



# TC75 OPERATING SYSTEM BSP 14.04 GMS RELEASE NOTES

## 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 TC70/TC75 is the professional-grade Android device built from the ground up for the enterprise.

- 4G/LTE (TC75 only) and 8.02.11a/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 data capture capability
- Rugged and ready for every day enterprise use inside and outside the four walls

## DESCRIPTION

TC75 GA1 REVB Maintenance Release WITH GMS

### Component Description and version

Component / Description	Version
Product Build Number	X1-23257-K-G-14-04-00-MV
Android Version	4.4.3
Linux Kernel	3.4.0
x-loader	

u-boot	
Android SDK Level	19
Platform (TI/MPA/ etc)	QC 8960 Pro
Bluetooth Stack	NA
Partition Table	NA
Flash Size	8GB
RAM Size	1GB
MSP Package	7.08.85
Scanning	5.36.0
SimulScan	2.5 SimulScanEngine 1.10.1
Datawedge	3.1.24
EMDK	Service 3.1.38
Mx / OSX	MXMF: 4.4.3.6 / OSX_QCK_4.4-3
WiFi	Fusion_QA_1.02.0.0.027
PTT	3.1.20
Touch FW	Stylus-78_Glove104 FW:1.2.AA
RxLog	3.0.0.51
Mlog	v06.52 / Service v06.52
B2M	1.0.0.218
Bluetooth Pairing Utility	3.3

DataAnalytics	1.01.2107
File Browser	Ver 1.13
Stage Now	2.0.1.1425
App Gallery	2.1.2
Battery Swap	1
Tech Docs	0.6.1 // Revision Ver 1.1 08/2015
WWAN	QP200-W150502A-6102076
RIL	1
TS.25	JUL132015
WLAN	WLAN-1240294.1
GPS	1.0.0
NFC	NFC_NIHAL_AR2.4.0_KitKat, FW:122
Sensors (Accel, Gyro, Light, Prox)	1.00
Camera	Front1-0.0, Rear1-0.0
MSRN	0.94
MobiControl	12.2.0. Build 23469
ZebraVolumeControl	1.1.7

## CHANGES AND FIXES

### Features Added/Supported

- The UI to change SIM Card slot is Pre-Installed. Please do the following to activate the UI and set the SIM slot.

Settings -> About phone -> SW components -> Tap “WWAN” 5 times and now the UI to select the SIM slot is activated.

Settings -> More... -> Mobile networks -> SIM socket selection

- Included changes for APA v1 feature content

Storage and non-storage path guidelines

Navigation Keys

DHCP Options

Key remapping guidelines

Battery Extras

- Support Bluetooth 4.0 (Supports both Classic and Bluetooth LE) with Broadcom Bluetooth Stack (Bluedroid)

- Included

StageNow client

B2M Elemez

Data Analytics

App Gallery

SOTI MobiControl Stage

Zebra Volume Control

### Component Release Notes:

#### MX4.4 Feature List:

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+Internal SD+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 Phone => 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
Wifi	Enable/Disable Wifi
Wwan	Enable/Disable Wlan
Safe Mode	Enable/Disable Safe mode
Unknown sources	Enable/Disable Unknown sources UI
Enable/Disable Home Key	Enable/Disable Home Key
BT Pairing Pop up	Enable/Disable BT pairing pop up
Sdcard Usage	Enable/Disable Sdcard 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 Airplane mode	Enable/Disable Airplane mode UI
Turn On/Off Airplane Mode	Turn On/Off Airplane Mode
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

### PTT Express 3.1.20

#### 1. Major Features

a. After changing the talk-group or changing the status, the PTT Express user interface would be on the fore-ground to facilitate confirmation of the changed talk

group and to allow user to continue making PTT calls when CallKeyConfig is 0 (on-screen buttons).

b. Recovery update procedure : Copy the Recovery update package for PTT Express installation/uninstallation for KK to the internal storage of respective device and perform the recovery update as per the procedures mentioned in the OS recovery update guidelines

c. To change the settings of the PTT Express client, modify the ptt\_settings.xml file located at /enterprise/device/settings/ptt.

d. To enable Debug Logs, follow below steps:

1. Pull ptt\_settings.xml from /enterprise/device/settings/ptt/ folder.
2. Edit < setting name="logLevel">Debug
3. Check for /storage/sdcard0/PTT folder.
4. Logs will be created with DEVICE\_MODEL\_MAC\_ADDRES\_PTT\_log.txt

e. The previous log file is saved as DEVICE\_MODEL\_MAC\_ADDRES\_PTT\_log.txt.bck.

f. The default log level is set to 'None' (to avoid issue 74744). Update value of 'log\_level' in ptt\_settings.xml to enable the logging.

g. Log file should not be renamed or deleted while logging is active. Copy the log file to PC or other folder if snapshot log file has to be created.

h. Use 'adb' to copy the logs to PC.

i. CDR log file will be created, if not exist, only when enableCDR is true and the first call happens on channel whose CDR is true or Private call.

