

Unitech Scanner Utility Version 1.1

User Manual

Revision History

Release	Revision	Date	Changes
1	0	2020/02/27	First release

About This Manual

This manual is intended for users of the Unitech Scanner Utility (hereafter may also be referred to as the abbreviation USU) Version 1.1.X.

For other versions, please refer to their respective User Manual document.

USU V1.1 consists of two main features:

- Main GUI (Graphical User Interface) for scanner connection and configuration, and
- APIs for system integrators to integrate connection function, configuration function and data retrieval function from the scanner.

In this manual, the GUI part of the scanner utility will be discussed, while the APIs provided by the Scanner Utility will be discussed in a separate Programming Guide titled “Unitech_Bluetooth_Service_API_Programming_Guide”.

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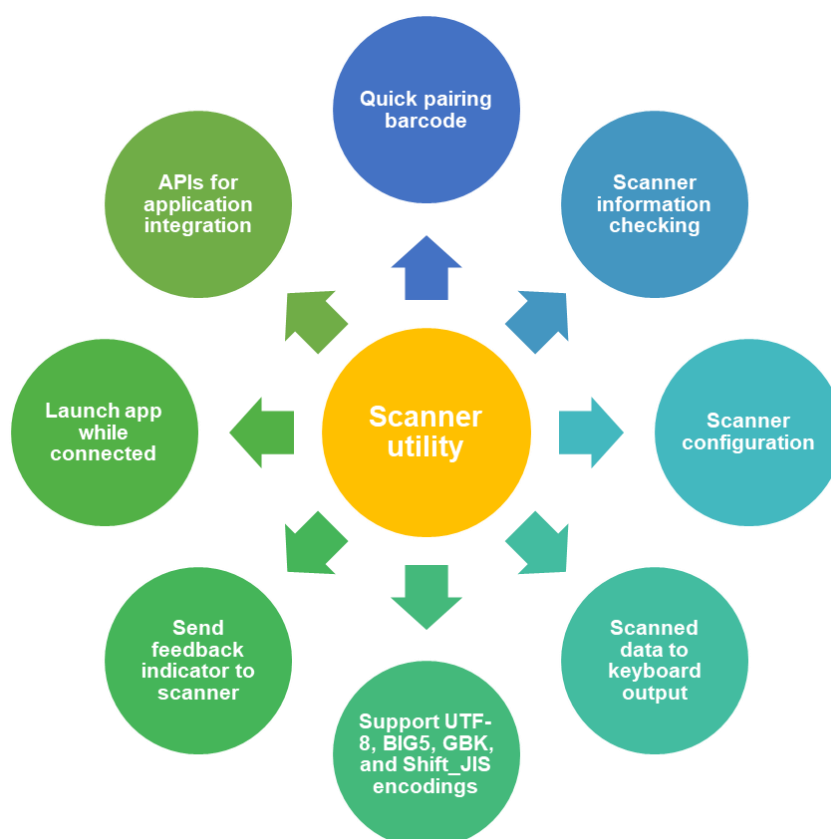
1 Introduction

Scanner Utility is an Android application which helps users connect, configure, and use unitech Bluetooth scanners. The scanned data will be transmitted via Bluetooth and reported as keyboard data. Scanner Utility supports Android 5.0 and above.

1.1 Supported Model

Scanner Utility v1.1 supports unitech scanner MS652Plus with firmware version 1.46 and above.

2 Feature Highlights



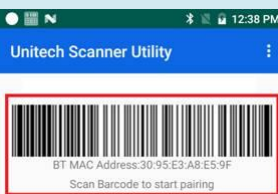
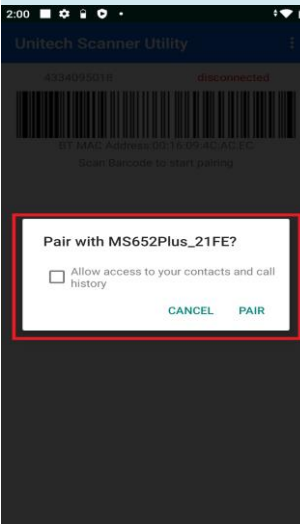
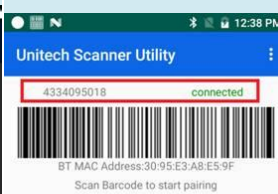
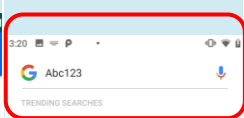

The key features of Scanner Utility are:

- Scan Pairing Barcode Once for quick pairing
 - Scan the Pairing Barcode using an MS652Plus scanner to perform quick pairing with the Android Device. (All previously paired scanners will be kicked out).
- Scanner information checking
 - Check scanner information including serial number, Bluetooth name, Bluetooth

MAC address, battery status, and firmware version.

