TC8000 OPERATING SYSTEM LOLLIPOP REV A V22.06 NON-GMS RELEASE NOTES

INTRODUCTION

What makes TC8000 so special? Everything. It's the ground-breaking all new warehouse mobile computer designed to deliver revolutionary productivity increases in the warehouse. In fact, on average, it saves 14% per worker versus the traditional form factors. It's the only device in the market that simplifies it all — how your workers physically use the device and interact with your warehouse application. TC8000 minimizes motion with an innovative scan angle that eliminates the thousands of times your workers need to tilt their device to see the screen. We integrated flexible handheld and hands-free scanning for an extra productivity boost — another industry handheld first. It's an amazing 33 percent lighter than the traditional device to minimize fatigue. Then we did something completely unprecedented by a device manufacturer — we integrated a tool that allows you to automatically transform your legacy Terminal Emulation (TE) "green screens" into elegant, graphics-based All-touch TE screens that are not only highly intuitive, but also dramatically reduce the number of interactions required to complete a task — no coding and no modifications to your host application are required. The result? Less time to complete the job and increased productivity. The TC8000 — the next big thing in warehouse mobility, only from Zebra.

- 802.11a/b/g/n connectivity for anywhere, anytime access to information

- Zebra's Mobility Extensions (Mx)

- Mobility DNA, a suite of mobility enabling applications, development tools and utilities

- Most advanced scan engine with longer range date capture capability

- Rugged and ready for every day enterprise use inside and outside the four walls

Standard SKUs have 1GB RAM, 4GB/8GB Flash. Premium SKUs have 2GB RAM, 16GB Flash and adds a gyroscope, e-compass, camera, and NFC

DESCRIPTION

ZEBRA TC8000 Lollipop REV A v22.06 with **Non-GMS**

Special Notes:

·   This software supports SE4850 scan engine.

·   The first upgrade from Android KitKat to Lollipop will take longer than previous software updates at about 8 minutes, due to boot-up time of 7 minutes. This is due to Android Lollipop pre-optimization, whereby the Applications/Settings will be initiated on boot-up.

·   Boot-up time is expected to be longer when performing reboot after Factory Reset or Enterprise Reset because of the reasons stated above.

·   Lollipop has built-in mechanism to update the scanner firmware automatically..

COMPONENT DESCRIPTION AND VERSIONS

Component / Description	Version
Product Build Number	01-22-06-L-00-A
Finger Print ID	Zebra/TC8000/TC8000:5.1.1/01-22-06-L-00-A/211:user/release-keys
Android Version	5.1.1
Android security patch level	2016-11-01
Linux Kernel	3.4.0
Android SDK Level	22
Platform	Qualcomm - APQ8060A Pro
Flash Size	4GB/8GB/16GB
RAM Size	1GB/2GB
MSP Package	7.08.85 (Included for Airwatch support only)

Scanning	16.10.43.0
Datawedge	6.0.18
Mx / OSX	MXMF version:6.1.1.0 / OSX 51.5.2.9
Wi-Fi	FUSION_QA_2.00.0.0.012
Mlog	MLogPackage v06.54 / MLogManager v06.54 / Service v06.54
PTT Express	3.1.27
EMDK Service	6.0.6.306
SimulScan	2.6 SimulScanEngine 1.13.6
RxLogger	4.58.5.0
Touch FW	TTDA.03.04.721053 FW:2.0.860395, TTCONFIG-0017
Zebra Volume Control	1.1.23
B2M	1.0.0.332
Bluetooth Pairing Utility	3.7
DataAnalytics	1.0.2.1768
File Browser	1.17
Stage Now	2.5.1.1037
App Gallery	2.8.4.12
WLAN FW	MAAAAANAZW1240301
NFC	2.0.0.14
Sensors (Accel, Gyro, Light, Prox)	1

MobiControl	12.2.0. Build 23469
Wavelink Velocity	1.2.101
Print Station	1.3
Tap and Pair	2.0
Zebra Utilities	2.1.2800

