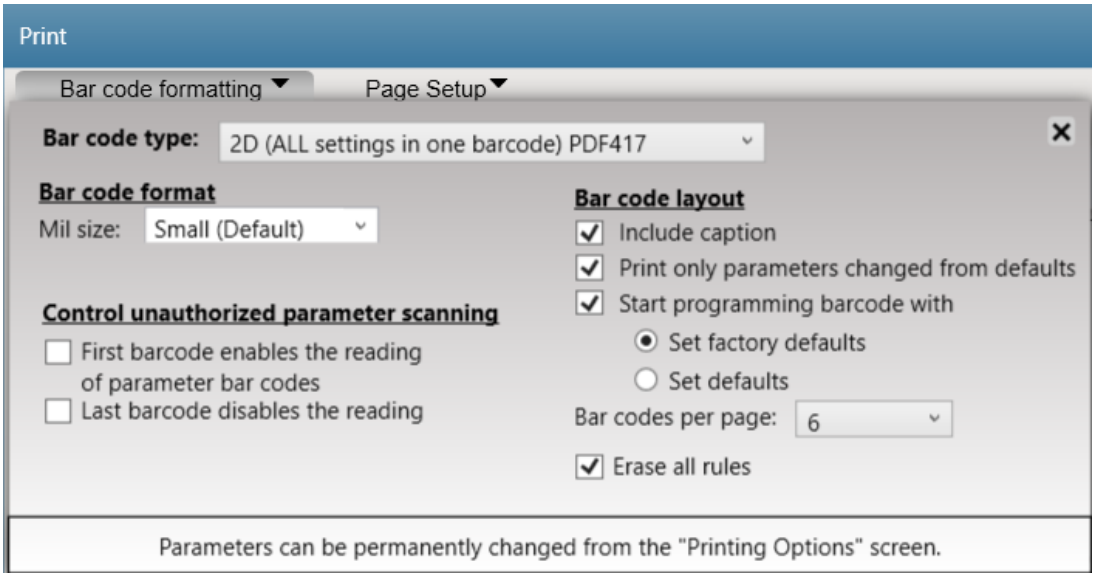
To configure parameter settings of the scanner using 123Scan configuration bar codes, follow these steps:

1. Create the configuration file using the NCR 123Scan utility. For more information, refer to "Creating a Configuration File" on page 77.

2. Print the 123Scan configuration bar code.
    a. On the left pane of the 123Scan Configuration Wizard, select **Load and print**. The application displays the Load and print options.

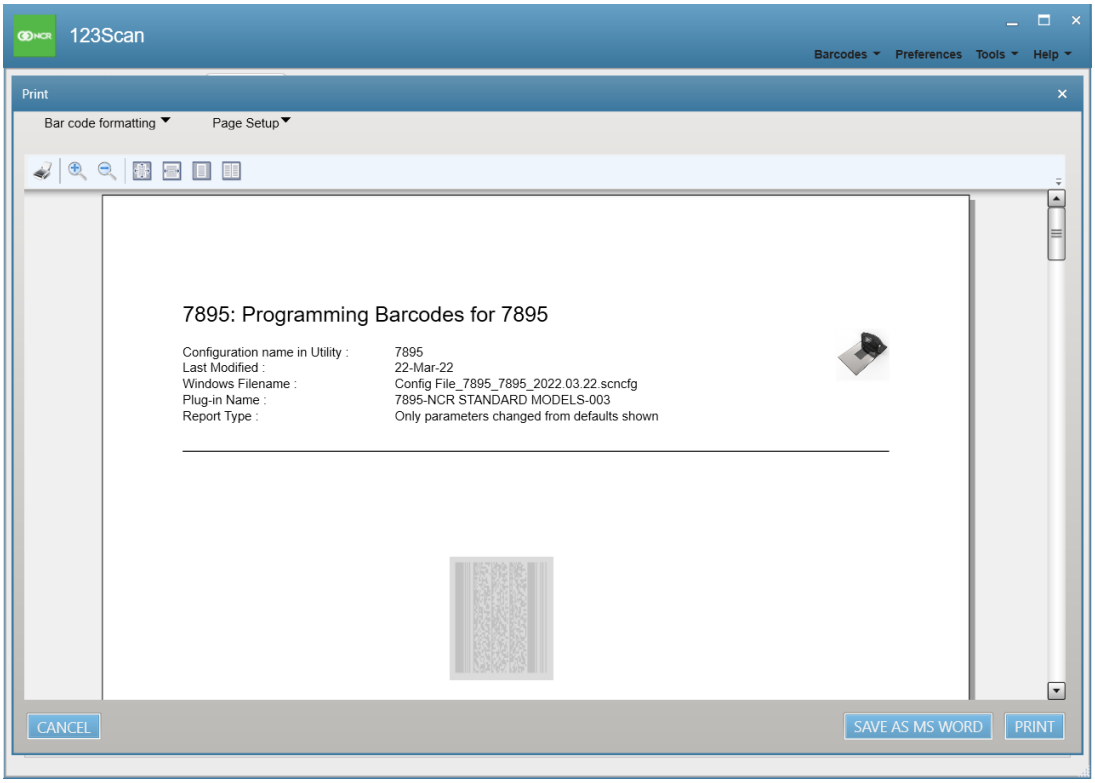


    b. From the Load and print options, select **Print bar code**. The application displays the Bar code formatting tab of the Print window.



c. On the Bar code formatting tab, set the following options:
   - For the Bar code type, select **2D (ALL settings in one barcode) PDF417**.
   - For the Bar code format, select **Small (Default)**.

d. Close the Bar code formatting tab. The application displays the configuration file containing the configuration bar codes, parameter settings, and other scanner details.



e. Select the **Print** button to print the configuration bar code.

> **Note**
> The configuration bar codes may also be printed out on a piece of paper.

3. Scan the **Enable PDF417** and **Enable MicroPDF417** bar codes on **"PDF417 and MicroPDF417 Bar Codes"** on the next page. These bar codes enable the scanner to recognize the configuration bar codes generated through 123Scan.
4. Scan the 123Scan configuration bar code.
   a. Position the bar code vertically and angled slightly to the side.
   b. Present the bar code to the middle of the Vertical Scan Window.

Note

If scanning multiple configuration bar codes, take note of the following:

- Scan the configuration bar codes in order.
- If "Start programming bar code with Set factory defaults" is selected under the Bar code layout options, rescan the **Enable PDF417** and **Enable MicroPDF417** bar codes before scanning the next configuration bar code.

PDF417 and MicroPDF417 Bar Codes

Note

The bar codes may also be printed out on a piece of paper.

Enable PDF417
(1)

Enable MicroPDF417
(01h)

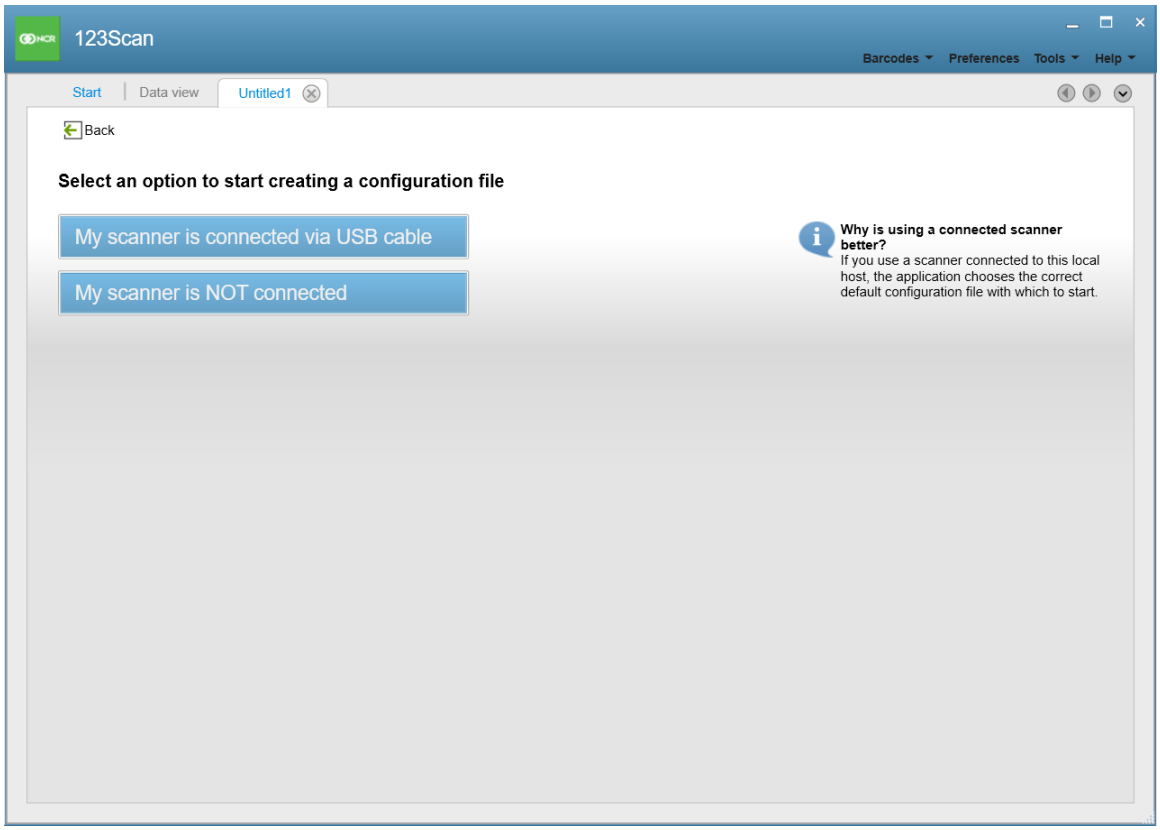
Creating a Configuration File

A 123Scan configuration file contains all parameters and data formatting rules required to program the NCR 7895 scanner. It can be in any of the following formats:

- 123Scan Scanner Configuration (`.scncfg`) file — programmed into the scanner using a USB communication cable.
- Configuration bar code — scanned to apply the parameter settings to the scanner.

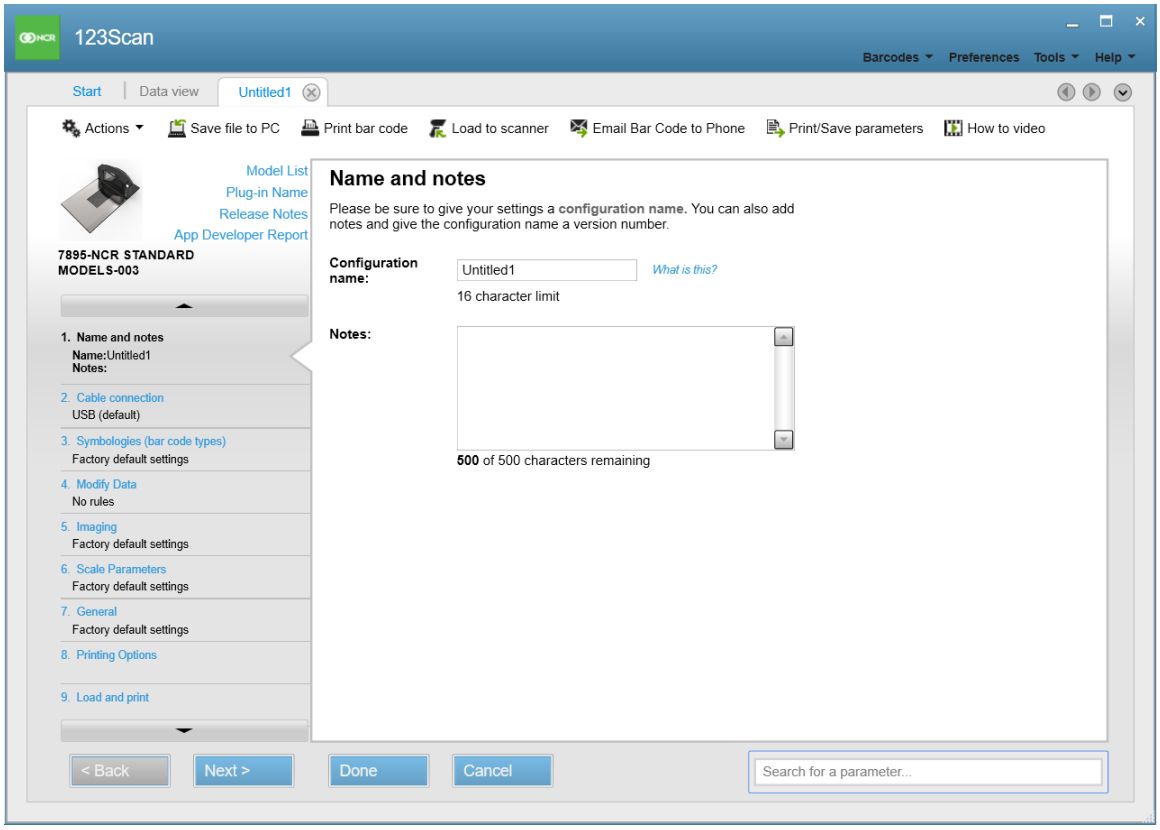
To create a configuration file, follow these steps:

1. Launch the 123Scan utility. For more information, refer to **"Launching NCR 123Scan" on page 64**.
2. From the Start tab of the 123Scan main window, select **Create new configuration file**. The application opens a new untitled tab and displays scanner connection options in creating a configuration file.



3. Select one of the following scanner connection options:
    - "Scanner is Connected Through a USB cable" on page 80
    - "Scanner is Not Connected" on page 82

> **Note**
>
> After selecting the scanner connection option, scanner model, and firmware plug-in, the application starts the Configuration Wizard.



4. Enter the configuration name.

> **Note**
>
> The configuration name must start with "NCR7895" and end with "CFG". For example, set the configuration name to "NCR7895_DEF_CFG".

5. Add notes to briefly describe the configuration file (optional).
6. Select **Next** to proceed and configure other settings. The application displays the next window and displays the new configuration name as the tab title.

7. After adjusting all settings for the configuration file, select **Load and print** from the left pane and do any of the following options:

Action	Description
Save to PC	Saves the configuration file, in (`.scncfg`) format, to a predesignated location on the computer. **Note** 123Scan configuration files are saved in `C:\Users\Public\Documents\123ScanNCR\Configuration Files`.
Print bar code	Creates a configuration bar code that contains multiple scanner parameter settings. **Note** Depending on the number and type of parameters updated or modified, the NCR 123Scan utility may generate one or more configuration bar codes. For more information, refer to "Programming Using 123Scan Configuration Bar Codes" on page 73.
Load to scanner	Loads the configuration to the connected scanner through a USB communication cable. For more information, refer to "Programming Using a USB Communication Cable" on page 70.
Email bar code to phone	Emails both the configuration bar code and parameter report.
Email electronic config file	Emails the configuration file. The message also includes the configuration file overview and instructions in using the configuration file.
Print/export parameter report	Prints a parameter report containing all parameters that were enabled or disabled within the configuration file. The report may be printed out or saved as a Word file. A parameter report shows either of the following: • Only the parameters that were changed from factory defaults • All parameters

Scanner is Connected Through a USB cable

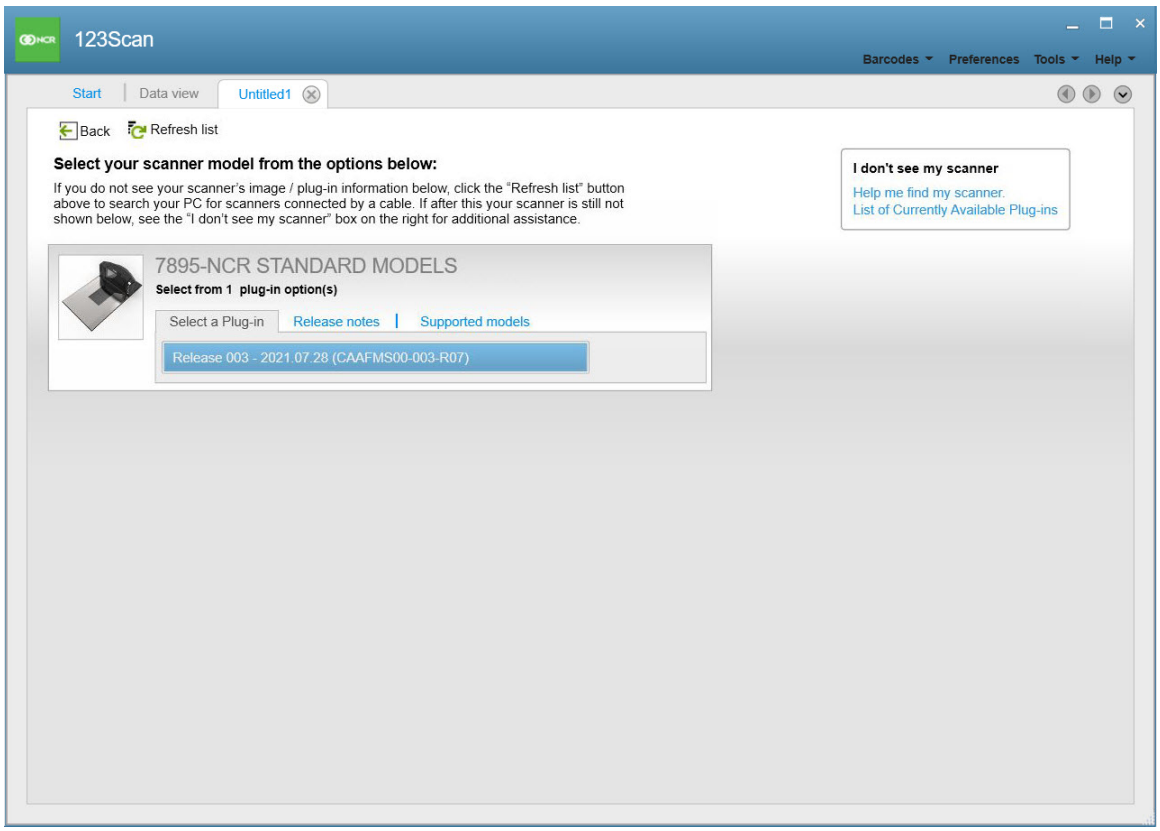
If the NCR 7895 scanner is connected to the computer or POS terminal through a USB communication cable, the 123Scan application automatically detects the firmware plug-in of the scanner.

To create a configuration file based on the firmware plug-in of the connected scanner, follow these steps:

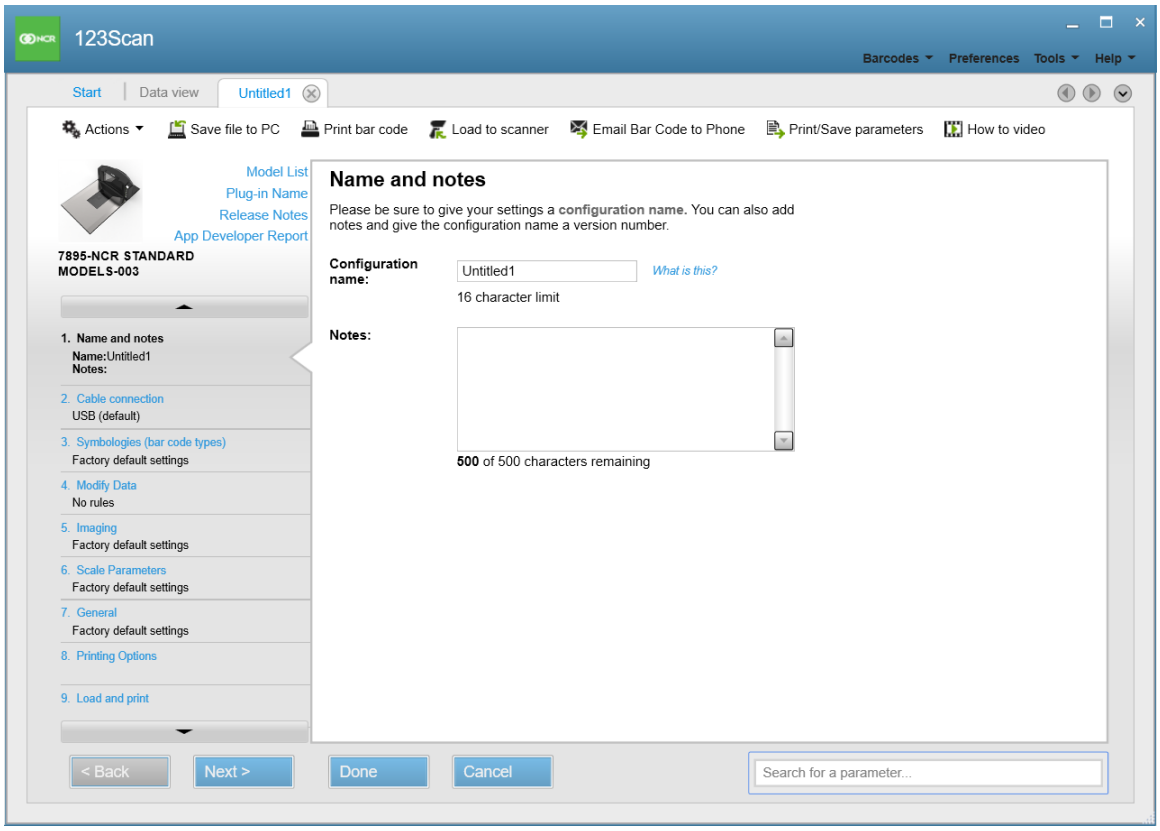
1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

   > **Note**
   >
   > If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

2. From the scanner connection option, select **My scanner is connected via USB cable**. The application displays all detected scanners and their firmware plug-in options.



3. Select the latest firmware plug-in. The application starts the Configuration Wizard.

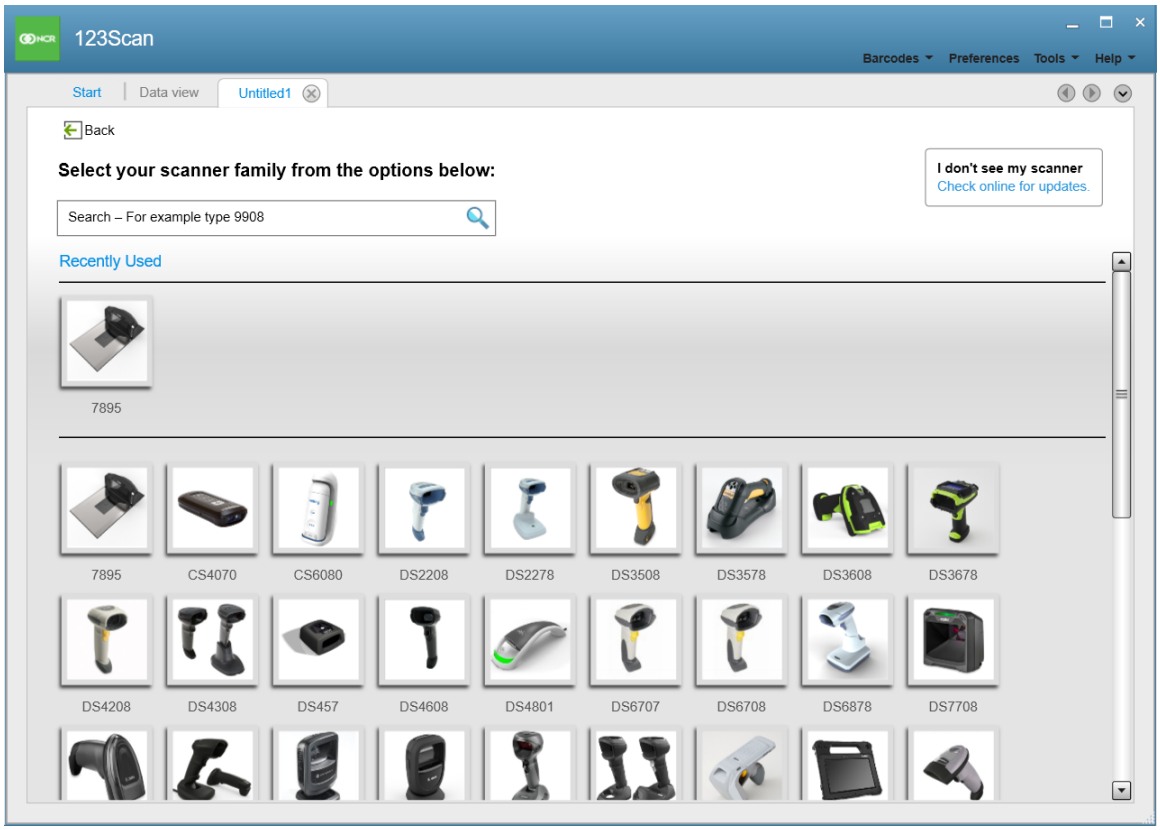


Scanner is Not Connected

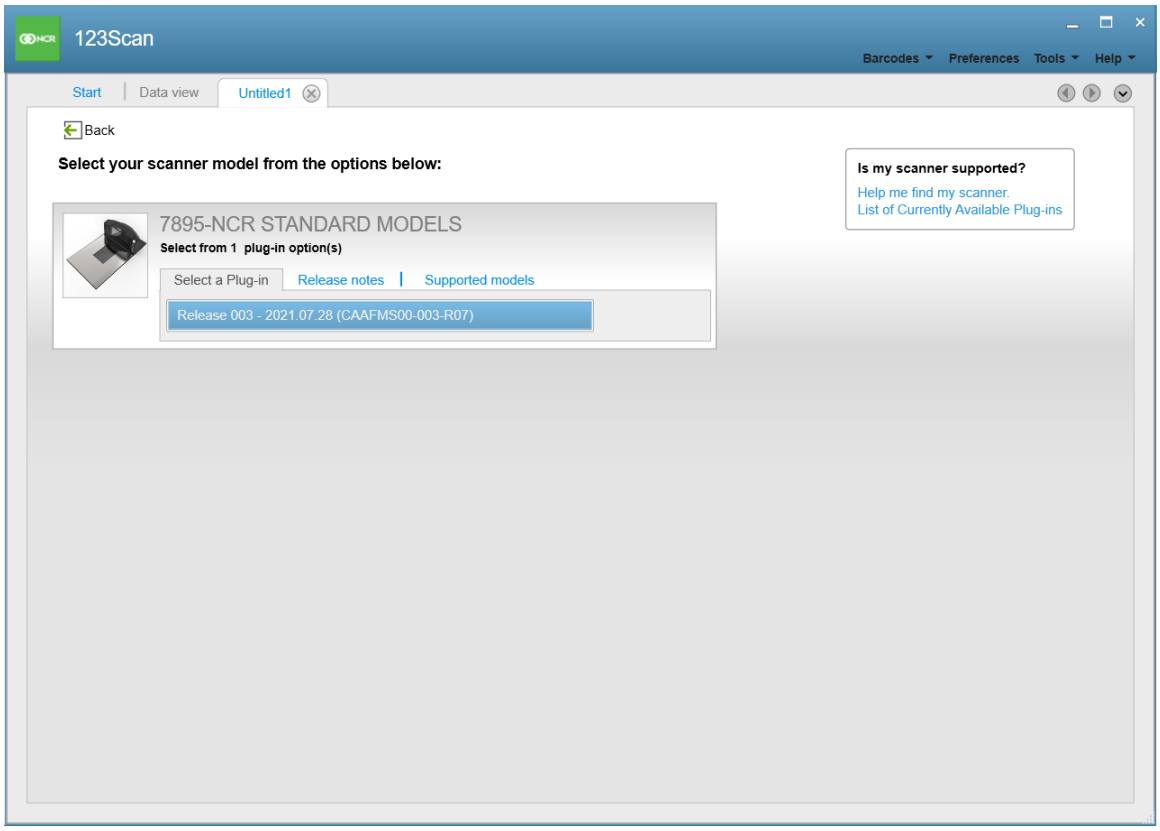
If the NCR 7895 scanner is not connected to the computer or POS terminal through a USB communication cable, the user must manually select the scanner model and firmware plug-in.

To create a configuration file without a scanner connected, follow these steps:

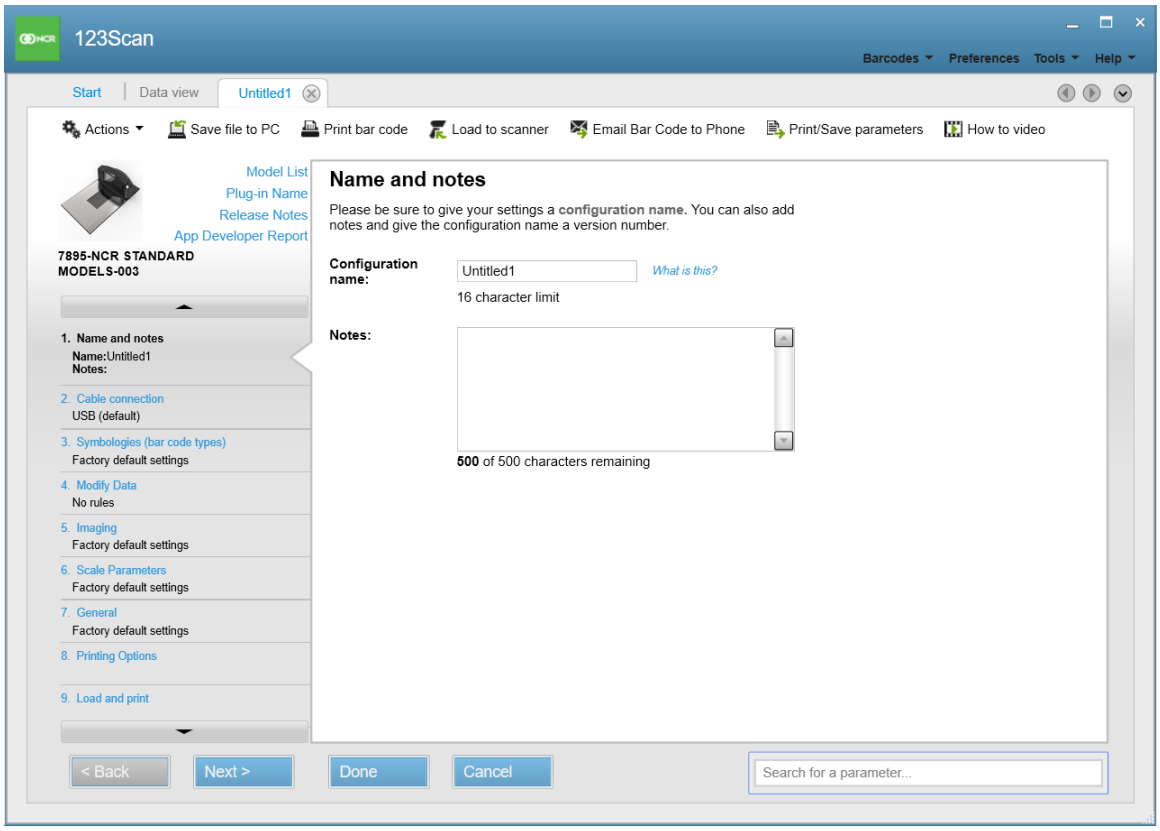
1. From the scanner connection option, select **My scanner is not connected**. The application displays the available scanner family options.



2. From the scanner family options, select **7895**. The application displays the available scanner models under 7895.



3. Select the latest firmware plug-in. The application starts the Configuration Wizard.



Opening an Existing Configuration File

An existing Configuration File can be opened using any of the following options:

- "Opening a Configuration File from the Configuration Files Folder" below
- "Opening a Configuration File within 123Scan" on page 87

Opening a Configuration File from the Configuration Files Folder

To open an existing Configuration File from the Configuration Files folder on the computer or POS terminal, follow these steps:

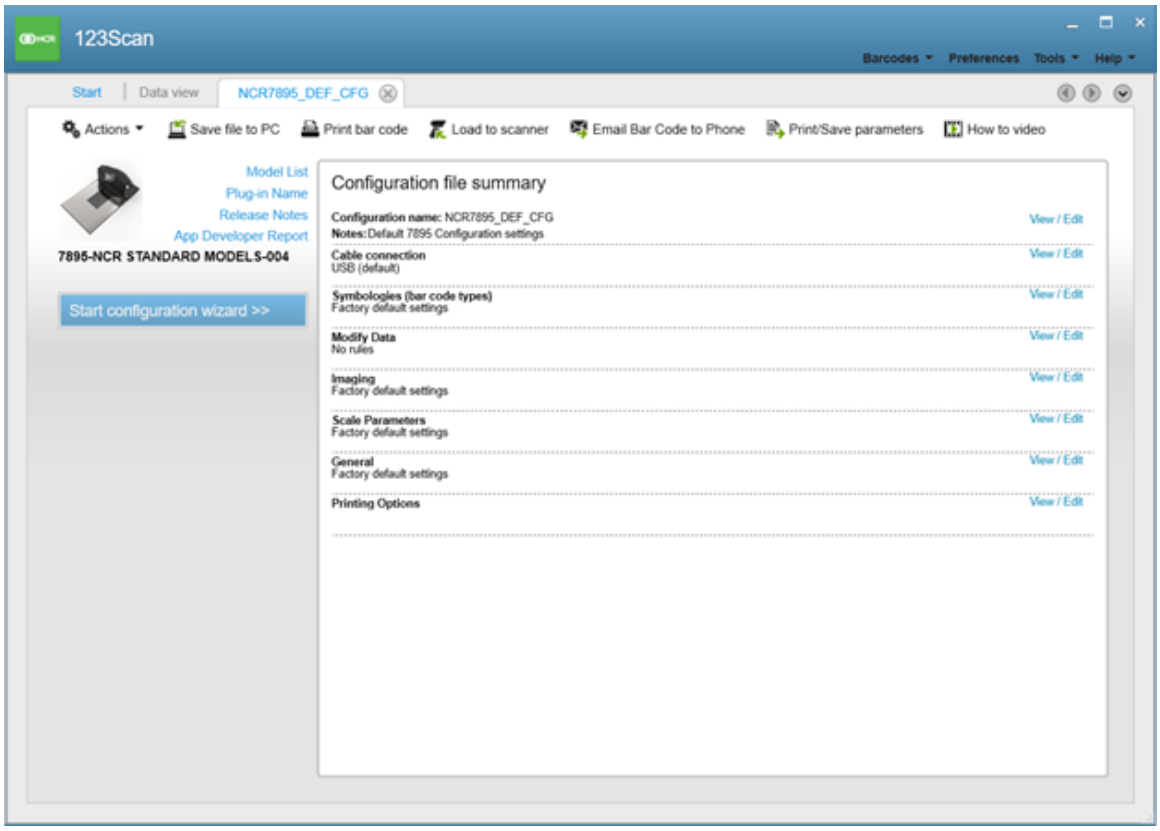
1. Locate the Configuration File (`.scncfg`) on the computer or POS terminal.

   Note

   By default, 123Scan configuration files are saved in `C:\Users\Public\Documents\123ScanNCR\Configuration Files`.

2. Double-click the Configuration File. The system launches the NCR 123Scan utility

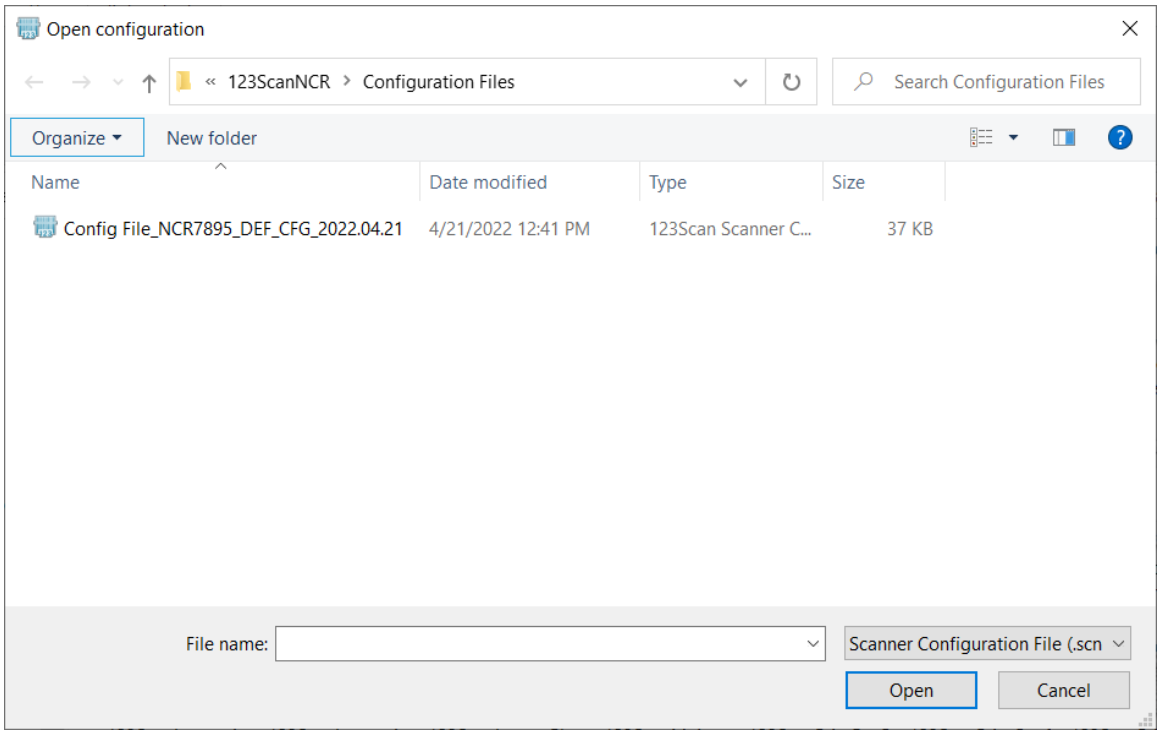
launches and displays the Configuration File summary.