- Scanner configuration
 - Configure scanner symbologies
- Scanned data to keyboard output (Scan to Key service)
 - Convert scanned data received from Bluetooth to Android keyboard output
- Support UTF-8, BIG5, GBK, and Shift_JIS encodings
 - The Scanner Utility embeds SU keyboard which can decode received double-byte characters encoded as UTF-8, BIG5, GBK, and Shift_JIS.
- Send feedback indicator to scanner
 - Besides good read sound, users can specify extra indicators like LED, vibration, beep sound for scanners to perform. This feature is useful while integrated application to check if scanned data is valid, like ticket scanning.
- Launch app while connected
 - Automatically launch a specified application when the scanner is connected to start working soon.
- APIs for application integration
 - A series of Android intent are provided to configure scanner and data communication for developers to integrate scanner usage with the applications.

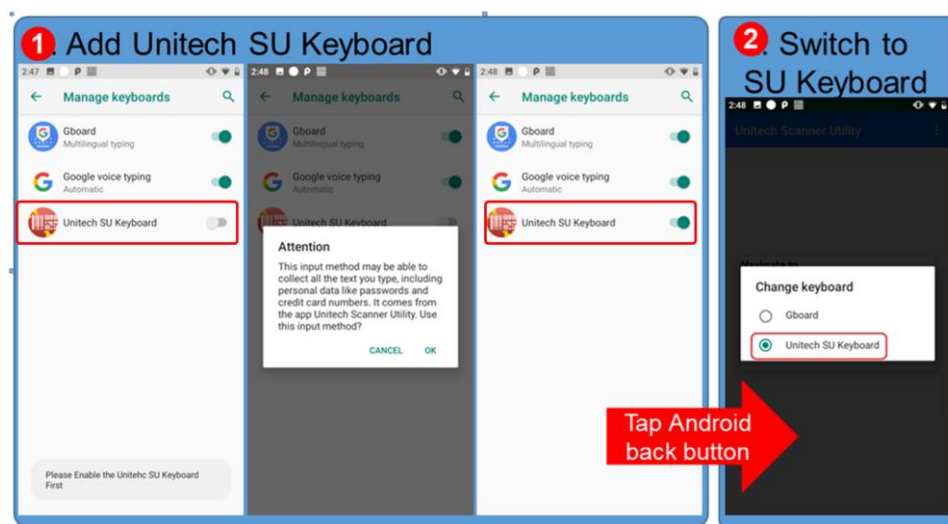
3 Typical Usage Flow

1. Scan Pairing Barcode	2. Confirm Pairing	3. Wait for Greenlight	4. Ready to Work
Scan the pairing barcode on the main screen.	Tap the "PAIR" button when prompted.	Wait until the scanner is shown as connected.	Scanned data will be converted as keystrokes for apps.
			 

4 Application Setup

4.1 Keyboard setting

Once Scanner Utility is installed and launched, it will redirect you to Android keyboard setting page. Please enable “Unitech SU keyboard”. Press back key to the utility, it will pop up a dialog to let you change keyboard. Please choose Unitech SU keyboard.



4.2 Bluetooth MAC address

If the Android device is Android 8.0 and below, the Scanner Utility will get the BT MAC address directly and you can skip this subsection.