CONTENTS

File	Description
T8KN0LXXVRGEF02206.zip	Full Software Update
T8KN0LXXVREXX02206.zip	Enterprise Reset - Wipes all partitions/data except Enterprise folder/partition & On Device Storage (/sdcard)
T8KN0LXXVRFXX02206.zip	Factory Reset - Wipes all partitions/folders including enterprise but except On Device Storage (/sdcard)
T8KN0KEXVRDEF10071.zip	Non-GMS KitKat downgrade package with Enterprise reset v01.71
T8KN0LXXVAGEF02206.apf	Used by MSP/AW – Full Package update
T8KN0LXXVAEXX02206.apf	Used by MSP/AW – Enterprise reset
T8KN0LXXVAFXX02206.apf	Used by MSP/AW – Factory reset
T8KN0L5XXRPXX02206.zip	Scanner Patch – **ONLY** for **SE4850** Scanner Engine terminals. Should not be used on other scanner terminals.

DEVICE COMPATIBILITY

This software release has been approved for use with the following Zebra devices.

Device	Operating System
TC80N0-A000K110NA	Android 4.4.3, Android 5.1.1
TC80N0-1000K210NA	Android 4.4.3, Android 5.1.1
TC80N0-2000K210NA	Android 4.4.3, Android 5.1.1

TC80N0-3000K210NA	Android 5.1.1
TC80N0-A001K31CNA	Android 4.4.3, Android 5.1.1
TC80N0-1001K31CNA	Android 4.4.3, Android 5.1.1
TC80N0-2001K31CNA	Android 4.4.3, Android 5.1.1
TC80N0-3001K31CNA	Android 5.1.1
TC80NH-A101K320NA	Android 4.4.3, Android 5.1.1
TC80NH-1101K420NA	Android 4.4.3, Android 5.1.1
TC80NH-2101K420NA	Android 4.4.3, Android 5.1.1
TC80NH-3101K420NA	Android 5.1.1
TC80N0-1101K42ENA	Android 4.4.3, Android 5.1.1
TC80N0-A000K110IN	Android 4.4.3, Android 5.1.1
TC80N0-1000K210IN	Android 4.4.3, Android 5.1.1
TC80N0-2000K210IN	Android 4.4.3, Android 5.1.1
TC80N0-3000K210IN	Android 5.1.1
TC80N0-A001K31CIN	Android 4.4.3, Android 5.1.1
TC80N0-1001K31CIN	Android 4.4.3, Android 5.1.1
TC80N0-2001K31CIN	Android 4.4.3, Android 5.1.1
TC80N0-3001K31CIN	Android 5.1.1
TC80NH-A101K320IN	Android 4.4.3, Android 5.1.1
TC80NH-1101K420IN	Android 4.4.3, Android 5.1.1
TC80NH-2101K420IN	Android 4.4.3, Android 5.1.1

TC80NH-3101K420IN	Android 5.1.1
TC80N0-1101K42EIN	Android 4.4.3, Android 5.1.1
TC80NH-2101K42ENA	Android 4.4.3, Android 5.1.1
TC80NH-2101K42EIN	Android 4.4.3, Android 5.1.1
TC80NH-1102K420NA	Android 5.1.1
TC80NH-3102K420NA	Android 5.1.1
TC80NH-1102K420IN	Android 5.1.1
TC80NH-3102K420IN	Android 5.1.1
TC80NH-1101K42ENA	Android 4.4.3, Android 5.1.1
TC80NH-1101K42EIN	Android 4.4.3, Android 5.1.1

INSTALLATION REQUIREMENTS

This Software is compatible for above listed devices.

INSTALLATION INSTRUCTIONS

KitKat/Lollipop to Lollipop Installation Instructions
1.   Plug the TC8000 to the USB Cable and then the Cable to the PC. If you have a Cradle with USB connectivity, connect it.

