Release Notes – Zebra TC51, TC70x, TC56 and TC75x Android N 01-01-49-NG-00-A Release for GMS

Introduction

Work more efficiently and better serve your customers by giving your employees enterprise-class handheld computers that survive life in the field or shop floor, communicate and access information in real time.

The TC51/TC70x/TC56/TC75x is the professional-grade Android device built from the ground up for the enterprise.

- 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

Description

Android N 01-01-49-NG-00-A (GMS) is the first Android Nougat Production release to support TC51, TC56, TC70x and TC75x.

The software update for TC51, TC56, TC70x and TC75x will deliver fixes, updated security and many feature enhancements listed in the next section.

Zebra Value Add Feature List from Marshmallow to Nougat

Components	New Features	Comments
BT	Bluetooth Silent pairing CSP	
Rxlogger	Chathead Overlay for Log Viewing RX Logger Utility	
WLAN	a. WPS b. Wi-Fi Direct	
Data Analytics	DCA's added: Battery, WWAN, WWAN Location, Device info, Application, Traffic, WLAN, App usages, GPS, Flash Stats and Scanner.	
B2M	Removed, replaced with DA	
Scanner	Imager as Camera	
Audio	Quick sound Control Savox headset Support	
MX		
APPMGR	1) Battery Optimization (New API), Add/Remove Apps for Battery Optimization 2) CSP Changes to support to support parm to	

	Enable/Disable navigation bar	
BluetoothMgr	1) AllowSilentPairing (New API)	1) Specify whether to allow silent pairing of certain configured remote Bluetooth devices
	2)SilentPairingAction(New API)	2)Silent pairing action to take
	3) SilentPairingName(New API)	3)Bluetooth Device Name, Provide Name along with CoD/UAP for adding a new rule
	4) SilentPairingCoD (New API)	4)Class of Device of Silent Pairing device. Bluetooth settings lists CoD for each available device
	5) SilentPairingUAP (New API)	5)Upper Address Part - First 3 bytes of Bluetooth MAC Address, of Silent pairing device. Bluetooth settings lists UAP for each available device
Power Manager CSP	1. CSP to incorporate SUW By Pass 2. Method to Enable /Disable Doze Mode 3. Add CSPManager Improvements to provide a way for the DSD database to be refreshed 4. Verification of Signature of DA/DO apps	
BugReportMgr	1)EnableScreenshot(New API)	1) Specify whether to enable taking screenshot
	2)EnableIntent(New API)	2) Specify whether to enable triggering bug report via intent

FileMgr	1) SourceURI (No API only DSD Change)	Modification to Existing API Enable Encryption in SourceURI
Intent	1) QueryDeviceOwner (New API implementation)	1) Query to get the Details of the Device Owner
Wi-Fi	1) 802.11ac 2) Enable/Disable 802.11v using Wi-Fi CSP 3) Miracast	Enhancements for Very High Throughput(802.11ac) Using Cast, user can mirror the device screen to a compatible display
Datawedge	1. Cross device configuration importing support.	

	2. Extend DataWedge Intent APIs	a. Get disabled application list
		b. Set disabled application list
		c. Switch scanner
		d. Switch scanner params at runtime
		e. Get configuration of a profile
		    i. Barcode input
		    ii. Intent output
		    iii. Keystroke output
		    iv. Basic data formatting for each output plugin

	3. Configuration import reporting	
	4. DS3608 scanner support.	
	5. Extend DataWedge Intent APIs.	a. Introduced scanner type to set and get configuration intent api b. Switch scanner intent API can use the scanner type instead of the scanner index c. Enumerate scanners api returns the scanner type for each scanner supported in the device.

		d. Configure multiple plugin configuration by single intent.

Device Compatibility

This software release has been approved for use with the following Zebra devices. All devices listed below are on Android M or N when they leave the factory.