If the Android device is Android 8.1 and above, another dialog may pop up for BT MAC address input. Please check the BT MAC address first and enter into the application. You can find BT MAC address of your Android device at following path:

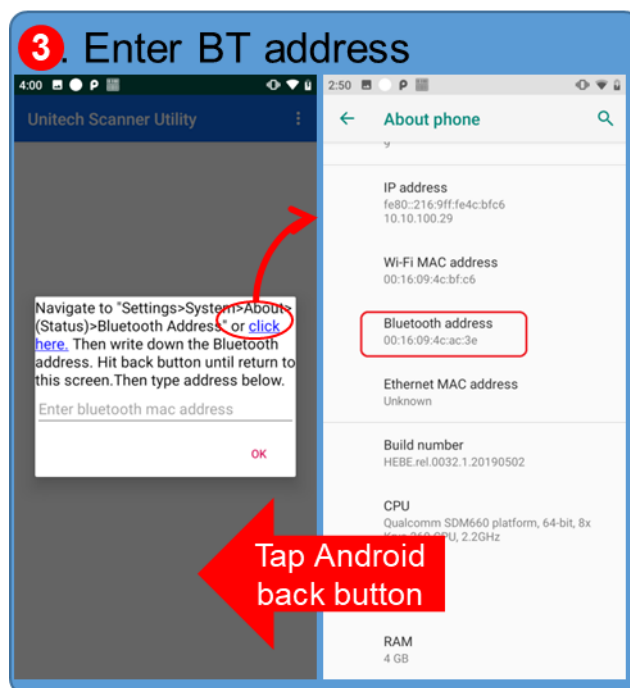
BT MAC address of Android 8.1 devices:

Android Settings → System → About Phone → Status → Bluetooth address

BT MAC address of Android 9 devices:

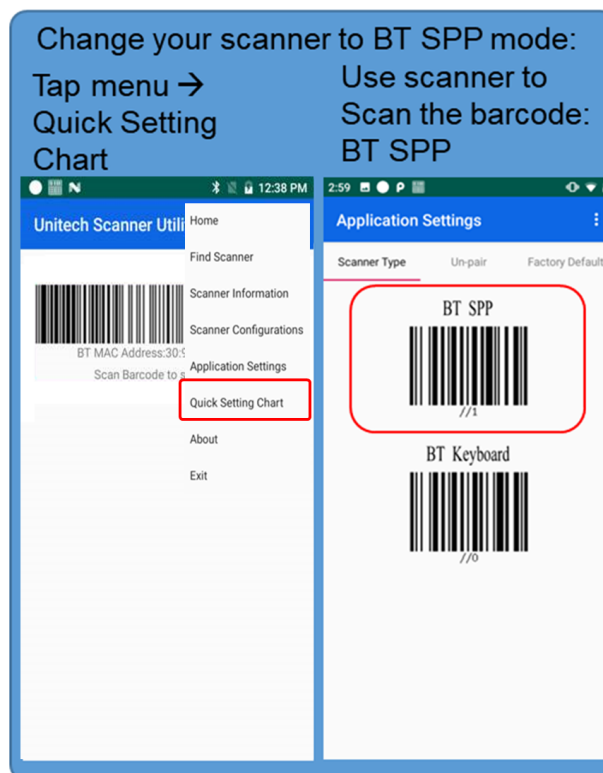
Android Settings → System → About Phone → Bluetooth address

When entering the BT MAC address, please enter all the 17 characters including the colon characters. For example: 00:16:09:4c:ac:3e.



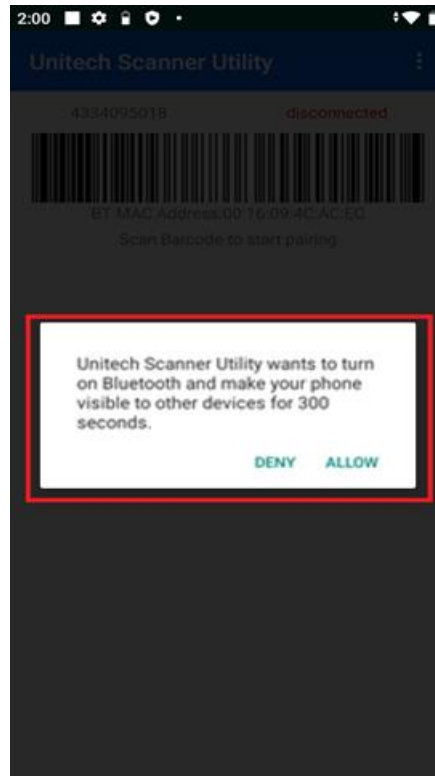
4.3 Switch Scanner to BT SPP mode

To utilize all features of Scanner Utility, please switch your scanner to BT SPP mode by scanning the configuration barcodes of the scanner. Such barcode can be found at menu → Quick Setting Chart



4.4 Allow device to be Bluetooth Discoverable

To make sure the scanner can connect to the Android device, the Scanner Utility will turn Bluetooth on and set it to be discoverable. Please tap “ALLOW” from the prompt.