2.   You will be connected as a media device.

3.   Download following packages

   a.   T8KN0LXXVRGEF02206.zip (Full Package Update v22-06)

   b.   T8KN0LXXVRFXX02206.zip (Factory Reset Package v22-06)

   c.   T8KN0LXXVREXX02206.zip (Enterprise Reset Package v22-06)

4.   Now, copy the .zip files (and the Optional files too) to your TC8000's storage.

5.   You will need to put your device into Recovery Mode.

    a.   Hold the Power Key until "Reset" option appears, then release the power key

    b.   Tap the "Reset" option in the menu and then immediately hold the "Power key" and "Scan Key" until the Zebra boot screen is displayed.

    c.   Once on the Recovery Screen, scroll down using "Volume Keys" +/- to the location where you copied the files and press the "Scan Key"

    d.   Follow same procedure and select the T8KN0LXXVRGEF02206.zip (the Full Package Update v22-06), with "Scan Key"

    e.   Upon completion, you will be back at the Recovery Mode screen.

    Note: Since Partition has changed, system by default will not backup user data partition. To end user this is similar to Enterprise Reset.
    f.   The following is required only if you are switching between GMS and Non-GMS software or while upgrading to Lollipop, otherwise this step is not required.
        ·   If you are updating the device from Non-GMS to GMS or vice-versa, it is required to perform a factory reset (using T8KN0LXXVRFXX02206.zip), this will give complete OOB experience or at minimum it is required to do an enterprise reset. (using T8KN0LXXVREXX02206.zip).

    g.   If you are going to install the optional packages, then do so now with the same procedure used above.

    h.   Upon completion of all of the updates, you will be back at the Recovery Mode screen. Select, "reboot system now" with the "Scan Key", you will see it reboot, then you will see "Android is upgrading…" and then you will see the Home screen.

6.   Go to "Settings" and scroll down to "About Device" and look at the "Build number". It should end with "01-22-06-L-00-A". Now, you can start using TC8000 with the updated OS.

Please manually set the date and time. Go to "Settings" and scroll down to "Date & time" and set the correct date and time by unchecking "Automatic date & time" and "Automatic time zone". Then select "Select time zone" to setup your time zone. Select "Set date" and setup the date. Select "Set time" to setup the time. Finally, put check marks back in "Automatic date & time" and "Automatic time zone".

7.   Now you are all set to use your updated TC8000 with Non-GMS.

Lollipop to KitKat Downgrade Instructions

1.   Plug the TC8000 to the USB Cable and then the Cable to the PC. If you have a Cradle with USB connectivity, connect it.

2.   You will be connected as a media device.

3.   Download following package

   a.   T8KN0KEXVRDEF10071.zip (the Full Package Update),

4.   You will need to put your device into Recovery Mode.

   a.   Hold the "Power Key" until "Reset" option appears and then release

   b.   Tap "Reset" and then immediately hold the "Scan Key" until recovery mode is initiated (Let go after you feel the vibration)

   c.   Once on the Recovery Screen, scroll down using "Volume Keys" +/- to the location where you copied the files and press the "Scan Key"

   d.   Scroll down using "Volume Keys" +/- and select T8KN0KEXVRDEF10071.zip (the Full Package Update) with the "Scan Key"

   e.   Enterprise Reset will be done once OS update process is done.

   f.   Upon completion of installation, you will be back at the Recovery Mode screen. Select, "reboot system now" with the "Scan Key"

5.   Go to "Settings" and scroll down to "About Device" and check the "Build number". It should end with "01-23257-K-01-71-00-MV". Now you can start using the TC8000.

Please manually set the date and time. Go to "Settings" and scroll down to "Date & time" and set the correct date and time by unchecking "Automatic date & time" and "Automatic time zone". Then select "Select time zone" to setup your time zone. Select "Set date" and setup the date. Select "Set time" to setup the time. Finally, put check marks back in "Automatic date & time" and "Automatic time zone".

6.   Now you are all set to use your updated TC8000 with KitKat Non-GMS.

NOTE: Downgrade to KitKat for Kepler scan engine and 2GB RAM premium devices are restricted.