Device	Operating System
TC510K-1PAZU2P-US	Android M &N
TC510K-1PAZU2P-A6	Android M &N
TC510K-1PAZU4P-US	Android M &N
TC510K-1PAZU4P-A6	Android M &N
TC510K-1HDZU2P-US	Android M &N
TC510K-1HDZU4P-US	Android M &N
TC510K-1HDZU2P-A6	Android M &N
TC510K-1HDZU4P-A6	Android M &N
TC510K-1PAZU2P-IA	Android M &N
TC510K-1PAZU4P-IA	Android M &N
TC56CJ-1PAZU2P-A6	Android M &N
TC56CJ-1PAZU4P-A6	Android M &N
TC56DJ-1PAZU2P-A6	Android M &N
TC56DJ-1PAZU4P-A6	Android M &N
TC56DJ-1PAZU2P-IA	Android M &N
TC56DJ-1PAZU4P-IA	Android M &N
TC56DJ-1PAZU4P-BR	Android M &N
TC56DJ-1PAZU2P-BR	Android M &N
TC56DJ-1PAZU4P-ID	Android M &N
TC56DJ-1PAZU2P-ID	Android M &N
TC56CJ-1PAZU2P-US	Android M &N
TC56CJ-1PAZU4P-US	Android M &N
TC75FK-2MB22AD-A6	Android M &N
TC75FK-2MB24AD-A6	Android M &N
TC75FK-2MB22AD-BR	Android M &N
TC75FK-2MB22AD-IA	Android M &N
TC75FK-2MB22AD-ID	Android M &N
TC75FK-2MF22AD-A6	Android M &N
TC75FK-2MB22AD-TW	Android M &N
TC75GK-2MB22AD-A6	Android M &N
TC75GK-2MB24AD-A6	Android M &N
TC75GK-2MF22AD-A6	Android M &N
TC700K-0MB22B0-A6	Android M &N

TC700K-0MB24B0-A6	Android M &N
TC700K-0MB22B0-US	Android M &N
TC700K-0MB24B0-US	Android M &N
TC700K-0MB22B0-IA	Android M &N
TC75EK-2MB22AB-US	Android M &N
TC75EK-2MF22AB-US	Android M &N
TC75EK-2MB22AF-US	Android M &N
TC75EK-2MB24AB-US	Android M &N

Component Contents

Package Name	Description
AT_NG_FPU_GMS_49.00.zip	Full Package Update includes all components
AT_NG_ENT_RESET.zip	Enterprise Reset (Erases Data Partitions)
AT_NG_FACT_RESET.zip	Factory Reset (Erases Data & Enterprise Partitions)

Component Version Info

Component / Description	Version
Product Build Number	01-01-49-NG-00-A
Android Version	7.1.2
Linux Kernel	3.10.84
Android SDK Level	25
Platform	QC8956
Bluetooth Stack	1.1
Flash Size	16GB/32GB
RAM Size	2GB/4GB
Scanning	19.0.22.0
SimulScan	2.9.2 SimulScanEngine 1.15.6

Datawedge	6.6.50
EMDK	6.7.10.1010
MXMF / OSX	MXMF-7.1.2.1 / OSX-QCT.71.7.4.7
WiFi	FUSION_BA_2_10.0.1.012_N Application: BA_2_10.0.0.008_N Radio: BA_2_10.0.0.012_N Middleware: BA_2_10.0.1.008_N Firmware: 7.35.205.8_20171114
PTT	3.1.35
Touch FW	TC70x/TC75x = 1.9-Stylus-1-0 & TC51/TC56 = 1.8-Stylus-2.0
RxLog	5.2.10.0
B2M	NA
Bluetooth Pairing Utility	3.10
DataAnalytics	3.0.0.1217
File Browser	1.19.1.0
Stage Now	2.9.1.1362
App Gallery	3.0.1.7
Battery Swap	1.0
User Guide	1.0
WWAN	FALCON-W171221A-170.1-00172.4
RIL	Qcalcomm RIL 1.0
TS.25	10/30/2017
Sensors (Accel, Gyro, Light, proximity)	2061000, 2061000, 1, 2
Camera	2.0.002
MSRN	0.01
MobiControl	NA
ZVC	2.0.0.12
Battery Manger	1.3.8

