Migration Guide

NCR 7167 SII to NCR 7169 Multifunction Printer

Release 1.0

Preface

Audience

This book is written for hardware installer/service personnel, system integrators, and field engineers.

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Revision Record

Issue	Date	Remarks
A	Jun 2019	First Issue

Introduction

The information provided in this publication is a summary of the important points to consider when transitioning from the NCR 7167 SII Printer series to the NCR 7169 Multifunction Printer.

The NCR 7169 Multifunction Printer is a new thermal receipt printer, replacing the NCR 7167 SII series. The NCR 7169 Multifunction Printer printer includes the following features:

- Prints at faster thermal speeds. Depending on the application software, its printing speed can reach up to 105 lines per second.

- Prints at faster slip speeds. Depending on the application software, its printing speed can reach up to 320 characters per second and its slip feed speed up to 16 inch per second.

- Prints 16 Grayscale logo with Watermark images

- Supports all Asian fonts

- Includes USB 2.0 High Speed Type A and Type B

- Detects thermal paper jams

- Consumes lower power during idle time

- Reduces the footprint size by approximately 10 mm

For more information, refer to the *NCR 7169 Multifunction Printer Owner's Guide* (BCC5-0000-5349), which is available online through the Information Products Publishing web site at *https://onlinehelp.ncr.com/*.

Migration Issues

For some customers who would use the 7169 printer, no additional development may be required and the printer may be deployed as a drop–in replacement for the existing 7167 printer series.

But for all customers, a thorough review of the documentation and testing of the printer in their application environments should be planned before any assumptions are made with respect to integration effort.

This section contains information about the major migration considerations identified when transitioning from the 7167 SII printer series to the 7169 printer.

Power supply

The 7169 printer supports four different power modes:

- Terminal Power Low
- Terminal Power High
- 60W Power Supply
- 75W Power Supply

The 60W and 75W external power supplies are available as kits. To use the full print speed capability of the 7169 printer, the 75W power supply needs to be used. All power modes support full–speed printing at normal graphic density. The terminal power and 60W power supply can be used, but with diminished print speed capability when printing dense graphics. The printer must be configured through the 7169's resident firmware setup menu or by using a configuration utility that identifies the type of power supply being used.

Footprint reduction

The 7169 printer's foot print and size are slightly reduced by 10mm in height and depth from the 7167 Series II. The printer dimensions have reduced from
W 196 mm x D 313 mm x H 189 mm (7167 Series II) to
W 192 mm x D 303.8 mm x H 178 mm (7169 printer).

Paper jam detection

The 7169 printer detects paper jams by monitoring the thermal paper jam sensor located at the backside of the paper platen. The sensor can detect and report the error during the initial jam or when paper starts to roll around the platen. Paper jam errors are reported to a system in the same manner as the thermal paper end error.

All Asian fonts

Both the 7169 and 7167 SII printers support all Asian fonts (Japanese, Korean, Traditional Chinese, and Simplified Chinese) for both the thermal receipt station and the slip station. In the 7167 SII printer, users would still need to download the font from the NCR product site and flash it to the printer.

The 7169 printer uses a configuration utility to set Asian font mode. Because of this new feature, an application needs to send a new parameter to specify which Asian font the printer uses when it is in Asian font mode.

Printer model ID

The following is a comparison between the status ID of the 7167 SII and the 7169 printers:

- 7167 SII printer—returns a response to the printer status ID command with either a 7158 or a 7167 signature, depending on the printer configuration setting.

- 7169 printer—returns a response to the printer status ID command with a 7169 signature.

The response is helpful to customers who are using a 3rd–party software that checks the status ID. If used, the printer setting should be set with the same default value as the 7167 SII printer.

Three–colored LED indication

The 7167 SII printer uses only a single LED color to determine its behavior. The printer status can be determined by observing if its green LED is blinking slow or fast.

The 7169 printer uses three colored LEDs in both the thermal receipt station and the slip station to determine its printer status:

LED on thermal receipt station

*   Green—indicates that the receipt thermal station is online without errors.