FEATURE ADDED/SUPPORTED

SPR fixes:

SPR Number	Details
28643	Device will not download the regulatory aka country information if any channels not supported by the device are advertised by the access point. Fix is part of WLAN Stack
29582	Unable to decode certain UPCE1 barcodes. The issue is fixed in scanner driver.
29035	Added fullfactoryreset command in fastboot mode to support wiping internal storage
29135	WLAN Signal strength is not reported remotely when the Display screen goes off. Fixed as part of WLAN stack.
29798	Datawedge Intents does not work when using Animations or Iframes. Fix is part of chromium apk.

Component Release Notes (only major features since last release):
 Fusion_QA_2.00.0.0.012
Change Details

· Fixed DUT failing to roam in Aruba Infrastructue

· Fix for Scanner (Camera & Imager) is not getting initialized after flashing the device

· Fix for TC8000 Device not updating scan results and not able to connect any profiles from UI while doing FT-roam (session timeout).

· Added Support for SmartMU feature.

· Fix for Fast Mschapv2 connection failures.

· Resolves the issue where MU was unable to connect to 802.11k enabled WIFI profile

·   Resolves the issue where fusion logger page will either be left blank (in some cases) or it will not be updated on roaming to different BSSID's (only observed for CCKM roam).

·   Fixed how previously configured Proxy settings are displayed

·   Resolves the issue where DhcpInfo is not properly updating when gateway is disabled

·   Resolves the issue where Mac Address is not displaying in Fusion Status

·   Pre-Certification requirement to pass P2P power save test cases. Fix provided to enable P2P Power Save

·   Fix for reducing the connection time delays.

·   Fix for PNO (Preferred Network Offloading) when only DFS channels are enabled. On suspending the device, Host driver offloads the network info to firmware for handling scan operations.

Details	Description
Wireless LAN Radio	802.11a/b/g/n/d/h/i/k/r
Data Rates	5GHz: 802.11a/n — up to 150 Mbps 2.4GHz: 802.11b/g/n — up to 72.2 Mbps
Operating Channels	Chan 36 - 165 (5180 - 5825 MHz); Chan 1 - 13 (2412 - 2472 MHz); Actual operating channels/frequencies depend on regulatory rules and certification agency
Security and Encryption	WEP, WPA – TKIP, WPA2- TKIP, WPA2-TKIP AES EAP TTLS, PAP, MSCHAP, MSCHAP v2, PEAPv0-MSCHAPv2, PEAPv1- EAP-GTC, EAP-TLS, EAP-FAST, LEAP
Multimedia Wi-Fi Multimedia™	(WMM)
Certifications	WFA (802.11n, WMM), WMM-PS, CCXv4, Wi-Fi Direct, WPS2.0
Fast Roam	PMKID caching, Cisco CCKM, OKC, 802.11r
Network Connections	Bluetooth; USB 2.0 OTG Host docking interface; 802.11r and 802.11k for enterprise voice roaming included

Mx / OSX: QC.51.5.2.6/MXMF: 5.3.0.0

Feature	Brief Description
Clear Clipboard	Clearing the data copied into clipboard
Enable/Disable Clipboard	Enable/Disable the clipboard features to cut/copy/paste
Factory Reset	Wipe - Data+Enterprise+Cache
Enterprise Reset	Wipe - Data+Cache
Full Device Wipe	Wipe - Data+Enterprise+Cache+InternalSD+External SD
Enable/Disable Enterprise Reset in Settings App	API to Enable/Disable the Enterprise Reset UI in Settings Application
Display OSX Version	OSX version can be seen in Settings => About Device => SW Components => OSX version
Enable Disable AppInfo Access	Enabling and disabling, App info from settings
Allow/Disallow App to submit XML	Add/delete/query packages which are allowed to SubmitXML to MxMgtFw
Enable Disable UMS/PTP/MTP	MassStorage, MediaTransfer and PTP modes can be Blocked and Unblocked
Enable Disable External USB Storage	Enable/Disable Mounting of External USB Pen-drive storage with device
Enable/Disable Browser	Enable/Disable Native Browser Address Bar
Enable/Disable access to Applications Section of Settings UI	Hide Apps section of Settings Application
Initiate NTP Sync	Enable/Disable/Initiate NTP
Ethernet Settings	Enable/Disable & TurnOn/TurnOff
Enable/Disable Use of Background Data	Enable/Disable Background data in SIM devices

