



V77.20.01Z

Summary of Firmware Release Notes

This document summarizes the following firmware releases:

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For support, please visit www.zebra.com/support.

V77.20.01Z

Release Date: 14 October 2016

This firmware includes all features of the previous [V77.19.17Z](#) release, except where noted otherwise. It is for use with the following printer models:

- ZD410™
- ZD420™

Changes

- Link-OS version updated to v4.0.
- Support has been added for a Visibility Agent. This new feature can connect a networked Link-OS printer to Zebra's Asset Visibility Service (AVS). The Asset Visibility Service is a Zebra-managed service offering that provides Zebra partners and customers 'at-a-glance' visibility to analytical insights about their device health, utilization, and performance. When Link-OS v4 printers are connected to a wired or wireless network, they will attempt to connect to the Asset Visibility Service by default. When successfully connected, the printer sends approximately 5 Kbytes of data per day (depending on how many alert events happen per day).
 - Data printed on any labels, tags or receipts are not transmitted to the Asset Visibility Service. The printers only communicate predefined settings on a scheduled basis. The printer sends Discovery Data and Settings and Alerts Data. The settings that are transmitted are listed below in the form of Set-Get-Do commands and are detailed in the Zebra Programming Guide.
 - The printer uses an encrypted, certificate-authenticated web socket connection to connect to the ZPC. **NOTE:** This is the same connection type that is typically used when you connect to an e-commerce or banking site.
 - The Visibility Agent can be turned off via the printer's web pages or front panel. See the Application Note "Opting Out of the Asset Visibility Agent" included with this firmware download and posted on www.zebra.com.

- The Visibility Agent can be turned off using a Set-Get-Do Command. Using your preferred software or Zebra Setup Utilities, send the commands below to configure and validate the Asset Visibility Agent settings. You can download Zebra Setup utilities at <https://www.zebra.com/setup>.

weblink.zebra_connector.enable

Turns the Asset Visibility Agent on or off. Additional information can be found in the App Note. See <https://www.zebra.com/us/en/products/software/barcode-printers/link-os/application-notes.html>.

Values: "on" or "off"

Default Value: "on"

To send the commands:

- Send the following command to Opt Out (disable the connection to ZPC and the Asset Visibility Service):

```
! U1 setvar "weblink.zebra_connector.enable" "off"
```

- Send the following command to validate that you have opted out:

```
! U1 getvar "weblink.zebra_connector.enable"
```

The printer should respond with "off".



Important • Be sure to include a carriage return/line feed after sending a command to the printer.

If the Visibility Agent is on, there are two data types that the printer can send to the AVS platform – **Discovery Data** and **Setting/Alert Data**.

Discovery Data

This information is sent when the printer connects to the ZPC. The following printer settings are transmitted:

Printer Settings		
device.unique_id	media.type	device.oem.model_name
ip.dns.domain	media.thermal_mode	appl.name
ip.active_network	media.printmode	device.location
mac_raw	odometer.total_label_count	zpl.system_status
ip.protocol	odometer.media_marker_count1	ip.addr
ip.netmask	odometer.media_marker_count2	ip.ftp.enable
ip.gateway	label_queue.batch_label_cnt	ip.lpd.enable
ip.port	label_queue.format_counter	ip.tcp.enable
device.pnp_option	zbi.enabled	ip.udp.enable
device.languages	zbi.state	ip.http.enable
device.cpcl_formatting_commands_disable	zbi.revision	ip.smtp.enable
head.resolution.in_dpmm	head.width.in_dots	ip.pop3.enable
zpl.label_length	ip.port_json_config	ip.snmp.enable
ezpl.print_width	appl.link_os_version	ip.telnet.enable
media.darkness.mode	device.friendly_name	weblink.enable

Settings and Alerts Data

This information is sent by the printer at the schedule listed in the table below. The following printer settings or alerts are transmitted:

Printer Settings		
At connection:	At connection:	When the Alert occurs:
weblink.zebra_connector.version	device.bluetooth_installed	PAPER OUT
device.product_name	odometer.media_marker_count	RIBBON OUT
print.tone_format	media.type, ezpl.media_type	HEAD ELEMENT BAD
power.percent_full	interface.network.active.speed	SUPPLY TOO HOT
power.serial_number_string		HEAD OPEN
power.manufacture_date		HEAD COLD
power.cycle_count	Every Hour:	HEAD TOO HOT
power.device_name	power.percent_full	CUTTER JAMMED
power.full_charge_capacity	wlan.signal_strength	COLD START
power.date_first_used	odometer.total_print_length	
interface.network.active.ip_addr	interface.network.active.speed	
wlan.signal_strength		Once A Day:
odometer.total_print_length		power.cycle_count
odometer.rfid.valid_resetable	Every 6 Hours:	power.device_name
odometer.rfid.void_resetable	print.tone	power.full_charge_capacity
memory.flash_size	print.tone_zpl	odometer.total_label_count
memory.flash_free	media.speed	odometer.rfid.valid_resetable
device.ltu_installed	zpl.label_length	odometer.rfid.void_resetable
device.cutter_installed		memory.flash_free
device.rewinder_installed		odometer.media_marker_count
		media.type
		ezpl.media_type