j. PTT HEADSET Usage Notes:

k. Group call is initiated by pressing (and holding) headset button. Due to special PC implementation, there will be 600ms delay after user presses the headset button. User shall start speaking only after talk permit tone is played.

l. Private call is initiated by pressing headset button in following sequence: Down, Up and Down (and hold). These 3 clicks shall occur within 600ms. If there

are more than 3 clicks within 600ms, then the clicks will be discarded and nothing will happen.

m. Enabling display of call statistics - The PTT Express client provides a toggling option on the settings page to enable/disable the display of toast messages showing call statistics.

n. Mute functionality - The PTT express client allows itself to be muted and unmuted using the mute button on the main dialog, or using the key configured in the `ptt_settings.xml` or using intents. When the client is muted, it is indicated on the UI and on the status bar. While in Mute state, the client's audio and tones are muted and PTT key events ignored. The Mute functionality is not persistent across the reboots or application restarts. However the Mute functionality is persistent across Enable and Disable of the service.

o. Audio feedback Functionality – The PTT Express client allows voice feedback on Channel and Profile Switch. The configuration “audioFeedback” should be set as Default to enable the Audio feedback. Based on the language value set in the profiles, the audio would be played, in that specific language. The value of the language is set as locale string defined in <http://developer.android.com/reference/java/util/Locale.html>. Only installed languages are supported and the language list would be listed in accessibility settings on the device.

p. PTT supports Airwatch and SOTI MDM for deploying configuration changes.

q. Full-duplex client co-existence - The PTT Express client supports a configurable option “fullDuplexClientCoexistence” to coexist with full duplex WAN or VOIP client. There is another configurable option “vibrateOnVoiceCall” which allows full duplex incoming calls to vibrate when PTT is in call. The following is applicable when “fullDuplexClientCoexistence” is set to true:

r. When there is an outbound call made or when an inbound call is accepted on the full duplex client, PTT Express enters into co-existence mode by muting itself and showing yellow icon on the status bar. It also stops playing out any tones or calls and ignores key requests for PTT calls.

s. When a full duplex call terminates, PTT Express exits the co-existence mode to resume normal operations.

t. Few full duplex clients allows PTT Express to exit coexistence mode when its call is put on hold and then enter back to coexistence mode when the call moves out of hold state.



## 2. SPR fixes

SPR 28025 Disabling PTT express via SOTI.

## 3. Known issues

a. The coexistence solution is dependent on the announcement of states done by the full duplex client. Few variations mentioned beneath have been observed in which case PTT Express client may not be able to enter or exit from coexistence mode.

b. While coexisting with few versions of VOIP clients and the WAN client, PTT Express cannot come out of coexistence state when a call is put on hold.

c. Specific version of Jabber client is not seen to announce [MODE RINGTONE](#) due to which PTT Express cannot honor “vibrateOnVoiceCall” settings.

d. Certain full-duplex clients are at times seen to fail in announcing their call states which can result in PTT Express not entering/exiting coexistence mode as expected. It can be recovered when a succeeding inbound/outbound established call is terminated. In some cases, a warmboot might be required

e. After Reset (or) reboot key presses will not be detected for initial 30 secs.

## **DataWedge 3.1.20**

### **Major Features**

1. Added support for RS507 Bluetooth scanner.
2. Added Continuous scanning support.
3. Added Data Capture Panel as a virtual scan button on the screen.
4. Extend the scanner enumeration intent API.
5. Now an application can query the connected scanners as well as supported scanners.
6. Now DataWedge allows to configuration exporting only to DataWedge folder in the internal or external storage.
  - a. (i.e /storage/sdcard0/Android/data/com.symbol.datawedge/files)

7. DWDemo now shows the scanner firmware version if the scanners supports the feature.

### **Issues Fixed**

1. Fixed issues related DataWedge configuration auto importing.
2. SPR 23137 – Multiple decodes performed if soft and hardware trigger pressed with the DWDemo.
3. SPR 25359 - DataWedge crashes when string at criteria is set in the ADF configuration.

### **Scanner Framework 5.39.0**

1. Support for Mailmark, HAN XIN symbologies
2. Support for Reduced Quiet Zone for Code128, Code 39, UPCA/EAN symbologies
3. Support of Software picklist
4. Support for Continuous Read Aim Type
5. Scan Beep volume control with ZVC
6. Support to turn illumination on/off
7. Support for SHIFT\_JIS, ISO-9001 character set
8. Fixes for SPR 26729 and SPR 26305

### **Other SPRs Fixes:**

1. SPR 28366 - Device is not able to connect to VPN.
2. SPR 27491 - Bluetooth Library causing intermittent crashes of the Bluetooth stack.
3. SPR 27520 - Unable to scan GS1 barcodes even when it is enabled (in ADF criteria in Datawedge)