Auto Correction	Enable/Disable the ability of auto correction of words in soft keyboard
Wi-Fi	Enable/Disable Wi-Fi
Safe Mode	Enable/Disable Safe mode
Unknown sources	Enable/Disable Unknown sources UI
BT Pairing Pop up	Enable/Disable BT pairing pop up
SD card Usage	Enable/Disable SD card Usage
Enable/Disable Power button instantly lock	Enable/Disable Power button instantly lock UI
Turn On/Off Power button instantly lock	Turn On/Off Power button instantly lock
Enable/Disable Power button menu items	Enable/Disable menu displayed when power button is long pressed
Hide/unhide Power button menu	Hide/Unhide menu displayed when power button is displayed
Enable/ Disables Settings Icon on Notification drag-down page	Enable/ Disables Settings Icon on Notification drag-down page
Turn On/Off Notification Bar (whether the bar shows and can be "pulled down")	Turn On/Off Notification Bar (whether the bar shows and can be "pulled down")

Scanning Framework Version: 16.10.43.00
Features:

· Optimize Scanning power consumption.

· Picklist Implemented.

· Firmware and Decoder versions are now displayed in DW.

· Support for Document capture added.

· Support for LCD mode, AimTimer.

·   Added support for Imaging APIs.

·   Added support to scan Inverse Aztec barcodes.

·   Mail mark 09 decoder kit added

·   ImagerCamera support

·   Simulscan and Imaging through Scanning API

·   Camera Contention support

·   Added support for BT RS507 and camera scanning.

Datawedge v6.0.18
 Features:

·   Feature to wait after dispatching control characters as keystrokes to avoid any data capture errors.

·   Escape character support in Datawedge ADF.

·   Two new actions to Advance data formatting actions namely "Remove characters" and "Stop remove chars".

·   Wake on trigger support for RS429 pluggable scanner.

·   Enhanced UI navigation performance.

·   Added pluggable serial SSI scanner connection disconnection notification support.

Fixes:

·   Fix for intermittent crash in DataWedge after import configuration.

·   Fix for data loss while scanned quickly with delay on control characters.

·   Fix for scan trigger stops working in DWDemo during continuous read.

·   Fix for DW service restart on switching keyboards.

SimulScan v2.6
Features:

· 	Added the raw barcode data to the ProcessedRegion ExtraData1 field (previously unused)

· 	Prevent exception due to empty template path in SimulScanDemo LandingActivity

· 	Unable to save manually modified data after scan capture in simulscan for "Structured_European.xml" Template.

· 	Removed flexiscript source from SimulScan default templates

· 	ImgKit Update SS_6.6.5_CD_1.6.2_OCR_1.6.0.

· 	OCR Engine update (v3.1.5)

· 	Upgraded the OMR engine for BAXI form.

· 	Added barcode detection for Freeform OCR to avoid recognizing a barcode as a string of "lllllll".

· 	Modified SimulScanView to just extend RelativeLayout and the view/layout.

Known Issues:

· 	Simulscan does not support the Kepler scan engine.

EMDK v6.0.6.306
Features:

· 	Performance improvements for Decode Audio Feedback URI usage.

· 	Implement missing bar code fields in EMDK BarcodeManager API.

·   Enhanced the EMDKManager > ProfileManager to support simultaneous usage in multiple applications. Refer to the Usage Notes for a complete description and restriction on using this feature.

·   Added support for the MX v6.0 in the Profile Manager:

·   Clock

·   Added new feature to manage Auto Time Zone - whether to automatically acquire time zone from the network.

·   Added new feature to manage Military Time - whether to use Military (24 hour) time format.

·   Updated to allow Manual Time Zone setting when Auto Time is On.

·   Camera Manager - Some of the latest devices can now be used to take pictures using Imager. The Camera manager is enhanced to block the Imager from taking pictures.

·   Analytics Manager - Added new capability to enable or disable features such as File Upload, ANR (Application Not Respond) Info Collection, Ruggedness Info Collection, Feature Usage Info Collection, Restrict SelfUpdate Wi-Fi Only, Device Info Collection and custom feature.

