
Release Notes – Zebra TC20 and TC25 Android O 01-11-09.00-ON-U00-STD (NON-GMS)

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Introduction

Zebra is providing an OS upgrade release for its TC25 and TC20 product families.

TC25 is a WWAN device ideal for customers who need proof of delivery, voice communications, and basic tracking, navigating and messaging applications.

The TC20 enterprise mobile computer is designed for small-medium sized businesses in the retail, hospitality and small footprint warehousing industries! TC20 is a WLAN only device ideal for customers who need inventory management, price checking, and basic clientele applications.

TC25 and TC20 series of devices are positioned as the durable everyday business tool, in the entry-level segment of Zebra's mobility portfolio, with a differentiated and comprehensive set of new features including:

- Two scan engine options to meet SMB needs with SE2100 and SE4710
- Ergonomic smartphone-like form factor that is small enough to fit in your pocket, yet powerful enough to multi-task, manage inventory, price check, and perform back of store applications
- High capacity 3000 mAh internal battery designed to support a full shift plus an optional snap on PowerPack for continuous use
- Pre-installed Workforce Connect Push-To-Talk Express communication solution
- Ambidextrous scan buttons on left and right side of the device
- Initially launched with Android 7.1.2 (Nougat) OS at launch with the ability to upgrade to Android 8.1.0

- Extensive accessory eco-system, including 1-Slot cradles for charging and data communication, 5-slot cradles for large charging deployments, a field detachable trigger handle and a unique snap on PowerPack

Description

This is the first Android 8.1.0 software release for TC20 Mobile Computer. This release contains software packages for Android OREO NON-GMS operating system for TC20.

Device Compatibility

This software release has been approved for Android TC20 OREO Non-GMS models mentioned below. Please note that GMS OS images are not compatible with China based SKUs. Attempt to install GMS Image on China based SKUs will gracefully fail and report image incompatibility error.

Device	Operating System
TC200J-20C112CN	Android O (Non-GMS Only) China Only
TC200J-20A111CN	Android O (Non-GMS Only) China Only
TC200J-2KC111CN	Android O (Non-GMS Only) Keyboard SKU - China Only
TC200J-20C213CN	Android O (Non-GMS Only) Premium SKU - China Only

This software is also approved for Android TC25 OREO Non-GMS models mentioned below

Device	Operating System
TC25CJ-20B101CN	Android O (Non-GMS Only) China Only
TC25CJ-20C102CN	Android O (Non-GMS Only) China Only

Component Contents

Component	Version
Build_version	01-11-09.00-ON-U00-STD (NON-GMS)
Android_version	8.1.0
Android_SDK_Level	26

Android Security Patch Level	October 1, 2018
Linux_kernel	3.18.71
Wifi	FUSIONLIFTEQA_1_0.0.0.012_O
Platform	Qualcomm MSM8937
Scanning_Framework	20.7.39.0
DWDEMO	2.0.13
OSX	QCT.81.8.3.2UL
MXMF	8.2.3.1
Touch	Focaltech V1.1 20161103 (fw:0x24)
Bluetooth_Stack	CNSS-PR-4-0-552-166444-1/01050102
Flash_Size	16G /32G
RAM_Size	2G
GPS	MPSS.JO.3.0-00431-8937_GENNS_PACK-1
MMS	8.1.0
RIL_Version	Qualcomm RIL 1.0
BT_Pairing_UTILITY	3.14
DataWedge	7.0.4
Camera	2.0.002
PTT	3.1.39
RxLogger	5.4.12.0
StageNow	3.1.1.1019
Zebra Data Service	3.4.0.1180
EMDK	7.0.0.2000
IMEI SV Number	09
OEM Config	8.1.0.9
DDT	V1.16.0.11

NOTE: For Enterprise Mobile Device Management, most EMM vendors such as SOTI, AirWatch, MobileIron, etc. WILL require an updated device management agent to support this OREO enterprise device. **Do NOT use** your existing device management agent and console with this device without first contacting your EMM vendor to understand when the agent supporting this device is available and whether a console upgrade is required as well. Attempting to enroll with an agent that is not validated to support the device will result in errors.

Installation Requirements

HW Requirements

- Windows PC running Windows 7/10 32/64 bits
- USB Type C Cable
- Micro SD Card with at least 2GB capacity (optional)

SW Requirements

Please make sure following components are installed on your computer before commencing OS installation.