Opening a Configuration File within 123Scan

To open an existing Configuration File within 123Scan, follow these steps:

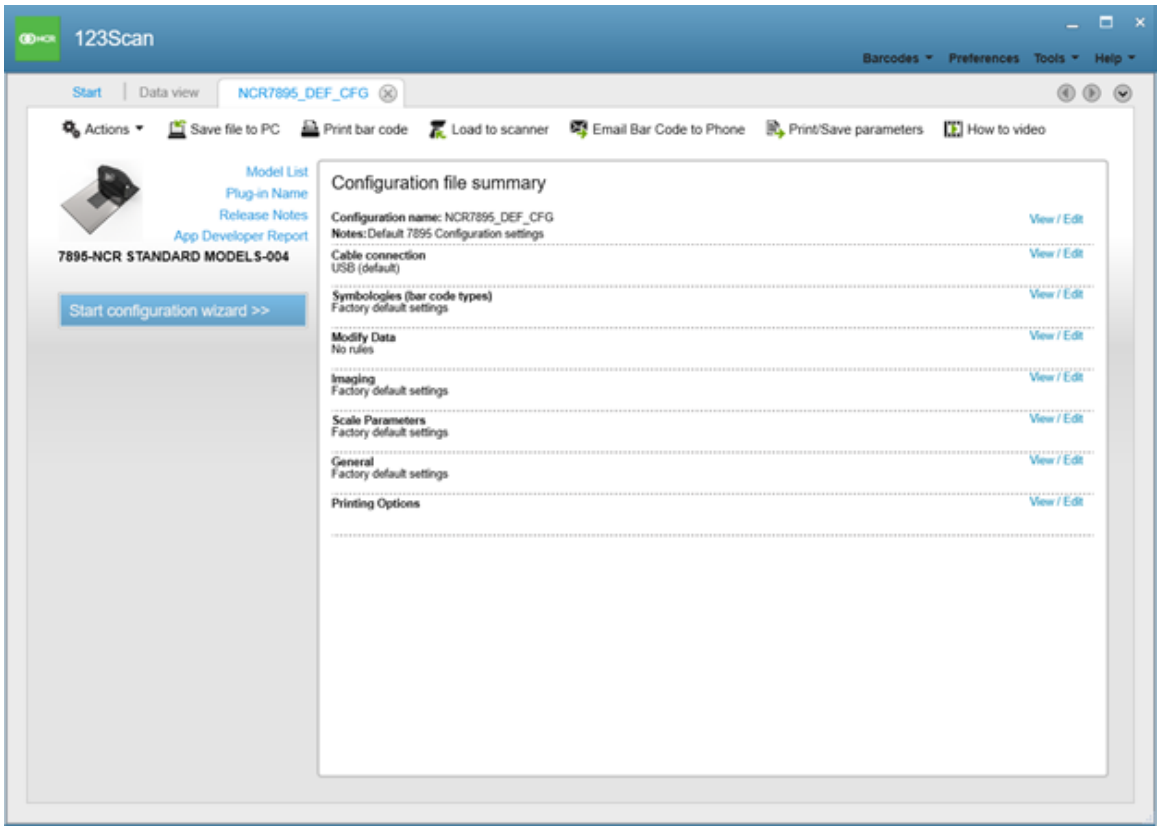
1. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.
2. From the upper-left section of the Start tab, select **Action→ Open Configuration File**. The application displays the Open configuration window.



3. Browse for the Configuration File (`.scncfg`) on the computer or POS terminal.

> **Note**
>
> By default, 123Scan configuration files are saved in `C:\Users\Public\Documents\123ScanNCR\Configuration Files`.

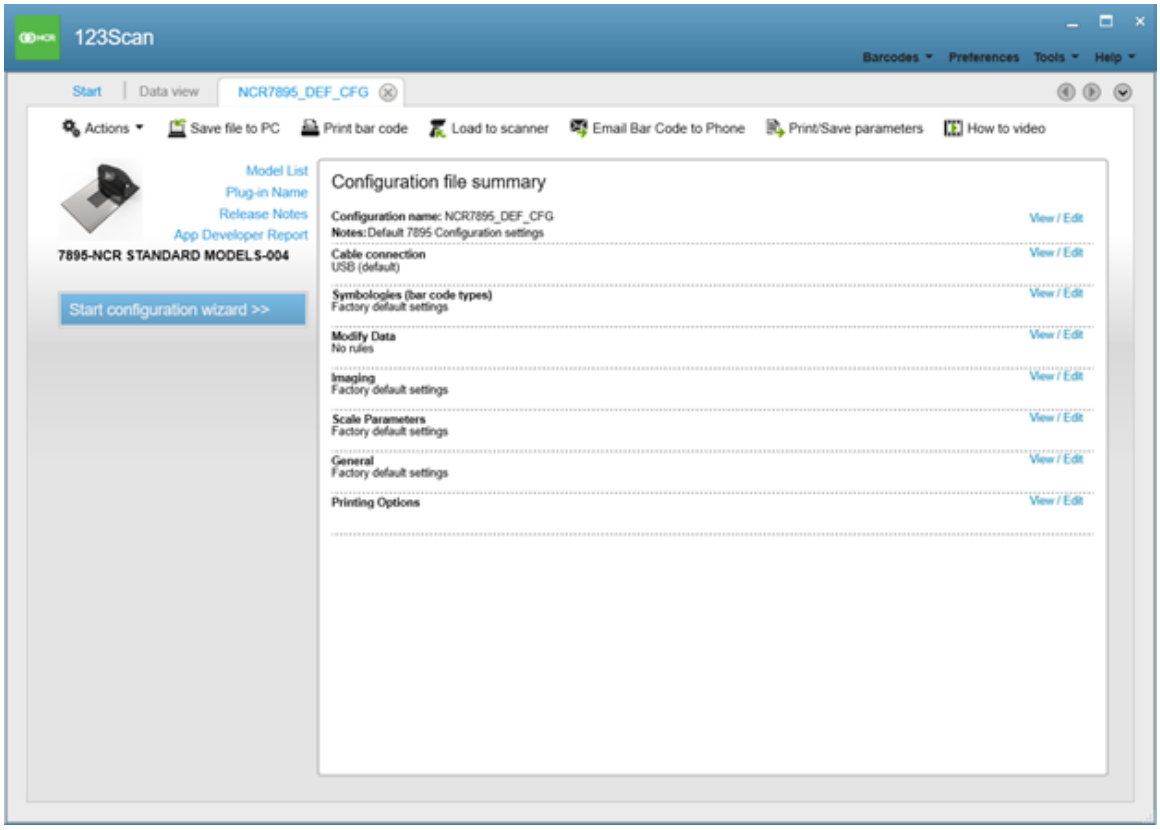
4. Select **Open**. The application displays the Configuration File summary.



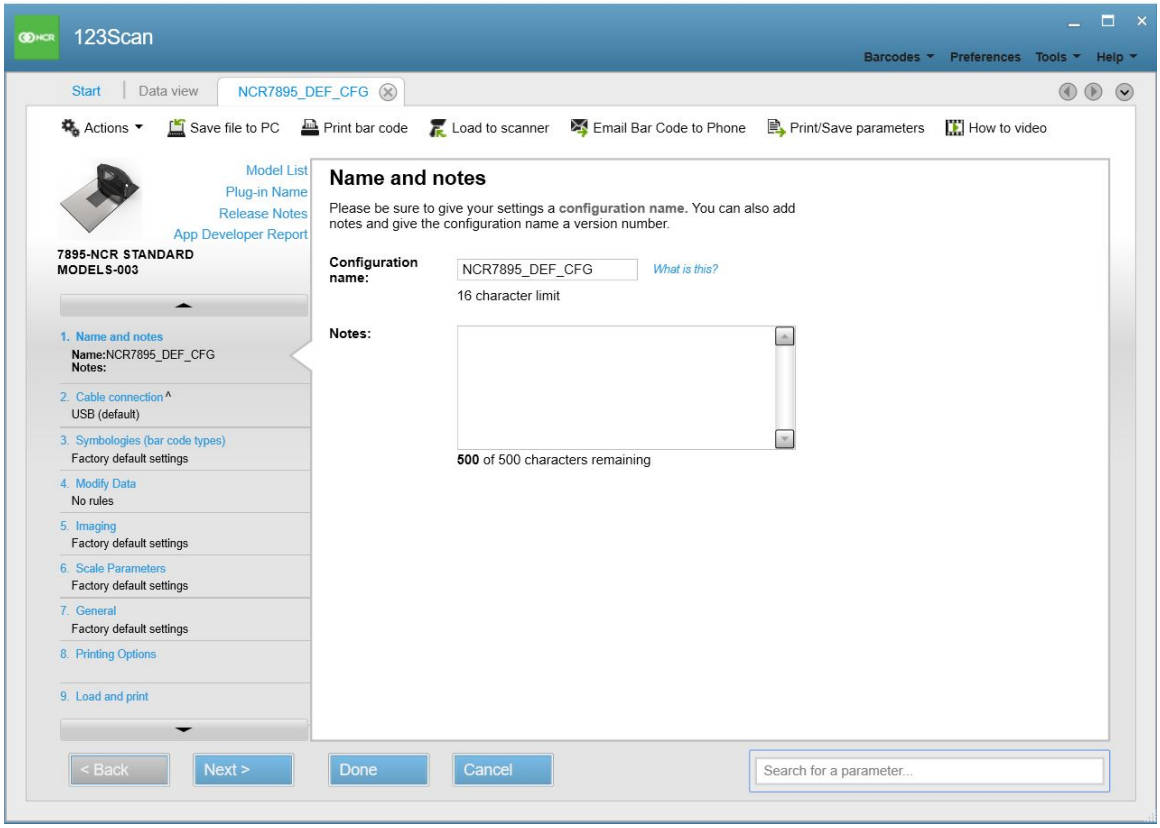
Modifying an Existing Configuration File

A Configuration File can be modified using the NCR 123Scan utility. To modify an existing Configuration File, follow these steps:

1. Open an existing Configuration File. For more information, refer to "Opening an Existing Configuration File" on page 85.



2. Select **Start configuration wizard**. The application starts the Configuration Wizard.



3. Select **Next** and modify the settings as necessary.
4. After adjusting all settings for the configuration file, select **Load and print** from the left pane and do any of the following options:

Action	Description
Save to PC	Saves the configuration file, in (`.scncfg`) format, to a predesignated location on the computer. **Note** 123Scan configuration files are saved in `C:\Users\Public\Documents\123ScanNCR\Configuration Files`.

Action	Description
Print bar code	Creates a configuration bar code that contains multiple scanner parameter settings. **Note** Depending on the number and type of parameters updated or modified, the NCR 123Scan utility may generate one or more configuration bar codes. For more information, refer to "Programming Using 123Scan Configuration Bar Codes" on page 73.
Load to scanner	Loads the configuration to the connected scanner through a USB communication cable. For more information, refer to "Programming Using a USB Communication Cable" on page 70.
Email bar code to phone	Emails both the configuration bar code and parameter report.
Email electronic config file	Emails the configuration file. The message also includes the configuration file overview and instructions in using the configuration file.
Print/export parameter report	Prints a parameter report containing all parameters that were enabled or disabled within the configuration file. The report may be printed out or saved as a Word file. A parameter report shows either of the following: • Only the parameters that were changed from factory defaults • All parameters

Loading an Existing Configuration File to a Scanner

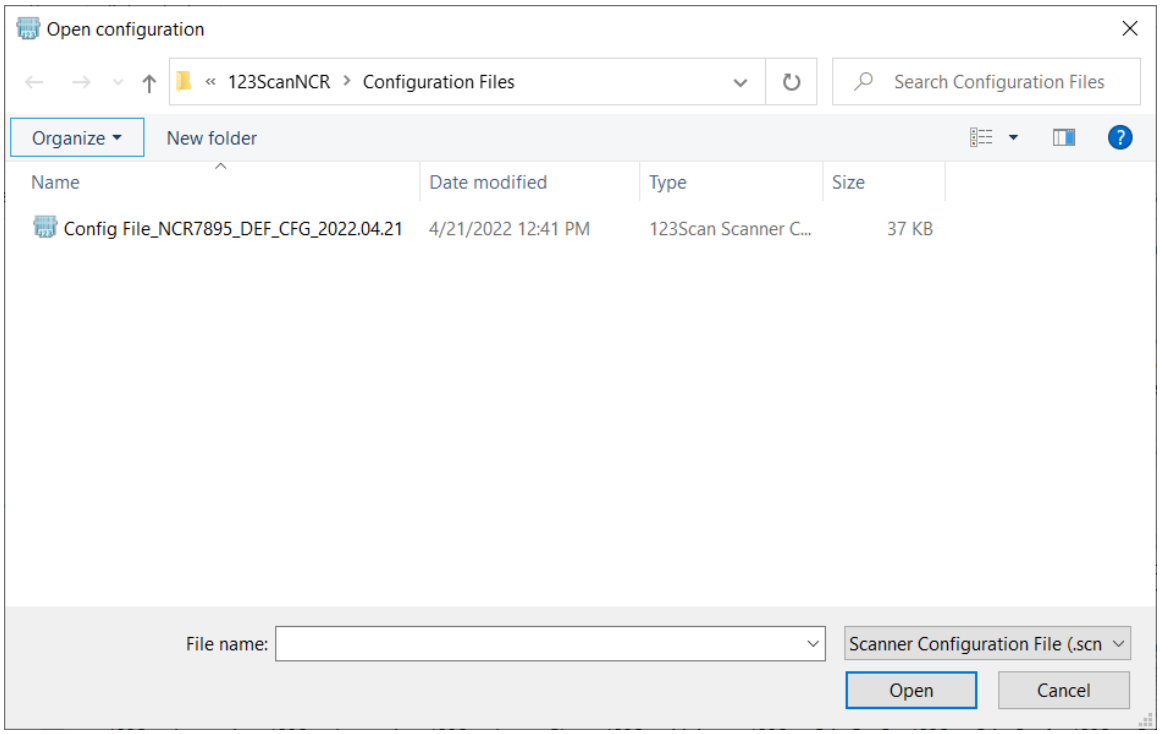
Using 123Scan, an existing configuration file can be loaded to a connected scanner.

To load an existing file to a connected scanner, follow these steps:

1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

   > **Note**
   >
   > If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

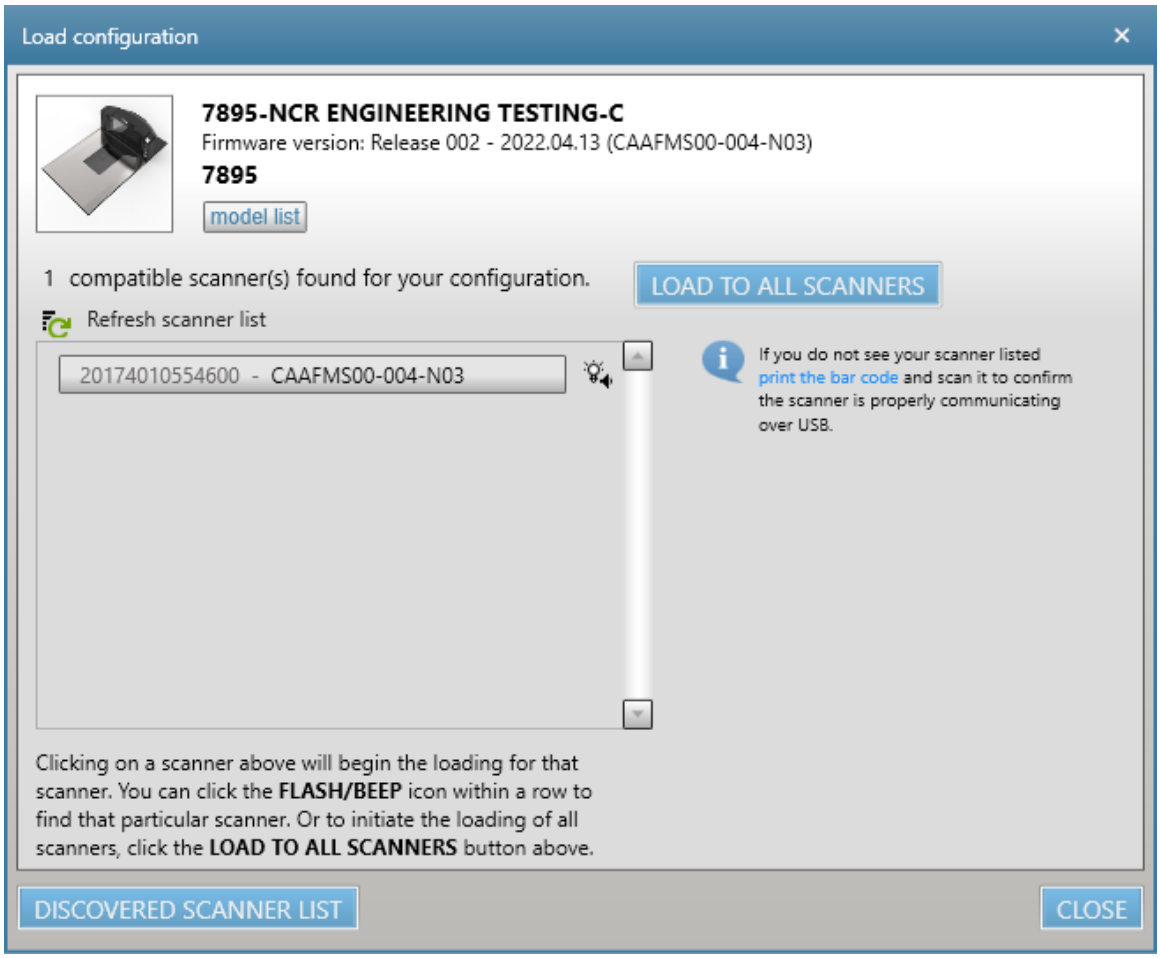
2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 1.
3. From the Start tab of the 123Scan main window, select **Load existing configuration file**. The application displays the Open configuration window.



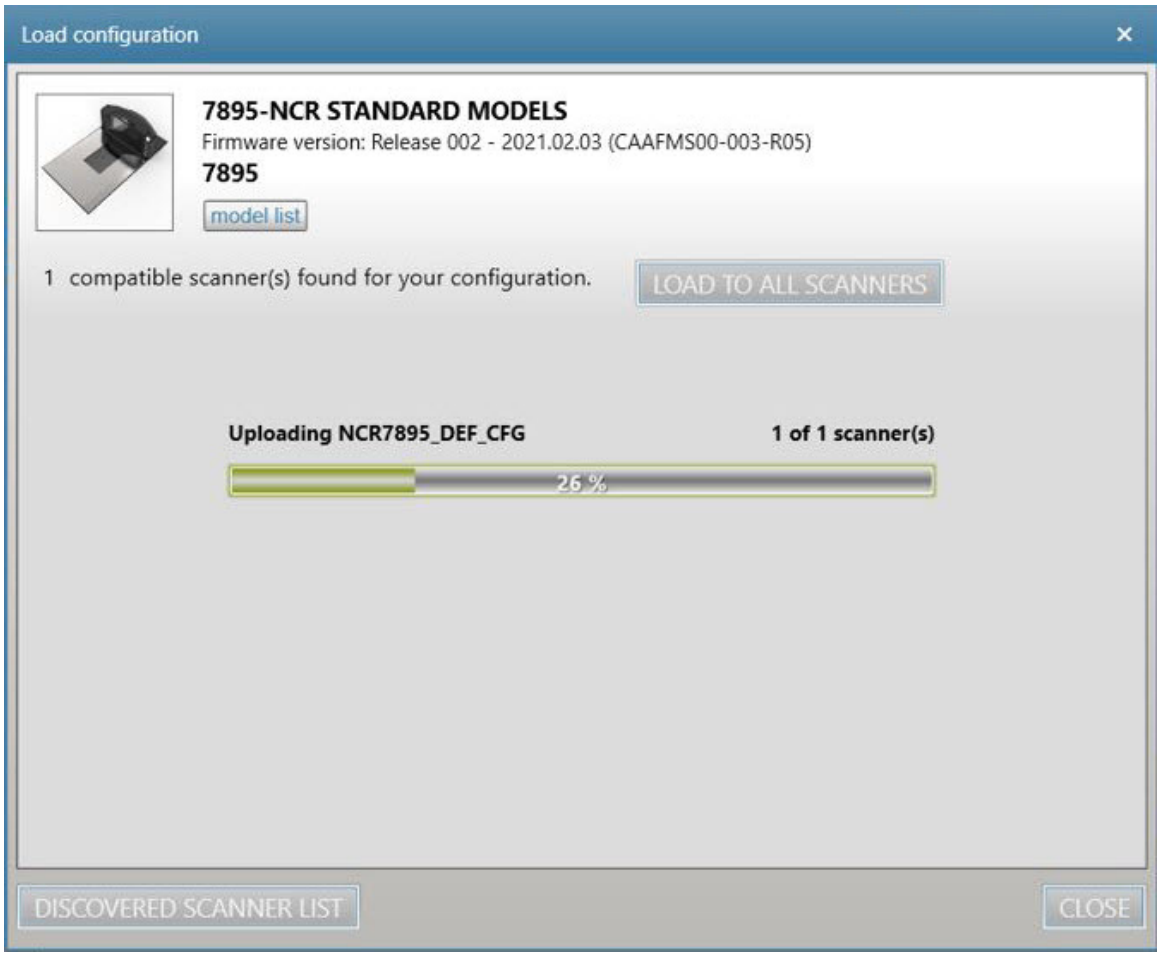
4. Browse for the configuration file (`.scncfg`) on the computer or POS terminal.

> **Note**
>
> By default, 123Scan configuration files are saved in `C:\Users\Public\Documents\123ScanNCR\Configuration Files`.

5. Select **Open**. The application displays the Load configuration window.



6. From the scanner list, select the scanner to configure. The application starts loading the configuration to the selected scanner and the scanner LED starts flashing red.



When the application has completed loading the configuration to the scanner, the scanner LED returns to solid green.

Note

Some parameter updates, such as EAS and Scale parameters, require a scanner reboot to apply the changes to the scanner. To reboot the scanner, do any of the following:

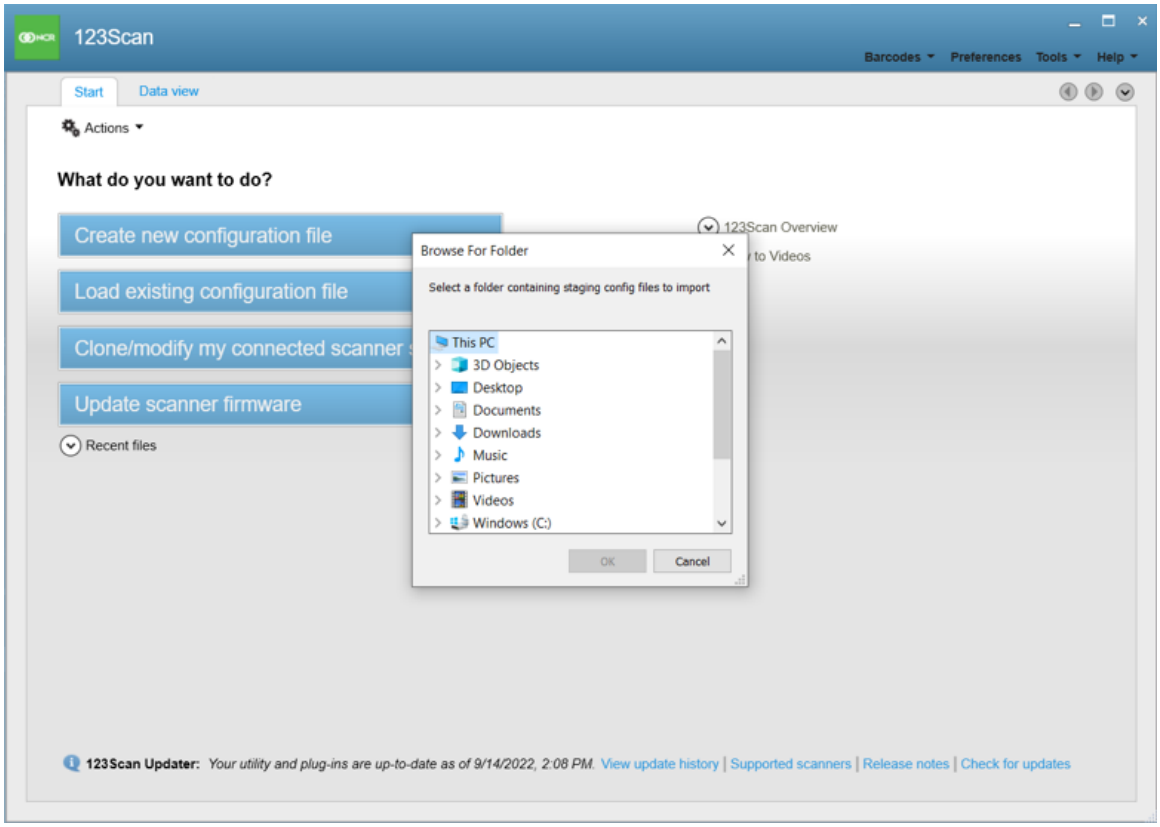
- Disconnect and then reconnect power to the scanner.
- Simultaneously press the Scale and EAS buttons for 5 to 10 seconds until the scanner produces a long beep. After the scanner reboots, it produces three incrementing beeps.

Importing a Configuration File from a Staging Flash Drive

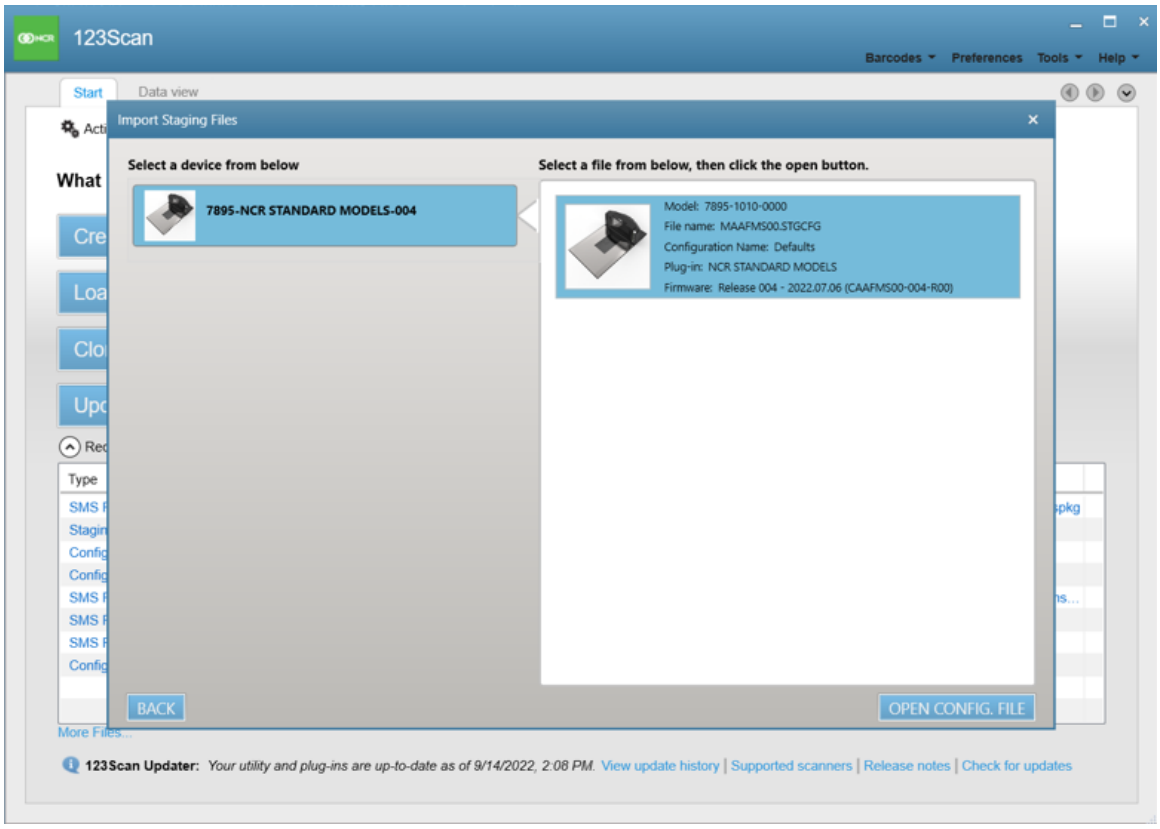
Scanner parameters can be extracted or imported from the staging files package stored in a USB flash drive and then saved in configuration file format (`.scncfg`). The USB Flash drive to be used should contain scanner staging files generated from the NCR 123Scan utility or from an NCR 7895 scanner.

To import a configuration file from a USB staging flash drive, follow these steps:

1. Connect the USB staging flash drive to the computer or POS terminal.
2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.
3. From the upper-right section of the main window, select **Tools→ Staging flash drive for Multi-Plane Scanners→Import Configuration File from Staging Flash Drive**. The application displays the Browse For Folder window.



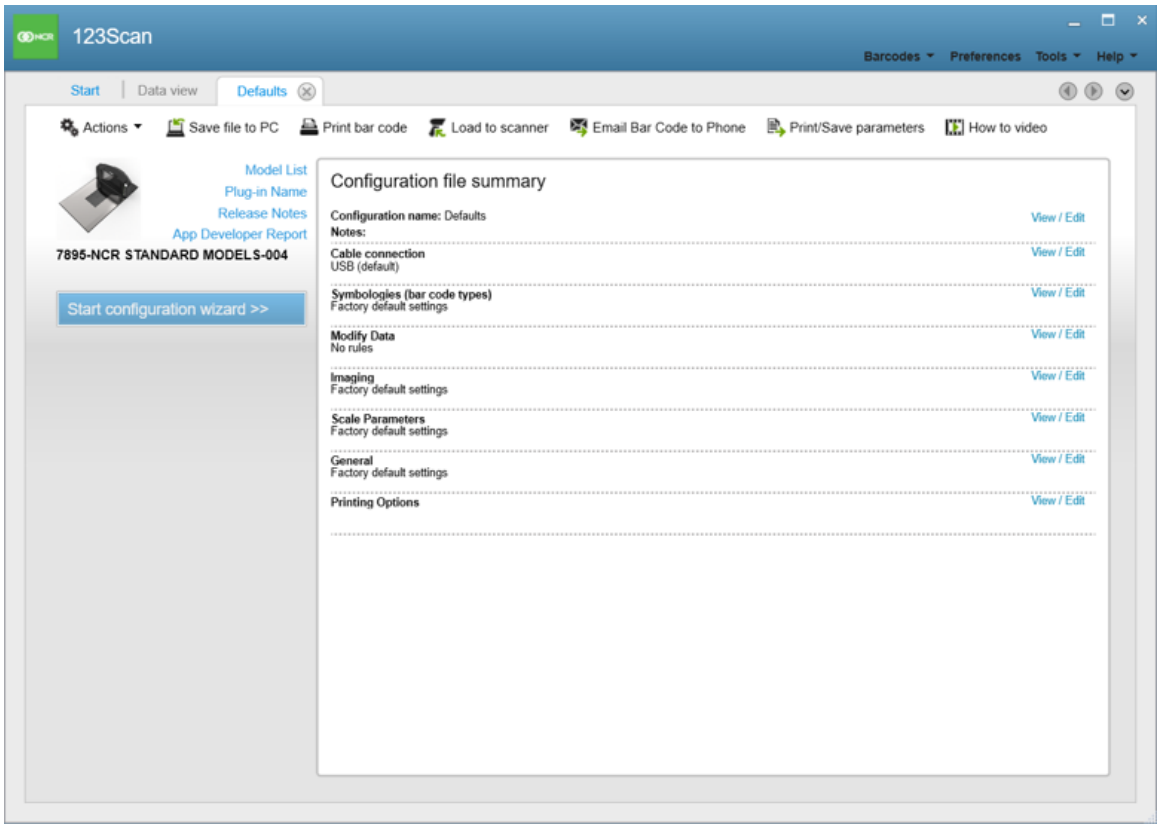
4. Select the USB flash drive containing the scanner staging files, and then select **OK**.



5. Select a device and a configuration file to import.

> **Note**
>
> Some flash drives may contain more than one configuration staging files.

6. Select **OPEN CONFIG FILE**. The application displays the Configuration File summary.



7. Select **Save files to PC**. The application saves the configuration file, in (`.scncfg`) format, to a predesignated location on the computer.

> **Note**
>
> By default, 123Scan configuration files are saved in `C:\Users\Public\Documents\123ScanNCR\Configuration Files`.

Cloning/Modifying Settings of Connected Scanner

When a scanner is connected to computer or POS terminal, its settings can be retrieved for review, modification, or cloning.

To review, modify, or clone the settings of the connected scanner, follow these steps:

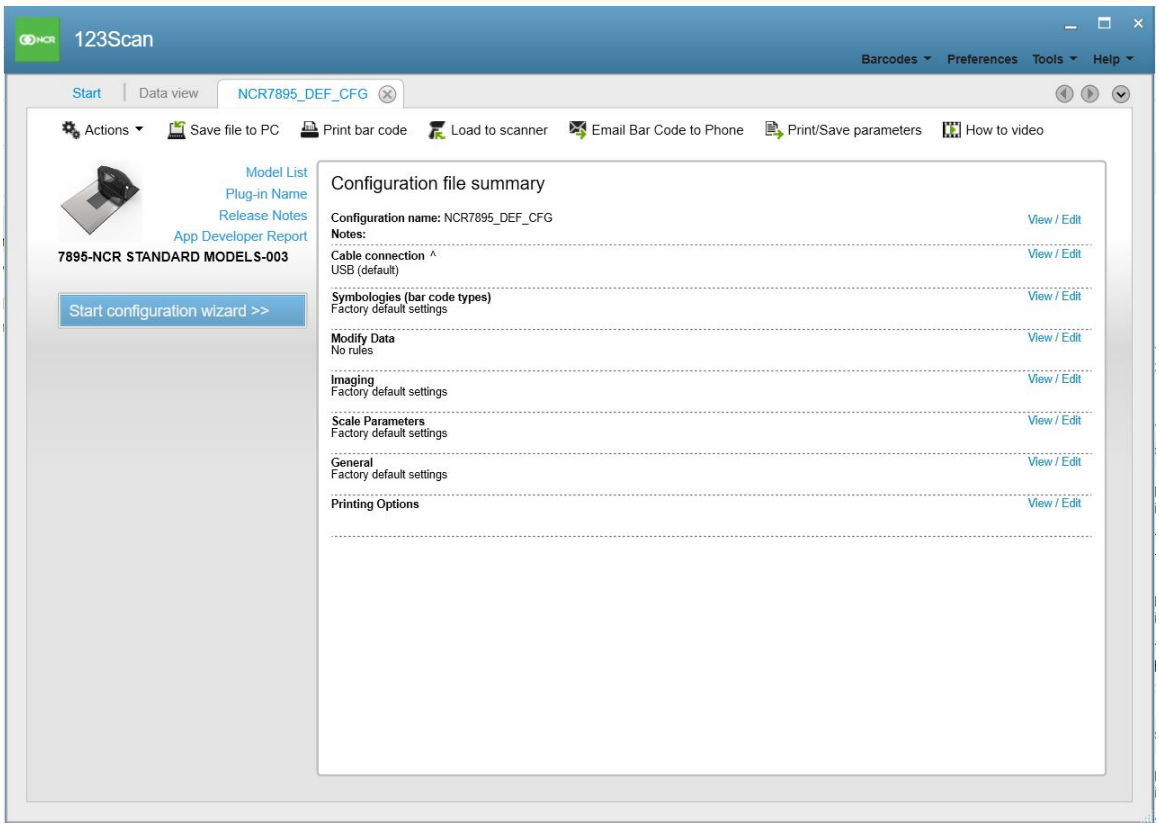
1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

   Note

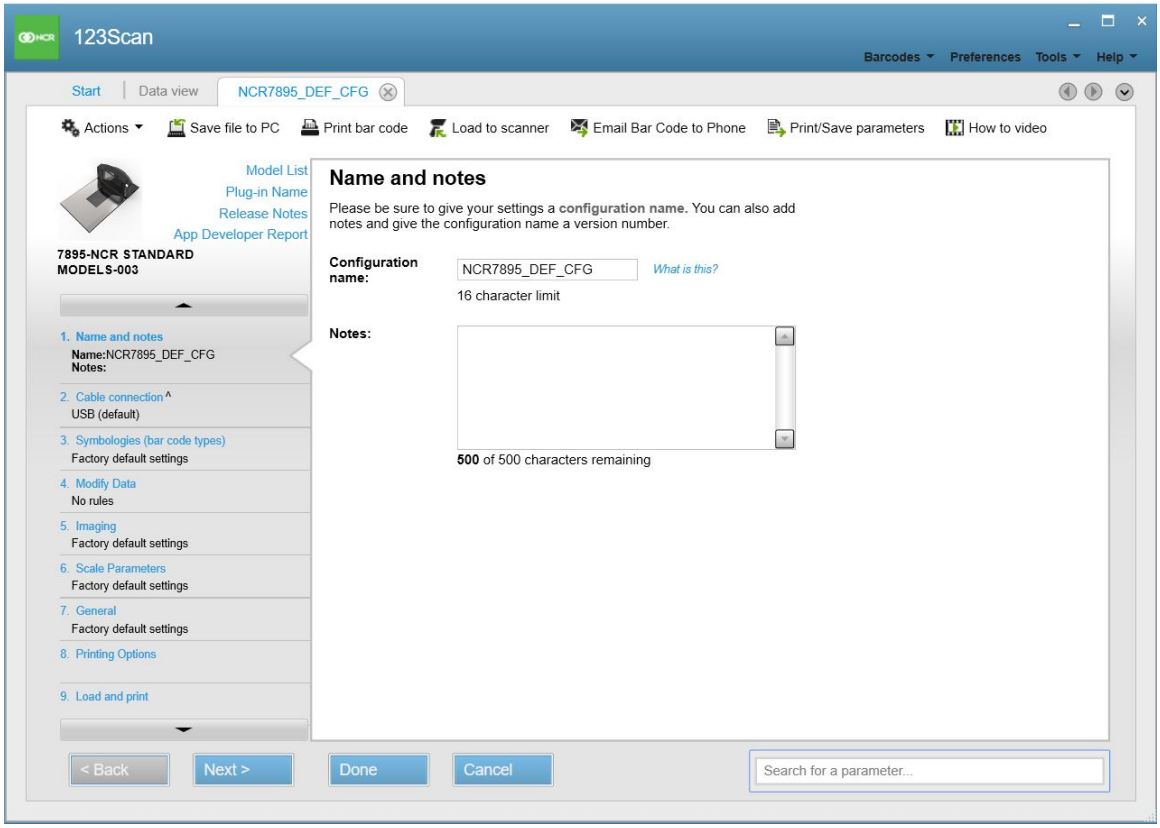
   If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.

3. From the Start tab of the 123Scan main window, select **Clone/modify my connected scanner settings**. The application displays the current scanner configuration file summary.



