



I60.15.x and I60.13.x Summary of Firmware Changes

This document summarizes the following I60.13.x firmware releases:

Firmware Release Number	Release Date	See Page
I60.15.0A	3 March 2008	page 1
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I60.15.0A

Release Date: 3 March 2008

This APL-I firmware release is for use with the following 203 dpi printer models:

- Z4Mplus™
- Z6Mplus™
- 110XiIIIPlus™
- 105SL™
- 140XiIIIPlus™
- 170XiIIIPlus™
- 220XiIIIPlus™
- PAX4 Series



Important • After 31 March 2006, the XiIIIPlus, 105SL, and Z Series APL-I supporting printers will no longer accept versions of firmware created before 31 March 2006 or any versions based on those versions of code. Refer to [Using Older Firmware on Newer Printers on page 9](#) for more information.



Important • Before you attempt to download firmware version I60.x to a 105SL printer, please note that this firmware version cannot be used in 105SL printers that have any of the following:

- a Hardware ID of V06 or V07,
- existing firmware version V40.10.1 and lower, or
- a configurator number beginning with 105xx-0xxx-xxx or 105xx-1xxx-xxxx.

To determine your printer's Hardware ID and firmware version, locate **HARDWARE ID** and **FIRMWARE** on the configuration label. To print a configuration label, have the printer loaded and ready to print. Press and hold the CANCEL button while turning on the printer. Release the button after approximately three seconds. If the **HARDWARE ID** shows versions V06 or V07 (found on some older 105SL models), please contact apl-I@zebra.com for information on upgrading to I60.x.



Note • Zebra does not distribute the files necessary to change the Hardware ID on a printer.

Issues Corrected

- Double quote characters no longer printed when not specified in the format.
- A reversed box now prints at correct size.
- When an error code request command is sent to the printer, the correct error codes now return.

I60.15.0

Release Date: 14 January 2008

This APL-I firmware release is for use with the following 203 dpi printer models:

- Z4Mplus™
- Z6Mplus™
- 110XiIIIPlus™
- 105SL™
- 140XiIIIPlus™
- 170XiIIIPlus™
- 220XiIIIPlus™
- PAX4 Series



Important • After 31 March 2006, the XiIIIPlus, 105SL, and Z Series APL-I supporting printers will no longer accept versions of firmware created before 31 March 2006 or any versions based on those versions of code. Refer to [Using Older Firmware on Newer Printers on page 9](#) for more information.



Important • Before you attempt to download firmware version I60.x to a 105SL printer, please note that this firmware version cannot be used in 105SL printers that have any of the following:

- a Hardware ID of V06 or V07,
- existing firmware version V40.10.1 and lower, or
- a configurator number beginning with 105xx-0xxx-xxx or 105xx-1xxx-xxxx.

To determine your printer's Hardware ID and firmware version, locate **HARDWARE ID** and **FIRMWARE** on the configuration label. To print a configuration label, have the printer loaded and ready to print. Press and hold the CANCEL button while turning on the printer. Release the button after approximately three seconds. If the **HARDWARE ID** shows versions V06 or V07 (found on some older 105SL models), please contact apl-I@zebra.com for information on upgrading to I60.x.



Note • Zebra does not distribute the files necessary to change the Hardware ID on a printer.

New Features

Support added for:

- The Wireless Plus option board for the 105SL, PAX4 and XiIIIPlus printers.
- The Cisco™ CB21 802.11b/g card, when used with the Wireless Plus option board.
- New Wireless Securities (see compatibility chart below):
 - PEAP
 - EAP-TLS
 - EAP-TTLS
 - EAP-FAST
 - WPA PSK
 - WPA2 PSK
 - WPA PEAP
 - WPA LEAP
 - WPA EAP-TLS
 - WPA EAP-TTLS
 - WPA EAP-FAST
 - Kerberos
 - WPA2 PSK
 - WPA2 PEAP
 - WPA2 LEAP
 - WPA2 EAP-TLS
 - WPA2 EAP-TTLS
 - WPA2 EAP-FAST
- Wireless Set/Get/Do commands, allowing for configuration of wireless settings using Set/Get/Do command strings.
- The Wireless Plus option board firmware has been updated to version 2.1.1761.
- A network configuration is available for wireless and internal wired printservers on the Xi3Plus, ZxMplus, 105SL and PAX4 series printers.
- Eight simultaneous connections for printing via wireless (raw port)
- Updating the Wireless Plus option board when printer firmware is updated. Users will see a **Downloading Firmware** message and status message for both the printer and Wireless Plus option board firmware downloads
- A Wireless Pulse feature, which sends a LSAP packet at a regular interval, has been added.
- The data LED flashes in response to the receipt of data, not to the receipt of each wireless packet

