NCR RealPOS 7197 Printer

Release 1.0

Migration Guide

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Issue A

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NCR RealPOS 7197 Printer Migration Guide

Introduction

The following information is provided as a summary of important points to consider when transitioning to the NCR RealPOS 7197 Receipt Printer from the NCR 7194 and 7193 Printers.

The NCR RealPOS 7197 Printer is a new thermal receipt printer, replacing the NCR 7194. New printer functions are introduced on the 7197, including faster thermal print speeds (up to 50 lines per second, depending on the application software) and two color printing. Features that we continue to offer on the 7197 auto-sensing communication interfaces (RS-232 & USB), resident tallies for diagnostics, and additional memory for multiple logos and application use. Detailed information can be found in the NCR RealPOS 7197 Printer Owner's Guide, available online via the Information Products Publishing web site at www.info.ncr.com.

Migration Issues

For customers with applications developed to support the 7193 printer or the 7194 printer used in the 7193 Emulation Mode, taking advantage of the 7193 Emulation Mode option on the 7197 can minimize migration issues. For *some* of these customers, no incremental development may be required and the printer may be deployed as a drop-in replacement for the 7193 or 7197. But for *all* of these customers, a thorough review of the documentation and testing of the printer in the customer's application environment should be planned before any assumptions are made with respect to integration effort.

The following are the major migration issues identified for transitioning from the 7193 or the 7194 to the 7197.

Power Supply

The 7197 has a 75 Watt power supply as the standard (available as a kit). The 7194 power supply had a 55-Watt power supply. In order to utilize the full print speed capability of the 7197, the 75-Watt power supply needs to be used. A 55 Watt power supply can be used, but with diminished print speed capability when printing dense graphics. The printer must be configured through the 7197's resident firmware setup menu to tell it the type of power supply that is being used.

Wall Mounting

The 7167 Power Supply (used with both the 7167 & 7197 printers) offers built in mounting features for work areas that require the power supply to be wall mounted. The 7194 printer required an optional wall mounting bracket kit.

7194 Mode

The 7197 is initially configured in the 7194 Mode. When in the 7194 Mode the 7197 printer will return a response to the printer status ID command with a 7194 signature. The only difference between the 7197 Native Mode and the 7194 Mode is the Transmit Printer ID command.

7193 Emulation

The 7197 is initially configured in the 7194 Mode but may be reconfigured during staging or installation to operate in 7193 Emulation Mode or 7197 Native Mode. Reconfiguration is easily accomplished using the 7197's resident firmware setup menu (see the NCR RealPOS 7197 Owner's Guide for details)

The 7193 emulation mode on the 7197 printer functions in an identical manner as the 7193 emulation mode on the 7194 printer.

What 7193 Emulation Mode does:

- Blocks all new 7197 commands. This means it will prevent execution of any commands that did not exist in the 7193/94 printers.
- Executes all commands supported on the 7194 as a 7194, though the same command may operate differently in 7197 Native Mode
- Automatically scales user-defined bitmap graphics for the 7197, such as store logos to print in the same size and location, as it would have on the 7193. Without 7193 emulation, the original image would be printed dot-for-dot the same on the 7197, resulting in a proportionally smaller (~25%) image that is skewed to one side. With 7193 emulation, an algorithm "scales" up the image by adding dots to the bitmap in order to re-create the image in the same proportions with higher resolution. Note that because the algorithm is essentially guessing where to put the dots to expand the image vertically and horizontally, the image may appear slightly different. Differences may be noticeable on smaller images or on details in larger images.

What 7193 Emulation Mode does <u>not do</u>:

- Does not slow down printing. Improved performance is a function of a faster thermal print mechanism, how the application and driver sends data to the printer, and baud rate. Putting the 7197 in 7193 Emulation Mode does not "gear down" the speed of the mechanism. See separate note on performance below
- Does not scale a user-defined downloaded character. The 7193, 7194, and 7197 support downloaded characters, typically replacing an unused character or symbol with a special letter or symbol used in the customer's application. The 7193 character is composed of fewer dots vertically and horizontally (6 dots per millimeter versus the 7194's and 7197's 8 dots per millimeter). The 7193 Emulation Mode does nothing to increase the number of dots used in the character, consequently the character created for the 7193 will appear smaller on the 7197. Examples from actual customers include a backwards "R" for Toys "R" Us, and a down arrow symbol used by another customer to flag marked down items on the receipt.