4. Select **Start configuration wizard**. The application displays the Configuration Wizard options.



5. On the left pane of the 123Scan Configuration Wizard, select a group of settings to configure.
6. After adjusting all settings for the configuration file, select **Load and print** from the left pane and do any of the following options:

Action	Description
Save to PC	Saves the configuration file, in (`.scncfg`) format, to a predesignated location on the computer. **Note** 123Scan configuration files are saved in `C:\Users\Public\Documents\123ScanNCR\Configuration Files`.

Action	Description
Print bar code	Creates a configuration bar code that contains multiple scanner parameter settings. **Note** Depending on the number and type of parameters updated or modified, the NCR 123Scan utility may generate one or more configuration bar codes. For more information, refer to "Programming Using 123Scan Configuration Bar Codes" on page 73.
Load to scanner	Loads the configuration to the connected scanner through a USB communication cable. For more information, refer to "Programming Using a USB Communication Cable" on page 70.
Email bar code to phone	Emails both the configuration bar code and parameter report.
Email electronic config file	Emails the configuration file. The message also includes the configuration file overview and instructions in using the configuration file.
Print/export parameter report	Prints a parameter report containing all parameters that were enabled or disabled within the configuration file. The report may be printed out or saved as a Word file. A parameter report shows either of the following: • Only the parameters that were changed from factory defaults • All parameters

Advanced Data Formatting

Advanced Data Formatting (ADF) is a means of customizing data from before transmission to the host device. Use ADF to edit scan data to suit your host's requirements. With ADF, you scan one bar code per trigger pull. ADF is programmed using 123Scan.

For an ADF tutorial, go to **Creating an Advanced Data Formatting (ADF) Rule**.

Scanner Management Service Package

The Scanner Management Service (SMS) Solution enables a business to remotely manage its scanners and provides the following benefits:

- Access asset tracking information.
- Remotely set scanner parameters and update scanner firmware.
- Establish automatic communication between the scanner and host application.
- Automate the process of loading a 123Scan generated SMS Package to a scanner.

Requirements

The following are required to use the Scanner Management Service (SMS) Solution:

- 123Scan Configuration Utility

  Note

  It is recommended to install the latest version (v5.04.0006 or higher, 64-bit) of the 123Scan utility. For more information on 123Scan, refer to "Installing NCR 123Scan" on page 58.

- Supported operating systems:
  - Windows 7 SP1 (32-bit and 64-bit)
  - Windows 10 (32-bit and 64-bit)
  - Windows POS Ready 2009
- SMS Solution Size
  - Approximately 20 MB for 32-bit
  - Approximately 30 MB for 64-bit

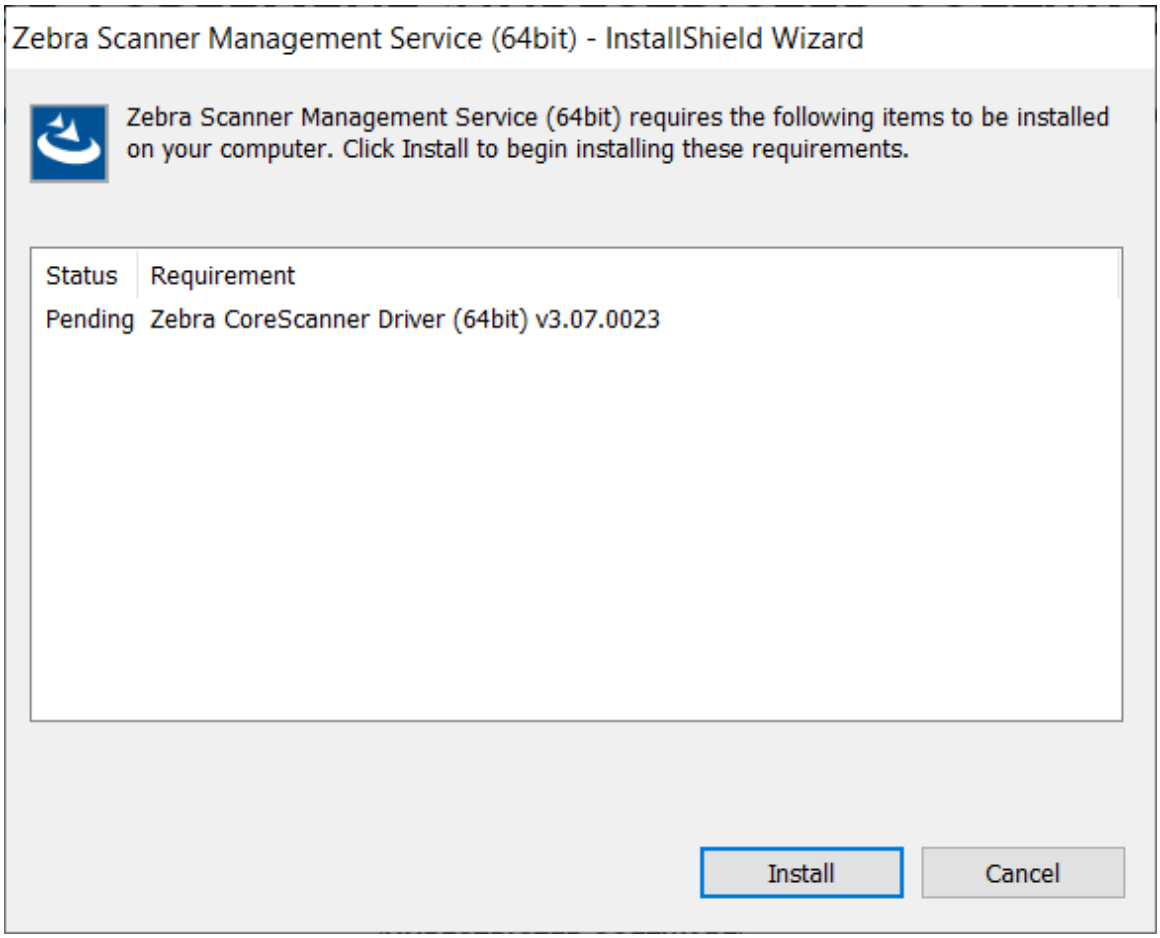
  Note

  Once installed in a production environment, the SMS solution size decreases.

Installing Scanner Management Service

To install Scanner Management Service (SMS) on the computer or POS terminal, follow these steps:

1. Download the SMS Solution from https://www.zebra.com/cn/zh/support-downloads/software/utilities/scanner-management-service-for-windows.html.
2. Double–click the `Zebra_Scanner_Management_Service_(xxbit)_vx.xx.xxxx.exe` file to run the installer. The application displays the Welcome screen.



   - Select **Install** to start installing the CoreScanner driver. After installing the driver, the application displays the Welcome screen.

Note

If no Zebra CoreScanner driver is installed in the system or the pre-installed CoreScanner driver version is not the latest version, the setup wizard prompts to install the latest Zebra CoreScanner Driver.

3. On the Welcome screen, select **Next**. The application displays the End User License Agreement.
4. Select **Yes** to accept the agreement, and then follow the onscreen instructions.
5. When the installation is complete, select **Finish**. The application closes the installation window.
6. Reboot the computer or POS terminal.

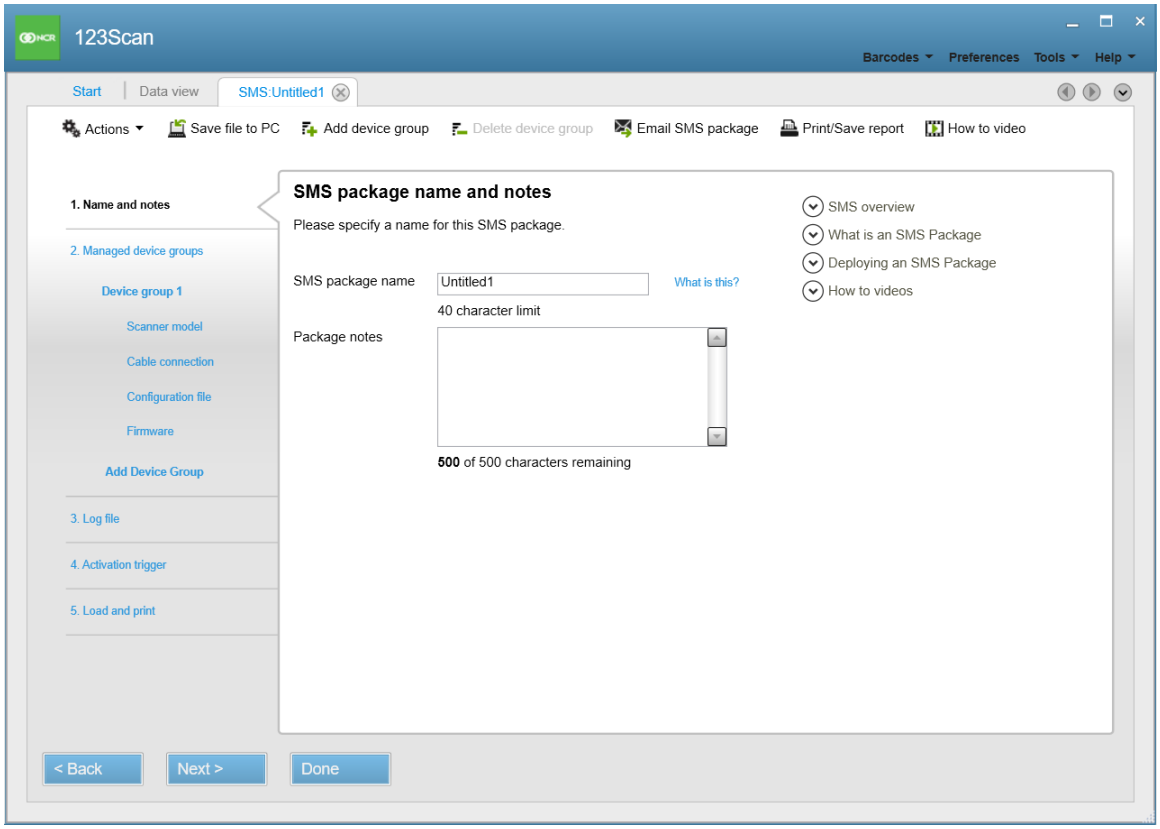
Creating an SMS Package Using 123Scan

An SMS Package includes the following three components:

- 123Scan configuration file containing parameters
- 123Scan plug-in containing scanner firmware
- Load *Directive* file with loading details such as date and time

To create an SMS Package, follow these steps:

1. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.
2. From the upper-left section of the Start tab, select **Action→ Create SMS Package**. The application opens a new untitled tab and starts the SMS Package Wizard.



3. Enter the SMS Package name.

Note

Take note of the following naming convention:

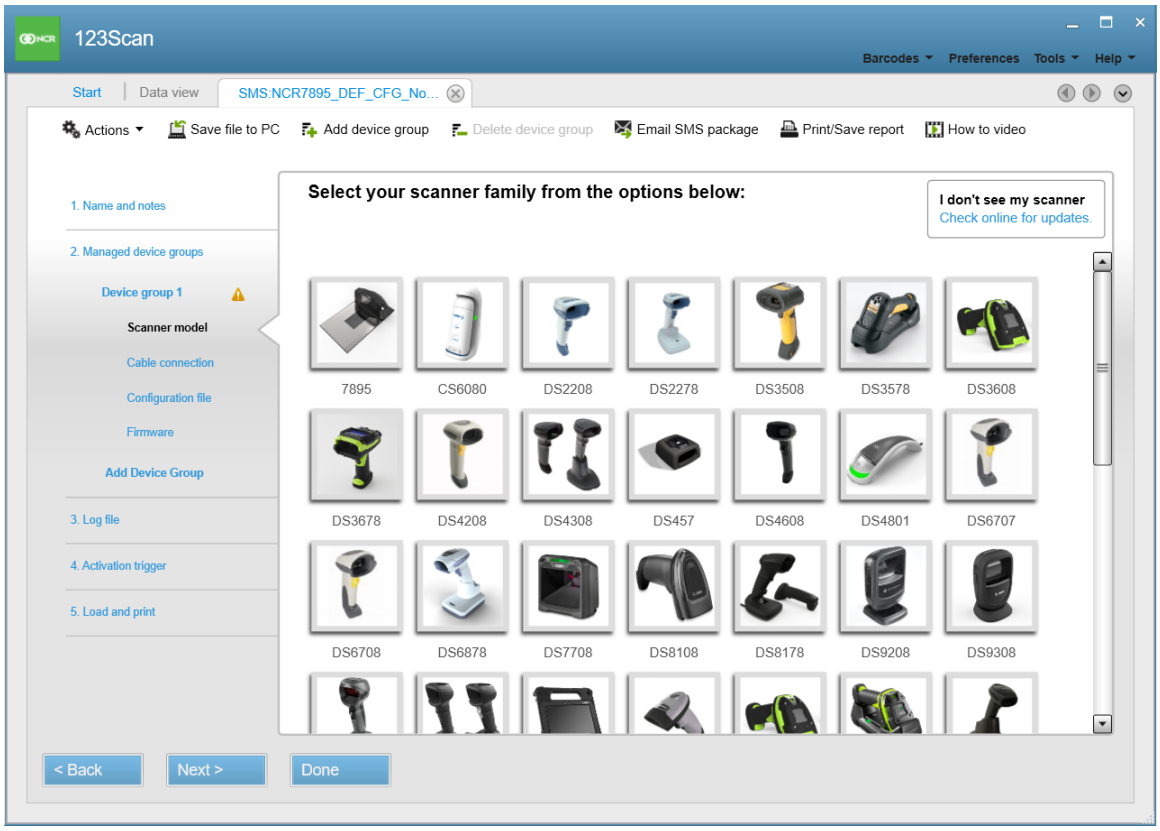
- The SMS Package name must start with "NCR7895".
- If the package includes a firmware file, the SMS Package name must end with the firmware version.
- If the package includes a configuration file only, the SMS Package name must end with "NoFW".

Example

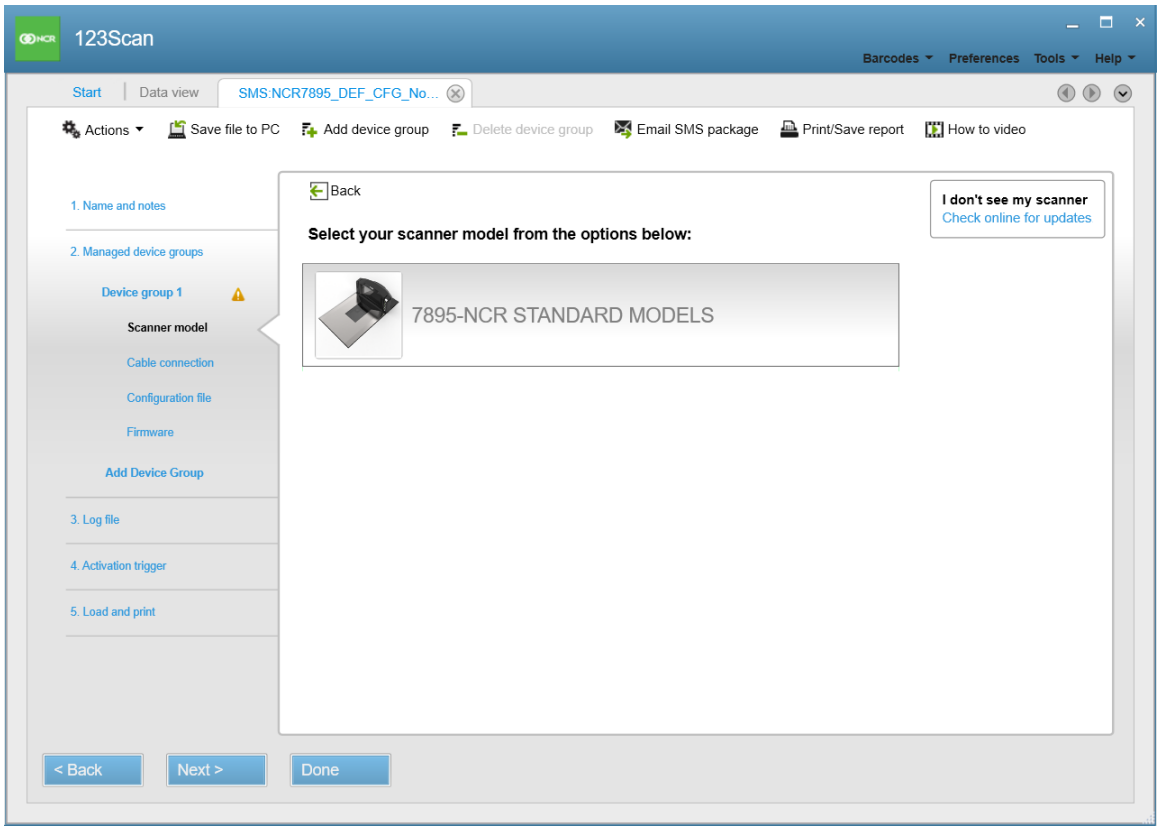
- "NCR7895_DEF_CFG_NoFW" (package includes a configuration file only)
- "NCR7895_DEF_CFG_PAAFMS00_003_R07" (package includes both a configuration file and a firmware plug-in version PAAFMS00_003_R07)

4. Add notes to briefly describe the SMS Package (optional).

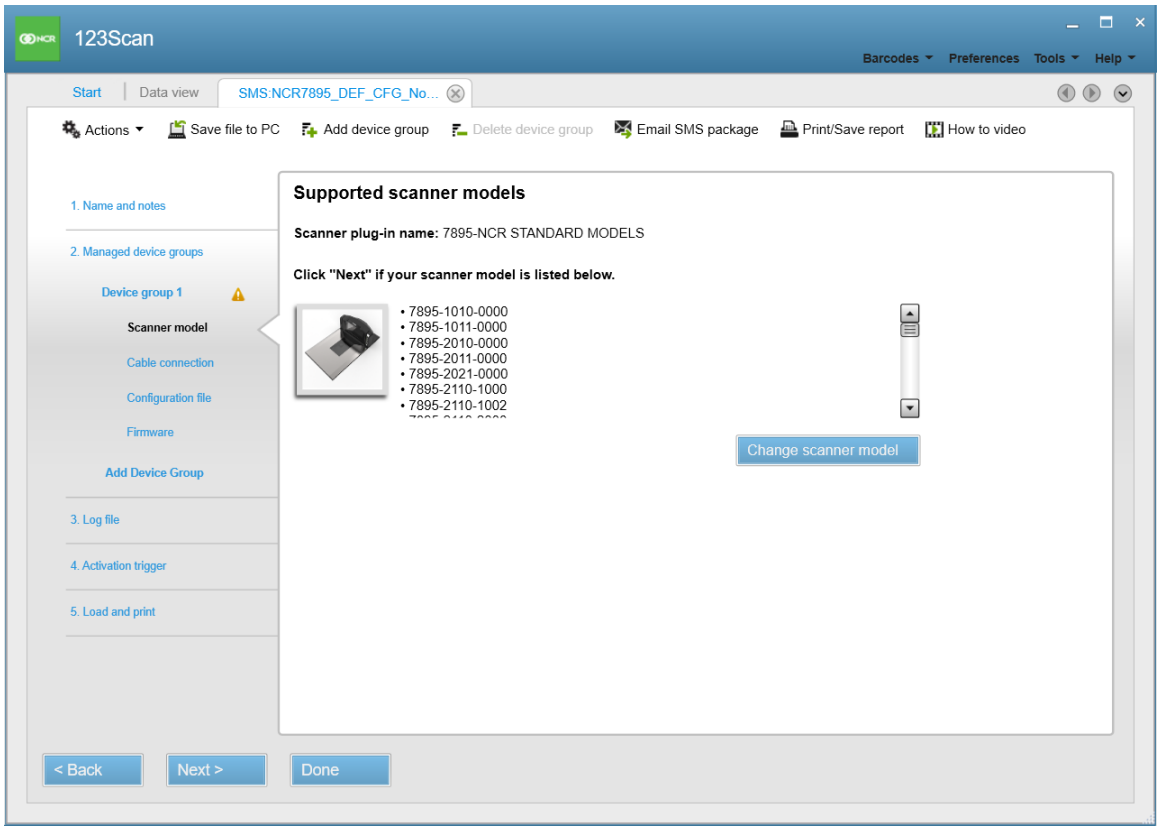
5. Select **Next** to proceed. The application displays the available scanner family options and displays the new configuration name as the tab title.



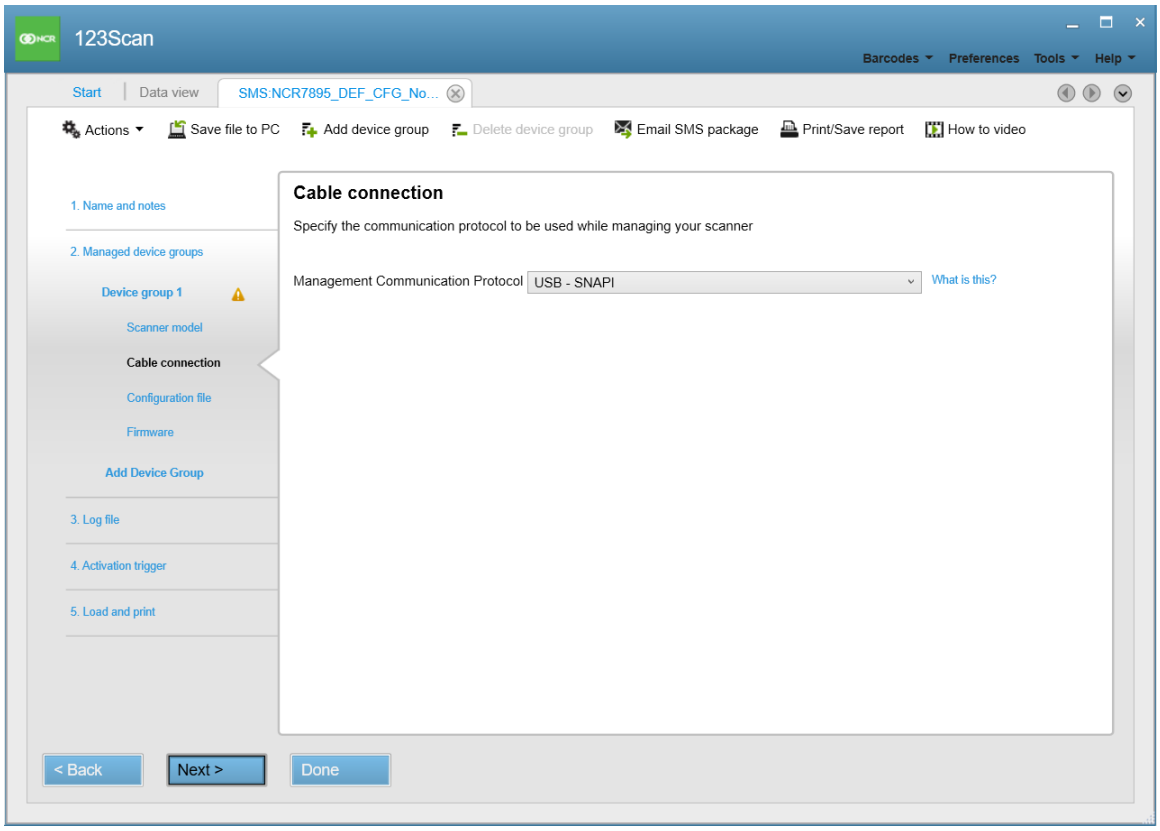
6. From the scanner family options, select **7895**. The application displays the available scanner models under 7895.



7. From the scanner model options, select **7895-NCR STANDARD MODELS**. The application displays the list of supported scanners models.



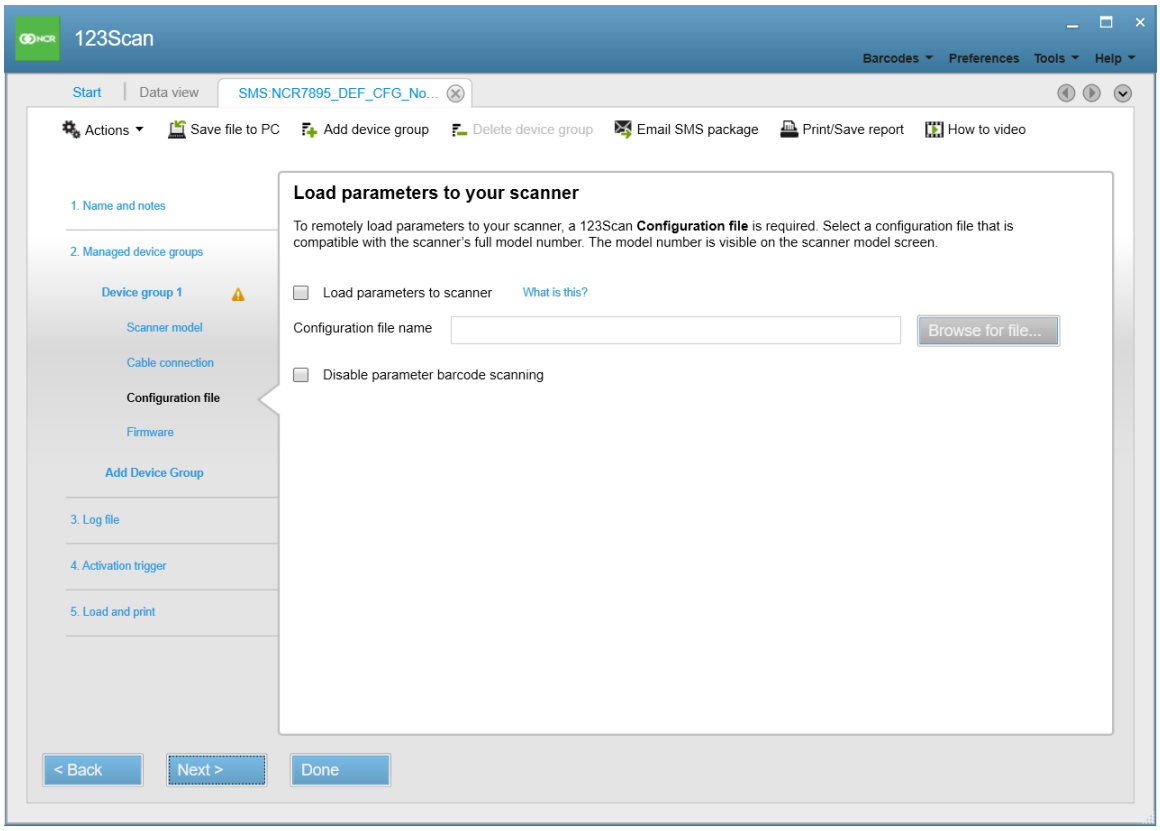
8. Select **Next**. The application displays the cable connection options.



Note

This protocol is the communication mode used by SMS to manage the scanner. The fastest supported management communication protocol (programming mode) is shown at the top of the list by default. This management protocol can be different from the communication protocol used by the device during normal operations such as scanning and transmitting data to the host application.

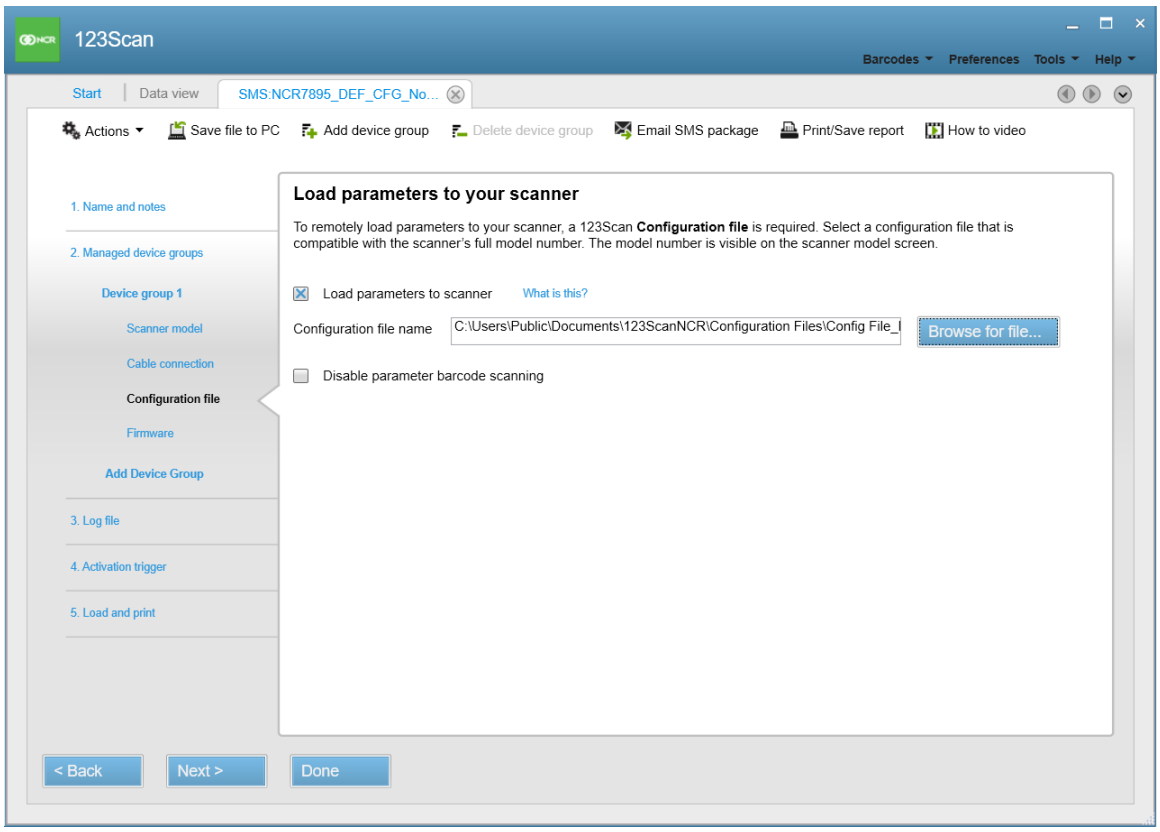
9. Select a Management Communication Protocol option, and then select **Next**. The application displays the parameter loading options.



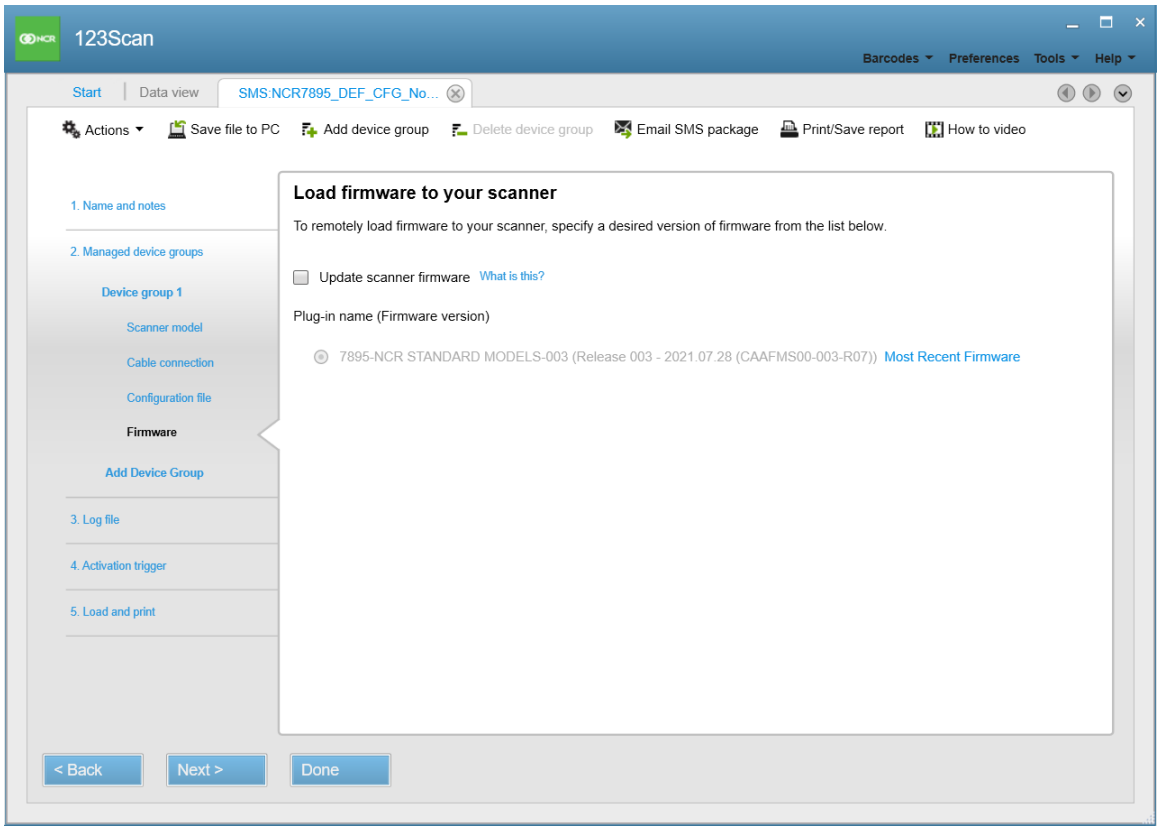
10. Enable **Load parameters to scanner** to include a configuration file containing parameter settings to be loaded to the scanner.

> **Note**
>
> This option requires that there is already an available appropriate configuration file to be loaded to the scanner.

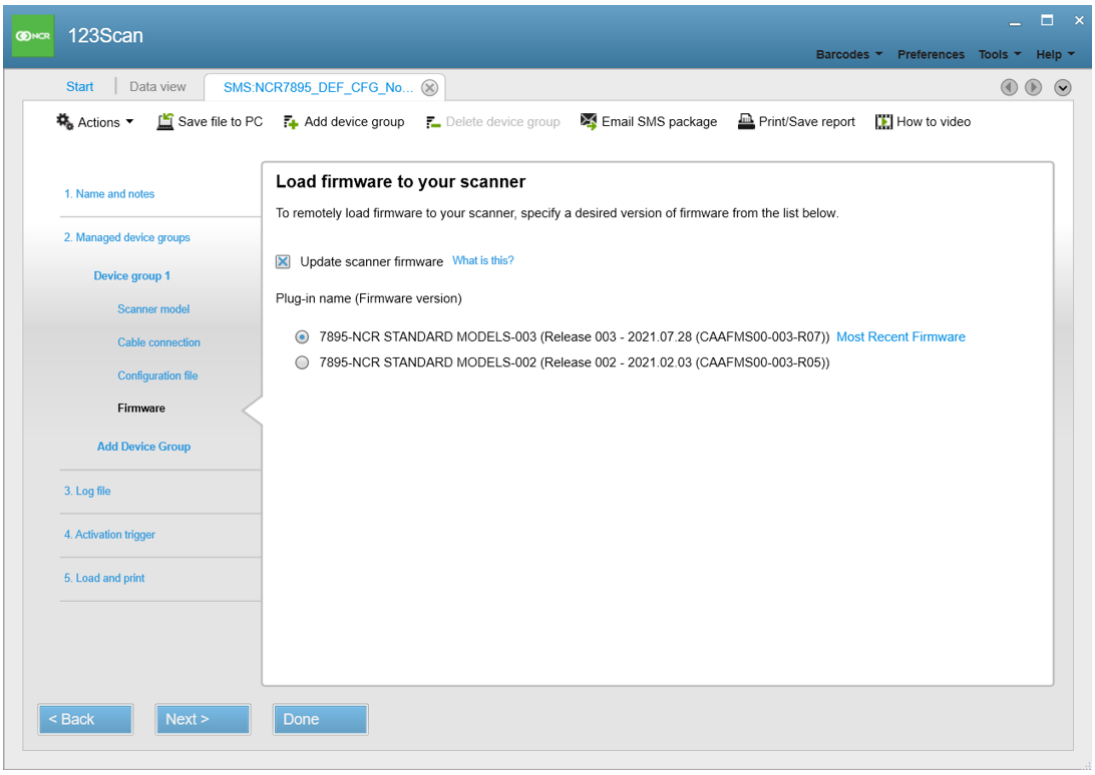
11. Browse for the configuration file (`.scncfg`), and then select **Open**. The application returns to the Load parameters to your scanner window and displays the configuration file name.



12. Select **Next**. The application displays the firmware loading options.



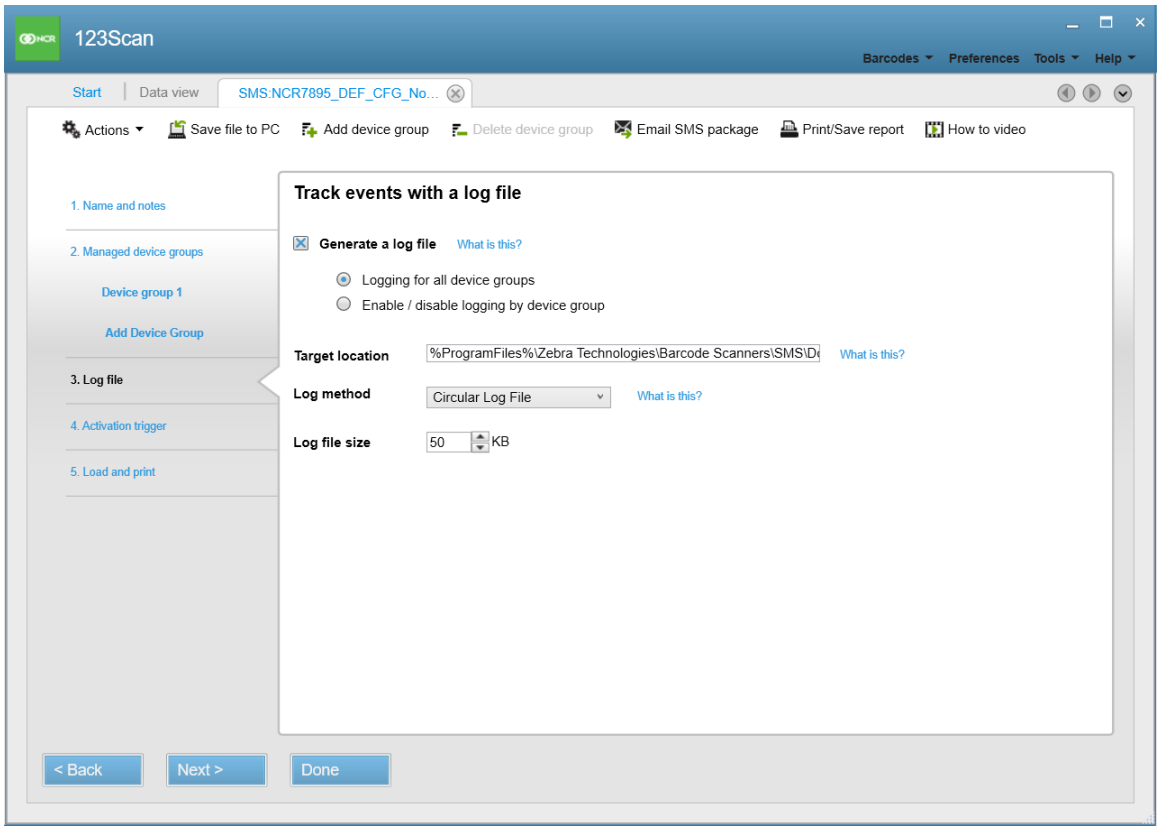
13. If a firmware file should be included in the SMS Package, do the following:
    a. Enable **Update scanner firmware**. The application displays the available firmware versions.



    b. Select the firmware version to load to the scanner.