*   Amber—indicates that the receipt thermal station is in the recoverable error condition; for example, the receipt paper is low, the printer runs out of receipt paper, the printer cover is open, and so forth.

*   Red—indicates that the printer is in the unrecoverable error condition; for example, a memory error, and so forth. Unrecoverable error is indicated on this LED only.

LED on slip station

*   Green—indicates that the slip station is activated.

*   Amber—indicates that the slip station is in the recoverable error condition; for example, the slip paper is jammed, the slip cover or the flip cover is open, and so forth.

Each error indication in the amber and red colors has different blink patterns that enable an operator to identify the error. For more information about the blink patterns, refer to the *NCR 7169 Multifunction Printer Owner's Guide* (BCC5-0000-5349).

Compatible top margin mode

The gap between the thermal head position and paper cut position of the 7169 printer is narrower compared to the 7167 SII printer, resulting to a narrower blank space at the top of the 7169 receipt. This narrower blank space yields a paper consumption reduction of approximately 4.8mm. This feature is available only when the printer's Compatible Top Margin Mode is disabled.

If an existing application uses the blank space or pre–print data in the next transaction, it causes an unexpected result, such as a cut position issue caused by the gap difference. To avoid this issue, the 7169 printer secures the default gap size by using the firmware control. By default, the Compatible Top Margin Mode is set to *Enable*, and must not be changed so that the issue can be prevented.

Built–in cable management

The following is a comparison between the cables of the 7167 SII and the 7169 printers:

- 7167 SII printer—has an added cable restraint connected by a screw adjacent to the cable ports.

- 7169 printer—has an integrated cable restraint positioned on both sides (left and right), separating the power cable and the LAN/USB cables.

Power cable cradle

The following is a comparison between the power cable cradle of the 7167 SII and the 7169 printers:

- 7167 SII printer—can have power cable mis–orientations.

- 7169 printer—can prevent power cable mis–insertion through the self–orientation capability of the cradle.

Print head replacement (Thermal receipt station)

The print head of the 7169 printer can be easily replaced. To replace the print head, do the following:

1. Push down the lower paper guide edges until the paper guide flips.

2. Pull both print head latches to detach the print head from the main frame

3. Pull the print head out until it separates with the main frame and detach the flex cable connector.

Top cover (Thermal receipt station)

The following is a comparison between the 7167 SII and the 7169 printers when opening the top covers:

- 7167 SII printer—its latches are located in the left and right sides. Users need to open the top cover using both hands.

- 7169 printer—its latches are located at the middle of the top cover, almost near the printer mouth. Users only need one hand to open the top cover.

Knife

The following are comparisons between the knife of the 7167 SII and the 7169 printers:

	Estimated Life	Knife Type
7167 SII	About one million cuts	Scissor type **Note:** For partial cut, it leaves an uncut paper that measures **0.08 ± 0.05 in.** (2.0 ± 1.2 mm) at the right side of the receipt.
7169	About two million cuts	Guillotine type **Note:** For partial cut, it leaves an uncut paper that measures **0.08 ± 0.05 in.** (2.0 ± 1.2 mm) at the center of the receipt.

Diagnostic mode

The following is a comparison between the 7167 SII and the 7169 printers on entering the diagnostic mode:

- 7167 SII printer—enters the diagnostic mode by setting dip–switch positions and then powering on the printer while holding the feed button.

- 7169 printer—enters the diagnostic mode by powering on the printer while holding the feed button. There are no dip–switches on the 7169 printer.

Notes

This section contains additional notes about the 7169 printer components.

Printer drivers

An NCR OPOS driver (Service Object) was released for the 7169 Native Mode to support printer functionality included in the standard OPOS specification.

The 7169 Native Mode is only supported with NCR OPOS/JavaPOS Retail Controls 3.x.

This mode can be identified by a Profile Programmatic ID of NCROposSO.POSPrinter.

The 7169 Native mode is not supported in the legacy OPOS 2.x implementation which is identified with a Programmatic ID of NCRPrinter.POSPrinter.

New features such as Gray Scale Bitmap and Watermark can only be support with the 7169 Native Mode and the OPOS/JavaPOS Retail Controls 3.x.