5 Connect and Disconnect Scanner

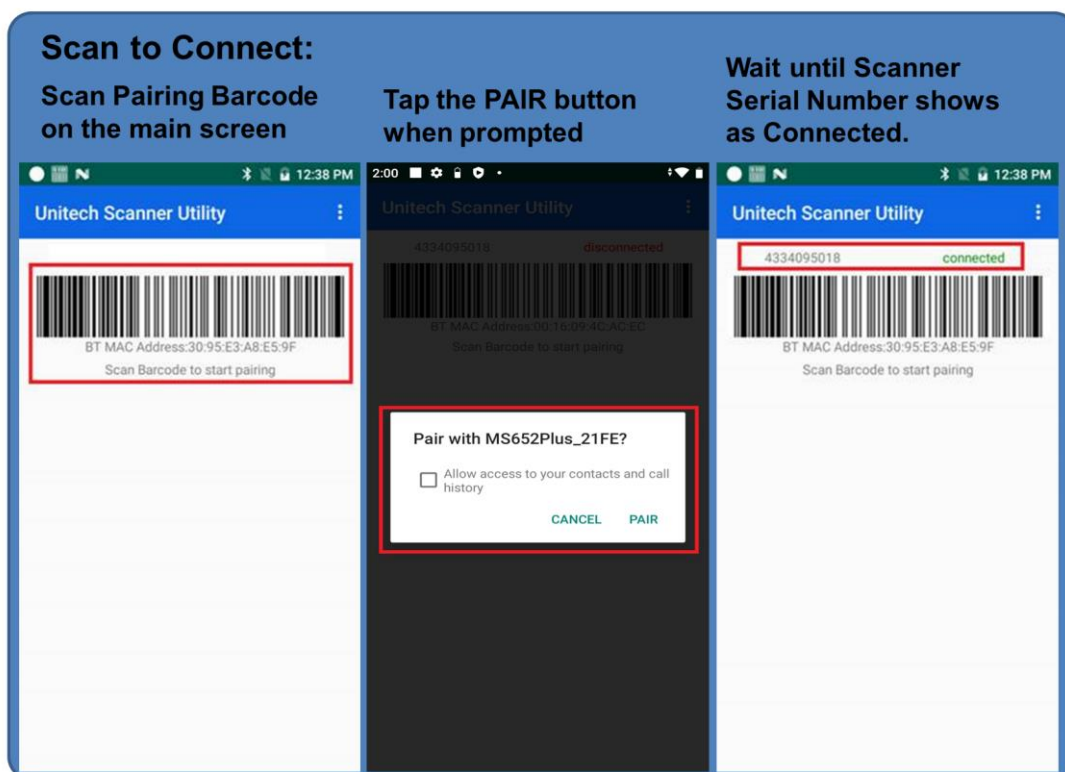
5.1 Connect Scanner

The main screen shows the pairing barcode that will allow you to pair your working scanner with the device quickly. Simply scan the pairing barcode using your MS652Plus scanner to begin the pairing process.



Use your unitech Bluetooth Scanner to scan the Pairing Barcode shown on the main screen, When a scanner is ready to pair with your Android device, a Bluetooth Pairing confirmation dialog will pop up to ask for your permission. Please grant the pairing and the scanner will then try to connect with your Android device. Once connected, the LED of the scanner will become solid blue, and the main screen will show the scanner serial number as “connected”.

USU is designed to work with one scanner at a time, when you pair a scanner with your Android device, all previously paired scanners will be kicked out. If you are not sure if your working scanner is currently connected, check the USU main screen to see if the serial number matches. In any case, you can pair your scanner even if the scanner is already connected to the Android device.