> **Note**
>
> The latest firmware version is recommended and is selected by default.

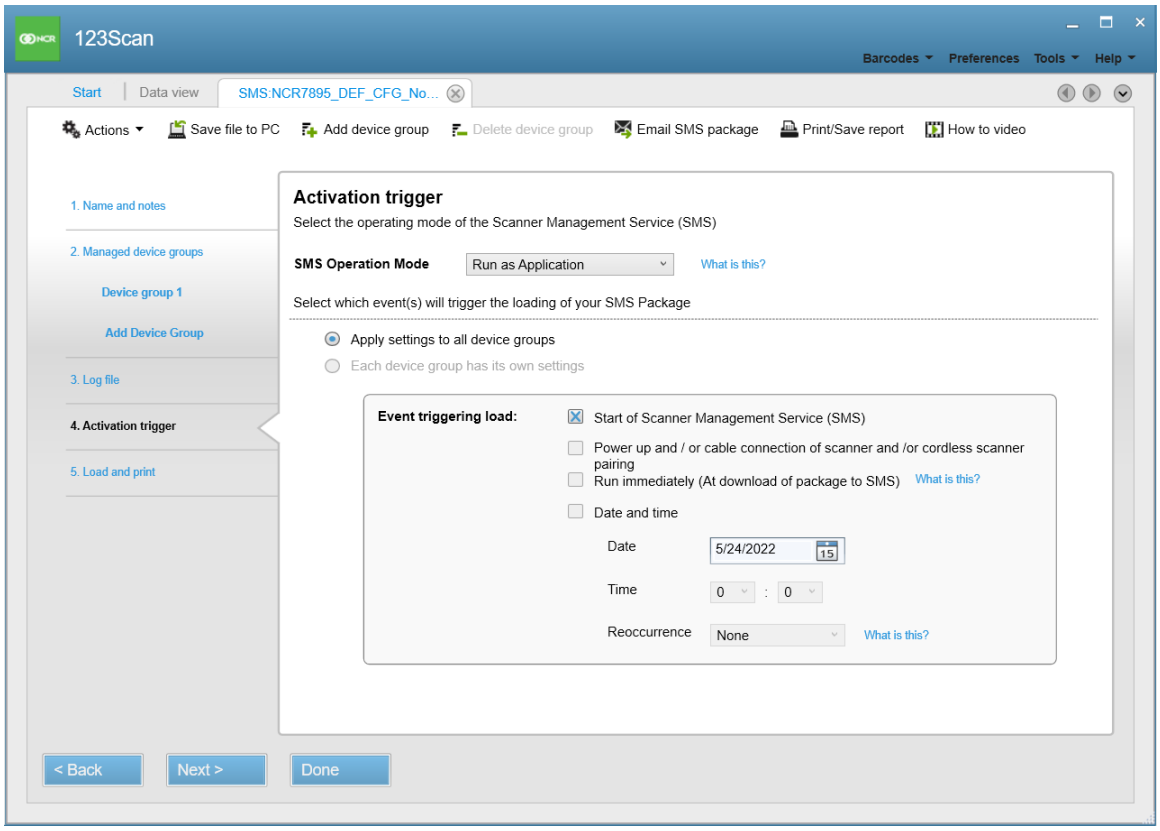
14. Select **Next** until the application displays the Track events options.



15. Enable **Generate a log file**.

> **Note**
>
> It is not required to change the other settings.

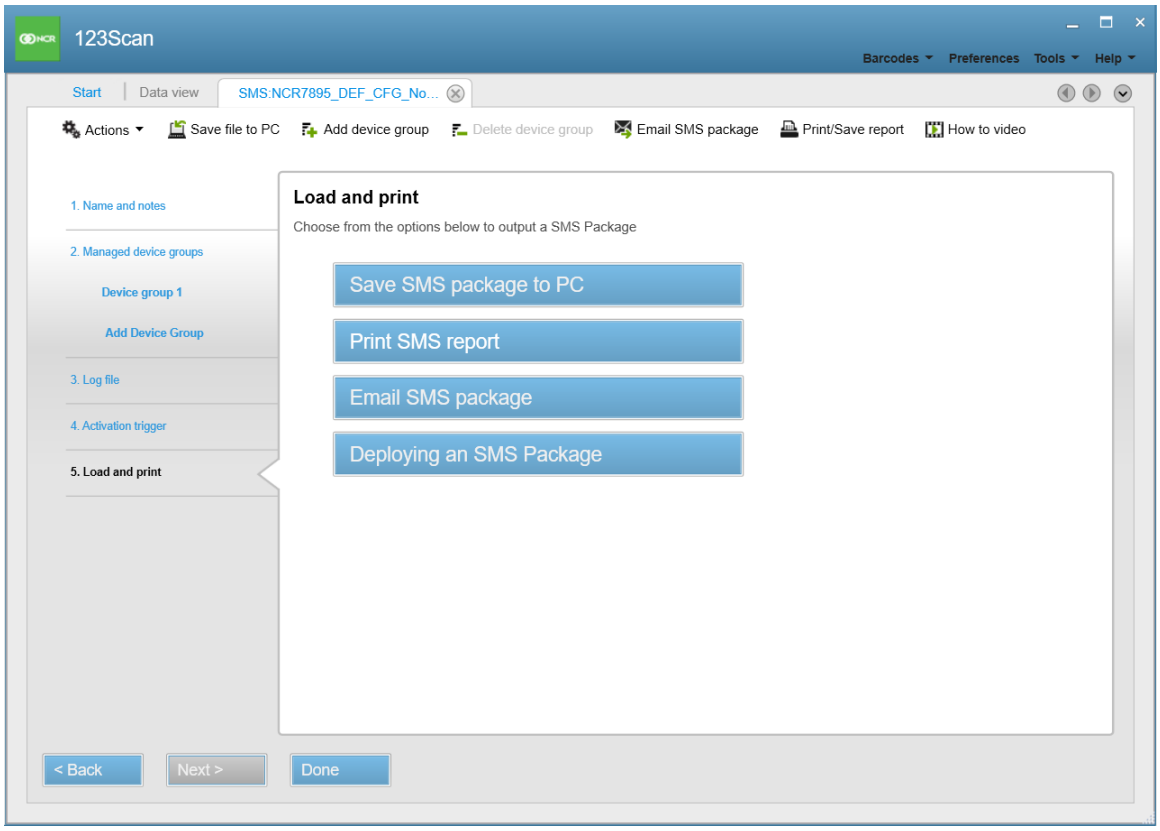
16. Select **Next**. The application displays the activation trigger options.



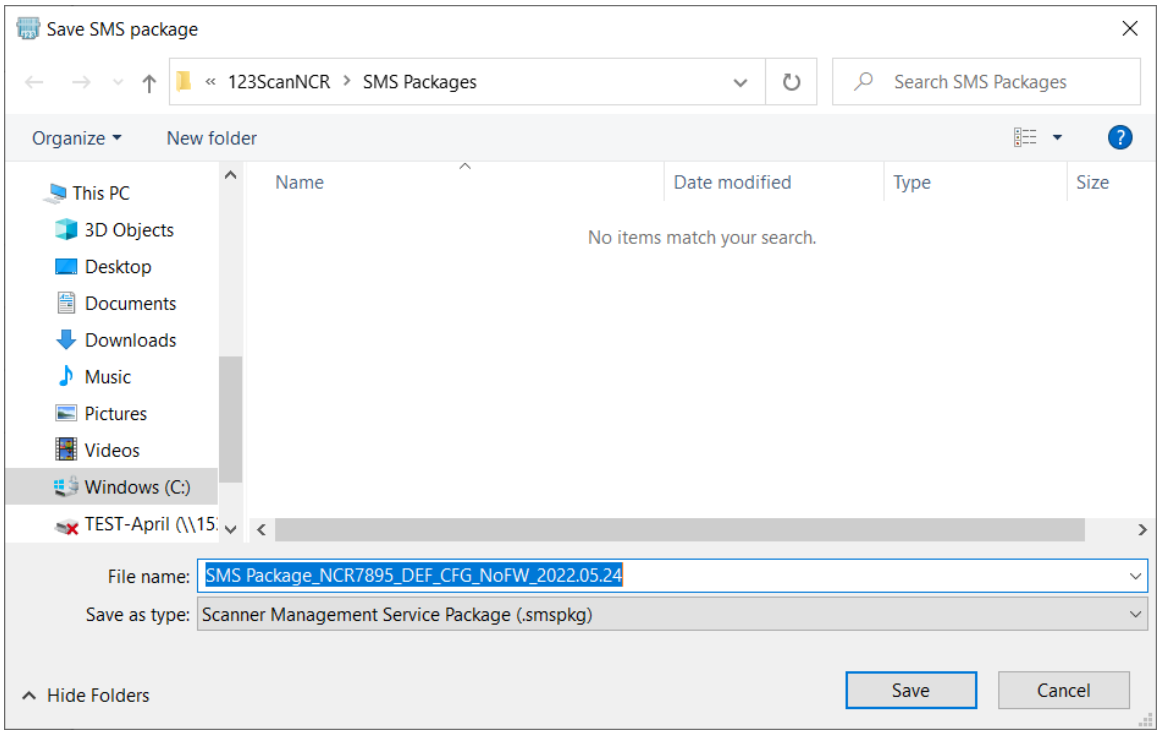
17. For SMS Operation Mode, select **Run as Application**. to set the SMS to run only when it is manually launched.

> **Note**
>
> It is not required to change the other settings.

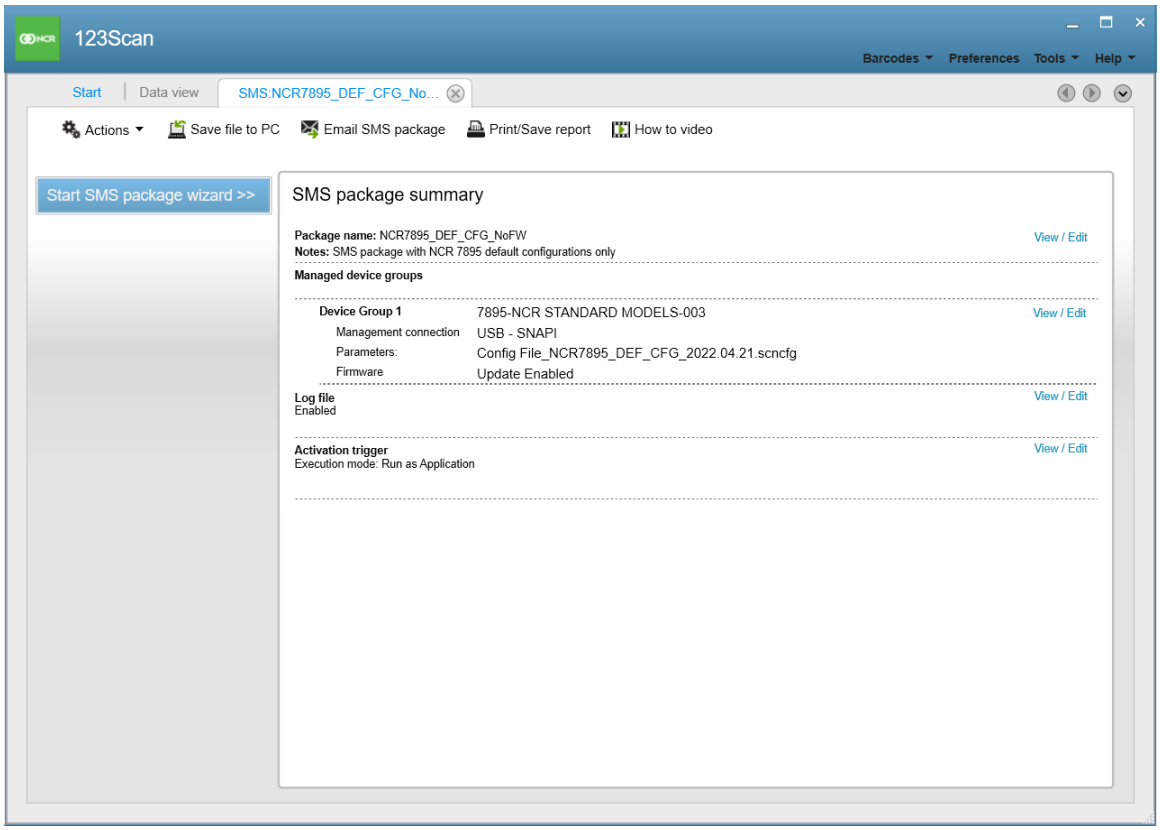
18. Select **Next**. The application displays the load and print options.



19. Select **Save SMS package to PC**. The application displays the Save SMS package window.



20. Select **Save**. The application saves the SMS Package (`.smspkg`) in `C:\Users\Public\Documents\123ScanNCR\SMS Packages`, and then returns to the Load and print window.
21. Select **Done**. The application closes the SMS Package Wizard and displays the SMS package summary.



Opening an Existing SMS Package

An existing SMS Package can be opened using any of the following options:

- "Opening an SMS Package from the SMS Packages Folder" on the next page
- "Opening an SMS Package within 123Scan" on page 123

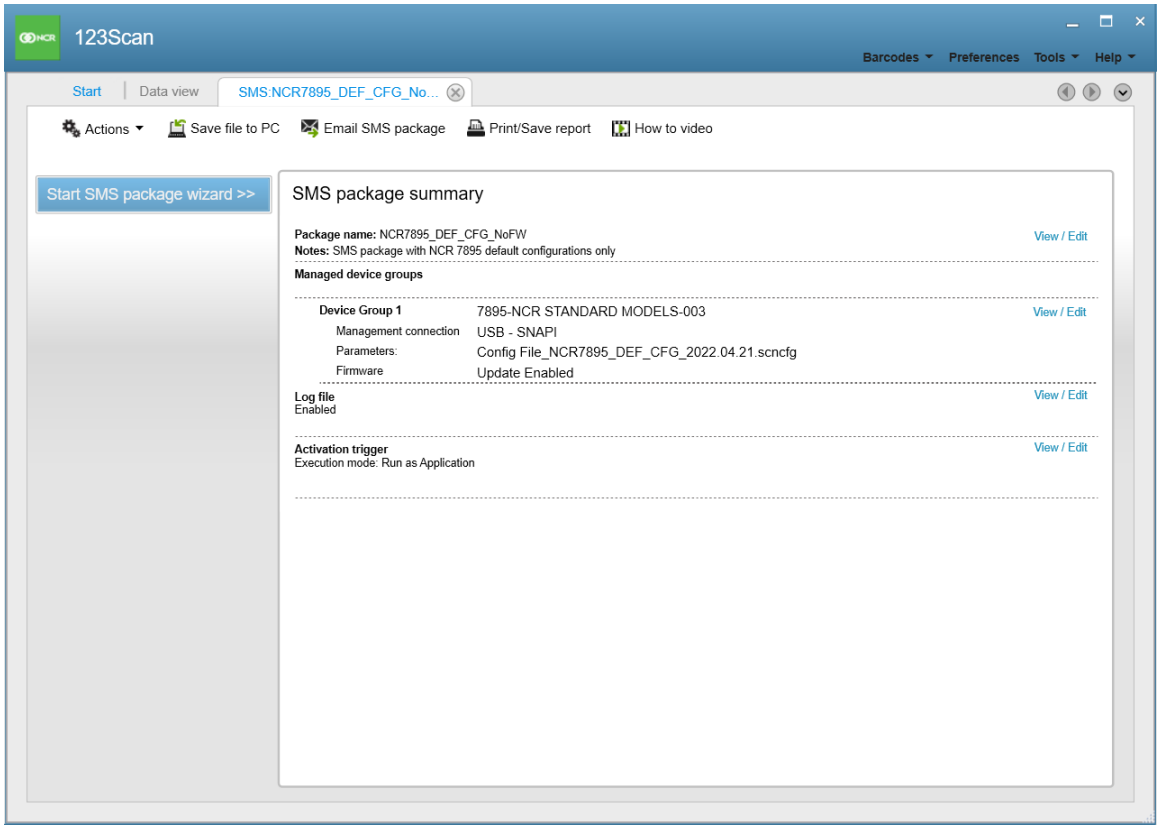
Opening an SMS Package from the SMS Packages Folder

To open an existing SMS Package from the SMS Packages folder on the computer or POS terminal, follow these steps:

1. Locate the SMS Package (`.smspkg`) on the computer or POS terminal.

   > **Note**
   >
   > By default, SMS packages are saved in `C:\Users\Public\Documents\123ScanNCR\SMS Packages`.

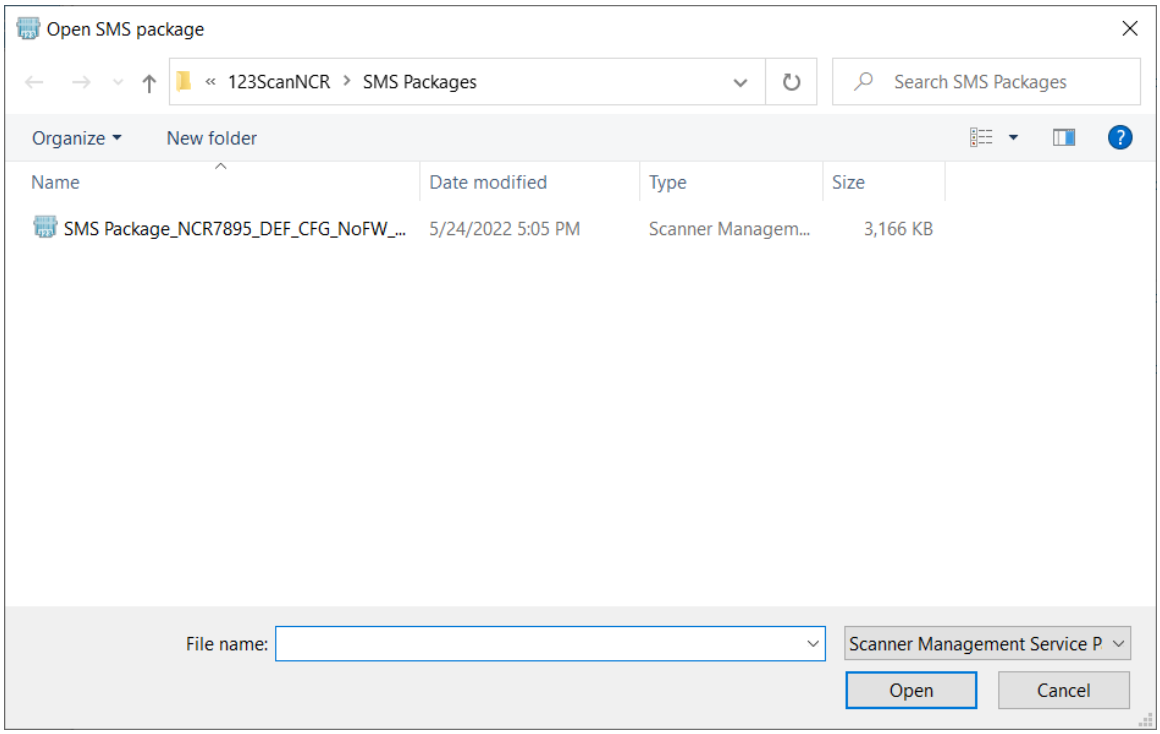
2. Double-click the SMS Package. The system launches the NCR 123Scan utility launches and displays the SMS Package summary.



Opening an SMS Package within 123Scan

To open an existing SMS Package within 123Scan, follow these steps:

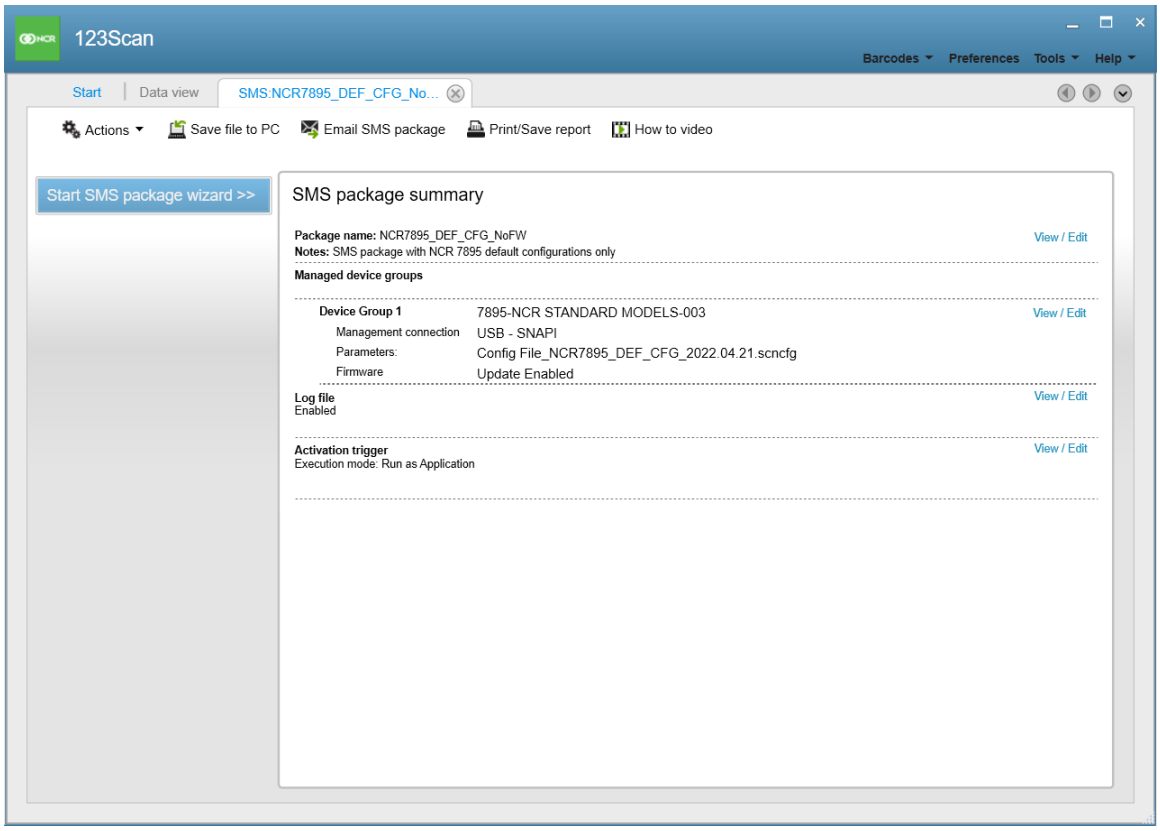
1. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.
2. From the upper-left section of the **Start tab, select Action→ Open SMS Package**. The application displays the Open SMS Package window.



3. Browse for the SMS Package (`.smspkg`) on the computer or POS terminal.

> **Note**
>
> By default, the SMS packages are saved in `C:\Users\Public\Documents\123ScanNCR\SMS Packages`.

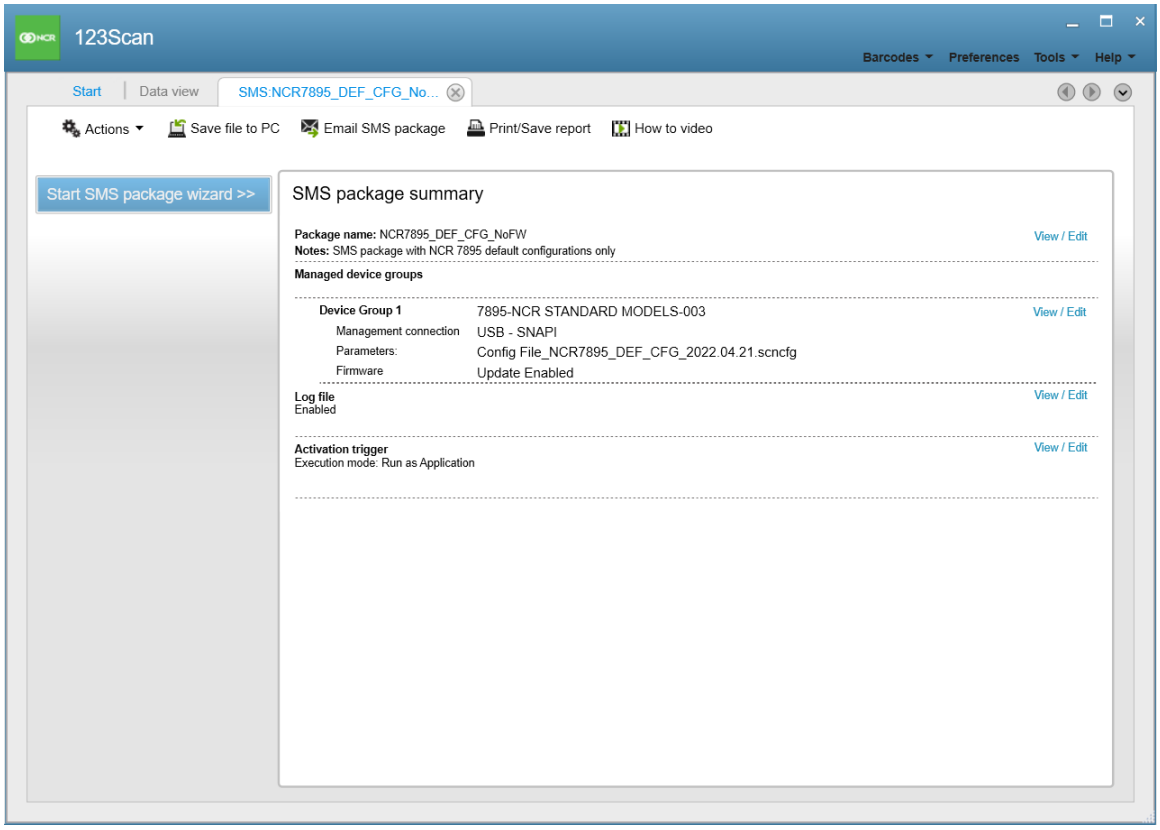
4. Select **Open**. The application displays the SMS package summary.



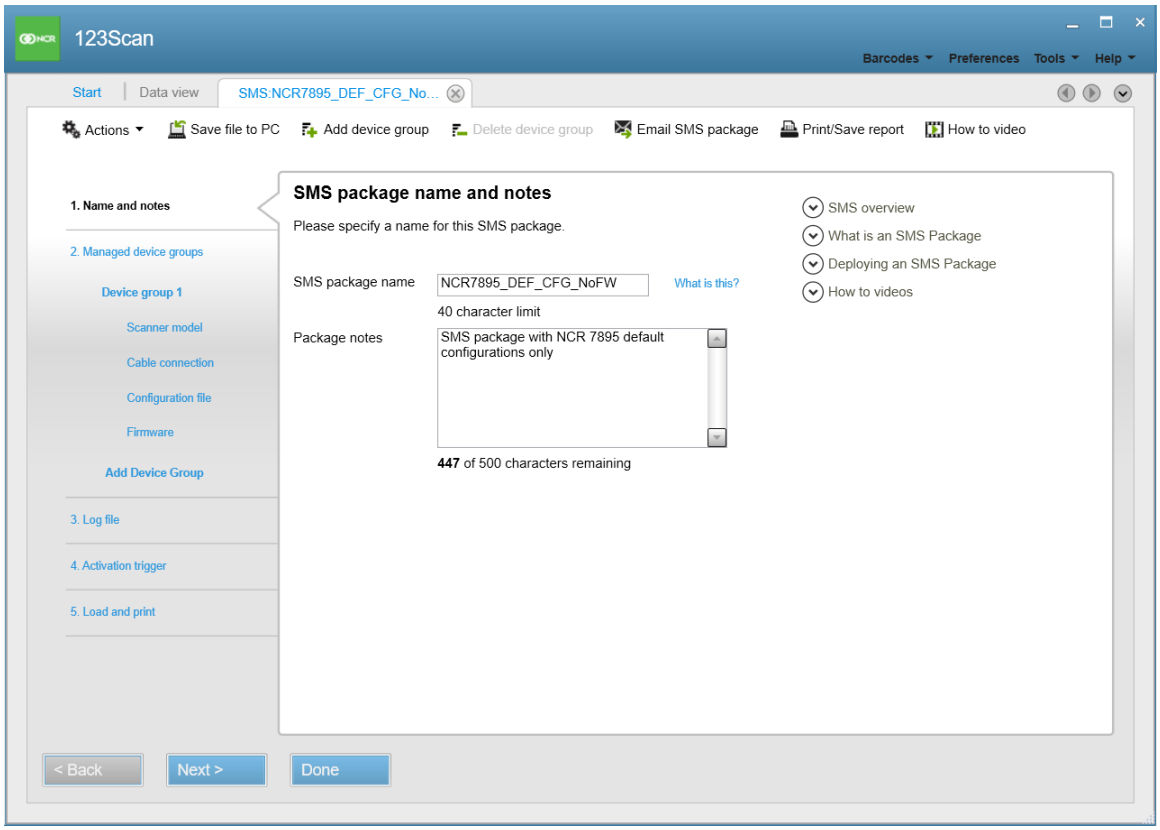
Modifying an Existing SMS Package

An SMS Package can be modified using the NCR 123Scan utility. To modify an existing SMS Package, follow these steps:

1. Open an existing SMS Package. For more information, refer to "Opening an Existing SMS Package" on page 121.



2. Select **Start SMS package wizard**. The application starts the SMS Package Wizard.



3. Select **Next** and modify the settings as necessary.

4. After adjusting all settings for the SMS Package, select **Load and print** from the left pane and do any of the following options:

Action	Description
Save SMS package to PC	Saves the SMS Package (`.smspkg`) format, to a predesignated location on the computer. **Note** SMS packages are saved in `C:\Users\Public\Documents\123ScanNCR\SMS Packages`.
Print SMS report	Prints an SMS report containing all settings that were enabled or disabled within the SMS Package. The report may be printed out or saved as a Word file.
Email SMS package	Emails the SMS Package. The message also includes the SMS Package overview and instructions in using the SMS Package.
Deploy an SMS Package	Provides instructions on deploying an SMS Package on a production host PC. The instructions may also be printed out.

USB Staging Flash Drive

A staging USB flash drive can be used to perform the following:

- Set up an NCR 7895 system from a 123Scan generated set of files
- Perform NCR 7895 system cloning
- Collect NCR 7895 statistics, usage, and diagnostics data

A staging flash drive can be created by 123Scan, from an NCR 7895, or both.

- A 123Scan generated staging flash drive can perform device setups from 123Scan to multiple NCR 7895.
- An NCR 7895 generated staging flash drive can perform the following functions:
  - Device cloning from one NCR 7895 to multiple NCR 7895
  - Back up system settings from an NCR 7895

    Note

    The NCR 7895 parameter settings can be imported into 123Scan.

  - Collect statistics, usage, and diagnostics data

    Note

    The data can be viewed in 123Scan.

Recommended USB Flash Drive Dimensions

When using the NCR 7895 flash drive well that is located under the Top Plate, the USB flash drive must meet the following specifications to be easily inserted into and removed from the well:

- Maximum thickness: **1.1 cm** (0.43 in.)
- Maximum width: **2.1 cm** (0.83 in.)
- Minimum length: **6.35 cm** (2.5 in.)

Loading Staging Files to a USB Flash Drive

Use any of the following options to load staging files to a USB staging flash drive:

- Insert the staging flash drive into one of the NCR 7895 USB ports and select **Option 1** from the USB Staging Flash Drive menu options. For more information, refer to **"Loading Files Using USB Staging Flash Drive Menu Options"** on the next page.
- Use 123Scan to create and export files to the staging flash drive. For more information, refer to **"Loading Files Using 123Scan Utility"** on page 135.

Note

It is recommended to start with a clean USB flash drive. The USB flash drive must have a length of at least **6.35 cm** (2.5 in.) to be accessible for removal after insertion into the internal NCR 7895 flash drive well. Alternatively, some USB flash drives include an opening in their rear covers into which a paper clip can be looped to help achieve the minimal length dimension. For the recommended flash drive dimensions for use in the internal USB port, refer to **"Recommended USB Flash Drive Dimensions"** on the previous page.

Loading Files Using USB Staging Flash Drive Menu Options

To clone data and load cloning files to the USB flash drive through menu options on the 7-segment display, follow these steps:

1. Connect the USB flash drive to any of the three NCR 7895 USB ports. The EAS Deactivation button on the front panel turns on and the speaker emits two beeps.

   Caution

   While the staging flash drive is inserted, do not remove power, do not remove nor connect any cables, and do not press the **Volume/Tone Control** button nor the **Scale** button. These actions may interfere with the staging flash drive process.

   Note

   If the Sensormatic device is installed and operational, the EAS Deactivation button remains On. If the Sensormatic device is not installed or not operational, the EAS Deactivation button turns on when the NCR 7895 detects the USB flash drive.

2. Wait for the 7-segment display to show *1* (Option 1: Copy an NCR 7895 configuration to the USB flash drive), and then press the **EAS Deactivation** button. The speaker emits one beep.

   Note

   The flash drive menu displays three number options for approximately five seconds each. When the option you want is displayed in the menu, select the option within five seconds.

3. Confirm the selection within 15 seconds by pressing the **EAS Deactivation** button again. The 7-segment display then shows a scrolling bar (–), indicating that the device is working. When the process is complete, the speaker emits three success beeps (high-low-high) and the 7-segment display stops showing the scrolling bar.

Note

Take note of the following:

- If the selection is not confirmed, the speaker emits four fail beeps and the 7-segment display re-scrolls the menu.
- The scrolling bar stops whether the cloning process succeeded or failed. If the process failed, try again or contact the System Administrator.

Caution

If the staging flash drive is removed prior to completion, a fail occurs (four beeps). Premature removal of the staging flash drive may result in a partial change in the system.

USB Staging Flash Drive Menu Options

Note

Auxiliary device settings are copied or loaded if applicable. Auxiliary cordless scanners are not supported.

Option 1: Copy an NCR 7895 configuration to the USB flash drive.

- Copy parameter settings and firmware from the NCR 7895 to the USB flash drive for cloning to another device or viewing in 123Scan.

Note

When Option 1 is available, the 7-segment display shows *1* and the speaker beeps once.

Option 2: Load a USB flash drive configuration to the NCR 7895.

- Load the parameter settings and firmware (if present) from the staging USB flash drive to this NCR 7895.

  Caution

  The NCR 7895 system configuration settings and firmware are overwritten.

  Note

  When Option 2 is available, the 7-segment display shows *2* and the speaker emits two beeps.

Option 3: Copy statistics, usage, and diagnostics data to the USB flash drive.

- Copy data from the NCR 7895 into the USB flash drive. The data can be viewed in 123Scan.

  Note

  When Option 3 is available, the 7-segment display shows *3* and the speaker emits three beeps.

Note

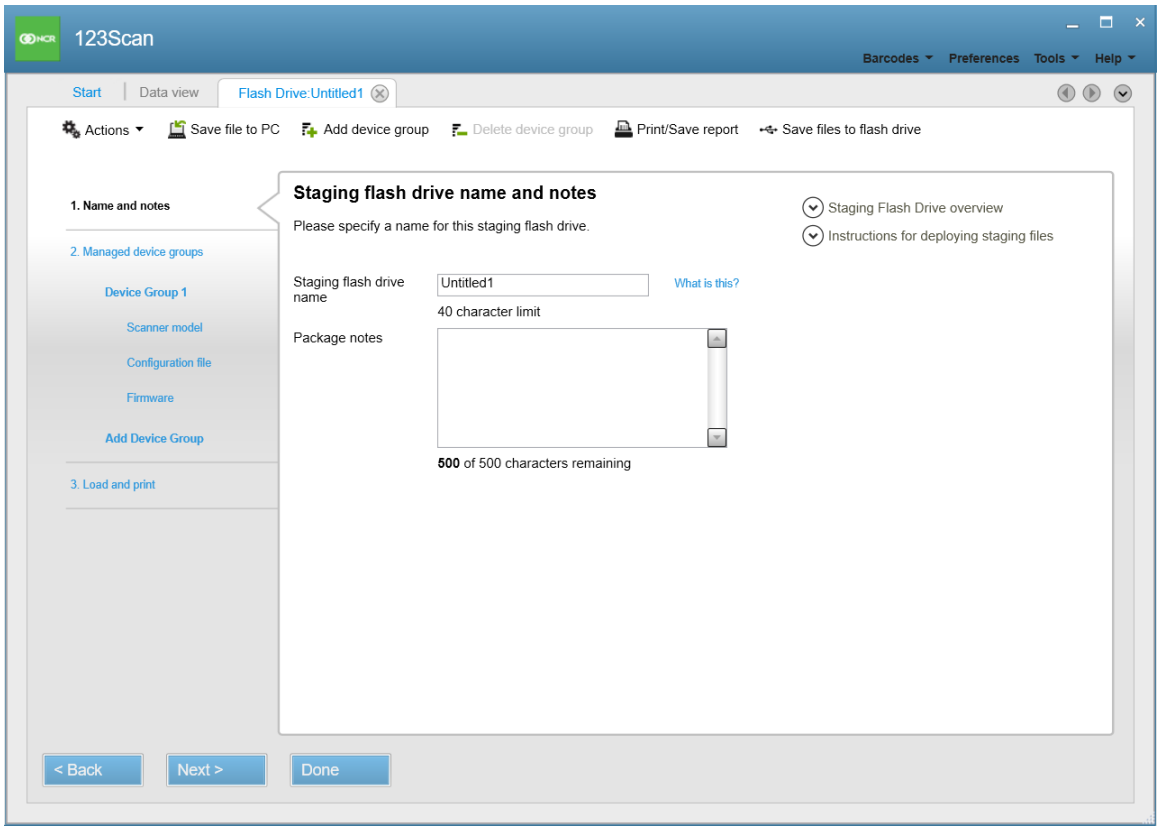
To exit without doing anything, remove the USB flash drive from the NCR 7895.