ActiveEdge	2.5.16
SmartMU	2.3.12
Device Central	1.0.4.8
Audio	0.19.0.0
Diagnostic Tool	1.15.0.6
FingerPrint	Zebra/TC75x/TC75x:7.1.2/01-01-49-NG-00-A/1:user/release-keys Zebra/TC75x/TC75xDF:7.1.2/01-01-49-NG-00-A/1:user/release-keys Zebra/TC70x/TC70x:7.1.2/01-01-49-NG-00-A/1:user/release-keys Zebra/TC56/TC56:7.1.2/01-01-49-NG-00-A/1:user/release-keys Zebra/TC51/TC51:7.1.2/01-01-49-NG-00-A/1:user/release-keys Zebra/TC51HC/TC51HC:7.1.2/01-01-49-NG-00-A/1:user/release-keys
Security Patch Level	Dec 5,2017

Installation Requirements

Download both Full Package and Reset Packages (Optional)
Note1: Using External SD card update is NOT Supported via SOTI MDM

Note2: When switching between GMS and NGMS BUILD
- After Installing Full Package Update, you need to Install Factory OR Enterprise Reset.

Note3: When downgrading from Nougat to Marshmallow & cross SKUs software
- After Installing Full Package Update, you need to Install Factory OR Enterprise Reset.

Installation Instructions

Using ADB Sideload
The installation instructions assume you have ADB installed on your PC (the adb drivers and such) and your TC51/TC56/TC70x/TC75x has Developer options enabled and USB debugging ON:
Instructions on HOW TO enable ADB is also captured in user guide.

1. Plug the TC51/TC56/TC70x/TC75x 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 the top menu and if you see "USB for charging", touch it and then change it to "File transfers".

3. Open Command Prompt, run *"adb devices"* and check to see if you are able to 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 MediaPlayer… this can be ignored.

❖ **Download Image**
   a. Full Package Update File and any applicable patches listed above in content section
   b. Reset files (Optional)

5. Entering Recovery Mode
   a. Choice 1: In Command Prompt, type *"adb reboot recovery" and click enter*.
   b. Choice 2:
      • Reset and hold PTT key
      • When Zebra Technologies logo appears on the screen Release the PTT Key

6. Your TC51/TC56/TC70x/TC75x will reboot and put you on the Android Recovery screen.

7. if applying update via sideload Method

   a. Use the Volume + and – to highlight, *"Apply update 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 update Full Package date zip file on to it and click enter.
   a. Your PC screen will show files being installed and a little blue horizontal progress bar on your device will show status… and after about 6 minutes (could be 10+ minutes if installing GMS) it should be done and you should be back at the Android Recovery screen.

   b. Repeat above steps for all mandatory packages
9. *"Reboot system now"* is highlighted. Press the Power Key to Reboot.

10. Device reboots and you see Zebra on top and POWERED BY android at the bottom and after about 1 minute will transition to the TC51/TC56/TC70x/TC75x Touch Computer splash screen with 5 dancing white dots at bottom… it will stay at this screen for a little over another minute *(could be another 7+ minutes if installing GMS)* and then you are at the Factory "Welcome" screen.

11. If you installed a GMS BSP, you will need to complete the process by setting up Wi-Fi and E-mail accounts and such. If on AOSP (non-GMS), there is no process to follow.

12. At the Home Screen, we need to verify that the BSP upgrade took place and set the Date & Time.

   a. Go to "Settings" and scroll down to "About phone" and look at the "Build number". It should start with "01-01-49-NG-00-A". Now you are on the correct BSP.

b. Setting the Date and Time. If you associate to a WLAN AP, do so now, as it should automatically set the time and date… 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. To Check the Android Patch Level after installing the CFE package in the device,
   a. Settings->About Phone->SW Components: Device Update Version: 2
   b. ADB Shell method: Execute following command from PC's command prompt:
      $ adb shell getprop ro.device.patch.version
      2

14. Now you are all set to use your TC51/TC56/TC70x/TC75x

Using External SD card

1. Plug the TC51/TC56/TC70x/TC75x 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 the top menu and if you see "USB for charging", touch it and then change it to "File transfers".