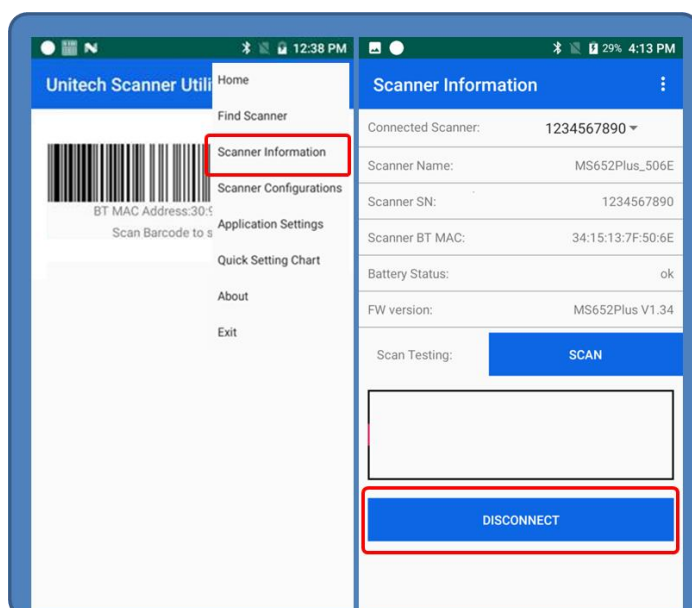


5.2 Disconnect Scanner

Disconnecting scanners manually are optional. Users can simply connect a new scanner without disconnecting the old one. If manual disconnection is required, users can disconnect the scanner by the following two methods:

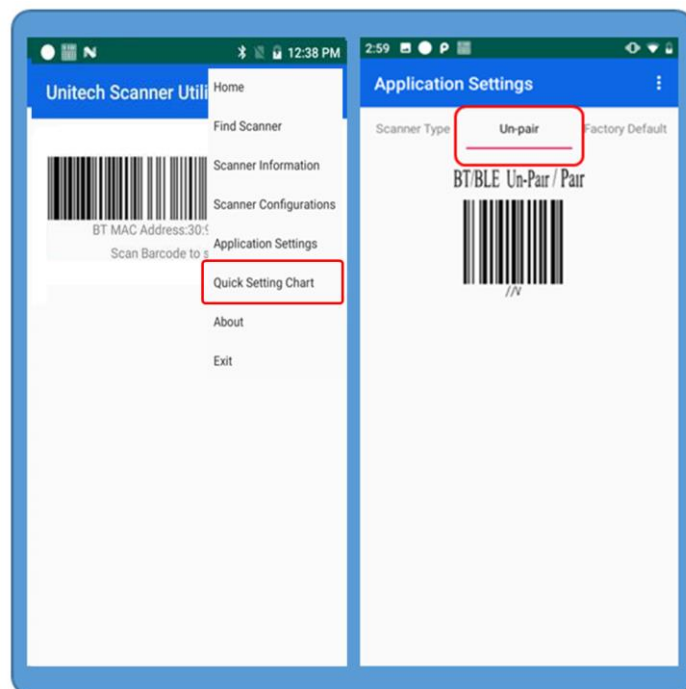
1. The Disconnect button on the Scanner Information Page

Tap menu→Scanner Information and click "Disconnect" button:



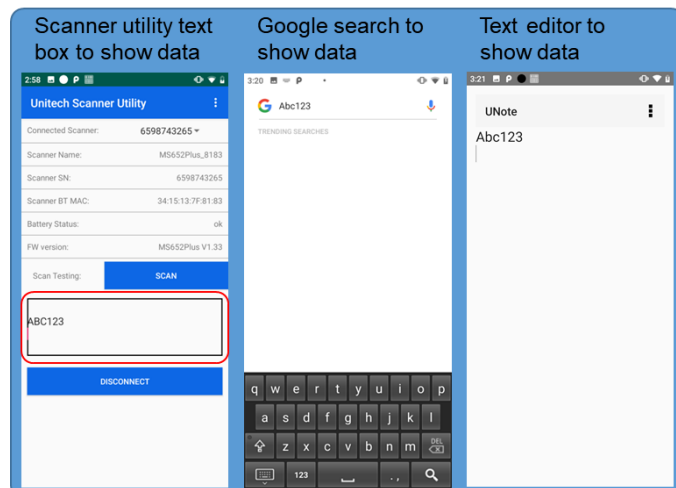
2. Scan un-pair barcode:

Tap menu → Quick Setting Chart → Un-pair and scan the un-pair barcode

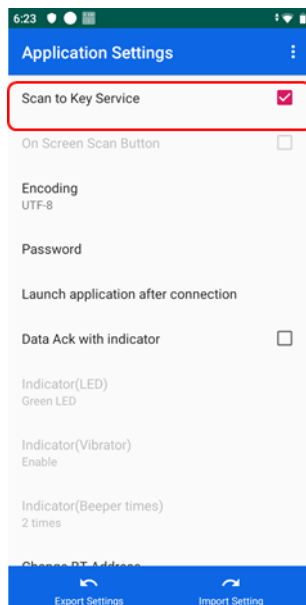


6 Retrieve Scanned Data and Send Indicator

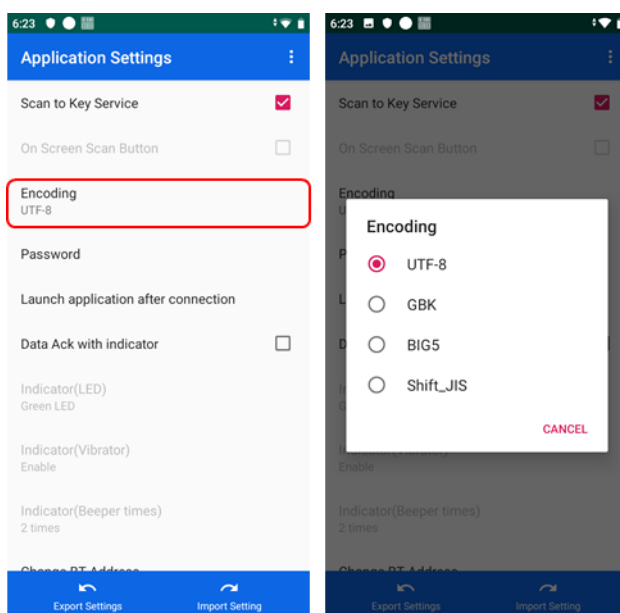
USU will convert scanned data as keyboard inputs to apps running on your Android devices, in another word, the Scan to Key service is enabled by default. Therefore, users can open any application, focus in a text field, and then trigger the scanner to get the scanned data. The scanner utility also provides a testing area to show scanned data by tapping menu → Scanner Information. Tap on the text area and trigger scanner, the data will be shown in the text box.



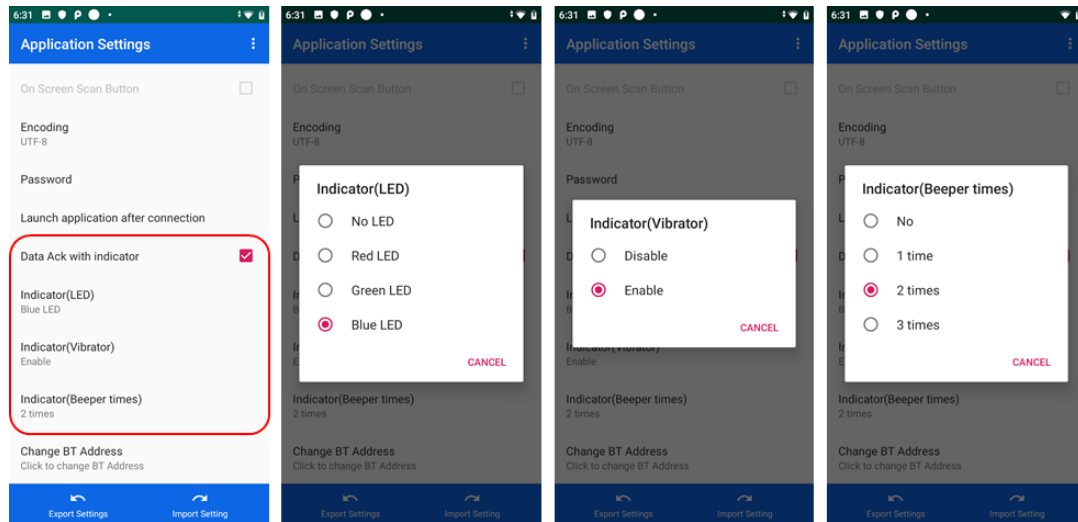
The Scan to Key service can also be disabled if required. You may disable the Scan to Key service by unchecking Scan to Key Service in the menu → application settings as below.