Loading Files Using 123Scan Utility

The Flash Drive Wizard option within the 123Scan utility guides users in generating a USB staging flash drive with cloning files.

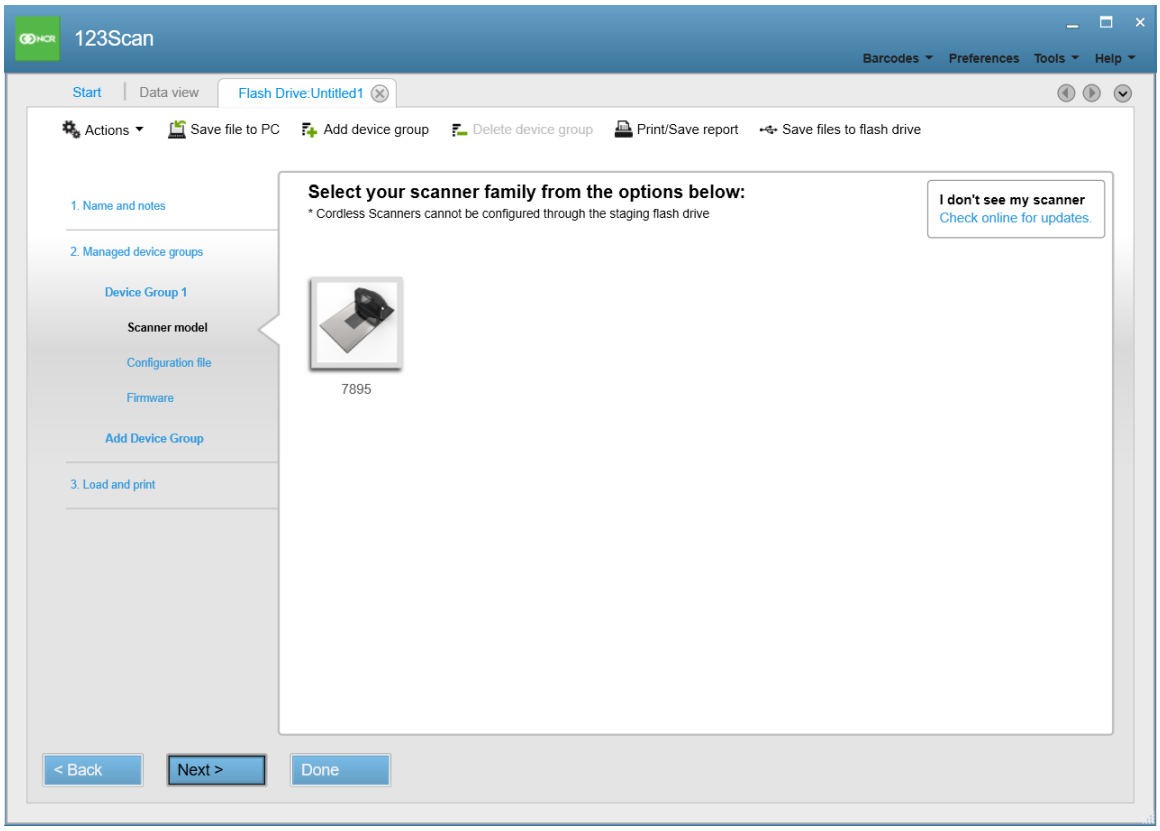
To clone data and load cloning files to the USB flash drive using the 123Scan utility, follow these steps:

1. Connect the USB staging flash drive to the computer or POS terminal.
2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.
3. From the upper-right section of the main window, select **Tools→ Staging flash drive for Multi-Plane Scanners→ Create Staging Flash Drive Files**. The application starts the Flash Drive Wizard by opening a new untitled tab.

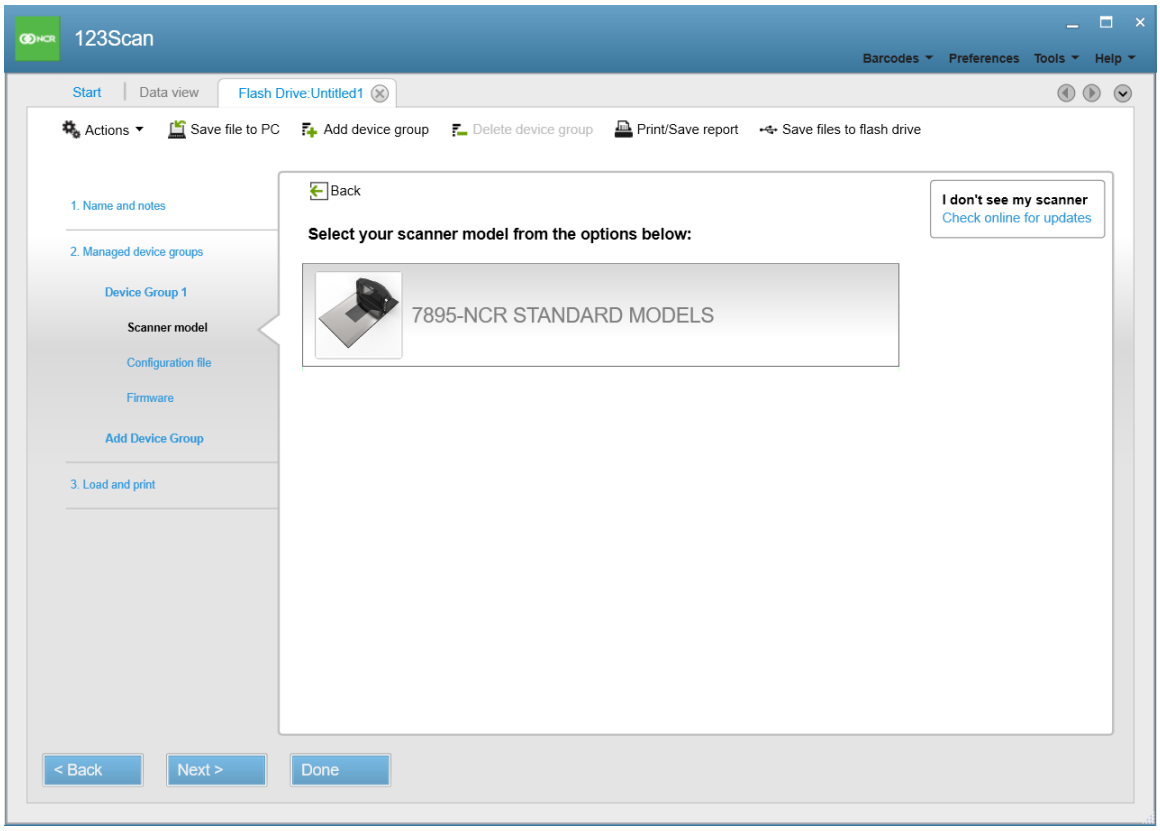


4. Enter the staging flash drive name.
5. Add notes to briefly describe the package (optional).

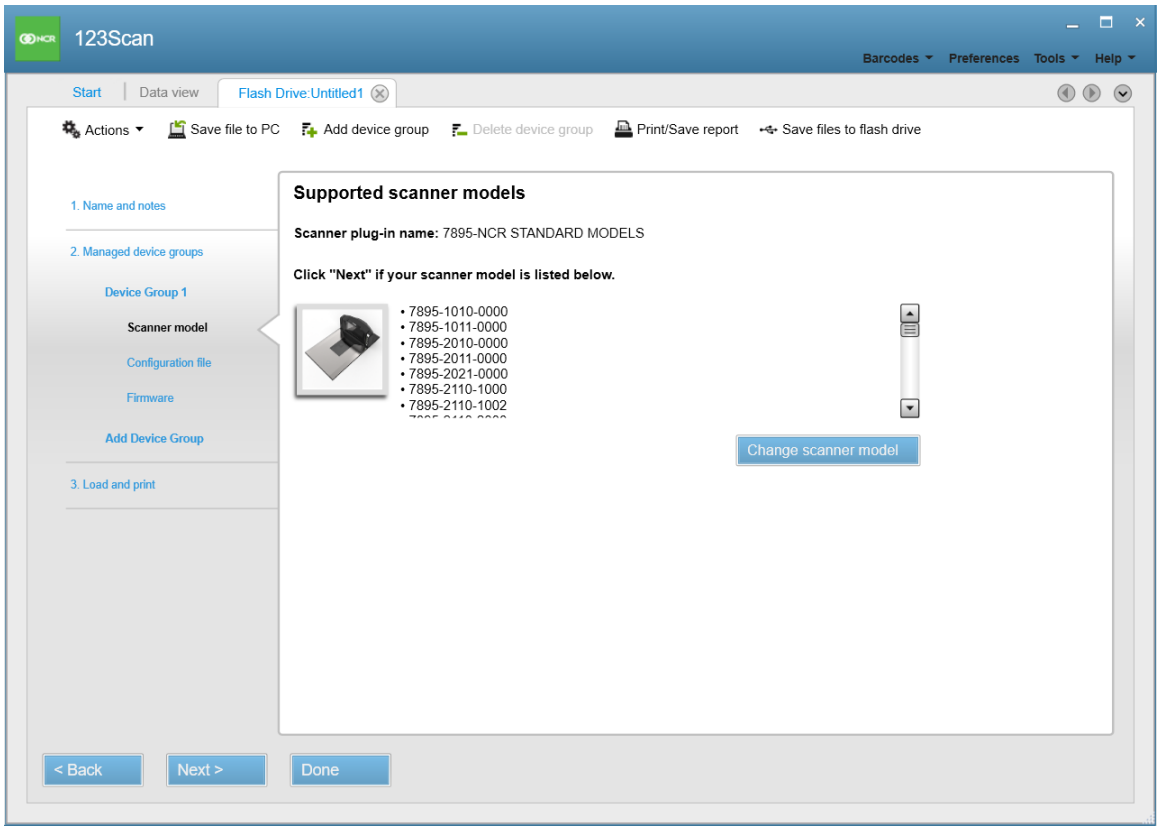
6. Select **Next**. The application displays the available scanner family options.



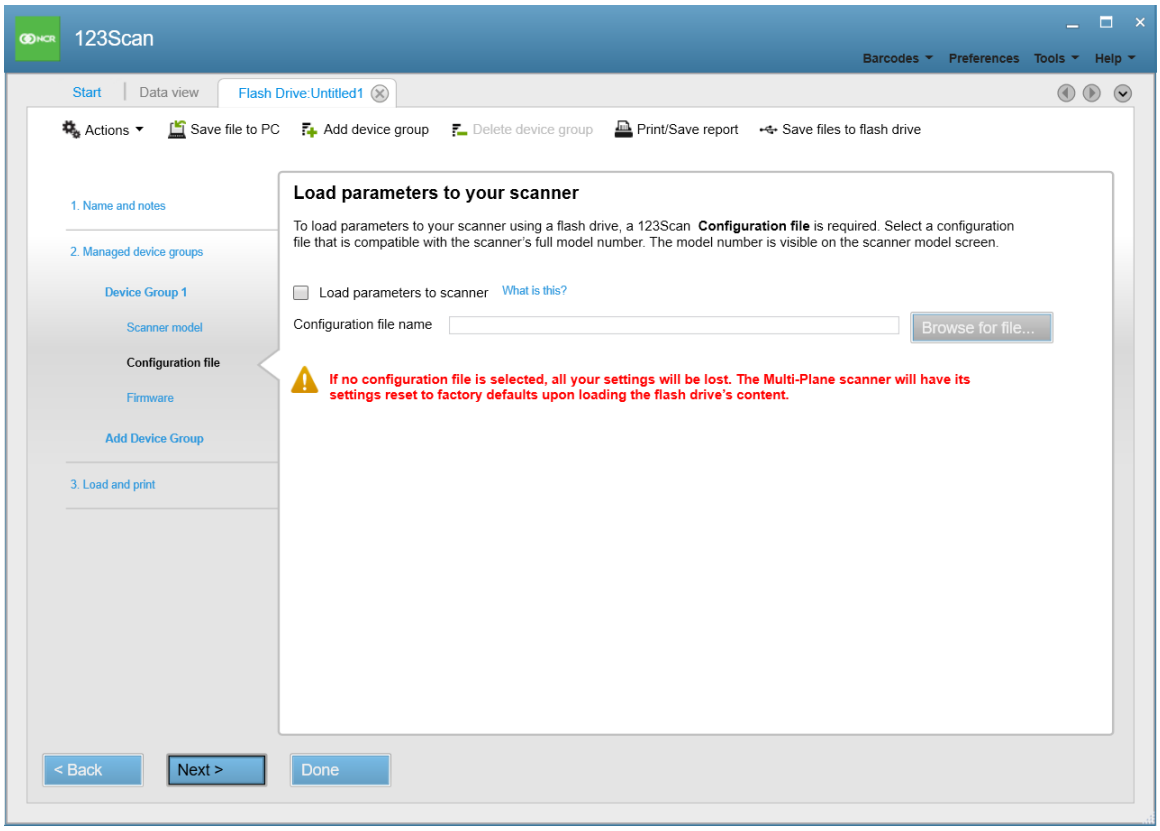
7. From the scanner family options, select **7895**. The application displays the available scanner models under 7895.



8. Select **7895-NCR STANDARD MODELS**. The application display the list of supported scanner models.



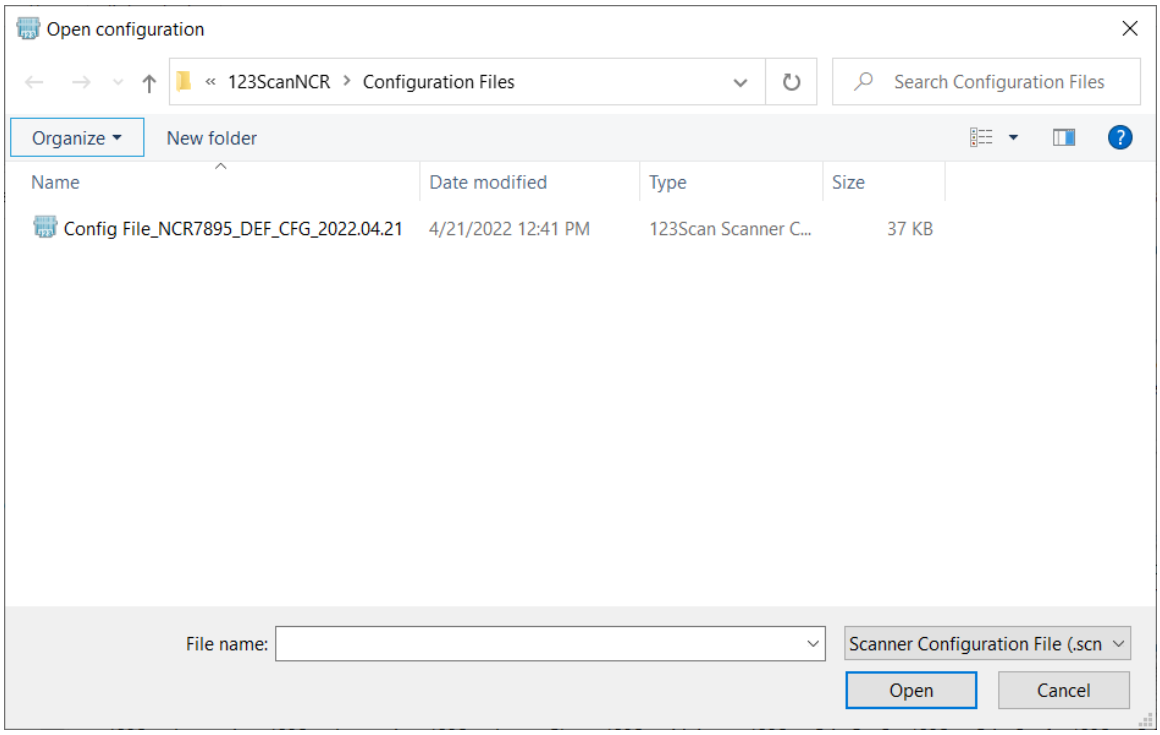
9. Select **Next**. The application displays the load parameters options.



10. Enable **Load parameters to scanner**.

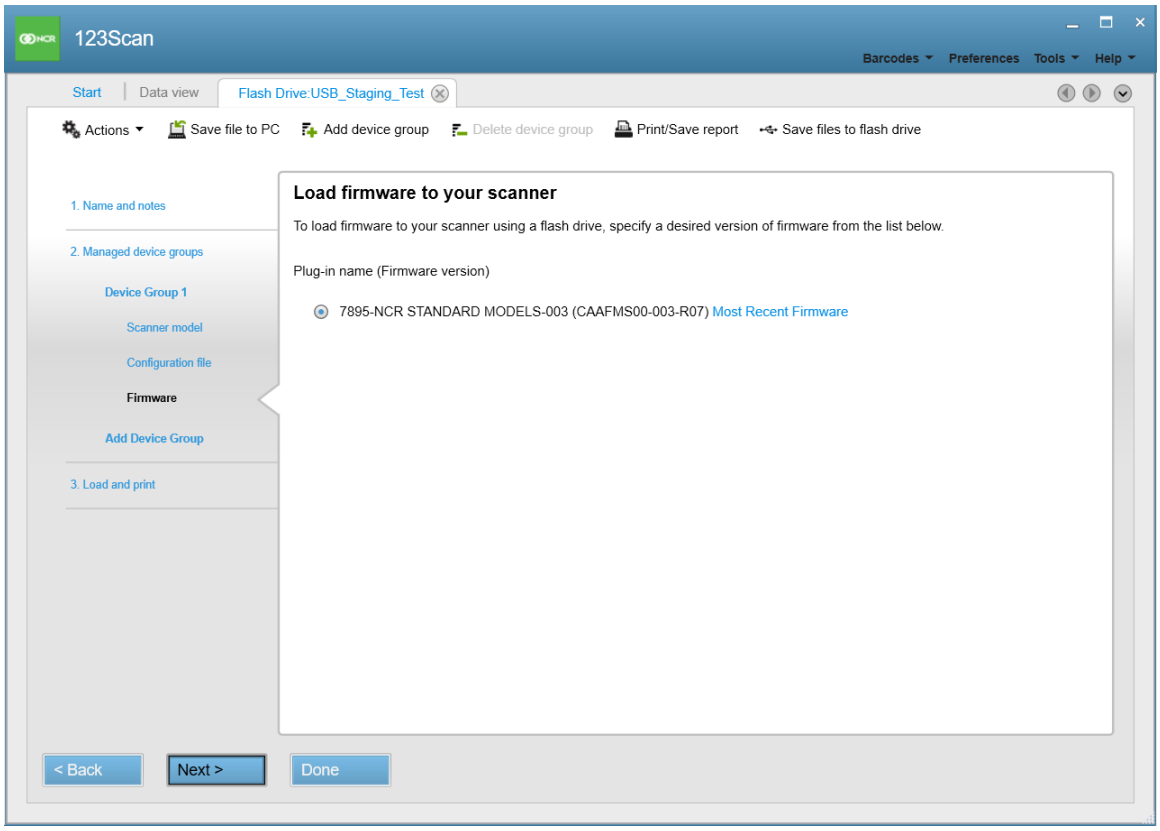
> **Note**
>
> This option enables the USB staging flash drive to load parameters from a 123Scan configuration file to the scanner. If no configuration file is selected, the scanner resets to factory default during staging.

11. Select **Browse for file**. The application displays the Open configuration window.



12. Browse for the configuration file (`.scncfg`), and then select **Open**. The application returns to the load parameters options.

13. Select **Next**. The application displays the load firmware options.



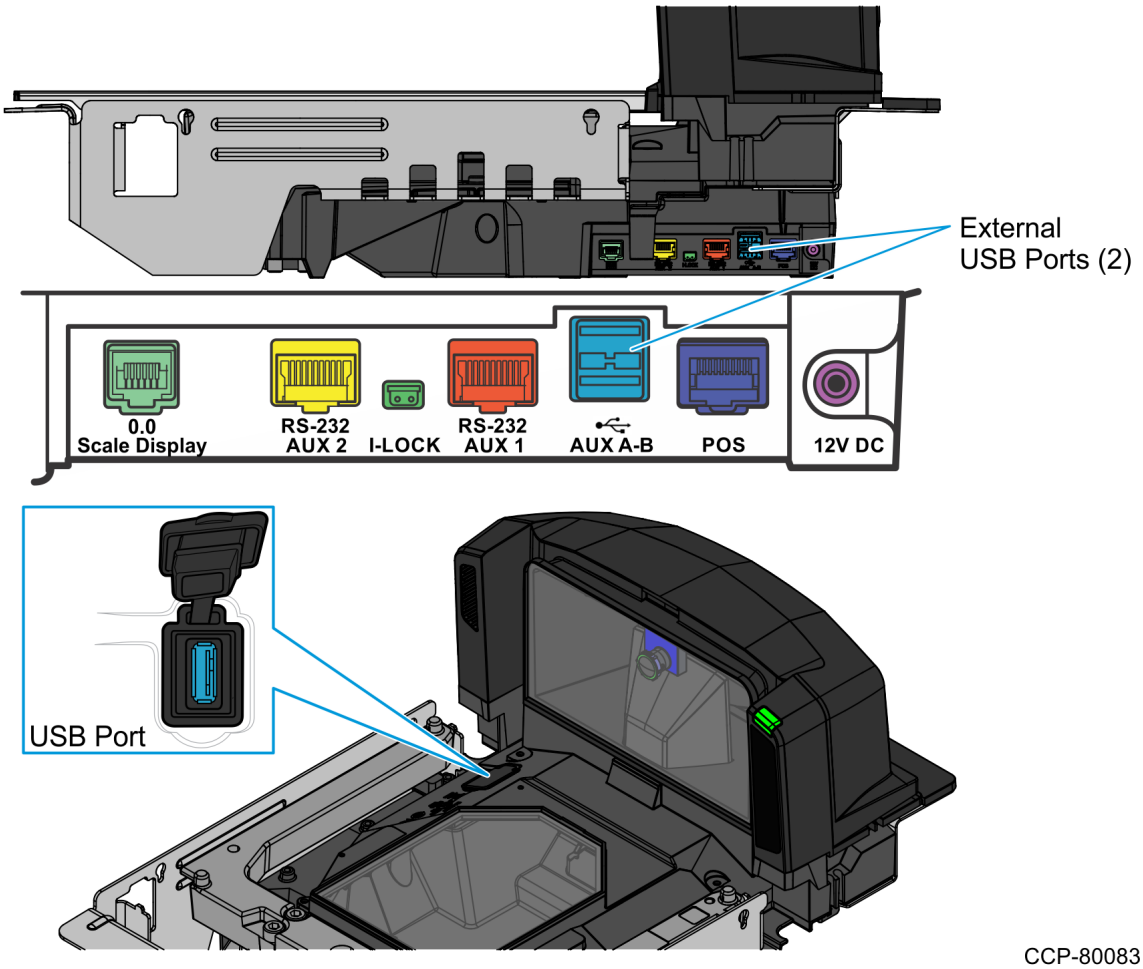
14. Select the plug-in name or firmware version.
15. On the left pane of the Flash Drive Wizard, select **Load and print**. The application displays the load and print options.
16. Select **Save files to flash drive**. The application displays the Browse For Folder window.
17. Select the USB staging flash drive and select **OK**. The application closes the Browse For Folder window.

> **Note**
>
> The staging files can be found in the Zebra_Flash_Drive folder in the flash drive.

Configuring the Scanner Using a USB Flash Drive

To configure or flash firmware to the NCR 7895 scanner using a USB flash drive, follow these steps:

1. Generate the staging files and load them to the USB staging flash drive. For more information, refer to "Loading Staging Files to a USB Flash Drive" on page 130.
2. Connect the USB flash drive to any of the three NCR 7895 USB ports. The EAS Deactivation button on the front panel turns on and the speaker beeps twice.



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Caution

While the staging flash drive is inserted, do not remove power, do not remove nor connect any cables, and do not press the **Volume/Tone Control** button nor the **Scale** button. These actions may interfere with the staging process.

Important

The cap cover must be replaced when the USB port is not in use. A missing or incorrect placement of the cap does not allow the Top Plate to sit properly when replaced.

Note

If the Sensormatic device is installed and operational, the EAS Deactivation button remains On. If the Sensormatic device is not installed or not operational, the EAS Deactivation button turns on when the NCR 7895 detects the USB flash drive.

3. Wait for the 7-segment display to show *2* (Option 2: Load a USB flash drive configuration to the NCR 7895), and then press the **EAS Deactivation** button. The speaker emits two beeps.

Note

The flash drive menu displays three number options for approximately five seconds each. When the option you want is displayed in the menu, select the option within five seconds.

4. Confirm the selection within 15 seconds by pressing the **EAS Deactivation** button again. The 7-segment display then shows a scrolling bar (–), indicating that the device is working. When the process is complete, the speaker emits three success beeps (high-low-high) and the 7-segment display stops showing the scrolling bar.

   Note

   Take note of the following:

   - If the selection is not confirmed, the speaker emits four fail beeps and the 7-segment display re-scrolls the menu.
   - The scrolling bar stops whether the cloning process succeeded or failed. If the process failed, try again or contact the System Administrator.

   Caution

   If the staging flash drive is removed prior to completion, a fail occurs (four beeps). Premature removal of the staging flash drive may result in a partial change in the system.

5. Remove the flash drive from the scanner. The scanner emits three success beeps.
6. Verify the firmware version. For more information, refer to **"Identifying Firmware Version"** on page 146.

Firmware Flashing

Scanner firmware is updated by flashing firmware to the scanner, thus installing updates without replacing the actual chip on the Main PCB Board. NCR 7895 firmware can be updated through the NCR 123Scan utility, a USB staging flash drive, or Scanner Management Service (SMS).

Identifying Firmware Version

Using the EAS Deactivation Button

Press and hold the **EAS Deactivation** button for five seconds. The scanner firmware version number is displayed on the internal 7-segment display.

Using the 123Scan Utility

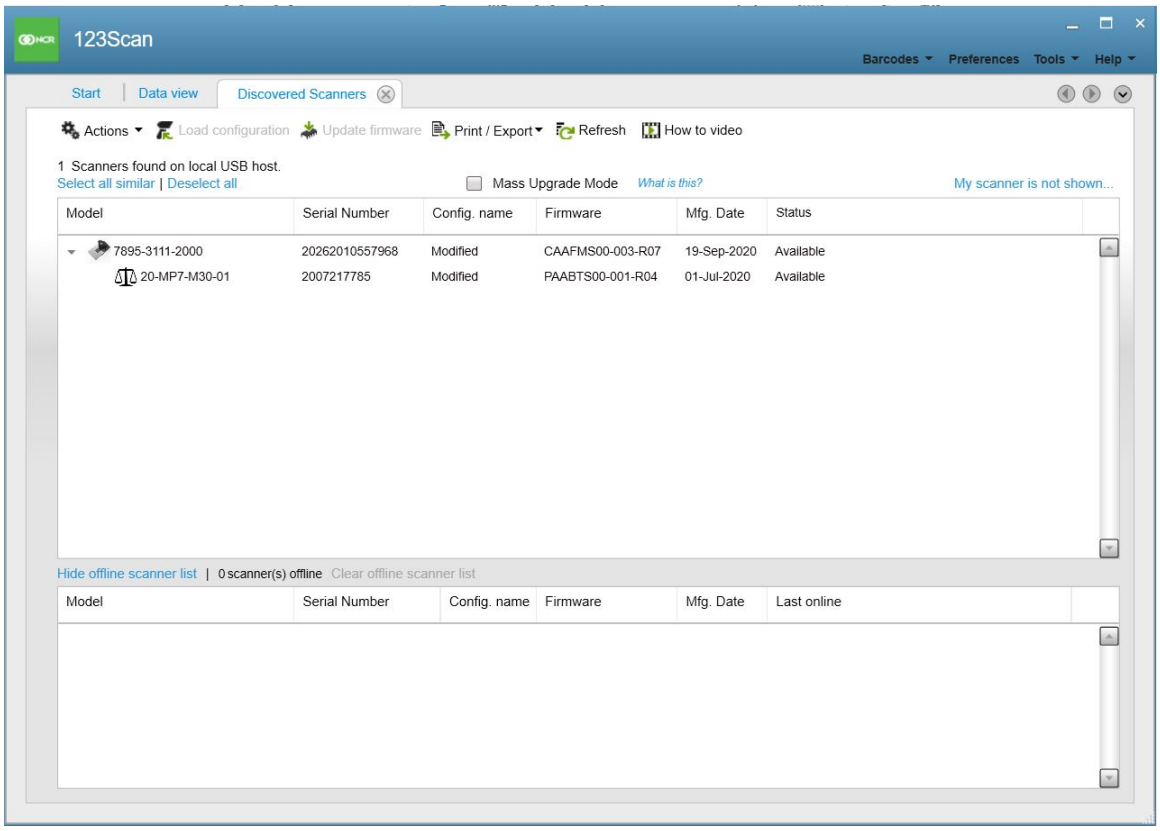
1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

   Note

   If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.

3. From the upper-left section of the Start tab, select **Action→ View USB Scanners**. The application displays the list of detected scanners and their firmware version.



Updating Scanner Firmware

The following are two options to update the NCR 7895 scanner firmware:

- "Updating Firmware Using USB Staging Flash Drive" on the next page
- "Updating Firmware Using NCR 123Scan" on page 150

  Note

  This option requires the latest version of the 123Scan utility.

- "Updating Firmware Using SMS" on page 153

Updating Firmware Using USB Staging Flash Drive

To update the scanner firmware using a USB staging flash drive, refer to "Configuring the Scanner Using a USB Flash Drive" on page 142.

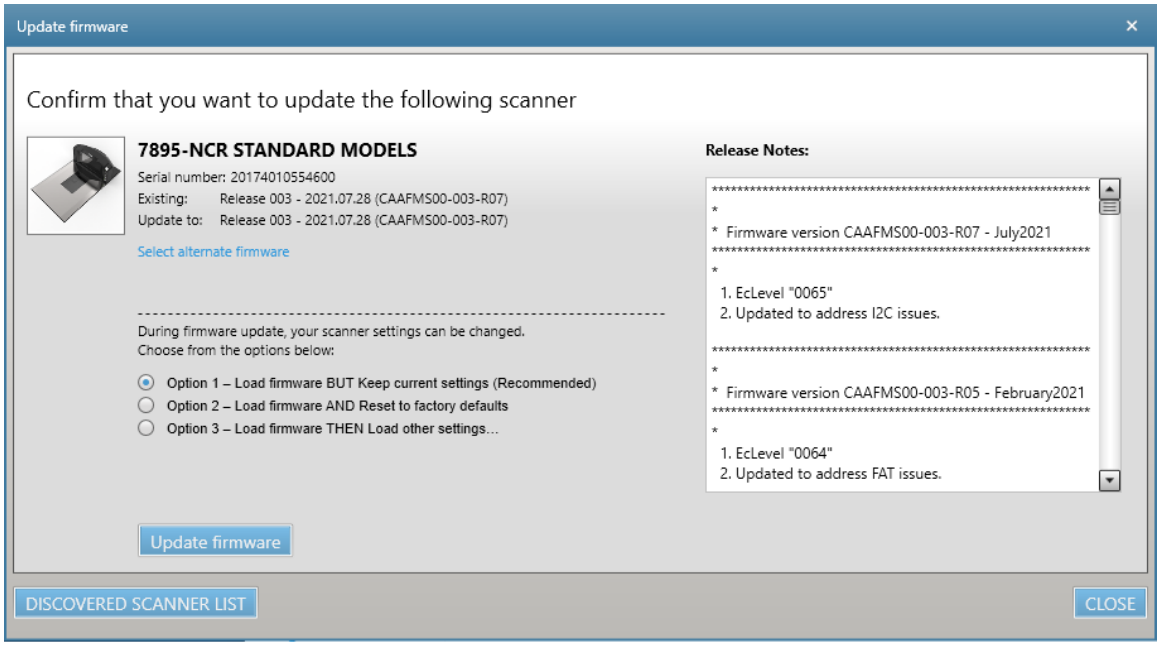
Updating Firmware Using NCR 123Scan

To update the scanner firmware using the NCR 123Scan utility, follow these steps:

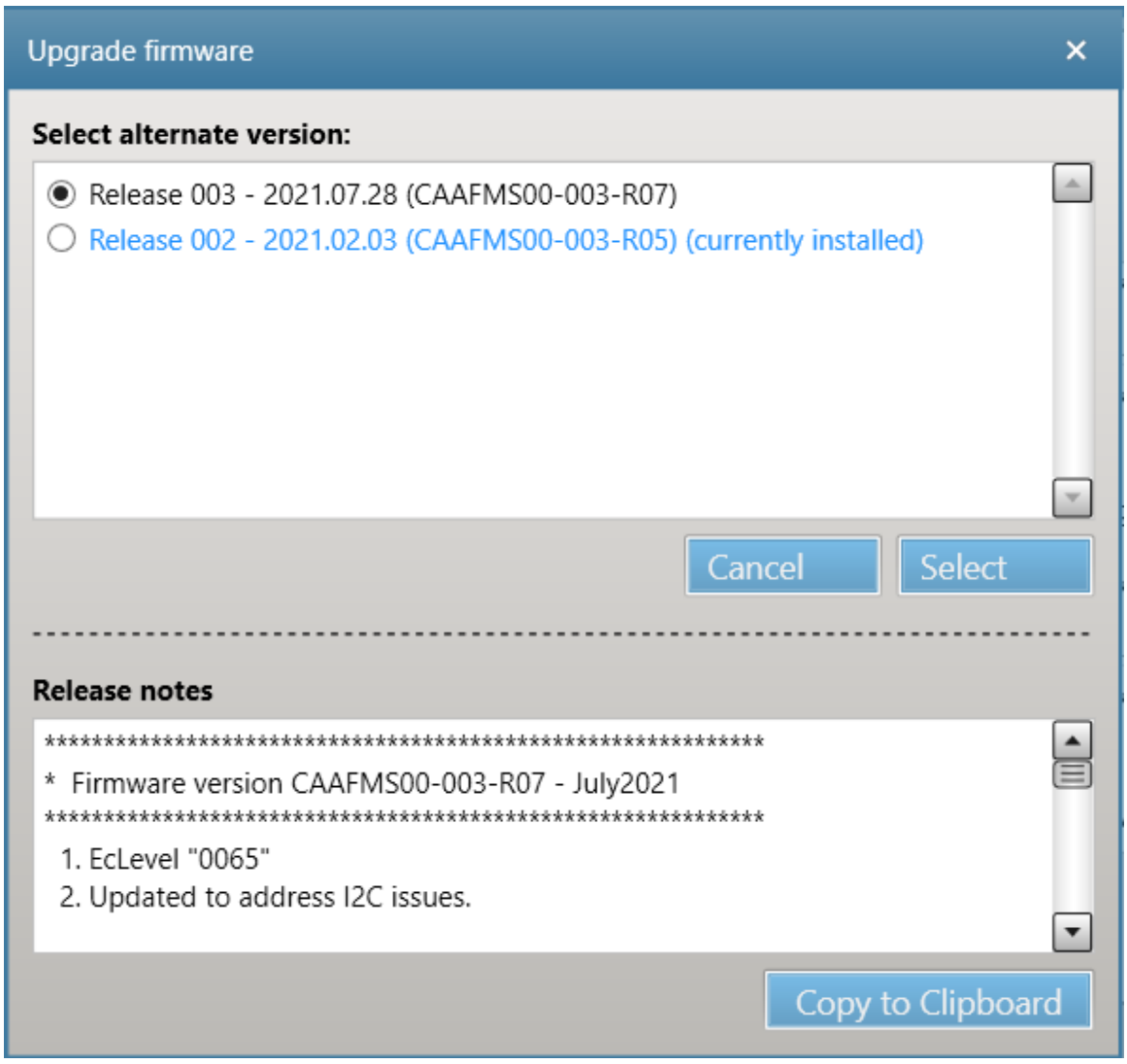
1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

   > **Note**
   >
   > If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.
3. From the Start tab of the 123Scan main window, select **Update Scanner Firmware**. The application displays the Update firmware window, which shows the scanner device model, serial number, existing firmware version, and the latest firmware plug-in downloaded.



4. If the target firmware version is different from the version indicated in the *Update to* field, select **Select alternative firmware**. The application displays the Upgrade firmware window with the list of alternative versions.



5. Select the target firmware from the list, and then select **Select**. The application closes the Upgrade firmware window.
6. On the bottom-right section of the Update firmware window, select one the options and then select **Update firmware** to proceed with firmware update. The application starts updating the scanner firmware and automatically reboots the scanner.

> **Caution**
>
> Do not disconnect the scanner while firmware update is ongoing.

7. Verify the firmware version. For more information, refer to "Identifying Firmware Version" on page 146.
8. Close the 123Scan utility. The scanner automatically reboots.

Updating Firmware Using SMS

Scanner firmware update can also be done by deploying an SMS Package. It requires placing the package into the SMS download folder on the computer or POS terminal. The SMS agent checks the download folder for an SMS Package, and then executes the actions specified in the package.

To update the scanner firmware using SMS, follow these steps:

1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

   Note

   If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

   Save the NCR 7895 SMS Package in the following directory: `C:\ProgramFiles\Zebra Technologies\Barcode Scanners\SMS\Download`.

   Caution

   Save one SMS Package at a time for the SMS agent to process. Having multiple packages in the download folder can cause deployment issues.

2. Run the SMS agent by doing the following:
   - From the Windows taskbar of the computer or POS terminal, select **Start→ Zebra Scanner→ Remote Mgmt - SMS - Launch as an Application**.

   The SMS agent starts updating the scanner firmware, configuration, or both.

Caution

Do not disconnect the scanner while update is ongoing.

Note

Take note of the following:

- During programming, the Status LED blinks red and the scanner may restart at least once, depending on the components included in the SMS Package. When programming is complete, the scanner reboots and then returns to its normal mode.
- When updating both the scanner firmware and configuration, the SMS agent first updates the firmware, and then the configuration.
- If the current scanner firmware version is the same as the firmware version in the SMS Package, the SMS agent skips the firmware update.
- When the SMS Package is placed in the Download folder, the SMS agent automatically processes the SMS Package by moving it from the Download folder to the Work sub-folder. The new SMS Package replaces the previous content of the Work sub-folder.