Changes (continued)

- Web sockets connections now support SHA2 certificates. The printers will continue to support SHA1 certificates until Link-OS v5 is released (in 2017). At that time, the printers will no longer support SHA1 certificates, in accordance with privacy best practices.
- New Set-Get-Do Commands were implemented. Refer to the Zebra Programming Guide for details on each command.
 - head.resolution.in_dpi
 - file.capture_response.begin
 - file.capture_response.end
 - file.capture_response.destination
 - device.command_override.add

- `device.command_override.clear`
- `device.command_override.list`
- `device.command_override.active`
- `weblink.zebra_connector.version`
- `weblink.zebra_connector.enable`
- `weblink.zebra_connector.proxy`
- `weblink.zebra_connector.authentication`
- `weblink.zebra_connector.authentication.add`
- `weblink.zebra_connector.authentication.remove`
- `weblink.zebra_connector.authentication.entries`
- `wlan.wpa.timecheck`
- `wlan.rts_cts_enabled`
- `display.batch_counter`
- `device.set_clock_to_build_date`

Issues Corrected

- The printer will report error code 81 during a paper jam in response to the EPL command `^ee`.
- When using the Dual Radio, the Bluetooth radio will remain active even if the WLAN radio is not.
- The SNMP `zbraOptUnsAlertCondition` and `zbrOptUnsAlertsEntry` response strings have been extended to include 1023 characters.
- SNMP Print Job Completed reporting has been enhanced when using the Pause Alert.
- The ZBI `WRITE` command has been corrected to count all data written to the system.
- The EPL `URH` and `URL` commands will now return a value in meters.
- The Mirror system timing has been altered to include a retry, so as to improve file writing performance.
- EPL has been enhanced to handle images larger than the label size.
- The command `zpl.zpl_override` has been eliminated; use the `device.command_override` commands instead.
- The Mirror system will now accept the return code `125` in addition to the return code `150`, in order to support IIS7 and FileZilla servers.
- Firmware updating when using both Profile Manager and either IIS7 or FileZilla has been optimized to avoid conflicts.
- Wi-Fi roaming and Protected Management Frames (PMF) support have been improved.
- Memory management during printing has been optimized for cases where a `.TTF` font, graphics, and inverted orientation printing are being used.
- The JSON implementation of the `usb.mirror.feedback.odometer` and `ip.mirror.feedback.odometer` commands now have values of `READ_WRITE_ACCESS`.

- The JSON implementation of the `zbi.state` command has been changed from a string type to an enum type.
- The EPL command `oR0,0` is now supported..
- Socket connections on ZBI have been optimized to avoid a connection not ending when it should.
- The JSON implementation of `interface.network.active.speed` is now treated as an integer.
- The Tear-Off adjust command setting will be used after a power cycle if Media Power Up is set to No Motion.
- The `ribbon.cartridge` SGD commands have been corrected to offer the correct range information.
- APPLICATOR mode will be offered and selectable, and the printer will use APPLICATOR paper movement behavior while in the mode; however since the printer does not have an applicator option, the printer will not wait for applicator signals.
- The range for `ip.discovery.port` is now 1 - 65535.
- The range for `zpl.label_length` has been corrected in the allconfig.

V77.19.17Z

Release Date: 18 April 2016

This firmware includes all features of the previous [V77.19.16Z](#) release. It is for use with the following printer models:

- ZD410™
- ZD420™

Changes

- The ZD420 is now supported.

Issues Corrected

- Improved handling with synthetic media.

V77.19.16Z

Release Date: 12 February 2016

This firmware includes all features of the previous [V77.19.14Z](#) release. It is for use with the following printer models:

- ZD410™
- ZD420™

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V77.19.14Z

Changes

- The ZD420 is now supported.

Issues Corrected

- The performance of the EPL command GW has been optimized.

V77.19.14Z

Release Date: 18 December 2015

This is the initial release of this firmware. It is for use with the following printer models:

- ZD410™

Changes

- This is the initial release of this firmware.