- NOTE: IPP, HTTP, FTP, POP3 and SNMP are not supported on the Wireless/Wireless Plus option boards. Raw printing to port 9100 is supported.
- LCD layout for Wireless Plus Print Server settings:**

LCD Layout
IP PROTOCOL
IP ADDRESS
SUBNET MASK
DEFAULT GATEWAY
MAC ADDRESS
ESSID
WLAN SECURITY
WEP TYPE
WEP INDEX
RESET NETWORK

**WEP TYPE and WEP INDEX only display when the WEP security type is used.

Issues Corrected

- Stored formats are retained after cycling power.
- Text centered in the middle of an inversed rectangle is now positioned correctly.
- Variable data will be assigned to the correct fields when some fields in the format are not populated with data.
- Characters in Code Page 850 now print correctly.
- Formats can be recalled and printed without a power cycle.
- The less than symbol (<) and subsequent text now print correctly.
- The top of form adjustment command now works correctly.
- Fields in a format named using the asterisk character now print correctly.
- When all parameters are not specified, user defined fonts now print.

Table 1 • Wireless Plus PrintServer Security Support

Securities Supported	Cisco CB21 (CardBus)	Cisco 350 (PCMCIA)	LA-4121 (PCMCIA)	LA-4137CF (Compact Flash)
Open	Yes	Yes	Yes	Yes
KERBEROS	Not Supported	Not Supported	Yes	Yes
WEP 40-bit & 128-bit	Yes	Yes	Yes	Yes
LEAP	Yes	Yes	Yes	Yes
PEAP	Yes	Not Supported	Yes	Yes
EAP- FAST	Yes	Not Supported	Yes	Yes
EAP-TLS	Yes	Not Supported	Yes	Yes
EAP-TTLS	Yes	Not Supported	Yes	Yes
WPA PSK	Yes	Yes	Yes	Yes
WPA LEAP	Yes	Yes	Yes	Yes
WPA PEAP	Yes	Yes	Yes	Yes
WPA EAP- FAST	Yes	Yes	Yes	Yes
WPA EAP-TLS	Yes	Yes	Not Supported	Yes
WPA EAP-TTLS	Yes	Yes	Not Supported	Yes
WPA2 PSK	Yes	Not Supported	Not Supported	Not Supported
WPA2 LEAP	Yes	Not Supported	Not Supported	Not Supported
WPA2 PEAP	Yes	Not Supported	Not Supported	Not Supported
WPA2 EAP- FAST	Yes	Not Supported	Not Supported	Not Supported
WPA2 EAP-TLS	Yes	Not Supported	Not Supported	Not Supported
WPA2 EAP-TTLS	Yes	Not Supported	Not Supported	Not Supported

Wireless Notes

The following items are issues Zebra has noted during testing with various wireless networking products:

- Conflicts can exist between the Symbol LA-4137CF and some Cisco Access Points. This is characterized by the RF card reaching the Maximum Retry timeout.
- Conflicts can exist between the 802.11B Symbol LA-4137CF and 802.11G support on some Access Points. One potential work-around is to disable G support on the Access Point.
- It is recommended to set WPA Handshaking to 1000.
- It is recommended to disable the Aironet Extensions.
- It is recommended to use Cisco Access Point firmware 12.3(8)JAE1 or later.

I60.13.0.4

Release Date: 27 April 2006

This APL-I firmware release is for use with the following 203 dpi printer models:

- Z4Mplus™
- Z6Mplus™
- 110XiIIIPlus™
- 105SL™
- 140XiIIIPlus™
- 170XiIIIPlus™
- 220XiIIIPlus™



Important • After 31 March 2006, the XiIIIPlus, 105SL, and Z Series APL-I supporting printers will no longer accept versions of firmware created before 31 March 2006 or any versions based on those versions of code. Refer to [Using Older Firmware on Newer Printers on page 9](#) for more information.