- Zebra Android USB Driver V2.2 or higher
- Android Debug Bridge (ADB) version 1.0.39 or higher
- TC20/TC25 Non-GMS Android OS Release Images

Image Compatibility

AOSP/Non-GMS image primarily meant for China SKUs hence only validated for Traditional Chinese and Simplified Chinese.

Installation Instructions

Using the “adb sideload” method

Assumptions

1. ADB installed on PC
2. TC20/TC25 has Developer options enabled
3. USB debugging ON

Procedure

1. Plug the TC20/TC25 into the USB & Charging Cable and then the Cable to the PC. If you have a Cradle with USB connectivity, connect it now.
2. You may need to pull down notification bar, and tap on the notification which says, “USB charging this device”, and change it to “Transfer files”.
3. Open Command Prompt on PC, run “adb devices” and check to see if you can see the device’s serial number... If yes, proceed... if not you will need to get the PC set up with the proper drivers or install an External SD Card.
4. You may also get a pop up on your PC (Win 7) that you will be connected as a Portable Media Player... this can be ignored.
5. Entering Recovery Mode
 - a. Choice 1: In Command Prompt, type “adb reboot recovery” and click enter.
 - b. Choice 2:
 - i. Reboot and hold PTT key
 - ii. When Zebra Technologies logo appears on the screen Release the PTT Key
6. Your TC20/TC25 will reboot and take you to Android Recovery screen.

7. To select Sideload Method
 - a. Use the Volume + and – to highlight, “Apply upgrade from ADB” and press the Power Key to select it
8. With your Command Prompt, open, type “adb sideload” and add a space and then drag and drop the zip file which you want to apply to the device and press enter.
 - a. When the file download starts, the command window will show progress with a percentage completed.
 - b. Device display will show a series of messages indicating it is downloading, verifying and installing the image on to the device.
9. After successful update, the device will auto reboot and you see Zebra on top and POWERED BY android at the bottom and after about 10 second will transition to the TC20/TC25 Touch Computer splash screen with 5 dancing white dots at bottom... it will stay at this screen for up to 4 minutes and then present the “Welcome Screen”.
10. After this you will need to complete the process by setting up Wi-Fi and E-mail accounts and such.
11. To make sure the OS Update took place, once the initial setup is complete;
 - a. Go to “Settings” and scroll down to “System” and navigate to “About phone” and look at the “Build number”. It should state “01-11-09.00-ON-U00-STD”.
12. Setting the Date and Time. If you associate the device to a WLAN AP, it should automatically set the date and time. The only thing left is to set the time zone. Go to “Settings” and scroll to and select “Date & time”. Scroll down to and select “Select time zone” and scroll down to and select the appropriate time zone and you are done.
13. Now you are all set to use your TC20/TC25.

Using External SD Card

1. Plug the TC20/TC25 into the USB & Charging Cable and then the Cable to the PC. If you have a Cradle with USB connectivity, connect it now.
2. You may need to pull down notification bar, and tap on the notification which says “USB charging this device”, and then change it to “Transfer files”.
3. You may also get a pop up on your PC (Win 7) that you will be connected as a Portable Media Player... this can be ignored.
4. Copy the required files to the SD Card. This can be done in two ways
 - a. Copy the files to the Micro SD card with the help of a SD Adapter which gets inserted to the SD slot of your PC/Laptop/SD Writer.
 - b. Directly transfer files to the Micro SD card which is inserted in to the back of the device. Please refer to the user guide on how to open the back door and inserting the SD card to the device.
5. Entering Recovery Mode
 - a. Choice 1: In Command Prompt, type “adb reboot recovery” and click enter.
 - b. Choice 2:
 - i. Reboot and hold PTT key
 - ii. When Zebra Technologies logo appears on the screen Release the PTT Key
6. Your TC20/TC25 will reboot and take you to Android Recovery screen.
7. Applying update via External SD card
 - a. Use the Volume + and – to highlight select option to “Apply upgrade from SD card” and press the Power Key to select it
 - b. Use the Volume + and – to highlight package to be installed (downloaded Zip file) and press the Power Key to select it.