4. SPR 27465 - Issue in DataWedge where we are able to successfully scan the code 128, even if it is disabled in the settings.
5. SPR 26972 - Squeal is heard from the mic after a voice call is finished.
6. Vulnerabilities in libstagefright Could Allow Remote Code Execution CVE-2015-3873, CVE-2015-3872, CVE-2015-3871, CVE-2015-3868, CVE-2015-3867, CVE-2015-3869, CVE-2015-3870, CVE-2015-3823, CVE-2015-6598, VE-2015-6599, CVE-2015-6600, CVE-2015-3870, CVE-2015-6601, CVE-2015-3876, CVE-2015-6604
7. Vulnerabilities in Sonivox Could Allow Remote Code Execution CVE-2015-3874
8. Vulnerabilities in libutils Could Allow Remote Code Execution CVE-2015-3875, CVE-2015-6602
9. Remote Code Execution Vulnerabilities in Mediaserver CVE-2015-6608
10. Remote Code Execution Vulnerability in libutils CVE-2015-6609
11. Remote Code Execution Vulnerability in Skia CVE-2015-3877

## CONTENTS

File	Description	Details
T75N0KEXAPUEF01404.zip	SFW: FullPkgUpd,AND,KK,v14-04,RELEASE	Full Software Update
T75N0KEXARExx01404.zip	SFW: EntResetPkgUpd,AND,KK,RELEASE	Wipes all partitions/data except Enterprise folder/partition & On Device Storage (/sdcard)
T75N0KFXARFxx01404.zip	SFW: FacResetPkgUpd,AND,KK,RELEASE	Wipes all partitions/folders including enterprise but except On Device Storage (/sdcard)



T75N0KEXAAUEF01404.apf	SFW: Airbeam FullPkgUpd,AND,KK,v14-04,RELEASE to be used by MSP/AW	used by MSP/AW
T75N0KEXAAExx01404.apf	SFW: Airbeam EntResetPkgUpd,AND,KK, RELEASE to be used by MSP/AW	used by MSP/AW
T75N0KFXAAFxx01404.apf	SFW: Airbeam FactoryResetPkgUpd,AND,KK, RELEASE to be used by MSP/AW	used by MSP/AW

## DEVICE COMPATIBILITY

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

Device	Operating System
TC75AH-GA11ES-A2	Android 4.4.3
TC75AH-GA11ES-A1	Android 4.4.3
TC75BH-GA11ES	Android 4.4.3
TC75BH-GA11ES-TW	Android 4.4.3
TC75BH-KA11ES-BR	Android 4.4.3
TC75BH-GA11MS-CN	Android 4.4.3

## INSTALLATION REQUIREMENTS

This Software has to be used with compatible devices listed above

## INSTALLATION INSTRUCTIONS

1. Plug the TC75 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. T75N0KEXAPUEF01404.zip (the Full Package Update v14-04),
  - b. T75N0KFXARFxx01404.zip (Factory Reset Package v14-04),
  - c. T75N0KEXARExx01404.zip (Enterprise Reset Package v14-04).
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 “PTT Key” until recovery mode is initiated (*Let go after you feel the vibration J*)
  - c. Once on the Recovery Screen, scroll down using “Volume Keys” +/- to the location where you copied the files and press the “PTT Key”
  - d. Scroll down using “Volume Keys” +/- and select **the T75N0KEXAPUEF01404.zip** (the Full Package Update v1404), with the “PTT Key”
  - e. Upon completion, you will be back at the Recovery Mode screen.
  - f. **Next step only if you are switching between GMS and NON-GMS software, otherwise this step is not required.**
    1. If you are updating device from GMS to NON-GMS or Vice Versa, it is required to either use **T75N0KFXARFxx01404.zip** ( FactoryReset, this will give complete OOB experience) or at Minimum, please do a **T75N0KEXARExx01404.zip** (EnterpriseReset).
    - g. If you are going to install the optional packages (see 3e above), 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 “PTT Key”, you will see it reboot, then you will see “Android is upgrading...” and then you will see the main screen, then...
5. **Copy/install LATEST FIRMWARE FROM SUPPORT WEBSITE to update Scanner Firmware as described there – refer to [this link](#) for updaters application and instructions**
6. Go to “Settings” and scroll down to “About phone” and look at the “Build number”. It should end with “**G-14-04-00-MV**”. Now... you can either start using the TC75 or if you are not going to install a working SIM (or at least not right away), 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” and then select “Select time zone” and do that. Then, select “Set date” and do that. Finally, select “Set time” and do that. Lastly, put check marks back in “Automatic date & time” and “Automatic time zone”.
7. Now you are all set to use your updated TC75 WITH GMS.



**Special Note when switching between GMS AND NON-GMS BUILD**

- Follow Instructions to update the Software

- Do Factory (for full experience including Welcome Screen) OR Enterprise Reset. ( without welcome Screen, however saves enterprise persist data)

**PART NUMBER AND RELEASE DATE**

Part Numbers
T75N0KEXAPUEF01404
T75N0KEXARExx01404
T75N0KFXARFxx01404
T75N0KEXAAUEF01404
T75N0KEXAAExx01404
T75N0KFXAAFxx01404

Jan 13, 2016