On the same Application Settings page, users can also configure the encoding methods of the SU keyboard to support decode double-byte encoded barcodes, including UTF-8, GBK, BIG5, and Shift_JIS. The default setting is UTF-8.



Besides good read beep sound, users can also specify extra indicators to send to the scanner once the utility receives scanned data. The indicator includes LED, vibrator, and beeper.



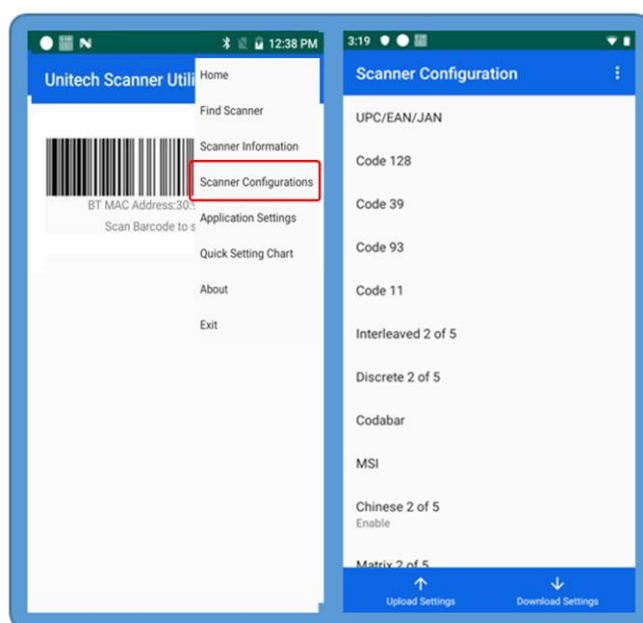
7 Configure Scanner

The Scanner Utility also allows users to configure scanner symbologies by tapping menu → Scanner Configurations.

There are two buttons in the configuration page: upload settings and download settings.

Download settings: to download current scanner settings and show in the utility.

Upload settings: to upload the setting specified in the utility to the scanner and take effect immediately.



When you see the toast with “upload complete” or “download complete”, it means that the actions are completed successfully.

There are two parameters to configure the length of barcodes for Matrix 2 of 5, Code 11, Interleaved 2 of 5, Code 128, Discrete 2 of 5, Code 39, Codabar, Code 93, and MSI.

To set One Discrete Length, such length shall be set in Parameter 1 and keep Parameter 2 as 0.

To set Any Length, put 0 in both Parameter 1 and Parameter 2.

Below is an example of configuring barcode length of Matrix 2 of 5 as One Discrete Length as 14.

The screenshot shows a mobile application interface with a blue header bar containing the text 'Matrix 2 of 5' and a three-dot menu icon. Below the header, the text 'Matrix 2 of 5' is followed by 'Enable'. A red rounded rectangle highlights two settings: 'Matrix 2 of 5 Length Parameter 1' with a value of '14', and 'Matrix 2 of 5 Length Parameter 2' with a value of '0'. Below these, 'Matrix 2 of 5 Check Digit' is followed by 'Disable', and 'Transmit Matrix 2 of 5 Check Digit' is also followed by 'Disable'. At the bottom, a blue bar contains two buttons: 'Upload Settings' with an upward arrow icon and 'Download Settings' with a downward arrow icon.

5:12

Matrix 2 of 5

Matrix 2 of 5
Enable

Matrix 2 of 5 Length Parameter 1
14

Matrix 2 of 5 Length Parameter 2
0

Matrix 2 of 5 Check Digit
Disable

Transmit Matrix 2 of 5 Check Digit
Disable

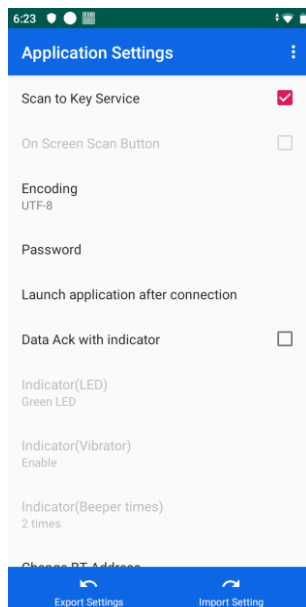
↑
Upload Settings

↓
Download Settings

8 Others

Some advanced application settings are provided in the Scanner Utility.