Customer Options for Downloaded Characters Differences

- Accept the smaller image on the 7197 (no change is required)
- Redefine the user character for the 7197 (requires an application change, and will print larger on the 7193 than on the 7197 or 7194 in a mixed 7193/7194/7197 environment with the same application)
- Redefine the user character to work well on both printers (requires an application change, and is not optimized for either printer but will be acceptable in a mixed environment with the same application)

Note on Printer Drivers

TAPS - No changes were made with TAPS to support the new 7197 printer. There is no 7197 TAPS driver. NCR Engineering has certified the 7197 to run in 7193 Emulation Mode only with the latest release of TAPS. Results when operating the 7197 in 7193 Emulation mode with an earlier release of TAPS are unpredictable; technical support from NCR may be limited and available only on a T&M basis. TAPS does not allow modification of the application to send new 7197 commands, so a customer using TAPS may only take advantage of these features by updating both application and drivers (using NCR OPOS or writing directly to the printer).

NCR OPOS - An NCR OPOS driver (Service Object) was released for the 7197 Native Mode to support printer functionality included in the standard OPOS specification. Functions not included in the OPOS Release 1.2 specification, to which our Service Objects are coded, but a DirectIO method is provided to allow applications using the NCR OPOS Service Object to take advantage of this feature. Functions not included in the OPOS specification and not accessible when using the NCR OPOS driver include:

- The NCR OPOS Service Object does not support polling of the printer for resident diagnostic tallies (the NCR OPOS Sender Agent actually provides logs and tallies to the Logs and Tallies Agent without querying the printer).

- The NCR OPOS Service Object does not allow the application to write to user-defined memory resident now on the 7197 printer. This means a customer eyeing the availability of 64KB of space on the printer for enhancements such as printer-resident electronic journal can not take advantage of this feature using NCR OPOS.
- The NCR OPOS Service Object only supports two printer-resident logos (graphic bit-images). Another 64 KB is provided to store multiple logos downloaded from the application, but the 7197 OPOS driver is only able to manage two logos stored at the printer.

If a customer plans to continue using their current release of the NCR OPOS Service Object, the 7197 printer should be configured in 7193 Emulation Mode depending on the NCR OPOS profile they have specified. If the application is to be modified to take advantage of the 7197 features in 7197 Native Mode (supported by the NCR OPOS 2.2 Service Object or higher), the latest version of NCR OPOS should be installed and the 7197 should be selected as the printer type

Note on Performance

The 7197's improved performance is a function of a faster thermal print mechanism, how the application and driver sends data to the printer, and the speed of communication. The 7197 is capable of printing text at up to 50 lines per second, thirty percent faster than the 7194 and more than 10 times faster than most impact printers. Older applications originally developed for slower impact printers often send information to the printer line-by-line. On slower printers, waiting until the end of the transaction before starting to print the receipt would have added a significant amount of time to the length of the transaction. Faster thermal printers can now produce the same receipt in seconds (adjustments to the NCR OPOS Asyncblock Parameter maybe required to achieve maximum print speed).

When printing line-by-line on faster thermal printers, the baud rate of the communication interface can become a bottleneck, resulting in a pause between lines. The repeated stop-and-go motion of the printer mechanism that results may be both audible and apparent as "jerkiness" of the printer.

If poorer than expected performance is seen, and if increasing the baud rate has been tried, or is not an option, the customer is encouraged to modify the application to send the entire receipt down at the end of the transaction. With information now stored in buffered memory, the printer no longer has to wait on the application or communication interface for instructions on printing the next line. If the application does buffer the transaction in this manner, it should also be modified to be able to recover the complete transaction if necessary due to a printing problem.

Note on Cash Drawer Operation

The 7197 provides a single cash drawer port, which is the same as the 7194. The printer will support a dual drawer configuration, with a Y-cable. With the use of the Y-cable, the printer can sense that a drawer is open, but it cannot report which drawer is open. It is left to the application or device driver to keep track of which drawer was opened.

As indicated at the beginning of this document, these and other differences are documented in the NCR RealPOS 7197 Owner's Guide, available online via the Information Products web site at www.info.ncr.com.