Important • Before you attempt to download firmware version I60.x to a 105SL printer, please note that this firmware version cannot be used in 105SL printers that have any of the following:

- a Hardware ID of V06 or V07,
- existing firmware version V40.10.1 and lower, or
- a configurator number beginning with 105xx-0xxx-xxx or 105xx-1xxx-xxxx.

To determine your printer's Hardware ID and firmware version, locate **HARDWARE ID** and **FIRMWARE** on the configuration label. To print a configuration label, have the printer loaded and ready to print. Press and hold the CANCEL button while turning on the printer. Release the button after approximately three seconds. If the **HARDWARE ID** shows versions V06 or V07 (found on some older 105SL models), please contact apl-I@zebra.com for information on upgrading to I60.x.



Note • Zebra does not distribute the files necessary to change the Hardware ID on a printer.



Note • I60.13.0.3 was not released.

Issues Corrected

- Removed unsupported wireless menu options. Wireless is not an available feature with APL-I firmware installed.
- Removed unsupported Twinax/Coax option from the front panel menu.
- Added the Y FORMS ADJUST value to the APL-I SW SETUP Software Configuration label.
- Corrected an issue that caused Y FORMS ADJUST to be set back to 0 after printing any configuration labels.
- Corrected an issue with Y FORMS ADJUST that caused labels in a multiple label batch to become unreadable.

- Added correction to properly identify flash memory.
- Corrected an issue that prevented downloaded bitmap fonts from printing correctly when an ATA type B: memory card is inserted.
- Corrected an issue that caused incorrect graphics to print when a B: memory card was inserted into the printer.
- Corrected an issue that caused the printer to switch from ASCII mode to binary mode, and the printer would not properly receive an end of text (ETX) character.
- INIT FLASH MEM now properly deletes contents that previously had remained in R: memory.
- INIT FLASH now properly deletes stored formats and pages.
- Corrected formatting to have 3 characters for resolution and left justify.
- Corrected an issue with recalling data correctly.
- Fields recalling data from other fields now work correctly after power up.
- Emulation Mode setting is now saved after power cycle.
- Corrected an issue that caused the printer to continuously cycle power.
- Corrected an issue with direct graphics mode which prevented some graphics from printing correctly.
- The Barcode Interpretation field now moves correctly with Y FORMS ADJUST.
- Corrected an issue which allowed the strings <SUB><DLE><DLE><SUB><DLE><DLE> and <SUB><DLE><DLE><DLE><DC1> to reset the printer.
- Corrected an issue that prevented the DATA CAPTURE option from properly capturing all data sent to the printer.
- Corrected an issue that prevented the printer from taking up the entire media slack and rewinding all media.
- Corrected an issue with barcode interpretation characters printing in the wrong location.
- Corrected an issue which could prevent the LPT-port from working properly.
- Corrected the Software Configuration label so that listed fonts and graphics no longer overlap.
- Software Configuration, Hardware Configuration, and Print Quality labels now print in the same orientation when printed using the Printer Front Panel options or sending their print commands.

I60.13.0.2

Release Date: 31 March 2006

This APL-I firmware release is for use with the following 203 dpi printer models:

- Z4Mplus™
- Z6Mplus™
- 110XiIIIPlus™
- 140XiIIIPlus™
- 170XiIIIPlus™
- 220XiIIIPlus™
- 105SL™



Important • After 31 March 2006, the XiIIIPlus, 105SL, and Z Series APL-I supporting printers will no longer accept the I60.13.0.2 versions of firmware and below as well as any versions based on these versions of code. Refer to [Using Older Firmware on Newer Printers on page 9](#) for more information.



Important • Before you attempt to download firmware version I60.x to a 105SL printer, please note that this firmware version cannot be used in 105SL printers that have any of the following:

- a Hardware ID of V06 or V07,
- existing firmware version V40.10.1 and lower, or
- a configurator number beginning with 105xx-0xxx-xxx or 105xx-1xxx-xxxx.