RS-232 Interface Configuration

This section provides procedures for configuring the NCR 7895 unit to the host terminal through the **RS-232 NCR Variant** interface. By default, the NCR 7895 is configured to connect to the host terminal through the **IBM Table-top USB** interface.

Requirements

The following are required to configure the NCR 7895 with RS-232 interface:

- 123Scan Configuration Utility

  > **Note**
  >
  > It is recommended to install the latest version (v5.04.0006 or higher, 64-bit) of the 123Scan utility. For more information on 123Scan, refer to **"Installing NCR 123Scan"** on page 58.

- Programming bar codes
  - *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516) at https://onlinehelp.ncrvoyix.com/Retail/Scanners/7895/HTML/Default.htm
- USB communication cable to connect the scanner to a Windows host computer (if using 123Scan utility)
- RS-232 communication cable to connect the scanner to a Windows host computer (if using programming bar codes)

Configuring the Scanner with RS-232 Interface

The following are two options to configure the NCR 7895 scanner with RS-232 interface:

- "Configuring Using 123Scan Utility" on the next page

  Note

  This option requires the latest version of the 123Scan utility.

- "Configuring Using Programming Bar Codes" on page 169

Configuring Using 123Scan Utility

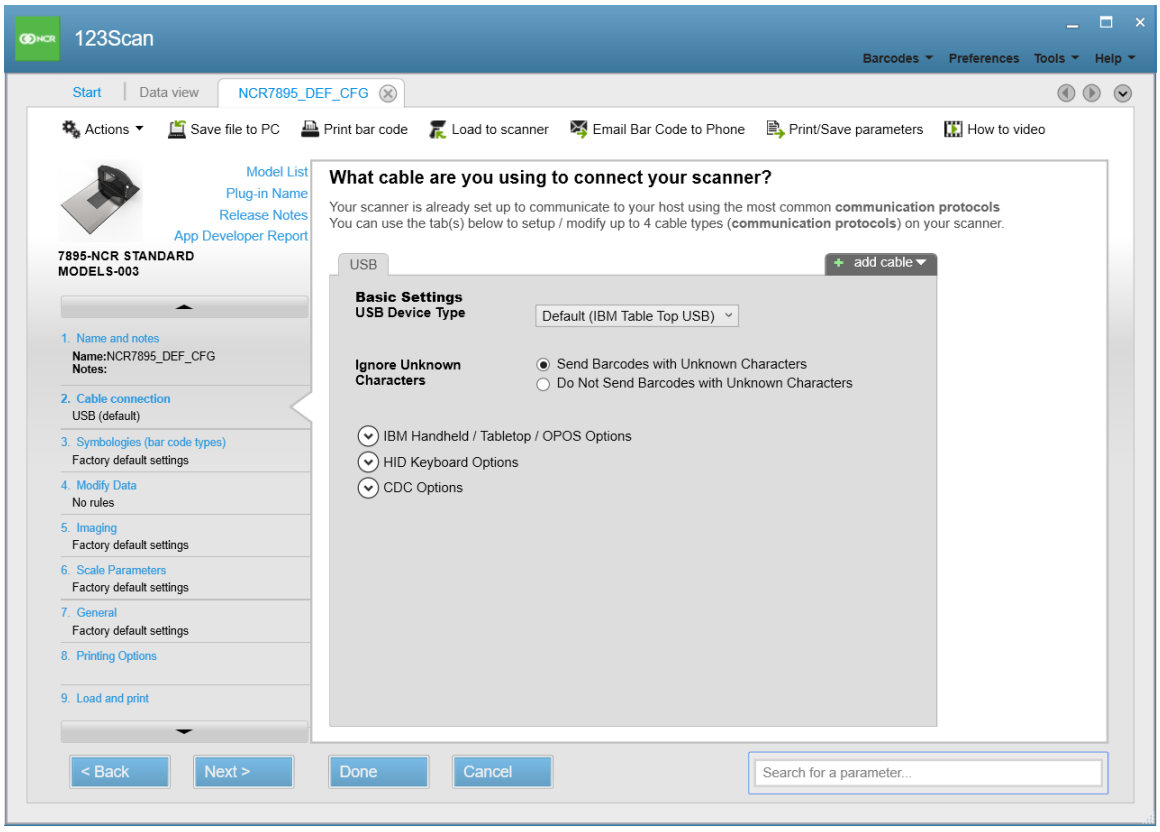
To configure the NCR 7895 scanner using 123Scan utility, follow these steps:

1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

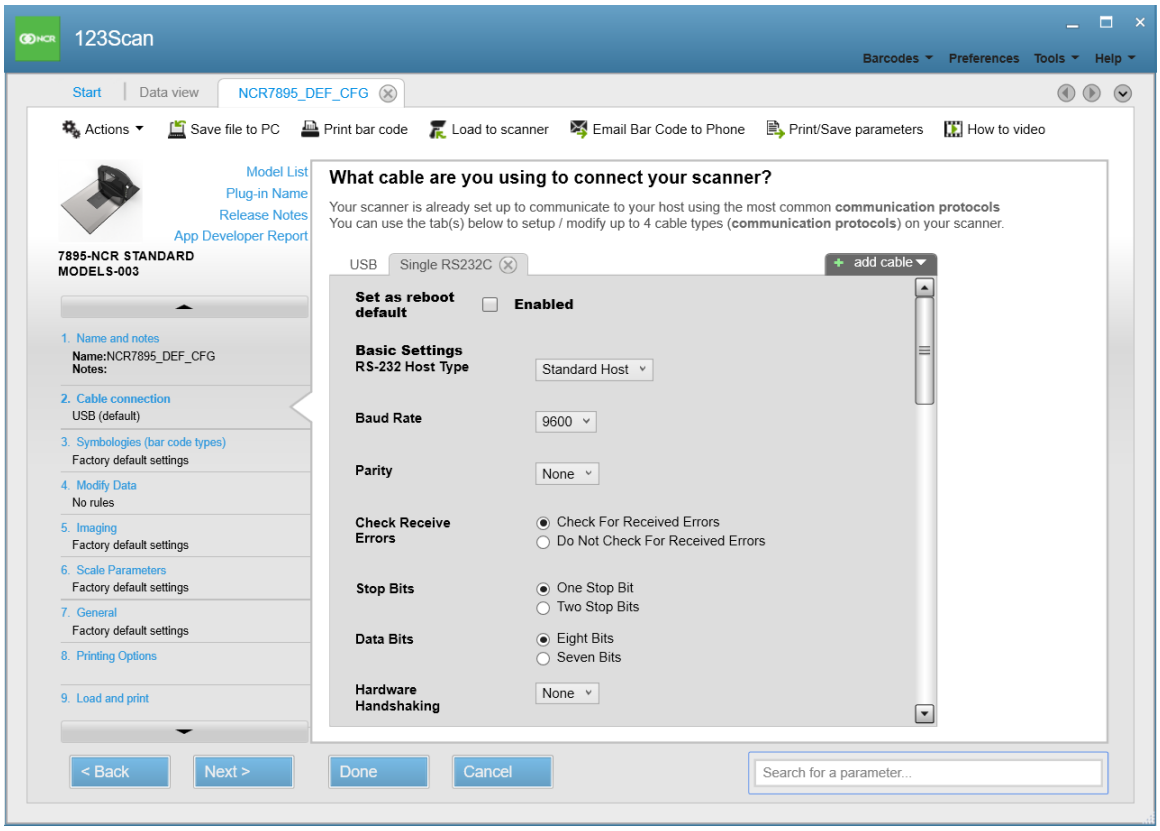
   Note

   If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.
3. Create a configuration file using the following options:
   - "Based on Default Settings" on page 184
   - "Based on Current Scanner Settings" on page 187
4. On the left pane of the 123Scan Configuration Wizard, select **Cable connection.** The application displays the USB interface settings.



5. Select **add cable**, and then select **Single RS232C**. The application displays the Single RS232C interface settings.

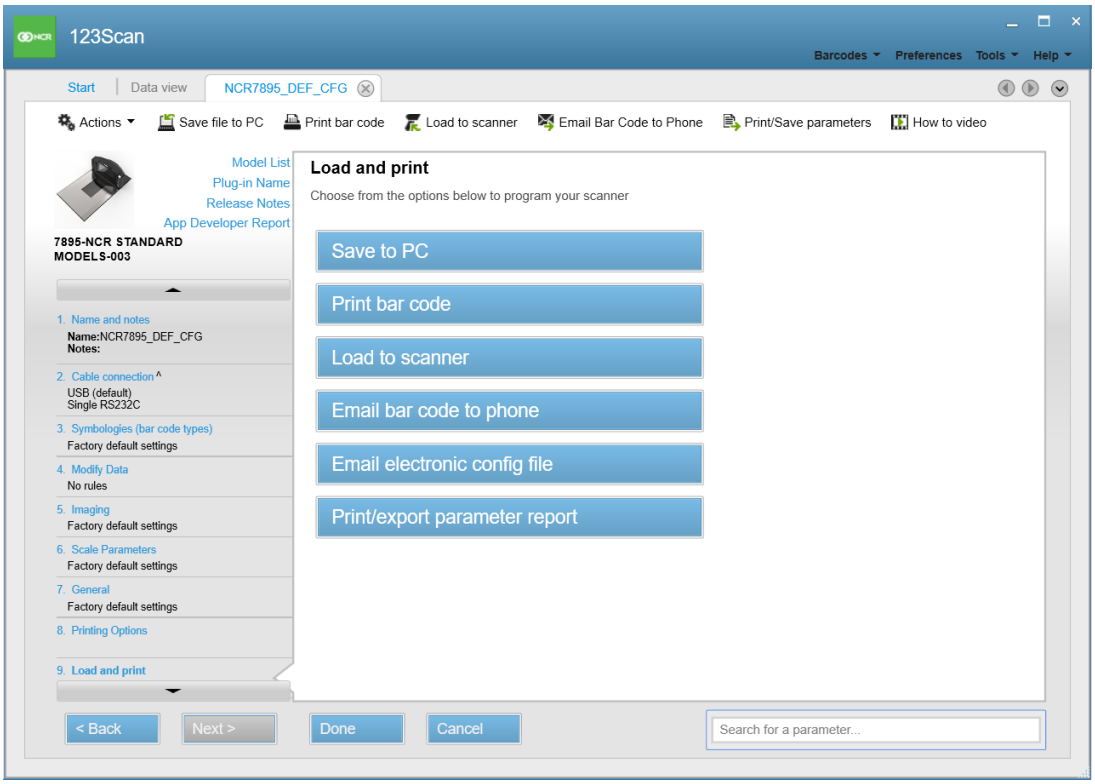


6. Enable the **Set as reboot default** option. This setting enables the scanner to set the cable connection to RS-232 upon reboot.
7. Set the RS-232 Host Type to **NCR Host**. The application displays the parameter default settings for NCR Host.
8. Set the following NCR Host settings.

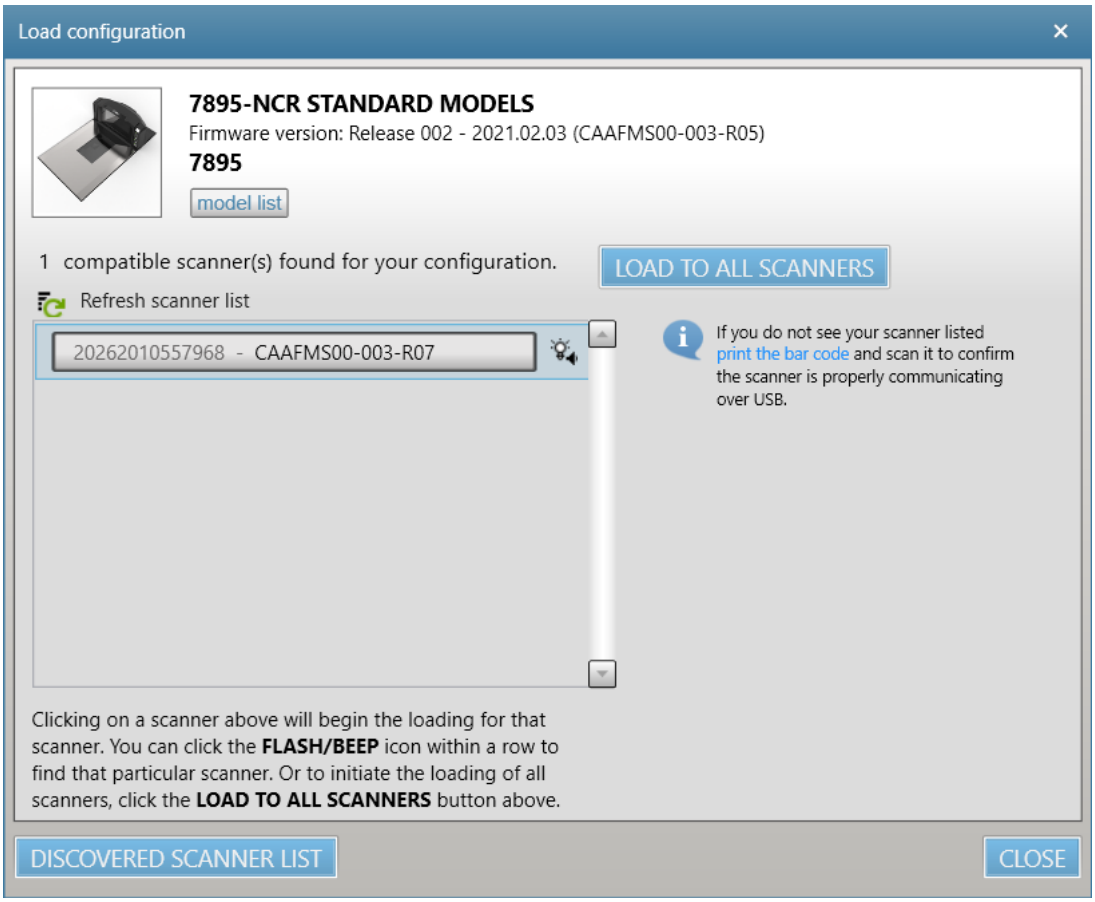
Parameter	Description
NCR Use Prefix	Uses prefix for all communications. By default, this parameter is enabled. • Enable—for customers using prefix. • Disable—for customers not using prefix.

Parameter	Description
NCR Use BCC	Uses of the Block Check Character (after the Terminator byte) for all communications. Set this parameter based on the NCR Interface used. By default, this parameter is enabled. • Enable—for Scanner/Scale interface. • Disable—for Scanner Only interface.
NCR Interface	Sets the NCR specific interface to be used for all communications. By default, this parameter is set to Follow System. • Follow System—auto-detects the system interface used. • Scanner Only—for NCR 7895 scanner-only units. • Scanner/Scale—for NCR 7895 scanner/scale units.
NCR Prefix	Determines the Prefix Character used for all communications. By default, this parameter is set to 1002 (prefix 02, STX). **Note** If the NCR Use Prefix parameter is disabled, leave this parameter blank.

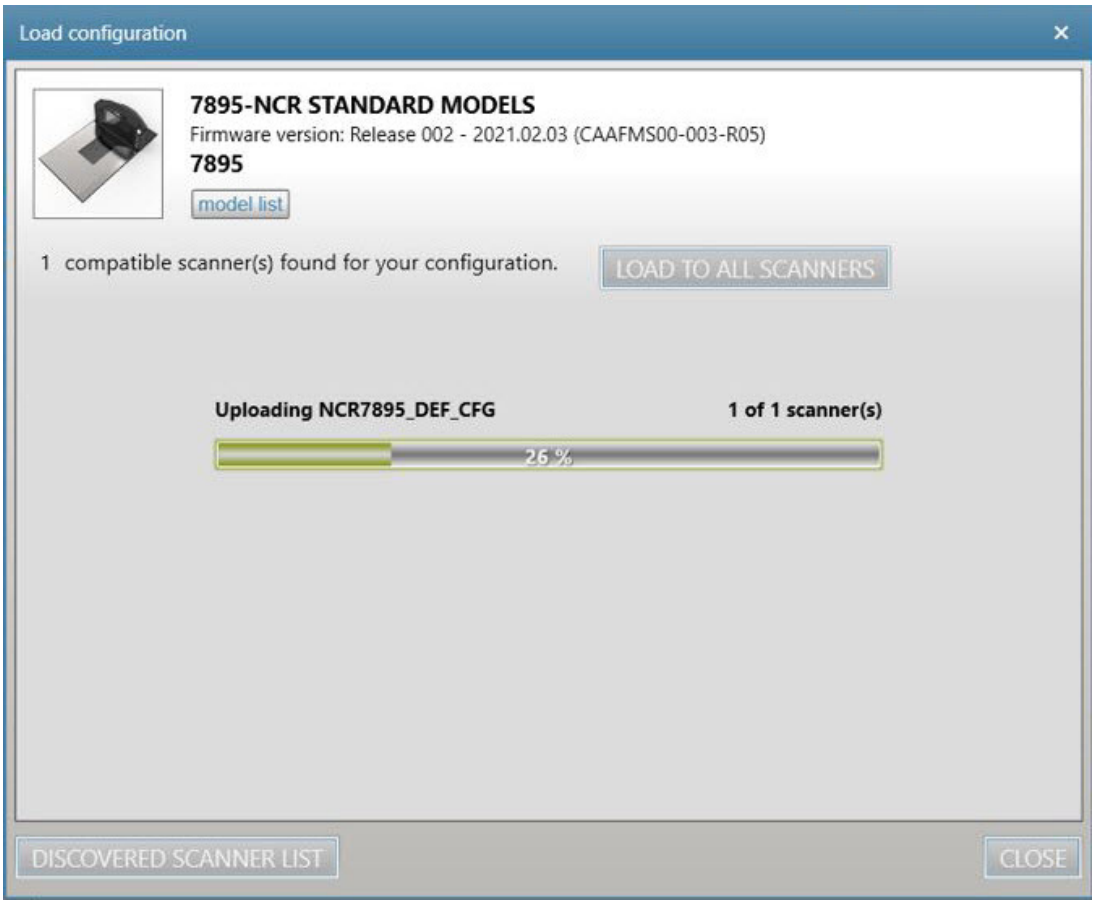
9. Load the new configurations to the scanner.
    a. On the left pane of the 123Scan Configuration Wizard, select **Load and print**.
    The application displays the load and print options.



b. From the Load and print options, select **Load to scanner**. The application displays the Load configuration window.



c. From the scanner list, select the scanner to configure. The application starts loading the configuration to the selected scanner.



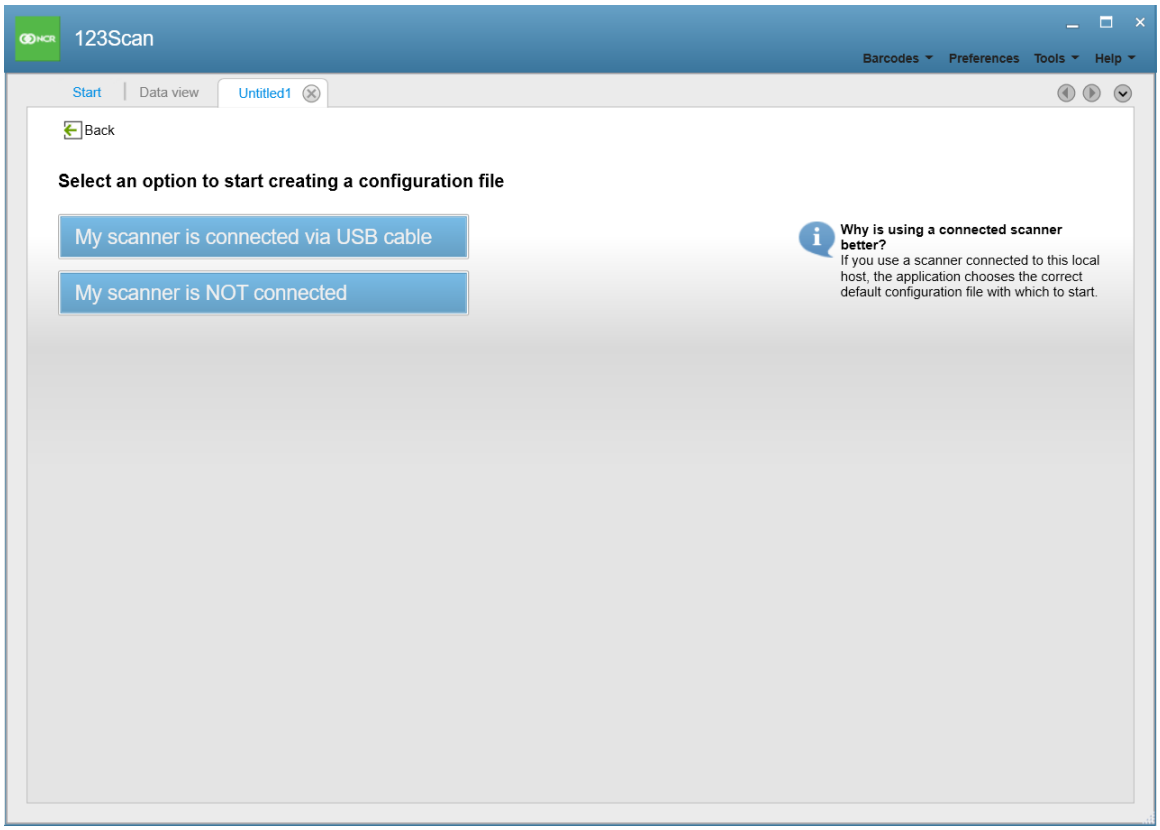
d. When the application has completed loading the configuration to the scanner, select **Close**.

10. Close the 123Scan utility. The scanner automatically reboots.
11. Turn off the scanner and disconnect the USB cable.
    - If the scanner is powered by a host terminal, disconnect the USB cable from the scanner and from the computer or POS terminal.
    - If the scanner is powered by an external Power Supply, disconnect the AC Power Cable from the AC power source, and then disconnect the USB cable from the scanner.
12. Connect one end of an RS-232 communication cable to the scanner and the other end to the host terminal.

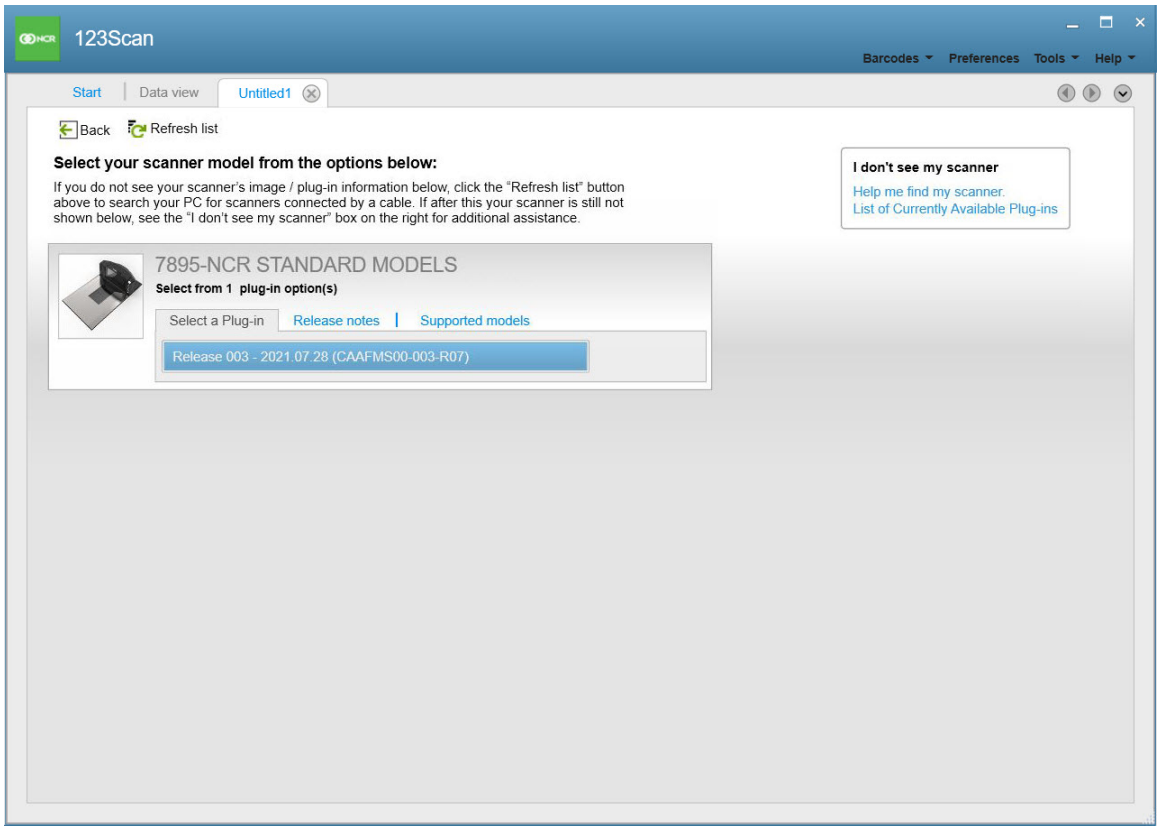
13. Turn on the scanner by connecting the AC Power Cable to the AC power source. When the scanner starts up, it produces three incrementing beeps.
14. Launch any serial application and test scanner functions such as scanning bar codes, sending commands, and others.

Based on Default Settings

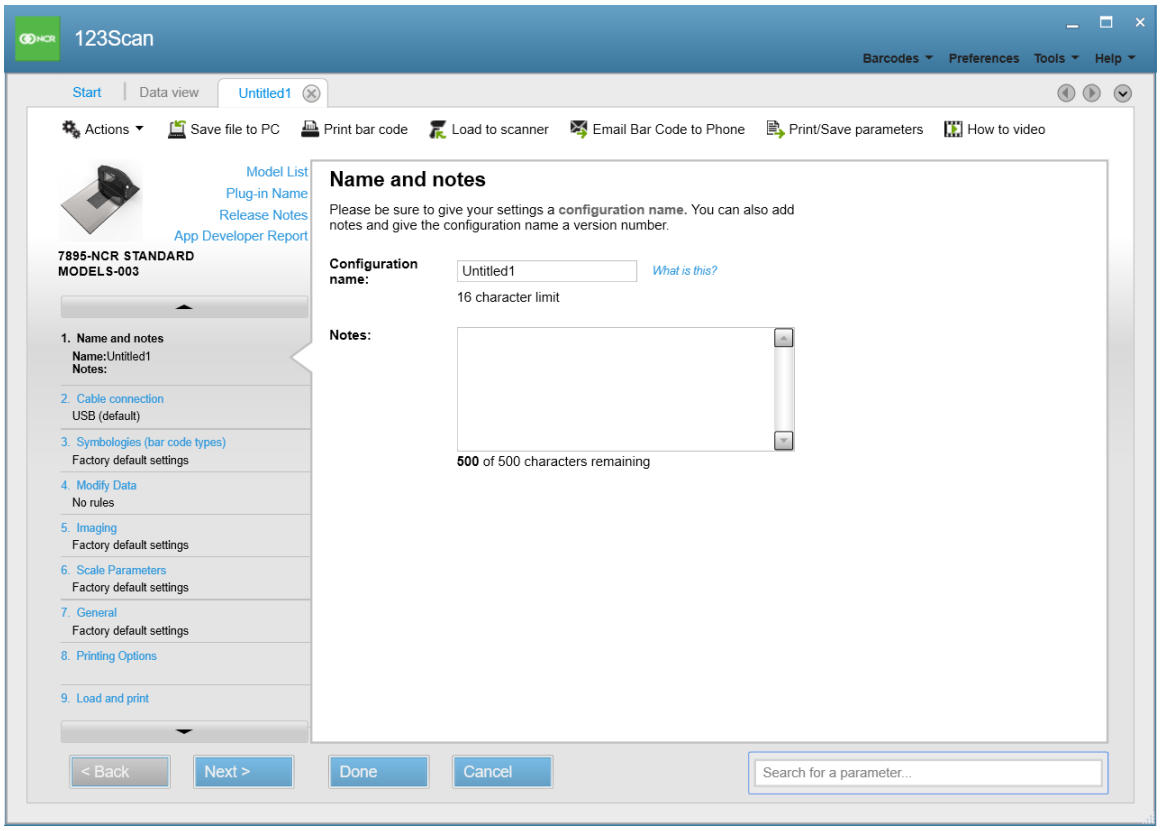
1. From the Start tab of the 123Scan main window, select **Create new configuration file**. The application opens a new untitled tab and displays options in creating a configuration file.



2. Select **My scanner is connected via USB cable**. The application displays the list of detected scanners and their firmware plug-in options.



3. Select the latest firmware plug-in. The application starts the Configuration Wizard.



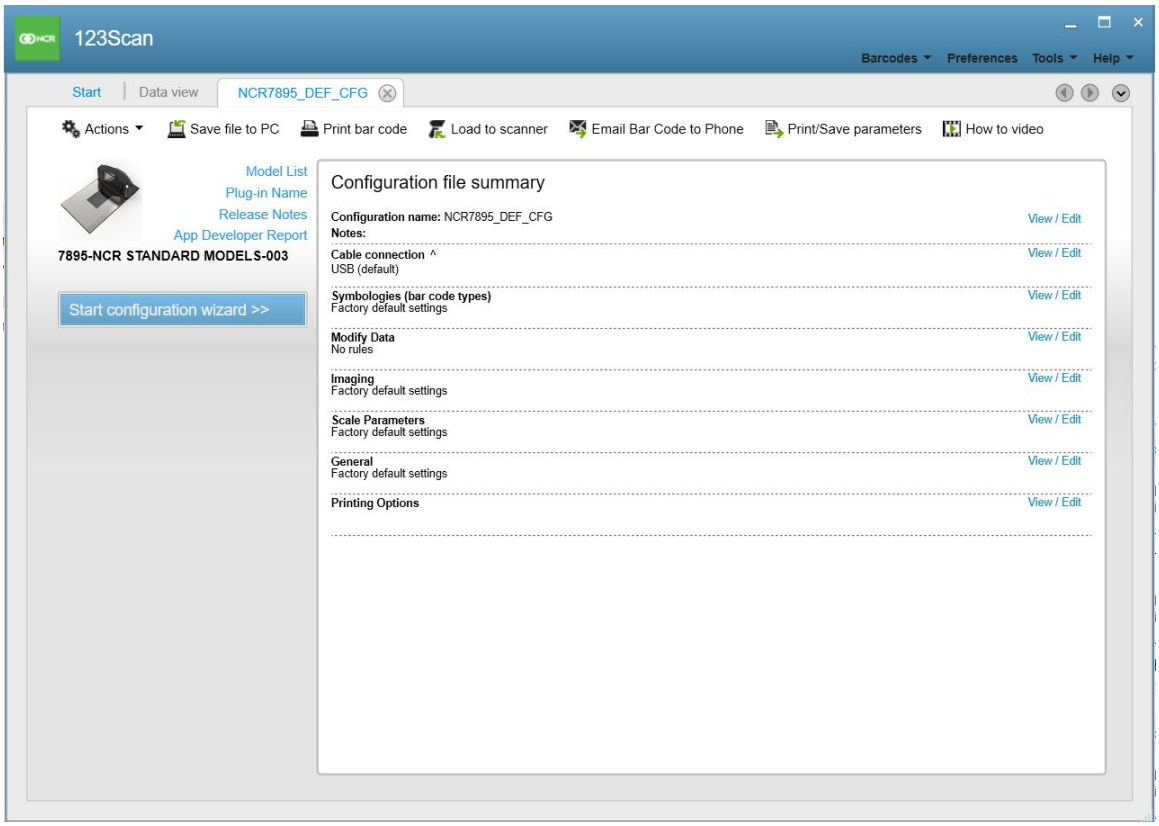
4. Set the configuration name.

> **Note**
>
> The configuration name must start with "NCR7895" and end with "CFG". For example, set the configuration name to "NCR7895_DEF_CFG". The maximum limit is 16 characters.

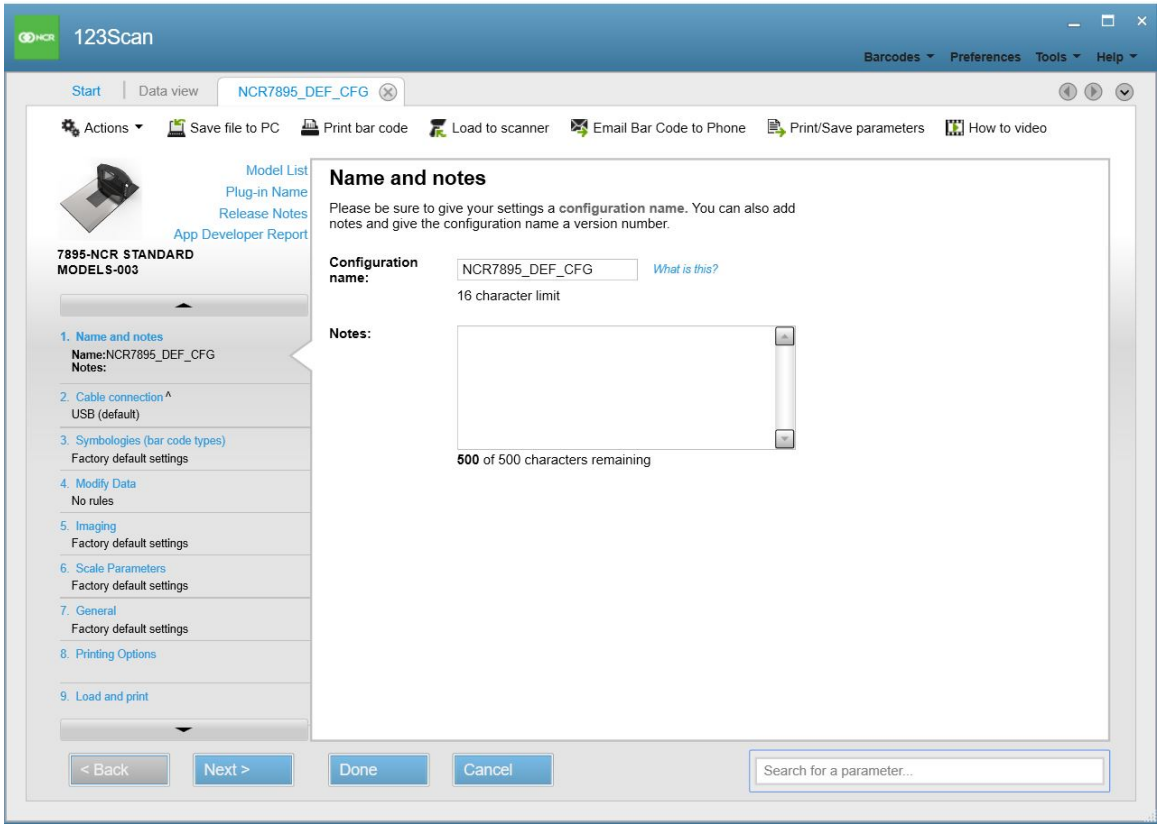
5. Add notes to briefly describe the configuration file (optional).

Based on Current Scanner Settings

1. From the Start tab of the 123Scan main window, select **Clone/modify my connected scanner settings**. The application displays the current scanner configuration file summary.



2. Select **Start configuration wizard**. The application displays the Configuration Wizard options.



Configuring Using Programming Bar Codes

To configure the NCR 7895 scanner using programming bar codes, follow these steps:

1. Using an RS-232 communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.
2. Scan the following bar code to set RS-232 Host Type to **NCR Variant** interface and activate the RS-232 driver.

NCR Variant

3. Set the following NCR Variant settings by scanning their corresponding bar codes.

Parameter	Description
NCR Use Prefix	Uses prefix for all communications. By default, this parameter is enabled. • Enable—for customers using prefix. • Disable—for customers not using prefix.
NCR Prefix	Determines the Prefix Character used for all communications. By default, this parameter is set to 1002 (prefix 02, STX). **Note** If the NCR Use Prefix parameter is disabled, the NCR Prefix parameter is not required.
NCR Use BCC	Uses of the Block Check Character (after the Terminator byte) for all communications. Set this parameter based on the NCR Interface used. By default, this parameter is enabled. • Enable—for Scanner/Scale interface. • Disable—for Scanner Only interface.

Parameter	Description
NCR Interface	Sets the NCR specific interface to be used for all communications. By default, this parameter is set to Follow System. • Follow System—auto-detects the system interface used. • Scanner Only—for NCR 7895 scanner-only units. • Scanner/Scale—for NCR 7895 scanner/scale units.

Refer to the following sections for the RS-232 bar codes:

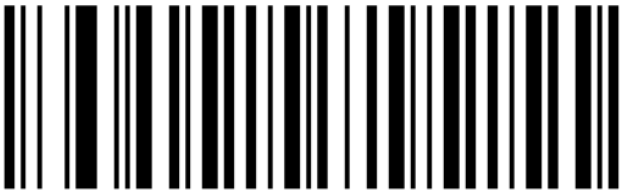
- "NCR Use Prefix (Parameter #1238)" on the next page
- "NCR Use Block Check Character (BCC) (Parameter #1239)" on page 172
- "NCR Interface (Parameter #1240)" on page 173

4. Reboot the NCR 7895 scanner to re-enumerate the device.
5. Launch any serial application and test scanner functions such as scanning bar codes, sending commands, and others.

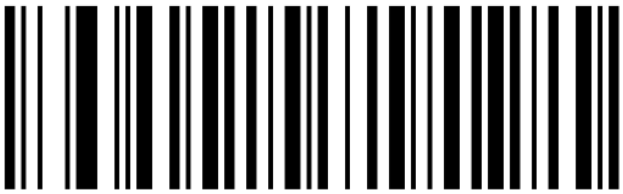
NCR Use Prefix (Parameter #1238)

When **NCR Variant** is selected, this parameter determines whether or not the prefix is used for all communications.

Scan one of the following bar codes to enable or disable the use of prefix. By default, this parameter is set to **Enabled**.



Disabled
(00h)

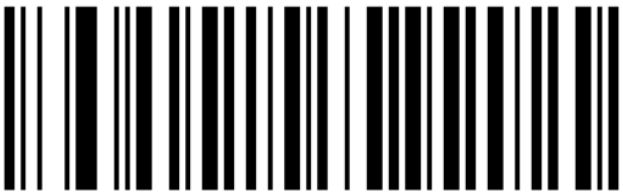


***Enabled**
(01h)

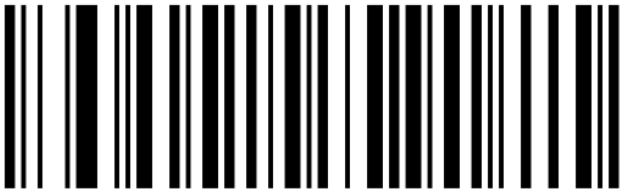
NCR Use Block Check Character (BCC) (Parameter #1239)

When **NCR Variant** is selected, this parameter determines whether or not to enable the use of the Block Check Character (after the Terminator byte) for all communications.