The 7169 Model selection is available only in the OPOS versions of Retail Platform Software for Windows (RPSW) versions 4.3.2.0 and 5.3.2.0 or later.

The NCR OPOS Service Object does not permit the application to write to the user–defined memory that is now resident on the 7169 printer. This feature means that a customer checking the availability of 64KB of space on the printer for enhancements, such as printer–resident electronic journal cannot take advantage of this feature using NCR OPOS. If a customer plans to continue using their current release of the NCR OPOS Service Object, the OPOS Profile for previous single sided only multi-function printer 7167 is compatible. If the application is to be modified to take advantage of the 7169 features, the latest version of NCR OPOS should be installed and the 7169 should be selected as the printer Model.

Performance

The 7169's improved performance features a faster thermal print mechanism, where the application and driver send data to the printer, and the speed of communication is increased. The 7169 printer is capable of printing text at up to 105 lines per second, 17 percent faster than the 7167 SII printer and more than 17.5 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).

The 7169 also improved performance features in the slip station. The 7169 printer is capable of printing text at up to 320 characters per second, 6.7 percent faster than the 7167 SII printer, and capable of feeding the slip paper including the MICR read and the flip up to 16 inches per second, maximum of 167 percent faster than 7167 SII printer. Therefore, the similar consideration is required for the slip station in the application and driver.

Unsolicited status message

The Unsolicited Status Update (USU) is designed to provide updated state information from the printer to the host PC without requiring the host to request the state information. This design permits applications or intermediate drivers such as OPOS or JavaPOS Control Objects to monitor the state of the printer, and take appropriate action without periodically polling the printer to determine the current state of the printer. This function is available on the HID USB, the ION USB and the RS–232 interface.

USB Type–B support

The 7169 supports NonION (HID and Printer Class) USB and ION USB. The printer must be configured through the 7169's resident firmware setup menu to activate this interface. Default is ION USB.

The 7169 supports USB Type–B 2.0 High Speed mode and Full Speed mode. Default is Full Speed mode which has less power consumption while the printer is in idle condition.

USB Type–A support

The 7169 supports USB Type–A mass storage class. This interface is used to update the firmware, to configure the printer, and to enable ECO functions using USB memory device in off–line mode.

When the 7169 printer is connected to a system through the USB–Type–B interface, USB Type–A interface is not available even though a USB memory device is installed. USB Type–B must be disconnected when the firmware and the settings are to be updated through USB Type–A.

16 Grayscale image printing or Watermark printing

The 7169 printer supports printing a 16 grayscale image pre–registered into the memory in the thermal receipt station. Registering 16 grayscale images are available on both RAM and the flash memory up to 256K bytes. To register and print 16 grayscale images, an application needs to send the new commands.

The 7169 printer also supports Watermark functionality in the thermal receipt station. The 16 grayscale images registered into the memory can be used as Watermark. To enable Watermark and specify the 16 grayscale image file, an application needs to send the new command.

Images registered in the flash memory by legacy logo commands supported in both 7169 and 7167 SII are eliminated once a new 16 grayscale image is registered. To use these functions, the NCR OPOS software must be updated with the versions that natively support the 7169 printer, and profiles created with the configuration of Grayscale and Watermark.

Improvement in energy efficiency

To improve its Energy Efficiency, the 7169 printer supports the following modes:

- Standby Mode—By default, this mode is set to *Enable*. Whenever the printer is in idle condition, it goes to Standby Mode which reduces the power consumption. It returns to the normal mode as soon as print data is received. This function is automatically controlled by the printer. A running application should work without being affected. The power consumption of the 7169 in Standby Mode is improved by 30 percent compared to the 7167 SII.

- Power–Off Mode—By default, this mode is set to *Disable*. The power consumption of the Power–Off Mode is almost the same as the power–off condition. To activate this mode, the printer must be configured through the 7169's resident firmware setup menu. Once it is set up, the printer goes to the Power–Off mode when the specified time passes the idle condition. To exit this mode, an operator needs to press the form feed key. From an application, this mode has the same condition as the printer power–off condition.