To determine your printer's Hardware ID and firmware version, locate **HARDWARE ID** and **FIRMWARE** on the configuration label. To print a configuration label, have the printer loaded and ready to print. Press and hold the CANCEL button while turning on the printer. Release the button after approximately three seconds. If the **HARDWARE ID** shows versions V06 or V07 (found on some older 105SL models), please contact apl-I@zebra.com for information on upgrading to I60.x.



Note • Zebra does not distribute the files necessary to change the Hardware ID on a printer.

New Features

- Implementation enables supported printers to accept IPL code only. The printer will no longer respond to ZPL.
- Most functions of the Intermec 3400D are fully supported, and available documentation specifies which commands are supported.
- This firmware is intended to allow the supported Zebra printer to function as a drop-in replacement for Intermec 3400 printers. Formats for other models such as 86xx may work as well. If formats printed with Zebra printers are not acceptable, contact apl-I@zebra.com for possible firmware enhancements.
- This version offers limited support for printing to Zebra Wired Print Servers. It does not support Wireless printing.

Issues Corrected

- In firmware I60.13.0.1 some direct graphics fields were shifted one label length. This was corrected and direct graphics fields print in the proper position. Also, the Repeat Last Line command, 0x24, was not drawing the lines to be repeated. This was corrected so that graphics do not have blank vertical lines where this command is called.
- In firmware I60.13.0.1, when APL-I was selected for software handshaking, an unsolicited <DC3> status character was sent after <ETX> characters. This was corrected so that status characters are returned when appropriate.
- In firmware I60.13.0.1, the Printhead Loading Mode, Select command (<SI>h) returned an incorrect parameter when the Configuration Parameters, Transmit (<ESC>p) command was used. The transmitted string was always <SI>h0 , 1, indicating that inverse printing mode was selected, when it was not. This was corrected and now the default transmitted string is <SI>h0 , 0 and inverse printing mode is checked correctly.
- In firmware I60.13.0.1, the form feed command (<FF>) always fed a full label length, past the next label gap when a label format did not take up the area of an entire label. This was corrected and now the media feeds to the next label gap.
- In firmware I60.13.0.1, immediate APL-I commands included in formats might have been executed twice. This was corrected so that these commands are only executed once. The immediate commands include:
 - Abort Print Job
 - <BEL> Error Code, Request
 - <ESC>L Label and Gap Length, Transmit
 - <ESC>Q Remaining Quantity and Batch Count, Transmits Reset
 - <DLE> Reset
 - <VT> Status Dump
 - <ENQ> Status Enquiry

Using Older Firmware on Newer Printers

Effective 31 March 2006, Zebra will no longer offer ZBI functionality. After 31 March 2006, Zebra will no longer make, distribute, or support firmware with ZBI functionality on any new products. Printers made after 31 March 2006 will no longer accept firmware created before March 31st 2006. After 01 September 2006, all support for ZBI functionality on all products will end.

When firmware released prior to 31 March 2006 is downloaded to a printer manufactured after that date, the printer will remain in **DOWNLOAD MODE** until the appropriate updated firmware is downloaded to the unit. Updated firmware is available at www.zebra.com/firmware. The functionality and version numbers of the updated firmware are unchanged.

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Using Older Firmware on Newer Printers

Printers manufactured after 31 March 2006 can be identified in the following way:

Printer Model	Serial Numbers Above:	Hardware ID*
110XiIIIPlus™ 203 dpi	91C06150075	V34
140XiIIIPlus™ 203 dpi	8592452	V34
170XiIIIPlus™ 203 dpi	7078373	V34
220XiIIIPlus™ 203 dpi	2058243	V34
Z4Mplus™ 203 dpi	02C06150517	V34
Z6Mplus™ 203 dpi	02C06150517	V34
105SL™ 203 dpi	6512869	V34

* To locate your printer's Hardware ID, print a configuration label.

For support, please visit www.zebra.com/support or reference the contact options below

Geographic Location	Telephone	Toll-free	FAX
The Americas	+1-847-793-5585	+1-866-515-2485	—
Asia Pacific	+65-6858-0722	—	+65 6885 0838
Europe, Africa, Middle East, India	Please contact your supplier.		