Scan one the following bar codes to enable or disable the use of the block check character. By default, this parameter is set to **Enabled**.



Disabled
(00h)



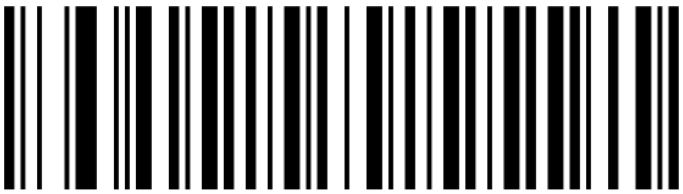
***Enabled**
(01h)

NCR Interface (Parameter #1240)

When **NCR Variant** is selected, this parameter determines the NCR specific interface to be used for all communications. NCR supports two interfaces: scanner only and scanner/scale.

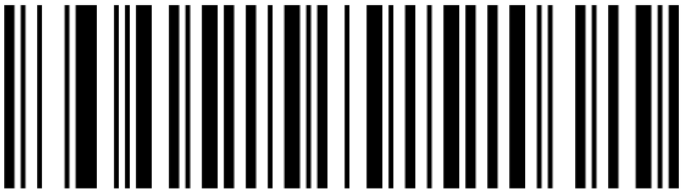
- **Follow System**—auto-detects the system interface. If the system has a scale installed, the scanner/scale interface is used. If the system has no scale installed, scanner only is used.
- **Scanner Only**—forces the system to use the scanner only interface whether or not a scale is installed.
- **Scanner/Scale**—forces the system to use the scanner/scale interface whether or not a scale is installed.

Scan one the following bar codes to select the NCR interface setting. By default, this parameter is set to **Follow System**.



*Follow System
(00h)

Scanner Only
(01h)



Scanner/Scale
(02h)

NCR CDC Host Interface Configuration

This section provides procedures for configuring the NCR 7895 unit with **NCR CDC Host** interface. The NCR 7895 uses the CDC interface to connect to POS devices, host computers, or other devices with the assigned Virtual COM Port.

Requirements

The following are required to configure the NCR 7895 with NCR CDC interface:

- NCR 7895 Scanner Firmware Plug-in (CAAFMS00-004-R00 or newer)
- 123Scan Configuration Utility

  > **Note**
  > It is recommended to install the latest version (v5.04.0006 or higher, 64-bit) of the 123Scan utility. For more information on 123Scan, refer to **"Installing NCR 123Scan"** on page 58.

- Programming bar codes
  - *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516) at https://onlinehelp.ncrvoyix.com/Retail/Scanners/7895/HTML/Default.htm
- Zebra USB CDC Driver
  - Supported operating systems:
    - Windows 7 (32-bit and 64-bit)
    - Windows 8.1 (64-bit)

    > **Note**
    > The Windows 10 native CDC driver included in the Windows 10 operating system supports Zebra scanners and should be used to provide CDC functionality in the Windows 10 environment. For version other than Windows 10, the latest USB CDC Driver (v2.15.6000) needs to be installed from **https://www.zebra.com/us/en/support-downloads/software/drivers/usb-cdc-driver.html**.

- USB communication cable to connect the scanner to a Windows host computer

Configuring the Scanner with CDC Host Interface

The following are two options to configure the NCR 7895 scanner with CDC Host interface:

- "Configuring Using 123Scan Utility" on the next page

  Note

  This option requires the latest version of the 123Scan utility.

- "Configuring Using Programming Bar Codes" on page 189

Configuring Using 123Scan Utility

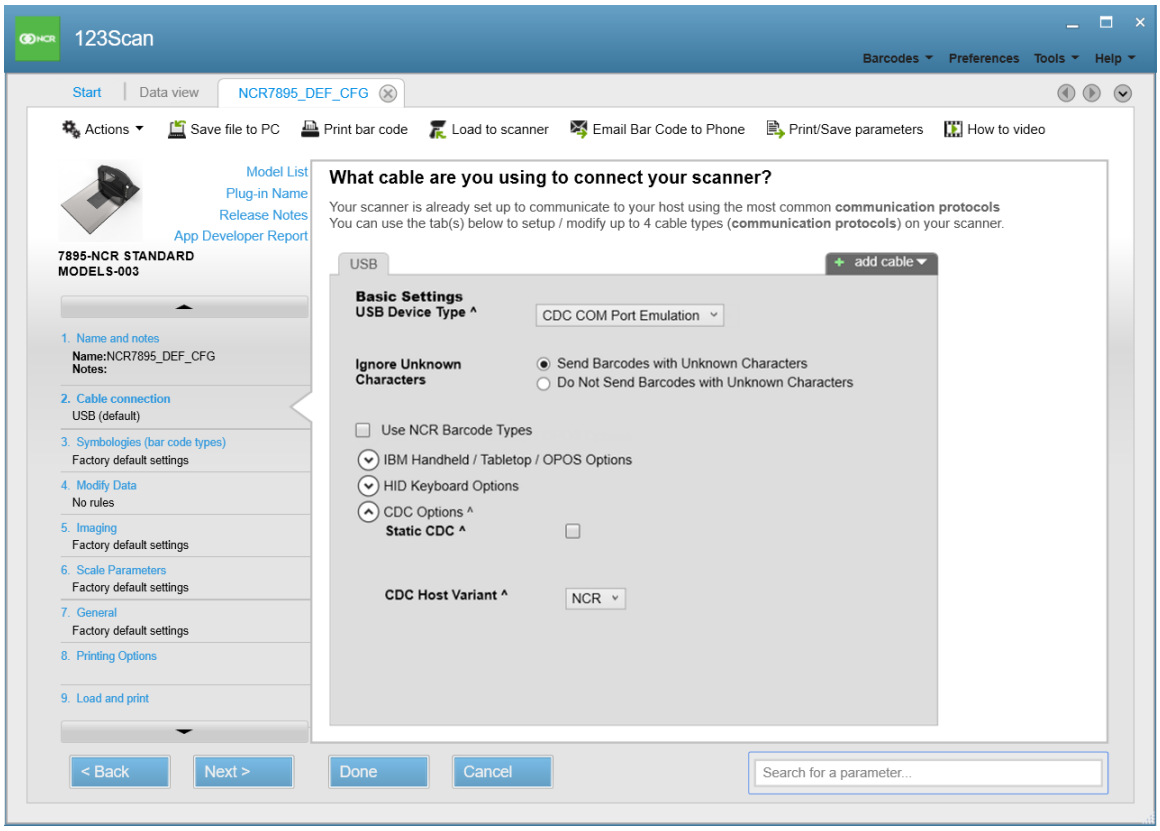
To configure the NCR 7895 scanner using 123Scan utility, follow these steps:

1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.

   > **Note**
   >
   > If the computer or POS terminal supports audio, it also produces a detection sound indicating that the scanner is detected.

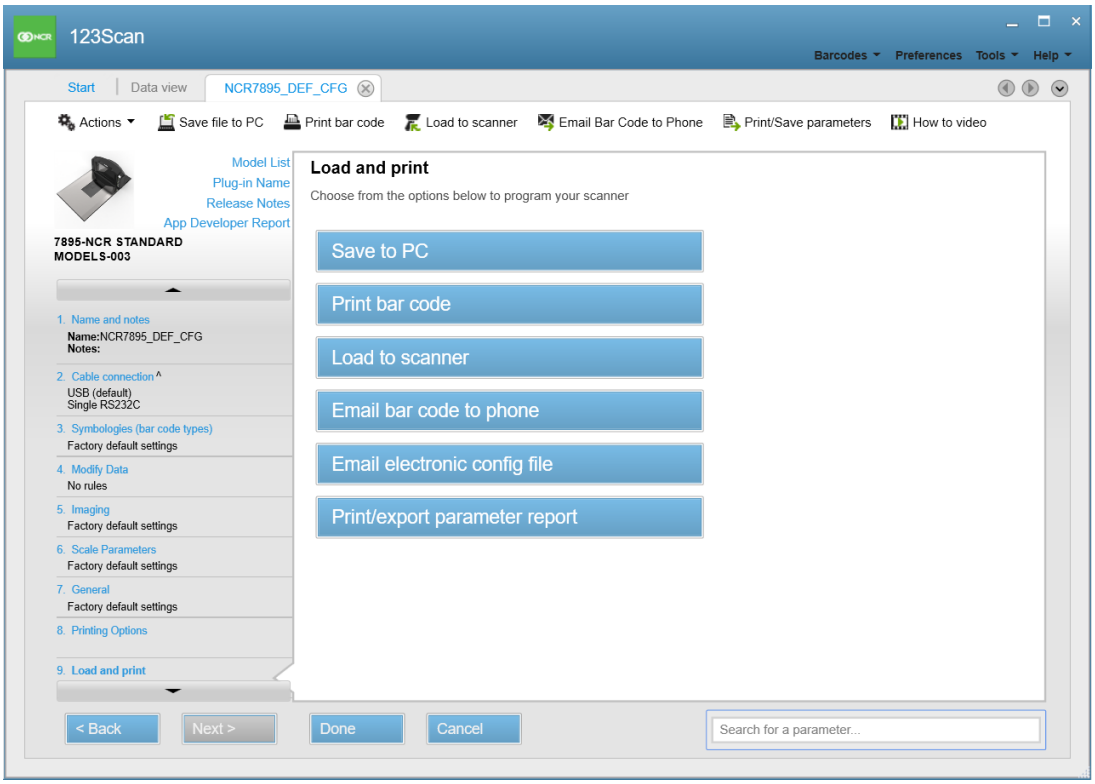
2. Launch the 123Scan utility. For more information, refer to "Launching NCR 123Scan" on page 64.
3. Create a configuration file using the following options:
   - "Based on Default Settings" on page 184
   - "Based on Current Scanner Settings" on page 187

4. On the left pane of the 123Scan Configuration Wizard, select **Cable connection.** The application displays the USB interface settings.



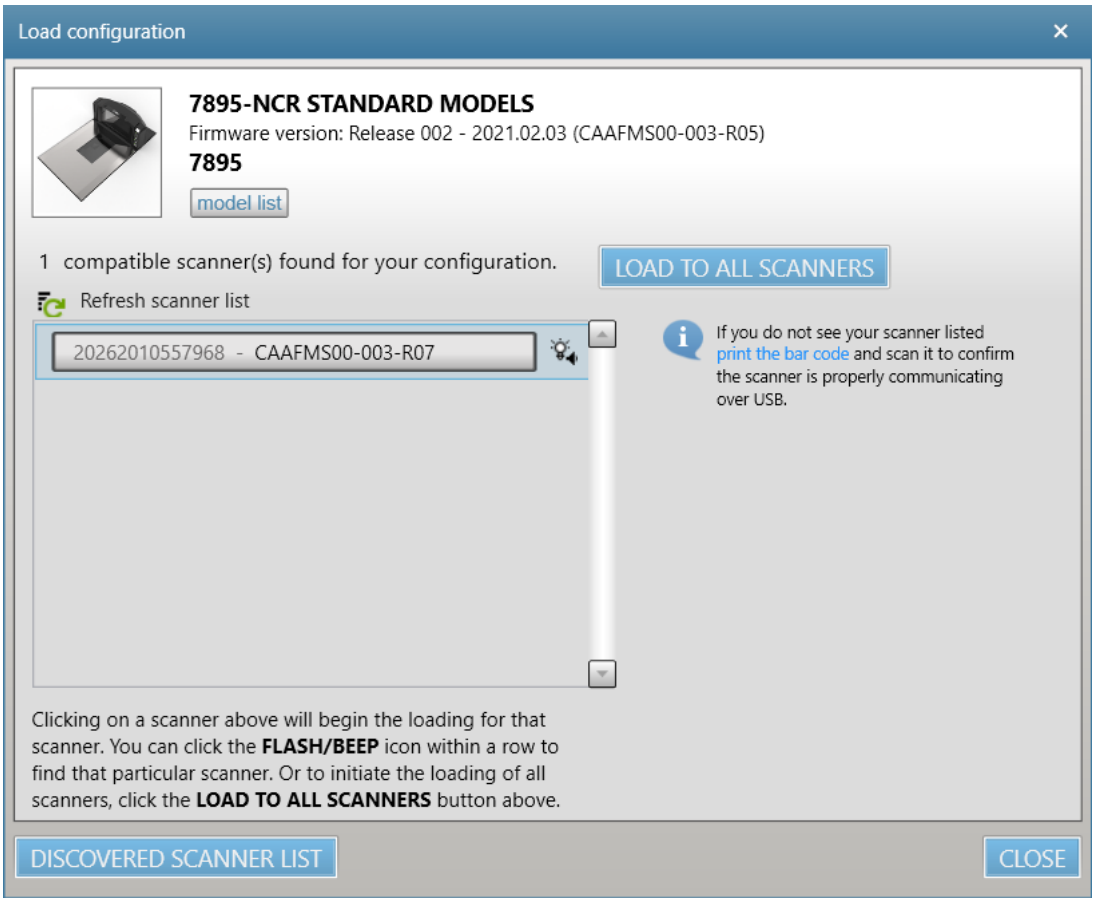
5. Set the USB Device Type to **CDC COM Port Emulation**.
6. Configure the following CDC options:
    - Clear the **Static CDC** checkbox.
    - Set the CDC Host Variant to **NCR**.
7. If needed, adjust other settings by selecting the menu options on the left pane.

8. Load the new configurations to the scanner.
    a. On the left pane of the 123Scan Configuration Wizard, select Load and print. The application displays the load and print options.

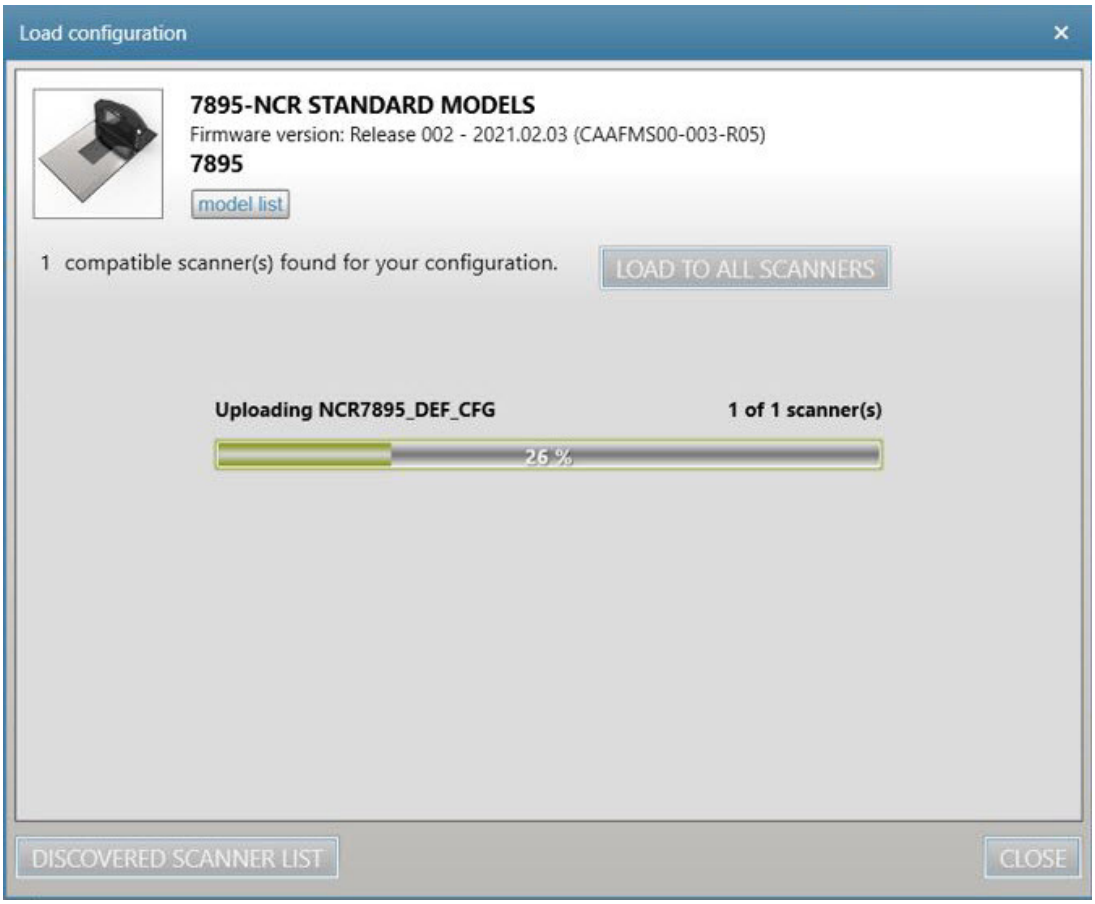


> **Note**
>
> To save the configuration file, select Save to PC. The application saves the configuration file, in (`.scncfg`) format, to `C:\Users\Public\Documents\123ScanNCR\Configuration Files`.

b. From the Load and print options, select Load to scanner. The application displays the Load configuration window.



c. From the scanner list, select the scanner to configure. The application starts loading the configuration to the selected scanner.

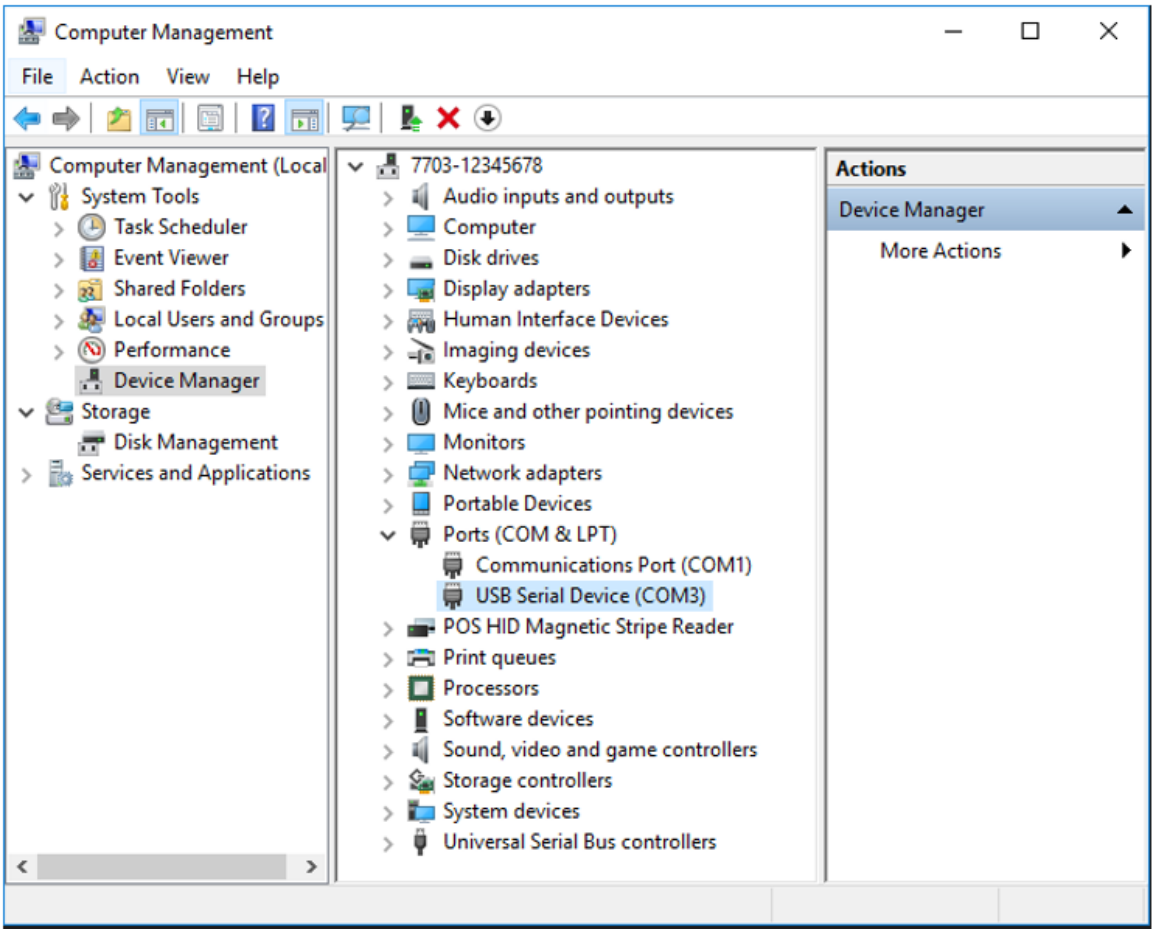


d. When the application has completed loading the configuration to the scanner, select **Close**.

9. Close the 123Scan utility. The scanner automatically reboots.

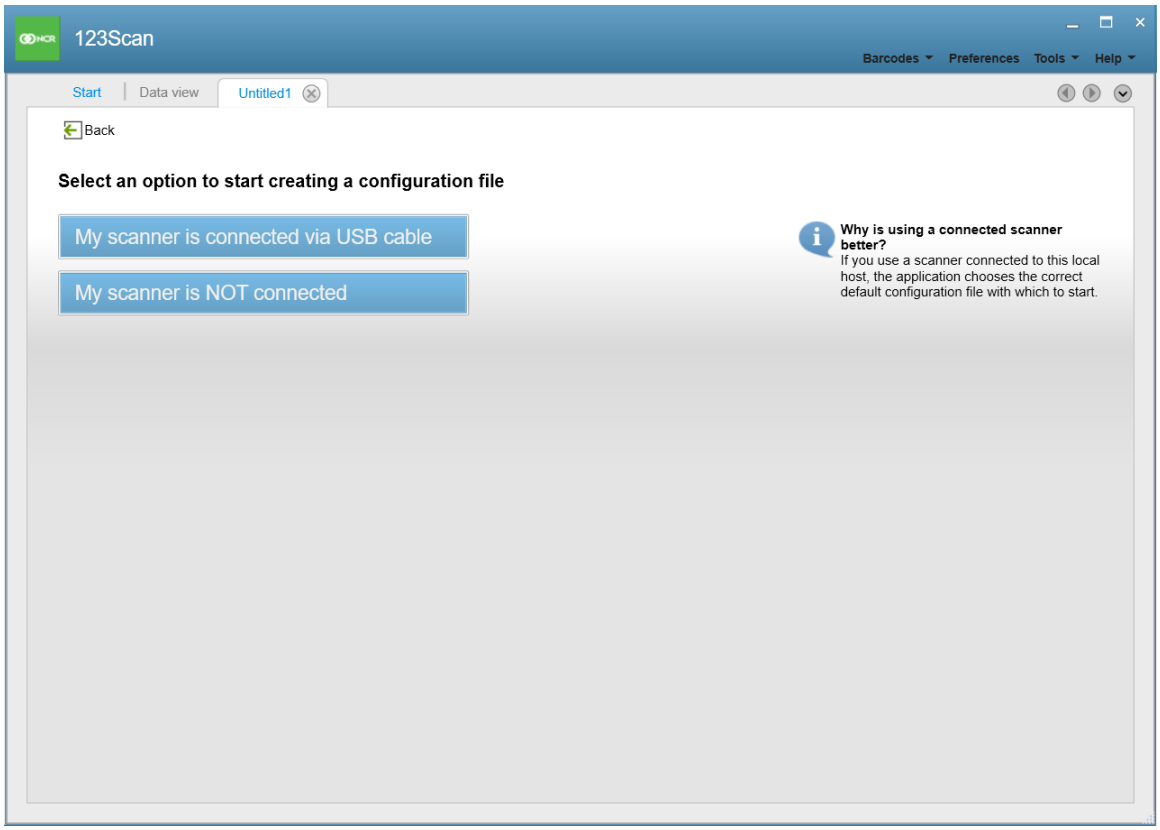
10. Launch any serial application with correct Virtual COM Port settings and test scanner functions such as scanning bar codes, sending commands, and others.

> **Note**
>
> To check the Virtual COM Port assigned to the scanner, go to Device Manager→Ports and look for USB Serial Device.

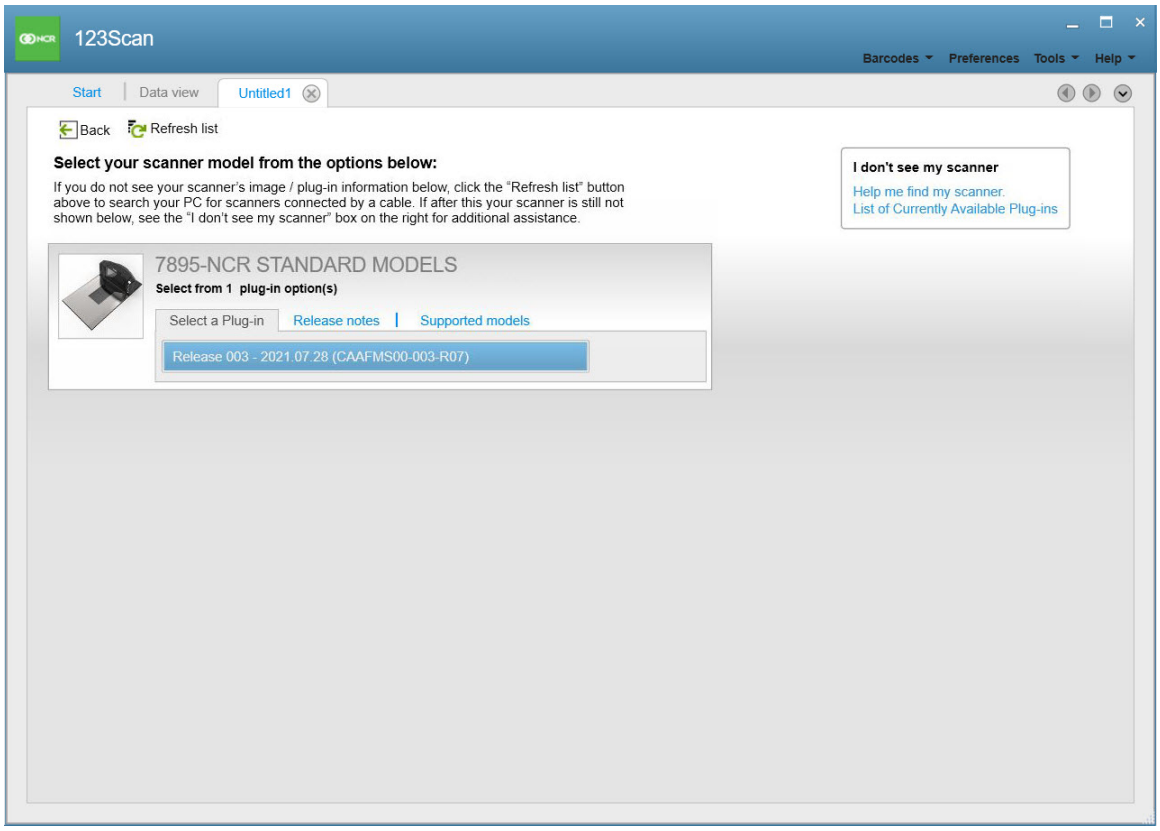


Based on Default Settings

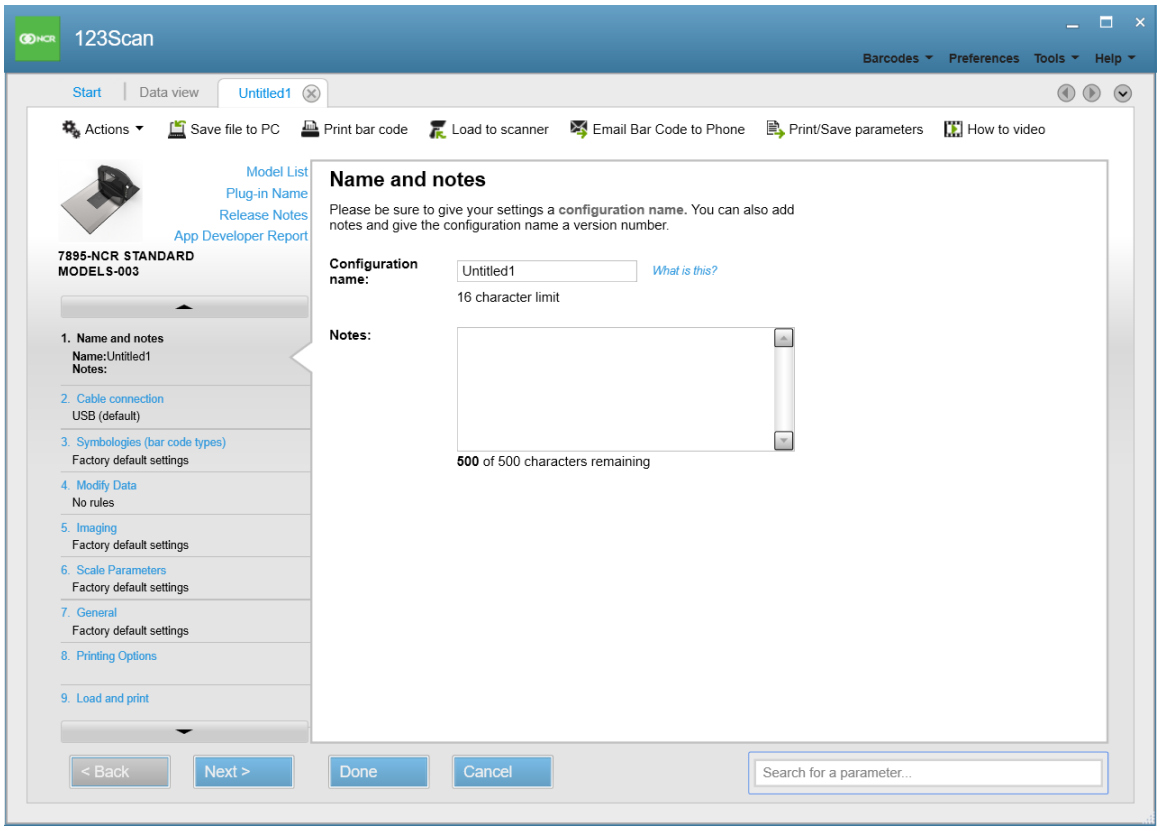
1. From the Start tab of the 123Scan main window, select **Create new configuration file**. The application opens a new untitled tab and displays options in creating a configuration file.



2. Select **My scanner is connected via USB cable**. The application displays the list of detected scanners and their firmware plug-in options.



3. Select the latest firmware plug-in. The application starts the Configuration Wizard.



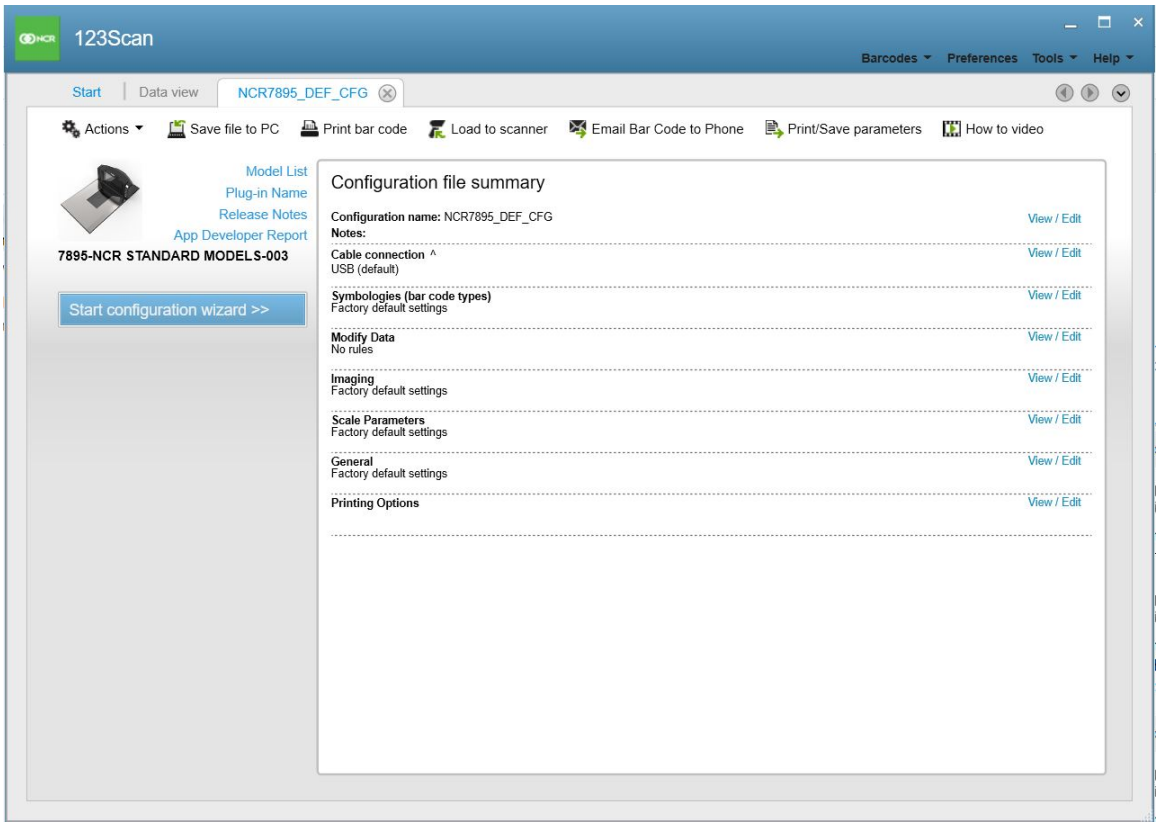
4. Set the configuration name.

> **Note**
>
> The configuration name must start with "NCR7895" and end with "CFG". For example, set the configuration name to "NCR7895_DEF_CFG". The maximum limit is 16 characters.

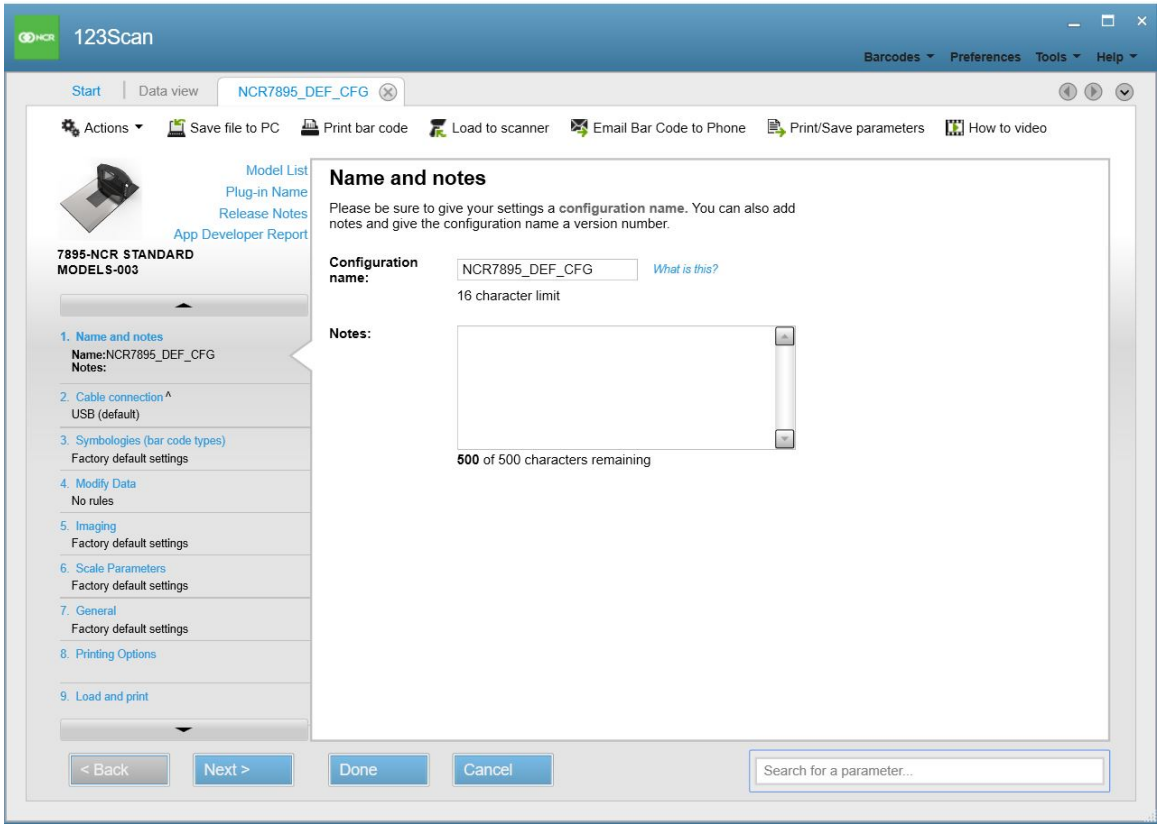
5. Add notes to briefly describe the configuration file (optional).

Based on Current Scanner Settings

1. From the Start tab of the 123Scan main window, select **Clone/modify my connected scanner settings**. The application displays the current scanner configuration file summary.



2. Select **Start configuration wizard**. The application displays the Configuration Wizard options.

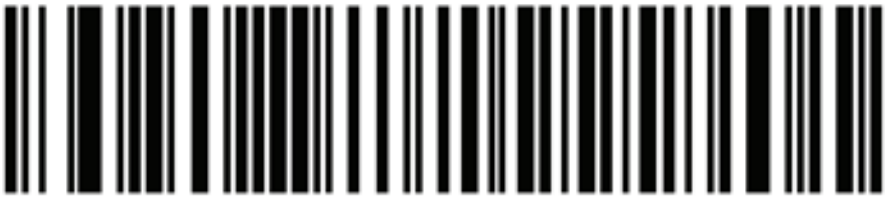


Configuring Using Programming Bar Codes

Before scanning the **USB CDC Host** bar code, ensure that the appropriate USB CDC Driver is installed on the host. This is to ensure that the scanner does not stall during power-up due to a failure in enumerating USB).