3. Download Images FullPackageZip file, any applicable patches listed above in content section and Reset Files (Optional) and drag & drop the files on External SD card

4. Entering Recovery Mode

   a. Reset and hold PTT key
   b. When Zebra Technologies logo appears on the screen Release the PTT Key

5. Your TC51/TC56/TC70x/TC75x will reboot and put you on the Android Recovery screen.

6. Applying update via External SD card

   a. Use the Volume + and – to highlight select option to "Apply update from SD card" and press the Power Key to select it.

   b. Use the Volume + and – to highlight package to be installed (Full Package Update Zip file) and press the Power Key to select it.

   c. Repeat above steps for all mandatory packages

7. *"Reboot system now"* is highlighted. Press the Power Key to Reboot.

8. Device reboots and you see Zebra on top and POWERED BY android at the bottom and after about 1 minute will transition to the TC51/TC56/TC70x/TC75x Touch Computer splash screen with 5 dancing white dots at bottom… it will stay at this screen for a little over

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11. Now you are all set to use your TC51/TC56/TC70x/TC75x.

Special Note:

1. In TC56 & TC75x the SIM slot switching will not initiate a device reboot, instead it will perform the Carrier switching seamlessly without a device reboot. After performing the SIM slot switch, allow a minimum of 1 minute for the device to perform the action without initiating any other functionality
2. Batch manager DSD should be used to create a profile to deploy proxy settings on the device
3. A minimum of 1 minute is required for the scan engine to settle down after the first boot for performing the Skip setup wizard via barcode.
4. Remote Control option in Airwatch Remote Management will not work.
5. On performing Enable/Disable SD card via MX would result un-successful though internally the requested action is performed correctly
6. Screen Capture settings will not persist after a reboot in Device Owner Mode only.
7. Enable/Disable of USB debugging via StageNow or MX will not work
8. Sometimes Bluetooth tethering to share Internet will not work
9. When Enterprise Reset is performed along with OS Upgrade and not using AW console as a trigger point, the AW agent will not perform the persistence activity on a boot up. Recommended to always use the AW console as trigger point.

SPR-Fixes

SPR	Synopsis

SPR-32647	Radio Driver fails, Unable to answer calls & Instability issues
SPR-32682	Device deployment fails to disable YouTube and Drive
SPR-30990	Soti Mobicontrol out of box not decoding
SPR-31092	AirWatch deployed EAP-TLS profile and certs are becoming unconnected or missing on device. Possible similarity to SPR 31017
SPR-31263	DisplayMgr disabling Screenshot Usage does not work
SPR-31293	ADF Rule bug
SPR-32070	Low level delay in BSP caused issue in the Dex
SPR-32089	com.android,bluetooth error with BLE beacon
SPR-32125	Device is not used after a while the device disables the radio totally even when is set to be always on.
SPR-32320	WIFI disconnect issue
SPR-32387	Device failed to join multicast group on the router while other devices do. Wing 5.8.1, NX9500's, AP653
SPR-32510	Device can't connect to DHCP wireless and LAN connection but no issue with STATIC connectivity.
SPR-32415	Device Arbitrarily clearing it's acquired IPv4 IP address
SPR-32593	Device unable to turn off the notifications by swiping down and up the pull-down bar
SPR-32632	ANR occurred while using serial connection to DEX
SPR-32699	Device take 4 minutes to connect WIFI after undocking from Ethernet cradle
SPR-32644	Device list view of file and folder name miss-align after navigation
SPR-32626	Remap capacitive buttons BACK HOME MENU SEARCH using EMDK or StageNow results in Unsupported Key error
SPR-32684	Fixed disabling FTOverDS setting via StageNow
SPR-32613	Device is creating duplicate app shortcut in launcher.
SPR-32403	Scanning Invokes Toggling between tab in google chrome
SPR-32712	StageNow staging fails when Turkish language is set
SPR-31602	Programmable Back Button intermittently not waking up the device when device goes into sleep
SPR-31799	Method to Apply Multi package update
SPR-31912	Enterprise Browser 1.6 Icon Configuration issue
SPR-32079	Chrome Browser left + right scan key navigates tabbed browsing
SPR-32180	AppGallery updates itself upon logging into Play store, no method to prevent or manage
SPR-32185	The ringer fails after initial call
SPR- 33302	Remapping the oval capacitive using StageNow to 'Suppress key' fails.
SPR-33558	Device wakes from suspend by default from all Wake-up Sources.
SPR-32894	Airwatch Agent is denied permission to use MX

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