8. After successful update the device will auto reboot and you see Zebra on top and POWERED BY android at the bottom and after about 10 second will transition to the TC20/TC25 Touch Computer splash screen with 5 dancing white dots at bottom... it will stay at this screen for up to 4 minutes and then present the "Welcome Screen".
9. After this you will need to complete the process by setting up Wi-Fi and E-mail accounts and such.
10. To make sure the OS Update took place, once the initial setup is complete;
 - a. Go to "Settings" and scroll down to "System" and navigate to "About phone" and look at the "Build number". It should state "01-11-09.00-ON-U00-STD".
11. Setting the Date and Time. If you associate the device to a WLAN AP, it should automatically set the date and time. The only thing left is to set the time zone. Go to "Settings" and scroll to and select "Date & time". Scroll down to and select "Select time zone" and scroll down to and select the appropriate time zone and you are done.
12. Now you are all set to use your TC20/TC25.

Downloadable Software Included in this Release

Filename	Description
T2XXJO300PUCN11109.ZIP	Non-GMS full package update image which, updates complete software.
T200JOXXXREXX11109.zip	Enterprise Reset package (Resets /Data partition)
T200JOXXXRFXX11109.zip	Factory Reset package (Resets /Data and /Enterprise partitions)
T2XXJOXXXRWXX11109_1.zip	Full Factory package (Resets /Data, /Enterprise and External SD Card)

Change Notes

New Features

- Following new features are supported with Zebra value add software
 - Zebra Software Licensing
 - Key Remapping Configuration Service Provider and User Interface
 - Remapping supported for Left Scan, PTT and Right Scan buttons for TC20/TC25 EDA.
 - TC20 Keyboard device supports P1, P2, P3 and P4 keys in addition to 3 buttons supported by EDA
 - Power Key Manager Configuration Service Provider supports **Safe Mode Show/Hide**
 - Stats Manager Configuration Service Provider
 - Bug Report Manager Configuration Service Provider

- Access Manger Configuration Service Provider supports **System Settings Access** and **Allow the Application to Submit XML**
- Power Manager Configuration Service Provider supports **Wake-up Sources Enable/Disable**
- UI Manager CSP now supports **Network 'Monitored' Message Enable/Disable**, **Two-Finger Quick Settings Enable/Disable** and **Recent App Button Enable/Disable**
- Dev Admin now supports **Screen Lock Type**
- Zebra Enterprise Browser is now supported
- Oreo upgrade does not include on-device user guides and instead a user guide download utility is included that allows to download the desired user guide from zebra support site.
- Zebra File Browser is no longer supported starting Android OREO. Google Files is now fully supported as the file browser with Oreo Upgrade.

Issues fixed

- Fixed an issue (SPR-33715) where DataWedge Keystroke output failed to be delivered when input method editor selected is Baidu
- Fixed an issue (SPR-33860) where DataWedge decoded data cannot get delivered to a textbox in a webpage, when text box in question does not have focus.
- Fixed an issue (SPR-34360) where Scanner failed to scan at Android Welcome Screen to bypass the Android GMS setup wizard.
- Fixed an issue (SPR-34429) where scanner failed to emit scan beam if the application was launched during device suspend.
- Fixed an issue (SPR-35609) where customer application failed to communicate or open TCP socket once it starts to roam with Bluetooth active
- Fixed an issue (SPR-34781) where Datawedge is sending char “10” instead of char “13”
- Fixed and issue (SPR-35005) when using Citrix Receiver 3.13.7, the software input panel is not coming up.
- Fixed and issue (SPR-35785) where API call "isReadPending" is inconsistent for Hard vs Soft Continuous Scan

Known Issues and Workarounds

- OS downgrade behavior has changed in Oreo. Automatic enterprise data reset is performed when the system detects OS downgrade operation. Following are the examples of OS downgrade operations:
 1. Oreo (GMS/NGMS) to Nougat (GMS/NGMS)
 2. Downgrading to lower patch version within Oreo.
- There is a new feature “Data reset screen” introduced in Android Oreo to handle error scenarios while updating OS. This data reset screen is triggered when the system encounters error situations like continuous system service crash or any application crash during the OS update process. The data reset screen prompts user to select one of the following options
 1. “Try again”
 2. “Factory Reset”

Select option (1) “Try again” to continue the OS update process. Do not select option (2) “Factory Reset”, as it will erase the user data.

- To avoid text cropping in some applications, accessibility options can be used to change the display size to small.

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