8.1 Advanced Application Settings



In the Application Settings page, there are some further settings.

1. Password: to prevent settings from being modified by users, IT administrator can set application password. Such configuration is under menu → Application Settings → Password. If password is configured, users need to type correct password to enter “Scanner Configuration” and “Application Settings” from the menu.
2. Launch application after connection: to automatically launch application when the scanner is connected.
3. Import and Export Settings: the settings of “Scanner Configuration” and “Application Settings” can be exported to two files. Such files can be saved to administrator PCs or other Android devices to be imported back again in the utility.

The files are:

- /sdcard/USUConfig.001
- /sdcard/USUConfig.002

(Note: /sdcard/ here is referred to as the root of the internal storage of your device, not external SD Card).

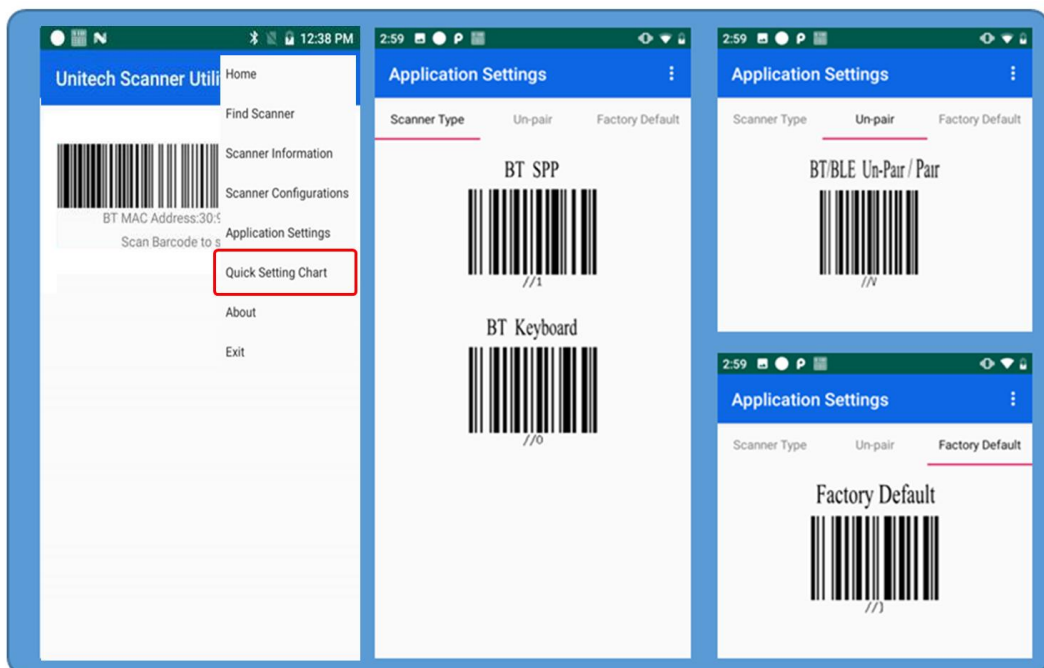
Please be noted that the “Scanner Configurations” will be applied to the utility only while performing Import Settings. Users need to do “Upload Settings” to apply to the connected scanner to take effect.

4. Change BT Address: For Android 8.1 and above devices, users need to enter BT MAC

address manually. If the address is wrong at the first attempt, users can still change it in menu → Application Settings.

8.2 Quick Setting Chart

There are several useful configuration barcodes embedded in the Utility under menu → Quick Setting Chart. Those barcodes include scanner mode, BT un-pair, and Factory default.



8.3 Find Scanner

The Find Scanner function can be accessed via Menu → Find Scanner.

The Find Scanner menu will command the scanner to beep a few times for you to locate the whereabouts of the currently connected scanner.

8.4 Utility Version and Exit Utility

Utility version can be checked from menu → About.

In the menu → Exit, there are two options:

1. Hide: leave the utility but keep the utility providing service
2. Exit: completely stop the utility including all services