·   Enhanced the Notification Manager APIs with the following features:

·   Enhanced the NotificationDevice class for canceling the active notifications on the remote device.

·   Enhanced the Password fields in the Profile Manager to accept special characters.

·   Added support for the MX v5.1 in the Profile Manager:

·   UI Manager

·   Added new feature to set the language to localize the device to match the preferred language of the intended Device User.

·   Added new feature to enable or disable pulling down the Notification Panel.

· Added new feature to display or hide the Settings icon in the Notification Panel.

· App Manager - Added new feature to launch an application by specifying the application name.

· Host Manager - Added new feature to set the device host name to identify device both locally and within any DNS-enabled IP-based network.

· Bluetooth Manager - Added new feature to allow or disallow the mobile device to pair with new remote devices.

· Analytics Manager - Added new capability to control the data captured by the analytics engine such as data transportation, type of information to collect and data collection scheduling.

· Updated Barcode Manager APIs with the following features.

· Enhanced the ScannerInfo class for selecting the scanner:

· Updated the DataCapture feature in the Profile Manager.

· Added support for additional scanner devices:

· Bluetooth Imager 1 (please note this value is for use with RS507 only)

· Added support for controlling the barcode decode notifications:

· Aim Mode - Enable/Disable scanner aim during scanning.

· Illumination Brightness - Controls illumination brightness of the imager.

· Updated Barcode Manager APIs for the following features.

· Added new scanner configurations parameters in ScannerConfig.ScanParams

· Added support for the MX v5.2 in the Profile Manager

RxLog v4.58.5.0
Features:

- Updated tcpdump to use all interfaces

- Added SIGPIPE handler

- Added catch for edge NULL case in kernel log

- Added LTS plug-in support for Kernel logs

- Added 'per core cpu load' feature in RxLogger main logs

Fixes:

- Fixed Memory leaks

- Fix bug for tcpdump that would crash if the tcpdump folder was empty and it would try and write a new file.

- Fixed the issue where the snapshot logs were not getting generated when one or few options are selected

- Rectified main logs file name generated through LTS plug-in.

- Fixed the issue in backup now feature where it was getting disabled once main screen goes away

AppGallery v2.8.4.12
 Features:
- Feature list with the basic UI support

  - Self Update

  - AG Login

  - Market Place

  - App Open, Install & Uninstall.

  - Categories page and App search by Category.

  - App Details without review.

- Logout.

- Push Notification

  - When a New Gallery is created a notification is sent to the devices which belong to the same organization.

  - When a App is added to a Gallery a notification is sent to the devices which contains the Gallery.

  - When a New User is added to a Gallery, a notification is sent to the device where the user has logged in.

- DataFile Configuration

  - Allows multiple file to be uploaded for a single app.

  - Also Configuration file can be changed, while adding to the app to Gallery from showcase.

- Silent Install

  - Apps get installed silently when AG is closed based on force install settings.

  - Updates App silently when AG is closed.

  - Push AppGallery configurations silently to the device.

- Scan To Stage

  - Allows user to scan a Barcode and login to AppGallery.

  - Allows Org Admin to share the Gallery easily to all the users.

  - Applicable only on Zebra Devices.

- Showcase Edit Functionality

  - Option to Update most of the info present in showcase without adding a new version

Known problems and suggested workarounds:

Sl No.	Headlines	Workaround
1.	App Management Feature will not work when "Install from Unknown sources" option is disabled from android settings	Install from Unknown sources option should be enabled.
2.	App Management for system app (which comes with BSP) is not supported	
3.	"Load more on swipe" in applist page will show the loading symbol twice	

PART NUMBER AND RELEASE DATE

T8KN0LXXVRGEF02206

T8KN0LXXVRFXX02206

T8KN0LXXVREXX02206

T8KN0LXXVAGEF02206

T8KN0LXXVAFXX02206

T8KN0LXXVAEXX02206

T8KN0KEXVRDEF10071

T8KN0L5XXRPXX02206

December 12, 2016