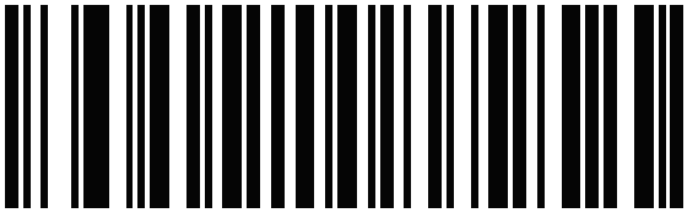
To configure the NCR 7895 scanner using programming bar codes, follow these steps:

1. Using a USB communication cable, connect the NCR 7895 scanner to a computer or POS terminal. The scanner produces three incrementing beeps.
2. Scan the following bar code to set the scanner USB interface to **CDC Com Port Emulation**.



CDC COM Port Emulation

3. Scan the following bar code to disable **Static CDC**.



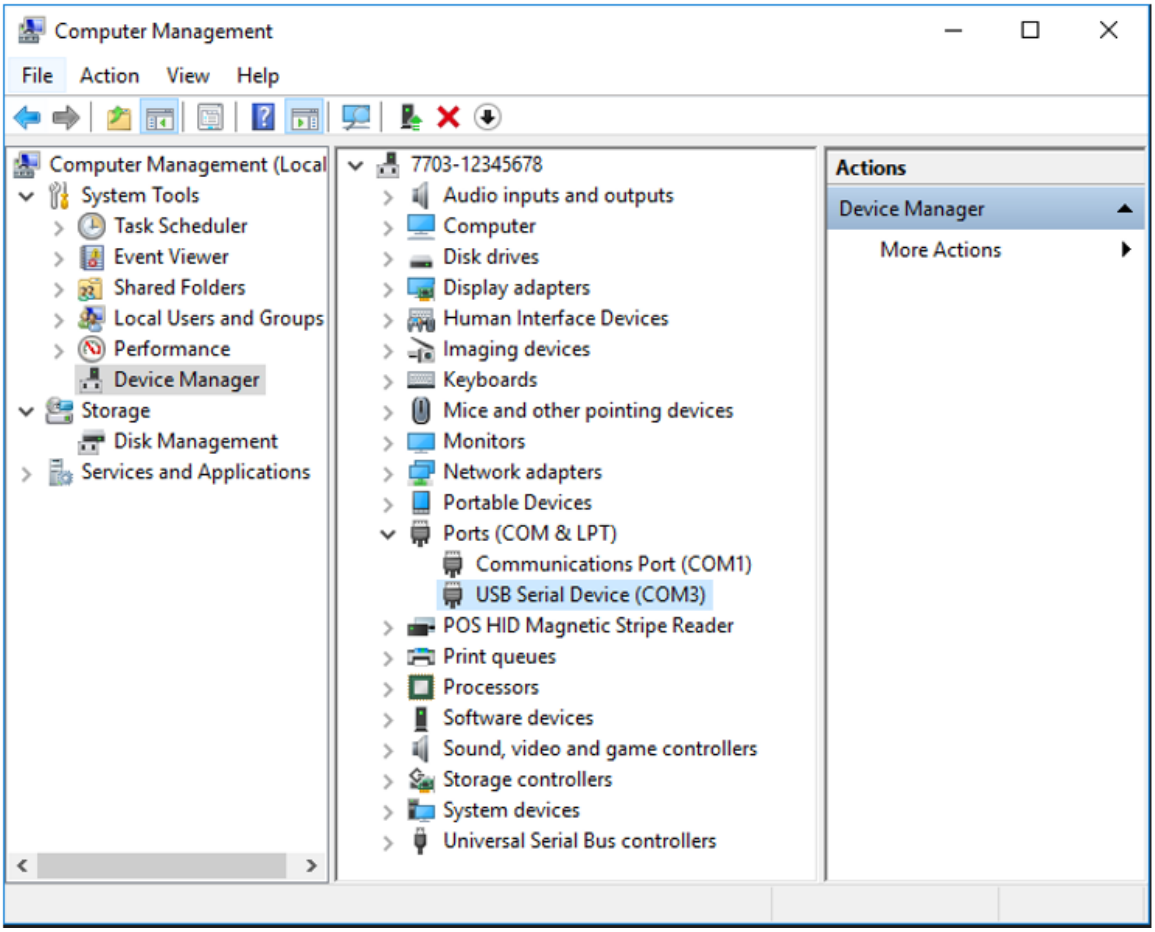
Disable USB Static CDC

4. Scan the following bar code to set CDC Host Variant to **NCR**.

NCR CDC Variant

5. Launch any serial application with correct Virtual COM Port settings and test scanner functions such as scanning bar codes, sending commands, and others.

> **Note**
>
> To check the Virtual COM Port assigned to the scanner, go to **Device Manager**→ **Ports** and look for **USB Serial Device**.



Downloading Scanner Software

Important

For deployment and configuration of the NCR 7895 scanner, use the NCR Platform Software and the NCR 123Scan tool available on the NCR web site. Do not download 123Scan from the Zebra web site.

Drivers

Use NCR Platform Software to get the necessary drivers for the NCR 7895. Applications can interface to the NCR 7895 scanner/scale through either OPOS on Windows or JavaPOS (on supported versions of Linux or Windows). To download these drivers, go to https://www5.ncr.com/support/support_drivers_patches.asp?Class=External/RPSWWindows\Released\display and select the RPSW release that supports the NCR 7895 scanner.

- RPSW 5.3.6.0 (for 64bit)
- RPSW 4.3.6.0 (for 32bit)

Note

For customers who prefer not to use the NCR Platform Software, consult the Zebra support web site for drivers. However, NCR 123Scan from NCR web site must still be used.

NCR 123Scan Utility

NCR 123Scan is a software tool for customizing scanner operation. To download the NCR 123Scan utility, go to https://www5.ncr.com/support/text/Peripherals/7895Utility.htm.

Scanner SDK, Other Software Tools, and Videos

The following table lists the tools that can assist in configuring the NCR 7895 scanner.

Tool	Where to download
123Scan configuration utility	https://www5.ncr.com/support/text/Peripherals/7895Utility.htm
SDKs • Scanner SDK for Windows • Scanner SDK for Linux • Scanner SDK for Android	https://www5.ncr.com/support/support_drivers_patches.asp?Class=retail_RealScan#7895utils
OPOS/JavaPOS Driver	https://www5.ncr.com/support/support_drivers_patches.asp?Class=External/RPSWWindows\Released\display
Other Drivers • TWAIN driver • USB CDC driver • Virtual COM port driver	https://www5.ncr.com/support/support_drivers_patches.asp?Class=retail_RealScan#7895utils
Scanner Management Service (SMS) for Remote Management • Windows • Linux • IBM 4690	https://www5.ncr.com/support/support_drivers_patches.asp?Class=retail_RealScan#7895utils
Mobile Apps • Scanner Control App • Android	http://www.zebra.com/scannersoftware
How-To-Videos	http://www.zebra.com/ScannerHowToVideos

Troubleshooting

This chapter provides information about troubleshooting problems that might occur while operating the NCR 7895. Many problems can be corrected locally, restoring the NCR 7895 back to service quickly. Other problems require the aid of a factory trained technician.

Basic Troubleshooting

If NCR 7895 displays any of the LED display codes preceded by an **E**, the unit will not operate correctly unless the error is resolved. For LED display codes preceded by a **U**, the unit will continue to operate, although with possible performance degradation. Under any circumstance, it is recommended to review basic hardware installation, and software configuration prior to contacting your service provider.

Before contacting your service provider, check the following items:

- Verify that the NCR 7895 has power. The system LED should be *On*.
- If the NCR 7895 includes a Scale, verify that there is no dirt or debris restricting the movement of the Top Plate. Clean and remove debris if necessary.
- If the NCR 7895 includes a Scale, touch the **Scale Zero** button.
- If the system includes a Scale Display, verify that it is properly connected to the NCR 7895.
- If the problem is with a remote device, such as a handheld scanner, verify that it is properly connected to the NCR 7895.
- Power cycle the NCR 7895. Remove and then supply power.

1. Remove power from the NCR 7895, POS equipment, and any auxiliary devices, such as handheld scanners/cradles.
2. Inspect external cables including POS, auxiliary handheld devices, and optional pole display (scale units only) for proper seating in their respective connectors.
3. Remove any objects from the Top Plate or near the unit, and then re-apply power to the NCR 7895 and attached equipment (POS, handheld scanner, and others).
4. Wait for the unit to boot, and listen for start-up audio indicators.

Note

If the LED display codes persist, contact your service provider.

LED Display Guidelines

- A dash (-) indicates normal operating mode.
- Scale calibration information (see the *Scale Warning Codes* table) has precedence over general warning messages but not over errors.
- Scrolling **CAL** (number of calibrations performed) and **PAR** (legal parameter) values display for scale verification (electronic seal).
- **Cxxx** and **Pxxx** scroll when the **Scale Zero** button is held for three or more seconds.
- An error message displays when a fault condition exists. A power cycle is required. Verify that the subsystems and auxiliary devices are operational.
- A warning message displays when a warning condition exists. The power sequence pauses until the issue is resolved.
- For scale firmware version #1.04F (for applicable countries):
    - Scrolling **CAL** (number of calibrations performed) and **PAR** (legal parameter) values display for scale verification (electronic seal), and where required by country legislation, scale approved firmware version number.
    - **Cxxx** and **Pxxx** scroll when the **Scale Zero** button is held for three or more seconds, followed by **x.xx F** (determined by country legislation).

Beeper and LED Indicators

The following are different topics that indicate beeper and LED conditions and their descriptions:

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Number expected	High, Low Beeps	Green	No change	Enter another digit. Add leading zeros to the front if necessary.
Alpha character expected	Low, Low Beeps	Green	No change	Enter another alphabetic character or scan the End of Message bar code.
Criteria or action expected	High, High Beeps	Green Blinking	No change	ADF criteria or action is expected. Enter another criterion or action, or scan the Save Rule bar code.
ADF rule saved	High, Low, High, Low Beeps	Green (turns off blinking)	No change	Rule saved. Rule entry mode exited.
Criteria or action cleared	High, Low, Low Beeps	Green	No change	All criteria or actions cleared for current rule, continue entering rule.
Last rule deleted	Low Beep	Green	No change	Delete last saved rule. The current rule is left intact.
All rules deleted	Low, High, High Beeps	Green	No change	All rules are deleted.
ADF out of memory	Low, High, Low, High Beeps	Red	No change	Out of rule memory. Erase some existing rules, then try to save rule again
Cancel rule entry	Low, High, Low Beeps	Green (turns off blinking)	No change	Cancel rule entry. Rule entry mode exited because of an error or the user asked to exit rule entry.
Rule error	Low, High Beeps	Red	No change	Entry error, wrong bar code scanned, or criteria/action list is too long for a rule. Re-enter criterion or action.

Button Presses

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Press and release **Scale Zero** button	Click	No change	**Scale Zero** button LED blinks green (momentary)	LED illuminates only if **Scale Zero** button is enabled. Causes the scale to zero.
Press and hold **Scale Zero** button	Click	No change	None	If **Scale Zero** button is enabled, causes the scale calibration audit trail to display until button is released.
Press and hold/release **Scale Zero** and **EAS** buttons	Click	Red after 10 seconds upon reboot	No change	After buttons are held for 10 seconds, a system reboot initiates.
Press and hold **Scale Zero** and **Volume/Tone** buttons for 5 seconds, then release	Short beep after 5 seconds; within 2 seconds of release, press the **Scale Zero** and **Volume/Tone** again and release; 5 long beeps sound	No change	No change	After the final 5 long beeps sound, scale calibration is entered.
Press and release **EAS** button	Click	No change	EAS is enabled, LED is amber	If EAS is enabled, button press activates tag manual deactivation.

Camera Activation Button Presses

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Press and release the **Camera Activation** button	Periodic clicks until shutter sounds indicating a picture was taken	No Change	No Change	Takes a picture. **Note** The ability to use the data from the camera may depend on the POS or system using the device.
Press-hold-release (hold longer than 0.5 seconds) the **Camera Activation** button to scan a bank check	Periodic clicks until check scan completes. • Successful completion - one beep sounds. • Unsuccessful completion - four beep sequence sounds.	No Change	No Change	Scans a bank check.

Code 39 Buffering

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Code 39 character added into buffer	High, Low Beeps	No change	No change	New Code 39 data was entered into the buffer.
Code 39 buffer full	3 Long High Beeps	No change	No change	Code 39 buffer is full.

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Code 39 buffer cleared	High, Low, High Beeps	No change	No change	The Code 39 buffer was erased.
Code 39 buffer empty	Low, High, Low Beeps	No change	No change	The Code 39 buffer was erased or there was an attempt to clear or transmit an empty buffer.
Code 39 buffer transmitted	Low, High Beeps	No change	No change	A successful transmission of buffered data.

EAS/Security Tags

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
EAS system disabled	None	No change	EAS LED is off	EAS parameter disabled.
EAS system functional (idle)	None	No change	EAS LED is on	EAS is operating normally.
EAS tag detected anytime	Configurable: None, Geiger Counter clicks	No change	EAS LED blinks yellow at 4 Hz	An EAS tag is in the EAS tag detected area and was detected.
EAS manual deactivation activated	None	No change	EAS LED on	Deactivation is active on the system.
EAS Soft Tag Deactivation	None, Beep 1, Beep 2	No change	No change	Beep indicates that a soft tag was deactivated.
EAS Hard Tag Detected	None, Beep 1, Beep 2	No change	No change	Beep indicates that a hard tag was detected.

Firmware Download

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Firmware Download	Low, Medium, High beep after complete	Red alternating between on and fast blink	No change	Firmware download in progress. Firmware Download has multiple states. The LEDs during these states are: • During firmware data download/transfer – no LED control. • After reboot firmware is installed – LED blinks red, fast. When the process is complete, the scanner emits a normal power-up beep.

Macro PDF

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Macro PDF buffered	2 Low Beeps	No change	No change	MDPF sequence buffered
Macro PDF file ID error	2 Long Low Beeps	No change	No change	File ID error. A bar code not in the current MPDF sequence was scanned.
Macro PDF buffer out of memory	3 Long Low Beeps	No change	No change	Out of memory. There is not enough buffer space to store the current MPDF symbol.
Macro PDF bad symbology encountered	4 Long Low Beeps	No change	No change	Bad symbology. Scanned a 1D or 2D bar code in a MPDF sequence, a duplicate MPDF label, a label in an incorrect order, or trying to transmit an empty or illegal MPDF field.
Macro PDF buffer flushed	5 Long Low Beeps	No change	No change	Flushing MPDF buffer.

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Macro PDF aborted	Fast Warble Beep	No change	No change	Aborting MPDF sequence.
Macro PDF buffer flushed with no data	Low, High Beeps	Red	No change	Flushing an already empty MPDF buffer.

Parameter Programming

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Parameter entry error	Low, High Beeps	Red	No change	Input error: incorrect bar code, programming sequence, or **Cancel** scanned.
Parameter number entry expected	High, Low Beeps	Green	No change	Number expected. Enter value using numeric bar codes.
Parameter entry accepted	High, Low, High, Low Beeps	Green	No change	Successful program exit with change in parameter setting.

Scale

Scale State	7-segment Diagnostic Display	LED (System)	Beeper Sequence	Scale Zero Button (LED)	Optional Scale Display
Scale disabled	No change	No change	None	Off	Blank

Scale State	7-segment Diagnostic Display	LED (System)	Beeper Sequence	Scale Zero Button (LED)	Optional Scale Display
Scale normal - stable with weight	No change	No change	None; single short beep after weight request from POS, if this feature is enabled.	Solid Green On	Weight reading
Under zero	No change	No change	None	Flashing	All "-----" (dashes)
Over range condition (weight is greater than 30.09 lb or 15.045 kg)	No change	No change	None	Off	*EEEEE*
Weight unstable	No change	No change	None	Off	Numerical values blank but measurement unit icons (lb or kg) remain on.
Scale Zero button press	If zero operation fails, it scrolls *U12*	Red (Warning) if zero operation fails on a **Scale Zero** button press; otherwise, no change	Click sound	No change	If successful, weight reads 0 (zero) and *<0>* indicator icon illuminates.
Scale out of calibration	Scrolls fault code *U14*	Red (Warning)	None	Off	Blinks *CAL*

Scale State	7-segment Diagnostic Display	LED (System)	Beeper Sequence	Scale Zero Button (LED)	Optional Scale Display
Successfully entering scale legal Calibration Mode	• At "Programming Legal Parameters" step or "Calibration at No Load" step, shows *C00Lb* or *C00g*, depending on the programmed unit of weight. • At "Calibration at Load" step, shows *C25Lb* or *C10g*, depending on the programmed unit of weight. • After "Calibration at No Load" and "Calibration at Load," repeatedly shows *CAL P* and *CAL S*. • If calibration fails at any step, shows error code *u##*.	No change	Five long beeps	Off	• At "Calibration at No Load" step, blinks between *CAL00* and *CAL_ _* with the correct unit icon illuminated (lb or kg). • At "Calibration at Load" step, blinks *CAL25* with the lb icon illuminated, or blinks *CAL10* with the kg icon illuminated. • After "Calibration at No Load" and "Calibration at Load," blinks between *CAL P* (PASS) and *CAL S* (save legal parameter settings).

Scale State	7-segment Diagnostic Display	LED (System)	Beeper Sequence	Scale Zero Button (LED)	Optional Scale Display
					• If calibration fails at any step, blinks *CAL F*.
Between calibration steps	No change	No change	No change	Off	Blinks *HOLD* while taking a measurement.
Stepping through a calibration step	No change	No change	Single long beep tone after pressing the **Scale Zero** button	Off	No change
Failure to place the correct load on the scale at "Calibration at Load" step	*C25Lb* or *C10g*, depending on the programmed unit of weight	No change	Two long beep tones	No change	No change
Successfully executing and exiting a scale legal calibration	Calibration procedure semantics removed from display.	No change	Three short beeps	Solid Green On if weight is stable after resetting the scale	Scale is reset either by pressing the **Scale Zero** button, scanning the **Scale Reset** parameter bar code, of powering the unit Off then On again. The seven segment test will run.

Scale State	7-segment Diagnostic Display	LED (System)	Beeper Sequence	Scale Zero Button (LED)	Optional Scale Display
Cold reset of scale	No change	No change	No change except after "Calibration at No Load" and "Calibration at Load,". When the **Scale Zero** button is pressed during this step, three short beep tones is emitted.	No change	Seven segment test runs and displays the following: • *00.000* all icons illuminated for three seconds • Blank for one second • *99.999* all icons illuminated for three seconds • Blank for one second • Normal display
Audit Tally - Press and hold **Scale Zero** button for greater than three seconds not in Calibration Mode	Repeatedly scrolls *C###* then *P###*	No change	None	No change	Blinks between *C###* and *P###*
In Bootloader Mode	No change	Off	None	Off	None

Scale State	7-segment Diagnostic Display	LED (System)	Beeper Sequence	Scale Zero Button (LED)	Optional Scale Display
Scale Error	Scrolls fault code *u##*	Red (Warning)	None	Off	• Blinks *FAIL* or blanks display with unit icon showing lb or kg illuminated • Blinks *CAL F* if the system is in scale legal Calibration Mode.

Standard Use

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
System power-up	Low, Medium, High Beeps	None	No change	Power up.
System reboot	Loud beep for two seconds.	No change for 10 seconds. Red for two seconds.	No change	After holding the **Scale Zero** and **EAS** buttons for 10 seconds, the scanner reboots.
Bar code decoded	Off, Low, Medium, High, two-tone beep, or TBD tone (programmable)	Bright green	No change	One bright green LED flash.
System is idle	None	Dim green	No change	LED constant on; ready for decode.
System is disabled	None	Off	No change	Host application has sent SCAN-DISABLE command.
Bar code data transmission error	4 Low Beeps	Red	No change	Transmission error.

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Bar code data conversion error	5 Low Beeps	Red	No change	Conversion or Format error.
RS-232 host parity error	Low, Low, Low, Extra Low Beeps	Red	No change	RS-232 Receive error.
BELL (RS-232)	High Beep	None	No change	A <BEL> character is received over RS-232.

Volume

Condition	Beeper Indication	System LED Indication	Button LED Indication	Description
Pressed and release **Volume/Tone** button	Emits volume level	No change	Button LED blinks for two seconds (at 2 Hz)	Speaker volume changes. The speaker emits a sound using the current speaker volume. The Speaker emits a sound with the volume increasing each time the **Volume/Tone** button is pressed within two seconds of the previous (or while the volume LED is blinking). When the maximum volume level is reached, it wraps and begins at the lowest volume level.
Press and hold **Volume/Tone** button for two seconds	Emits decode tone	No change	Button LED blinks for two seconds	Decode tone changes. The Speaker emits a sound and cycles through all different tones every second while touching the **Volume/Tone** button.
Decode tone change (Describes action above)	Button click; decode beep at next tone (wrap)	No change	No change	After holding the **Volume/Tone** button for two seconds, the next decode tone sounds. For each additional second the decode tone changes again.

General Error and Warning Codes

General error and warning codes are displayed on the 7-segment diagnostic displays, which are visible inside the Vertical Scan Window. When an error is detected, the 7-segment displays show letter and number messages one character at a time.

Note

The information in the following table is for reference only. For more information, contact your service provider.

LED Display Code	Error/Warning Indication
Errors (E)	
E21	Illumination failed
E26	Image Capture Hardware (HW assist) failure
E28	Digital Audio Playback failure
Warnings (U)	
U1	Diagnostic Test Flag (internal only)
U2	Illumination Current Limit warning
U3	Horizontal Left Current Limit warning
U5	Horizontal Right Current Limit warning
U6	Vertical Left Current Limit warning
U8	Vertical Right Current Limit warning
U9	Image Sensor Warning (either)
U10	Vertical Image Sensor warning
U11	Horizontal Image Sensor warning
U16	Sensormatic EAS Offline warning
U17	Host Protocol warning

LED Display Code	Error/Warning Indication
U18	Left Channel IR (object detection) failure
U25	Right Channel IR (object detection) failure
U27	User Interface (button interface) failure
U29	EAS Communication Error
U30	Center Channel IR (object detection) failure
U31	Indicates that the Sensormatic control box has an internal high voltage fault. The user should turn off the Sensormatic control box (EAS tags will not be detected or deactivated).

Scale Warning Codes

Scale Warning Codes are displayed on the 7-segment diagnostic displays, which are visible inside the Vertical Scan Window. When an error is detected, the 7-segment displays show letter and number messages one character at a time.

Note

The information in the following table is for reference only. For more information, contact your service provider.

Warning Code	Warning Type	Description	Recommended Action
U12	Scale Failed to Zero on **Scale Zero** Button Press	The scale failed to find a zero weight reference when the **Scale Zero** button was pressed. The scale will zero if the weight on the Top Plate is within +/- 2% of maximum weight measurement capacity, and stable (that is, no motion on the Top Plate). This is +/- 0.6 lb (+/- 0.3 kg) depending on the programmed unit of weight. The allowable zeroing weight limit of 0.6 lb and 0.3 kg is configurable. Refer to the *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516) for the Maximum Scale Zeroing Weight Limit parameter.	Press the **Scale Zero** button.

Warning Code	Warning Type	Description	Recommended Action
U13	Scale Outside of Zero Drift Threshold	The zero reference drifted beyond 80% of the initial zero setting range of -5% to +15% (-0.9 lb to +3.9 lb, or -0.4 kg to +1.9 kg) maximum weight measurement capacity, relative to the zero weight reference found at a no load legal scale calibration. This is an advisory indicating that the scale will soon require a recalibration. It can sometimes be cleared by scanning the **Scale Reset** parameter bar code, repowering the scale, or leaving the scale on from a cold power start for more than 10 minutes. If this persists, recalibrate the scale.	• The error is triggered if a weight greater than 4.5 lb (2.25 kg) is left on the weighing surface while the scale comes up from a reset or cold power start. To clear the error, remove the weight from the weighing surface. • The error is triggered if the scale resets, or upon a cold reset of the NCR 7895 system, and the Top Plate is not installed. To clear the error, re-install the Top Plate.

Warning Code	Warning Type	Description	Recommended Action
U14	Scale is Out of Calibration	The scale must be legally calibrated before it becomes operational. There are three reasons: • The scale can no longer find a zero weight reference at power up, after a weight is removed from the Top Plate during normal operation, or when pressing the **Scale Zero** button. **Note** The scale software does not remove the scale from calibration under these conditions if it was already legally calibrated. This is a very visible condition for users to troubleshoot. The Scale Display does not show *0* (zero) reading from power-up, or after pressing the **Scale Zero** button with no load on the Top Plate. • A new scale was installed in the	Calibrate the scale.

Warning Code	Warning Type	Description	Recommended Action
		NCR 7895. • A new NCR 7895 shipped from a factory to an installation that requires calibration at place of scale use.	
U15	Scale Offline	This is an internal error in the NCR 7895 scanner/scale unit, and in most cases, a *Scale Communication Error U22* is reported before this error.	1. Verify the connection of the Scale Cable to the scale and Main PCB Board. 2. Replace the Scale Cable. 3. Replace the Main PCB Board. 4. Replace the Scale Assembly. **Note** For details, contact NCR Support at https://www.ncr.com/support.
U22	Scale Communication Error	This is a failed communication between the NCR 7895 scanner PCB and the scale device. There are three issues that can cause this fault condition: • Circuitry on the NCR 7895 scanner PCB failed. • Internal cable between scanner PCB and the scale device is faulty. • Internal circuitry on the scale device is faulty.	1. Verify the connection of the Scale Cable to the scale and Main PCB Board. 2. Replace the Scale Cable. 3. Replace the Main PCB Board. 4. Replace the Scale Assembly. **Note** For details, contact NCR Support at https://www.ncr.com/support.

Warning Code	Warning Type	Description	Recommended Action
U23	Scale Display Communication Error	This is a failed communication between the NCR 7895 PCB and the Scale Display. There are three issues that can cause this fault condition: • The Scale Display configuration parameter is enabled and no Scale Display is connected to the NCR 7895 scanner/scale. For scale parameters, refer to the *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516). • Display circuitry on the NCR 7895 PCB failed. • The Scale Display cable between the NCR 7895 PCB and the Scale Display is faulty, or the internal circuitry of the Scale Display is faulty. The Scale Display and cable are a single Field Replaceable Unit (FRU).	Replace the Scale Display. **Note** For details, contact NCR Support at https://www.ncr.com/support.

Warning Code	Warning Type	Description	Recommended Action
U24	Scale Motion Fault	This condition occurs when the scale detects constant motion on the weighing surface for an extended duration of time. This is a *latched fault*, meaning the NCR 7895 needs to be powered off, the problem fixed, and the NCR 7895 powered back on. There are three possible reasons for this fault condition: • The scale was improperly installed, or is mechanically bent or damaged where it cannot achieve a stable weight condition. • The scale or the Top Plate is pressed up against a fixed object and its free motion is inhibited. • Debris is lodged under one or more of the over travel stop screws.	Remove and re-seat the scale. If the error persists, replace the scale. **Note** For details, contact NCR Support at **https://www.ncr.com/support**.

Standard Parameter Defaults

The following table shows the NCR 7895 parameter default settings.

Note

This table includes limited parameters. For all NCR 7895 programming parameters and bar codes, refer to *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516).

Parameter		Default Setting
USB Device Type		IBM Table-top USB
RS-232 Host Type		Standard RS-232
RS-232 Device Port Configuration		AUX 1 Sensormatic and AUX 2 RS-232 Scanner
Third Party Scale	Third Party Scale	Disable Third Party Scale
	Third Party Scale LED Pin	Active High
	Third Party Scale Zero Pin	Active High
IBM Port Addresses		None
IBM Scale Port Addresses		None
Legal Scale Units		Kilograms (International or metric) Pounds (US)
Scale Display Configuration		Disable
Legal Scale Dampening Filter		Low Vibration Sensitivity
Scale Pole Display Type		Standard Pole Display Type

Character Sets

This section provides the character sets available for NCR 7895.

ASCII Character Set

For the Keyboard Wedge Interface, Code 39 Full ASCII interprets the bar code special character ($ + % /) preceding a Code 39 character and assigns an ASCII character value to the pair. For example, if you enable Code 39 Full ASCII and scan **+B**, it transmits as **b**, **%J** as **?**, and **%V** as **@**. Scanning **ABC%I** outputs the keystroke equivalent of **ABC >**.

Note

The keystroke in **bold** transmits only if the Function Key Mapping is enabled. Otherwise, the regular keystroke transmits. For more information on Function Key Mapping, refer to *NCR 7895 Scanner/Scale Bar Code Programming Guide* (BCC5-0000-5516).

ASCII Value (Prefix/Suffix Value)	Full ASCII Code 39 Encode Char	Keystroke	ASCII Character (Applies to RS-232 Only)
1000	%U	CTRL 2	NUL
1001	$A	CTRL A	SOH
1002	$B	CTRL B	STX
1003	$C	CTRL C	ETX
1004	$D	CTRL D	EOT
1005	$E	CTRL E	ENQ
1006	$F	CTRL F	ACK
1007	$G	CTRL G	BELL
1008	$H	CTRL H or BACKSPACE	BCKSPC

ASCII Value (Prefix/Suffix Value)	Full ASCII Code 39 Encode Char	Keystroke	ASCII Character (Applies to RS-232 Only)
1009	$I	CTRL I or HORIZONTAL TAB	HORIZ TAB
1010	$J	CTRL J	LF or NW LN
1011	$K	CTRL K	VT
1012	$L	CTRL L	FF
1013	$M	CTRL M or ENTER	CR or ENTER
1014	$N	CTRL N	SO
1015	$O	CTRL O	SI
1016	$P	CTRL P	DLE
1017	$Q	CTRL Q	DC1 or XON
1018	$R	CTRL R	DC2
1019	$S	CTRL S	DC3 or XOFF
1020	$T	CTRL T	DC4
1021	$U	CTRL U	NAK

ASCII Value (Prefix/Suffix Value)	Full ASCII Code 39 Encode Char	Keystroke	ASCII Character (Applies to RS-232 Only)
1022	$V	CTRL V	SYN
1023	$W	CTRL W	ETB
1024	$X	CTRL X	CAN
1025	$Y	CTRL Y	EM
1026	$Z	CTRL Z	SUB
1027	%A	CTRL [	ESC
1028	%B	CTRL \	FS
1029	%C	CTRL]	GS
1030	%D	CTRL 6	RS
1031	%E	CTRL -	US
1032	Space	Space	Space
1033	/A	!	!
1034	/B	“	”
1035	/C	#	#
1036	/D	$	$
1037	/E	%	%
1038	/F	&	&
1039	/G	‘	‘
1040	/H	(	(
1041	/I	)	)
1042	/J	*	*

ASCII Value (Prefix/Suffix Value)	Full ASCII Code 39 Encode Char	Keystroke	ASCII Character (Applies to RS-232 Only)
1043	/K	+	+
1044	/L	,	,
1045	-	-	-
1046	.	.	.
1047	/o	/	/
1048	0	0	0
1049	1	1	1
1050	2	2	2
1051	3	3	3
1052	4	4	4
1053	5	5	5
1054	6	6	6
1055	7	7	7
1056	8	8	8
1057	9	9	9
1058	/Z	:	:
1059	%F	;	;
1060	%G	<	<
1061	%H	=	=
1062	%I	>	>
1063	%J	?	?

ASCII Value (Prefix/Suffix Value)	Full ASCII Code 39 Encode Char	Keystroke	ASCII Character (Applies to RS-232 Only)
1064	%V	@	@
1065	A	A	A
1066	B	B	B
1067	C	C	C
1068	D	D	D
1069	E	E	E
1070	F	F	F
1071	G	G	G
1072	H	H	H
1073	I	I	I
1074	J	J	J
1075	K	K	K
1076	L	L	L
1077	M	M	M
1078	N	N	N
1079	O	O	O
1080	P	P	P
1081	Q	Q	Q
1082	R	R	R
1083	S	S	S
1084	T	T	T

ASCII Value (Prefix/Suffix Value)	Full ASCII Code 39 Encode Char	Keystroke	ASCII Character (Applies to RS-232 Only)
1085	U	U	U
1086	V	V	V
1087	W	W	W
1088	X	X	X
1089	Y	Y	Y
1090	Z	Z	Z
1091	%K	[	[
1092	%L	\	\
1093	%M	]	]
1094	%N	^	^
1095	%O	_	_
1096	%W	‘	`
1097	+A	a	a
1098	+B	b	b
1099	+C	c	c
1100	+D	d	d
1101	+E	e	e
1102	+F	f	f
1103	+G	g	g
1104	+H	h	h
1105	+I	i	i

ASCII Value (Prefix/Suffix Value)	Full ASCII Code 39 Encode Char	Keystroke	ASCII Character (Applies to RS-232 Only)
1106	+J	j	j
1107	+K	k	k
1108	+L	l	l
1109	+M	m	m
1110	+N	n	n
1111	+O	o	o
1112	+P	p	p
1113	+Q	q	q
1114	+R	r	r
1115	+S	s	s
1116	+T	t	t
1117	+U	u	u
1118	+V	v	v
1119	+W	w	w
1120	+X	x	x
1121	+Y	y	y
1122	+Z	z	z
1123	%P	{	{
1124	%Q	I	|
1125	%R	}	}
1126	%S	~	~

ASCII Value (Prefix/Suffix Value)	Full ASCII Code 39 Encode Char	Keystroke	ASCII Character (Applies to RS-232 Only)
1127			Undefined
7013			ENTER

ALT Key Character Set

ALT Keys	Keystroke
2064	ALT 2
2065	ALT A
2066	ALT B
2067	ALT C
2068	ALT D
2069	ALT E
2070	ALT F
2071	ALT G
2072	ALT H
2073	ALT I
2074	ALT J
2075	ALT K
2076	ALT L
2077	ALT M
2078	ALT N
2079	ALT O
2080	ALT P
2081	ALT Q
2082	ALT R
2083	ALT S
2084	ALT T

ALT Keys	Keystroke
2085	ALT U
2086	ALT V
2087	ALT W
2088	ALT X
2089	ALT Y
2090	ALT Z

GUI Key Character Set

For GUI Shift Keys, the Apple™ iMac keyboard has an apple key on either side of the space bar. Windows-based systems have a GUI key to the left of the left ALT key and to the right of the right ALT key.

GUI Key	Keystroke
3000	Right Control Key
3048	GUI 0
3049	GUI 1
3050	GUI 2
3051	GUI 3
3052	GUI 4
3053	GUI 5
3054	GUI 6
3055	GUI 7
3056	GUI 8
3057	GUI 9
3065	GUI A
3066	GUI B
3067	GUI C
3068	GUI D
3069	GUI E
3070	GUI F
3071	GUI G

GUI Key	Keystroke
3072	GUI H
3073	GUI I
3074	GUI J
3075	GUI K
3076	GUI L
3077	GUI M
3078	GUI N
3079	GUI O
3080	GUI P
3081	GUI Q
3082	GUI R
3083	GUI S
3084	GUI T
3085	GUI U
3086	GUI V
3087	GUI W
3088	GUI X
3089	GUI Y
3090	GUI Z

PF Key Character Set

PF Keys	Keystroke
4001	PF 1
4002	PF 2
4003	PF 3
4004	PF 4
4005	PF 5
4006	PF 6
4007	PF 7
4008	PF 8
4009	PF 9
4010	PF 10
4011	PF 11
4012	PF 12
4013	PF 13
4014	PF 14
4015	PF 15
4016	PF 16

F Key Character Set

F Keys	Keystroke
5001	F 1
5002	F 2
5003	F 3
5004	F 4
5005	F 5
5006	F 6
5007	F 7
5008	F 8
5009	F 9
5010	F 10
5011	F 11
5012	F 12
5013	F 13
5014	F 14
5015	F 15
5016	F 16
5017	F 17
5018	F 18
5019	F 19
5020	F 20
5021	F 21

F Keys	Keystroke
5022	F 22
5023	F 23
5024	F 24

Numeric Key Character Set

Numeric Keypad	Keystroke
6042	*
6043	+
6044	Undefined
6045	-
6046	.
6047	/
6048	0
6049	1
6050	2
6051	3
6052	4
6053	5
6054	6
6055	7
6056	8
6057	9
6058	Enter
6059	Num Lock

Extended Key Character Set

Extended Keypad	Keystroke
7001	Break
7002	Delete
7003	Pg Up
7004	End
7005	Pg Dn
7006	Pause
7007	Scroll Lock
7008	Backspace
7009	Tab
7010	Print Screen
7011	Insert
7012	Home
7013	Enter
7014	Escape
7015	Up Arrow
7016	Dn Arrow
7017	Left Arrow
7018	Right Arrow

Communication Protocol Functionality

The following table provides the list of supported scanner functionality by communication protocol.

Communication Interfaces	Functionality		
	Data Transmission	Remote Management	Image and Video Transmission
USB			
HID Keyboard Emulation	Supported	Not Available	Not Available
Simple COM Port Emulation	Not Available	Not Available	Not Available
CDC COM Port Emulation	Supported	Not Available	Not Available
SSI over CDC COM Port Emulation	Not Available	Not Available	Not Available
IBM Table-top USB	Supported	Supported	Not Available
IBM Hand-held USB	Supported	Supported	Not Available
USB OPOS Hand-held	Supported	Supported	Not Available
Symbol Native API (SNAPI) without Imaging Interface	Available	Supported	Imaging Available; Video Not Available
Symbol Native API (SNAPI) with Imaging Interface	Available	Supported	Imaging Available; Video Not Available
RS-232			
Standard RS-232	Supported	Not Available	Not Available
ICL RS-232	Supported	Not Available	Not Available
Fujitsu RS-232	Supported	Not Available	Not Available
Wincor-Nixdorf RS-232 Mode A	Supported	Not Available	Not Available
Wincor-Nixdorf RS-232 Mode B	Supported	Not Available	Not Available

Communication Interfaces	Functionality		
	Data Transmission	Remote Management	Image and Video Transmission
Olivetti ORS4500	Supported	Not Available	Not Available
Omron	Supported	Not Available	Not Available
CUTE	Supported	Not Available	Not Available
OPOS/JPOS	Supported	Not Available	Not Available
NCR	Supported	Not Available	Not Available
Datalogic	Supported	Not Available	Not Available
SSI	Not Available	Supported	Not Available
IBM 4690			
Hand-held Scanner Emulation (Port 9B)	Supported	Not Available	Not Available
Table-top Scanner Emulation (Port 17)	Supported	Supported	Not Available
Non-IBM Scanner Emulation (Port 5B)	Supported	Supported	Not Available